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2005 ANNUAL REPORT & 2006 CONSERVATION PLAN

for

BULL TROUT

in

MONTANA

(January 1, 2006 - December 31, 2006)

prepared by:

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

pursuant to:

SECTION 6(c)(1) of the ENDANGERED SPECIES ACT

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INTRODUCTION

Under Title 87 of the Statutes of the State of Montana, the Montana Department of Fish, Wildlife and Parks is directed to supervise the fish, wildlife, game, and non-game animals of the state. It is the policy of the Montana Legislature that species or subspecies of wildlife indigenous to this state, which may be found to be endangered within the state, should be protected in order to maintain, and to the extent possible, enhance their numbers (87-5-103). Further, it is the mission of the Department of Fish, Wildlife and Parks to provide for the stewardship of the fish and wildlife resources of Montana while contributing to the quality of life for present and future generations.

Under this direction, the Montana Department of Fish, Wildlife and Parks has implemented a large, diverse conservation program to manage, and where appropriate and possible, enhance populations of bull trout in Montana. This conservation program includes establishment of restrictive angling regulations, education of anglers about bull trout identification, population monitoring and assessment, habitat monitoring and assessment, habitat restoration, research into natural history, habitat needs, and life history requirements of bull trout, genetic analysis and monitoring of different bull trout populations, enforcement of protective bull trout regulations, education of the general public about bull trout and aquatic ecosystems, and restoration planning. Although the actions described above are directed towards enhancing the recovery of bull trout, and are part of an active conservation program for bull trout in Montana, some (e.g., population monitoring, habitat restoration) have potential to result in incidental or direct take of bull trout as described under Section 9 of the ESA. Therefore, the Department of Fish, Wildlife and Parks is seeking authorization for incidental take of bull trout under Section 6(c)(1) of the ESA, for purposes of conservation and recovery of bull trout in Montana.

Listed below are descriptions of activities for which the Department is seeking approval for take of bull trout in accordance with Section 6(c)(1) of the ESA. Included with the activity descriptions are the methods followed to conduct such activities, drainages where activities will occur, a description of the specific activities, approximate dates the activities will occur, personnel responsible for conducting such activities, and an estimate of take. Where applicable, specific research proposals and progress reports are also included.

The activities included can all be classified as monitoring or restoration actions, all of which contribute to the conservation and recovery of the species. Although monitoring actions such as gill netting and electroshocking may result in harm to individual bull trout, it is important they continue so that population trends can continually be assessed. Without these techniques, the current status of populations and bodies of water would not be possible. Because of the potential for take, efforts to minimize harm are maximized.

This plan will be updated annually, and by February 28 of each year, the Department will provide a report of actions accomplished during the previous calendar year, with an estimate of actual take. If the need arises, this plan will be amended to identify additional actions not already covered in this plan. Written notification of such additions will be made to the U.S. Fish and Wildlife Service prior to the action being implemented.

Listed below are the major actions that will be undertaken by the Montana Department of Fish, Wildlife and Parks as part of their bull trout recovery and conservation program. All activities that fit

within each action category are summarized in a table. Included in the table is an estimate of direct take (if known) or indirect take for all actions in that category (e.g., gillnetting). A complete summary table, arranged by drainages, is included to allow analysis of cumulative effects. Actions described herein are in addition to numerous other extensive efforts undertaken by the Department to conserve bull trout, but which do not result in take, including angling regulations, enforcement, education, restoration planning, project analysis, implementation monitoring of best management practices (BMPs), watershed planning, and database maintenance.

CONSERVATION ACTIONS

Gillnetting

Gillnetting is an effective sampling tool to collect fisheries data including abundance, size- and age-structure, and community composition for large and small lakes. The Montana Department of Fish, Wildlife & Parks has employed this method for many decades in numerous and diverse state waters to monitor populations of fish.

Standard, experimental floating and sinking nets are used to sample fish in near-shore areas. Sample site locations, net type and orientation, and time of sampling are standardized within each water to permit the evaluation of population trends. Any bull trout captured alive are released immediately to reduce mortality.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of gillnetting activities in bull trout habitat that occurred in 2005 or will be undertaken by Montana Department of Fish, Wildlife and Parks in 2006 appears in Table 1.

