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DEC 1 5 2006

Jane L. Cottrell
Forest Supervisor
Nez Perce National Forest
1005 Highway 13
Grangeville, Idaho 83530

Subject: Newsome Creek Watershed Rehabilitation Project—Idaho County, Idaho—Biological Opinion and Concurrence
File #106.0200 2007-F-0061

Dear Ms. Cottrell:

This letter transmits the Fish and Wildlife Service's (Service) Biological Opinion (Opinion) and concurrence on the effects of the proposed Newsome Creek Watershed Rehabilitation Project to species listed under the Endangered Species Act (Act) of 1973, as amended. In a letter dated October 18, 2006, and received by the Service on October 23, the Nez Perce National Forest (Forest) requested formal consultation on the determination, under section 7 of the Act, that the project is likely to adversely affect bull trout (*Salvelinus confluentus*). You also determined that the proposed action is not likely to adversely affect the bald eagle (*Haliaeetus leucocephalus*). We acknowledge your no effect determination for Canada lynx (*Lynx canadensis*) and your not likely to jeopardize the continued existence determination for the gray wolf (*Canis lupus*).

The enclosed Opinion is based primarily on our review of the proposed action as described in your September 2006 Biological Assessment (Assessment) regarding the effects of the proposed action on the bull trout and was prepared in accordance with section 7 of the Act. Our Opinion concludes that the survival and recovery of bull trout populations will not be jeopardized by the project. A complete administrative record of this consultation is on file at this office.

Thank you for your continued interest in the conservation of threatened and endangered species. Please contact Clay Fletcher at (208) 378-5256 if you have questions concerning this Opinion.

Sincerely,

Jeffery L. Foss, Field Supervisor
Snake River Fish and Wildlife Office

Enclosure

cc: IDFG, Lewiston (Hennekey)
NOAA Fisheries, Grangeville (Brege)
NPT, Lapwai (Jones)

BIOLOGICAL OPINION
AND CONCURRENCE
FOR THE
NEWSOME CREEK WATERSHED REHABILITATION PROJECT
NEZ PERCE TRIBE
AND
NEZ PERCE NATIONAL FOREST
2007-F-0061

DECEMBER 2006
FISH AND WILDLIFE SERVICE
SNAKE RIVER FISH AND WILDLIFE OFFICE
BOISE, IDAHO

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INTRODUCTION

The Fish and Wildlife Service (Service) has prepared the following Biological Opinion (Opinion) in response to the Nez Perce National Forest's (Forest) and Nez Perce Tribe's (Tribe) request for formal consultation on the effects to bull trout (*Salvelinus confluentus*) from the proposed Newsome Creek Watershed Rehabilitation Project.

The Forest determined that the project is likely to adversely affect bull trout. Based in part on the analysis presented in the Biological Assessment (Assessment) for this action, the Service concludes that the survival and recovery of bull trout populations will not be jeopardized by the project.

The National Marine Fisheries Service is also consulting on this project for steelhead (*Oncorhynchus mykiss*).

CONSULTATION HISTORY

The Forest and the Service have had the following meetings and correspondence concerning the proposed Project.

December 8, 2005	The Service received an electronic mail (email) from the Tribe and Forest (project proponents) requesting review and comments on a draft Assessment received November 25, 2006.
January 13, 2006	The Service discussed, by telephone, comments on the Assessment and additional information needs with the project proponents.
January 17, 2006	The Service attended a Level 1 meeting where project proponents presented an overview of the project.
March 21, 2006	The Service discussed the project with project proponents at a Level 1 meeting.
May 31, 2006	The Service received a revised version of the Assessment from the project proponents by email.
June 1, 2006	The Service participated in a conference call on the project with project proponents and other Level 1 team members. Additional information needs and clarifications were discussed and agreed upon.
June 9, 2006	The Service received an electronic facsimile from the Forest discussing suggested edits to the draft Assessment.
July 13, 2006	The Service sent comments on the revised Assessment to the project proponents by email. The Service later received an email from the proponents discussing our comments.

July 21, 2006 The Service notified the proponents by email that we agreed with the contents of the final Assessment including the determinations for listed species.

BIOLOGICAL OPINION

I. DESCRIPTION OF PROPOSED ACTION

A. Action Area

The proposed project is located on the Red River Ranger District, Nez Perce National Forest, in the Newsome Creek watershed. Newsome Creek flows approximately 15 miles from its headwaters near Hamby Saddle at 5,000 feet elevation to 3,630 feet at the confluence with the South Fork Clearwater River and drains approximately 42,567 acres.

The legal description of the proposed project area is portions of T30N, R6E, Sections 12 and 13; T30N, R7E, Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 29, 30, and 31; and T31N, R7E Sections 29, 30, 31, and 32.

The action area is encompassed by the following 6th field Hydrologic Units: Upper Newsome Creek (170603050601), Lower Newsome Creek (170603050608), Mule Creek (170603050602), and Beaver Creek (170603050622).

B. Proposed Action

The Nez Perce Tribe and Nez Perce National Forest (in conjunction with Bonneville Power Administration) are jointly proposing a watershed rehabilitation project in the Newsome Creek watershed. The restoration project consists of stream reconstruction and rehabilitation; road improvements, obliteration, and abandonment; and culvert removals and replacements. The goal of the project is to improve fisheries habitat in the Newsome Creek watershed.

The project is planned to begin the summer of 2007, with implementation of road improvements, road obliteration, and one culvert replacement. Stream reconstruction is planned to begin in the summer of 2008. Road related work will continue through 2009, while the stream channel restoration will continue through 2012.

1. Newsome Creek Channel and Riparian Rehabilitation

The approximately 3.5 mile length of Newsome Creek to be rehabilitated is located from just above the confluence of Baldy and Pilot creeks upstream to the confluence with Radcliff Creek. This three mile length is divided into six reaches; of the six only four reaches will be worked on. Specific work to be performed in each reach is described in the Assessment. Mining severely altered the riparian and instream habitat in this portion of Newsome Creek and habitat condition has never recovered. Mining tailing piles are currently confining stream flow and preventing stream migration within the riparian zone and valley bottom. The present channel has frequent riffle sequences and few pools.

The goals are to restore the stream to a more natural-like channel with meander bends and a pool-riffle-glide pattern similar to the un-dredged portion of Newsome Creek upstream of Radcliff Creek, and to restore the riparian vegetation community. In general, work will consist of creating pools, installing new channels, removing mine tailings, and planting trees and shrubs.

2. Road Obliteration/Improvements/Abandonment

A total of fifty-two miles of road are proposed for treatment: 28 miles of obliteration, 22 miles of improvement, and two miles of abandonment. Roads that are obliterated or abandoned will no longer be part of the transportation system and will be rendered unusable for any type of vehicle. Road obliteration will include removal of structures at selected stream and draw crossings and reestablishment of a more natural channel course; removal of shoulder fill, decompaction of the roadbed, and recontouring; as well as decompaction and recontouring of selected landings, skid trails, and other disturbed areas adjacent to decommissioned roads. Disturbed areas will be reseeded with annual rye seed. Slash will be put on the site to discourage off-highway vehicle use and to provide structure for retaining soil and increased shade for plant reestablishment. Road abandonment includes stabilizing and seeding sources of erosion, but the road prism is left intact. Boulders or slash may be placed on the road to discourage use. Improvement of existing roads primarily consists of reducing erosion and potential maintenance problems by activities such as the addition of drainage structures, where needed, and the replacement of undersized culverts.

3. Culvert Replacement/Removal

The culverts to be replaced are both located on the 1826 Road. One is near the confluence of Mare and Donkey Creeks in the Mule Creek subwatershed, approximately 0.5 mile upstream from Mule Creek and 1.1 mile upstream from Newsome Creek. The other is located on an unnamed drainage just above Mule Creek, approximately 1.5 mile upstream from Newsome Creek. The existing culverts will be replaced with larger culverts designed using natural stream simulation design criteria.

Thirty-five (mostly failed log) culverts will be removed from roads proposed for obliteration. While most of these are dry during the summer when they will be removed, 11 are located in potentially flowing streams.

4. Resource Protection Measures

The project proponents have prescribed specific resource protection measures and design criteria for each of the three project components. Refer to the Assessment or Appendix A of this Opinion for a complete listing of these measures.

II. STATUS OF THE SPECIES

A. 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 and in the Jarbidge River in Nevada, north to various coastal rivers of Washington to the Puget Sound and east throughout major rivers within the Columbia River Basin to the St. Mary-Belly River, east of the Continental Divide in northwestern Montana (Cavender 1978, Bond 1992, Brewin and Brewin 1997, Leary and Allendorf 1997).

The bull trout was initially listed as three separate 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.

B. 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; Rieman et al. 1997). 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 nonnative species (e.g., brook trout, *Salvelinus fontinalis*) have resulted in declines in rangewide bull trout distribution and abundance (Bond 1992; Schill 1992; Thomas 1992; Ziller 1992; Rieman and McIntyre 1993; Newton and Pribyl 1994; Idaho Department of Fish and Game in litt. 1995). Several local extirpations have been reported, beginning in the 1950s (Rode 1990; Ratliff and Howell 1992; Donald and Alger 1993; Goetz 1994; Newton and Pribyl 1994; Berg and Priest 1995; Light et al. 1996; Buchanan and Gregory 1997; Washington Department of Fish and Wildlife 1997).

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 (Service 2002).

C. 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). 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; Bond 1992). To the west, bull trout current range includes Puget Sound, coastal rivers of British Columbia, Canada, and southeast Alaska (Bond 1992). 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; Brewin and Brewin 1997). Bull trout are wide-spread throughout the Columbia River basin, including its headwaters in Montana and Canada.

D. Life History

Bull trout exhibit resident and migratory life-history strategies throughout much of the current range (Rieman and McIntyre 1993). 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; Goetz 1989). 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).

Bull trout have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993). Watson and Hillman (1997) concluded that watersheds must have specific physical characteristics to provide habitat requirements for bull trout to successfully spawn and rear, and that the 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; Rieman and McIntyre 1993, 1995; Buchanan and Gregory 1997; Rieman et al. 1997). 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; Rieman and McIntyre 1995). Spawning areas are often associated with cold-water springs, groundwater infiltration, and the coldest streams in a given watershed (Pratt 1992; Rieman and McIntyre 1993; Rieman et al. 1997). Goetz (1989) suggested optimum water temperatures for rearing of about 7 to 8°C (44 to 46°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 (Oliver 1979; Fraley and Shepard 1989; Goetz 1989; Hoelscher and Bjornn 1989; Sedell and Everest 1991; Pratt 1992; Thomas 1992; Rich 1996; Sexauer and James 1997; Watson and Hillman 1997). Jakober (1995) 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). Juvenile and adult bull trout frequently inhabit side channels, stream margins, and pools with suitable cover (Sexauer and James 1997).

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 (Fraley and Shepard 1989; Goetz 1989). Bull trout normally reach sexual maturity in 4 to 7 years and live as long as 12 years. Repeat and alternate year spawning has been reported, although repeat spawning frequency and post-spawning mortality are not well known (Leathe and Graham 1982; Fraley and Shepard 1989; Pratt 1992; Rieman and McIntyre 1996).

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). Depending on water temperature, incubation is normally 100 to 145 days (Pratt 1992), 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; Ratliff and Howell 1992).

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; Goetz 1989; Donald and Alger 1993). Adult migratory bull trout are primarily piscivores, known to feed on various fish species (Fraley and Shepard 1989; Donald and Alger 1993).

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, Fraley and Shepard 1989, Pratt 1992, Rieman and McIntyre 1996).

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.

E. Population Dynamics

The draft bull trout Recovery Plan (Service 2002) 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). In theory, bull trout metapopulations (core areas) can be composed of

two or more local populations, but Rieman and Allendorf (2001) suggest that for a bull trout metapopulation to function effectively, a minimum of between five and 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 (Service 2002).

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 is 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). 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) 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). Increased habitat fragmentation reduces the amount of available habitat and increases isolation from other populations of the same species (Saunders et al. 1991). Burkey (1989) concluded that when species are isolated by fragmented habitats, low rates of population growth are typical in local populations and their probability of extinction is directly related to the degree of isolation and fragmentation. Without sufficient immigration, growth of local populations may be low and probability of extinction high. Migrations also facilitate gene flow among local populations because individuals from different local populations interbreed when some stray and return to non-natal streams. Local populations that are extirpated by catastrophic events may also become reestablished in this manner.

In summary, based on the works of Rieman and McIntyre (1993) and Rieman and Allendorf (2001), the draft bull trout Recovery Plan identified four elements to consider when assessing long-term viability (extinction risk) of bull trout populations: 1) number of local populations, 2) adult abundance (defined as the number of spawning fish present in a core area in a given year); 3) productivity, or the reproductive rate of the population; and 4) connectivity (as represented by the migratory life history form).

F. Status and Distribution

As noted above, in recognition of available scientific information relating to their uniqueness and significance, five population segments[1] of the coterminous United States population of the bull trout are considered essential to the survival and recovery of this species and are identified as: 1) Jarbidge River; 2) Klamath River; 3) Coastal-Puget Sound; 4) St. Mary-Belly River; and 5) Columbia River. Each of these segments is necessary to maintain the bull trout's distribution, as well as its genetic and phenotypic diversity, all of which are important to ensure the species' resilience to changing environmental conditions.

A summary of the current status and conservation needs of the bull trout within these units is provided below. A comprehensive discussion of these topics is found in the draft bull trout Recovery Plan (Service 2002).

Central to the survival and recovery of the bull trout is the maintenance of viable core areas (Service 2002, 2004a,b). A core area is defined as a geographic area occupied by one or more local bull trout populations that overlap in their use of rearing, foraging, migratory, and overwintering habitat, and in some cases in their use of spawning habitat. Each of the population segments listed above consists of one or more core areas. One hundred and twenty one core areas are recognized across the United States range of the bull trout (Service 2002; 2004a,b).

A core area assessment conducted by the Service for the five-year bull trout status review determined that of the 121 core areas comprising the coterminous listing, 43 are at high risk of extirpation, 44 are at risk, 28 are at potential risk, four are at low risk and two are of unknown status (Service 2005).

1. Jarbidge River

This population segment currently contains a single core area with six local populations. Less than 500 resident and migratory adult bull trout, representing about 50 to 125 spawners, are estimated to occur within the core area. The current condition of the bull trout in this segment is attributed to the effects of livestock grazing, roads, angler harvest, timber harvest, and the introduction of non-native fishes (Service 2004a). The draft bull trout recovery plan (Service 2004a) identifies the following conservation needs for this segment: maintain the current distribution of the bull trout within the core area; maintain stable or increasing trends in abundance of both resident and migratory bull trout in the core area; restore and maintain suitable habitat conditions for all life history stages and forms; and conserve genetic diversity and increase natural opportunities for genetic exchange between resident and migratory forms of the bull trout. An estimated 270 to 1,000 spawning fish per year are needed to provide for the persistence and viability of the core area and to support both resident and migratory adult bull trout (Service 2004a). Currently this core area is at high risk of extirpation (Service 2005).

[1] Population segment will be used in this Opinion rather than interim recovery unit to avoid confusion with recovery units identified in the draft bull trout Recovery Plans (Service 2002, 2004 a,b).

2. Klamath River

This population segment currently contains three core areas and 12 local populations. The current abundance, distribution, and range of the bull trout in the Klamath River Basin are greatly reduced from historical levels due to habitat loss and degradation caused by reduced water quality, timber harvest, livestock grazing, water diversions, roads, and the introduction of non-native fishes (Service 2002). Bull trout populations in this unit face a high risk of extirpation (Service 2002). The draft bull trout recovery plan (Service 2002) identifies the following conservation needs for this unit: maintain the current distribution of the bull trout and restore distribution in previously occupied areas; maintain stable or increasing trends in bull trout abundance; restore and maintain suitable habitat conditions for all life history stages and strategies; conserve genetic diversity and provide the opportunity for genetic exchange among appropriate core area populations. Eight to 15 new local populations and an increase in population size from about 3,250 adults currently to 8,250 adults are needed to provide for the persistence and viability of the three core areas (Service 2002).

3. Coastal-Puget Sound

Bull trout in the Coastal-Puget Sound population segment exhibit anadromous, adfluvial, fluvial, and resident life history patterns. The anadromous life history form is unique to this unit. This population segment currently contains 14 core areas and 67 local populations (Service 2004b). Bull trout are distributed throughout most of the large rivers and associated tributary systems within this unit. With limited exceptions, bull trout continue to be present in nearly all major watersheds where they likely occurred historically within this unit. Generally, bull trout distribution has contracted and abundance has declined especially in the southeastern part of the unit. The current condition of the bull trout in this population segment is attributed to the adverse effects of dams, forest management practices (e.g., timber harvest and associated road building activities), agricultural practices (e.g., diking, water control structures, draining of wetlands, channelization, and the removal of riparian vegetation), livestock grazing, roads, mining, urbanization, angler harvest, and the introduction of non-native species. The draft bull trout recovery plan (Service 2004b) identifies the following conservation needs for this unit: maintain or expand the current distribution of bull trout within existing core areas; increase bull trout abundance to about 16,500 adults across all core areas; and maintain or increase connectivity between local populations within each core area.

4. St. Mary-Belly River

This populations segment currently contains six core areas and nine local populations (Service 2002). Currently, bull trout are widely distributed in the St. Mary River drainage and occur in nearly all of the waters that inhabited historically. Bull trout are found only in a 1.2-mile reach of the North Fork Belly River within the United States. Redd count surveys of the North Fork Belly River documented an increase from 27 redds in 1995 to 119 redds in 1999. This increase was attributed primarily to protection from angler harvest (Service 2002). The current condition of the bull trout in this population segment is primarily attributed to the effects of dams, water diversions, roads, mining, and the introduction of non-native fishes (Service 2002). The draft bull trout recovery plan (Service 2002) identifies the following conservation needs for this unit: maintain the current distribution of the bull trout and restore distribution in previously occupied areas; maintain stable or

increasing trends in bull trout abundance; restore and maintain suitable habitat conditions for all life history stages and forms; conserve genetic diversity and provide the opportunity for genetic exchange; and establish good working relations with Canadian interests because local bull trout populations in this unit are comprised mostly of migratory fish, whose habitat is mainly in Canada.

5. Columbia River

The Columbia River population segment includes bull trout residing in portions of Oregon, Washington, Idaho, and Montana. Bull trout are estimated to have occupied about 60 percent of the Columbia River Basin, and presently occur in 45 percent of the estimated historical range (Quigley and Arbelbide 1997). This population segment currently contains 97 core areas and 527 local populations. About 65 percent of these core areas and local populations occur in Idaho and northwestern Montana.

The condition of the bull trout within these core areas varies from poor to good but generally all have been subject to the combined effects of habitat degradation, fragmentation and alterations associated with one or more of the following activities: dewatering; road construction and maintenance; mining, and grazing; the blockage of migratory corridors by dams or other diversion structures; poor water quality; incidental angler harvest; entrainment into diversion channels; and introduced non-native species.

The Service has determined that of the total 97 core areas in this population segment, 38 are at high risk of extirpation, 35 are at risk, 20 are at potential risk, two are at low risk, and two are at unknown risk (Service 2005).

The Columbia River population segment has declined in overall range and numbers of fish (63 FR 31647). Although some strongholds still exist with migratory fish present, bull trout generally occur as isolated local populations in headwater lakes or tributaries where the migratory life history form has been lost. Though still widespread, there have been numerous local extirpations reported throughout the Columbia River basin. In Idaho, for example, bull trout have been extirpated from 119 reaches in 28 streams (Idaho Department of Fish and Game in litt. 1995).

The draft bull trout recovery plan (Service 2002) identifies the following conservation needs for this population segment: maintain or expand the current distribution of the bull trout within core areas; maintain stable or increasing trends in bull trout abundance; maintain/restore suitable habitat conditions for all bull trout life history stages and strategies; and conserve genetic diversity and provide opportunities for genetic exchange.

a. Clearwater River Recovery/Management Unit

The draft bull trout Recovery Plan (Service 2002) identified 22 recovery units within the Columbia River population segment. These units are now referred to as management units (Service 2004c). Management units are groupings of bull trout with historical or current gene flow within them and were designated to place the scope of bull trout recovery on smaller spatial scales than the larger population segments.

Achieving recovery goals within each management unit is critical to recovering the Columbia River population segment. Recovering bull trout in each management unit will maintain the overall distribution of bull trout in their native range. Individual core areas are the foundation of management units and conserving core areas and their habitats within management units preserves the genotypic and phenotypic diversity that will allow bull trout access to diverse habitats and reduce the risk of extinction from stochastic events. The continued survival and recovery of each individual core area is critical to the persistence of management units and their role in the recovery of a population segment (Service 2002).

Bull trout are distributed throughout most of the large rivers and associated tributary systems within the Clearwater River management unit (Clearwater Subbasin Summary 2001) and exhibit adfluvial, fluvial, and resident life history patterns. There are two naturally occurring adfluvial bull trout populations within the Clearwater River management unit; one is associated with Fish Lake in the upper North Fork Clearwater River drainage, and the other is associated with Fish Lake in the Lochsa River drainage (CBBTTAT 1998a, CBBTTAT 1998b). The Bull Trout Recovery Team has identified five core areas and 36 local bull trout populations within the Clearwater management unit (Service 2002, 2004c). The core areas include the North Fork Clearwater River, Lochsa River, South Fork Clearwater River, Selway River, and Lower and Middle Fork Clearwater Rivers.

b. South Fork Clearwater River Core Area

Core areas are the building blocks for conserving the bull trout's evolutionary legacy, and are appropriate units of analysis by which threats to bull trout and recovery standards should be measured (70 FR 56258, September 26, 2005). As discussed above, four factors are used to examine the risk of extinction for a core area: number of local populations, adult abundance, productivity, and connectivity. Bull trout are currently known to use spawning and rearing habitat in five stream complexes within the South Fork Clearwater River management unit (i.e., local populations). These local populations include Red River, Crooked River, Newsome Creek, Tenmile Creek and Johns Creek. Because this core area does not have (and is unlikely to achieve) 10 local populations, the core area is at moderate risk of extinction from stochastic events. The loss of one local population in this core area may threaten its long-term viability and recovery. Current abundance and distribution of bull trout in the core area are considered lower than historic levels. It is estimated that there at least 500 spawners present (Service 2002) so this core area is at an intermediate risk of genetic drift. Population trend data is lacking for the core area, so the Recovery Plan determined that until such data is available, the core area is at an increased risk of extinction (Service 2002, 2004c). There is an extremely low incidence of fluvial migratory adults in the core area (Forest Service 1999), as well as resident adults (D. Mays, personal communication, January 30, 2006), but migratory bull trout persist in some local populations so the core area is at an intermediate risk of extinction due to loss of connectivity (Service 2002).

A core area assessment conducted by the Service for the five-year status review ranked this core area as being at risk of extirpation. The main factor determined to be contributing to this risk was threats from habitat destruction or degradation, effects of exotic species, overexploitation and direct human-

caused mortality and elimination of natural disturbance regimes, such as fire or flooding. Other factors are low population numbers and geographic distribution (i.e., area of occupancy within the core area is relatively small).

Roads, forestry, grazing, residential development, brook trout, and angling threaten bull trout in this core area. Other limiting factors include water temperature, sediment, instream cover, watershed disturbances (includes upland disturbances such as mining, timber harvest, and roading), habitat degradation, exotics/introgression, harvest, and connectivity (Service 2004c).

G. Consulted-on Effects Rangewide

Consulted-on effects are those effects that have been analyzed through section 7 consultation as reported in a biological opinion. These effects are an important component of objectively characterizing the current condition of the species. To assess consulted-on effects to bull trout, we analyzed all of the biological opinions received by the Region 1 and Region 6 Offices, from the time of listing until August 2003; this summed to 137 biological opinions. Of these, 124 biological opinions (91 percent) applied to activities affecting bull trout in the Columbia Basin population segment. The geographic scale of these consultations varied from individual actions (e.g., construction of a bridge or pipeline) within one basin to multiple-project actions occurring across several basins.

Our analysis showed that we consulted on a wide array of actions that had varying level of effects. Many of the actions resulted in only short-term adverse effects – some with long-term beneficial effects. Some of the actions resulted in long-term adverse effects. No actions that have undergone consultation were found to appreciably reduce the likelihood of survival and recovery of the bull trout. Furthermore no actions that have undergone consultation were anticipated to result in the loss of local populations of bull trout.

H. Conservation Needs

Recovery for bull trout will entail reducing threats to the long-term persistence of populations and their habitats, ensuring the security of multiple interacting groups of bull trout, and providing habitat conditions and access to them that allow for the expression of various life-history forms (Service 2002). The draft Bull Trout Recovery Plan identifies the following tasks needed for achieving recovery: 1) protect, restore, and maintain suitable habitat conditions for bull trout; 2) prevent and reduce negative effects of nonnative fishes and other nonnative taxa on bull trout; 3) establish fisheries management goals and objectives compatible with bull trout recovery; 4) characterize, conserve, and monitor genetic diversity and gene flow among local populations of bull trout; 5) conduct research and monitoring to implement and evaluate bull trout recovery activities, consistent with an adaptive management approach using feedback from implemented, site-specific recovery tasks; 6) use all available conservation programs and regulations to protect and conserve bull trout and bull trout habitats; and 7) assess the implementation of bull trout recovery by management units, and revise management unit plans based on evaluations.

Generally, the conservation needs of the bull trout are often generally expressed as the need to provide the four Cs: cold, clean, complex, and connected habitat. Cold stream temperatures, clean water quality that is relatively free of sediment and contaminants, complex channel characteristics (including abundant large wood and undercut banks), and large patches of such habitat that are well connected by unobstructed migratory pathways are all needed to promote conservation of bull trout at multiple scales ranging from the coterminus to local populations. The recovery planning process for the bull trout (Service 2002; 2004a, b) has also identified the following conservation needs for the bull trout: (1) maintain and restore multiple, interconnected populations in diverse habitats across the range of each interim recovery unit; (2) preserve the diversity of life-history strategies; (3) maintaining genetic and phenotypic diversity across the range of each interim recovery unit; and (4) establish a positive population trend. Recently, it has also been recognized that bull trout populations need to be protected from catastrophic fires across the range of each interim recovery unit.

