

Appendix B: Effects Of Actions That Have Undergone Section 7 Consultation For Bull Trout Under The Endangered Species Act From Listing To August 2003.

Date prepared: October 3, 2003.

Effects of actions that have undergone section 7 consultation for bull trout under the Endangered Species Act.

Action Includes biological opinion/consultation file number (if any), name of the action, general category of the action, and the Federal action agency(s).	Date Issued	Type of Action	Location	Draft Recovery Unit(s)	Duration of Action	Anticipated Effects (N/A = not applicable to this habitat because the action did not occur in a migratory corridor or a spawning stream)	
						Spawning Streams	Migratory Corridors
Kerr Dam - Hydropower	10/24/00	FERC – regulation of river flows and lake level	Flathead Lake, Lower Flathead River	Clark Fork River Basin	50 years (2035)	Unquantifiable effects to spawning adults due to lake level management and entrainment; annual gill-netting operations for 2000-2001 may take up to 30 adults	Unquantifiable effects to adults and juveniles due to lake level management, entrainment, and downstream river flow regulation. Long-term benefits from co-management planning and habitat acquisition and restoration
White Pine Project	9/13/01	Watershed restoration, timber harvest, road work	Noxon Reservoir - Lower Clark Fork, Little trout Creek	Clark Fork River Basin	10 years 200-2011	Unquantifiable – short-term habitat impacts from sediment input affecting spawning & rearing habitat and food supply Long-term benefits from stream restoration efforts	Unquantifiable – short-term habitat impacts from sediment input affecting spawning & rearing habitat and food supply. Long-term benefits from stream restoration efforts for both adults and juvenile fish. Effects are temporary on feeding and sheltering.
Avista dams (Cabinet Gorge and Noxon	8/5/99	FERC – flow regulation, fish	Lower Clark Fork River Basin -	Clark Fork River Basin	45 years (2045)	25 spawning adults/yr due to fish	490/yr of migratory juveniles due to

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dams) - Hydropower		passage, habitat restoration	Cabinet and Noxon reservoirs			blockage and spawning migration delay. Loss of reproduction annually of migratory form of bull trout. Expect long-term benefits from habitat restoration and fish passage	entrainment and 100 juveniles due to gas bubble disease during spill years, and 40/yr juveniles due to predation and an unquantifiable number of juveniles due to competition and predation in reservoirs and recreational by-catch. Long-term recovery due to permanent fish upstream and downstream fish passage and habitat restoration
Forest Service – roads programmatic	8/1/01	Road maintenance, road obliteration, road closure, culvert & bridge replacement, stream restoration	Six western Montana national forests and one BLM district	Western Montana RUs	5 years with renewal option at end	Unquantifiable-Harm and Harassment from short-term habitat degradation & displacement	Unquantifiable - Harm and Harassment from short-term habitat degradation & displacement during construction
1-4-00-FW-343 Revised Section 7 programmatic consultation on issuance of a Section 10(a)(1)(A) scientific	2/14/00	Population surveys using electrofishing, netting, trapping, capturing, marking, tagging,	Coterminous listed bull trout population.	All bull trout Recovery Units.	1 year.	Capturing, retaining, handling, possibly killing for scientific purposes, possibility of injury and mortality from	Capturing, retaining, handling, possibly killing for scientific purposes, possibility of injury and mortality from electrofishing and

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take permits and Section 6(c)(1) exemption from take for Bull Trout. (Section 10(a)(1)(A) permit)U.S. Fish and Wildlife Service		tissue sampling; collection for hatchery propagation and outplanting activities. Habitat restoration or enhancement activities.				electrofishing and handling. Harassment (via catch and release) as a result of scientific monitoring and evaluation, which may involve a few thousand individual bull trout. Long term impacts of actions to benefit recovery of bull trout.	handling. Harassment (via catch and release) as a result of scientific monitoring and evaluation. Long term impacts of actions to benefit recovery of bull trout, which may involve a few thousand individual bull trout.
U.S. National Forest Service Flathead National Forest, 10a1A permit Road reclamation	7/13/99	Road reclamation to reduce sediment delivery Roc, Coal, and Big creeks	Rock Creek, Coal Creek, and Big Creek on the Flathead National Forest	Clark Fork River Basin	3 years	Unquantifiable; Short-term degradation due to sediment input during construction – long-term benefits by reducing sediment input in spawning areas	Unquantifiable; short-term impact due to sediment causing displacement – harm and harass; long-term benefits through habitat improvement and sediment reduction; improved fish passage at stream crossings.
Chicken Creek emergency sandbag placement project. (Habitat restoration	11/18/02	Emergency placement of sandbag wall to divert flow in recently formed	Chicken Creek (tributary to the West Fork of the Bitterroot River), Flathead National	Clark Fork River Basin	July 8, 2002 (placement of sandbag wall)	About 100 feet of braided channel dried up. Due to the low density of bull trout in the project	N/A

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action) U.S. Forest Service		braided channel back (formed as a result of severe erosion following fire in August 2000) to historic creek channel.	Forest, Montana.			area, it is likely that no bull trout were killed by implementation of the action or stranded in the dry channel; however the possibility that at least one bull trout was killed as a result of sandbag placement cannot be discounted.	
Effects of the Moose Post-Fire Project on Bull Trout, Flathead National Forest. (Resource/land management plan or program) U.S. Forest Service	11/14/02	Salvage harvest (2,300 acres), alternative bark beetle control measures (pheromone baited traps), fuels reduction (235 acres, thinning prescription), road management (road decommissioning [56 miles], gating and restricted seasonal use of roads, culvert removal).	Big Creek, Coal Creek and North Fork Flathead River watersheds, Flathead National Forest, Montana.	Clark Fork River Basin	2003-2010	Harm and harassment from short term degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of juvenile and adult fish.	Harm and harassment from short term degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of juvenile and adult fish.

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Replacement of Blackfoot River Bridge, FHWA Helmville. (Bridge work action) Federal Highway Administration	10/21/02	Replace bridge.	Blackfoot River, Helmville, Powell County, Montana.	Clark Fork River Basin	2003	N/A	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
Proposed changes to the Yellowstone pipeline project. (Pipeline project action) U.S. Forest Service	8/7/02	Reroute a section of pipeline away from creek and create a new pipeline crossing buried under streambed.	Prospect Creek, Twenty-four Mile Creek, Lolo National Forest, Sanders County, Montana.	June-September 2001	Clark Fork River Basin	Unquantifiable: harm and harassment from short term (short duration, localized and small in extent) degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation may occur that could adversely affect feeding and sheltering patterns of juvenile fish.	Unquantifiable: harm and harassment from short term (short duration, localized and small in extent) degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation may occur that could adversely affect feeding and sheltering patterns of juvenile fish.

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<p>Moose Fire Best Management Practices (BMPs) Implementation Project 2002 - Flathead National Forest.</p> <p>(Resource/land management plan or program)</p> <p>U.S. Forest Service</p>	7/18/02	BMPs following the Moose fire: road management and maintenance, road decommissioning.	North Fork and Middle Fork of the Flathead River, Flathead Lake, and Big Creek and Coal Creek drainages, Flathead National Forest, Montana.	Clark Fork River Basin	2002-2005	<p>Harm and harassment from short term degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of juvenile fish.</p> <p>Long term benefit to bull trout recovery is anticipated.</p>	<p>Harm and harassment from short term degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of juvenile fish.</p> <p>Long term benefit to bull trout recovery is anticipated.</p>
<p>Lolo National Forest post burn project 2002.</p> <p>(Resource/land management plan or program)</p> <p>U.S. Forest Service</p>	7/12/02	Soil stabilization on 1,200 acres, riparian planting on 38 acres, dam and mine site reclamation, road maintenance and upgrade (290 miles), culvert removal and replacement to eliminate fish	Middle Clark Fork River watershed, Lolo National Forest, Montana.	Clark Fork River Basin	2-7 years	<p>Harm and harassment (along a total of 120 miles of stream reach) from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in</p>	<p>Harm and harassment (along a total of 120 miles of stream reach) from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely</p>

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		passage barriers, road decommissioning, reforestation (12,900 acres), fuel reduction and prescribed burns (1,700 acres), timber salvage harvest on 4,700 acres.				sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	affect feeding and sheltering patterns of adult and juvenile fish.
Replacement of the bridge over the Swan River, west of Condon, in Missoula County, Montana. (Bridge work action) Federal Highway Administration	5/25/02	Replace timber structure bridge with concrete clear span bridge.	Swan River, west of Condon, Missoula County, Montana.	Clark Fork River Basin	July 15 to August 31 (for instream work)	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
Spotted beetle resource management	3/8/02	Vegetation management:	South Fork Flathead River drainage,	Clark Fork River Basin	June 15 - September 1,	Unquantifiable: small amount (short	Unquantifiable: small amount (short duration,

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<p>project - Spotted Bear Ranger District, Flathead National Forest.</p> <p>(Resource/land management plan or program)</p> <p>U.S. Forest Service</p>		<p>lodgepole pine only timber harvest (945 acres).</p> <p>Road management: road decommissioning (49 miles), remove culverts, road closures (29 miles).</p>	Spotted Bear Ranger District, Flathead National Forest, Flathead County, Montana.		2002-2008.	duration, localized, small in extent at any point in time) of harm and harassment from temporary increases in sedimentation and degradation of water quality that adversely affect feeding, spawning and sheltering patterns of juvenile and adult fish.	localized, small in extent at any point in time) of harm and harassment from temporary increases in sedimentation and degradation of water quality that adversely affect feeding, spawning and sheltering patterns of juvenile and adult fish.
<p>Reconstruction of State Route 200, FHWA Weeksville - West project.</p> <p>(Road work action)</p> <p>Federal Highway Administration</p>	1/4/02	Reconstruct 6.5 miles of highway.	Middle Clark Fork River drainage including Munson Creek and Weeksville Creek, State Route 200, Sanders County, Montana.	Clark Fork River Basin	2002	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.

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Bureau of Land Management Whitaker Bridge boat launches: Upgrade project. (Recreation action) Bureau of Land Management	12/10/01	Actions completed at the Whitaker Bridge boat launch site exceed the anticipated level of streambank disturbance analyzed for the original proposal: Road excavation, regrade and enlarge access road; 7,200 sq. feet of fill spread in Riparian Habitat Conservation Area. Various actions proposed to reduce the potential for sediment delivery to the river.	Blackfoot River, Missoula County, Montana.	Clark Fork River Basin	2001-2002	N/A	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, pool quality and frequency, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect spawning, feeding and sheltering patterns of fish.
Bitterroot National Forest Burned Area Recovery Plan. (Resource/land	11/19/01	Broad scale treatment of forested land and associated land management	Bitterroot watershed, Bitterroot National Forest Ravalli County, Montana.	Clark Fork River Basin	2001- 2004	Harm and harassment from short term degradation of aquatic habitat	Harm and harassment from short term degradation of aquatic habitat parameters including substrate

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management plan or program) U.S. Forest Service		related features within or immediately adjacent to National Forest Service lands impacted by the 2000 Bitterroot fires: salvage harvest, road work (maintenance and upgrade, decommissioning or recontouring, remove culverts), reforestation, temporary road construction, helicopter landing sites.				parameters including substrate quality, rearing habitat, and food supply; increases in sedimentation is anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish along a total of 160 miles of stream reach. Habitat degradation could occur as a result of implementation of timber salvage harvest and watershed improvement projects in post-implementation years 1 through 5.	quality, rearing habitat, and food supply; increases in sedimentation is anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish along a total of 160 miles of stream reach.. Habitat degradation could occur as a result of implementation of timber salvage harvest and watershed improvement projects in post-implementation years 1 through 5.
Reconstruction of US Highway 93, FHWA Evaro - Polson, Montana. (Road work action)	10/19/01	Reconstruct 61 miles of highway.	Flathead River and tributaries, US Highway 93, between Evaro in Missoula County to Polson in Lake	Clark Fork River Basin	2003-2009, six year project duration.	Unquantifiable: harm and harassment from short term degradation of aquatic habitat	Unquantifiable: harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing

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Federal Highway Administration			County, Montana.			parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish
Implementation of and associated actions for Plum Creek Timber Company road access - Hemlock, and Montana Department of Natural Resources and Conservation (MDNRC) easement - South Fork Lost Creek, in Swan River watershed. (Road work action) U.S. Forest Service	6/5/01	Provide access through U.S. Forest Service (FS) lands to private timber lands: construct 860 feet of road. Road reclamation, culvert removal, site reseeded. Road easement (10 miles long) exchange between FS and MDNRC including road relocation and construction away from creek and	Glacier Creek, Kraft Creek, Cilly Creek, Soup Creek, South Fork Lost Creek, in Swan River watershed, Montana.	Clark Fork River Basin	July 15 to September 1	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect eggs, larval and juvenile fish, and impair spawning, feeding and sheltering patterns of adult and juvenile fish.	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish.