The following table summarizes the numbers of bull trout moralities estimated to occur from gillnetting activities (Expected), the actual numbers of bull trout handled (Handled) and the actual bull trout mortalities (Mortality) that occurred during the past six gillnetting seasons in Holland, Lindbergh and Swan lakes for the period 2000-2005 (Table A). The dramatic increase in bull trout handled and bull trout mortality in Swan Lake in 2005 can possibly be attributed to an increasing trend in the numbers of bull trout in the lake and, more certainly, the increase in gillnetting effort implemented at the recommendation of the Swan Valley Bull Trout Working group to monitor an expanding non-native lake trout population in the Swan drainage. As part of the same program, gillnetting in Holland and Lindbergh lakes was initiated in 2005 in an attempt to determine the presence of non-native lake trout in these two waters.

Table A. Expected mortality, total numbers of bull trout handled and total bull trout mortality in Holland, Lindbergh and Swan lakes for the period 2000-2005 from gillnetting activities.

Year	Holland Lake			Lindbergh Lake			Swan Lake		
	Expected	Handled	Mortality	Expected	Handled	Mortality	Expected	Handled	Mortality
2000							14		19
2001							14	34	29
2002							14	12	11
2003							14	32	28
2004							14	41	35
2005	5	5	5	10	15	9	14	122	71

Table 1. Summary of gillnetting activities within bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT Handled	Actual Mort.	Do in 2005 ?
Blackfoot	Bighorn Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y
Blackfoot	Bull Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y
Blackfoot	Camp Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Canyon Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Copper Creek Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y
Blackfoot	Fly Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y
Blackfoot	Gold Creek Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y
Blackfoot	Meadow Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Monture Lake #1	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Monture Lake #2	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Monture Lake #3	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Otatsy Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Parker Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Snowbank Lake	On 8 hour gillnet set	Fish rescue	125' sinking net	Augus 2005	Ron Pierce	0	Y	1	0	N
Blackfoot	Tupper Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	N	0	0	Y

Blackfoot	Two Point Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Upper Twin Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Blackfoot	Webb Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	Ron Pierce	0	Y	0	0	N
Clark Fork (Lower)	Thompson Falls Reservoir	Gillnetting	Fish Community Assessment	Res. Wide	Oct	Brad Liermann Jay Stuckey	1	Y	0	0	Y
Clark Fork (Lower)	Cabinet Gorge Reservoir	Gillnetting	Fish Community Assessment	Res. Wide	Sept-Oct	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	Noxon Rapids Reservoir	Gill netting	Walleye Life History Study	Res. Wide	Sept-Nov	Brad Liermann	1	Y	0	0	N
Clark Fork (Lower)	Noxon Rapids Reservoir	Gillnetting	Fish Community Assessment	Res. Wide	Sept-Oct	Brad Liermann	0	Y	1	1	Y
Clark Fork (Upper)	Milltown Reservoir	Gillnetting	Monitor Northern Pike	Res. Wide	May-Nov	Dave Schmetterling	1	Y	2	0	N
Clearwater	Clearwater Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Aug-Oct.	Rod Berg	1	Y	0	0	N
Clearwater	Lake Alva	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Sept-Oct.	Rod Berg	6	Y	5	2	N
Clearwater	Lake Inez	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Sept-Oct.	Rod Berg	4	Y	2	2	N
Clearwater	Marshall Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Aug-Oct.	Rod Berg	2	Y	3	2	Y
Clearwater	Placid Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Sept-Oct.	Rod Berg	4	N	0	0	Y
Clearwater	Rainy Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Aug-Oct.	Rod Berg	10	Y	6	2	N
Clearwater	Salmon Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Sept-Oct.	Rod Berg	1	Y	0	0	N
Clearwater	Seeley Lake	10-15 Experimental Gill Nets	Population Status, Growth Rates, Condition, Habitat Use	Entire Lake	Sept-Oct.	Rod Berg	10	Y	8	5	N