I. Critical Habitat

The Service issued a final rule designating critical habitat for bull trout range wide on September 26, 2005. The designation includes 4,813 miles of stream or shoreline and 143,218 acres of lake or reservoir. We designated areas as critical habitat that 1) have documented bull trout occupancy within the last 20 years, 2) contain features essential to the conservation of the bull trout, 3) are in need of special management, and 4) were not excluded under section 4(b)(2) of the Act. The Final Rule excluded from designation those federally managed areas covered under PACFISH, INFISH, the Interior Columbia Basin Ecosystem Management Project, and the Northwest Forest Plan Aquatic Conservation Strategy. The Service determined that these strategies provide a level of conservation and adequate protection and special management for the primary constituent elements of critical habitat at least comparable to that achieved by designating critical habitat. Areas managed under these strategies do not meet the statutory definition of critical habitat (i.e., areas requiring special management considerations) and were therefore excluded. The excluded areas include much of the proposed critical habitat in Idaho; the final rule only designates 294 miles of stream/shoreline and 50,627 acres of reservoirs or lakes. There is no designated critical habitat for bull trout within the action area.

III. ENVIRONMENTAL BASELINE

The environmental baseline is defined as the current habitat condition including the past and present impacts on bull trout of all Federal, state or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impacts of state or private actions that are contemporaneous with the consultation in process.

A. Status of the Species in the Action Area

The draft bull trout Recovery Plan identifies bull trout in the Newsome Creek watershed as a local population where spawning and early rearing occur (Service 2002). Bull trout occur in Newsome, Pilot, and Baldy Creeks, and the lower reaches of Bear, Beaver, and Mule Creeks. Idaho

Department of Fish and Game documented 34 bull trout in the Newsome Creek watershed during surveys conducted in 1993. In 1998, Forest biologists recorded 32 bull trout in Pilot Creek. Current (since 1985) bull trout spawning and early rearing are known to occur in upper Newsome, Pilot, and Baldy Creeks and are suspected in Beaver Creek (Forest Service 2005).

Between 2002 and 2006, the Nez Perce Tribe documented a total of 15 fluvial (presumably) adult bull trout in their Chinook salmon weir in Newsome Creek (R. Johnson in litt. 2006). The Tribe operates the weir between May and September. The majority of bull trout were captured (and immediately released) between June and July. The average length of these bull trout was 441 millimeters (17 inches). The Tribe also operates a screw trap in order to estimate Chinook salmon juvenile production. The trap captures emigrating salmonids. Between 2002 and 2005, a total of 65 bull trout were captured between June and November during these years; forty-three of these fish were measured. The average length of these fish was 231 millimeters (9 inches).

Bull trout status in the Newsome Creek watershed is considered to be weak throughout most areas for which there is available information, except for the headwaters of Pilot Creek which is considered a strong population thought to be comprised of resident fish (Forest Service 2005).

In the stream restoration project area, low densities of bull trout are known to occur in the mainstem Newsome Creek. In the road decommissioning and improvement project area, bull trout are known to occur in lower Mule Creek up to the confluence with Mare Creek.

B. Factors Affecting the Species in the Action Area

As previously described in the Status of the Species section of this Opinion, bull trout distribution, abundance, and habitat quality have declined range wide primarily from the combined effects of habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, angler harvest, poaching, entrainment, and introduced non-native fish species.

Although Newsome Creek historically provided some of the most productive fish habitat in the South Fork Clearwater subbasin, conditions have been altered from historic primarily by dredge mining and streamside roads. Historic mining has affected stream and riparian processes in most of the mainstem of Newsome Creek and in some tributaries. In most mined reaches the channel has been straightened and tailing piles confine the channel. Dredging has lowered the channel and disconnected it from its former floodplain (CBBTTAT 1998c). In dredged reaches riffle habitats are more abundant and run/glide and pool habitats are less abundant when compared to similar undredged reaches (Forest Service and Nez Perce Tribe 2005).

Road densities are elevated throughout the Newsome Creek drainage ranging from a low of 1.27 miles per square mile in Pilot Creek to a high of 5.0 in Bear Creek (CBBTTAT 1998c). There appears to be an inverse relationship between watershed road density and bull trout occurrence in that bull trout typically do not occur where road densities exceed 1.7 miles per square mile (Service 2002). Ripley et al. (2005) found a negative relationship between road density and bull trout occurrence and abundance. Bull trout population strongholds occur most often in roadless areas (Quigley and Arbelide 1997, Kessler et al. 2001).

Cobble embeddedness, percent surface fines, fines by depth, acting large woody debris, and pool frequency are all rated as being in low condition (Dechert et al. 2004). Mainstem Newsome Creek from the mouth to Beaver Creek and Beaver Creek from the headwaters to Newsome Creek are 303(d) listed for sediment (Dechert et al. 2004).

The Forest attempted to address some of these habitat issues in the 1980s by installing instream structures which included check dams, habitat rocks, and large woody debris. The current project will continue to improve habitat conditions in the Newsome Creek drainage and benefit bull trout in the long term.

Status Summary

The Service concludes that bull trout, a species requiring relatively pristine habitat conditions, are in general exposed to suboptimal habitats in the action area primarily as a result of past and on-going human activities, and population numbers are reduced from historic levels.

No known trend data exist for bull trout in Newsome Creek. The Forest concludes that the population is stable or fluctuating in a downward trend with the total number of individuals less than 500 but greater than 50 (Forest Service 2005).

IV. EFFECTS OF THE ACTION ON BULL TROUT

A. Direct and Indirect Effects

Direct effects are defined as those that result from the proposed action and directly or immediately impact the species or its habitat. Indirect effects are those that are caused by or will result from the proposed action and are later in time but are still reasonably certain to occur (50 CFR §402).

Beneficial effects to bull trout are expected from project implementation in terms of improvements to habitat quality and habitat access. A short-term increase in suspended and deposited sediment is the main adverse effect expected from the project.

Road decommissioning and improvement activities have the potential to increase sediment production and delivery into streams during the short term but are designed to result in long-term reductions in sediment and an overall net improvement on a watershed basis.

Replacing/removing culverts to eliminate fish barriers can also have a short-term negative effect on fish habitat because of the sediment deposition that occurs downstream of the culvert during the replacement/removal process.

Stream and riparian restoration will also result in short-term (less than 5 years) negative effects on fish habitat due to the release of sediment in Newsome Creek, but provide long-term benefits in terms of improvement in channel morphology and hiding cover.

Monitoring results from other instream projects can provide an idea of expected suspended sediment concentrations and duration of effects. For example, monitoring results from culvert replacement projects (Thompson 1995, Forest Service 2000, 2003) indicate that suspended sediment concentrations downstream of culvert replacement sites will remain elevated for up to 24 hours but will probably peak within two to three hours at levels as high 950 mg/l. Sedimentation on the stream bottom will occur up to 300 feet downstream of the site but the sediment plume will probably extend further.

Monitoring of in-channel work on the Nez Perce National Forest showed that sediment concentrations immediately downstream of where machinery was working ranged from 270 to 623 mg/l (Forest Service 2002). Concentrations in the mixing zone ranged from 69 to 190 mg/l. Visible suspended sediment was observed for no more than 10 minutes following disturbance, although it is not clear from the report how long the machine worked and how long associated suspended sediment was produced or how far downstream the sediment plume extended.

Based on the work of Newcombe and Jensen (1996) sublethal adverse effects are expected for juvenile and adult salmonids at suspended sediment concentrations as low as 55 mg/l at exposure times of three hours. This level of exposure may produce short-term reductions in feeding rates and feeding success, and minor physiological stress. Compared with other salmonids, bull trout are more sensitive to sediment and require the lowest suspended sediment levels (Bash et al. 2001). Based on the monitoring results summarized above, the Service anticipates that bull trout present in the action area during project implementation may be adversely affected by exposure to suspended sediment concentrations exceeding 55 mg/l for durations of three hours or more.

The extent and magnitude of sediment effects to bull trout depend on numerous factors including age of fish (eggs, larvae, and fry are generally more susceptible (Bash et al. 2001)), suspended sediment concentration, duration of exposure, stream flow, precipitation events, and the efficacy of project erosion control measures. Given the predicted level of suspended sediment exposure (concentration and duration), no bull trout mortality is expected from the project.

A reasonable expectation would be that, in order to avoid adverse effects, bull trout juveniles and adults may move away from areas with elevated levels of suspended sediment if possible Bison and Bilby (1982) found that juvenile coho salmon (*Oncorhynchus kisutch*) avoided increasingly turbid waters in a laboratory setting. But, relocating to avoid sediment may have indirect adverse effects on bull trout. Salmonids exhibit a dominance hierarchy where the dominant fish (usually the largest) maintain the most desirable territories (i.e., defended area) in terms of available cover and food sources (Gilmour et al. 2005). Subordinate fish may be excluded from food and cover resources and show reduced fitness and mortality (Gilmour et al. 2005). Berg and Northcote (1985) found that dominance hierarchies broke down and territories were not defended when juvenile coho salmon were exposed to short term sediment pulses. We assume that bull trout behave similarly to other studied salmonids. Based on this assumption we expect bull trout that abandon territories in order to avoid turbidity associated with culvert replacement projects, may suffer increased competition, predation (through loss of cover), stress, and reduced feeding efficiency.

Sediment deposition will occur downstream of the instream work sites. The extent of deposition is dependent upon stream size and flow. Culvert replacement monitoring on the Bitterroot National Forest showed that deposited sediment was visible 150 feet below the replacement site (Forest Service 2003). Although unlikely, bull trout spawning and early rearing (life history stages especially connected with stream channel substrate) may occur in the action area and may be impacted by deposited sediment. Indirectly, there may be a short-term reduction in macro-invertebrate abundance (a potential bull trout food resource) in areas of sediment deposition (Henley et al. 2000). However, deposition areas will be relatively small and localized in the Project area so effects on bull trout prey availability or foraging efficiency are expected to be insignificant. Additionally, high flow events following project implementation are expected to flush any deposited sediment from the action area.

Project design criteria and turbidity monitoring (Appendix A) will be used to minimize sediment effects and prevent exposure from reaching levels where bull trout mortality might occur. These design criteria include the use of erosion control measures such as silt fences, sediment traps, and mulching. Disturbed areas will be seeded with native species and mulched. Ground disturbing activities within 300 feet of streams will be conducted during low flow conditions between July 1 and October 31. Instream work will be conducted between July 1 and August 15. A technical advisor will be on-site when in-channel work occurs. Turbidity will be monitored to ensure that risks to bull trout from suspended sediment are minimized.

Other potential adverse effects to bull trout may result from the introduction of toxic fuels, lubricants, coolants, or hydraulic fluids into the stream through accidental spills or equipment leaks. The risk of these effects will be minimized because equipment will be checked for leaks daily and fuel storage and refueling will occur at the greatest possible distance from surface water. An insignificant short-term increase in stream temperature is expected due to the removal of existing vegetation on top of mining waste. However, the riparian area will be revegetated and will provide increased shade over the long term.

Additionally, bull trout may be injured or killed in the process of collecting and removing them from the culvert removal/replacement sites and channel restoration sites. The use of electrofishing or other methods to remove bull trout from these work sites requires that the Forest possess a current Scientific Collecting Permit issued by Idaho Department of Fish and Game, and follow all associated requirements. The Service has already analyzed the effect of work conducted under the Department's permits in a February 2000 intra-Service Biological Opinion (Service 2000).

Although the project is expected to have some adverse impacts on bull trout in the action area, beneficial effects are anticipated as well. Potential direct beneficial effects for bull trout include access to previously unavailable habitat and improvement in habitat conditions. Improved habitat conditions may indirectly benefit bull trout by increasing the abundance of salmonid prey species.

Newsome Creek channel morphology will be greatly improved with stream restoration. The project area is divided into 6 reaches for analysis and most of the proposed work will occur in Reaches 2, 4, and 5. The proposed project will increase channel length and sinuosity by approximately 20 percent in Reaches 2 and 5 and by 10 percent in Reach 4. The number of pools will be increased by

approximately 50 percent in Reach 2 and 4 and by nearly 100 percent in Reach 5. Flood-prone width will be doubled in Reach 2 and 4 and tripled in Reach 5. The recovery of natural geomorphic process is expected to occur in less than 50 years.

B. Effects of Interrelated or Interdependent Actions

The Service considers any required maintenance of culverts and instream structures in bull trout habitat to be actions that are interrelated and interdependent with the project. The temporal and spatial scope of these anticipated activities is not known, but short-term adverse effects to bull trout from increases in suspended and deposited sediment are expected. The Service assumes that effects to bull trout will be reduced but not eliminated by the use of best management practices.

V. CUMULATIVE EFFECTS

Cumulative effects are the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Because approximately 99 percent of the Newsome Creek watershed is under Forest Service management, the cumulative effects of state, tribal, local, and private actions is limited, with the exception of the on-going operation of the Tribe's weir and screw trap at the mouth of Newsome Creek. Both upstream and downstream migrating bull trout may be negatively impacted through trapping and handling.

Illegal and inadvertent harvest of bull trout is also considered a cumulative effect. Harvest can occur through both misidentification and deliberate catch. Schmetterling and Long (1999) found that only 44 percent of the anglers they interviewed in Montana could successfully identify bull trout. Similarly Polzin and Fredenberg (2005) surveyed anglers at Swan Lake, Montana, and found that only about 54 and 26 percent of the respondents could correctly identify adult and juvenile bull trout respectively. Being aggressive piscivores, bull trout readily take lures or bait (Ratliff and Howell 1992). Idaho Department of Fish and Game reports that, during the 2002 salmon and steelhead fishing seasons, 400 bull trout were caught and released in the regional (Clearwater administrative region) waters of the Salmon and Snake Rivers (Idaho Department of Fish and Game 2004). Spawning bull trout are particularly vulnerable to harvest because the fish are easily observed during autumn low flow conditions. Hooking mortality rates range from 4% for nonanadromous salmonids with the use of artificial lures and flies (Schill and Scarpella 1997) to a 60 percent worst case scenario for bull trout taken with bait (Idaho Department of Fish and Game 2001). Thus, even in cases where bull trout are released after being caught some mortality can be expected.

VI. CONCLUSION

The Service has reviewed the current status of bull trout, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects. It is the Service's biological

opinion that the project is not likely to jeopardize the continued existence of the South Fork Clearwater River core area or the Columbia River population segment of bull trout, and therefore the species (64 FR 58930, November 1, 1999).

The Service concludes that direct effects would be limited to short-term disturbance or harassment of migrating and resident adult bull trout with potential for harm and harassment to eggs, alevins, fry, and juvenile fish. Short-term and long-term indirect effects from proposed project activities may occur but these effects are anticipated to occur only within the action area and should be minimized by the design criteria incorporated into the project proposal. The Service expects that the numbers, distribution, and reproduction of bull trout in the action area, the Newsome Creek local population, the South Fork Clearwater core area, the Clearwater River management unit, or in the Columbia Basin population segment will not be significantly changed as a result of this project. Reproduction is not expected to be appreciably altered because no project activities will occur in documented bull trout spawning areas (although an unknown quantity of bull trout spawning may occur in the action area). Connectivity between the Newsome Creek local population and other local populations in the Clearwater River recovery unit will not be significantly affected. Proposed restoration actions should result long term improvements in habitat quality and connectivity. As such, we have concluded that the survival and recovery of bull trout populations will not be jeopardized by the project.

No critical habitat is designated in the action area so none will be affected.

VII. INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of 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 to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The Forest has a continuing duty to regulate the activity covered by this incidental take statement. If the Forest fails to assume and implement the terms and conditions the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Forest must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

A. Amount or Extent of Take

The Service expects that all bull trout (including eggs, alevins, fry, and spawning adults) in the immediate vicinity of stream crossing improvement sites and instream restoration activities and within the downstream extent of sediment and/or turbidity effects (300 feet) may be subject to take in the form of harm or harassment. Similarly all bull trout occupying affected streams, whether resident or migratory, in the action area may be harmed by sediment pulses and hydrograph changes resulting from road reconstruction and road decommissioning. The Service believes that the risk of take will be minimized through application of the resource protection measures to be applied during implementation of the proposed action, which may reduce impacts to bull trout and bull trout habitat.

Survey and monitoring data indicate the presence of bull trout throughout the action area. The Service anticipates that incidental take will only occur and be permitted during the following time period and in the following forms during the estimated six year life of the project.

1. Take of bull trout (including eggs, alevins, and fry) in the form of harm or harassment associated with direct disturbance from instream project activities such as channel restoration and culvert replacement. These types of instream activities will be confined to a July 1 to August 15 work window. This work window may be adjusted on a site specific basis with Service approval.

2. Take of bull trout in the form of harm or harassment associated with the disturbance of substrate materials or sediment production, intentionally or unintentionally, while working in the stream channel between July 1 and August 15. This date may be extended where applicable and agreed upon by the Service (e.g., in reaches upstream of bull trout habitat).

Incidental take will be limited to the following locations, life forms, and life stages that are likely to be affected.

1. The location of the expected incidental take is in mainstem Newsome Creek, Mare Creek, and Mule Creek.

2. The life forms expected to be harmed or harassed include fluvial and resident bull trout.

3. The life stages expected to be harmed or harassed include adult and juvenile fish, as well as eggs, alevins, and fry.

The Service expects no direct lethal take of bull trout (including eggs, alevins, and fry). If the incidental take anticipated by this document (i.e., harm and harassment to bull trout within the action area) is exceeded, project activities associated with this exceedence will cease and the Forest will immediately contact the Service to determine if consultation should be reinitiated. Authorized take will be exceeded if project activities result in any bull trout (including eggs, alevins, and fry) mortality; instream restoration or stream crossing improvement activities result in suspended sediment exposure (concentration and duration) levels determined to have more than minor physiological effects to bull trout within 300 feet downstream of the instream work site; or if

changes to bull trout habitat in the action area exceed what is predicted in the Assessment (including changes to sediment yield, cobble embeddedness, stream temperature, water quality, bank stability, or channel morphology). Authorized take will also be exceeded if instream work occurs outside of the July 1 to August 15 work window unless a different window is agreed upon by the Service.

Bull trout may be injured or killed in the process of collecting and removing fish prior to instream work. This take has already been anticipated and analyzed in the Service's Biological Opinion for Idaho Department of Fish and Game's Scientific Collecting Permit (Service 2000), and will not be addressed in this Opinion.

B. Effect of the Take

The Columbia River population segment comprises 22 management units including the Clearwater River unit (Service 2002). The Clearwater management unit contains five core areas with 36 local populations. The Newsome Creek watershed contains the only local population within the action area. In the action area, early rearing (and therefore spawning) is only known to occur in the Upper Newsome. Anticipated take may be reduced because the project includes design criteria to avoid and reduce adverse effects. The probability that the proposed action will eliminate the Newsome Creek local population of bull trout is discountable. Local bull trout densities and distribution in the affected streams are not expected to be significantly altered. As only one out of a total of 36 local populations may be affected by project activities, it is unlikely that the proposed action would impair productivity or population numbers of bull trout in the Clearwater recovery units or in the Columbia River population segment. Watershed restoration activities, such as instream and riparian rehabilitation, road decommissioning, and culvert replacement/upgrades are expected to result in long-term improvements in bull trout habitat conditions in the Newsome Creek watershed.

C. Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize take from Project related activities in the action area.

- Minimize the potential for harm to habitat and harm or harassment of bull trout associated with watershed restoration activities including installation of instream structures, channel realignment, and culvert replacements.

D. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting and monitoring requirements. These terms and conditions are non-discretionary.

1a. The Forest will plan and implement instream restoration projects to avoid bull trout spawning habitat and spawning adults. The Forest will conduct bull trout redd surveys in upper Newsome Creek prior to implementing any instream restoration actions in this section of creek.

1b. Where their use is required to prevent bull trout from entering instream work areas, block nets shall be checked regularly to ensure that they are functioning properly, are free of debris and are not entraining any bull trout.

1c. When conducting instream work (other than crossing upgrades) in mainstem Newsome Creek, passage for migrating bull trout will be maintained at all times.

1d. To avoid harassment effects, instream activities in or near occupied bull trout habitat shall only be conducted during daylight hours within the identified instream work window.

1e. The Forest will ensure that all erosion and sediment control measures are maintained until construction activities are complete and disturbed areas are stabilized.

1f. Project activities shall cease during periods of heavy precipitation where run-off could potentially cause erosion and sediment delivery to bull trout habitat in the action area.

E. Monitoring/Reporting

1. The Forest shall provide an annual report detailing Project implementation progress and baseline updates (e.g., changes to watershed and habitat indicators such as road density and pool frequency) that will include results of applicable implementation and effectiveness monitoring, any bull trout surveys conducted in the project area, a summary of bull trout observed or handled under the state Collecting Permit, as well as the results of monitoring revegetation efforts. The monitoring report will be sent to the Snake River Fish and Wildlife Office, 1387 South Vinnell Way, Suite 368, Boise, Idaho 83709 by March 1.

2. Upon locating dead, injured, or sick bull trout, or upon observing destruction of redds as a result of Project activities such activities shall be terminated and notification must be made within 24 hours to the Service's Division of Law Enforcement at (208) 378-5333. Additional protection measures will be developed through discussions with the Service.

3. During Project implementation the Forest shall promptly notify the Service of any emergency or unanticipated situations arising that may be detrimental for bull trout relative to the proposed activity.

VIII. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act requires Federal Agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize

or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends that the Forest implement the following conservation measures.

1. In order to better assess sediment effects on bull trout from future instream projects, take suspended sediment samples at the turbidity monitoring stations established for the project. Although turbidity and suspended sediment concentration are correlated, the relationship varies between individual streams and watersheds (Bash et al. 2001, Lewis et al. 2002, Rowe et al. 2003). Measuring suspended sediment will assist in making stream specific correlations between suspended sediment concentrations and turbidity.

2. Monitor and evaluate all-terrain vehicle use of trails within the project action area as a source of sediment to aquatic systems in project area. If assessment indicates these trails are adversely affecting aquatic systems then eliminate source of adverse effects by closing and rehabilitating trails or where closure is not feasible install bridges at stream crossings.

3. Promote recovery of bull trout in the action area by identifying potential habitat restoration opportunities and implementing these actions in the near-term.

4. Continue to survey and document bull trout distribution in the action area using a suitable protocol (e.g., Peterson et al. 2002).

5. Continue to promote recovery of bull trout by identifying additional habitat restoration and fish passage opportunities, and implementing these actions in the near-term.

6. When re-establishing riparian vegetation, focus on establishing native woody vegetation, such as willows, where appropriate.

To keep the Service informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification on implementation of any conservation recommendations.

IX. REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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APPENDIX A. Resource Protection Measures from the Assessment.

Stream Reconstruction

1. The NPT habitat biologists and engineer, Red River Ranger District fisheries biologist, NPNF hydrologist, the contractor (or their qualified representative), and contracting officer representative (COR) will be the technical advisors and function as an adaptive management/problem avoidance team, as was done successfully by the TAC in the Red River WMA project. This team will be available during the entire field season. If any team member has to be absent due to fire duty, personal matters, etc., an interim member will be appointed. The IDFG, IDEQ, IDWR, NOAA, U.S. Fish and Wildlife Service (hereafter "FWS"), Army Corps of Engineers, and BPA will be invited to participate in any technical field reviews.

2. One of the technical advisors (No. 1, above) or one of their technicians will be on-site any time in-channel work occurs during the six-week, in-channel window (July 1-August 15).

3. The contractor performing the in-channel work, the COR, and a fisheries biologist or hydrologist from the technical advisory team (or one of their technicians) will meet the first morning the in-channel work begins, and at the beginning of every work week thereafter, for as long as necessary. The purpose is to review work plans and to determine if any changes are needed based on recent work activity.

4. Ground-disturbing activities will be completed during base-, low-flow conditions, approximately July 1 to October 31.

5. Activities will be conducted in the channel between July 1 and August 15 to avoid sediment deposition on redds with emerging steelhead, to avoid adult chinook spawning activity, and to avoid any bull trout migrating to the headwaters of Newsome Creek to spawn. These dates may be adjusted in cooperation with the FWS and NOAA.

6. Stream crossings along the access road (Trail 826) will be inspected for steelhead redds during May. If any redds are found, measures will be taken by a NPNF or NPT fisheries biologist or biological technician so that vehicles will not affect the redds. If any chinook are exhibiting spawning behavior at the crossings, measures will be taken to avoid disturbing any subsequent redds.

7. All disturbed sites will be graded and shaped, including the tailings piles, which will be moved to the toe slope repository areas located away from the stream channel. The feasibility study identified these areas, but their proximity to Newsome Creek will be re-checked during relocation of the tailings to assure they are far enough from Newsome Creek to prevent sediment delivery.

8. Disturbed areas on the actual floodplain will be seeded as needed with annual rye grass, planted with native shrubs, and/or conifers (approximately 4-foot by 4-foot spacing on all disturbed areas), and covered with weed-free straw mulch immediately upon completion of

work in that area. Any small trees that need to be cleared from the work sites will be placed on disturbed areas to help stabilize the soils. These areas will be monitored during post-project monitoring to assess revegetation success.

9. Work will be stopped if erosion or saturated soil conditions exist at the work site.

10. A spill prevention and control plan that is approved by the NPNF COR will be required for handling and storage of petroleum products. Any storage of petroleum products in excess of 200 gallons will be kept within constructed containment structures that have an impervious liner with a capacity equal to or larger than the storage container. The containment structure will be located at least 100 feet from live water. Before being used within 300 feet of Newsome Creek, all heavy equipment or other machinery will be inspected for hydraulic or other leaks daily. Leaking or faulty equipment will not be used or stored anywhere that leaked fluid could reach water. Equipment with accumulations of oil, grease, or other toxic materials will be cleaned prior to use in these areas. Storage areas for equipment used along Newsome Creek will be approved by the NPNF COR. No disposal of petroleum products will be permitted on national forest land.

11. All equipment used in the stream restoration activities will be thoroughly washed before it enters the NPNF to prevent the introduction of noxious weeds. In addition, mulching material and applied seed will be certified as weed seed free.

12. Known noxious weed infestations on or adjacent to the construction sites will be treated prior to any further ground disturbance. Sites will also be monitored frequently to ensure early detection and treatment of noxious weeds after the earthwork is completed. Use of herbicide, if needed, will be limited to use of glyphosphate, in a product formulation such as Rodeo that contains no surfactant.

13. Conservations measures described in *Canada Lynx Conservation Assessment and Strategy* will be applied (Ruediger et al. 2000).