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		road site reclamation (1.7 miles long).					
Implementation of the Nevada Dalton vegetation and travel management project. (Multiple project action) U.S. Forest Service	5/15/01	Timber harvest (500 acres), thinning cuts (1,600 acres), salvage cut (100 acres), prescribed burn (7,000 acres), ground and aerial application of herbicides (4,000 acres), road obliteration, road maintenance and travel plan revision	Blackfoot River watershed including Nevada Creek and Sauerkraut Creek, Lincoln Ranger District, Helena National Forest, Montana.	Clark Fork River Basin	2001-2013, up to 12 years.	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
Replacement of US Highway 2 Bridge over the Middle Fork of the Flathead River, southeast of Essex, Flathead County, MT; FHWA Sula North & South.(Bridge work action) Federal Highway	5/4/01	Replacement of and construction of bridge, placement of riprap.	Middle Fork of the Flathead River, southeast of Essex, in Flathead County, Montana.	Clark Fork River Basin	2001-2002	N/A	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and

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Administration							sheltering patterns of adult and juvenile fish.
Operations and maintenance of the Big Flat and Frenchtown Irrigation Diversions 2003 - Bureau of Reclamation. (Water diversion/irrigation action) Bureau of Reclamation	7/7/03	Unscreened diversion of water from two rivers for the purpose of irrigation; also includes obstruction of flow of a river side channel, application of a biocide, and periodic manipulation of bedload and gravel bar deposits.	Bitterroot and Clark Fork Rivers, Montana.	Clark Fork River Basin	April 15 through October 31	N/A	Unquantifiable: entrainment into unscreened irrigation system resulting in permanent loss of individual fish from bull trout populations in the Bitterroot and Clark Fork rivers.
Operation, maintenance and expansion of Snowbowl Ski Area including road and parking improvements 2003. (Recreation action) U.S. Forest Service	4/28/03	Continued operation and maintenance of ski area, add 18 additional ski runs on 45 acres, install culvert in creek channel, construct sediment settling retention area for parking lot runoff, upgrade 5 miles	Snowbowl Ski Area (12 miles northwest of Missoula), Middle Clark Fork watershed including LaValle Creek, Butler Creek and Grant Creek, Missoula Ranger District, Lolo National Forest, Montana	Clark Fork River Basin	Not determined.	Harm and harassment from short term degradation of aquatic habitat parameters as a result of increased sediment; an increase in sedimentation is anticipated to adversely affect feeding and	N/A

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		of road, construct parking lots.				sheltering patterns of juvenile and adult fish.	
Implementation of proposed actions associated with Clearwater Ecosystem Management and Timber Sale Project. (Timber sale/harvest action) U.S. Forest Service	3/6/01	Timber harvest (570 acres), prescribed burn (150 acres), road construction (12 miles), road obliteration (13 miles), noxious weed spot spraying (along 10 miles of road).	Upper and East Fork Clearwater River drainages, 12 miles northeast of Seely Lake, Lolo National Forest, Montana.	Clark Fork River Basin	2001	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including spawning habitat, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect spawnin, feeding and sheltering patterns of adult and juvenile fish.	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish.
Implementation of proposed actions associated with plans of operations for Sterling Corporation Rock Creek Silver/Copper Mine. (Mining action)	12/15/00	10,00-ton per day underground copper and silver mine: includes 483 surface acres of ground disturbance, 9 miles of road construction, water treatment facility and	Rock Creek drainage (tributary to Cabinet Gorge Reservoir on Clark Fork River), Kootenai National Forest, near Noxon, Sanders County, Montana.	Clark Fork River Basin	35-year project life (including 5.5 years for development, 27.5 years for operation and production, 2 years for reclamation).	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including spawning habitat, rearing habitat, and food supply; increases in sedimentation,	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including spawning habitat, rearing habitat, and food supply; increases in sedimentation, degradation of water quality, and changes in

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U.S. Forest Service		discharge to river, tailings paste facility, rail loadout, evaluation adit, underground mine workings, 1,078 surface acres remain undisturbed. (Project site includes 48% private land and 52% National Forest lands)				degradation of water quality, and changes in habitat complexity are anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish. It is likely that long term effects of mining operations will continue indefinitely after mine closure.	habitat complexity are anticipated to adversely affect spawning, feeding and sheltering patterns of adult and juvenile fish. It is likely that long term effects of mining operations will continue indefinitely after mine closure.
Permitting of outfitter services - Flathead National Forest. (Recreation action) U.S. Forest Service	9/21/98	Issuance of permits for commercial outfitting services: use of 15 outfitter camps including those with livestock (horses).	South Fork and Middle Fork of the Flathead River, Flathead National Forest, Montana.	Clark Fork River Basin	1998-2003, 5-year permit period.	Harm and harassment due to the potential harmful effects from horses trampling redds, impairment of essential breeding behavior, and "take" of bull trout through legal harvest of other game fish	Harm and harassment due to the potential harmful effects from horses trampling redds, impairment of essential breeding behavior, and "take" of bull trout through legal harvest of other game fish.
Issuance of a Section 10(a)(1)(B) Incidental	10/24/00	Management activities on Plum	Although activities covered by the	Clark Fork River Basin	Duration of permit is 30	Unquantifiable: harm and	Unquantifiable: harm and harassment, if it

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<p>Take Permit to Plum Creek Timber Company for the Proposed Native Fish Habitat Conservation Plan (NFHCP) in the States of Washington, Idaho, and Montana.</p> <p>(Resource/land management plan or program) U.S. Fish and Wildlife Service</p> <p>National Marine Fisheries Service</p>		<p>Creek lands covered by the Incidental Take Permits consist of commercial forestry and associated activities: including silvicultural activities (tree planting, site preparation, prescribed burning, timber harvest in riparian and upland areas, stand maintenance, forest nurseries, and seed orchards), as well as related actions of logging road construction and maintenance and gravel quarrying for roads. Other forestry activities include forest fire suppression, open range cattle grazing, miscellaneous</p>	<p>permits are restricted to Plum Creek lands (i.e., the 1.6 million acre NFHCP covered lands), the effects of the action on the covered species may extend beyond this area. For this consultation, we therefore define the action area to include the 16.5 million acre planning area, which is partially intermingled in a checkerboarded ownership pattern with about 14.9 million acres of lands owned and managed by the U.S. Forest Service, State, tribal, and other private owners, and areas outside the planning area in Idaho and Washington.</p> <p>The action area in Idaho includes the</p>	<p>(MT). Clearwater River Basin (ID). Lower Columbia River Basin and Middle Columbia River Basin (WA).</p>	<p>years.</p>	<p>harassment, if it occurs, only a limited number of individuals would likely be affected and impacts should be infrequent and localized; site specific increases in sediment and stream temperature may adversely affect fish at a number of life-history stages. Adverse effects would likely be limited to temporary and relatively minor increases in sediment levels and water temperatures and decreases in availability of large woody debris in affected streams.</p>	<p>occurs, only a limited number of individuals would likely be affected and impacts should be infrequent and localized; site specific increases in sediment and stream temperature may adversely affect fish at a number of life-history stages. Adverse effects would likely be limited to temporary and relatively minor increases in sediment levels and water temperatures and decreases in availability of large woody debris in affected streams.</p>

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		<p>forest and land product sales, and conservation activities. Additional land use activities that are non-forest actions and special forest uses include commercial outfitting, recreation, electronic facility sites, and mill site facilities that manufacture various forest products.</p>	<p>Lochsa River sub-basin, and the mainstem Clearwater River below the confluence with the Lochsa River.</p> <p>The action area in Washington includes the Yakima, Cowlitz, Kalama, and Lewis river sub-basins. The action area consists of 15 planning area sub-basins where covered species are known to occur, and those sub-basins in Idaho and Washington (above) where covered activities may affect designated critical habitat or listed species downstream from the planning area.</p> <p>There are 10 sub-basins in Montana, 1 in</p>				

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			<p>Idaho, and 4 in Washington and the associated land ownership in each planning area sub-basin plus a few outliers, which occur outside, but near the 15 planning area sub-basins.</p> <p>The majority of the NFHCP lands are located in Montana, approximately 1.4 million acres or 94 percent with the greatest Plum Creek ownership in Middle Clark Fork River, Middle Kootenai River, and Blackfoot River sub-basins. In Idaho, Plum Creek lands are located in the Lochsa River Basin only and total 40,424 acres (3 percent). Plum Creek NFHCP lands in Washington occur in four sub-basins that total</p>				

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						Spawning Streams	Migratory Corridors
			<p>70,462 acres (4 percent); Yakima, Lewis, Cowlitz, and Kalama River sub-basins.</p> <p>The incidental take that would be permitted under the section 10(a)(1)(B) permit applies to lands where covered activities occur and Plum Creek lands to which the NFHCP's conservation and mitigation measures apply. These lands include all lands owned by Plum Creek as a matter of public record on the effective date when the Implementing Agreement was signed within the planning area sub-basins identified and those lands located outside of the planning area sub-basins identified in the Implementing Agreement. Lands</p>				

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						Spawning Streams	Migratory Corridors
			covered under the NFHCP also include those lands owned by others but on which Plum Creek holds timber cutting rights of 30-years duration or longer. Additionally, other lands covered under the NFHCP include lands owned or managed by others over which Plum Creek holds access easements, rights-of-way, access permits, or which are subject to a road cost-share agreement to which Plum Creek is a party, and which access NFHCP lands owned by Plum Creek.				
Implementation of ongoing action: Washington Gulch Mining Plan of Operation.	7/31/00	Placer mining pit operation within mainstem of creek, stream diversion for gravel washing,	Washington Creek drainage, Blackfoot River subbasin, Helena National Forest, Montana.	Clark Fork River Basin	4 to 5 year project.	Harm and harassment from short term degradation of aquatic habitat parameters including	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat,

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						Spawning Streams	Migratory Corridors
(Mining action) U.S. Forest Service		clearing all streamside vegetation and trees at mining site, upgrade access roads, construction of haul roads. Reclamation including revegetation of site at the end of each mining season.				substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish. Entrainment of fish at diversion structure.	and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish. Entrainment of fish at diversion structure.
Ongoing actions associated with plans of mining operations for: Promise, CC and R, Ace Placer, Wildcat 1, Reel Placer, J and L Mine, Kanco, Lost Gulch, Deep Creek Placer, Hopeful Placer, Gold Bug Mine, and Tarbox Mine, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Action.	5/12/00	Placer mining, suction dredge mining. Mining operations include mitigation and/or reclamation plans.	Cedar Creek, Trout Creek, Deep Creek, South Fork Little Joe Creek, Packer Creek, Middle Clark Fork subbasin, Lolo National Forest, Montana.	Clark Fork River Basin	July 15-September 1 (instream mining period). Near-stream mining activity period has not been determined.	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation, changes in channel and habitat complexity is anticipated to adversely affect egg, larval, juvenile,	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation, changes in channel and habitat complexity is anticipated to adversely affect egg, larval, juvenile, and adult fish life stages.

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						Spawning Streams	Migratory Corridors
(Mining action) U.S. Forest Service						and adult fish life stages.	
Bass Creek Bridge and West Fork Stabilization ; Bitterroot National Forest. (Bridge work action) U.S. Forest Service	2/5/00	Replace bridge, realignment of approach road to bridge. Stabilization of 250 feet of river bank: placement of rock and log/rootwad vanes along bank and extend into river at 35-45° angle	West Fork of the Bitterroot River, Bitterroot National Forest, Montana.	Clark Fork River Basin	September through November, 2001	Harm and harassment from short term degradation of aquatic habitat (cobble/boulder streambed) parameters and a risk of crushing juvenile fish (during heavy equipment operation in the stream channel).	Harm and harassment from short term degradation of aquatic habitat (cobble/boulder streambed) parameters and a risk of crushing juvenile fish (during heavy equipment operation in the stream channel).
Orange Street Bridge replacement. (Bridge work action) Federal Highway Administration	12/30/99	Replace 2-lane bridge with a 4-lane bridge: work includes instream pier construction.	Clark Fork River, within City of Missoula, Missoula County, Montana.	Clark Fork River Basin	2000	N/A	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.

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						Spawning Streams	Migratory Corridors
Plan of operation of the Vermillion River suction dredge project. (Mining action) U.S. Forest Service	7/30/99	Small-scale portable suction dredge placer mining within a 1,300 linear feet reach of stream channel.	Vermillion River, Cabinet Ranger District, Kootenai National Forest, Sanders County, Montana.	Clark Fork River Basin	June 1 to September 1 of each year for four years (1999-2003).	Harm and harassment from entrainment into suction dredge of mostly juvenile fish, but may include eggs, embryo and alevins along 1,300 feet of stream reach.; also substrate disturbance, changes in channel morphology, and short-term effects to food supply and water quality.	Harm and harassment from entrainment into suction dredge of mostly juvenile fish, but may include eggs, embryo and alevins along 1,300 feet of stream reach.; also substrate disturbance, changes in channel morphology, and short-term effects to food supply and water quality.
Bigfork Hydroelectric Project, FERC No. 2652-007. (Hydropower action) Federal Energy Regulatory Commission	5/21/03	Issue 50-year license to operate and maintain the Bigfork hydroelectric power project: includes installation of fish screens, release 70 cfs minimum flow.	Bigfork Dam, Swan River, Montana.	Clark Fork River Basin	License hydroelectric power generation for a period of 50 years.	Unquantifiable: small amount of harm and harassment from sediment input, entrainment and impingement of all fish life stages, and from operation and maintenance of fish screens; anticipate adverse affects from harm and impairment of feeding, spawning, and sheltering	Unquantifiable: small amount of harm and harassment from sediment input, entrainment and impingement of all fish life stages, and from operation and maintenance of fish screens; anticipate adverse affects from harm and impairment of feeding, spawning, and sheltering patterns of fish.

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						Spawning Streams	Migratory Corridors
						patterns of fish.	
Ongoing Range Management Projects - Three (3) range management actions in the Swan River watershed, Flathead National Forest. (Grazing action) U.S. Forest Service	6/30/99	Grazing in 3 allotments.	Swan River watershed, Flathead National Forest, Montana.	Clark Fork River Basin	June 1 to September 30, 1999-2001.	Unquantifiable: harm and harassment from sedimentation and bank damage that adversely affects eggs, larval and juvenile fish and impairs spawning, feeding and sheltering patterns of juvenile and adult fish.	Unquantifiable: harm and harassment from sedimentation and bank damage that adversely affects eggs, larval and juvenile fish and impairs spawning, feeding and sheltering patterns of juvenile and adult fish.
Ongoing Range Management Projects - Twenty (20) range management projects in the Upper Clark Fork River, Rock Creek and Middle Clark Fork River subbasins. (Grazing action) U.S. Forest Service Bureau of Land Management	6/22/99 (Incidental Take Statements in this Biological Opinion have been revised in each of the following years: 2000, 2001, 2002)	Grazing in 20 allotments.	Upper Clark Fork River subbasin in Helena National Forest and Beaverhead-Deerlodge National Forest, Rock Creek subbasin (on BLM lands), and Middle Clark Fork River subbasin in Lolo National Forest, Montana.	Clark Fork River Basin	Time frame varies from 4 to 10 years between 1999 to 2009 depending on the specific allotment being grazed.	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; increases in sedimentation and damage to riparian vegetation adversely affects eggs, larval and juvenile fish and impairs spawning,	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; increases in sedimentation and damage to riparian vegetation adversely affects eggs, larval and juvenile fish and impairs spawning, feeding and sheltering patterns of juvenile and adult fish.