Clearwater/ Blackfoot	Salmon Lake	Hourly gill-nets sets	Capture bull trout for telemetry	N/A	April-October	Ladd Knotek/ David Schmetterling	0	Y	6	3	Y
Clearwater/ Blackfoot	Seeley Lake	Hourly gill-nets sets	Capture bull trout for telemetry	N/A	April-October	Ladd Knotek/ David Schmetterling	0	--	--	--	Y
Flathead	Flathead Lake	Gillnetting	Fish Community Assessment	Lakewide	Apr-Nov	Mark Deleray	20	Y	12	4	Y
Flathead (South Fk)	Hungry Horse Reservoir	Fall Gillnetting	Population Monitoring and Assessment	Lake-wide	Oct	Grant Grisak	59	Y	83	48	Y
Kootenai	Bull Lake	Gillnetting	Kokanee Assessment	Lake-wide	Oct	Mike Hensler	15	Y	2	1	Y
Kootenai	Glen Lake	Gillnetting	Kokanee Assessment	Lakewide	Oct	Mike Hensler	4	Y	0	0	Y
Kootenai	Lake Koocanusa	Gillnetting	Population Assessment	Lakewide	May-Sept	Jim Dunnigan Ryan Sylvester	70	Y	86	43	Y
Lower Twin	Lower Twin Lake	One overnight gillnet set	Inventory	125' sinking net	Jul-05	FWP	0	Y	0	0	N
Rock Creek	EF Rock Creek Reservoir	Gillnetting	Population Assessment	Lakewide	May-Sept	Rod Berg	10	Y	6	3	Y
Swan	Holland Lake	Gill netting	Fish Community Assessment	Lakewide	Spring	Scott Rumsey, Jon Cavigli, Scott Hawxhurst	5	Y	5	5	Y
Swan	Lindbergh Lake	Gillnetting	Fish Community Assessment	Lakewide	Spring	Scott Rumsey, Jon Cavigli, Scott Hawxhurst	10	Y	15	9	Y
Swan	Swan Lake	Gillnetting, trap-netting	Fish Community Assessment	Lakewide	Spring /late sum-mer	Scott Rumsey, Jon Cavigli, Scott Hawxhurst	14	Y	122	71	Y
Whitefish	Whitefish Lake	Gillnetting	Fish Community Assessment	Lakewide	May and Oct	Mark Deleray	5	Y	0	0	Y

Electrofishing

The determination of presence/absence, and estimation of fish population abundance is regularly conducted using electrofishing techniques. Electrofishing monitoring focuses on quantifying yearly variation of fish abundance in stream sections sampled consistently year after year and to provide valuable information on species abundance, presence, size and age structure, movements, and status. It is also done in other areas to monitor response of bull trout to restoration projects, to collect tissue for genetic analysis, and to capture bull trout for tagging and telemetry purposes. Across the state, equipment and methodologies vary to match water characteristics and target species. Electroshocking is done using backpack shockers in smaller streams, and boat or barge shockers in larger rivers. All electroshocking is performed by qualified personnel according to MFWP electroshocking guidelines.

It is the policy of the MFWP that all electrofishing conducted in the waters of the State of Montana conform to the following standards to minimize injury to aquatic life. This policy shall apply to employees of MFWP, other state and federal agencies, and those entities operating under the authority of a collector's permit issued by MFWP. The only exceptions to this policy are for permanent collections where all fish sampled are killed, or for experimental purposes. The standards are:

1. Each electrofishing effort should be preceded by an analysis weighing anticipated negative impacts on aquatic life against benefits to be gained from the data collected. Other methods of data collection should be considered in this analysis.

2. Electrofishing over spawning areas containing eggs or larvae will be conducted only when eggs are needed for government hatcheries or the data to be collected are critical to the well being of the fish population as determined by the regional fisheries manager.

3. The use of electrofishing gear in waters containing Species of Special Concern should be minimized. Prior approval must be given by the regional fisheries manager before electrofishing in these waters.