14. Fish in old sections of channel to be abandoned will be removed before the new sections of channel are connected to the main stem. This will be accomplished in the following manner listed below (the NPNF or NPT biologist or their biological technician leading the work will have an annual IDFG collection permit which includes NOAA electrofishing provisions).

    (1.) A seine will be pulled through the old channel section, keeping it as close to the bottom and bank contours as possible. Fish will be removed from the seine periodically and placed into buckets.

    (2.) At the end of the seining pass, fish will be released in the main stem.

(3.) If fish are seen escaping the seine or are seen in the old channel the following morning, another pass with the seine will be made.

(4.) If fish are seen after Step (3.), electrofishing gear will be used to capture the remaining fish, which will then be transferred to the main stem.

14. When water is introduced to new sections of channel, at first a small breach of the remaining streambank will be dug between the new channel and main stem to allow water to slowly flow into the new section, thereby avoiding excessive turbidity.

15. The dewatered section of the old channel will again be checked for stranded fish after the flows sufficiently recede. Any stranded fish will be immediately moved to a portion of the channel that has not been dewatered.

16. The upstream 50-100 feet of old channel sections will be plugged with boulder and cobble to help prevent any tendency of the stream to "jump" back into the old channel during high flow events (this could strand fish in the newly-created channel section).

17. Silt fences, straw bales, and/or sand bag windrows will be installed as needed before excavation occurs to separate the disturbed areas from the live water and prevent eroded soil from entering the stream channel.

18. In order to reduce the amount of sediment production from vehicles working on the project, the existing single-track "jeep road" (now called Trail 826) would be minimally improved to provide motorized access to the stream reaches. This would require application of gravel, particularly in wet areas, limited brush removal, and hardening of those ford approaches without sufficient streambank rock content. Some widening may be necessary at selected places. The single-track road may be relocated to the outside edge of the riparian habitat where feasible, to get it out of the riparian zone to prevent sediment deposition during the channel project and during any future use of the road. The final details on the access route will be available once the design plan is completed by the contractor. These details will be reviewed by NOAA, FWS, the NPT and NPNF during the review of the design and build plan - see "Review of the Final Design and Build Plan".

19. After construction activities are completed, motorized administrative access along Newsome Creek to the Haysfork hydraulic placer mine would be maintained in a primitive state. Upstream of the Haysfork hydraulic placer mine, the temporary road would be decommissioned and reverted to a narrow trail providing non-motorized access to the upper project reaches.

20. During implementation, if previously unknown Forest Service sensitive plant species are observed and activities would impact individuals or populations, appropriate protection measures will be implemented. Appropriate measures will vary depending upon the ecology of the species involved and nature of the activity and will be directed by a botanist.

21. The State of Idaho Best Management Practices and Forest Service Soil and Water Conservation Practices will be applied and are incorporated by reference.

Road Obliteration/Improvements

1. Ground-disturbing activities within 300 feet of streams will be completed during base-, low-flow conditions. Road work will occur from approximately mid-June through October. Fish passage will be provided at all times during the culvert replacements for salmon, steelhead, bull trout, and westslope cutthroat trout.

2. All disturbed sites will be graded and shaped to allow drainage. Areas of disturbance will be seeded with annual rye grass and mulched immediately upon completion of work in that area. Existing downed logs will be placed on the slope of disturbed soils to reduce surface erosion.

3. Work will be stopped if erosion or saturated soil conditions exist at the work site.

4. A spill prevention and control plan that is approved by the contracting officer will be required for the handling and storage of petroleum products. Any storage of petroleum products in excess of 200 gallons will be kept in constructed containment structures that have an impervious liner with a capacity equal to or greater than the storage container. The containment structure will be located at least 300 feet from live water (a surface water body that supports aquatic life and is connected to fish-bearing waters). No disposal of petroleum products will be permitted on national forest land.

5. All equipment used in the obliteration activities will be thoroughly washed before it enters the NPNF to prevent the introduction of noxious weeds. In addition, mulching material and applied seed will be certified as weed seed free. Known noxious weed infestations on or adjacent to the construction sites will be treated prior to any further ground disturbance. Sites will also be monitored frequently to ensure early detection and treatment of noxious weeds after the earthwork is completed. Use of herbicide, if needed, will be limited to glyphosphate, in a product formulation such as Rodeo that contains no surfactants.

6. Conservation measures described in *Canada Lynx Conservation Assessment and Strategy* will be applied (Ruediger et al. 2000).

7. If a cultural resource is encountered, the contractor would cease all work in the immediate area and contact the NPNF Archaeologist.

8. Any road cuts, fills, and treads will be stabilized with a cover of annual grass where roads will remain for more than one year. If avoidance of live water is not possible, stream crossings will be designed according to criteria that are consistent with those described below and in Forest Plan Amendment 20 (PACFISH) (USDA Forest Service 1995).

Culvert Removal and Replacement

1. Removal of culverts in streams in the national forest will require the implementation of several standard construction practices to reduce sedimentation. The culvert removal sites will be dewatered during construction activities. Temporary in-channel sediment traps (weed-free straw bales) will be installed below each culvert removal site to catch sediment resulting from the construction. After the spike in sediment has receded, the straw bales will be removed. The slopes adjacent to the streams will be graded to approximate the natural contour, seeded with annual rye grass, and mulched. The natural regeneration of shrubs and trees will be supplemented as necessary with plantings. The in-channel work will be limited to periods of low-flow conditions.

2. At each culvert replacement site, the stream will be diverted (by means of a temporary culvert) or pumped around the work site (dewatered), and fish screens will be placed on the pump intakes.

3. In fish-bearing streams in which culvert replacements will occur, fish will be driven away from the work site by individuals wading in the stream before work begins. This will harass, but not result in injury to these fish or significantly disrupt behavior. It is unlikely that steelhead occupy any culvert removal or replacement site on this project except that a few juvenile steelhead may be as far upstream as the culvert replacement site on Mule Creek. Almost all culverts on the project are located in upper elevation areas in westslope cutthroat habitat or in non-fish bearing creeks. It is unlikely that bull trout will be encountered at any culvert site on the project, due to the very low numbers of bull trout found in any subwatershed of the project area. A fisheries biologist or biological technician will be onsite during dewatering and will follow this procedure:

   (1) A block net will be placed at a point upstream of the dewatering.

   (2) Beginning at the upstream end of the section to be dewatered, fish will be driven downstream by individuals wading in the stream and pushing the fish with a seine.

   (3) Step 2 will be repeated until no fish are observed.

   (4) After the final pass with the seine net, a block net will be installed at the downstream end of the dewatered area (approximately 200 feet from the downstream end of the section to be dewatered).

   (5) Water will be diverted after the lower block net is in place.

   (6) The dewatered channel will be surveyed for stranded fish after flows sufficiently recede and before any equipment is operated in the channel. Any stranded fish will be immediately moved to a portion of the channel that has not been dewatered.

(7) In the event the seine net does not work, electrofishing may need to be done (using NOAA guidelines included with the IDFG collection permit).

4. Silt fences, straw bales, and/or sand bag windrows will be installed as needed before excavation occurs to separate the disturbed areas from live water, and prevent eroded soil from entering the stream channel.

5. Disturbed areas will be seeded as necessary with annual rye grass, planted with native shrubs and/or conifer seedlings (4-foot by 4-foot spacing in all disturbed areas), and covered with weed-free straw mulch. Any small trees excavated from the work sites will be placed on the rehabilitated disturbed areas to help stabilize the soils.

6. Any riprap or other rock materials used for reinforcement will be placed so the material does not narrow the channel or confine the floodplain.

7. The State of Idaho Best Management Practices and Forest Service Soil and Water Conservation Practices will be implemented and are incorporated by reference.

Monitoring and Effectiveness

1. A fisheries biologist, hydrologist, or their technician from either the NPNF or NPT will visit the work sites at least once a week to ensure that the mitigation measures are being adequately followed. Inspections on the stream restoration reaches will occur more often during the in-channel work (see "Mitigation – Stream Reconstruction," measure no. 2). The NPNF COR will also monitor compliance with the mitigation measures. Any site-specific adjustments made during the replacement process must be within the effects analyzed in this biological assessment/evaluation.

2. All completed work will be monitored for effectiveness. Weeds will also be monitored to ensure that new infestations are treated.

3. Revegetation will be monitored for effectiveness and survival. Areas that are not successfully revegetated will be reseeded (grasses) and replanted (trees and shrubs). Monitoring of revegetation success may have to continue significantly longer than other monitoring because effects such as soil and weather conditions, elk and moose browsing, beaver activity, etc., may take 3-7 years or longer to become apparent.

4. Water temperature has been monitored above and within the project area since 2002 and will continue for at least three years after all in-channel work is completed.

5. Turbidity will also be monitored for potential effects on fish (incidental take) and for state water quality standards, according to the following methods (state water quality standards allow 25 NTUs above background levels for up to 10 consecutive days): In addition to turbidity considerations for listed fish, Idaho state water quality standards allow A standard

of 25 NTUs for up to three continuous hours was used as a surrogate in the American and Crooked River Project Section 7 consultations to approximate the effects from turbidity on listed fish. In-channel activities causing this level of turbidity or higher for over a three hour duration will be suspended. Samples will be taken above the work sites to determine the background turbidity level. Activities will be allowed to proceed once the NTU readings return to the background level or 10 NTUs. Samples will be collected 300 feet below the in-channel work site. Turbidity will be monitored at least 20-30 percent of the time machinery is working on in-channel improvements. As an example, turbidity would be measured one day during a five-day workweek and multiple samples will be collected throughout the day. The frequency will be increased if 25 NTUs is exceeded within the three hour time period to determine if the exceedance is anything more than momentary. Samples will be collected using a DH-48 depth integrated sampler. This sampling device integrates width and depth of the mixing zone and the entire channel width in the fully mixed zone. Samples will be analyzed using a field turbidimeter.

6. Incidental take will also be monitored to document the actual number of steelhead and bull trout encountered in the capture and transfer process from old sections of the channel. Capture by netting and electrofishing and the bucket transfer process are forms of harassment and could also result in injury or mortality of a small percentage of individuals. The total number of bull trout and juvenile steelhead, including resident rainbow, collected during netting and electrofishing will be documented and reported to NOAA, FWS, and IDFG.

   As fish are being transferred in buckets from the old channel sections they will be observed for signs of odd movements and electrofishing burn marks; this data will also be reported. All of the information in this item (6.) including the approximate size of the area electrofished will be kept in a record book.

7. If any incidental take limit in the BOs is exceeded, the activity causing the limit to be exceeded will be stopped until NOAA and/or FWS is contacted.

8. The NPT Fisheries Department, Habitat/Watershed Division, has comprehensive as well as site-specific monitoring plans for watershed restoration activities that will be implemented following project completion. For the channel restoration, the NPT Monitoring Team has already collected one season of cross-sectional monitoring data at some of the original sites established in the 2004 feasibility study. This will be repeated annually beginning the first season of in-channel work and continuing for at least three years after all in-channel work is completed. After that time, monitoring will be changed to a longer interval, based on funding and staff availability.

9. The monitoring results will be documented in the NPT's Annual Report to the Bonneville Power Administration (BPA). Photographs of the project work will be included. Copies of turbidity, electrofishing, and revegetation monitoring results and results of specific take

monitoring will be submitted to NOAA and FWS. Copies of the reports and/or data will also be available to other interested agencies. Annual monitoring will occur for up to three years following project work to ensure that stream channel conditions, hydrologic functions and revegetation are achieved as planned. This effectiveness monitoring will be documented in the annual reports to BPA.

Snake River Fish and Wildlife Office

TAILS 14420-2007-F-0061
Associated Project 14420-2006-P-0101
Staff CF
Retention Schedule

SURNAME SLIP

Title	Initials	Date	Required TAILS Data
DRAFT, Author	CF	11-27-06.	
DRAFT, Other			
DRAFT, Reviewer	TK	12-7-06	
FINAL, Admin Support	ETB	12-11-06	
FINAL, Author	CF	12-7-06	
FINAL, Reviewer	TK	12-12-06	
Supervisor (Signer)			

DATES
First Contact Date 10/23/06
Date of Correspondence 10/23/06
Start Date 10/23/06
Date Formal Consultation Started
Draft BO Due Date
Draft BO Date
Final BO Date
Due Date

Conclusion Date 12/15/06
ABC Code

Core Information (Optional)

Title Newsome Watershed Restoration Project
Description

Consultation Type F Complexity Std Species BT, BE, CL, GW
Action/Type Work Stream Restoration
Lead Agency FS Other Agencies Nez Perce Tribe
Hardcopy Location

Scan In I:\Electronic File Room\2007\SL_F\07_F_NewsomeCreek ETB
Scan Out I:\Electronic File Room\2007\SL_F\07_F_0061_NewsomCreek ETB
Close Out 12/27/06
QA/QC

BA in file

Biological Assessment and Evaluation
For Listed and Sensitive Species
and
Essential Fish Habitat Assessment

Newsome Creek Watershed Rehabilitation Project

Nez Perce Tribe and Nez Perce National Forest

September 14, 2006

Table of Contents

Introduction

The Bonneville Power Administration (BPA), Nez Perce Tribe (NPT), and Nez Perce National Forest (NPNF) are proposing a watershed rehabilitation project in the Newsome Creek Watershed. The restoration project would consist of stream reconstruction and rehabilitation; road improvements, obliteration, and abandonment; and culvert removals and replacements.

Section 7 of the Endangered Species Act (ESA) of 1973, as amended, requires federal agencies to ensure that their actions do not jeopardize the continued existence of federally listed or proposed, threatened, or endangered species, or result in the destruction or adverse modification of their designated critical habitat. This Biological Assessment is in compliance with Section 7 of the ESA, as amended and FSM 2670 Sensitive Species Management.

A draft recovery plan has been prepared for the Columbia River Distinct Population Segment (DPS) of bull trout. The Newsome Creek watershed has been designated a "local population" in the draft plan and is very important to recovery of bull trout in the South Fork Clearwater River Core Area, as well as to the Columbia River DPS. There are only four other strong local populations in the South Fork Clearwater subbasin. The Newsome Creek Watershed Rehabilitation Project is an important step in helping to recover bull trout in the South Fork Clearwater Core Area.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect listed or proposed, threatened, or endangered fish species or Essential Fish Habitat (EFH).

The objective of the EFH assessment combined with this BA is to determine whether or not the proposed action(s) "may adversely affect" designated EFH for relevant commercial and federally-managed fisheries species within the proposed action area. It also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to threatened or endangered species and designated EFH resulting from the proposed action.

Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan. Assessment of the impacts to these species' EFH from the proposed action is based on this information.

Location

The proposed project is located on the Red River Ranger District, NPNF, in the Newsome Creek Watershed. Newsome Creek joins the South Fork Clearwater River (SFCR) 53 miles upstream of Kooskia, Idaho. The main stem flows approximately 15 miles from its headwaters near Hamby Saddle at 5,000 feet elevation to 3,630 feet at the mouth. The watershed drains approximately 42,567 acres, bordered on the west by Pilot Knob and on the east by Nugget Point and Elk Summit.

The legal description of the proposed project area is portions of T30N, R6E, Sections 12 and 13; T30N, R7E, Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 29, 30, and 31; and T31N, R7E Sections 29, 30, 31, and 32.

Action Area

The action area that will be affected directly or indirectly by the proposed project is broken down by the following 6th code watersheds. They are: Upper Newsome Creek (170603050601), Lower Newsome Creek (170603050608), Mule Creek (170603050602), and Beaver Creek (170603050622).

Project Description

The goal of the project is to improve fisheries habitat in the Newsome Creek watershed through rehabilitation of the upper main stem channel and floodplain; reduce erosion and potential maintenance problems through road abandonment, improvement, and obliteration; and improve fish and debris passage by alleviating undersized culverts through removal and replacement. Decreased sediment input will improve spawning gravel and rearing habitat both locally and downstream of the project sites. Stream rehabilitation will increase both the length and the quality of habitat in Newsome Creek. Restoration of a natural-like floodplain and functioning riparian area will improve hydrologic connectivity and should eventually reduce water temperatures through recovery of riparian vegetation.

The proposal is to obliterate, abandon, and/or improve approximately 52 miles of roads (28 miles of obliteration, 22 miles of improvement, two miles of abandonment); remove 35 culverts; replace two culverts; and reconstruct and rehabilitate approximately three miles of Newsome Creek and its floodplain that was dredge mined from about 1937 to 1940. The project is planned to begin the summer of 2006, with implementation of road improvements, road obliteration, and one culvert replacement. Stream restoration is planned to begin in the summer of 2007. The road-related portion of the project would continue through 2009 and the stream channel restoration through approximately 2012.

Newsome Creek Channel and Riparian Rehabilitation

Primary objectives:

- Greatly increase channel and floodplain interaction with bankfull and flood flows
- Increase the present amount of salmonid spawning and rearing habitat
- Rehabilitate riparian vegetation and floodplain conditions altered by dredge mining

The length of Newsome Creek to be rehabilitated is located from just above the confluence of Baldy and Pilot creeks upstream to the confluence with Radcliff Creek. Mining severely altered the riparian and channel habitat in this portion of Newsome Creek and it has never completely recovered. Mine tailing piles are currently confining the flow and preventing it from migrating within the riparian zone and valley bottom. The present channel has frequent riffle sequences and few pools. The goal is to restore the stream to a more natural-like channel with meander bends and a pool-riffle-glide pattern similar to the un-dredged portion of Newsome Creek upstream of Radcliff Creek, as well as to restore the riparian vegetation community.

Habitat features including woody debris, pools, and boulder placements will be fashioned into the existing stream channel, and several sections of new channel will be created to add sinuosity. Some log habitat improvement structures built in the 1980s will be repaired and others will be removed. Tailings piles will be moved from the riparian zone and floodplain to the base of the valley wall and the valley bottom will be planted with various vegetative species. Over the long term, plantings and an increase in the extent of functional riparian zone will provide streambank cover, woody debris, and increased shading, helping to lower stream temperatures.

Proposed Channel and Riparian Rehabilitation

A feasibility study with five channel and riparian design alternatives was completed in 2004, with the Alternative 4b design selected as the agency-preferred design. The length of stream to be restored is divided into five reaches; with Reach 2-5 being the reaches where work will occur (no work is planned for Reach 1). Reach 6 is a control reach. Reach 6 and much of the next two miles above that point is a reference reach used to help determine desired conditions for the dredge-mined reaches and riparian zone.

The following is a description of the major components planned for each reach (the more exact, final details on sites for habitat components and new channel sections will be available when the final design plan is completed):

Reach 1

- no work

Reach 2

- creating 16-20 pools
- installing 710 feet of new channel
- collecting and moving the tailings piles over to the toe of the slope (average distance equals approximately 100 feet)
- reducing the elevation of the floodplain by tailings removal so the floodprone width of the valley bottom is increased from approximately 40 feet to 100-150 feet
- 17 acres of surface preparation (including some shaping and grading), soil improvement and delivery, if needed; and seeding
- planting approximately 12,400 total trees and shrubs

Reach 3

- collecting and moving the tailings piles
- reducing the elevation of the floodplain by tailings removal so the floodprone width of the valley bottom is increased from 30 to 50 feet or slightly greater
- 2 acres of surface preparation (including some shaping and grading), soil improvement, and seeding
- planting approximately 1,800 trees and shrubs

Reach 4

- creating 7-10 pools
- collecting and moving the tailings piles to the toe of the slope (average distance equals approximately 100 feet)
- reducing the elevation of the floodplain by tailings removal so the floodprone width of the valley bottom is increased from 40 feet to 100-150 feet
- 5.5 acres of surface preparation (including some shaping and grading), soil improvement and seeding
- planting approximately 5,000 trees and shrubs

Reach 5

- creating 11-14 pools
- collecting and moving the tailings piles over to the toe of the slope (average distance equals approximately 200 feet)
- reducing the elevation of the floodplain by tailings removal so the floodprone width of the valley bottom is increased from approximately 30 feet to 100-150 feet
- 6.5 acres of surface preparation (including some shaping and grading), soil improvement and seeding
- planting approximately 3,100 trees and shrubs

Review of the Final Design and Build Plan

A review of the contractor's final design and build plan will be conducted by the NPT, a fisheries biologist and hydrologist from the NPNF, and a representative from NOAA Fisheries (hereafter "NOAA") and the U.S. Fish and Wildlife Service (the review was a request from NOAA at the March 2006 Level 1 meeting). The review findings may require that an official contract modification be made to amend the design plan so effects outside those considered in this BA are avoided. Or

alternatively, the action and regulatory agencies could re-initiate consultation on this BA as modified by the final design plan, followed by the NPNF receiving modified BOs.

Adaptive Management and Problem Avoidance Strategy

Stream channels and watersheds are very dynamic parts of ecosystems and avoidance of all negative contingencies during restoration projects is impossible. To try and anticipate problems and untoward events, recent stream restoration literature was reviewed along with gray literature and NPNF stream restoration files. Files of the recent restoration project on Red River at the Red River Wildlife Management Area (WMA) were also reviewed. This local project and its setting have many similarities to the Newsome Creek environment and offer much beneficial information and data for the Newsome channel restoration. Direct phone and email contacts have been made with several members of the technical advisory committee (TAC) on the WMA project for advice on the Newsome Project. In addition, the Forest Hydrologist on the NPNF was directly involved with the Red River WMA project and is one of the primary team members on the Newsome effort. The NPT fisheries biologists and an engineer from the NPT also worked on the Red River WMA project and will be involved with Newsome.

The most beneficial written information reviewed on problems encountered in restoration projects revealed that hydrographic and geomorphic analyses should be completed first in the design process and should consider channel capacity at all flow stages. Analysis of any available hydrograph histories should consider the frequency of high flow events and any available flood volumes and characteristics. A thorough review of watershed activities upstream of any planned channel restoration is also imperative. Two of the research papers reviewed discussed whole channel location shifts or abandonment in parts of reaches after restoration work, and this generally occurred in lower gradient channels (approximately 1.0 percent or less) with relatively flat, wide floodplains where lateral escape was easily facilitated. The Newsome Creek valley bottom is more confined and the overall channel is steeper and straighter than the situations that were described in these two examples. Also, in the Newsome Project, short sections of the old channel bypassed by newly designed sections will be plugged with boulder, cobble and other substrate, thereby helping to prevent high flows from "jumping" back into the old channel. Further, only certain sections of each project reach will actually be totally new sections of channel – much of the restoration will actually be changes to the existing channel shape and streambanks, along with addition of cover. For all the reasons above, wholesale abandonment of newly restored sections which could strand TES fish species are not expected. In addition, using basic design concepts from the WMA Project in the Newsome design will result in erring on the conservative side and should prevent excessive, early lateral migrations. Allowing for future lateral migration in the dynamic equilibrium between channel, flow, and other factors will also be incorporated into the final design.

Members of the WMA TAC indicated that the most important single measure to prevent problems and to fix those encountered was to have the TAC and contractor (including the equipment operator) meet on a regular basis and be available anytime a problem arose. This measure will be included in the Newsome Project and can be found in the "Mitigation and Project Design Measures" section of this BA.

The Newsome Feasibility Study (Clear Creek Hydrology and North Wind 2004) analyzed channel capacity, valley bottom contour and shape, and local hydrograph data in the geomorphic analysis for the five study designs developed in the study. Further, the study contractors were also able to extensively use the Newsome Creek watershed analysis completed by the NPNF in 2001, which provided extensive information on activities in the watershed upstream of the project reaches. The data and design drawings produced in the feasibility study provide a sound foundation for a contractor to use in the final design plan.

Culvert Replacement

The culverts to be replaced through this project are both located on the 1826 Road. One is on Donkey Creek near the confluence of that stream and Mare Creek (approximately 0.5 mi upstream from where it flows into Mule Creek). The other is located on an unnamed stream just past the Mule Creek crossing of the 1826 Road, which is approximately 1.5 mi upstream from its confluence

with Newsome Creek. The existing culverts will be replaced with larger culverts designed using natural stream simulation design criteria.

Road Obliteration/Improvements/Abandonment

The following roads are proposed for abandonment, improvement, and/or obliteration (Table1). Roads that are obliterated or abandoned will no longer be part of the transportation system and will be rendered unusable by any type of vehicle. Road obliteration may include removal of structures at stream and draw crossings and reestablishment of natural drainages, removal of shoulder fill, decompaction of the roadbed, and recontouring, as well as decompaction and recontouring of landings, skid trails, and other disturbed areas adjacent to decommissioned roads. Disturbed areas will be reseeded with annual rye seed and slash will be put on the site to discourage off-highway vehicle use and provide structure for retaining soil and increased shade for plant reestablishment. Road abandonment includes stabilizing and seeding sources of erosion but the road prism is left intact. Boulders or slash may be placed on the road to discourage use. Improvement of existing roads primarily consists of reducing erosion and potential maintenance problems by activities such as the addition of drainage structures, where needed, and the replacement of undersized culverts.

The table below summarizes some of the data collected during field surveys. These detailed surveys were performed during the summers of 2001-2003 and provide preliminary identification of water/road interactions. There are approximately 35 culverts that will be removed from roads that are slated for decommissioning.

Table 1: Summary of the Roads to be Treated, Treatment Method, and Road Features.