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						Spawning Streams	Migratory Corridors
						feeding and sheltering patterns of juvenile and adult fish.	
Ongoing timber sales - Boulder Wyman timber sale (Beaverhead-Deerlodge National Forest) and Mocassin timber sale (Lolo National Forest). (Timber sale/harvest action) U.S. Forest Service	1/11/99	Timber sales and harvest: including prescribed burns (on 5,000 acres), clearcuts (800 acres), thinning cut (1,300 acres), shelterwood cut (71 acres), seedtree cut, temporary road construction.	Upper Clark Fork River subbasin, Lolo National Forest and Beaverhead Deerlodge National Forest, Montana.	Clark Fork River Basin	1999	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish .
Ongoing timber sales - Northside timber sale and Reset timber sale. (Timber sale/harvest action)U.S. Forest Service	1/11/99	Timber sales and harvest: including prescribed burns (on 800 acres), timber harvest (1,400 acres), road reconstruction (16 miles), road decommissioning	Butler Creek, Twomile Creek, Little Joe Creek, Middle Clark Fork River subbasin, Lolo National Forest, Montana.	Clark Fork River Basin	1999	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in	Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely

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						Spawning Streams	Migratory Corridors
		(36 miles), road closures (22 miles).				sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	affect feeding and sheltering patterns of adult and juvenile fish.
Knox Brooks timber sale and road rehabilitation. (Timber sale/harvest action) U.S. Forest Service	4/30/01	Timber harvest (2,500 acres) including clear cut, shelterwood cut, thinning cut, and seedtree cut, prescribed burn (300 acres), reforestation, and road reconstruction, obliteration and closings.	Twelvemile Creek watershed, Lolo National Forest, near De Borgia, Montana.	Clark Fork River Basin	2001	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.	Unquantifiable: harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
1-7-99-F-117 Oregon Conservation Reserve Enhancement Program. (Resource/land management plan or program)	6/2/99	State-wide program designed to reduce and mitigate agriculture related impacts on streams that provide current or historical habitat	All streams in Oregon that provide current or historical habitat for salmon and trout, which are listed under the ESA.	All bull trout recovery units in Oregon: Willamette River, Deschutes River, Klamath River, Hood River, John Day	10 to 15 years (the duration of contract with landowner)	Some negative short term impacts to fish during migration, spawning and juvenile rearing. Impacts include disturbance, displacement, alteration of habitat,	Some negative short term impacts to fish during migration, spawning and juvenile rearing. Impacts include disturbance, displacement, alteration of habitat, and physical interaction with eggs,

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						Spawning Streams	Migratory Corridors
U.S. Department of Agriculture Farm Services Agency		for salmon and trout listed pursuant to the Endangered Species Act. Primary mechanism is through establishment of forested riparian buffers (up to 95,000 acres), and up to 5,000 acres of wetlands to be restored or enhanced. The total acreage enrolled for the entire Program is 100,000 acres.		River, Umatilla Walla Walla River, Grande Ronde River, Malheur River, Imnaha Snake River, Hells Canyon Complex		and physical interaction with eggs, juveniles or adults, or short term sedimentation during any instream or near stream restoration work. Long term benefits contributing to the recovery of salmonids.	juveniles or adults, or short term sedimentation during any instream or near stream restoration work. Long term benefits contributing to the recovery of salmonids.
1-4-99-F-21 Red River Meadow Restoration Project (phases III and IV). (Habitat restoration) Bonneville Power Administration	6/25/99	Ecosystem enhancement: 2,800 feet of stream channel reconstruction, reshaping, realignment, dewatering existing channel using staged diversions;	Red River, Lower Red River Meadow, near Elk City, Idaho County, Idaho.	Clearwater River Basin	1999-2000 (project phases III and IV of an eight phase project)	Sedimentation (expected to be short term) along 6.5 miles of stream reach. Unquantifiable adverse affect: There is the potential for a fuel spill to occur during fuel hauling,	Sedimentation (expected to be short term) along 6.5 miles of stream reach. Unquantifiable adverse affect: There is the potential for a fuel spill to occur during fuel hauling, transfer and storage operations

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						Spawning Streams	Migratory Corridors
		<p>establish native riparian and meadow plant species.</p> <p>Project related diesel fuel transport, handling and storage.</p>				<p>transfer and storage operations</p> <p>Possibility of injury and mortality from electrofishing and handling.</p> <p>Long-term effects of habitat enhancement project likely to benefit bull trout (improve habitat conditions and complexity).</p>	<p>Possibility of injury and mortality from electrofishing and handling.</p> <p>Long-term effects of habitat enhancement project likely to benefit bull trout (improve habitat conditions and complexity).</p>
<p>1-4-99-F-2 Operation of the Lower Snake River Compensation Plan Program.</p> <p>(River compensation plan program)</p> <p>U.S. Fish and Wildlife Service</p>	4/8/99	<p>Fish production program comprised of 23 fish hatcheries, associated acclimation and holding ponds, and other facilities.</p> <p>Water diversions, hatchery effluent discharge, weir operation and trapping of adult and smolt salmonids, release</p>	<p><i>Idaho:</i> Clearwater River in Clearwater and Idaho counties; Payette River in Valley County; Salmon River in Custer and Valley counties; Snake River in Gooding and Idaho counties.</p> <p><i>Oregon:</i> Columbia River in Morrow County; Grande Ronde River in Union and Wallowa counties; Imnaha</p>	<p>Clearwater River Basin</p> <p>Southwest Idaho River Basin</p> <p>Salmon River Basin</p> <p>Imnaha-Snake River Basin</p> <p>Grande Ronde River Basin</p> <p>Snake River</p>	Proposed and ongoing; daily, seasonal, and year-round; ranging from short term (hours or days) to long term (several years).	N/A (All actions occur downstream of spawning streams)	<p>Weirs and traps may be migration obstacles or barriers, which detain or delay migrating fish.</p> <p>Harassment of about 400 fish per year (via catch and release) as a result of scientific monitoring and evaluation of salmonids.</p> <p>Displacement (release of hatchery-reared fish cause loss of food and cover utilized by bull trout).</p>

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						Spawning Streams	Migratory Corridors
		of hatchery-reared juvenile salmonids, monitoring and evaluation of salmonids.	River in Wallowa County. <i>Washington</i> : Grande Ronde River in Asotin County; Snake River in Asotin and Franklin counties; Tucannon River in Columbia County; Walla Walla River in Columbia County .	Basin in Wash. Umatilla-Walla Walla River Basins			In-stream flow reductions (along an average of 200 meters of stream reach at each of 19 facilities that have water diversions). Increased levels of nutrients and sediment (along an average of 100 meters of stream reach at each of 26 facilities that discharge effluent).
1-9-98-F-7 St. Joe and North Fork of the Clearwater River Watersheds Biological Assessment. (Multiple project action) U.S. Forest Service	5/31/99	900 actions: timber sales and harvest; road construction, obliteration and repair; grazing; noxious weed management; mining.	St. Joe River and North Fork of the Clearwater River watersheds, Idaho Panhandle National Forests, Idaho.	Clearwater River Basin Couer D'Alene Lake Basin	Seasonal (July through September road work)	Unquantifiable. Sedimentation causing degradation of spawning and rearing habitat; harassment of juveniles.	Unquantifiable. Sedimentation causing degradation of spawning and rearing habitat; harassment of migratory individuals.
1-7-01-F-925 Non-capacity license amendment for the Pelton Round Butte Project FERC No. 2030.	10/2/01	Installation of two turbine runners, continued operation of Pelton Round Butte Project (3	Pelton Round Butte Project (Round Butte Dam, Pelton Dam, Regulating Dam) on Deschutes	Deschutes River Basin	Year round.	N/A	Unquantifiable: harm, harassment, or mortality by entrainment into project turbines, migration delays for upstream movement, and

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(Hydropower action) Federal Energy Regulatory Commission		dams) modified run-of-river system that includes store-and-release facility operating in peaking mode, and implementation of fish conservation strategy (fish bypass, Merwyn trap fish collection, mark/tag and monitoring).	River, Oregon.				increased cannibalism due to lack of cover available to juvenile fish. Conservation measures potentially reduce present level of harm and harassment, and contribute to bull trout recovery.
1-7-00-F-479 Warm Springs Reservation bridge replacements. (Bridge work action) Bureau of Indian Affairs	6/30/00	Replace three bridges, instream work to remove concrete slabs, and placement of riprap.	Mill Creek, Badger Creek, Shitike Creek, South Fork Warm Springs River, Warm Springs Reservation, Oregon.	Deschutes River Basin	July 1 to August 10	Unquantifiable: short term detrimental effects on parameters such as water temperature, food supply, substrate quality, suspended sediment, and spawning success causing harm and harassment. Long term benefits include better fish passage.	Unquantifiable: short term detrimental effects on parameters such as water temperature, normal behavior, food supply, substrate quality, and sediment levels causing harm and harassment. Long term benefits include better fish passage.

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						Spawning Streams	Migratory Corridors
<p>1-7-98-F-274 Biological Assessment for Bull Trout in the Deschutes River Basin for the Deschutes National Forest and Bureau of Land Management, Prineville District.</p> <p>(Multiple project action)</p> <p>U.S. Forest Service</p> <p>Bureau of Land Management</p>	8/25/98	Proposed multiple land management actions: timber sales/harvest, prescribed burning, thinning cuts, fuel treatments, campground and trail rehabilitation and use, road maintenance and management actions, grazing allotments.	All lands within the Deschutes National Forest and the Prineville District of the Bureau of Land Management, Oregon; includes the Deschutes River and its tributaries, Metolius River drainage, and the Trout Creek drainage.	Deschutes River Basin Odell Lake	1998	Unquantifiable: Detrimental effects on parameters such as water temperature, substrate quality, bank stability, food supply, spawning success, and suspended sediment levels.	Unquantifiable: Detrimental effects on parameters such as water temperature, substrate quality, bank stability, food supply, spawning success, and suspended sediment levels.
<p>1-7-98-F-324 Effects to bull trout from continued implementation of land and resource management plans and resource management plans as amended by the interim strategy for managing fish-producing watersheds in eastern Oregon and</p>	4/14/98	Land and resource management plans (LRMPs) as modified by INFISH and PACFISH; includes 24 U.S. Forest Service and 16 Bureau of Land Management LRMPs. The LRMPs provide	The action area encompasses all or parts of the following National Forests (NF) of the USFS, and Resource Areas (RA) of the BLM for the Columbia River and Klamath River DPSs of bull trout. USFS National	Deschutes River Basin John Day River Basin Grande Ronde River Basin Hells Canyon Complex Hood River Basin	Indefinite	Unquantifiable.	Unquantifiable.

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<p>Washington, Idaho, western Montana, and portions of Nevada (INFISH), and the Interim strategy for managing anadromous fish-producing watersheds in eastern Oregon and Washington, Idaho, and portions of California (PACFISH).</p> <p>(Resource/land management plan or program)</p> <p>U.S. Forest Service</p> <p>Bureau of Land Management</p>		<p>direction and standards for broad classes of project activities and land and water management practices that may affect bull trout. The projects and activities include forest management, recreation, range management, mining, watershed restoration, fish and wildlife habitat management, fire and fuels management, land exchanges and acquisitions, and a variety of special uses (commercial, utilities, road use and construction, and rights-of-</p>	<p>Forest (NF) lands: <i>Within Klamath River Distinct Population Segment (DPS)--</i> Fremont NF, Winema NF; <i>within Columbia River DPS --</i> Colville NF, Deschutes NF, Malheur NF, Ochoco NF, Okanogan NF, Umatilla NF, Wallowa-Whitman NF, Wenatchee NF, Columbia River Gorge National Scenic Area, Bitterroot NF, Clearwater NF, Flathead NF, Helena NF, Kootenai NF, Lolo NF, Beaverhead-Deerlodge NF, Idaho Panhandle NF, Nez Perce NF, Boise NF, Payette NF, Salmon-Challis NF, Sawtooth NF.</p>	<p>Malheur River Basin</p> <p>Umatilla-Walla Walla River Basins</p> <p>Imnaha Snake River Basins</p> <p>Upper Columbia River Basin</p> <p>Middle Columbia River Basin</p> <p>Lower Columbia River Basin</p> <p>Northeast Washington River Basin</p> <p>Snake River Basin in Washington</p> <p>Kootenai River Basin</p>			

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						Spawning Streams	Migratory Corridors
		way.	BLM Resource Area (RA) lands: <i>Within Klamath River DPS -- Klamath Falls RA (Oregon); within Columbia River DPS -- Baker RA, Central Oregon RA, Deschutes RA, Three Rivers RA, Malheur RA, Border RA, Wenatchee RA, (Washington-Oregon); Cascade RA, Cottonwood RA, Emerald Empire RA, Shoshone RA, Big Butte RA, Lemhi RA, Challis RA (Idaho); Garnet RA (Montana).</i>	Clark Fork River Basin Clearwater River Basin Salmon River Basin Little Lost River Basin Couer D'Alene Lake Basin Southwest Idaho River Basins.			
1-7-01-F-319 Bureau of Land Management's Vale District integrated noxious weed management program: 2001 to 2011.	1/10/02	Herbicide use for weed control., as well as the use of physical, cultural, and biological control methods.	BLM Vale District (includes Baker, Jordan, and Malheur Resource Areas), Baker, Malheur, Morrow, Umatilla, and Wallowa	Grande Ronde River Basin Hells Canyon Complex Imnaha Snake	2001-2011, 10 years	N/A due to absence of spawning adjacent to BLM lands.	Unquantifiable (sublethal effects from herbicide use).