4. Electrofishing in areas where threatened or endangered aquatic species may be encountered is restricted to situations in which electrofishing gear and methodology have been shown to be of minimal impact to that species or a recovery team has determined that electrofishing will be in the best interest of the threatened or endangered species.

5. Electrofishing units which produce only 60 HZ pulsed DC waveforms are prohibited (e.g. Coffelt VVP2C, VVP2E, etc.). Setting on units that provide rectified sine, capacitor discharge or AC waveforms may not be used.

6. Settings on electrofishing units that produce pulse rates in excess of 30 HZ per second are not allowed in waters containing self-sustaining salmonid populations. The use of higher pulse rates for collection of warm/coolwater species should occur only after consideration has been given to the effect of this electrical form on these species and prior approval has

been received from the regional fisheries manager.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of electrofishing activities within bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 2.

Table 2. Summary of electrofishing activities within bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks..

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Bitterroot	Bitterroot River	Electrofishing	Population Assessment/species composition	6 miles (two 3-mi. sections	Septemb er	Chris Clancy	<5%	Y	28	0	Y
Bitterroot	Bush Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Chicken Creek	Backpack Electrofishing	Population assessment	1000'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Deer Creek	Electrofishing	Population assessment	1000'	July-Aug	Chris Clancy + Mike Jakober	< 5%	--	--	--	Y
Bitterroot	Lick Creek (Moose Creek trib)	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Little Boulder Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Little West Fork	Electrofishing	Population assessment	1000'	July-Aug	Chris Clancy + Mike Jakober	< 5%	--	--	--	Y
Bitterroot	Lolo Creek + tribs	Backpack Electrofishing	Fish population monitoring and bull trout and WCT genetics sampling	>1000'	July-Sep	Ladd Knotek	<5%	ONGO ING	15	0	Y
Bitterroot	Martin Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Miller Creek	Backpack Electrofishing	Fish population monitoring and WCT genetics sampling	1000'	July-Sep	Ladd Knotek	<5%	ONGO ING	0	0	Y
Bitterroot	Moose Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Overwhich Creek	Electrofishing	Population assessment	1000'	July-Aug	Chris Clancy + Mike Jakober	< 5%	--	--	--	Y
Bitterroot	Piquett Creek	Electrofishing	Population assessment	1000'	July-Aug	Chris Clancy + Mike Jakober	< 5%	--	--	--	Y
Bitterroot	Reynolds Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Sheephead Creek	Electrofishing	Population Assessment	1000'	July-Aug	Chris Clancy	<5%	Y	18	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Bitterroot	Sign Creek	Backpack Electrofishing	Single-pass presence/absence survey	900'	July-Aug	Mike Jakober (USFS)	< 5%	--	--	--	Y
Bitterroot	Skalkaho Creek	Electrofishing	Population assessment	Three 1000' reaches	July-Aug	Chris Clancy	<5%	Y	52	0	Y
Bitterroot	Sleeping Child Creek	Electrofishing	Population Assessment	1000'	July-Aug	Chris Clancy	<5%	Y	12	0	Y
Bitterroot	Soda Springs Creek	Electrofishing	Population Assessment	1000'	July-Aug	Chris Clancy	<5%	Y	18	0	Y
Bitterroot	Watchtower Creek	Electrofishing	Population assessment	1000'	July-Aug	Chris Clancy + Mike Jakober	< 5%	--	--	--	Y
Blackfoot	Arrastra Creek	Backpack Electrofishing	Assess populations	1000	July-Sept	Ron Pierce	<1	Y	2	0	N
Blackfoot	Ashby Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	600	July-Sept	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Bartlett Creek	Backpack Electrofishing	Determine extent of fish distribution and species composition for fish passage needs	1000 feet	August 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Blackfoot River	Backpack Electrofishing	Move bull trout stranded in intermittent reaches of the Blackfoot River	3000	Oct. 2005	Ron Pierce, Laura Burns	<1	Y	1	0	Y