Road Number	Length (feet)	Length (miles)	Treatment	Culverts Present	Surface Erosion Present	Old Fill Slumps Present [a]	Potential for Fill Failure [b]	Stream Crossings
464DD	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
464D1	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
9862B	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78325A	1,650	0.31	Abandon	0	No	No	No	0
78416	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78421	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78426A	2,403	0.46	Abandon	0	No	No	No	0
78426B	3,754	0.71	Abandon	0	No	No	No	0
78426B1	2,401	0.45	Abandon	0	No	No	No	0
78426B3	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78426B2	920	0.17	Abandon	0	No	No	No	0
78430	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78436A	0	0.00	Abandon	N/A	N/A	N/A	N/A	N/A
78419	1,275	0.24	Abandon or Obliterate [c]	0	No	No	No	0
1826	59,460	11.26	Improve	17 round	Yes	Yes	Yes	19 (2 fords)
1832	24,175	4.58	Improve	4 round/ 1 log	Yes	No	Yes	6 (1 ford)
9814	24,234	4.59	Improve	17 log	Yes	Yes	Yes	2
78325	5,980	1.13	Improve	1 log	Yes	Yes	Yes	1
1826A	8,629	1.63	Obliterate	2 log/1 ford	Yes	Yes	Yes	1
1826B	6,595	1.25	Obliterate	0	Yes	Yes	Yes	0
1826C	8,372	1.59	Obliterate	6 log	Yes	Yes	Yes	2
1826H	11,107	2.10	Obliterate	2 log	Yes	Yes	Yes	2
1826G	9,295	1.76	Obliterate	2 log	Yes	Yes	Yes	2

1826G1	624	0.12	Obliterate	1 log	Yes	No	Yes	1
1826F	5,925	1.12	Obliterate	3 log	Yes	No	Yes	3
1826H1	3,610	0.68	Obliterate	1 log	Yes	No	Yes	1
1832A	16,818	3.19	Obliterate	5 log	Yes	Yes	Yes	1
1832C	3,457	0.65	Obliterate	1 log	No	Yes	Yes	1
1832B	2,888	0.55	Obliterate	0	No	Yes	Yes	0
9814C	2,074	0.39	Obliterate	0	No	Yes	Yes	0
9814D	1,794	0.34	Obliterate	0	No	Yes	Yes	0
9862	2,800	0.53	Obliterate	1	Yes	Yes	Yes	1
9862A	3,760	0.71	Obliterate	1 log	Yes	Yes	Yes	1
78322	1,751	0.33	Obliterate	0	No	No	No	0
78323	4,256	0.81	Obliterate	2 log	Yes	No	Yes	2
78323A	3,143	0.60	Obliterate	0	Yes	No	Yes	0
78324	1,556	0.29	Obliterate	0	No	No	No	0
78326	990	0.19	Obliterate	0	Yes	No	Yes	0
78327	299	0.06	Obliterate	0	No	No	No	0
78328	2,349	0.44	Obliterate	3 log	Yes	Yes	Yes	0
78413	3,298	0.62	Obliterate	0	Yes	No	No	0
78414	1,410	0.27	Obliterate	0	Yes	Yes	Yes	1
78415	2,384	0.45	Obliterate	0	No	No	No	0
78417	1,635	0.31	Obliterate	1 log	Yes	No	Yes	1
78418	2,724	0.52	Obliterate	0	No	No	No	0
78423A	2,078	0.39	Obliterate	0	No	No	No	0
78423	3,083	0.58	Obliterate	0	No	No	Yes	0
78424	2,832	0.54	Obliterate	0	No	Yes	No	0
78425A	2,699	0.51	Obliterate	0	No	No	No	0
78426	2,960	0.56	Obliterate	0	Yes	No	No	0
78427	1,172	0.22	Obliterate	2 log	Yes	Yes	Yes	2
78428	1,208	0.23	Obliterate	0	No	No	No	0
78428A	1,385	0.26	Obliterate	0	No	No	No	0
78429	690	0.13	Obliterate	0	No	No	No	0
78431	2,501	0.47	Obliterate	No	No	No	No	0
78432	4,316	0.82	Obliterate	No	No	No	No	0
78435	4,100	0.78	Obliterate	2 log	Yes	Yes	Yes	2
78435A	2,716	0.51	Obliterate	0	Yes	Yes	Yes	0
78436	3,571	0.68	Obliterate	0	Yes	Yes	?	0

NA = not applicable

[a] A fill slump is an area in the fill slope or roadway embankment where soil has eroded, causing a dip or gouge in the surface area.

[b] Fill failure erosion of an area that has been backfilled.

[c] Road would be either abandoned or obliterated. For the purpose of this analysis the length was included in the total for obliteration.

Mitigation and Project Design Measures to Reduce or Avoid Take

Mitigation – Stream Reconstruction

1. The NPT habitat biologists and engineer, Red River Ranger District fisheries biologist, NPNF hydrologist, the contractor (or their qualified representative), and contracting officer representative (COR) will be the technical advisors and function as an adaptive management/problem avoidance team, as was done successfully by the TAC in the Red River WMA project. This team will be available during the entire field season. If any team member has to be absent due to fire duty, personal matters, etc., an interim member will be appointed. The IDFG, IDEQ, IDWR, NOAA, U.S. Fish and Wildlife Service (hereafter "FWS"), Army Corps of Engineers, and BPA will be invited to participate in any technical field reviews.

2. One of the technical advisors (No. 1, above) or one of their technicians will be on-site any time in-channel work occurs during the six-week, in-channel window (July 1-August 15).

3. The contractor performing the in-channel work, the COR, and a fisheries biologist or hydrologist from the technical advisory team (or one of their technicians) will meet the first morning the in-channel work begins, and at the beginning of every work week thereafter, for as long as necessary. The purpose is to review work plans and to determine if any changes are needed based on recent work activity.

4. Ground-disturbing activities will be completed during base-, low-flow conditions, approximately July 1 to October 31.

5. Activities will be conducted in the channel between July 1 and August 15 to avoid sediment deposition on redds with emerging steelhead, to avoid adult chinook spawning activity, and to avoid any bull trout migrating to the headwaters of Newsome Creek to spawn. These dates may be adjusted in cooperation with the FWS and NOAA.

6. Stream crossings along the access road (Trail 826) will be inspected for steelhead redds during May. If any redds are found, measures will be taken by a NPNF or NPT fisheries biologist or biological technician so that vehicles will not affect the redds. If any chinook are exhibiting spawning behavior at the crossings, measures will be taken to avoid disturbing any subsequent redds.

7. All disturbed sites will be graded and shaped, including the tailings piles, which will be moved to the toe slope repository areas located away from the stream channel. The feasibility study identified these areas, but their proximity to Newsome Creek will be re-checked during relocation of the tailings to assure they are far enough from Newsome Creek to prevent sediment delivery.

8. Disturbed areas on the actual floodplain will be seeded as needed with annual rye grass, planted with native shrubs, and/or conifers (approximately 4-foot by 4-foot spacing on all disturbed areas), and covered with weed-free straw mulch immediately upon completion of work in that area. Any small trees that need to be cleared from the work sites will be placed on disturbed areas to help stabilize the soils. These areas will be monitored during post-project monitoring to assess revegetation success.

9. Work will be stopped if erosion or saturated soil conditions exist at the work site.

10. A spill prevention and control plan that is approved by the NPNF COR will be required for handling and storage of petroleum products. Any storage of petroleum products in excess of 200 gallons will be kept within constructed containment structures that have an impervious liner with a capacity equal to or larger than the storage container. The containment structure will be located at least 100 feet from live water. Before being used within 300 feet of Newsome Creek, all heavy equipment or other machinery will be

inspected for hydraulic or other leaks daily. Leaking or faulty equipment will not be used or stored anywhere that leaked fluid could reach water. Equipment with accumulations of oil, grease, or other toxic materials will be cleaned prior to use in these areas. Storage areas for equipment used along Newsome Creek will be approved by the NPNF COR. No disposal of petroleum products will be permitted on national forest land.

11. All equipment used in the stream restoration activities will be thoroughly washed before it enters the NPNF to prevent the introduction of noxious weeds. In addition, mulching material and applied seed will be certified as weed seed free.

12. Known noxious weed infestations on or adjacent to the construction sites will be treated prior to any further ground disturbance. Sites will also be monitored frequently to ensure early detection and treatment of noxious weeds after the earthwork is completed. Use of herbicide, if needed, will be limited to use of glyphosphate, in a product formulation such as Rodeo that contains no surfactant.

13. Conservations measures described in *Canada Lynx Conservation Assessment and Strategy* will be applied (Ruediger et al. 2000).

14. Fish in old sections of channel to be abandoned will be removed before the new sections of channel are connected to the main stem. This will be accomplished in the following manner listed below (the NPNF or NPT biologist or their biological technician leading the work will have an annual IDFG collection permit which includes NOAA electrofishing provisions).

    (1.) A seine will be pulled through the old channel section, keeping it as close to the bottom and bank contours as possible. Fish will be removed from the seine periodically and placed into buckets.

    (2.) At the end of the seining pass, fish will be released in the main stem.

    (3.) If fish are seen escaping the seine or are seen in the old channel the following morning, another pass with the seine will be made.

    (4.) If fish are seen after Step (3.), electrofishing gear will be used to capture the remaining fish, which will then be transferred to the main stem.

14. When water is introduced to new sections of channel, at first a small breach of the remaining streambank will be dug between the new channel and main stem to allow water to slowly flow into the new section, thereby avoiding excessive turbidity.

15. The dewatered section of the old channel will again be checked for stranded fish after the flows sufficiently recede. Any stranded fish will be immediately moved to a portion of the channel that has not been dewatered.

16. The upstream 50-100 feet of old channel sections will be plugged with boulder and cobble to help prevent any tendency of the stream to "jump" back into the old channel during high flow events (this could strand fish in the newly-created channel section).

17. Silt fences, straw bales, and/or sand bag windrows will be installed as needed before excavation occurs to separate the disturbed areas from the live water and prevent eroded soil from entering the stream channel.

18. In order to reduce the amount of sediment production from vehicles working on the project, the existing single-track "jeep road" (now called Trail 826) would be minimally improved to provide motorized access to the stream reaches. This would require application of gravel, particularly in wet areas, limited brush removal, and hardening of those ford approaches without sufficient streambank rock content. Some widening may be necessary at selected places. The single-track road may be relocated to the outside edge of the riparian habitat

where feasible, to get it out of the riparian zone to prevent sediment deposition during the channel project and during any future use of the road. The final details on the access route will be available once the design plan is completed by the contractor. These details will be reviewed by NOAA, FWS, the NPT and NPNF during the review of the design and build plan - see "Review of the Final Design and Build Plan".

19. After construction activities are completed, motorized administrative access along Newsome Creek to the Haysfork hydraulic placer mine would be maintained in a primitive state. Upstream of the Haysfork hydraulic placer mine, the temporary road would be decommissioned and reverted to a narrow trail providing non-motorized access to the upper project reaches.

20. During implementation, if previously unknown Forest Service sensitive plant species are observed and activities would impact individuals or populations, appropriate protection measures will be implemented. Appropriate measures will vary depending upon the ecology of the species involved and nature of the activity and will be directed by a botanist.

21. The State of Idaho Best Management Practices and Forest Service Soil and Water Conservation Practices will be applied and are incorporated by reference.

Mitigation – Road Obliteration/Improvements

1. Ground-disturbing activities within 300 feet of streams will be completed during base-, low-flow conditions. Road work will occur from approximately mid-June through October. Fish passage will be provided at all times during the culvert replacements for salmon, steelhead, bull trout, and westslope cutthroat trout.

2. All disturbed sites will be graded and shaped to allow drainage. Areas of disturbance will be seeded with annual rye grass and mulched immediately upon completion of work in that area. Existing downed logs will be placed on the slope of disturbed soils to reduce surface erosion.

3. Work will be stopped if erosion or saturated soil conditions exist at the work site.

4. A spill prevention and control plan that is approved by the contracting officer will be required for the handling and storage of petroleum products. Any storage of petroleum products in excess of 200 gallons will be kept in constructed containment structures that have an impervious liner with a capacity equal to or greater than the storage container. The containment structure will be located at least 300 feet from live water (a surface water body that supports aquatic life and is connected to fish-bearing waters). No disposal of petroleum products will be permitted on national forest land.

5. All equipment used in the obliteration activities will be thoroughly washed before it enters the NPNF to prevent the introduction of noxious weeds. In addition, mulching material and applied seed will be certified as weed seed free. Known noxious weed infestations on or adjacent to the construction sites will be treated prior to any further ground disturbance. Sites will also be monitored frequently to ensure early detection and treatment of noxious weeds after the earthwork is completed. Use of herbicide, if needed, will be limited to glyphosphate, in a product formulation such as Rodeo that contains no surfactants.

6. Conservation measures described in *Canada Lynx Conservation Assessment and Strategy* will be applied (Ruediger et al. 2000).

7. If a cultural resource is encountered, the contractor would cease all work in the immediate area and contact the NPNF Archaeologist.

8. Any road cuts, fills, and treads will be stabilized with a cover of annual grass where roads will remain for more than one year. If avoidance of live water is not possible, stream

crossings will be designed according to criteria that are consistent with those described below and in Forest Plan Amendment 20 (PACFISH) (USDA Forest Service 1995).

Mitigation – Culvert Removal and Replacement

1. Removal of culverts in streams in the national forest will require the implementation of several standard construction practices to reduce sedimentation. The culvert removal sites will be dewatered during construction activities. Temporary in-channel sediment traps (weed-free straw bales) will be installed below each culvert removal site to catch sediment resulting from the construction. After the spike in sediment has receded, the straw bales will be removed. The slopes adjacent to the streams will be graded to approximate the natural contour, seeded with annual rye grass, and mulched. The natural regeneration of shrubs and trees will be supplemented as necessary with plantings. The in-channel work will be limited to periods of low-flow conditions.

2. At each culvert replacement site, the stream will be diverted (by means of a temporary culvert) or pumped around the work site (dewatered), and fish screens will be placed on the pump intakes.

3. In fish-bearing streams in which culvert replacements will occur, fish will be driven away from the work site by individuals wading in the stream before work begins. This will harass, but not result in injury to these fish or significantly disrupt behavior. It is unlikely that steelhead occupy any culvert removal or replacement site on this project except that a few juvenile steelhead may be as far upstream as the culvert replacement site on Mule Creek. Almost all culverts on the project are located in upper elevation areas in westslope cutthroat habitat or in non-fish bearing creeks. It is unlikely that bull trout will be encountered at any culvert site on the project, due to the very low numbers of bull trout found in any subwatershed of the project area. A fisheries biologist or biological technician will be onsite during dewatering and will follow this procedure:

   (1) A block net will be placed at a point upstream of the dewatering.

   (2) Beginning at the upstream end of the section to be dewatered, fish will be driven downstream by individuals wading in the stream and pushing the fish with a seine.

   (3) Step 2 will be repeated until no fish are observed.

   (4) After the final pass with the seine net, a block net will be installed at the downstream end of the dewatered area (approximately 200 feet from the downstream end of the section to be dewatered).

   (5) Water will be diverted after the lower block net is in place.

   (6) The dewatered channel will be surveyed for stranded fish after flows sufficiently recede and before any equipment is operated in the channel. Any stranded fish will be immediately moved to a portion of the channel that has not been dewatered.

   (7) In the event the seine net does not work, electrofishing may need to be done (using NOAA guidelines included with the IDFG collection permit).

4. Silt fences, straw bales, and/or sand bag windrows will be installed as needed before excavation occurs to separate the disturbed areas from live water, and prevent eroded soil from entering the stream channel.

5. Disturbed areas will be seeded as necessary with annual rye grass, planted with native shrubs and/or conifer seedlings (4-foot by 4-foot spacing in all disturbed areas), and

covered with weed-free straw mulch. Any small trees excavated from the work sites will be placed on the rehabilitated disturbed areas to help stabilize the soils.

6. Any riprap or other rock materials used for reinforcement will be placed so the material does not narrow the channel or confine the floodplain.

7. The State of Idaho Best Management Practices and Forest Service Soil and Water Conservation Practices will be implemented and are incorporated by reference.

Monitoring and Effectiveness

1. A fisheries biologist, hydrologist, or their technician from either the NPNF or NPT will visit the work sites at least once a week to ensure that the mitigation measures are being adequately followed. Inspections on the stream restoration reaches will occur more often during the in-channel work (see "Mitigation – Stream Reconstruction," measure no. 2). The NPNF COR will also monitor compliance with the mitigation measures. Any site-specific adjustments made during the replacement process must be within the effects analyzed in this biological assessment/evaluation.

2. All completed work will be monitored for effectiveness. Weeds will also be monitored to ensure that new infestations are treated.

3. Revegetation will be monitored for effectiveness and survival. Areas that are not successfully revegetated will be reseeded (grasses) and replanted (trees and shrubs). Monitoring of revegetation success may have to continue significantly longer than other monitoring because effects such as soil and weather conditions, elk and moose browsing, beaver activity, etc., may take 3-7 years or longer to become apparent.

4. Water temperature has been monitored above and within the project area since 2002 and will continue for at least three years after all in-channel work is completed.

5. Turbidity will also be monitored for potential effects on fish (incidental take) and for state water quality standards, according to the following methods (state water quality standards allow 25 NTUs above background levels for up to 10 consecutive days): In addition to turbidity considerations for listed fish, Idaho state water quality standards allow A standard of 25 NTUs for up to three continuous hours was used as a surrogate in the American and Crooked River Project Section 7 consultations to approximate the effects from turbidity on listed fish. In-channel activities causing this level of turbidity or higher for over a three hour duration will be suspended. Samples will be taken above the work sites to determine the background turbidity level. Activities will be allowed to proceed once the NTU readings return to the background level or 10 NTUs. Samples will be collected 300 feet below the in-channel work site. Turbidity will be monitored at least 20-30 percent of the time machinery is working on in-channel improvements. As an example, turbidity would be measured one day during a five-day workweek and multiple samples will be collected throughout the day. The frequency will be increased if 25 NTUs is exceeded within the three hour time period to determine if the exceedance is anything more than momentary. Samples will be collected using a DH-48 depth integrated sampler. This sampling device integrates width and depth of the mixing zone and the entire channel width in the fully mixed zone. Samples will be analyzed using a field turbidimeter.

6. Incidental take will also be monitored to document the actual number of steelhead and bull trout encountered in the capture and transfer process from old sections of the channel. Capture by netting and electrofishing and the bucket transfer process are forms of harassment and could also result in injury or mortality of a small percentage of individuals. The total number of bull trout and juvenile steelhead, including resident rainbow, collected during netting and electrofishing will be documented and reported to NOAA, FWS, and IDFG.

As fish are being transferred in buckets from the old channel sections they will be observed for signs of odd movements and electrofishing burn marks; this data will also be reported. All of the information in this item (6.) including the approximate size of the area electrofished will be kept in a record book.

7. If any incidental take limit in the BOs is exceeded, the activity causing the limit to be exceeded will be stopped until NOAA and/or FWS is contacted.

8. The NPT Fisheries Department, Habitat/Watershed Division, has comprehensive as well as site-specific monitoring plans for watershed restoration activities that will be implemented following project completion. For the channel restoration, the NPT Monitoring Team has already collected one season of cross-sectional monitoring data at some of the original sites established in the 2004 feasibility study. This will be repeated annually beginning the first season of in-channel work and continuing for at least three years after all in-channel work is completed. After that time, monitoring will be changed to a longer interval, based on funding and staff availability.

9. The monitoring results will be documented in the NPT's Annual Report to the Bonneville Power Administration (BPA). Photographs of the project work will be included. Copies of turbidity, electrofishing, and revegetation monitoring results and results of specific take monitoring will be submitted to NOAA and FWS. Copies of the reports and/or data will also be available to other interested agencies. Annual monitoring will occur for up to three years following project work to ensure that stream channel conditions, hydrologic functions and revegetation are achieved as planned. This effectiveness monitoring will be documented in the annual reports to BPA.

TES Wildlife, Fish and Plant Species

The following is a list of listed and proposed endangered and threatened species and sensitive species that may potentially be influenced by the project. The FWS provided the list of threatened and endangered species that could potentially exist in the Newsome Creek Watershed (1-4-05-SP-321) and the Forest Service provided the list of sensitive species (http://fsweb.r1.fs.fed.us/wildlife/wwfrp/tes/SSP_ofConcern.htm).

Canada Lynx	*Lynx canadensis*	Listed Threatened
Bald Eagle	*Haliaeetus leucocephalus*	Listed Threatened
Gray Wolf	*Canis lupus*	Experimental/Non-essential
Yellow-Billed Cuckoo	*Coccyzus americanus*	Candidate
Fisher	*Martes pennanti*	Sensitive
Fringed Myotis	*Myotis thysanodes*	Sensitive
North American Wolverine	*Gulo gulo luscus*	Sensitive
Towsend's Big-Eared Bat	*Corynorhinus townsendii*	Sensitive
Coeur d'Alene Salamander	*Plethodon idahoensis*	Sensitive
Ringneck Snake	*Diadophis Punctatus*	Sensitive
Western Toad	*Bufo boreas*	Sensitive
American Peregrine Falcon	*Falco peregrinus anatum*	Sensitive
Black-Backed Woodpecker	*Picoides albolarvatus*	Sensitive
Black Swift	*Cypseloides niger*	Sensitive
Flammulated Owl	*Otus flammeolus*	Sensitive
Harlequin Duck	*Histrionicus histrionicus*	Sensitive
Mountain Quail	*Oreortyx pictus*	Sensitive
Northern Goshawk	*Accipiter gentilis*	Sensitive
Pygmy Nuthatch	*Sitta pygmaea*	Sensitive
White-Headed Woodpecker	*Picoides albolarvatus*	Sensitive
Sockeye Salmon	*Oncorhynchus nerka*	Listed Endangered
Bull Trout	*Salvelinus confluentus*	Listed Threatened
Fall Chinook Salmon	*Oncorhynchus tshawytscha*	Listed Threatened
Steelhead Trout	*Oncorhynchus mykiss*	Listed Threatened
Interior Redband Trout	*Oncorhynchus mykiss gairdneri*	Sensitive
Pacific Lamprey	*Lampetra tridentata*	Sensitive
Spring/Summer Chinook Salmon	*Oncorhynchus tshawytscha*	Sensitive

Westslope Cutthroat Trout	*Oncorhynchus clarki lewisi*	Sensitive
Macfalane's four-o'clock	*Mirabilis macfarlanei*	Threatened
Water howellia	*Howellia aquatilis*	Threatened
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	Threatened
Spalding's catchfly	*Silene spadingii*	Threatened
Payson's milkvetch	*Astragalus paysonii*	Sensitive
Deerfern	*Blechnum spicant*	Sensitive
Lance-leaf moonwort	*Botrychium lanceolatum* var. *lanceolatum*	Sensitive
Linear-leaf moonwort	*Botrychium lineare*	Sensitive
Mingan moonwort	*Botrychium minganense*	Sensitive
Northern moonwort	*Botrychium pinnatum*	Sensitive
Least moonwort	*Botrychium simplex*	Sensitive
Leafless bug-on-a stick	*Buxbaumia aphylla* (moss)	Sensitive
Green bug-on-a-stick	*Buxbaumia viridis* (moss)	Sensitive
Broadfruit mariposa	*Calochortus nitidus*	Sensitive
Constance's bittercress	*Cardamine constancei*	Sensitive
Buxbaum's sedge	*Carex buxbaumii*	Sensitive
Pacific dogwood	*Cornus nuttallii*	Sensitive
Clustered ladyslipper	*Cypripedium fasciculatum*	Sensitive
Dasynotus	*Dasynotus daubenmirei*	Sensitive
Idaho douglasia	*Douglasia idahoensis*	Sensitive
Giant helleborine	*Epipactis gigantean*	Sensitive
Puzzling halimolobos	*Halimolobos perplexa* var. *perplexa*	Sensitive
Light hookeria	*Hookeria lucens*	Sensitive
Spacious monkeyflower	*Mimulus ampliatus*	Sensitive
Gold-back fern	*Pentagramma triangularis spp. triangularis*	Sensitive
Naked-stem rhizomnium	*Rhizomnium nudum* (moss)	Sensitive
Short style toefieldia	*Triantha occidentalis* ssp. *brevistyla*	Sensitive
Douglas clover	*Trifolium douglasii*	Sensitive
Plumed clover	*Trifolium plumosum* var. *amplifolium*	Sensitive
Mendocino sphagnum	*Sphagnum mendocinum* (moss)	Sensitive
Evergreen kittentail	*Sythyris platycarpa*	Sensitive
Idaho barren strawberry	*Waldsteinia idahoensis*	Sensitive

Life Histories of Listed, Candidate, and Forest Service Sensitive Fish and Wildlife

TES Wildlife Species

Canada Lynx (*Lynx canadensis*). Lynx are found in forested and swamp areas throughout Canada and the northern United States. They are usually solitary animals and nocturnal hunters. The snowshoe hare is the most important prey animal. Their home range varies according to the type and availability of prey. Mating season is generally from January to March, and the gestation period ranges from 68 to 72 days. Litters are reared in hollow trees, rock clefts, or similar sites. There have been confirmed specimens sightings in Idaho County (Idaho Conservation Data Center, 2005), however, none have been documented in the project area. The project is not located within the Lynx Analysis Unit.

Bald Eagle *(Haliaeetus leucocephalus)* The bald eagle typically nests on the edge of rivers, lakes, or sea shores. In winter and on migration they can be found where there is open water attracting sufficient food, and evening roosting sites. Bald eagles commonly feed on fish which they will catch themselves, find dead, or pirate from other birds such as Osprey. They will also feed on a variety of carrion or live prey including waterfowl and other birds, turtles, and rabbits (http://www.raptor.cvm.umn.edu/raptor/rfacts/bald.htm). Bald eagles have not been documented to occur within the project area.

Gray Wolf (*Lupus Canadensis)*. The gray wolf is listed as a nonessential, experimental population in Idaho. The nonessential, experimental population area, for the recovery of gray wolves in Idaho, includes the central Idaho area, including the area within this project site. Gray wolves were captured from Canada in 1995 and 1996. Fifteen wolves were released into the nonessential, experimental population area in 1995, and 20 were released in 1996. Wolves primarily prey upon animals such as deer, elk, and moose. They are very versatile in their habitat use. The nearest

Mountain Quail (*Oreortyx pictus*)
Mountain quail are associated with warm, dry habitats, and require old-growth ponderosa pine/Douglas-fir habitats. There is a lack of habitat quality and quantity for this species within the project area.

Northern Goshawk *(Accipiter gentilis)*
The Northern Goshawk is found throughout the forested areas of North America and Europe. It is generally thought of as being a predator of birds and being dependent on large, old growth type forests. While goshawks do seem to prefer to nest in stands of old, large trees, recent studies are showing that goshawks are more adaptable. They nest in smaller forest stands and feed on the most abundant prey, which may be small mammals such as ground squirrels or rabbits. Goshawks typically nest in coniferous trees such as lodgepole pine, Douglas fir, and ponderosa pine; however, goshawks can nest in almost any type of forest and have even been observed to nest on the ground. Goshawks begin to nest in early April, building or renovating nests even while there is thick snow cover (Shipman 2000). There have been confirmed nesting territories in Idaho County (Idaho Conservation Data Center 2005).

Pygmy Nuthatch (*Sitta pygmaea*)
The pygmy nuthatch is associated with dry ponderosa pine habitat and only reported in the Selway River watershed, which is located to the northwest of the project area. Further, the project area does not provide suitable habitat for this species.