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(Weed management) Bureau of Land Management			counties, Oregon.	River Basins John Day River Basin Malheur River Basin Umatilla-Walla Walla River Basin			
1-7-01-F-609 Catherine Creek Bridge replacement. (Bridge work action) Federal Highway Administration	6/12/01	Construct new bridge, remove old bridge structures, placement of riprap.	Catherine Creek, within the city of Union, Union County, Oregon.	Grande Ronde River Basin	July 1-July 31	Harassment from sedimentation (expected to be short term) along 1,000 feet of stream reach.	Harassment from sedimentation (expected to be short term) along 1,000 feet of stream reach.
1-4-99-F-11 Ongoing and proposed actions in the Lostine and Wallowa Watersheds. (Multiple project action) U.S. Forest Service	3/26/99	Road maintenance. Campground, trailhead, and horse camp maintenance and improvement projects. Wilderness trail and campsites	Lostine and Wallowa Watersheds, Wallowa Whitman National Forest, Wallowa County, Oregon.	Grande Ronde River Basin	Annual road maintenance. Duration of recreational facilities maintenance actions may be short term, seasonal or have not been determined.	Low level of sedimentation effecting spawning and rearing habitat along 10 miles of stream reach.	N/A

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						Spawning Streams	Migratory Corridors
		restoration projects.					
1-7-02-F-405 Lower Perry Interchange (Grande Ronde River) Bridges. (Bridge work action) U.S. Army Corps of Engineers	4/16/02	Bridge replacement.	Grande Ronde River at I-84 mile post 257.2 near La Grande, Union County, Oregon.	Grande Ronde River Basin	3 years	N/A	Harassment of migratory fish within 100 feet upstream of project site and downstream to confluence of next major stream because of disturbance, delay or alteration of bull trout movements and decreased use of foraging resources in project area.
1-7-01-F-610 Milk Creek habitat enhancement. (Habitat restoration action) U.S. Army Corps of Engineers	6/14/01	Restore approximately 930 feet of Milk Creek to natural condition, culvert replacement.	Milk Creek (tributary to Catherine Creek), Union County, Oregon.	Grande Ronde River Basin	Summer 2001	Unquantifiable sedimentation (expected to be short term) along 1,000 feet of stream reach. Long term benefits expected.	Unquantifiable sedimentation (expected to be short term) along 1,000 feet of stream reach. Long term benefits expected.
1-4-99-F-3 Ongoing and proposed Federal Forest Service actions in the Pine Creek watershed.	1/29/99	Timber sale and related activities. Livestock grazing.	Pine Creek Watershed, Wallowa-Whitman National Forest, Baker County, Oregon.	Hells Canyon Complex	Seasonal (June to September)	Sedimentation (low level, short term pulses). Displacement (short term).	N/A

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						Spawning Streams	Migratory Corridors
(Multiple project action) U.S. Forest Service		Mining. Road maintenance. Outfitter/Guide activities (recreation)				Harm or harassment of eggs, fry, and spawning fish along 39 miles of spawning and rearing habitat.	
1-7-99-F-414 Fish habitat improvement cluster projects: Clear Branch Creek rechannelization, Pinnacle Creek bridge, placement of log structures and riparian restoration in the rock quarry on Clear Branch Creek. (Habitat restoration action) U.S. Forest Service	10/8/99	Four projects to improve habitat conditions and fish passage: creek channel realignment, placement of large wood/logs/trees, restore riparian flood prone area, culvert removal and bridge construction.	Upper middle Fork of the Hood River, Hood River Ranger District, Mt. Hood National Forest, Hood River County, Oregon.	Hood River Basin	Up to 120 days.	N/A	Harm and harassment from short term detrimental effects, along 0.5 mile of stream reach, from increased suspended sediment levels and disturbance from instream work. Long term effects are anticipated to be beneficial.
1-7-01-F-936 Farmers Irrigation District irrigation system improvement project.	9/4/01	Upgrade irrigation delivery system: replace intake and flume, sediment excluder sills, install new	Hood River, Hood River County, Oregon.	Hood River Basin	July - August (in-water work)	Unquantifiable, harm or harassment, at fish screen or during short term instream work.	Unquantifiable, harm or harassment, at fish screen or during short term instream work.

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						Spawning Streams	Migratory Corridors
(Water diversion/irrigation action) Bonneville Power Administration		fish screens and bypass.					
1-7-98-F-283 "Batch 5" restoration projects, Hood River County, Oregon. (Habitat restoration action) U.S. Forest Service	8/25/98	Remove 1,500 feet of riprap levee, placement of large woody material (logs, trees, log/boulder combinations) instream for habitat restoration.	East Fork Hood River, Clear Branch Creek, Lake Branch, Hood River County, Oregon	Hood River Basin	June 15 to September 8	Unquantifiable: harassment along a total of 0.6 mile of stream reach from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Long term benefit contributing to bull trout recovery, along a total of 0.6 mile of stream reach.	Unquantifiable: harassment along a total of 0.6 mile of stream reach from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Long term benefit contributing to bull trout recovery, along a total of 0.6 mile of stream reach.
1-17-03-F-0394 Imnaha/Big Sheep multi-species Biological Assessment for ongoing and proposed actions, Imnaha Subbasin,	6/3/03	60 actions including bridge replacement and repair, culvert replacement and repair, road maintenance,	Big Sheep Creek, Lick Creek, Summit Creek, and Imnaha River, Wallowa Whittman National Forest, Wallowa	Imnaha Snake River Basins	Seasonal, July to August road work, May through September water diversion.	Short term sedimentation, disturbance or harassment from road work. Seasonal diversion	Short term sedimentation, disturbance or harassment from road work. Seasonal diversion may

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						Spawning Streams	Migratory Corridors
Wallowa County, Oregon. (Multiple project action) U.S. Forest Service		screened water diversion (2.8 cfs).	County, Oregon.			may cause changes in peak/base flows; harm or harassment to individuals that get temporarily trapped between diversion and screen.	cause changes in peak/base flows; harm or harassment to migrating individuals that get temporarily trapped between diversion and screen.
1-4-01-F-29 Little Sheep Creek bridge replacement. (Bridge work action) Federal Highway Administration	1/26/01	Replace two timber structure bridges with two new concrete bridges including instream and streambank work.	Imnaha River watershed, Wallowa County, Oregon.	Imnaha Snake River Basin	July 2001 to October 2001, 4 months; instream work confined to July 15 to Sept 15.	Temporary, short term harassment/ disturbance of rearing juveniles. Short term turbidity and sedimentation. Removal of creosote timber structure is a long term benefit.	Temporary, short term harassment/ disturbance or delay of migrating adults. Short term turbidity and sedimentation. Removal of creosote timber structure is a long term benefit.
1-7-01-F-846 Malheur National Forest's 2001 grazing management program. (Grazing action) U.S. Forest Service	7/30/01	Range allotment projects: livestock grazing in 20 allotments and 2 crossings.	Middle Fork John Day River, Upper John Day River, Upper Malheur River, Malheur National Forest, Grant, Baker, and Harney counties, Oregon.	John Day River Basin Malheur River Basin	2001	Unquantifiable detrimental effects on parameters such as spawning success, normal behavior, substrate quality, and sediment levels causing harm and harassment.	Unquantifiable detrimental effects on parameters such as water temperature, normal behavior, food supply, substrate quality, and sediment levels causing harm and harassment.
1-7-99-F-444	10/12/99	Livestock grazing	Middle Fork John	John Day River	1998-1999	Unquantifiable:	Unquantifiable:

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						Spawning Streams	Migratory Corridors
Effects of Malheur National Forest's 1998-1999 grazing management program on bull trout. (Grazing action) U.S. Forest Service		in 19 allotments	Day River, Upper John Day River, Upper Malheur River, Malheur National Forest, Grant, Baker, and Harney counties, Oregon.	Basin Malheur River Basin		detrimental effects on parameters such as spawning success, normal behavior, substrate quality, and sediment levels causing harm and harassment.	detrimental effects on parameters such as spawning success, normal behavior, substrate quality, and sediment levels causing harm and harassment.
1-7-00-F-476 Malheur National Forest's 2000 grazing management program. (Grazing action) U.S. Forest Service	7/12/00	Livestock grazing in 19 allotments.	Middle Fork John Day River, Upper John Day River, Upper Malheur River, Malheur National Forest, Grant, Baker, and Harney counties, Oregon.	John Day River Basin Malheur River Basin	2000	Unquantifiable detrimental effects on parameters such as spawning success, normal behavior, substrate quality, and sediment levels causing harm and harassment.	Unquantifiable detrimental effects on parameters such as water temperature, normal behavior, food supply, substrate quality, and sediment levels causing harm and harassment.
1-7-02-F-746 Malheur National Forest's 2002 grazing management program. (Grazing action) U.S. Forest Service	7/19/02	Range allotment projects: livestock grazing in 17 allotments and 2 crossings.	Middle Fork John Day River, Upper John Day River, Upper Malheur River, Malheur National Forest, Grant, Baker, and Harney counties, Oregon.	John Day River Basin Malheur River Basin	2002 grazing season.	Unquantifiable detrimental effects on parameters such as spawning success, normal behavior, substrate quality, and sediment levels causing harm and harassment.	Unquantifiable detrimental effects on parameters such as water temperature, normal behavior, food supply, substrate quality, and sediment levels causing harm and harassment.
1-17-03-F-0411 Effects of Malheur	7/16/03	Livestock grazing in 18 allotments	Middle Fork John Day River, Upper	John Day River Basin	2003	Unquantifiable effects: It is	Unquantifiable effects: It is unlikely that effects

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						Spawning Streams	Migratory Corridors
National Forest's 2003 grazing management program on bull trout and critical habitat. (Grazing action) U.S. Forest Service		with implementation of conservation measures.	John Day River, Upper Malheur River, Malheur National Forest, Grant, Baker, and Harney counties, Oregon.	Malheur River Basin		unlikely that effects from the grazing activities, as proposed, will impair productivity, distribution, or population numbers of bull trout. Potential effects to fish and habitat attributed to grazing activities are anticipated to be low because of implementation of conservation measures and utilization standards.	from the grazing activities, as proposed, will impair productivity, distribution, or population numbers of bull trout. Potential effects to fish and habitat attributed to grazing activities are anticipated to be low because of implementation of conservation measures and utilization standards.
1-7-00-F-648 Malheur National Forest's 2000 ongoing and new activities, Middle Fork John Day sub-basin. (Multiple project action) U.S. Forest Service	9/22/00	Recreation program: providing, maintaining and monitoring 2 developed campgrounds and 3 Forest camps, numerous trail heads and associated roads, and several hundred dispersed	Granite-Boulder Creek, Clear Creek, Big Creek, and Middle Fork John Day River sub-basin, Malheur National Forest, Grant County, Oregon.	John Day River Basin	2000	Unquantifiable: harm and harassment along a total of 39 miles of stream reach from detrimental effects on normal behavior, spawning success, suspended sediment, substrate quality, bank stability, water temperature, and food supply.	Unquantifiable: harm and harassment along a total of 39 miles of stream reach from detrimental effects on normal behavior, migration to spawning areas, suspended sediment, substrate quality, bank stability, water temperature, and food supply.

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						Spawning Streams	Migratory Corridors
		campsites. Transportation program: general road maintenance, road closure and obliteration, drainage structure maintenance, logging out, and bridge maintenance					
1-10-00-F-071 Grazing within Silver Creek pasture of the Foster Butte Allotment, Silver Lake District, Fremont National Forest. (Grazing action) U.S. Forest Service	7/26/02	Grazing	Coyote Creek in Silver Creek pasture of the Foster Butte Allotment, Silver Lake District, Fremont National Forest, Klamath and Lake counties, Oregon.	Klamath River Basin	May 15 to July 31	Effects are expected to be low to undetectable since no grazing will occur in or near bull trout occupied streams.	Effects are expected to be low to undetectable since no grazing will occur in or near bull trout occupied streams.
1-10-98-F-83 Fremont National Forest 1998 Bull Trout Programmatic Consultation. (Grazing action)	10/20/98	Grazing	North Fork Sprague River and Upper Sycan River subwatersheds, Bly, Paisley, and Silver Lake Ranger Districts, Fremont National Forest,	Klamath River Basin	Ongoing, 1998 until 2007	Effects are expected to be low to undetectable since no grazing will occur in or near bull trout occupied streams.	Effects are expected to be low to undetectable since no grazing will occur in or near bull trout occupied streams.

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						Spawning Streams	Migratory Corridors
U.S. Forest Service			Klamath and Lake counties, Oregon.				
1-10-98-F-40 Road construction and maintenance activities affecting listed suckers and bull trout within four basins on the Fremont National Forest. (Road work action) U.S. Forest Service	7/10/98	Repair road fill, culvert replacement, improving drainage on roads, road decommissioning.	Warner Basin, Gerber Basin, Clear Lake Basin, Sprague River Basin, Fremont National Forest, Oregon.	Klamath River Basin	1998 to 2008	Unquantifiable.	Unquantifiable.
1-10-99-F-067 Degree restoration Project and the North Fork Sprague River Stream Restoration Projects. (Habitat restoration action) U.S. Forest Service	7/20/99	Restore or maintain late and old structure stands and restore meadows and/or riparian areas; silvicultural treatments, commercial and precommercial thinning; road closure and obliteration. Three miles of stream restoration: bank	North Fork of the Sprague subwatershed of the Sprague River Basin, Paisley Ranger District, Fremont National Forest, Oregon.	Klamath River Basin	Not determined.	In most cases, effects from sedimentation are short term, lasting only a few hours to days. In the long term, stream restoration is expected to have beneficial effects.	In most cases, effects from sedimentation are short term, lasting only a few hours to days. In the long term, stream restoration is expected to have beneficial effects.