Blackfoot	Blackfoot River	Backpack Electrofishing	Move bull trout stranded in intermittent reaches of the Blackfoot River	3000	Oct. 2005	Ron Pierce Laura Burns	<1	Y	1	0	Y
Blackfoot	Buffalo Creek	Backpack Electrofishing	Fish distribution in relation to grazing allotments	1000 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Byres Creek	Backpack Electrofishing	Assess populations	~500'	July	Laura Burns	<1	N	0	0	N
Blackfoot	California Creek	Backpack Electrofishing	Fish distribution in relation to grazing allotments	1000 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Chamberlain Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	440	July-Sept	Ron Pierce	<1	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Blackfoot	Copper Creek	Backpack Electrofishing	Assess populations	512'	July-Sept	Ron Pierce	<1	Y	27	0	Y
Blackfoot	Cottonwood Creek	Backpack Electrofishing	Monitor water lease and habitat restoration; wct and bull trout genetic sampling	1200"	Sept	Ron Pierce	≤1	Y	19	0	Y
Blackfoot	Deer Creek	Backpack Electrofishing	Fish distribution in relation to grazing allotments	1000 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Dunham Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area; Wct genetic sample collection	1800'	July-Sep	Ron Pierce	≤1	Y	72	0	Y
Blackfoot	Field Gulch	Backpack Electrofishing	Evaluation for fish passage needs	1000 ft	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Hoyt Creek	Backpack Electrofishing	Assess populations	900'	July-Sept 2005	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Indian Meadows Creek	Backpack Electrofishing	Assess populations	~500'	July	Laura Burns	<1	N	0	0	N
Blackfoot	Jacobsen Spring Creek	Backpack Electrofishing	Assess populations	425'	June	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Jefferson Creek	Backpack Electrofishing	Evaluation for possible presence of bull trout	1000 feet	Sept 2005	Ron Pierce Laura Burns	0	Y	0	0	Y
Blackfoot	Keep Cool Creek	Backpack Electrofishing	Assess populations	100	July-Sept	Ron Pierce	<1	N	0	0	Y
Blackfoot	Kleinschmidt Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	1000	July-Sept	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Klondike Creek	Backpack Electrofishing	Evaluation for fish passage needs	1000 ft	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Lincoln Gulch	Backpack Electrofishing	Assess populations	~500'	July	Laura Burns	<1	N	0	0	N
Blackfoot	Lincoln Spring Creek	Backpack Electrofishing	Assess populations	800	July-Sept	Ron Pierce	<1	N	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Blackfoot	Little Davis Creek	Backpack Electrofishing	Confirm lack of fish presence	1000 feet	August 2005	Ron Pierce Laura Burns	0	Y	0	0	Y
Blackfoot	Madison Creek	Backpack Electrofishing	Fish distribution in relation to grazing allotments	1000 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Monture Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	2315		Ron Pierce	<1	Y	60	0	N
Blackfoot	Moose Creek	Backpack Electrofishing	Evaluation for possible presence of bull trout	1200 feet	August 2005	Ron Pierce Laura Burns	0	Y	0	0	N
Blackfoot	Nevada Creek	Boom-mounted Electrofishing	Fish monitoring in habitat restoration project area	6336	Sept	Ron Pierce	<1	Y	1	0	Y
Blackfoot	North Arrastra Creek	Backpack Electrofishing	Evaluation for possible presence of bull trout	6000 feet	August 2005	Ron Pierce Laura Burns	0	Y	0	0	Y
Blackfoot	North Fork Blackfoot River	Backpack Electrofishing	Assess populations	3646	July-Sept	Ron Pierce	<1	Y	68	0	N
Blackfoot	North Fork of Arrastra Creek	Backpack Electrofishing	Fish species composition and distribution above the existing barrier culvert	Up to 5 300 foot sample reaches	July or August	Ron Pierce Laura Burns	0	Y	0	0	Y