White-Headed Woodpecker (*Picoides albolarvatus*)
The white-headed woodpecker is associated with warm, dry habitats, and requires old-growth ponderosa pine/Douglas-fir habitats. There is a lack of habitat quality and quantity for this species within the project area.

TES Fish Species

Sockeye Salmon (*Oncorhynchus nerka*)
Sockeye salmon spend the majority of the freshwater phase of their life in large lakes. Spawning occurs in streams that are tributaries to these large lakes or sometimes along the shorelines of lakes. Sockeye salmon occur in the Snake and Salmon Rivers but not in the Clearwater system.

Bull Trout *(Salvelinus confluentus).* Bull trout apparently have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993). Strong bull trout populations are generally found in streams with high channel complexity, including woody material and substrate with clear interstitial spaces (State of Idaho 1996). Bull trout have a strong association with the streambed, and may be highly susceptible to bedload movements and other types of channel instability (Rieman and McIntyre 1993). Bull trout can be highly nocturnal in their movements and feeding, and often can be more readily seen and surveyed after dark (Spangler 1997). Temperature has been recognized more than any other factor as critical to bull trout, with moderate to high bull trout densities being correlated with cold temperatures (Howell and Buchanan 1992). Juvenile bull trout rearing habitat is patchily distributed in the Clearwater River Basin, both within roaded landscapes and in unroaded landscapes. Numbers of patches with higher bull trout densities and the distance between them may be critical factors in the long-term persistence of bull trout in a watershed or subbasin (Rieman and McIntyre 1993). Within some watersheds in the SFCR subbasin, bull trout densities are much higher in unroaded subwatersheds as compared to roaded subwatersheds, but this apparent correlation has not been thoroughly tested.

Bull trout are known to use the majority of Newsome, Pilot, and Baldy creeks, and the lower reaches of Bear and Mule creeks, but their status overall in the Newsome Creek watershed is considered weak.

Fall Chinook Salmon *(Oncorhynchus tshawytscha).* Juvenile fall chinook rear in areas of lower velocity, outside of the main flow in large rivers. Juveniles in the Snake River have also been noted using areas of flooded riparian vegetation during times of high flows (Arnsberg and Conner 1992). Spawning has been documented to occur predominantly in the main stem of the lower Clearwater River, often associated with mid-channel islands. Gravel, rather than cobble, is primarily used for

the construction of redds. Some juvenile rearing probably occurs in the lower few miles of the SFCR near Kooskia, Idaho; two redds were recorded there in 1998, but other than this, fall chinook Salmon are not found elsewhere in the South Fork Subbasin. In the lower SFCR, habitat is characterized by long glides with cobble and gravel bottoms interspersed occasionally with deep pools that contain fairly high quantities of sediment. Cover in the form of boulder and large wood material is not abundant. Fall chinook salmon are not found in the Newsome Creek watershed.

Steelhead *(Oncorhynchus mykiss)*. In the freshwater phases of their life, steelhead inhabit a wide range of diverse habitats including rearing, over wintering, and migration habitat in streams ranging from small, steep tributaries up to main stem rivers. Habitat requirements of steelhead vary by season and life stage. The distribution and abundance of juvenile steelhead and freshwater salmonids in general is influenced by water temperature, quantity and quality of cover type, abundance of forage organisms, and density of salmonids and other species (Bjornn and Reiser 1991). Life stages are closely linked to habitat characteristics. Steelhead spawn in gravel and cobble-sized material (approximately 1.0 to 5.0 inches in diameter) in both main stem rivers and creeks as small as four to six feet wide. Incubation success is influenced by fine sediment, temperature, and flow regime (Bjornn and Reiser 1991). After emergence, fry typically move into shallow and low velocity channel margins (Everest and Chapman 1972). In the winter, in the upper SFCR subbasin, juveniles typically select areas of low water velocity and conceal themselves beneath cobble substrate (Hillman et al. 1987).

Steelhead spawning and rearing use is known to exist throughout much of the main stem of Newsome Creek as well as in the lower reaches of numerous tributaries including Bear, Beaver, Mule, Pilot, Baldy, and West Fork Newsome creeks. The current population is considered depressed and the abundance of juvenile steelhead is less than average compared to other areas throughout the NPNF. Historically, Newsome Creek had a very high capacity to support steelhead trout. Habitat alterations from historic dredge mining and road construction have limited quality steelhead habitat in the Newsome Creek watershed.

Interior Redband (resident rainbow trout) (*Oncorhynchus mykiss gairdneri*)
Interior redband trout in Newsome Creek watershed are considered a Forest Service sensitive species in the Northern Region, and are a species of special concern in Idaho. Interior redband trout are classified as the same species as steelhead trout. The primary difference is that redband trout do not migrate to the ocean, but spend their entire lives in a stream or river, often at or near their natal area (USDA Forest Service 1998). Only the anadromous form of the species is listed as threatened under the Endangered Species Act.

Interior Redband rearing is known to occur throughout much of the main stem of Newsome Creek as well as in the lower reaches of numerous tributaries including Bear, Beaver, Mule, Pilot, Baldy, and West Fork Newsome creeks. Habitat alterations from historic dredge mining and road construction have limited quality habitat and the current population is considered depressed in the Newsome Creek watershed.

Pacific Lamprey (*Lampetra tridentata*)
The Pacific lamprey is an anadromous and parasitic lamprey widely distributed along the Pacific coast of North America and Asia. They occur in very low numbers in most areas that remain accessible to salmon and steelhead on the NPNF (USDA Forest Service 1998). In the Snake River, Pacific lamprey adults enter freshwater between July and September and may migrate several hundred kilometers inland. They do not mature until the following March. They spawn in sandy gravel immediately upstream from riffles between April and July and die soon after. Eggs hatch in 2 to 3 weeks and the ammocoetes (juvenile lamprey) spend up to the next 6 years in soft substrate as filter-feeders before migrating to the ocean. They remain in the ocean for 12 to 20 months before returning to freshwater to spawn. Diatoms appear to be a primary food supply for ammocoetes. Ammocoetes depend on quality habitat in freshwater for up to six or seven years before they migrate to the ocean. Such an extended period in freshwater makes them especially vulnerable to degraded stream conditions. Their anadromous life history necessitates maintenance of access to spawning and rearing areas. Water quality consistent with robust diatom production may be a key factor for their continued existence.

Pacific Lamprey have not been documented in the Newsome Creek watershed. However, it has the potential to support this species and probably did historically. The species has been documented in other areas within the SFCR subbasin (USDA Forest Service 1998).

Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha).* Habitat requirements of chinook salmon vary by season and life stage. Hiding cover is essential for adult chinook salmon during the pre-spawning staging period, especially for early migrants which remain in tributaries for several months prior to actual spawning time. Following incubation and then emergence, fry concentrate in shallower and slower water near stream margins with cover (Hillman et al. 1987). Key habitat factors for juvenile rearing include slower velocity glides and pools, cover under and between cobble and boulder, undercut banks and woody debris accumulations (NPNF unpublished data). In the winter, juveniles select areas of low water velocity and enter concealment cover beneath cobble substrate and undercut banks (Hillman et al. 1987).

Spawning and rearing of spring chinook salmon is known to exist throughout much of the main stem of Newsome Creek and the lower reaches of some tributaries, but their status is considered weak throughout the majority of the known use area. The NPT operates a satellite hatchery in Newsome Creek to supplement the chinook salmon population. Rearing is known to occur in Bear, Mule, Haysfork, Pilot, Baldy, and West Fork Newsome creeks. Newsome Creek had a high capacity to support spring chinook salmon historically (USDA Forest Service 1998), but dredge mining acitivites substantially reduced the habitat potential in the watershed.

Westslope Cutthroat Trout *(Oncorhynchus clarki lewisi).* Waters inhabited by westslope cutthroat trout usually are cold and of moderate or low productivity (low nutrient levels). Westslope cutthroat trout have evolved in these conditions and often reach lengths of 12 to 16 inches, while other trout species stocked in the same waters fail to consistently reach these lengths (Rieman and Apperson 1989). Spawning substrate needed for redd excavation generally is in the range from approximately 0.25 to 3.0 inches gravel. Substrate composition is believed to strongly influence survival of eggs and fry as well as the amount and quality of winter rearing habitat. As the percentage of the substrate composed of material less than 0.5 inches increases, emergence success of fry decreases (Weaver and Fraley 1993). Fluvial westslope can migrate substantially, often moving long distances from glide and slower riffle habitats in the summer, downstream to deep pools in main stem rivers to over winter. Westslope cutthroat are very vulnerable to angling pressure and can be easily over exploited (Rieman and Apperson 1989).

Resident westslope cutthroat trout are found within the Newsome Creek watershed and are widespread. A remnant fluvial population is also found in the watershed. Populations are weakest in the main stem of Newsome Creek, and stronger in the tributaries and headwaters. Historical dredge mining and road construction also greatly affected this species.

TES and Candidate Plant Species

Four federally listed plant species have traditionally been analyzed in NPNF projects. In 1999 suitable habitat for three species, Macfarlane's four-o'clock (*Mirabilis macfarlanei*), water howellia (*Howellia aquatilis*) and Ute's ladies'-tresses (*Spiranthes diluvialis*) was modeled for the SFCR Biological Assessment (USDA Forest Service 1999c). According to this model the South Fork Clearwater watershed, which contains this analysis area, does not contain suitable habitat, landscape characteristics, community composition or community structure that would suggest suitable habitat for these federally listed species is present. Furthermore, the most recent FWS list SL 06-0061 (December 1, 2005) indicates it is no longer necessary to address these species in much of the NPNF, including the Newsome Creek watershed.

The fourth federally listed plant species; Spalding's catchfly (*Silene spaldingii*) was not modeled with the South Fork Biological Assessment because it was not formally listed at that time. However, more recent determinations and field surveys have confirmed that the preferred habitat of north-facing, mesic fescue grasslands or other habitat components required by this species are not present in the Newsome Creek watershed. The previously mentioned list from the USFWS also excludes this species from analysis in Newsome Creek.

Sensitive Plant Species

There are 27 plant species designated as Sensitive by the Regional Forester, which may be found on the Nez Perce National Forest. No known occurrences of sensitive plant species have been found in the proposed project area. However, three sensitive plant species, Evergreen kittentails (*Synthyris platycarpa*), Payson's milkvetch (*Astragalus paysonii*), and Idaho barren strawberry (*Waldsteinia idahoensis*) are known to occur within the Newsome Creek watershed. The project are provides suitable habitat for three additional sensitive plant species: Lance-leaf moonwort (*Botrychium lanceolatum var. lanceolatum*), Northern moonwort (*Botrychium pinnatum*), and Clustered ladyslipper (*Cypripedium fasciculatum*).

Evergreen Kittentails (*Synthyris platycarpa*)

Evergreen kittentails has a very narrow range, being endemic to north-central Idaho, where it occurs mostly in moist grand fir forest, but may also occur in cooler western red cedar habitats. The range of evergreen kittentails is strongly associated with the occurrence of the grand fir mosaic, which is a zone of mid-elevation forest of mainly grand fir, interspersed with alder and fern glades. It can occur both in mature closed-canopy forest and forest openings, such as alder or fern glades, harvest units and roadsides (Lichthardt 1999).

Seven populations of evergreen kittentails are known in the Newsome Creek watershed (Idaho Conservation Data Center 2001). Three of the populations occur in the Upper Newsome subwatershed, two are in the Haysfork Creek subwatershed, one occurs in both the Mule Creek and Pilot Creek subwatersheds, and one was observed in the Newsome Creek RNA. In the Newsome Creek watershed, all seven known populations were located in the grand fir and subalpine fir zones.

No evergreen kittentails were found during plant surveys conducted on August 6 through August 12, 2004 in the road decommissioning and stream restoration project areas. The moist grand fir vegetation present in the Newsome Creek riparian zone and in parts of the road decommissioning and improvement project area provides potential habitat for evergreen kittentails, and therefore undetected populations of this species may occur in the project areas.

Idaho Barren Strawberry (*Waldsteinia idahoensis*)

Idaho barren strawberry has wide ecological amplitude and tolerates a variety of disturbances including harvest, grazing, and fire, and it invades areas aggressively after disturbance (Johnson and Crawford 1978). Population density of Idaho barren strawberry is greater in open stands with past harvest and in old burns as compared to a more shaded closed conifer community (Crawford 1980).

Three Idaho barren strawberry populations were located in the Newsome Creek watershed in the 1970s (Idaho Conservation Data Center 2001). These populations were located within the Baldy Creek and Lower Newsome subwatersheds. An additional population was observed near the mouth of Sing Lee Creek and in the Haysfork Creek subwatershed during August of 2001.

No Idaho barren strawberry plants were found during plant surveys conducted on August 6 through August 12, 2004 in the road decommissioning and stream restoration project areas. Open areas in part of the road decommissioning project area provide potential habitat for Idaho barren strawberry, and therefore undetected populations of this species may occur in the project areas.

Payson's Milkvetch (*Astragalus paysonii*)

Payson's milkvetch occurs primarily in disturbed areas such as recovering burns, clear-cuts, road cuts, and blow downs (Wyoming Natural Diversity Database 2005). Usually, Payson's milkvetch inhabits grand fir habitat types that are currently dominated by other conifers (Lorain 1990). Payson's milkvetch inhabits early seral communities, which means succession can be a threat to its survival. Current populations can be at risk from introduced species, chemical sprays, recreation impacts, and road construction and maintenance (Lorain 1990). Habitat conditions have declined

for this species and others like it that depend on open canopies and fire for seed germination (Ecovista and Nez Perce Tribe 2002).

One Paysons' milkvetch population was found in 1993 near a road on the border of the Baldy Creek and Pilot Creek subwatersheds (Idaho Conservation Data Center 2001). The population vigor was fair, and the plants occupied approximately 2 square feet.

No Payson's milkvetch were found during surveys conducted on August 6 through August 12, 2004 in the road decommissioning and stream restoration project areas. The moist grand fir vegetation present in the Newsome Creek riparian zone and in parts of the road decommissioning project area provides potential habitat for Payson's milkvetch and therefore it is possible that undetected populations of this species are present in the project areas.

Clustered ladyslipper (*Cypripedium fasciculatum*)

Clustered ladyslipper is a rare orchid widely distributed across much of ther western United States. It is found in California, Oregon, Washington, Idaho, Montana, Colorado, and Utah. The species often grows in scattered clusters of one-to-several individuals. There are 25 known occurrences on the Nez Perce National Forest. Habitats range from cool, moist western red cedar to warm, dry grand-fir. Typically, the plant is found in mid to late seral plant communities. Suitable habitat in the project area consists of moist depressions or concave slopes on north to east aspects within the grand-fir habitat type.

Lance-leaf moonwort (*Botrychium pinnatum*) and Northern moonwort (*botrychium lanceolatum var. lanceolatum*)

Moonworts are diminutive grape-ferns with a single frond. The frond consists of one fertile lamina (spore producing) and one sterile lamina. The fronds grow to approximately 15 cm, but are commonly less than 10 cm. The plants develop underground leaves and may live for many years before sending up the single frond. Moonworts form associations with mycorrhizal fungi and probably depend on the fungus for food and nutrients before it emerges aboveground. Mycorrhizal fungi may be the critical factor that controls population establishment and persistence. Moonworts are distributed in small populations across much of there northern Rocky Mountains and Cascade Range. The entire subgenus, to which lance-leaf moonwort and northwestern moonwort belong, is a conservation concern in the state of Idaho (Idaho Conservation Data Center 2005).

There are three known occurrences consisting of 22 individual plants on the Nez Perce National Forest. In general, moonworts can be found in a wide variety of habitats including wet to moist grassy slopes in the subalpine zone and low-elevation mossy cedar forests. Habitats on the Nez Perce National Forest tend to be moist to wet microsites under grand-fir, Engelmann spruce or western red cedar, at mid to high elevations. Shady narrow draws which contain moist microsites and mossy forest floors should be considered suitable habitat for moonworts. No moonworts have been found in the project area but suitable habitat is present.

Effects of Road Decommissioning/Soil Restoration and NEZSED Analysis

Road decommissioning and improvement activities have the potential to increase sediment production and delivery into streams during the short term but are designed to result in long-term reductions in sediment and an overall net improvement on a watershed basis. The NEZSED sediment model was used to analyze the road restoration alternatives considered in the Newsome Creek Watershed Rehabilitation Environmental Impact Statement. For consultation purposes we will report findings for the existing condition and proposed action, as described above in the introduction. Please see Table 3 for results. An explanation of the results will follow.

Sediment yield was modeled for each subwatershed with proposed road decommissioning activities. The primary sediment-producing activities modeled included road abandonment, road decommissioning, timber harvest, and fire. Effects were modeled for a 10-year period (2003-2012 assuming project activities begin in 2006). Activities occurring throughout the lifetime of the project

were modeled as occurring all in 2006. Modeling was performed on a peak year basis in order to conform to the assumptions under which Appendix A of the Forest Plan was developed. Activities that produce sediment yield that were not modeled include road maintenance, high road use, stream crossing improvements, in-channel improvements, and post-harvest fire.

Table 3 shows the estimated sediment yield over baseline in tons/year and percent, respectively, for affected subwatersheds. Year 2003 represents the existing conditions, 2006 represents the modeled peak activity year, and 2012 represents the conditions at the end of the modeled period, when sediment yield from new activities is assumed to have ceased or stabilized. According to the model results, sediment yields in the peak activity year of 2006 would all remain below Forest Plan sediment yield guidelines of 30 percent over baseline. In all basins where road restoration activities would occur, the chronic sediment yield over baseline would be lower in 2012 than under pre-project conditions.

In the Newsome Creek watershed the sediment yield percent over baseline remains at 13 percent in the first year after project implementation and then decreases to 11 percent by year six (this assumes that all road activities would occur in year one). Similar results were modeled for the Upper Newsome Creek and Beaver Creek subwatersheds. For the Mule Creek subwatershed the existing sediment yield percent over baseline is 26 percent. After project implementation occurs the percent over baseline increases slightly to 28 percent in the first year, and then decreases dramatically to 12 percent (18.2 tons/year) by the sixth year using the same assumption as above.

Only a portion of the road-related sediment would reach the stream network. In order to estimate the amount of sediment reaching the channel, the total sediment yield for each subwatershed was reduced by a routing coefficient (Roehl 1962) based on drainage area. The routing coefficient used for the Newsome Creek subwatersheds was 0.47. The estimated routed sediment yield for Newsome Creek watershed would increase from 89.1 tons/year currently to 91.5 tons/year after project implementation, but would then decrease to 76.8 tons/year after six years.

Culvert Replacement/Removal Effects

The effects of the culvert replacements primarily involve localized turbidity, substrate changes and riparian vegetation disturbance at the crossings, and potential changes in substrate conditions immediately downstream. In-channel activities during culvert removal and replacement will introduce measurable, but localized amounts of sediments immediately downstream of the culvert site. The sediment and increased turbidity levels will settle out downstream; the distance is dependent upon the stream size and stream flows, but is expected to be less than 150 feet. This increase in sediment transport may have short-term degradation to substrate conditions immediately downstream of the culvert site as fine sediment deposits over existing gravel. Sediments (mostly turbidity) generated by the stream reconstruction may affect juvenile steelhead. The deferment of in-channel activities until after July 1st would avoid incidental take of juvenile steelhead trout in potential redds downstream of the stream restoration reaches. Any effects are expected to be minimal and of short duration.

Several forests have attempted to quantify the magnitude, timing, and extent of the short-term sediment/turbidity pulse at culvert replacement sites, including the Lolo National Forest (USDA Forest Service 1999a), Flathead National Forest (USDA Forest Service 1999b), and Bitterroot National Forest (USDA Forest Service 2001). Monitoring by the Lolo and Flathead National Forests indicates that with the application of sediment mitigation measures, 1-2 tons of sediment is typically produced at each culvert replacement/removal site, and most of the sediment that is created is deposited within the first 150 feet downstream of the culvert. Although sediment mitigations (sediment traps, clean water diversions, straw mulch, timing of work restrictions, etc.) are effective in greatly minimizing sediment input during the replacement process, it is impossible to stop all sediment input from occurring.

Based on the available monitoring data, we expect the culverts to produce a total of 1.5 – 2 tons of sediment, with the majority of this sediment deposited in the first 150 feet of habitat below the new culvert or bridge. The suspended sediment pulse produced by this culvert replacement is expected to last for < 30 hours.

As stated above, 35 culverts (most are failed log culverts) are being removed from roads that will be obliterated, however most of these are dry during the summer. Eleven culverts will be removed from stream crossings that could potentially have water. These culverts and streams are small in size, and a much smaller amount of sediment deposition in these removals is anticipated. Sediment should be deposited within the first 100-150 feet of these culvert removals, therefore not reaching the mainstem of Newsome Creek or other streams with fish present. Mitigation measures will be used to reduce this sediment deposition even more, therefore making these culverts removals non-impactive to fish bearing streams. Leaving these failed log culverts in their present state is most likely contributing much more sediment over the long term than what could be produced during their removal. Plus, failed culverts could eventually cause a small debris dam that would release a large amount of sediment when the dam fails in high flows.

Stream and Riparian Restoration Effects

Fine Sediment Yield and Turbidity

Stream restoration will also result in short-term (less than 5 years) negative effects on fish habitat due to the release of sediment in Newsome Creek, but provide long-term benefits. The NEZSED model could not be used for this analysis because it was not designed for use with this type of activity.

The channel and riparian restoration would cause extensive disturbance at the restoration sites on the valley floor and floodplain, primarily by moving and re-grading the mine tailings. Some existing trees on the floodplain will have to be cut where they cannot be avoided by equipment. Only a small percentage of the exposed mine tailings consist of fine sediment (they are mostly gravel and cobble), but it is unclear what the percentage of soil/fines versus cobble/boulder is underlying the existing tailings piles. The primary sediment effect is expected to occur during active in-channel construction phases when previously deposited sedimented is disturbed and then displaced several yards downstream. Although new additional sediment is not entering the channel, sediment liberated from the first 1.0-1.5 feet of the substrate will deposit in interstitial spaces shortly downstream of each work area. Until scoured and processed by high flow, interstitial space area will be reduced in the inter-gravel environment.

In several locations the proposed channel restoration calls for the development of new channel sections away from the existing channel and then connecting them when they are completed (see the drawings in the attachments to this BA), rather than connecting shorter pieces of them more frequently. This will limit sediment delivery to the active waterway. The newly constructed segment will not be connected to the existing stream channel until one year after construction is complete in order to allow vegetation to start establishing along the channel banks. Mitigation measures (see above) will be also used during stream restoration to reduce sediment delivery to Newsome Creek; including conducting ground-disturbing activities during base- or low-flow conditions and installing erosion control devices such as silt fences.

Similar channel reconstruction projects conducted recently in Lower Red River give some indication of the amount of sediment that will be released during project activities. The Idaho state water quality standards indicate that turbidity, below an applicable mixing zone set by the state, must not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than 10 consecutive days (IDEQ 1996). In-channel improvement work conducted in lower Red River including creating new meanders and reconnecting historical meanders, resulted in an exceedance of the turbidity criterion in 1997. This happened when work was performed during above average discharge and precipitation events, along with unanticipated construction challenges and inadequate contingency planning (LRK Communications et al. 2000). Similar levels of in-channel work during the Lower Red River Meadow Restoration project in 1999, with adherence to sediment and erosion practices, in combination with below average discharge and precipitation levels resulted in no exceedances of the turbidity criterion (LRK Communications et al. 2004).

Turbidity effects on fish - Turbidity from any part of the Newsome Project could affect salmonids and other local stream fishes in the following ways:

Over the course of centuries salmonids have adapted to tolerate pulses of fine, suspended particles and turbidity. It has been shown, however, that 14 to 21 day periods of sediment concentrations as low as 25 NTUs can reduce the growth rate of juvenile coho salmon (*O. kisutch*) and steelhead (Sigler et al. 1984). This aforementioned research strictly controlled turbidity and subjected fish to constant levels, and conditions would vary in an actual stream system. Different species and life stages are susceptible to adverse effects from varying levels of sediment, duration of suspended sediment and to sediment of different sizes. Lloyd (1987) suggested that high levels of suspended solids and turbidity may cause chronic sub-lethal effects such as loss of foraging capability reduced growth, resistance disease and interference with cues necessary for migrating. Several laboratory studies found that an increase in turbidity increased the coughing frequency in juvenile coho. Coughing frequency is a sub-lethal effect that impairs the respiratory ability of salmonids. Berg (1982) examined the effect of short-term sediment pulse (initially 3 days at 60 NTU, then a reduction on the 7th day to 10 NTU) on coughing frequency of juvenile coho. In two of the four studies coughing frequency increased significantly when the turbidity was raised to 60 NTUs. As the turbidity declined to 10 NTUs, coughing declined and remained at pre-treatment levels. Berg and Northcote (1982) also reported an increase in gill flaring after short term sediment pulses, reaching 60 NTUs. Flaring continued until the turbidity dropped to 30 NTUs.

There is no long-term background turbidity data for Newsome Creek but turbidity has been sampled at the stream gages on Red River and South Fork Red River. These values were generally less than 10 NTU, with most samples ranging from 1-5 NTUs. On a few occasions turbidity was much higher. As an example, in 1995 a high value of 84 NTUs was recorded (NPNF unpublished data). Values such as this might happen after intense thunderstorm events.

Fine sediment effects on fish - The addition of fine sediment material (sand to small diameter gravel) to stream channels is caused by a variety of natural and human-created events, and large amounts from any source can cause several types of detrimental effects on fish populations. The following discussion briefly summarizes these detrimental impacts on fish populations and their habitats.

Excessive accumulations of material from fine organics up to gravel-sized particles can result in reduced amounts of hiding space for juvenile and adult salmonids in the crevices between boulder, cobble and larger-sized gravel. This can reduce the amount of fish a stream can support, causing a reduction in the "carrying capacity" (Bjornn et al. 1977, Hillman et al. 1987, Furniss et al. 1991, Magee et al. 1996). Salmonids are known to utilize the crevices or interstitial spaces under and between boulder and cobble for hiding and resting cover in Red River (Hillman et al. 1987), tributaries to the Clearwater River (Johnson and Kucera 1984), and in other Idaho streams (Meyer and Griffith 1997).