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						Spawning Streams	Migratory Corridors
		excavation and angle reduction, revegetation.					
<p>1-4-98-FW-6 Section 7 programmatic consultation on issuance of a Section 10(a)(1)(A) scientific take permits and Section 6(c)(1) exemption from take for Bull Trout.</p> <p>(Section 10(a)(1)(A) permit)</p> <p>U.S. Fish and Wildlife Service</p>	9/4/98	<p>Population surveys using electrofishing, netting, trapping, capturing, marking, tagging, tissue sampling, collection for hatchery propagation and outplanting activities. Also anticipate habitat restoration or enhancement activities.</p>	<p>Klamath River and Columbia River Basins</p>	<p>Klamath River Basin and all Columbia River Basins (as stated in the B.O.)</p> <p>(i.e., Willamette River Basin, Deschutes River Basin, John Day River Basin, Grande Ronde River Basin, Hells Canyon Complex, Hood River Basin, Odell Lake, Malheur River Basin, Umatilla-Walla Walla River Basins, Imnaha Snake River Basins, Upper</p>	1 year.	<p>Capturing, retaining, handling, possibly killing for scientific purposes, possibility of injury and mortality from electrofishing and handling.</p> <p>Harassment (via catch and release) as a result of scientific monitoring and evaluation, which may involve a few thousand individual bull trout.</p> <p>Long term impacts of action to benefit recovery of bull trout.</p>	<p>Capturing, retaining, handling, possibly killing for scientific purposes, possibility of injury and mortality from electrofishing and handling.</p> <p>Harassment (via catch and release) as a result of scientific monitoring and evaluation, which may involve a few thousand individual bull trout.</p> <p>Long term impacts of action to benefit recovery of bull trout.</p>

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						Spawning Streams	Migratory Corridors
				Columbia River Basin, Middle Columbia River Basin, Lower Columbia River Basin, Northeast Washington River Basin, Snake River Basin in Washington, Kootenai River Basin, Clark Fork River Basin, Clearwater River Basin, Salmon River Basin, Little Lost River Basin, Couer D'Alene Lake Basin, Southwest Idaho River Basins.			
Wigwam watershed restoration project, Kootenai National	8/11/03	Various watershed restoration	Upper Kootenai River drainage, Kootenai National	Kootenai River Basin	September 2003 to September 2004	Unquantifiable: harm and harassment from	Unquantifiable: harm and harassment from temporary increases in

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						Spawning Streams	Migratory Corridors
Forest. (Habitat restoration action) U.S. Forest Service		activities to restore the natural drainage patterns of tributary channels to the Wigwam River: removal of 47 culverts and 2 log bridges, install ditch relief channels; also, electroshock recovery and relocation of fish from project sites	Forest, Lincoln County, Montana.			temporary increases in sedimentation (expected to be minimal), and electroshock capture and handling are anticipated to adversely affect feeding, spawning, and sheltering patterns of adult and juvenile fish. Long term beneficial effects are expected from culvert removal.	sedimentation (expected to be minimal), and electroshock capture and handling are anticipated to adversely affect feeding, spawning, and sheltering patterns of adult and juvenile fish. Long term beneficial effects are expected from culvert removal.
Kootenai National Forest's Spar and Lake Subunits Forest Health Project. (Multiple project action) U.S. Forest Service	3/9/01	Vegetation management and watershed restoration: timber harvest treatments (2,200 acres) including fuel treatments, regeneration harvests, thinning cuts, salvage; road decommissioning (5.4 miles), replace culverts, road reconstruction	Lake Creek and Keeler Creek watersheds, Bull Lake, Three Rivers Ranger District, Kootenai National Forest, Montana.	Kootenai River Basin	2001-2009	Unquantifiable: Harm and harassment associated with short term sedimentation and turbidity adversely affecting eggs, larval and juvenile life stages by harming or impairing feeding, spawning feeding and sheltering patterns.	Unquantifiable: Harm and harassment associated with short term sedimentation and turbidity adversely affecting feeding and sheltering patterns of adult and juvenile fish.

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						Spawning Streams	Migratory Corridors
		(7.4 miles).					
Northwest Montana Gold Prospectors Association, William Gross - Crazyman Placer, and Linda and Robert Taylor suction dredging. (Mining action) U.S. Forest Service	7/13/00	Ongoing and proposed placer, sluicing, and suction dredge mining activities.	Libby Creek, Big Cherry Creek, Leigh Creek, Kootenai National Forest, Montana.	Kootenai River Basin	May through September	Unquantifiable: Harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; increases in sedimentation, changes in channel and habitat complexity is anticipated to adversely affect eggs, larval and juvenile life stages by harming or impairing feeding, spawning, and sheltering patterns.	Unquantifiable: Harm and harassment from degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; increases in sedimentation, changes in channel and habitat complexity is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
Highway 2 Reconstruction, Pleasant Valley. (Road work action) Federal Highway Administration	5/30/00	Reconstruct (widen, regrade and resurface) 8 miles of highway.	Fisher River and tributaries, Pleasant Valley, Lincoln County, Montana.	Kootenai River Basin	2000	N/A	Unquantifiable: Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in

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						Spawning Streams	Migratory Corridors
							sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish.
Highway 2 Reconstruction, Swamp Creek. (Road work action) Federal Highway Administration	7/9/01	Reconstruct (widen, regrade and resurface) 12 miles of highway; replace bridges and culverts; realignment, restoration and enhancement of 2.5 miles of creek channel.	Libby Creek, Swamp Creek, Fisher River and tributaries, Pleasant Valley, Lincoln County, Montana.	Kootenai River Basin	2001	Unquantifiable: Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish Long term beneficial effects from creek channel modification and restoration.	Unquantifiable: Harm and harassment from short term degradation of aquatic habitat parameters including substrate quality, rearing habitat, and food supply; an increase in sedimentation is anticipated to adversely affect feeding and sheltering patterns of adult and juvenile fish Long term beneficial effects from creek channel modification and restoration.
1-9-99-F-6 BlueGrass Bound Timber Sale, Boundary Creek Road	7/1/99	Timber harvest on 2,567 acres. Road construction	Boundary Creek watershed, Bonners Ferry Ranger District, Idaho	Kootenai River Basin	Seasonal grazing July to September.	Short term turbidity and sedimentation along 10 miles of stream reach; in the	Short term turbidity and sedimentation along 10 miles of stream reach; in the long term, road

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						Spawning Streams	Migratory Corridors
obliteration, and Grass Creek range allotment. (Multiple project action) U.S. Forest Service		(1 mile), decommissioning (97 miles) and obliteration (5 miles); bridge repair and culvert replacement. Grazing.	Panhandle National Forest, Boundary County, Idaho.		1999-2007 (timber harvest and road work)	long term, road decommission and obliteration is expected to have beneficial effects. Unquantifiable (effects of grazing): sedimentation, nutrient loading, streambank devegetation, trampling effects.	decommissioning and obliteration is expected to have beneficial effects. Unquantifiable (effects of grazing): sedimentation, nutrient loading, streambank devegetation, trampling effects.
1-4-01-F-0014 Little Lost River flood control project. (Flood control action) Bureau of Land Management	4/5/02	Winter seasonal dewatering of 10.5 miles of river by diversion of stream flow into sink trenches.	Little Lost River, BLM Idaho Falls District, Idaho.	Little Lost River Basin	Seasonal, December to March	Loss of an estimated 53 large fluvial individual bull trout per year, along a 10.5 mile long reach of river.	Loss of an estimated 53 large fluvial individual bull trout per year, along a 10.5 mile long reach of river.
1-3-00-F-1858 Proposed and ongoing projects and programs in the Upper Cowlitz River Subbasin. (Multiple project action)	9/26/00	Road repair, culvert replacement, road resurfacing. Stream inventory and instream restoration. Pump chances.	Yellowjacket Creek, Cispus River and North Fork Cispus River, Clear Fork Cowlitz River, and Upper Cowlitz River subbasin, Gifford Pinchot National Forest,	Lower Columbia River Basin	5 years, 2000 to 2005	Localized short-term, increases in turbidity and sediment. In the long-term, restoration actions are expected to improve habitat.	Localized short-term, increases in turbidity and sediment. In the long-term, restoration actions are expected to improve habitat. Harm and harassment

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						Spawning Streams	Migratory Corridors
U.S. Forest Service		Campgrounds maintenance. Timber sale, commercial thinning and harvest.	Washington			Harm and harassment resulting from projects and programs affecting 72 miles of streams.	resulting from projects and programs affecting 72 miles of streams.
1-9-99-F-3 Yakima Klickitat Fisheries Project. (Research action) Bonneville Power Administration	5/17/99	Ongoing studies, research and artificial production of coho and chinook salmon; collection of broodstock, hatchery rearing, and release of smolts, trapping and seining, monitoring and electrofishing.	Yakima and Klickitat River systems, Washington.	Lower Columbia River Basin Middle Columbia River Basin	1999-2003	Weirs and traps may be migration obstacles or barriers, which detain or delay migrating fish; anticipated to be low in magnitude. Harassment (via catch and release) as a result of scientific monitoring and evaluation of salmonids; anticipated to be low in magnitude. Displacement (release of hatchery-reared fish cause loss of food and cover utilized by bull trout); anticipated to be low	Weirs and traps may be migration obstacles or barriers, which detain or delay migrating fish; anticipated to be low in magnitude. Harassment (via catch and release) as a result of scientific monitoring and evaluation of salmonids; anticipated to be low in magnitude. Displacement (release of hatchery-reared fish cause loss of food and cover utilized by bull trout); anticipated to be low in magnitude. Possibility of injury and mortality from electrofishing, handling

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						Spawning Streams	Migratory Corridors
						in magnitude. Possibility of injury and mortality from electrofishing, handling and temporary confinement in nets or traps; anticipated to be low in magnitude.	and temporary confinement in nets or traps; anticipated to be low in magnitude.
1-3-00-F-1854 Recreational trail bridge replacements on Wicky and Morrison Creeks, and Pacific Crest Trail bridge repair on Rock Creek. (Bridge work action) U.S. Forest Service	9/18/00	Trail foot bridge construction and repair; install timber and rock bridge footings.	Wicky Creek and Morrison Creek in Upper White Salmon Watershed, and Rock Creek in Rock Creek Watershed, Gifford Pinchot National Forest, Skamania County, Washington	Lower Columbia River Basin	Construction work lasting 1-day to 1-week between June and October.	The amount of sediment that may potentially be introduced to the creeks is not expected to be of a magnitude sufficient to change the environmental baseline conditions. Harassment of juvenile fish along a total of 300 feet of stream reach for up to 1-week.	N/A
1-7-02-F-205 Columbia River channel improvements project.	5/20/02	Channel deepening by dredging and annual	Columbia River (river miles 3 to 106.5), Oregon and	Lower Columbia River Basin	May through October dredging.	N/A	Short term harm (injury and mortality) from blasting and entrainment; short term

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						Spawning Streams	Migratory Corridors
(Navigation channel improvement/dredging action) U.S. Army Corps of Engineers		maintenance dredging, dredge spoil disposal.	Washington.		30-year project life.		effects from dredge and disposal induced turbidity. Low level of long term but unquantifiable effects over life span of project.
1-3-99-F-897 Ongoing grazing activities on the Twin Buttes sheep and goat and Mt. Adams cattle allotments. (Grazing action) U.S. Forest Service	8/18/99	Grazing	Middle and Upper Lewis Rivers and Upper White Salmon watersheds, Gifford Pinchot National Forest, Skamania County, Washington	Lower Columbia River Basin	Seasonal	Small, minor to undetectable, localized stream bank erosion and sedimentation along a total of 300 feet of stream reach. Unquantifiable effect on spawning habitat at stream site livestock crossing.	N/A
1-3-99-F-289 Ongoing and proposed USDA Forest Service activities (24 projects) affecting the Columbia River distinct population segment of bull trout within the Southwest Washington Province, Lewis River Basin	5/19/99	Flood repair and restoration actions: road decommissioning, culvert removal, stream channel reconstruction, bridge removal, culvert replacement, road fill repair, erosion	Lower Lewis River, Middle Lewis River, Upper Lewis River, and Muddy River, Gifford Pinchot National Forest, Skamania County, Washington	Lower Columbia River Basin	Not determined.	Localized short term increases in turbidity and sediment causing harm or harassment along a total of 23 miles of stream reach. In the long-term, restoration actions are expected to	N/A

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						Spawning Streams	Migratory Corridors
(Multiple project action) U.S. Forest Service		control.				improve habitat.	
1-7-02-F-773 Merit Vegetation Project (Bridge work) U.S. Forest Service	7/18/02	Bridge removal and replacement (for trail bikes and snowmobile use).	Lake Creek and Crooked Creek, Malheur headwaters watershed, Malheur National Forest, near Prairie City, Grant County, Oregon.	Malheur River Basin	5 days during July-August.	Unquantifiable. Short term pulses of sediment and turbidity (lasting less than 1 hour) likely to have detrimental effects on spawning success.	Unquantifiable. Short term pulses of sediment and turbidity (lasting less than 1 hour) may delay migratory movement of adult fish.
1-7-00-F-133 Effects of Malheur National Forest's 2000 ongoing activities, North Fork Malheur sub-basin. (Multiple project action) U.S. Forest Service	12/5/00	Recreation program: providing, maintaining and monitoring 3 developed campgrounds, numerous trail heads and associated roads, and numerous dispersed campsites. Transportation program: general	North Fork Malheur sub-basin, Grant Harney, Malheur and Baker counties, Oregon.	Malheur River Basin	2000	Unquantifiable: harm and harassment along a total of 39 miles of stream reach from detrimental effects on normal behavior, spawning success, suspended sediment, substrate quality, bank stability, water temperature, and food supply.	Unquantifiable: harm and harassment along a total of 39 miles of stream reach from detrimental effects on normal behavior, migration to spawning areas, suspended sediment, substrate quality, bank stability, water temperature, and food supply.