Blackfoot	Pearson Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	400	July-Sept	Ron Pierce	<1	Y	O	0	Y
Blackfoot	Poorman Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	800	July-Sept	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Rock Creek	Backpack Electrofishing	Fish population monitoring	510'	August	Ron Pierce	≤1	Y	0	0	Y
Blackfoot	Sheldon Creek	Backpack Electrofishing	Fish distribution in relation to grazing allotments	1000 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Snowbank Creek	Backpack Electrofishing	Assess populations	590	July-Sept	Ron Pierce	<1	Y	16	0	Y
Blackfoot	South Fork Poorman Creek	Backpack Electrofishing	Evaluation to determine extent of upstream invasion by brook trout and to further refine distribution of bull trout	Up to 5 300 foot reaches	July or August	Ron Pierce, Laura Burns	0	Y	1	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Blackfoot	Spring creek -trib to North Fork	Backpack Electrofishing	Fish monitoring in habitat restoration project area	385	Sept	Laura Burns	<1	Y	2	0	Y
Blackfoot	Theodore Creek	Backpack Electrofishing	Evaluation for fish passage needs	1000 ft	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	Warren Creek	Boom-mounted drift boat Electrofishing	Fish Population Monitoring of Restoration Project	1000'	July	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Wasson Creek	Backpack Electrofishing	Fish monitoring in habitat restoration project area	800	July-Sept	Ron Pierce	<1	Y	0	0	Y
Blackfoot	Wasson Creek	Backpack Electrofishing	Evaluation for fish passage needs above culvert crossing	500 feet	Spring and Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot	West Fk. Willow Creek	Backpack Electrofishing	Evaluation for fish passage needs	1000 ft	Summer 2006	Ron Pierce Laura Burns	0	--	--	--	Y
Blackfoot/ Clearwater	Morrell Creek Drainage	Backpack Electrofishing	Collect genetic samples, species distribution, evaluate irrigation losses	Drainage-wide	July/ Aug	Ladd Knotek	0	--	--	--	Y
Clark Fork (Lower)	Below Thompson Falls Dam	Electrofishing	Mark fish to determine trap effectiveness	<1km	Mar-April	Brad Liermann Jay Stuckey	≤1	Y	3	0	Y
Clark Fork (Lower)	Thompson Falls Reservoir	Electrofishing	Monitor/investigate N. Pike	Res.-wide	Mar & Oct	Brad Liermann Jay Stuckey	≤1	N	0	0	Y
Clark Fork (Lower)	Cooper Gulch	Electrofishing	Monitor fish populations and habitat restoration	300 m	July-Aug	Brad Liermann	≤1	N	0	0	Y
Clark Fork (Lower)	Crow Creek	Electrofishing	Fish Genetics/Population Estimate	2 km	Jul-Oct	Brad Liermann	≤1	N	7	0	Y
Clark Fork (Lower)	E, N &S. Fks. Bull River, Copper Creek	Electrofishing	Population Estimate Disease sampling Monitor fish populations and habitat restoration areas	<0.5 km each	Jul-Aug	Brad Liermann	≤1	Y	62	1	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Lower)	E. & W. Fks. Rock Creek	Electrofishing	Population Estimate Monitor fish populations and habitat restoration areas	<0.5 km each	Jul-Aug	Brad Liermann	≤1	Y	29	2	Y
Clark Fork (Lower)	Elk Creek	Electrofishing	Monitor habitat restoration	300 m	July-Aug	Brad Liermann	≤1	N	0	0	Y
Clark Fork (Lower)	Jungle Creek	Electrofishing	Monitor restoration/population estimate	<0.5km	July-Aug	Brad Liermann	≤1	Y	3	0	Y
Clark Fork (Lower)	Pilgrim Creek	Electrofishing	Monitor habitat restoration	500 m	July-Aug	Brad Liermann	≤1	Y	0	0	Y
Clark Fork (Lower)	Prospect Creek	Electrofishing	Monitor Fish Population, Disease sampling habitat restoration, and genetics	<2 km	Jul-Aug	Brad Liermann	≤1	Y	59	2	Y
Clark Fork (Lower)	Thompson River	Electrofishing	Monitor Fish Population Disease sampling	6 km	June-Aug	Brad Liermann Jay Stuckey	≤1	Y	20	1	Y
Clark Fork (Lower)	Vermillion River	Electrofishing	Monitor Fish Population and Fish Genetics Disease sampling	<0.5 km	Jul-Aug	Brad Liermann	≤1	Y	44	0	Y
Clark Fork (Lower)	WF Thompson River, Fishtrap Creek	Electrofishing	Monitor Fish Population and genetics Disease sampling	<0.5 km each	Jul-Aug	Brad Liermann Jay Stuckey	≤1	Y	41	0	Y