When fine material is routed into a stream from upland sources or liberated from the substrate within the same stream, this material can then be deposited into salmonid redds or into substrate pockets that fry and other juvenile fish use for cover. Embryo survival can be reduced to approximately 20 percent when the percentage of fines less than 6.4 millimeters within larger substrate reaches 30 percent (Irving and Bjornn 1984). Fine sediment also can be mobilized in spring runoff and other high flow events and settle out in the gravel of fish redds, possibly causing losses of eggs and fry that have yet to emerge from the gravel (Weaver and Fraley 1993). Isolated sites with good substrate quality in an otherwise largely sedimented stream can help buffer the low embryo survival in the sedimented areas (Lisle and Lewis 1992). This resiliency can help fish populations persist when other stream reaches are incapable of producing fry. Filling of interstitial spaces by fine sediment also reduces available habitat for aquatic insects. In Bear Valley Creek, Idaho, reduced densities of insects were found in substrate with high amounts of fine sediment (Richards and Bacon 1992).

Further, large accumulations of sand and fine particulates around cobble and gravel not only can reduce rearing cover, this can also result in an "embedding" or "cementing" effect that can make it difficult for fish to create spawning beds or "redds." Research has shown that these conditions can require more digging action to produce a suitable redd (Everest et al. 1982).

Channel Morphology

Newsome Creek channel morphology will be greatly improved with stream restoration. The project area is divided into 6 reaches for analysis and most of the proposed work will occur in Reaches 2, 4, and 5. The proposed project will increase channel length and sinuosity by approximately 20 percent in Reaches 2 and 5 and by 10 percent in Reach 4. The number of pools will be increased by approximately 50 percent in Reach 2 and 4 and by nearly 100 percent in Reach 5. Flood-prone width will be doubled in Reach 2 and 4 and tripled in Reach 5. These desired changes in the existing habitat are based partially on study of a special, low-elevation aerial photo flight of the undredged portion of Newsome Creek (the reference stream) immediately upstream of Reach 5. They are also based on input to the feasibility study design (Clear Creek Hydrology and North Wind 2004), by NPNF and NPT biologists and hydrologists, and on review of the Newsome Creek watershed analysis (Ecovista and Nez Perce Tribe 2002). The recovery of natural geomorphic processes is expected to occur in less than 50 years as bankfull flows and greater events work with the additional LWD, the habitat improvements to the existing channel, the new channel sections, and the improved riparian vegetation conditions. To what degree this will occur is impossible to predict, but prediction will improve as monitoring progresses.

Stream Temperature

Trees along the project reach are scattered and patchy where small (10-50 feet) lodgepole pine and Douglas fir have been able to gain a foothold on top of and between tailings piles. Most of the remaining trees are actually growing in low, grassy areas between the tailings piles and they do not all have to be removed during the project. Single trees and scattered patches of 2-4 trees were also left along the channel in small meadows that were skipped during the dredge mining era. Aerial photo analysis of the reference reach by Clear Creek Hydrology, Inc. and the NPNF revealed that these short, open meadow sections and meadow-to-forest transition zones are common along upper Newsome Creek. These patchy vegetation patterns and the narrow valley width suggest that topographic shade is now the primary shade source in many reaches.

A short-term increase in stream temperature could occur due to the removal of existing vegetation on top of mine tailings, but this is not expected to be a major increase because the vegetation growing there now is distributed in a patchy manner. Further, as many trees as possible that are growing between the tailings piles will be left in order to preserve the shade they do offer and to retain seed sources.

The riparian area will be revegetated and will provide increased shade to the actual water surface beginning in about 8-10 years. Most of the improvement in shade is estimated to occur 10-50 years after successful establishment of tree seedlings. It is not possible to make an accurate estimate of the percent change in shade with any degree of biological certainty, due to the multitude of factors that could influence vegetation growth (precipitation, temperature, fires, insect and beaver activity, etc.). During the hottest part of the summer (July 15th-August 15th) water temperatures should become more favorable to all salmonid species, at least to a small degree. However the primary benefit of restoring large tree vegetation will likely be the recovery of the woody debris input cycle for the channel. This will also be influenced by factors other than just tree establishment, such as fires, wind storms and beaver and insect activity. The increased tree and shrub density will also help moderate bank erosion during large flow events.

Thermograph data has been collected continuously since 2002 at a site above and within the restoration reaches, and will continue to be monitored well after activities conclude.

Determinations

A matrix checklist for documenting environmental baseline effects of proposed actions on relevant aquatic indicators is attached (Table 1), as well as Summary of Effects for Threatened, Endangered, and Sensitive Wildlife Species (Table 2).

TES Wildlife Species

Canada Lynx
No Effect (NE). No loss of lynx habitat or prey species is anticipated as a result of this project. Lynx sightings have not been documented in the project area. The project is not located within the Lynx Analysis Unit.

Bald eagle
No Effect (NE). No loss of eagle habitat or prey species is anticipated as a result of this project. The project will not alter the current habitat for the eagle or its prey. Bald eagles have not been documented to occur within the project area.

Gray Wolf
Not likely to jeopardize the continued existence of the species or result in destruction or adverse modification of proposed critical habitat (NLJ). No loss of habitat or animals on which they prey is anticipated as a result of this project. Minor displacement or disturbance of individual wolves is possible; however, wolves in the area could potentially avoid the area during implementation of proposed activities. Reduction in road densities is beneficial to this species by offering more secure areas as well as de-fragmenting available habitat.

Yellow-Billed Cuckoo
No Effect (NE). No loss of yellow-billed cuckoo habitat or prey species is anticipated as a result of this project. The project area does not provide suitable habitat for this species.

Fisher
May impact individuals or habitat but is not likely to cause trend toward federal listing or reduce viability for the population or species (MI). No loss of fisher habitat or prey species is anticipated as a result of this project. Reduction in road densities is beneficial to this species by offering more secure areas as well as de-fragmenting available habitat.

Fringed Myotis
No Impact (NI). No loss of fringed myotis habitat or prey species is anticipated as a result of this project. Fringed Myotis have not been documented to occur in the project area.

Wolverine
May impact individuals or habitat but is not likely to cause trend toward federal listing or reduce viability for the population or species (MI). No loss of wolverine habitat or prey species is anticipated as a result of this project. The primary habitat availability for wolverines in the Newsome Creek watershed is winter habitat and project work will be conducted during summer and fall. Wolverines that could possibly be in the project area could also avoid the area during construction/implementation. Reduction in road densities is beneficial to this species by offering more secure areas as well as de-fragmenting available habitat.

Townsend's Big-Eared Bat
No Impact (NI). No loss of Townsend's big-eared bat habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Coeur d'Alene Salamander
No Impact (NI). No loss of Coeur d'Alene salamander habitat is anticipated as a result of this project. The project area does not provide suitable habitat for this species.

Ringneck Snake
No Impact (NI). No loss of ringneck snake habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Western Toad
May impact individuals or habitat but is not likely to cause trend toward federal listing or reduce viability for the population or species (MI). Site work may impact individuals or their habitat but it is not likely to cause a trend toward federal listing or reduce the viability for the population or species.

American Peregrine Falcon
No Impact (NI). No loss of American peregrine falcon habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Black-backed Woodpecker
No Impact (NI). No loss of black-backed woodpecker habitat or prey species is anticipated as a result of this project. Black backed woodpeckers may avoid the area during construction/implementation.

Black Swift
No Impact (NI). No loss of black swift habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Flammulated Owl
No Impact (NI). No loss of flammulated owl habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Harlequin Duck
May impact individuals or habitat but is not likely to cause trend toward federal listing or reduce viability for the population or species (MI). Site work may impact individuals or their habitat but it is not likely to cause a trend toward federal listing or reduce the viability for the population or species. Harlequin ducks may also avoid the area during construction/implementation.

Mountain Quail
No Impact (NI). No loss of mountain quail habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

Northern Goshawk
No Impact (NI). No loss of northern goshawk habitat or prey species is anticipated as a result of this project. Goshawks may avoid the area during construction/implementation.

Pygmy Nuthatch
No Impact (NI). No loss of pygmy nuthatch habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

White-Headed Woodpecker
No Impact (NI). No loss of white-headed woodpecker habitat is anticipated as a result of this project. This species has not been documented to occur in the project area.

TES Fish Species

Sockeye Salmon
No Effect (NE). Snake River Sockeye salmon have not been documented in the SFCR subbasin. Sockeye salmon or their habitat will not be affected by this project.

Fall Chinook Salmon
No Effect (NE). Fall chinook salmon are not documented as present in Newsome Creek or any of its tributaries. The closest known population of fall chinook is found over 50 miles downstream of the mouth of Newsome Creek in the main SFCR near Stites, Idaho. Fall chinook salmon or their critical habitat will not be affected by this project.

Steehead

Likely to Adversely Affect (LAA) steelhead and their critical habitat. "Steelhead/resident rainbow trout" have been documented in the main stem of Newsome Creek and the lower reaches of Bear, Beaver, Mule, Pilot, Baldy, and West Fork Newsome Creeks (NPNF and IDFG unpublished data). Whether or not the smaller fish occupying the tributaries are anadromous or resident stocks or some combination thereof, has not been defined with genetic analyses. Further, a substantial percentage of the "steelhead/resident rainbow trout" in the main stem of Newsome Creek may actually be resident rainbow trout. For the purposes of this determination, including the numbers of fished potentially harassed, harmed, or killed; all "steelhead/resident rainbow trout" are considered Snake River steelhead.

The action may harm or kill a small percentage of individual juvenile steelhead/resident rainbow trout during in-channel work, and will temporarily degrade or eliminate PCEs where channels are reconstructed next to the original channel. The estimated number of juveniles exposed to potential take from in-channel work in Reach 4 and 5 was calculated to be approximately 335 $\pm$ 50 based on density data (Clear Creek Hydrology and North Wind 2004) and the amount of stream area that will be affected. Most fish will escape harmful effects due to removal prior to in-channel work but will be exposed to the netting and bucket transfer process. A much smaller but unknown percentage of fish will escape netting and electrofishing will be used to capture them. Incidental take from the proposed action is unlikely to cause mortality that is discernable from natural rates of juvenile mortality that typically occur during the juvenile rearing period; consequently incidental take from the action is unlikely to affect steelhead population size.

Stream restoration work will occur in areas with documented steelhead and resident rainbow trout rearing year-round. The same reaches may also support incidental steelhead spawning in April and May. Short-term increases in sediment will occur during construction and post-construction. In-channel activities will be conducted between July 1st and August 15th to avoid sediment deposition on juvenile steelhead emerging from redds. Mitigation measures (see above) will be implemented to minimize increases in turbidity. The long-term benefits to steelhead spawning and rearing habitat are expected to considerably outweigh the short-term increase in sediment.

The juvenile steelhead population in upper Newsome Creek will be subjected to short-term turbidity and fine sediment spikes during several years of in-channel restoration, which will result in displacement from the immediate work areas and possibly some gill irritation and/or reflexive "coughing" (see "Stream and Riparian Restoration Effects" section). Low numbers of steelhead may be injured or killed during the netting, electrofishing, and bucket transfer process. The long-term effect on the Newsome Creek steelhead population from the disturbance to juveniles and even loss of limited individuals should be of no consequence because these losses should be replaced in the first 1-2 generations after the project concludes. The project should substantially improve steelhead spawning habitat and juvenile survival in upper Newsome Creek over the long-term, potentially strengthening the SFCR steelhead run and lessening the chance of extinction for the entire ESU. The magnitude of improvement in the population is contingent on out of basin factors, primarily passage at the Snake and Columbia River dams and ocean productivity. Compared to upper Newsome Creek, juvenile steelhead productivity in other SFCR tributaries with high sediment deposition would be expected to remain somewhat lower than that in the restored reaches of Newsome Creek.

The culvert removals (mostly failed log culverts) will take place on small first order tributaries that do not provide suitable habitat for fish. Turbidity and localized fine sediment introduction that may be produced from these removals will not affect steelhead due to the distance of these removals to streams that may have potential steelhead presence (see attached Steelhead Distribution Map).

Distance between Crossing Removals and Steelhead Spawning/Rearing Habitat

Road #	No. of Stream Crossings with Culverts to be Removed/Replaced	Distance from Steelhead Habitat (stream miles)
1826	2 Replacements	0.6, 0.7
1826A	1	1.4
1826G	2	1.8, 2.2
1826F	1	2.7
1826H	3	4.7, 4.8, 4.8
1826H1	1	4.6
1832A	1	1.4
9862	1	2.4
78417	1	4.3

The Primary Constituent Elements (PCEs) of critical habitat will be temporarily degraded or eliminated during in-channel work activities. Degradation from sediment will occur for up to 5 years following in-channel restoration work. Conditions for passage, juvenile rearing and spawning may be temporarily eliminated in the immediate areas where channels are reconstructed, but the PCEs are expected to recover to a functional condition within a few days following cessation of in-channel work activities. The PCEs are predicted to greatly improve from baseline conditions within a few years following project completion.

The specific PCEs include: Freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, near shore marine areas, and offshore marine areas. The restoration activities would affect only the freshwater PCEs.

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development. These features are essential to conservation because without them the species cannot successfully spawn and produce offspring.

Steelhead spawning and incubation habitat is only present in the channel and riparian restoration part of the project along upper main Newsome Creek, and in the lower ends of several major tributaries to Newsome Creek (a culvert will be replaced on the lower end of one of these tributaries – Mule Cr, and this is the only other location in this project where steelhead are likely to be affected). Spawning and incubation habitat in upper main Newsome Creek consists primarily of pool tailouts and some glides where adult steelhead build redds and the fry incubate and hatch into the surrounding gravel. Returns in recent years to the SFCR have been low compared to historical numbers and it is likely that low numbers of adult steelhead are actually using upper Newsome for spawning and rearing.

In those stream sections where the only work to be done will be improving existing habitat, the spawning habitat immediately below the improvement sites will receive increased fine sediment deposition. Most or all of this material will likely be scoured out during the following spring runoff and be redistributed in stream margin areas during high water. It will also be distributed over a much larger area of the channel downstream, resulting in very low concentrations at any one place in the channel.

In those stream sections that will be abandoned, spawning habitat will be replaced by new spawning habitat in the new channel sections. Some fine sediment will be deposited in these sections during construction, but these reaches should otherwise have much lower fine material

amounts as compared to the main channel. Background sedimentation rates are high due to the watershed geology, regardless of whether or not human disturbance has occurred. This, and sediment from historical dredging still present in upstream reaches will eventually add some material to the newly constructed sections. How much this will occur over time is unknown. Currently no Forest Service projects are planned upstream of the restoration reaches that could potentially add sediment to that part of the channel.

2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. These features are essential to conservation because without them juveniles cannot access and use the areas needed to forage, grow, and develop behaviors (e.g., predator avoidance, competition) that help ensure their survival.

As in the PCE No. 1 discussion, steelhead rearing habitat is only present in the channel and riparian restoration part of the project along upper main Newsome Creek (it is also possible that a few juvenile steelhead could be as far upstream as the lower most culvert replacement site in the Mule Creek subwatershed). Floodplain connectivity is largely non-existent in the restoration reaches and one of the primary purposes of the project is to restore this connectivity. Water quantity will not be affected by the project. Large woody debris and boulders would be added to the channel to help replace these constituents lost during the dredge mining era. Some pool-forming dams built in the 1980s would be temporarily moved, rearranged, or repaired during the project and several failing ones would likely be removed entirely. The number of pools would be greatly increased by the new restoration project. The vegetation planting is intended to supply a future source of LWD and to ultimately restore as much of the former riparian tree composition as possible.

The streams in the action area are naturally low in nutrients, productivity, aquatic insects, and forage fish, due to cold water temperatures, the low dissolved mineral content of the water, and a short growing season. Implementation would temporarily disturb macroinvertebrates in and immediately downstream of work areas. Some mortality of insects and invertebrates would obviously occur where boulders and logs are moved. Re-colonization from adjacent undisturbed habitats and from upstream and downstream areas should occur rapidly.

3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a non-feeding condition to successfully swim upstream, avoid predators, and reach spawning areas on limited energy stores.

As in the PCE No. 1 discussion, steelhead habitat is only present in the channel and riparian restoration part of the project along upper main Newsome Creek. The mainstem of Newsome Creek does not have man-made physical or chemical barriers to fish passage, with the exception of a temporary, seasonal blockage at the Nez Perce Tribe's chinook trapping weir near the mouth of Newsome Creek. This facility is operated from May-August each year to collect and spawn adult chinook for the supplementation program. Almost all steelhead spawners have likely migrated upstream of the weir before it is installed each spring. The project would not create any new barriers and is intended to improve migratory habitat for steelhead by adding cover and creating pools that would be used by adults and smolts during migration. Additionally, by using the July 1-August 15th work window for all channel improvements, steelhead would not be temporarily blocked by in-channel activity.

Bull trout

Likely to Adversely Affect (LAA) bull trout. The SFCR subbasin has been identified as a key watershed for bull trout in the Idaho Bull Trout Conservation Plan (State of Idaho 1996). The Newsome Creek watershed is an important component of the SFCR subbasin with regard to bull trout population potential, production, and resiliency (USDA Forest Service 1998). Bull trout are known to use the majority of Newsome, Pilot, and Baldy creeks, and the lower reaches of Bear and Mule creeks (NPNF and IDFG unpublished data). Bull trout populations are often distributed in a patchy nature in the headwater areas where they exist (Rieman and McIntyre 1993). Although surveys have been conducted and bull trout have not been found in most other major tributaries throughout the watershed, they may nonetheless be present in low numbers in some or all of these subwatersheds. Bull trout status in the Newsome Creek watershed is considered to be weak throughout most of the areas for which there is available information (Clear Creek Hydrology and North Wind 2004, NPNF and IDFG unpublished data). In the stream restoration project area, bull trout are known to occur in the main stem of Newsome Creek. One bull trout was observed here during snorkel surveys performed for the Newsome Creek Feasibility Study (Clear Creek Hydrology and North Wind 2004). In the road decommissioning and improvement project area, bull trout are known to occur in lower Mule Creek (in the reach from Newsome Creek upstream to the confluence of Mule and Mare creeks) (Ecovista and NPT 2002, NPNF unpublished data).

Implementation of the in-channel part of the project (stream reconstruction and culvert removals and replacement) or any other part may adversely affect bull trout because the work would occur upstream and in known occupied bull trout habitat. If a bull trout was present in Newsome Creek immediately below the stream reconstruction site or on Mule Creek immediately below the culvert replacement sites, it would be temporarily exposed to elevated turbidity and displacement/disturbance during construction activities. Turbidity should dissipate within 150 feet downstream of the culvert sites. Due to the reasons listed above and the mitigation measures, effects on bull trout and their critical habitat (proposed or final) are anticipated to be insignificant, however, there is potential for bull trout disturbance.

Forest Service Sensitive Fish Species

Redband Trout (resident rainbow trout)

Likely to impact individuals or habitat with the consequence that the action may contribute to a trend towards federal listing or reduce viability for the population or species (LI). Resident rainbow trout are found in main Newsome Creek from above the channel restoration reaches to the mouth and have been found in lower reaches of most tributaries surveyed (NPNF and IDFG unpublished data). As for steelhead, the culvert replacement work will be well upstream of known habitat for this species and effects are unlikely to reach occupied habitat. The effects of the channel restoration work will be very similar to those for juvenile steelhead. Short-term increases in sediment may occur during construction and post-construction (stream restoration, culvert replacement, road obliteration and soil restoration), but will be minimized by conducting work during conditions of low- or base-flow and implementing mitigation measures (as defined earlier). The use of erosion control measures will minimize increases in sediment. The long-term benefits are projected to well outweigh the short-term increase in sediment. Project work will be staged over time so that the least possible impacts to resident rainbow trout will occur. Resident rainbow trout at or shortly downstream of channel restoration sites will be disturbed and subjected to turbidity for short periods of time. Fish will likely experience changes in habitat quality from fine sediment near channel restoration sites similar to that described for steelhead.

Pacific Lamprey

May impact individuals or habitat but is not likely to cause trend toward federal listing or reduce viability for the population or species (MI). Pacific lamprey have not been documented in the Newsome Creek watershed. The main stem has the potential to support this species and probably did historically. Pacific lamprey do occur in the SFCR below the mouth of Newsome Creek but it is unlikely sediment or turbidity generated by the project would be transmitted that far downstream and affect lamprey.

Spring/Summer Chinook Salmon and Essential Fish Habitat

Likely to impact individuals or habitat with the consequence that the action may contribute to a trend towards federal listing or reduce viability for the population or species (LI). Spring chinook salmon are known to use the main stem of Newsome Creeks as well as the lower reaches of Bear, Mule, Haysfork, Pilot, Baldy, and West Fork Newsome Creeks for spawning and rearing.

The project does not adversely affect EFH because the quantity of EFH will not be appreciably reduced during the channel restoration activities. Areas impacted by channel restoration will still support the same life stages during and after project activities. The project is actually designed to improve EFH in the same manner as expected for critical habitat. The culvert replacements and in-channel construction work will be completed during the July 1 - August 15 work window, except for those culverts replaced in dry channels/intermittent streams, which could be replaced any time the channels are dry. Potential adverse impacts to salmon EFH from project activities include short-term increases in sediment that will occur during implementation. The use of erosion control measures will minimize the generation and potential transport of sediment. The long-term benefit will outweigh the short-term increase in sediment. Project work will be done in stages so that the least possible impacts to spring/summer chinook salmon and their EFH will occur.

The culvert and other road improvement parts of the project occur well upstream of EFH and effects are not anticipated to affect EFH.

Westslope Cutthroat Trout

Likely to impact individuals or habitat with the consequence that the action may contribute to a trend towards federal listing or reduce viability for the population or species (LI). Westslope cutthroat trout are widespread in the Newsome Creek watershed and have been found in most tributaries surveyed (NPNF and IDFG unpublished data). Short-term increases in sediment may occur during construction and post-construction (stream restoration, culvert replacement, road obliteration and soil restoration), but will be minimized by conducting work during conditions of low- or base-flow and implementing mitigation measures (as defined earlier). The use of erosion control measures will minimize increases in sediment. The long-term benefits are projected to well outweigh the short-term increase in sediment. Project work will be staged over time so that the least possible impacts to westslope cutthroat trout will occur. Westslope cutthroat trout at or shortly downstream of channel restoration sites or culverts will be disturbed and subjected to turbidity for short periods of time. Fish will likely experience changes in habitat quality from fine sediment near culvert and channel restoration sites similar to that described for steelhead and resident rainbow trout.

Listed and Candidate Plant Species (Determinations are in Table 3 in Attachments)

Due to the absence of species or habitat, it is determined that this project will have "**No Effect**" on any of the federally listed plant species.

Forest Service Sensitive Plant Species (Determinations are in Table 3 in Attachments)

Based on species discussions above, it is determined that the activities of the Newsome Creek Watershed Rehabilitation Project will have "**No Impact**" on most Regional sensitive plant species. The project "**May Impact**" Payson's milkvetch (*Astragalus paysonii*), Lance-leaf moonwort (*Botrychium lanceolatum var. lanceolatum*), Northern moonwort (*Botrychium pinnatum*), Clustered ladyslipper (*Cypripedium fasciculatum*), and Evergreen kittentail (*Synthyris platycarpa*). These species have not been found within the project are but suitable habitat is present.

Signatures

Dave Mays 9-26-06

Dave Mays, District Fisheries Biologist — Date

Joanne M Bonn 10/12/06

Joanne Bonn, Forest Wildlife Biologist — Date

John Warofka 9-25-06

John Warofka, Forest Botanist — Date

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Attachments

Table 1 (Environmental Baseline and Effects Checklist)
Table 2 (Summary of Effects for Threatened, Endangered, and Sensitive Species)
Table 3 (Summary of Effects for Threatened and Sensitive Plant Species)
Table 4 (Newsome Creek Restoration Project NEZSED Analysis)
Project Map
Newsome EAWS Steelhead/Rainbow Trout Distribution Map
Newsome EAWS Bull Trout Distribution Map
Newsome EAWS Spring Chinook Distribution Map
Newsome EAWS Westslope Cutthroat Distribution Map

Table 1. CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF ACTION(S) ON RELEVANT INDICATORS

Watershed Name: **Newsome Creek** Subbasin: **SFCR**

PATHWAYS:	ENVIRONMENTAL BASELINE[i]			EFFECTS OF THE ACTION **Newsome Creek Watershed Rehabilitation Project**		
INDICATORS	High	Moderate	Low	Restore[ii]	Maintain[iii]	Degrade[iv]
Watershed Conditions: Watershed Road Density			X	X		
Streamside Road Density		X		X		
Land-slide-prone Road Density		X				
Riparian Vegetation Condition		X		LT		ST
Change in Peak/Base Flow		X				
Water Yield (ECA)	X				X	
Sediment Yield		X		X		
Channel Cond. and Dynamics: Width/Depth Ratio		X		X		
Streambank Stability		X		X		
Floodplain Connectivity			X	X		
Water Quality: Temperature (Steelhead) Spawning **(no data)**					X	
Temperature (Sthd) - Rearing and Migration			X*	LT		ST
Temperature (Bull trout)	X**		X**	LT		ST
Turbidity/Suspended Sediment **(no data)**				LT		ST
Chemical Contamination/Nutrients	X				X	
Habitat Access: Physical Barriers – Adult (westslope cutthroat)	X			X		
Physical Barriers - Juvenile (westslope cutthroat)	X			X		
Habitat Indicators: Cobble Embeddedness		X		LT		ST
Percent Surface Fines		X		LT		ST

*= mainstem only
**= high in tributaries, low in mainstem

INDICATORS	High	Moderate	Low	Restore	Maintain	Degrade
Percent Fines by Depth			X	LT		ST
Large Woody Debris			X	X		
Pool Frequency			X	X		
Pool Quality		X		X		
Off-channel Habitat			X		X	
Habitat Refugia		X			X	
Take: Harassment		X				ST
Redd Disturbance	X*					ST
Juvenile Harvest		X			X	

*= moderate for spring chinook, low for all other salmonids

LT = Long Term, ST = Short Term

[i] Indicators of high, moderate, or low habitat condition.

[ii] For the purposes of this checklist, "restore" means to change the function of an indicator for the better, or that the rate of restoration is increased.

[iii] For the purposes of this checklist, "maintain" means that the function of an indicator will not be degraded and that the natural rate of restoration for this indicator will not be retarded.