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						Spawning Streams	Migratory Corridors
		road maintenance, road closure and obliteration, drainage structure maintenance, logging out, and bridge maintenance.					
1-7-00-F-362 2000 grazing activities on North Fork Malheur River allotments, Bureau of Land Management. (Grazing action) Bureau of Land Management	8/7/00	Grazing	North Fork Malheur River, Grant, Baker and Harney counties, Oregon.	Malheur River Basin	2000	Unquantifiable: Harm and harassment from detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply along a total of 5 river miles.	Unquantifiable: Harm and harassment from detrimental effects on migration to spawning areas, suspended sediment, substrate quality, bank stability, water temperature, and food supply along a total of 5 river miles.
1-4-02-F-336 Southeast Oregon Resource Management Plan. (Resource/land management plan or program) Bureau of Land Management	1/23/02	Land use plan components: Rangeland Vegetation Management; Forest and Woodlands Management; Areas of Critical Environmental Concern; Wild and Scenic	Jordan and Malheur Resource Areas of the Vale District, BLM; 6.3 million acres in Grant, Harney, and Malheur counties, Oregon. (In the action area, bull trout occur only in the North Fork	Malheur River Basin	20-year plan	N/A	Not determinable. Unable to specifically identify form or extent of impacts because specific future actions have yet to be identified, proposed or analyzed.

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						Spawning Streams	Migratory Corridors
		Rivers; Land and Realty Management; Energy and Mineral Resource Development; Fire Management; Rangeland Grazing Use Management; Recreation; Off Highway Vehicles; Roads Management.	Malheur River on the Malheur Resource Area, where BLM administers 4.5 miles of migratory habitat).				
1-7-01-F-213 2001 grazing activities on North Fork Malheur River allotments, Bureau of Land Management. (Grazing action) Bureau of Land Management	5/22/01	Grazing	North Fork Malheur River, Grant, Baker and Harney counties, Oregon.	Malheur River Basin	2001	Unquantifiable: Harm and harassment from detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply along a total of 6.5 river miles.	Unquantifiable: Harm and harassment from detrimental effects on migration to spawning areas, suspended sediment, substrate quality, bank stability, water temperature, and food supply along a total of 6.5 river miles.
1-17-03-F-0358 Effects of 2003-2004 trail maintenance activities for the North Fork Malheur River,	5/23/03	Trail maintenance	North Fork Malheur River, Sheep Creek, and Crane Creek, Malheur National Forest, near Prairie	Malheur River Basin	Seasonal	Unquantifiable: potential for short term sedimentation; long term effects are	Unquantifiable: potential for short term sedimentation; long term effects are not

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						Spawning Streams	Migratory Corridors
Sheep Creek, and Crane Creek Trails. (Recreation action)U.S. Forest Service			City, Grant County, Oregon.			not expected.	expected.
1-9-98-FC-4 SR 970 Teanaway River Bridge protection. (Bridge work action) U.S. Army Corps of Engineers (State of Washington Department of Transportation)	9/17/98	Redirection of Teanaway River (at river mile 3.7-4.0) to its former channel.	SR 970 Bridge, Teanaway River, Kittitas County, Washington	Middle Columbia River Basin	30-days in July	N/A	Temporary sedimentation. Harassment and displacement anticipated to be short term along 1,000 feet of stream reach.
1-3-98-F-336 Ongoing activities in the Upper Tieton Watershed Project (Recreation action) U.S. Forest Service	8/14/98	Dispersed recreation including road and trail use, ORV trail use.	Upper Tieton Watershed, Naches Ranger District, Wenatchee National Forest, Yakima County, Washington	Middle Columbia River Basin	Seasonal	Harm and harassment, along a total of 0.25 mile of stream reach, from sedimentation at ORV stream crossing sites and stream bank erosion effecting redds, early life stages of fish	N/A

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						Spawning Streams	Migratory Corridors
						and rearing habitat.	
01-FC-E0396 Proposed Tieton Dam Hydroelectric Project in the Yakima Basin (Hydropower action) Federal Energy Regulatory Commission Bureau of Reclamation	12/20/02	Construct and operate a 13.6 megawatt run-of-the-river hydroelectric project at the base of Tieton Dam. Hydropower operation whenever release of sufficient flow is made from Rimrock Lake impoundment for irrigation, flood control, and other water uses.	Rimrock Lake, Tieton River (at river mile 21.2), Yakima County, Washington	Middle Columbia River Basin	Construction completed by May 2004;hydropower operation occurs whenever release of sufficient flow is made from the impoundment for irrigation, flood control, and other water uses.	N/A	Unquantifiable: harm and harassment from entrainment through the outlet works and/or turbine draft tubes.
1-9-98-FC-3 Stimson Lumber Company cost share roads project. (Road work action) U.S. Forest Service	7/14/98	Road construction, reconstruction, and removal of right-of-way timber.	Le Clerc Creek, Le Clerc Creek watershed, Sullivan Lake Ranger District, Colville National Forest, Pend Oreille County, Washington.	Northeast Washington River Basins	1998-2000	Sedimentation causing degradation of spawning and rearing habitat at 33 stream crossings and along 1.25 miles of stream reach.	N/A

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						Spawning Streams	Migratory Corridors
1-9-00-F-3 Stimson ANILCA access easement project. (Road work action) U.S. Forest Service	5/17/01	Construct, reconstruct and use specific roads.	LeClerc Creek Watershed, Sullivan Lake Ranger District, Colville National Forest, Pend Oreille County, Washington.	Northeast Washington River Basins	Seasonal	Sedimentation of spawning and rearing habitat at 30 stream crossings and from 18 miles of road surface.	N/A
1-9-99-F-1 Continued use and maintenance of the Stimson Lumber Company Cost-share Road 1935. (Road work action) U.S. Forest Service	6/25/99	Use and maintenance of 2.5 miles of road.	Middle Branch Le Clerc Creek, Le Clerc Creek watershed, Sullivan Lake Ranger District, Colville National Forest, Pend Oreille County, Washington.	Northeast Washington River Basins	Ongoing Maintenance: June through October Public traffic use: year-round	Sedimentation causing degradation of spawning and rearing habitat resulting in harm and harassment from sediment delivery from 2.5 miles of road adjacent to stream.	N/A
1-9-99-F-2 Le Clerc grazing allotment. (Grazing action) U.S. Forest Service	5/12/99	Grazing	Le Clerc Creek watershed, Sullivan Lake Ranger District, Colville National Forest, Pend Oreille County, Washington.	Northeast Washington River Basins	Seasonal, June through September	Sedimentation, streambank devegetation, trampling effects, and stream temperature increase causing degradation of spawning and rearing habitat and loss of eggs, fry, and alvins	N/A

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						Spawning Streams	Migratory Corridors
1-7-99-F-474Trapper Creek restoration project. (Habitat restoration action) U.S. Forest Service	9/27/99	Re-route creek and construct new channel to create habitat elements more suitable for bull trout spawning and rearing.	Trapper Creek (lower reach of Trapper Creek at Odell Lake) Crescent Ranger District, Deschutes National Forest, Klamath County, Oregon.	Odell Lake Basin	10 to 20 days (construction time) during two year project time frame. Instream work May 1 to July 31 for each years' work.	Harm and harassment to 3 age classes of juvenile fish because of short term degradation of water quality and other habitat elements in an 0.8 mile of stream reach. Long term benefits.	N/A
1-3-01-F-1914 Emergency Relief for Federally Owned Roads project FS Road 2180 decommissioning. (Road work action) U.S. Forest Service	9/10/01	Decommissioning 7 miles of roads including culvert removal, road fill removal, slope stabilization and revegetation.	Dilley Creek, Sams River, Pacific Ranger District, Olympic National Forest, Jefferson County, Washington.	Olympic Peninsula	July 2002 to October 2003	Harassment resulting from minor sedimentation and turbidity along 4.5 miles of stream reach (expected to be short term). Long term benefit anticipated.	Harassment resulting from minor sedimentation and turbidity along 4.5 miles of stream reach (expected to be short term). Long term benefit anticipated.
1-3-01-F-2222 Canyon River Emergency Relief for Federally Owned Roads reconstruction project.(Road work action)	9/2001	Reconstruction of storm damaged road streamcrossing sites; culvert replacement, road fill, erosion control and	Canyon River, Hood Canal Ranger District, Olympic National Forest, Grays Harbor and Mason counties, Washington.	Olympic Peninsula	5 to 35 day work period between July and October, 2001 to 2003	Minor sedimentation and turbidity along 14 miles of stream reach (expected to be short term during fall), affecting spawning and rearing habitat.	N/A

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						Spawning Streams	Migratory Corridors
U.S. Forest Service		revegetation.				Long term benefit anticipated.	
1-3-01-F-1458 Upper Dungeness Roads Project. (Road work action) U.S. Forest Service	6/25/01	Decommissioning 3.8 miles of roads, stabilizing 6.3 miles of roads, repair 10 flood damaged sites; culvert replacement or removal, road and slope fill, erosion control and revegetation.	Eddy Creek, Gold Creek, Dungeness River, Gray Wolf River, Hood Canal Ranger District, Olympic National Forest, Callam County, Washington	Olympic Peninsula	June through September, 2001 to 2003	Localized short-term, increases in turbidity and sediment. In the long-term, restoration actions are expected to improve habitat. Harm and harassment resulting from sediment affecting about 8 miles of streams.	Localized short-term, increases in turbidity and sediment. In the long-term, restoration actions are expected to improve habitat. Harm and harassment resulting from sediment affecting about 8 miles of streams.
1-3-02-F-1584 Falls Creek channel restoration and bridge replacement project. (Multiple project action) U.S. Forest Service	8/8/02	Trail bridge replacement, removal of fishway, placement of in-channel flow structures, removal of hazard trees, streambank stabilization.	Falls Creek, Pacific Ranger District, Olympic National Forest, Grays Harbor County, Washington.	Olympic Peninsula	September to October 2002	Minor sedimentation and turbidity along 1,150 feet of stream reach (expected to be short term). Long term benefit anticipated from project.	Minor sedimentation and turbidity along 1,150 feet of stream reach (expected to be short term). Long term benefit anticipated from project.

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						Spawning Streams	Migratory Corridors
1-3-00-F-1155 Olympic National Park Upper Hoh Road Protection project at mile post 1.55 and 1.75. (Erosion control action) National Park Service	8/7/00	Riprap riverbank by placement of large rocks at two locations, along 250 feet at each site and 45 feet into channel, in the vicinity of river mile 32.	Hoh River, Olympic National Park, Jefferson County, Washington	Olympic Peninsula	2001-2002	Localized short-term, increases in turbidity and sediment, and effects to food supply and habitat until area stabilizes. Harm and harassment resulting from project affects to about 4 miles of stream.	Localized short-term, increases in turbidity and sediment, and effects to food supply and habitat until area stabilizes. Harm and harassment resulting from project affects to about 4 miles of stream.
1-3-99-F-742 Land exchange between Forest Service and Plum Creek Timber Company (Land exchange action) U.S. Forest Service	12/23/99	Exchange 11,556 acres of public lands for 31,705 acres of Plum Creek Timber Company lands.	Yakima River, Cle Elum, Teanaway, Little Naches, Taneum Manastash, South Fork Snoqualmie River, Green River, Carbon River, and Upper Kalama watersheds, Wenatchee, Mount Baker- Snoqualmie, and Gifford Pinchot National Forests, and land parcels in Cowlitz, King, Kittitas, Lewis, Pierce, and	Puget Sound Lower Columbia River Basin	Permanent.	Effects not determined.	Effects not determined.

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						Spawning Streams	Migratory Corridors
			Skamania counties, Washington.				
1-3-02-F-1484 SR 104 Hood Canal Bridge retrofit and east half replacement project. (Bridge work action) Federal Highway Administration	5/5/03	Construction of bridge approaches, floating bridge and anchoring; pile driving and graving dock operations; demolition of old bridge and piers.	Hood Canal, Jefferson and Kitsap counties, Washington.	Puget Sound	4 years, 2003 to 2007	N/A	Harassment of migratory fish due to disruption of migratory and foraging behaviors within 300 feet of construction zone; harm to anadromous adult and sub-adult fish within 100 feet of pile driving and graving docks.
1-3-02-F-1161 State Route 522: Paradise Lake Road to Cathart Road widening and improvements. (Road work action) Federal Highway Administration	5/20/03	Roadway improvements, resurfacing and construction, placement of stormwater outfall and riprap; temporary dewatering and diversion of flow.	Daniels Creek subbasin in the Sammamish River/Issaquah Creek Basin, and Elliot, Evans and Anderson Creek subbasins in the Snohomish River/Skykomish River Basin, Snohomish County, Washington.	Puget Sound	July to September 2004	N/A	Sedimentation along 600 feet of stream reach (expected to be short term). Temporary flow diversion and fish salvage may cause harassment to migrating individuals along 600 feet of stream reach.
1-3-03-F-1615 Haller/Nugents Bridge demolition.	5/20/03	Bridge demolition: includes bridge paint removal	Stillaguamish River, near Arlington, Snohomish County and Nooksack River	Puget Sound	July 15-31, 2003, and August 15 to September 15, 2003	N/A	Sedimentation and turbidity along 600 feet of stream reach (expected to be short

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						Spawning Streams	Migratory Corridors
(Bridge work action) Federal Highway Administration		sandblasting, bridge structure and pier removal, road surface removal.	near Bellingham, Whatcom County, Washington.				term). Harassment and displacement anticipated to be short term along 600 feet of stream reach.
1-3-00-F-1442Muckleshoot Indian Tribe's White River Amphitheater project. (Land exchange action) Bureau of Indian Affairs	1/9/01	Transfer 324 acres of Tribal lands into trust status by Bureau of Indian Affairs; land uses include 217 acres for fish and wildlife management, 98 acres for development of amphitheater and related features, 9 acres for construction of Counseling Center.	Pussyfoot Creek and White River, King and Pierce counties, Washington	Puget Sound	Construction in 2002; year round use of facilities upon completion of development.	N/A	Harm and harassment associated with short to long term habitat and food supply effects along a 0.28 mile reach of stream, which will affect adult and sub-adult migratory fish
1-4-99-F-28 Ongoing actions affecting bull trout in the Panther Creek subpopulation. (Grazing action)	9/6/02	Grazing	Panther Creek watershed, Camas Creek watershed, and Pahsimeroi River to East Fork of the Salmon River watershed, Salmon Cobalt Ranger	Salmon River Basin	Seasonal, June to October.	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects.	N/A

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						Spawning Streams	Migratory Corridors
U.S. Forest Service Bureau of Land Management			District, Salmon Challis National Forest, and Upper Columbia Salmon Clearwater Districts, BLM, Idaho.				
1-4-99-F-25 Two studies: (1) Monitoring the migrations of wild Snake River spring/summer chinook salmon smolts; and (2) A genetic monitoring and evaluation program for supplemented populations of chinook salmon and steelhead in the Snake River Basin. (Research action) National Marine Fisheries Service	8/6/99	Smolt migration study and parr genetics study: electrofishing, seine netting, rotary screw trapping, anesthetizing and insertion of PIT tags (passive integrated transponder tags).	Upper Salmon River drainage, Idaho. Middle Fork salmon River drainage, Idaho. South Fork Salmon River drainage, Idaho. Clearwater River drainage, Idaho. Imnaha River drainage, Oregon. Grande Ronde River drainage, Oregon. Tucannon River drainage, Washington.	Salmon River Basin. Imnaha Snake River Basins. Clearwater River Basin. Grande Ronde River Basin. Snake River Basin in Washington.	1999 through September 2003.	Possibility of injury and mortality from electrofishing, handling and temporary confinement in nets or traps; anticipated to be low in magnitude.	Possibility of injury and mortality from electrofishing, handling and temporary confinement in nets or traps; anticipated to be low in magnitude.