[iv] For the purposes of this checklist, "degrade" means to change the function of an indicator for the worse, or that the natural rate of restoration for this indicator is retarded. In some cases, a "not properly functioning" indicator may be further worsened, and this should be noted

Table 2. Summary of Effects and Determinations

Latin Name	Common Name	Cat.	Species Present	Habitat Present	Species Potentially Affected?	Habitat Potentially Affected?	Determination
Lynx canadensis	Canada lynx	T	Unknown	Yes	No	No	NE
Haliaeetus leucocephalus	Bald eagle	T	No	No	No	No	NE
Canis lupus	Gray wolf	T/XN	Yes	Yes	No	Yes	NLJ / BE
Coccyzus americanus	Yellow-billed cuckoo	C	No	No	No	No	NE
Martes pennanti	Fisher	S	Unknown	Yes	No	Yes	MI / BI
Myotis thysanodes	Fringed myotis	S	No	No	No	No	NI
Gulo gulo luscus	North American wolverine	S	Unknown	Yes	No	Yes	MI / BI
Corynorhinus townsendii	Townsend's big-eared bat	S	No	No	No	No	NI
Plethodon idahoensis	Coeur d'Alene salamander	S	Unlikely	Unknown	Unlikely	Unknown	NI
Diadophis punctatus	Ringneck snake	S	No	No	No	No	NI
Bufo boreas	Western Toad	S	Unknown	Yes	Yes	Yes	MI
Falco peregrinus anatum	American peregrine falcon	S	No	No	No	No	NI
Picoides albolarvatus	Black-backed woodpecker	S	Unknown	Yes	No	No	NI
Cypseloides niger	Black swift	S	No	No	No	No	NI
Otus flammeolus	Flammulated owl	S	No	No	No	No	NI
Histrionicus histrionicus	Harlequin Duck	S	Unknown	Yes	No	Yes	MI
Oreortyx pictus	Mountain quail	S	No	No	No	No	NI
Accipiter gentiles	Northern Goshawk	S	Unknown	Yes	No	No	NI
Sitta pygmaea	Pygmy nuthatch	S	No	No	No	No	NI
Picoides albolarvatus	White-headed woodpecker	S	No	No	No	No	NI
Oncorhynchus nerka	Sockeye salmon	E	No	No	No	No	NE
Salvelinus confluentus	Bull trout	T	Yes	Yes	Yes	Yes	LAA
O. tshawytscha	Fall chinook salmon	T	No	No	No	No	NE
O. mykiss	Steelhead trout	T	Yes	Yes	Yes	Yes	LAA
O. mykiss	Interior Redband (resident rainbow trout)	S	Yes	Yes	Yes	Yes	LI
Lampetra tridentata	Pacific lamprey	S	No	Yes	No	Yes	MI
O. tshawytscha	Spring/summer chinook salmon	S	Yes	Yes	Yes	Yes	LI
O. clarki lewisi	Westslope cutthroat trout	S	Yes	Yes	Yes	Yes	LI

Errata from Table 2:

***Categories:** T = Threatened; E = Endangered; S = Sensitive; XN = Experimental/Nonessential population; PT = Proposed Threatened

***Federally listed (Threatened and Endangered) Species Determinations:**
NE = No Effect; NLAA = Not Likely to Adversely Affect; LAA = Likely to Adversely Affect; NLJ = Not likely to jeopardize the continued existence of the species or result in destruction or adverse modification of proposed critical habitat; LJ = Likely to jeopardize the continued existence of the species or result in destruction or adverse modification of proposed critical habitat.

***Sensitive Species Determinations:** NI = No impact; BI = Beneficial Impact; MI = May impact individuals or habitat but not likely to cause trend toward federal listing or reduce viability for the population or species; LI=Likely to impact individuals or habitat with the consequence that the action may contribute to a trend towards federal listing or reduce viability to the population or species.

Table 3: Summary of Effects and Determinations for Listed and Sensitive Plant Species

LATIN NAME	Common Name	Cat.	Sp in Project Area	Habitat Present	Species Potentially Affected?	Habitat Potentially Affected?	Determination
Mirabilis macfarlanei	MacFarlane's four-o'clock	T	N	N	N	N	NE
Howellia aqualitis	Water Howellia	T	N	N	N	N	NE
Spiranthes diluvialis	Ute's lady-tresses	T	N	N	N	N	NE
Silene spaldingii	Spalding's catchfly	T	N	N	N	N	NE
Astragalus paysonii	Payson's milkvetch	S	N	Y	Y	Y	MI
Blechnum spicant	Deerfern	S	N	N	N	N	NI
Botrychium lanceolatum var. lanc.	Lance-leaf moonwort	S	N	Y	N	Y	MI
Botrychium lineare	Linear-leaved moonwort	S	N	N	N	N	NI
Botrychium minganense	Megan moonwort	S	N	N	N	N	NI
Botrychium pinnatum	Northern moonwort	S	N	Y	N	Y	MI
Botrychium simplex	Least moonwort	S	N	N	N	N	NI
Buxbaumia aphylla (moss)	Leafless bug-on-a stick	S	N	N	N	N	NI
Buxbaumia viridis (moss)	Green bug-on-a-stick	S	N	N	N	N	NI
Calochortus nitidus	Broadfruit mariposa	S	N	N	N	N	NI
Cardamine constancei	Constance's bittercress	S	N	N	N	N	NI
Carex buxbaumii	Buxbaum's sedge	S	N	N	N	N	NI
Cornus nuttallii	Pacific dogwood	S	N	N	N	N	NI
Cypripedium fasciculatum	Clustered ladyslipper	S	N	Y	N	Y	MI
Dasynotus daubenmirei	Dasynotus	S	N	N	N	N	NI
Douglasia idahoensis	Idaho douglasia	S	N	N	N	N	NI
Epipactis gigantea	Giant helleborine	S	N	N	N	N	NI
Halimolobos perplexa var. perplexa	Puzzling halimolobos	S	N	N	N	N	NI
Hookeria lucens	Light hookeria	S	N	N	N	N	NI
Mimulus ampliatus	Spacious monkeyflower	S	N	N	N	N	NI
Pentagramma triangularis spp. triang.	Gold-back fern	S	N	N	N	N	NI
Rhizomnium nudum (moss)	Naked-stem rhizomnium	S	N	N	N	N	NI
Sphagnum mendocinum (moss)	Mendocino sphagnum	S	N	N	N	N	NI
Synthyris platycarpa	Evergreen kittentail	S	N	Y	Y	Y	MI
Triantha occidentalis spp. brevistyla	Short-style sticky tofieldia	S	N	N	N	N	NI
Trifolium douglasii	Douglas clover	S	N	N	N	N	NI
Trifolium plumosum var. amplifolium	Plumed clover	S	N	N	N	N	NI
Waldsteinia idahoensis	Idaho barren strawberry	S	N	Y	Y	Y	MI

Federally listed (Threatened) Species Determination: **NE** = No Effect; **BE** = Benefical Effect; **NL** = Not likely to adversely affect; **LT** = Likely to adversely affect.

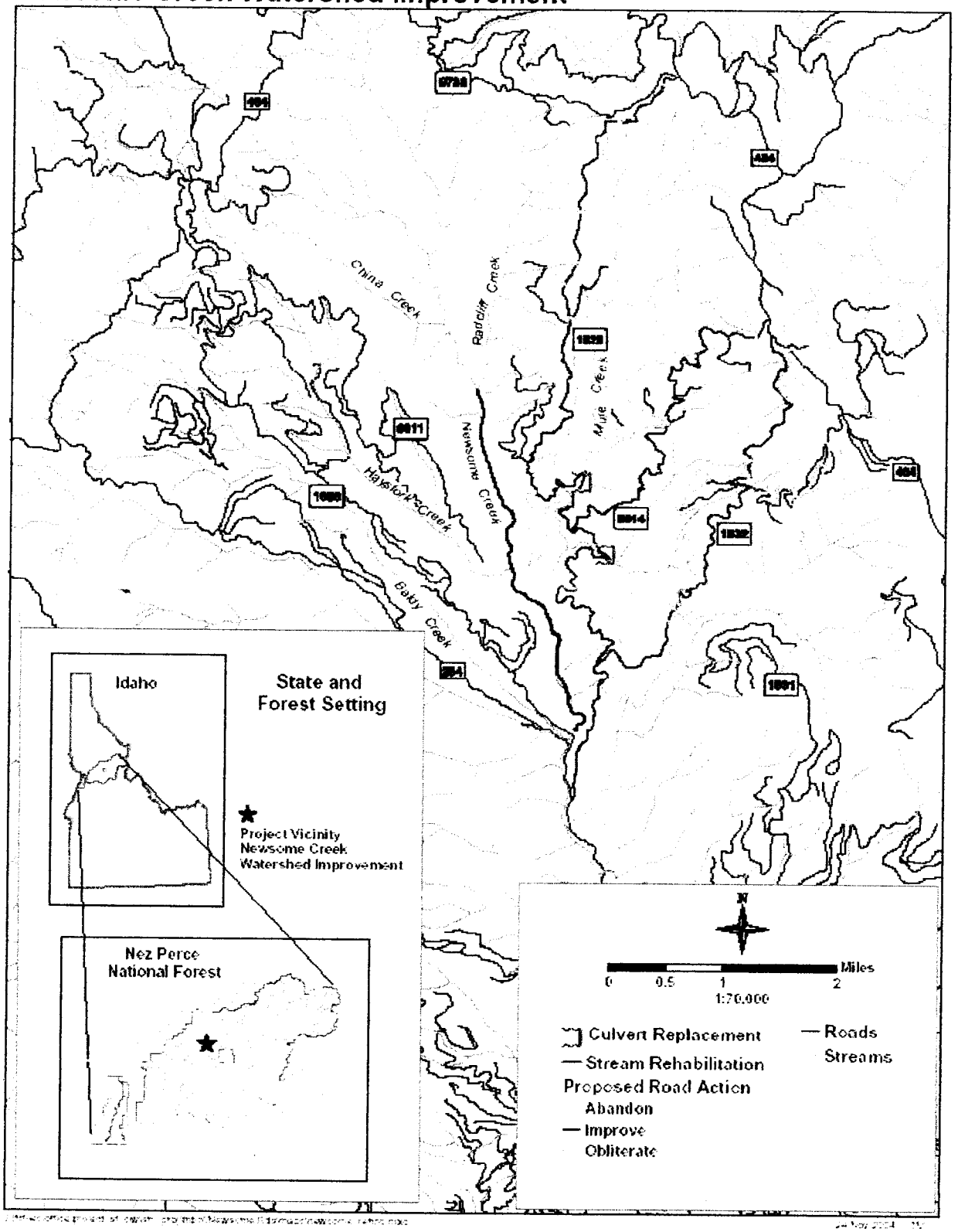
Sensitive Species Determination: NI = No Impact; **BI** = Benefical Impact; **MI** = May impact individuals or habitat but not likely to cause trend toward federal listing or reduce viability for the population or species; **LI** = Likely to impact individuals or habitat with the consequence that the action may contribute towards federal listing or result in reduced viability for the population or species.

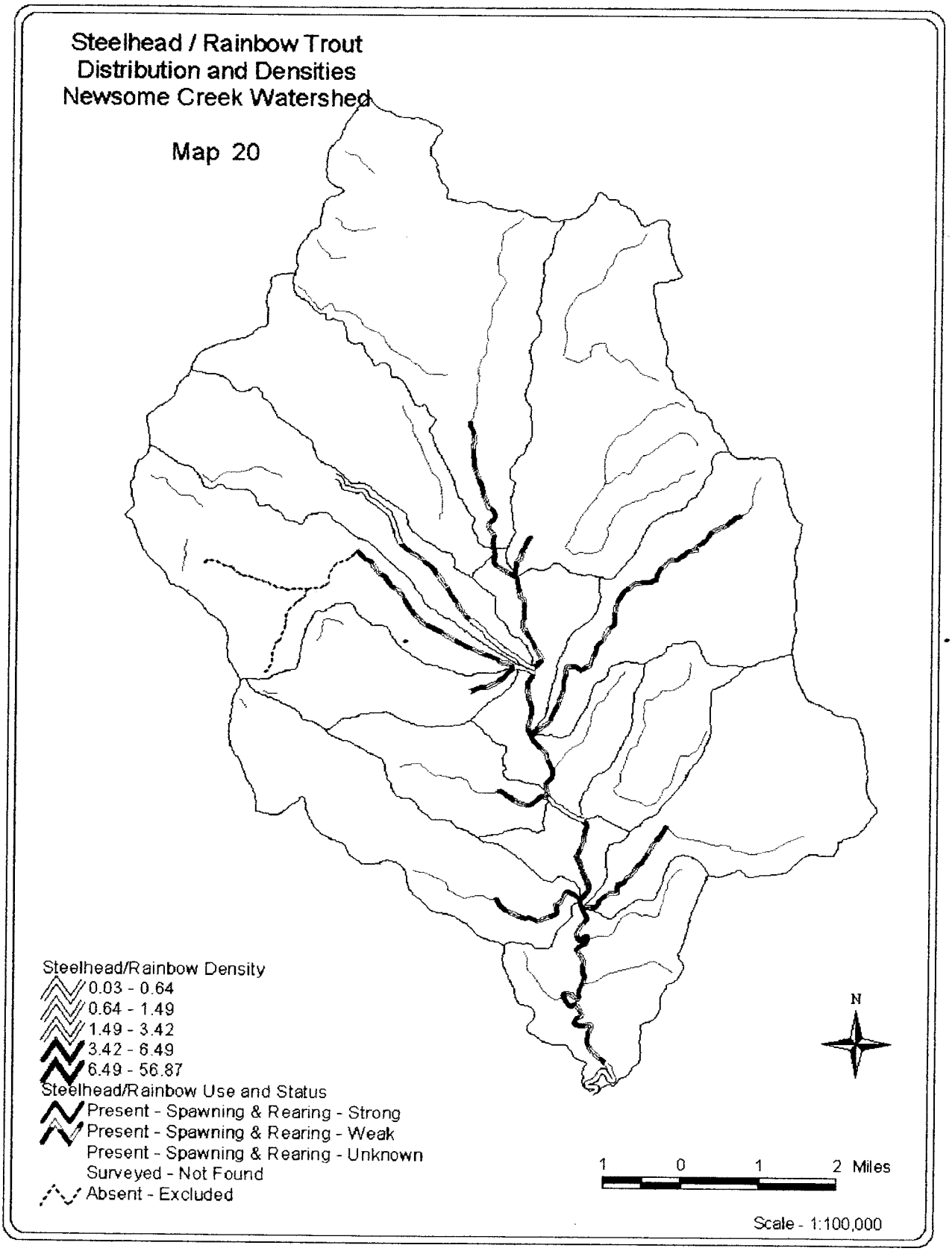
Table 4. Newsome Creek Restoration Project NEZSED Analysis

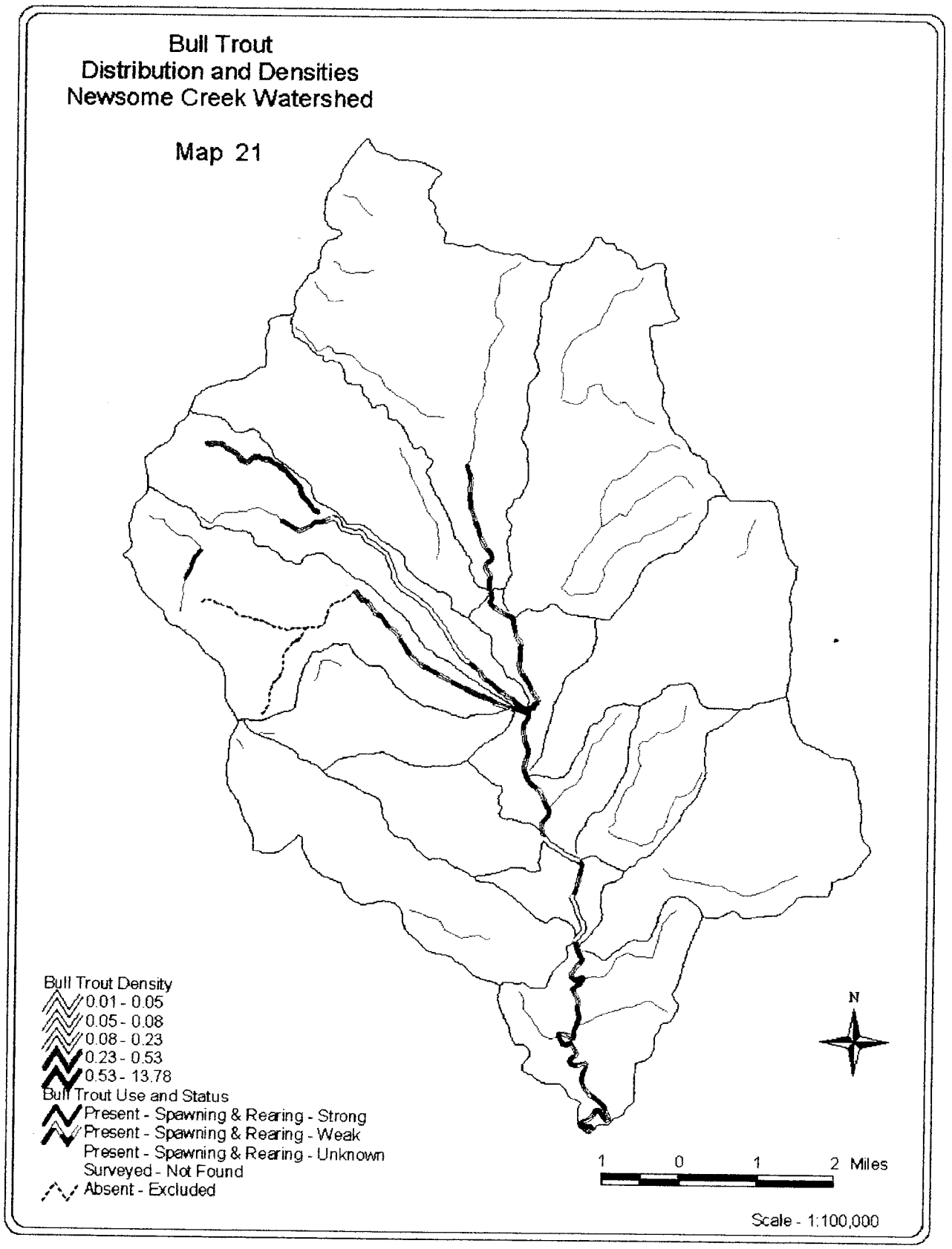
	Drainage Area	Natural Baseline Sediment Yield		Year 2003	Year 2006	Year 2012
Upper Newsome Creek subwatershed	9.8	206.6	Tons per year	13.6	14.5	9.5
			Percent over base	7	7	5
Mule Creek subwatershed	8.6	152.0	Tons per year	38.9	43.2	18.2
			Percent over base	26	28	12
Beaver Creek subwatershed	5.87	111.3	Tons per year	9.7	9.6	8.5
			Percent over base	9	9	8
Newsome Creek watershed	66.5	1494.2	Tons per year	189.5	194.6	163.5
			Percent over base	13	13	11

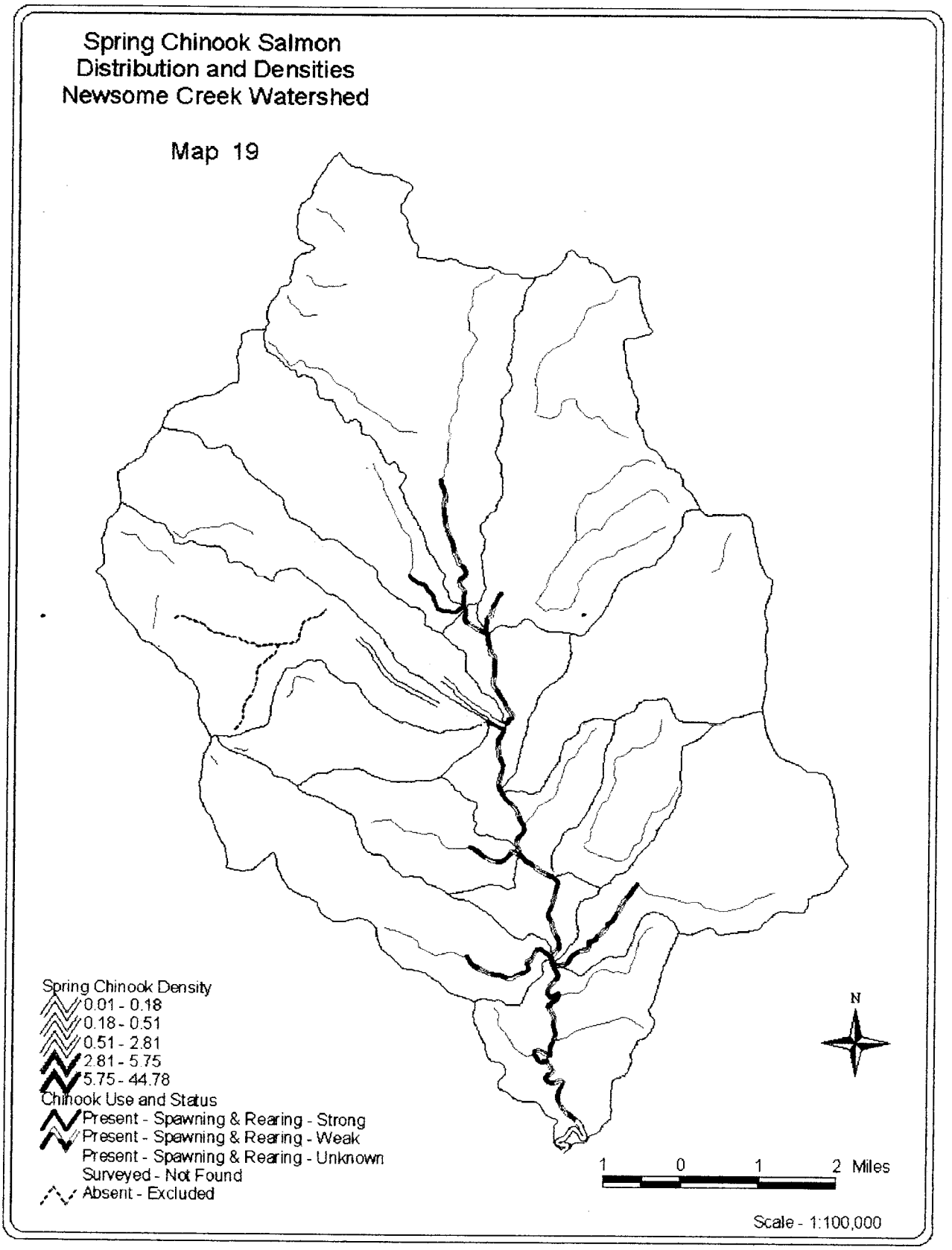
Project Map

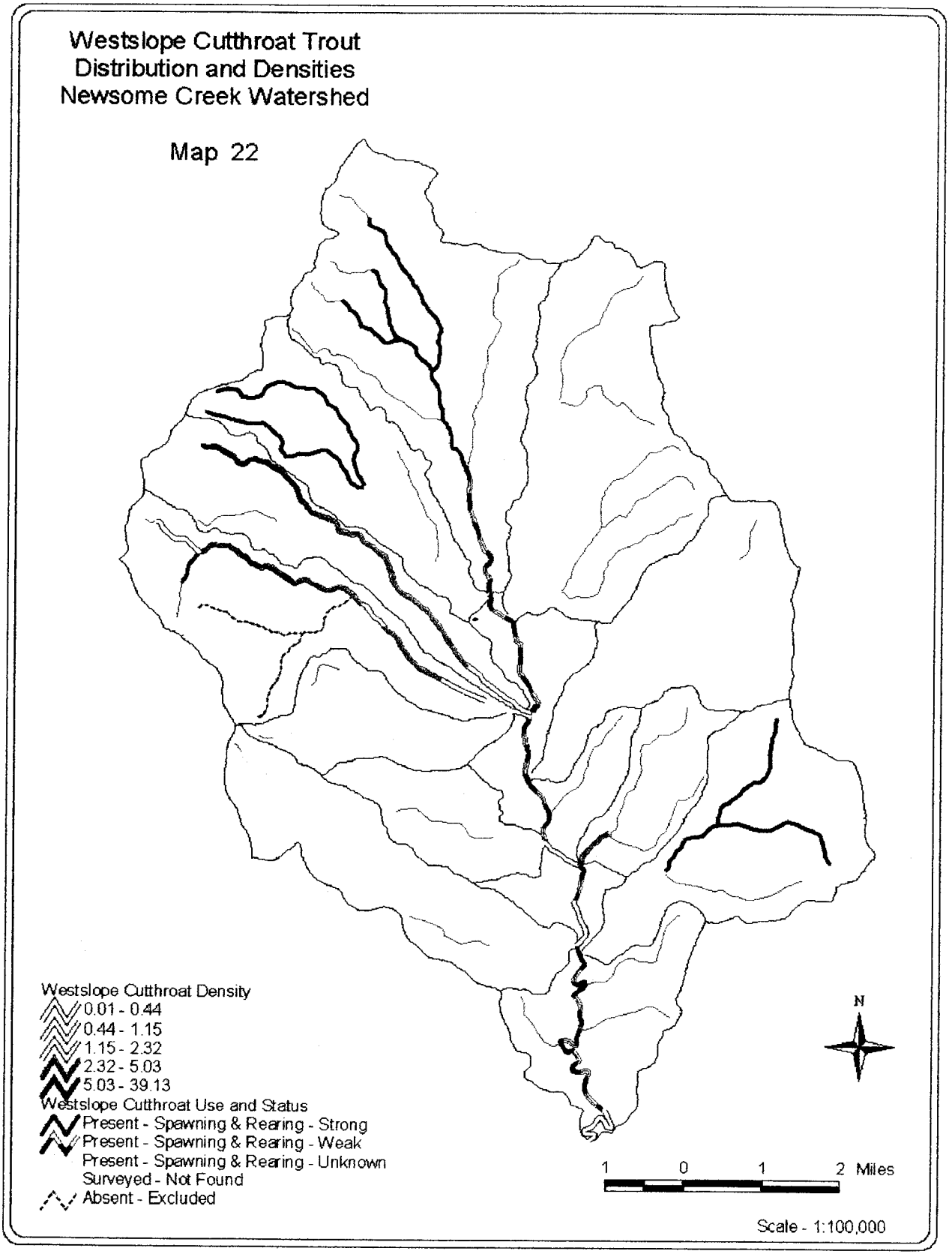
Newsome Creek Watershed Improvement




Steelhead / Rainbow Trout
Distribution and Densities
Newsome Creek Watershed
Map 20
Steelhead/Rainbow Density
0.03 - 0.64
0.64 - 1.49
1.49 - 3.42
3.42 - 6.49
6.49 - 56.87
Steelhead/Rainbow Use and Status
Present - Spawning & Rearing - Strong
Present - Spawning & Rearing - Weak
Present - Spawning & Rearing - Unknown
Surveyed - Not Found
Absent - Excluded
N
1 0 1 2 Miles
Scale - 1:100,000


Bull Trout
Distribution and Densities
Newsome Creek Watershed
Map 21
Bull Trout Density
0.01 - 0.05
0.05 - 0.08
0.08 - 0.23
0.23 - 0.53
0.53 - 13.78
Bull Trout Use and Status
Present - Spawning & Rearing - Strong
Present - Spawning & Rearing - Weak
Present - Spawning & Rearing - Unknown
Surveyed - Not Found
Absent - Excluded
N
1 0 1 2 Miles
Scale - 1:100,000


Spring Chinook Salmon
Distribution and Densities
Newsome Creek Watershed
Map 19
Spring Chinook Density
0.01 - 0.18
0.18 - 0.51
0.51 - 2.81
2.81 - 5.75
5.75 - 44.78
Chinook Use and Status
Present - Spawning & Rearing - Strong
Present - Spawning & Rearing - Weak
Present - Spawning & Rearing - Unknown
Surveyed - Not Found
Absent - Excluded
N
1 0 1 2 Miles
Scale - 1:100,000


Westslope Cutthroat Trout
Distribution and Densities
Newsome Creek Watershed
Map 22
Westslope Cutthroat Density
0.01 - 0.44
0.44 - 1.15
1.15 - 2.32
2.32 - 5.03
5.03 - 39.13
Westslope Cutthroat Use and Status
Present - Spawning & Rearing - Strong
Present - Spawning & Rearing - Weak
Present - Spawning & Rearing - Unknown
Surveyed - Not Found
Absent - Excluded
N
1 0 1 2 Miles
Scale - 1:100,000

United States Department of Agriculture
Forest Service
Nez Perce National Forest
1005 Highway 13
Grangeville, ID 83530
208 983-1950
208 983-2280 TTY

File Code: 2670-6
Date: October 18, 2006

Mr. Jeffrey L. Foss
Field Supervisor
USDI Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, ID 83709

Dear Mr. Foss:

Enclosed is the biological assessment for the Newsome Creek Watershed Rehabilitation Project.