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						Spawning Streams	Migratory Corridors
1-4-99-F-23 Ongoing actions in the Lemhi River watershed. (Grazing action) U.S. Forest Service Bureau of Land Management	9/15/99	Grazing	Hawley Creek, near the town of Leadore, Lemhi River watershed, Leadore Ranger District, Salmon-Challis National Forest, and Lemhi Resource Area, Upper Columbia Salmon Clearwater Districts of Bureau of Land Management, Idaho.	Salmon River Basin	Seasonal, July through September	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects.	N/A
1-4-99-F-22 Ongoing actions within the East Fork of the Salmon River. (Grazing action) U.S. Forest Service	8/3/99	Grazing	East Fork subwatershed, headwaters of East Fork of the Salmon River, Sawtooth National Recreation Area, Sawtooth National Forest, Idaho.	Salmon River Basin	Seasonal, June to October.	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects.	N/A
1-4-03-F-427 Clean Slate Ecosystem Management Project. (Resource/land management plan or program)	7/29/03	Watershed aquatic restoration and terrestrial vegetative community restoration:	Slate Creek drainage, Salmon River Ranger District, Nez Perce National Forest, Idaho County,	Salmon River Basin	2004-2013 Instream work confined to July 1 to August 15.	Short term harassment or disturbance of resident and migrating fluvial fish with potential for harm and	Short term harassment or disturbance of resident and migrating fluvial fish with potential for harm and harassment to eggs, fry and juvenile fish.

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						Spawning Streams	Migratory Corridors
U.S. Forest Service		prescribed burning, timber harvest (2,900 acres) road stabilization and construction, riparian enhancement (planting, thinning, fertilizing), restore whitebark pine, drainage improvement.	Idaho.			harassment to eggs, fry and juvenile fish. Restoration activities are expected to lead to long term improvement of bull trout habitat conditions.	Restoration activities are expected to lead to long term improvement of bull trout habitat conditions.
1-7-00-F-336 Request for re-initiation of consultation for expanded study on marine nutrients from spawning salmon in Columbia and Snake River Basins. (Research action) National Marine Fisheries Service	6/1/00	Electrofishing and collecting by use of seining, dip netting, and angling for juvenile chinook salmon and steelhead parr from spawning and rearing areas, as well as resident fish outside of anadromous influence.	20 streams in Salmon River Basin, Idaho Multiple sites in John Day River Basin, Oregon.	Salmon River Basin John Day River	2000-2003	Possibility of injury or mortality from electrofishing, handling and temporary confinement in nets or traps.	Possibility of injury or mortality from electrofishing, handling and temporary confinement in nets or traps.

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						Spawning Streams	Migratory Corridors
1-4-98-F-3 Road reconstruction and emergency watershed protection projects on Forest Development Road (FDR) 340 and 337, replacement of midvale telephone lines and road use agreement in the Lower South Fork Salmon River. (Road work action) U.S. Forest Service	7/24/98	(1) Road reconstruction of portions of FDR 340 and 337 and implementation of Emergency Watershed Protection projects; (2) Replacement of Midvale telephone lines; (3) Approval and issuance of a road use agreement with Idaho Dept of Lands to haul fuel and logs; (4) All road improvement, repair, and funding actions outlined in 3/13/98 MOA (memorandum of agreement).	South Fork Salmon River, Payette National Forest, Idaho.	Salmon River Basin	Not determined.	Sedimentation. Unquantifiable: There is the potential for a fuel spill to occur during fuel hauling and handling operations during the period of road construction.	Sedimentation. Unquantifiable: There is the potential for a fuel spill to occur during fuel hauling and handling operations during the period of road construction.
1-4-99-F-14 Federal Highway Administration and	3/30/99	Remove slide material, placement and	Salmon River, Idaho County, Idaho.	Salmon River Basin	Unknown	N/A	Negligible effects from placement of fill.

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						Spawning Streams	Migratory Corridors
Idaho Transportation Department, Highway 95 Milepost 210 landslide remediation. (Landslide remediation) Federal Highway Administration		retention of fill in Salmon River, river banks and wetland for highway detour bypass lanes.					
1-4-03-F-546 The Golden Hand No. 3 and No. 4 Lode Mining Claims Proposed Plan of Operations, Idaho and Valley Counties, Idaho. (Mining action) U.S. Forest Service	4/28/03	Development of mine claims: road construction and maintenance; culverts, log-stringer bridge and geo-grid ford installations, heavy equipment use and fuel transport, drill operations, stream water withdrawal, seasonal and site reclamation.	Coin Creek, Frank Church River of No Return Wilderness, Payette National Forest, (50 miles northeast of McCall) Idaho and Valley counties, Idaho.	Salmon River Basin	June through September for 3 years.	Sedimentation, stream flow reductions, potential for chemical contamination. The action will alter primary constituent elements (PCEs) of critical habitat through mobilization and deposition of sediment and potential releases of toxic substances, but these effects are expected to be minor, localized, and short term . Harm and harassment to eggs,	Sedimentation, stream flow reductions, potential for chemical contamination. The action will alter primary constituent elements (PCEs) of critical habitat through mobilization and deposition of sediment and potential releases of toxic substances, but these effects are expected to be minor, localized, and short term. Harm and harassment to resident and migratory individuals along 300 feet of stream reach.

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						Spawning Streams	Migratory Corridors
						alevins and fry along 300 feet of stream reach	
1-4-99-F-1 Ongoing actions within Upper Canyon subpopulation (of bull trout) watershed. (Grazing action) U.S. Forest Service	10/22/98	Livestock grazing	Upper Canyon Watershed, Sawtooth National Recreation Area, Sawtooth National Forest, Idaho.	Salmon River Basin	Ongoing seasonal (July to September)	Unquantifiable: sedimentation, nutrient loading, trampling effects.	Unquantifiable: sedimentation, nutrient loading, trampling effects.
1-4-99-F-16 Warren Profile Gap Road (Forest Development Road FDR #340). (Road work action) U.S. Forest Service	4/26/99	Road repair and reconstruction; bridge removal, replacement and installation; fuel hauling and storage.	Elk Creek and Pony Creek subwatersheds (near South Fork Salmon River), Payette National Forest, Valley County (northeast of the town of McCall), Idaho.	Salmon River Basin	Until construction is completed.	Sedimentation (expected to be short term). Unquantifiable adverse affect: There is the potential for a fuel spill to occur during fuel hauling, transfer and storage operations during the period of road/bridge construction.	Sedimentation (expected to be short term). Unquantifiable adverse affect: There is the potential for a fuel spill to occur during fuel hauling, transfer and storage operations during the period of road/bridge construction.

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						Spawning Streams	Migratory Corridors
1-4-99-F-4 Ongoing actions within the Sawtooth Valley subpopulation (of bull trout) watershed. (Multiple project action) U.S. Forest Service	12/15/98	Water diversion (for irrigation). Rough fish barrier. Campground (maintenance and recreational use).	Sawtooth Valley Watershed, Sawtooth National Recreation Area, Sawtooth National Forest, Idaho.	Salmon River Basin	Seasonal (irrigation). Permanent barrier. Duration of recreational activities and recreational facilities maintenance actions may be short term and seasonal (May to September)	Unquantifiable: Harm and harassment caused by in-stream flow reductions, diversion entrainment and entrapment, barrier to fish passage, effects from recreational activities.	Unquantifiable: Harm and harassment caused by barrier to fish passage.
1-4-03-F-776 East Fork John Day culvert replacement project, Idaho County. (Habitat restoration) Bureau of Land Management	7/16/03	At stream mile 0.45, replace the existing round culvert with an open bottom arch culvert; construct instream fish habitat improvement structures (stone weirs) and place wood debris; includes project site temporary dewatering, and	East Fork John Day Creek in Lower Salmon River subbasin, Upper Columbia Salmon Clearwater District, Bureau of Land Management, Idaho County, Idaho.	Salmon River Basin	July 1-August 15	Harm and harassment from instream work of limited duration, short term disturbance to water quality and habitat, and any capture, handling and relocation activity along a 300 feet of stream reach.	Harm and harassment from instream work of limited duration, short term disturbance to water quality and habitat, and any capture, handling and relocation activity along a 300 feet of stream reach.

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						Spawning Streams	Migratory Corridors
		the capture and relocation of fish from project site.					
1-4-99-F-13 Ongoing and proposed actions in the west-half South Fork Boise River. (Mining action) U.S. Forest Service	4/15/99	Mining (placer)	South Fork Boise River Watershed, Mountain Home Ranger District, Boise National Forest, Idaho.	Southwest Idaho River Basins	Ongoing (seasonal, July through October)	Unquantifiable: sedimentation.	N/A
1-4-99-F-15 Ongoing and proposed actions within the Bear Valley subpopulation (of bull trout) watershed. (Grazing action) U.S. Forest Service	4/30/99	Livestock grazing	Bear Valley watershed, Lowman Ranger District, Boise National Forest, Idaho.	Southwest Idaho River Basins	Ongoing (seasonal, July to October)	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects.	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects.
1-4-98-F-1	10/15/99	Operation and	Snake River and its	Southwest	Ongoing	N/A	Entrainment through or

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						Spawning Streams	Migratory Corridors
Bureau of Reclamation operations and maintenance activities in the Snake River Basin upstream of Lower Granite Dam Reservoir. (Hydropower action) Bureau of Reclamation		maintenance of dams.	tributaries in Idaho and Oregon.	Idaho River Basins Clearwater River Basin Malheur River Basin			over dams. Migration delays or barriers. Harm to at least 7 percent of the population at each reservoir by entrainment through dams at Arrowrock, Anderson Ranch, Beulah Reservoir and other BR facilities is anticipated to occur.
1-4-03-F-526 Revision of Land and Resource Management Plans for the Boise, Payette, and Sawtooth National Forests. (Resource/land management plan or program) U.S. Forest Service	5/30/03	Land use plan : Rangeland Resource Management; Recreation Resource Management; Soil, Water, Riparian, Aquatic Resource Management; Timber and Vegetation Resource Management; Land and Special Uses; Facilities and Roads; Fire Management;	Boise, Payette, and Sawtooth National Forests, Idaho.	Southwest Idaho River Basins Salmon River Basin Hells Canyon Complex Imnaha Snake River Basins	10- to 15-year plan.	Not determinable. Unable to specifically identify form or extent of impacts because specific future actions have yet to be identified, proposed or analyzed.	Not determinable. Unable to specifically identify form or extent of impacts because specific future actions have yet to be identified, proposed or analyzed.

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						Spawning Streams	Migratory Corridors
		Minerals Managemnt; Non-native Plant Management and Chemical Use; Watershed restoration.					
1-4-99-F-17 Ongoing and proposed actions within the Lower Boise River subpopulation (of bull trout) watershed. (Multiple project action) U.S. Forest Service	6/9/99	Grazing. Road reconstruction.	Rattlesnake Creek, Lower Boise River watershed, Mountain Home Ranger District, Boise National Forest, Idaho.	Southwest Idaho River Basins	Seasonal (grazing), May through October). June through August (road construction).	Unquantifiable (effects of grazing): sedimentation, nutrient loading, streambank devegetation, trampling effects. Sedimentation (expected to be short term effects from road construction).	N/A
1-4-01-F-0376 Atlanta Power Station Hydroelectric Project License Application. (Hydropower action) Federal Energy Regulatory Commission	8/2001	Proposed licensing of Atlanta Power Station Hydroelectric Project (includes, construction, and operation of fish screen at power house intake and downstream fish passage facility).	Kirby Dam on Middle Fork Boise River, near Atlanta, Elmore County, Idaho.	Southwest Idaho River Basins	License ongoing hydroelcetric power generation for a period of 50 years; (operation of fishway is April 15 to August 15 each year)	N/A	Possible delay of upstream and downstream migration. Individual fish may be injured going over spillway; juvenile fish may be impinged and injured at fish screen.