As regulated by 50 CFR 402.14, please consider this a request for formal consultation. The biological assessment concludes that the action is "likely to adversely affect" ESA listed Columbia River bull trout.

The Forest has determined that this project will have "no effect" on Canadian lynx and bald eagle and is "not likely to jeopardize the continued existence" of the gray wolf.

This action has been addressed by the Level 1 interagency team under the guidance of the streamlining process. If you have any questions or need further information regarding the activities submitted for consultation, please contact Melany Glossa, Staff Officer, at (208) 983-1950.

Sincerely,

JANE L. COTTRELL
Forest Supervisor

Enclosure

Cc:
Elk City Ranger District (w/o encl.)
Clay Fletcher, USFWS, Boise (w/o encl.)
Bob Ries, NOAA, Moscow (w/o encl.)
Dale Brege, NOAA, Grangeville (w/o encl.)
Stephanie Bransford, Nez Perce Tribe, Grangeville (w/o encl.)

Dave Mays
<dmays@fs.fed.us>
11/28/2006 02:45 PM

To Clay_Fletcher@fws.gov
cc
bcc
Subject Re: Newsome BO - draft for your review

Clay, you did a great job on getting this draft done as fast as you did. I talked to Bob and Jenifer shortly before lunch and their's won't be ready until the end of Dec, so I'll start looking at your draft this week. I thought they would be done by the 10th or 12th of next month, making it possible for me to review their's and yours in time for holiday plans, etc. But, hey, things don't always work out very smoothly. Thanks and stay tuned.....Dave

Dave Mays
District Fisheries Biologist
Red River - Elk City Ranger District
Nez Perce National Forest, Idaho

dmays@fs.fed.us
208/842-2245

Clay_Fletcher@fws.gov

11/28/2006 11:04 AM

To Dave Mays <dmays@fs.fed.us>
cc
Subject Re: Newsome BO - draft for your review

Dave - It's unusual to hear opposition to being timely. Yes I do want to keep this moving along in order to meet the due date. Under our streamlined consultation process the allotted time to complete a BO is 60 days from the date we receive your request, which was October 23 in this case. Sixty days from Oct 23 is December 22. The version of the BO I sent you is going through its first internal review, it then comes back to me for editing, formatting etc. then on to final signature (probably during the week of the 18th). I wanted to give you an opportunity for an early review as well, per our usual courtesy (under streamlining we provide an early draft for review at your request). I plan on meeting the Dec. 23 deadline, hopefully with the addition of any comments from you and Stephanie. However, if you need more time we can talk about the process for extending the deadline. Let me know. Thanks.

Clay

U.S. Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, ID 83709
(208) 378-5256; fax (208) 378-5262
clay_fletcher@fws.gov

Dave Mays
<dmays@fs.fed.us>

11/28/2006 10:16 AM

To: Clay_Fletcher@fws.gov
cc:
Subject: Re: Newsome BO - draft for your review

Clay, are you trying to get the final BO signed late next week?

Do you just want to get this off your desk or could you wait until NOAA is ready for us to review their BO too? I'll find out when their draft is going to be ready. Thanks.....Dave

Dave Mays
District Fisheries Biologist
Red River - Elk City Ranger District
Nez Perce National Forest, Idaho

dmays@fs.fed.us
208/842-2245

Clay_Fletcher@fws.gov

11/27/2006 02:01 PM

To: sbransford@connectwireless.us, Dave Mays <dmays@fs.fed.us>
cc: Jenifer Clawson <Jenifer.clawson@noaa.gov>
Subject: Newsome BO - draft for your review

Stephanie and Dave - Here's a draft for your review. Please try and get all comments back to me by the middle of next week if possible so I can finish up. Thanks.

Clay

U.S. Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, ID 83709
(208) 378-5256; fax (208) 378-5262
clay_fletcher@fws.gov

Dave Mays
<dmays@fs.fed.us>
10/31/2006 01:06 PM

To Scott A Russell <sarussell@fs.fed.us>

cc bob.ries@noaa.gov, Clay_Fletcher@fws.gov, Joe Bonn <jbonn@fs.fed.us>, Nick Gerhardt <ngerhardt@fs.fed.us>, Patty Clark <pclark@fs.fed.us>,

bcc

Subject Re: Newsome Work Window

I think (?) we cleared this up near the end of the coordination meeting - it was mentioned that we built flexibility into the BA while writing the document and during L-1 discussions that would allow the window to be exceeded into the late summer low flow period in culvert replacement reaches upstream of steelhead or chinook distribution (see no. 1 and 3 on pg 12 of the BA).....Steelhead are the primary listed fish that could be present at the stream crossing replacement on Mule Cr rather than spr/summer chinook (not listed in the S Fk). As for bull trout, it's much less likely to encounter a stray migratory bull trout in that part of the Newsome watershed as no spawning and juvenile rearing areas have been found in the upper Newsome branch of the watershed, and very few bull trout have been found in the 5 survey efforts to date (mid 1970s-2002). The other stream crossing replacements besides Mule Cr are upstream of anadromous fish in typical resident westslope habitat.

In this project, by far the main work window "beneficiaries" are the adult spr-summer hatchery chinook that will avoid being disturbed during spawning by ending the in-channel work on main Newsome on Aug 15th. Fyi.....ancient discussions with Tim Cochnauer of IDFG indicated that the work window was originally designed to protect wild and hatchery spr/summer chinook during spawning from various disturbances such as habitat improvement, suction dredging, bridge installation, etc. on larger creeks and smaller rivers like Red R or Newsome. So sometimes the work window doesn't fit exactly right with other species and those residing in headwater reaches.

Hopefully the above will help and not muddy (or add sediment to) the issue, ha.....Dave

Dave Mays
District Fisheries Biologist
Red River - Elk City Ranger District
Nez Perce National Forest, Idaho

dmays@fs.fed.us
208/842-2245

Scott A
Russell/R1/USDAFS

10/31/2006 09:52 AM

To
Dave Mays/R1/USDAFS@FSNOTES, sbransford@connectwireless.com

cc
Joe Bonn/R1/USDAFS@FSNOTES, bob.ries@noaa.gov, Clay_Fletcher@fws.gov, Patty Clark/R1/USDAFS@FSNOTES, Nick Gerhardt/R1/USDAFS@FSNOTES

Subject

Newsome Work Window

At our last NPT/NPNF coordination meeting we talked about the work window for the Newsome Crossings, and the interest in making this window fit the site of these crossings (ie no chinook present). We expressed the interest in working with NOAA and FWS in review of the BO's related to this issue. In speaking with Dale, he suggests that the cleanest way to make this work is to amend our BA (assuming that it has the standard work window dates in it) so that they know exactly what our proposed action is. Dave, can you take a look at the Newsome BA that we sent in regarding the work window specifics for the crossing sites, and if needed, write up a short amendment to the BA that we can transmit to NOAA and FWS to front-load this discuss on the work window. Thanks.
Scott

Newsome Creek Bull Trout Captures/Observations - 2006

Nez Perce Tribe — Department of Fisheries Resources Management

Nez Perce Tribal Hatchery - Monitoring and Evaluation Project

Weir			*Screw Trap*			
		Fork			Fork	Weight
Date	**Sex**	**Length (mm)**	**Date**	**Sex**	**Length (mm)**	**(g)**
06/18/06	UNK	450				
06/28/06	UNK	385				
07/10/06	UNK	455				
			Data Not Available Until Jan. 2007			

	Snorkel		
	Estimated		
# Observed	**Total Length (mm)**		
	25		
	51		
	76		
Data Not Available Until Jan. 2007			
	127		
	152		
	178		
	203		
	229		
	≥ 254		

Newsome Creek Bull Trout Captures/Observations - 2005

Nez Perce Tribe — Department of Fisheries Resources Management

Nez Perce Tribal Hatchery - Monitoring and Evaluation Project

Weir			*Screw Trap*			
		Fork			Fork	Weight
Date	Sex	Length (mm)	Date	Sex	Length (mm)	(g)
06/16/05	unk	400	06/03/05	unk	333	350.7
06/21/05	unk	530	06/09/05	unk	81	4.7
06/22/05	unk	430	09/28/05	unk	200	83.6
06/25/05	unk	400	10/04/05	unk	276	unk
07/05/05	unk	415	10/20/05	unk	147	26.9
07/12/05	unk	375	10/27/05	unk	208	86.1
			11/16/05	unk	243	141.6

Snorkel	
	Estimated
# Observed	**Total Length (mm)**
0	25
0	51
0	76
0	102
0	127
0	152
0	178
0	203
0	229
0	≥ 254

Newsome Creek Bull Trout Captures/Observations - 2004

Nez Perce Tribe — Department of Fisheries Resources Management

Nez Perce Tribal Hatchery - Monitoring and Evaluation Project

Weir			*Screw Trap*			
		Fork			Fork	Weight
Date	Sex	Length (mm)	Date	Sex	Length (mm)	(g)
07/16/04	unk	470	8/27/2004	unk	235	139.6
07/25/04	unk	550	9/14/2004	unk	250	160
09/07/04	unk	340	9/16/2004	unk	115	105.6
			9/16/2004	unk	331	329
			9/16/2004	unk	250	146
			9/16/2004	unk	260	156.5
			9/21/2004	unk	248	unk
			9/21/2004	unk	78	4.7
			9/26/2004	unk	262	178
			10/11/2004	unk	238	134.4
			10/12/2004	unk	108	11.6
			10/13/2004	unk	297	unk
			10/19/2004	unk	257	179.4
			10/22/2004	unk	200	unk
			10/23/2004	unk	420	unk
			10/24/2004	unk	253	173.8
			10/24/2004	unk	315	unk
			10/25/2004	unk	272	unk
			10/25/2004	unk	255	unk
			10/26/2004	unk	272	unk
			10/27/2004	unk	227	103.2
			10/27/2004	unk	190	20.7
			10/29/2004	unk	108	11.4
			11/3/2004	unk	226	190.8
			11/3/2004	unk	228	197.2
			11/7/2004	unk	225	110
			11/10/2004	unk	192	unk

Snorkel	
	Estimated
# Observed	Total Length (mm)
0	25
0	51
0	76
0	102
0	127
3	152
0	178
9	203
0	229
19	≥ 254

Newsome Creek Bull Trout Captures/Observations - 2003

Nez Perce Tribe — Department of Fisheries Resources Management

Nez Perce Tribal Hatchery - Monitoring and Evaluation Project

Weir

Date	Sex	Fork Length (mm)
06/17/03	unk	unk
07/05/03	unk	490

Screw Trap

Date	Sex	Fork Length (mm)	Weight (g)
07/03/03	unk	unk	unk
07/06/03	unk	unk	unk
07/07/03	unk	unk	unk
07/18/03	unk	unk	unk
08/01/03	unk	unk	unk
08/30/03	unk	126	93
08/31/03	unk	320	323
09/18/03	unk	unk	unk
09/22/03	unk	222	101
10/15/03	unk	310	319
10/19/03	unk	185	66
10/30/03	unk	unk	unk
10/30/03	unk	unk	unk
10/30/03	unk	unk	unk
10/31/03	unk	unk	unk
11/01/03	unk	255	182
11/01/03	unk	218	98

Snorkel	
	Estimated
# Observed	**Total Length (mm)**
0	25
0	51
0	76
2	102
7	127
6	152
0	178
6	203
2	229
12	≥ 254

Newsome Creek Bull Trout Captures/Observations - 2002

Nez Perce Tribe — Department of Fisheries Resources Management

Nez Perce Tribal Hatchery - Monitoring and Evaluation Project

Weir			*Screw Trap*			
		Fork			Fork	Weight
Date	Sex	Length (mm)	Date	Sex	Length (mm)	(g)
07/01/02	M	485	07/10/02	unk	unk	unk
			07/13/02	unk	unk	unk
			07/16/02	unk	unk	unk
			07/21/02	unk	unk	unk
			07/23/02	unk	unk	unk
			07/26/02	unk	unk	unk
			08/28/02	unk	196	81.8
			09/03/02	unk	unk	unk
			09/08/02	unk	unk	unk
			09/12/02	unk	318	291.1
			10/03/02	unk	unk	unk
			10/05/02	unk	unk	unk
			10/13/02	unk	unk	unk
			10/25/02	unk	unk	unk

Snorkel	
	Estimated
# Observed	Total Length (mm)
0	25
0	51
0	76
1	102
0	127
15	152
4	178
5	203
4	229
19	≥ 254

14420-2007-F-0061 Newsome Creek Watershed Rehabilitation Project

Event List

11/27/2006 E-mail Sent

Email sent to Dave Mays and Stephanie Bransford requesting review of the draft BO.

Species Addressed: • Bull Trout (Salvelinus confluentus)

Staff: • Clay Fletcher

Electronic File(s): • I:\Electronic File Room\2007\S7_F\07_F_0061_e112706.pdf

12/07/2006 E-mail Received

Email from Stephanie Bransford saying that she had reviewed the draft BO and didn't have any comments.

Species Addressed: • Bull Trout (Salvelinus confluentus)

Staff: • Clay Fletcher

Electronic File(s): • I:\Electronic File Room\2007\S7_F\07_F_0061_e120706.pdf

12/08/2006 E-mail Received

Email received from Dave Mays with comments on draft BO.

Species Addressed: • Bull Trout (Salvelinus confluentus)

Staff: • Clay Fletcher

Electronic File(s): • I:\Electronic File Room\2007\S7_F\07_F_0061_e120806.pdf

12/11/2006 E-mail Sent

Email to Dave Mays responding to his review comments.

Species Addressed: • Bull Trout (Salvelinus confluentus)

Staff: • Clay Fletcher

Electronic File(s): • I:\Electronic File Room\2007\S7_F\07_F_0061_e121106.pdf

Clay Fletcher/ESBO/R1/FWS/DOI
11/27/2006 03:01 PM

To sbransford@connectwireless.us, Dave Mays <dmays@fs.fed.us>
cc Jenifer Clawson <Jenifer.clawson@noaa.gov>
bcc
Subject Newsome BO - draft for your review

Stephanie and Dave - Here's a draft for your review. Please try and get all comments back to me by the middle of next week if possible so I can finish up. Thanks.

Clay

U.S. Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, ID 83709
(208) 378-5256; fax (208) 378-5262
clay_fletcher@fws.gov

Newsome Restoration BO.pdf

"Stephanie Bransford " <SBransford @connectwireless.us>
12/07/2006 11:58 AM

To <Clay_Fletcher@fws.gov>
cc
bcc
Subject Re: Newsome BO - draft for your review

Clay...I looked at the BO last week and did not have any comments. I have not heard from Dave on this so do not know what he has done or if he has comments. Thanks!

Stephanie Bransford
----- Original Message -----
From: <Clay_Fletcher@fws.gov>
To: <sbransford@connectwireless.us>; "Dave Mays" <dmays@fs.fed.us>
Sent: Thursday, December 07, 2006 9:42 AM
Subject: Fw: Newsome BO - draft for your review

>
> Stephanie and Dave - We are nearing the end of the review/edit process
> here
> for the Newsome BO. I've yet to hear from either of you, so wanted to give
> you a heads up. The BO will go for signature and mailing probably by Tues
> of next week (i.e., 12/11). If you have any comments I need them by
> tomorrow. Thanks.
>
> Clay
>
> U.S. Fish and Wildlife Service
> 1387 S. Vinnell Way, Room 368
> Boise, ID 83709
> (208) 378-5256; fax (208) 378-5262
> clay_fletcher@fws.gov
>
> ----- Forwarded by Clay Fletcher/ESBO/R1/FWS/DOI on 12/07/2006 10:39 AM
> -----
>
> Clay
> Fletcher/ESBO/R1/
> FWS/DOI
> To
> sbransford@connectwireless.us, Dave
> 11/27/2006 03:01 Mays <dmays@fs.fed.us>
> PM
> cc
> Jenifer Clawson
> <Jenifer.clawson@noaa.gov>
> Subject
> Newsome BO - draft for your review
>
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>
>
>
> Stephanie and Dave - Here's a draft for your review. Please try and get
> all comments back to me by the middle of next week if possible so I can

> finish up. Thanks.
>
> Clay
>
> U.S. Fish and Wildlife Service
> 1387 S. Vinnell Way, Room 368
> Boise, ID 83709
> (208) 378-5256; fax (208) 378-5262
> clay_fletcher@fws.gov
> [attachment "Newsome Restoration BO.pdf" deleted by Clay
> Fletcher/ESBO/R1/FWS/DOI]
>
>

Clay Fletcher/ESBO/R1/FWS/DOI
12/11/2006 10:13 AM

To Dave Mays <dmays@fs.fed.us>
cc sbransford@connectwireless.us
bcc
Subject Re: BO comments

Hi Dave - Thanks for the review. I addressed your comments as shown in the attached document.

Hi Stephanie - I appreciate your review as well and acknowledge that you didn't have any comments.

Thanks to you both. Have a great holiday season.

Clay

U.S. Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, ID 83709
(208) 378-5256; fax (208) 378-5262
clay_fletcher@fws.gov

Comments on USFWS BO.doc

Dave Mays <dmays@fs.fed.us>

Dave Mays <dmays@fs.fed.us>
12/08/2006 08:09 PM

To clay_fletcher@fws.gov
cc sbransford@connectwireless.us
Subject BO comments

Clay, the BO looks good. Give me a call Monday when you look these over. Thanks.....Dave

(See attached file: Comments on USFWS BO.doc)

Dave Mays
District Fisheries Biologist
Red River - Elk City Ranger District
Nez Perce National Forest, Idaho

dmays@fs.fed.us
208/842-2245[attachment "Comments on USFWS BO.doc" deleted by Clay Fletcher/ESBO/R1/FWS/DOI]

Comments on USFWS B.O. for Newsome Cr Watershed Rehabilitation Project

12-7-06

Clay, the BO looks good to me and is very easy to read. I don't have any serious concerns with it, just a few questions for you and some general comments you can use or discard.

Pg. 3 – change the three mile length to "approximately 3.5 miles." Done

Pg. 4 under no. 2 – after Road obliteration change "may" to "would," and in the same sentence insert "selected" between "at" and "stream" and insert "a more natural channel course" after "reestablishment of" and drop "drainages." Further along in that sentence: ....."as well as decompaction and recontouring of landings," insert "selected" between "of" and "landings." Done

Pg. 16, last paragraph – you might change "introductions of exotic species" to "effects of exotic species." When we were putting together information for the draft recovery plan, it was noted that brook trout introductions stopped many years ago in this core area (and possibly expansion into new habitat too), and bull trout are now being affected primarily by competition and hybridization. Done

Pg. 19, next to last paragraph (P) – "In 1998 Forest biologists recorded 21 bull trout," the 21 should be changed to 32. I found another survey we had done that year that I don't think I included with the copies of all the other Newsome bull trout surveys I gave you at the Level 1 meeting. Done

Pg. 19, same P – is "Forest Service 2005" the correct citation? Were you referring to the upper S Fk viability analysis done for Red Pines? Were you citing the Newsome watershed analysis (EAWS)? That document has a date of around 2000. I'm referring to the Viability Analysis. I don't have a copy of the EAWs but would certainly like to have one if possible.

Pg. 20, 4th P – while bull trout and their habitat have declined across the entire range, there are significant subbasins where they may not have declined nearly as much - for instance in the Selway and M Fk Salmon. I'm not saying there haven't been declines in those areas; it's just that a lot of those subbasins have hundreds of miles of streams without bull trout surveys and much of the habitat is undisturbed. Acknowledge but no change to the BO.

Pg 21, 2nd P – In the first sentence was the TMDL document talking about the main stem of Newsome only? If so I would state that. Most of the tributaries are in much better condition than the mainstem, although Baldy and Beaver have been significantly impacted. The Newsome EAWS is the only detailed source I've seen that describes fish habitat in the watershed. Added mainstem.

Pg. 22, 5th P – At the end of the second sentence you could add: ...."and hiding cover." Done

Pg. 23, 2nd P – Based on two earlier in-channel activities I saw on the district, we could easily see 55 mg/l, but it would be much less than for 3 continuous hours. Regardless, even if it was only for 10 minutes it would still be an adverse effect on a salmonid. Acknowledge but no change to BO.

Pg 24, 2nd P, last sentence – High flows will wash a lot of the fine sediment out of the action area, but it may just redeposit it in salmonid habitat well downstream. Acknowledge but no change to BO.

Pg. 24, last P – A short term increase in temperature is likely to occur, but I doubt it will be substantial because as many existing trees as possible will be left in place, and the surrounding ridge topography is the other significant source of shade to Newsome Cr. Added insignificant.

Pg. 25, 1st P – The 2002 snorkel survey found only 1 bull trout in the project reach (although not all habitats were sampled). So it is unlikely that more than a few bull trout will be end up being collected by electrofishing, making it even less likely any mortalities will occur. Resident rainbow, juvenile steelhead and whitefish will be the primary species that will be netted or electrofished. Acknowledge but no change to BO.

Pg. 26, 2nd P - What is the cumulative/combined effect on bull trout of the fish traps and the restoration project (are ESA cumulative effects supposed to estimate the affect of private and/or state activities added to the federal action?)? Added sentence "Both upstream and downstream migrating bull trout may be negatively impacted through trapping and handling." This sentence describes one cumulative effect. In the Conclusion Section, yes we add cumulative effects to the effects from the federal action to determine whether or not the action will jeopardize bull trout. The answer in this case is no.

Pg. 26, 3rd P – In S Fk subbasin streams during spawning season, unless bull trout are actually on a redd, they are pretty difficult to spot, even individuals over 500 mm. Acknowledge but no change to BO.

Pg. 28, no. 1 – Did you mean to say "adults and juveniles" in the parenthesis? It would be much more likely to encounter a migrating adult in the project reach than it would be to find a redd or alevins, although it's unlikely we will see more than 2 or 3 adults. I acknowledge that based on available information, it seems much more likely to encounter fluvial adults, but I don't think the presence of a redd and associated early life stages can be ruled out.

Pg 29, 1st P – I thought we were going to allow culvert work after August 15th if needed, in reaches upstream of bull trout habitat? The Mule Cr reach with the culvert replacement was the only reach likely to harbor bull trout (besides main stem). Added - This date may be extended where applicable and agreed upon by the Service (e.g., in reaches upstream of bull trout habitat).

Pg. 29, no. 3 – I was under the impression that the life stages we expected to harass were adults and juveniles, and that we didn't expect to affect any redds, alevins, or fry? See response to #28.

Pg. 29, last P – "Authorized take will be exceeded if work occurs outside the window"? Didn't we make an agreement at the meeting that culverts could be replaced outside the window in reaches upstream of bull trout habitat (see bolded paragraph just above)? In those reaches take could not occur because no bull trout would be affected. This disclaimer is included with this sentence - unless a different window is agreed upon by the Service.

Pg. 32, no. 1 – Please list your definition of "baseline update" so I can be sure we're both on the same page. Added - (e.g., changes to watershed and habitat indicators such as road density and pool frequency).

Pg. 33, no. 4 – Consider making this an actual Term and Condition. You might also change it say, "Continue to survey and document bull trout distribution in the action area using ....." The reason I'm suggesting this is because it would first be more important to find any new concentrations (strongholds) in un-surveyed reaches and map their extent. Once we know where they all are, then we should start monitoring population levels and habitat. I can't really add this as a T&C because it doesn't specifically reduce the level of take associated with the project.. I did add "document"and "distribution" to the sentence.

Some related notes/questions:

- (see pg 16). It might be a much more effective recovery technique (and much, much quicker to see results) to translocate bull trout upstream from occupied reaches into unoccupied reaches or into adjacent tributaries, rather than continuing the current approach of improving habitat and hoping the fish will expand into those areas and proliferate. This is being tried in a river system in western Oregon. We don't want to "play God" with the fish but this technique could be quite beneficial (or the translocated fish may simply move quickly back downstream to the reach they came from). IDFG may also have some ideas on translocation.

- who will be spearheading the Clearwater and Salmon Recovery Units when the draft recovery plan work starts back up?