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						Spawning Streams	Migratory Corridors
<p>1-4-99-F-5 Ongoing actions in the Weiser River watershed.</p> <p>(Multiple project action)</p> <p>U.S. Forest Service</p>	5/5/99	<p>Landscape vegetation management (timber harvest, skid trail construction, prescribed fire, silvicultural treatments, skid trail obliteration, site rehabilitation, road removal and obliteration, road reconstruction, culvert replacement).</p> <p>Irrigation ditch operation and maintenance (water diversion, install fish screens, ditch cleaning, install temporary weirs). Fish surveys (snorkeling, trapping, electrofishing).</p> <p>Livestock grazing.</p>	Weiser River watershed, Payette National Forest, Idaho.	Southwest Idaho River Basins	<p>Post timber sale activities are planned to continue until 2005.</p> <p>Seasonal (spring through fall) operation of ditch.</p> <p>Seasonal (spring through fall) grazing.</p> <p>Fish surveys (through December 31, 2000).</p>	<p>Sedimentation, altered stream temperatures, reduced amount of woody debris (all expected to be short term effects caused by disturbance of spawning and rearing habitat) along 12 miles of stream reach.</p> <p>Diversion entrapment and entrapment (minimized by fish screens).</p> <p>Possibility of injury and mortality from electrofishing and handling. Trampling of redds and streambanks.</p>	N/A

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						Spawning Streams	Migratory Corridors
1-4-99-F-12 Proposed and ongoing actions (46 ongoing actions) within the South Fork Boise River Watershed. (Multiple project action) U.S. Forest Service	3/10/99	Livestock grazing, water diversions related to irrigation for livestock grazing and corral sites. Mining. Stream and fish habitat survey & monitoring.	South Fork Boise River Watershed, Fairfield Ranger District, Sawtooth National Forest, Idaho.	Southwest Idaho River Basins	Ongoing (some seasonal or intermittent)	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects; diversion entrainment and entrapment; possibility of injury and mortality from electrofishing and handling.	Unquantifiable: sedimentation, nutrient loading, streambank devegetation, trampling effects; diversion entrainment and entrapment; possibility of injury and mortality from electrofishing and handling.
1-7-98-F-375 Private access to South Fork Walla Walla Road. (Instream crossing for vehicles) Bureau of Land Management	12/11/98	Seven crossing locations for vehicles along a 2.5 mile reach of river. Each access ford crosses an 80 to 100 foot width of river.	South Fork Walla Walla Road, South Fork of the Walla Walla River (2.5 mile reach above Harris Park), Umatilla County, Oregon.	Umatilla-Walla Walla River Basins	July 1 to August 15 (vehicular access permitted in and across river only during this time period).	Unquantifiable: harm and harassment from intermittent vehicular use (driving across river) causing disturbance to stream substrate, stream bank and riparian habitat, and potential introduction of contaminants, which directly or indirectly affect fish along a 2.5 mile reach of river.	Unquantifiable: harm and harassment from intermittent vehicular use (driving across river) causing disturbance to stream substrate, stream bank and riparian habitat, and potential introduction of contaminants, which directly or indirectly affect fish along a 2.5 mile reach of river.
1-9-01-F-255		Stream restoration	Walla Walla River,	Umatilla-Walla	July through		Short term turbidity and

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						Spawning Streams	Migratory Corridors
Milton Freewater 1135 setback levee project. (Habitat restoration action) U.S. Army Corps of Engineers	5/7/01	including removal of riprap, car bodies and manmade debris along 1,200 feet of riverbank.	near town of Milton Freewater, Umatilla County, Oregon.	Walla River Basins	October	N/A	sedimentation; in the long term, stream restoration is expected to have beneficial effects along 1,200 feet of stream reach.
1-7-00-F-711 McKay Creek Bridge scour repair project. (Bridge work action) Federal Highway Administration	12/1/00	Excavating streambed, place riprap, temporary cofferdam for dewatering of excavation area.	McKay Creek (at US Hwy 395), Pendleton, Umatilla County, Oregon.	Umatilla-Walla Walla River Basins	November to March	N/A	Harm and harassment caused by short term turbidity and sedimentation, disruption of habitat at project site by instream equipment work, and displacement of individual fish.
1-9-98-FC-005 Animal and Plant Health Inspection Service squawfish removal program at Rock Island and Rocky Reach Dams. (Fishery management/predator control action) U.S. Department of Agriculture,	6/29/98	Removal of northern squawfish by angling.	Rock Island and Rocky Reach Dams on Columbia River, Douglas and Chelan counties, Washington.	Upper Columbia River Basin	May through October	N/A	Potential for catching bull trout by angling causing harm or mortality; not expected to exceed 6 and 2 fish respectively per year.

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						Spawning Streams	Migratory Corridors
Animal and Plant Health Inspection Service							
1-3-99-F-1321 (through 1323) Special use permits for proposed ditch and water diversion projects. (Water diversion/irrigation action) U.S. Forest Service	9/29/99	Continued use and associated maintenance of five water diversions and ditches for water conveyance across National Forest lands to individuals who hold valid water rights.	Twisp, Wolf and Chewuch River watersheds on the Methow Valley Ranger District, Okanogan National Forest, Okanogan County, Washington	Upper Columbia River Basin	Seasonal to year-round use.	Harm and harassment due to unscreened ditch diverting fish and removing present and future adult reproduction, as well as causing direct mortality; also water diversions affecting peak and base flows in about 23 miles of stream affecting fluvial, adfluvial and resident fish.	Harm and harassment due to unscreened ditch diverting fish and removing present and future adult reproduction, as well as causing direct mortality of fluvial fish; also water diversions affect peak and base flows in about 23 miles of stream, which adversely effects fluvial and adfluvial fish.
1-3-98-F-406 Early Winter Stream Habitat Restoration Project (Habitat restoration action) U.S. Forest Service	9/28/98	Instream and riparian habitat restoration: placement of instream large woody debris and boulder structures, streambed excavation, streambank terracing, planting	Early Winters Creek and Early Winters Creek watershed (within the Upper Methow River watershed), Methow Valley Ranger District, Okanogan National Forest, Okanogan County, Washington	Upper Columbia River Basin	10 days during low flow season.	Harm and harassment from heavy equipment working in stream channel for 10 days; short term degradation of food supply and water quality, sedimentation in about 0.5 mile of stream.	Harm and harassment from heavy equipment working in stream channel for 10 days; short term degradation of food supply and water quality, sedimentation in about 0.5 mile of stream.

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						Spawning Streams	Migratory Corridors
		native vegetation.					
1-7-00-F-106 Proposed water temperature control project at Cougar Dam in the McKenzie River sub-basin. (Hydropower action) U.S. Army Corps of Engineers	3/8/00	Modify the Cougar Dam intake structure to provide control of the water temperature of the outflow.	Cougar Dam, South Fork of the McKenzie River, Lane County, Oregon.	Willamette River Basin	Construction during April through October for 3 years, 2000-2003	Unquantifiable: Harm and harassment from short term decreased water quality, reduced flows, entrainment, migration delays; and from the capture and handling of individual fish.	Unquantifiable: Harm and harassment from short term decreased water quality, reduced flows, entrainment, migration delays; and from the capture and handling of individual fish.
1-7-03-F-0019 Willamette National Forest Salmon Creek levee reconstruction project. (Levee repair action) U.S. Forest Service	6/5/03	Repair 2,050 feet of flood damaged levee: stream diversion and dewatering at 5 sites along levee, excavation and placement of fill, and construction of fish habitat enhancement rock structures.	Salmon Creek, Oakridge, Lane County, Oregon.	Willamette River Basin	July to August 2003	N/A	Harm and harassment caused by short term turbidity and sedimentation, and instream equipment work.
1-7-00-F-068 Ongoing Forest Service and Bureau of Land Management Activities within the	4/14/00	Road maintenance. Aquatic habitat restoration.	McKenzie River and Middle Fork Willamette River, Willamette National Forest, and BLM	Willamette River Basin Hood River Basin	2000	Harassment from short term detrimental effects on suspended sediment, substrate	Harassment from short term detrimental effects on suspended sediment, substrate quality, bank stability, water

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						Spawning Streams	Migratory Corridors
<p>Willamette and a portion of the Deschutes Provinces.</p> <p>(Multiple project action)</p> <p>U.S. Forest Service</p> <p>Bureau of Land Management</p>		<p>Trail maintenance and construction.</p> <p>Repair storm damaged roads.</p> <p>Road decommissioning and obliteration.</p> <p>Instream surveys.</p> <p>Pump chances. Water withdrawal permits.</p> <p>Use of haul roads from rock quarries.</p> <p>Boat ramp use.</p> <p>Public use of developed sites and dispersed use.</p>	<p>Eugene District, Oregon.</p> <p>Hood River, Mt. Hood National Forest, Oregon.</p>			<p>quality, bank stability, water temperature, and food supply.</p> <p>Unquantifiable beneficial effects from management actions.</p>	<p>temperature, and food supply.</p> <p>Unquantifiable beneficial effects from management actions.</p>
<p>1-7-99-F-500</p> <p>Proposed issuance of original hydropower license for McKenzie Hydroelectric Project</p>	11/22/99	<p>Operation of run-of-river hydroelectric dam project including installation of fish</p>	<p>McKenzie River (at river mile 73.5) near McKenzie Bridge, Lane County, Oregon.</p>	<p>Willamette River Basin</p>	<p>50 year license for project operation.</p> <p>Up to 18 months</p>	N/A	<p>Unquantifiable: Harm and harassment of fish from entrainment into turbines prior to construction of fish</p>

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						Spawning Streams	Migratory Corridors
(FERC No. 11512), Oregon. (Hydropower action) Federal Energy Regulatory Commission		screen and bypass, adult fish barrier in tailrace, annual removal of sediment at headgate.			for installation of fish screens and bypass.		screens, migration delays for upstream migrating fish, sediment and temperature effects, and operation of new fish passage facility.
1-7-99-F-431 Ongoing Forest Service and Bureau of Land Management Activities within the Willamette and a portion of the Deschutes Provinces. (Multiple project action) U.S. Forest Service Bureau of Land Management	5/12/99	Road maintenance. Aquatic habitat restoration. Trail maintenance and construction. Repair storm damaged roads. Road decommissioning and obliteration. Instream surveys. Pump chances. Water withdrawal permits. Use of haul roads	McKenzie River and Middle Fork Willamette River, Willamette National Forest, and BLM Eugene District, Oregon. Hood River, Mt. Hood National Forest, Oregon.	Willamette River Basin Hood River Basin	1999	Harassment from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Unquantifiable beneficial effects from management actions.	Harassment from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Unquantifiable beneficial effects from management actions.

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						Spawning Streams	Migratory Corridors
		<p>from rock quarries.</p> <p>Boat ramp use.</p> <p>Public use of developed sites and dispersed use.</p>					
<p>1-7-02-F-279 Ongoing Forest Service and Bureau of Land Management Activities within the Willamette and a portion of the Deschutes Provinces. (Multiple project action)</p> <p>U.S. Forest Service</p> <p>Bureau of Land Management</p>	5/8/02	<p>Road maintenance.</p> <p>Aquatic habitat restoration.</p> <p>Trail maintenance and construction.</p> <p>Repair storm damaged roads.</p> <p>Road decommissioning and obliteration.</p> <p>Instream surveys.</p> <p>Pump chances.</p> <p>Water withdrawal permits.</p> <p>Use of haul roads</p>	<p>Columbia River in Columbia River Gorge National Scenic Area, Oregon. McKenzie River and Middle Fork Willamette River, Willamette National Forest, and BLM Eugene District, Oregon.</p> <p>Hood River, Mt. Hood National Forest, Oregon.</p>	<p>Willamette River Basin.</p> <p>Hood River Basin.</p>	2002	<p>Harassment from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply.</p> <p>Unquantifiable beneficial effects from management actions.</p>	<p>Harassment from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply.</p> <p>Unquantifiable beneficial effects from management actions.</p>

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						Spawning Streams	Migratory Corridors
		from rock quarries. Boat ramp use. Public use of developed sites and dispersed use.					
1-7-02-F-484 Staley, Upper Liz, Tumbler, and Happy Bird timber sales. (Timber sale/harvest action) U.S. Forest Service	5/7/02	675 acre timber sale for shelterwood harvest, seed trees with reserves harvest, commercial thinning; includes construction of temporary roads, and moderate-level road reconstruction, hydrologic closure of roads.	Upper Middle Fork Willamette watershed, Willamette National Forest, Oregon.	Willamette River Basin	July-August	N/A	Due to elevation and distance away from bull trout habitat, project effects are negligible.
1-7-99-F-423 Simco, Staley, Upper Liz, Tumbler and Happy Bird timber sales in the Upper Fork of the Willamette.	9/23/99	1,116 acre timber sale and harvest including regeneration cut (shelterwood and seedtree), thinning; includes construction	Upper Fork of the Willamette River, Middle Fork Ranger District, Willamette National Forest, Oregon.	Willamette River Basin	1999, July-August road work.	Harm and harassment from short term detrimental effects on suspended sediment levels, substrate quality, bank stability, water	Harm and harassment from short term detrimental effects on suspended sediment levels, substrate quality, bank stability, water temperature, and food

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						Spawning Streams	Migratory Corridors
(Timber sale/harvest action) U.S. Forest Service		and/or reconstruction of 98 miles of roads, and 9 miles of road closure.				temperature, and food supply.	supply.
1-7-98-F-356 Middle Fork Willamette River, Upper South Fork McKenzie, and Roaring River Aquatic Restoration projects, Lane County, Oregon. (Habitat restoration action) U.S. Forest Service	8/24/98	Placement of large woody material (logs, single pieces and multiple complexes) into tributaries and side channels, culvert treatment for fish passage, riparian silviculture treatment (thinning overstocked stands, riparian zone conifer planting)	Middle Fork Willamette River and 6 tributaries (Windfall, Gold, Pine, Estep, Snake, and Young Creeks), Roaring River, South Fork McKenzie River, Middle Fork Ranger District, Willamette National Forest, Lane County, Oregon.	Willamette River Basin	August - September 1998 and July-August 1999.	Unquantifiable: harassment along a total of 34 miles of stream reach from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Long term benefit contributing to bull trout recovery, along a total of 34 miles of stream reach.	Unquantifiable: harassment along a total of 34 miles of stream reach from short term detrimental effects on suspended sediment, substrate quality, bank stability, water temperature, and food supply. Long term benefit contributing to bull trout recovery, along a total of 34 miles of stream reach.