Clark Fork (Middle)	Albert Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Big Flat Irrigation Canal	Electrofishing & trapping	Salvage entrained fish and return to mainstem river "Operation Bull Trout Freedom"	1 mile	May-October	Ladd Knotek	0	N	0	0	N
Clark Fork (Middle)	Bitterroot River (Missoula Section)	Jet boat Electrofishing	Monitoring Clark Fork River fish populations	20,000'	June	David Schmetterling Chris Clancy	0	Y	0	0	Y
Clark Fork (Middle)	Cedar Creek + tribs	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Clark Fork river	Jet boat Electrofishing	Monitoring Clark Fork River fish populations	25,000'	Aug-Oct	David Schmetterling Ladd Knotek	≤1	Y	8	0	Y
Clark Fork (Middle)	Clark Fork River (Huson)	Jet boat Electrofishing	Monitoring Clark Fork River fish populations	25,000'	June	David Schmetterling Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Clark Fork River (Milltown Section)	Jet boat Electrofishing	Monitoring Clark Fork River fish populations	20,000'	April-June	David Schmetterling Ladd Knotek	≤1	Y	2	0	Y
Clark Fork (Middle)	Clark Fork River (Turah)	Jet boat Electrofishing	Monitoring Clark Fork River fish populations	12,000	June	David Schmetterling	0	Y	0	0	Y
Clark Fork (middle)	Clark Fork River Main Stem – Quinn Section	Jet Boat Electrofishing – river population estimates	Population estimates for fluvial trout	~ 4 miles	Sept/Oct	Ladd Knotek	0	--	--	--	Y
Clark Fork (Middle)	Crystal Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Deep Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Deer Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	0	0	Y
Clark Fork (Middle)	Dry Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	First Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Flat Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Frenchtown Grass Valley Irrigation Canal	Electrofishing & trapping	Salvage entrained fish and return to mainstem river "Operation Bull Trout Freedom"	1 mile	May-October	Ladd Knotek	0	N	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Grant Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Hellgate Irrigation Canal	Electrofishing & trapping	Salvage entrained fish and return to mainstem river "Operation Bull Trout Freedom"	1 mile	May-October	Ladd Knotek	0	N	0	0	Y
Clark Fork (Middle)	Johnson Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Marshall Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	0	0	Y
Clark Fork (Middle)	Mill Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Missoula Valley Irrigation Canal	Electrofishing & trapping	Salvage entrained fish and return to mainstem river "Operation Bull Trout Freedom"	1 mile	May-October	Ladd Knotek	0	N	0	0	N
Clark Fork (Middle)	Nemote Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Ninemile Creek + Tributaries	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	0	0	Y
Clark Fork (Middle)	O'Keefe Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Orchard Homes Irrigation Canal	Electrofishing & trapping	Salvage entrained fish and return to mainstem river "Operation Bull Trout Freedom"	1 mile	May-October	Ladd Knotek	0	N	0	0	Y
Clark Fork (Middle)	Petty Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Quartz Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Roman Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Second Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Siegel Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Sixmile Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	St. Regis River and Tributaries	Backpack Electrofishing	Species composition and cutthroat genetics sampling	>1000'	July-Sep	Ladd Knotek	≤1	Y	30	0	Y
Clark Fork (Middle)	Tamarack Creek	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	N	0	0	Y
Clark Fork (Middle)	Trout Creek + tribs	Backpack Electrofishing	Species composition and cutthroat genetics sampling	1000'	July-Sep	Ladd Knotek	≤1	Y	15	0	Y
Clark Fork (Upper)	Clark Fork River - Milltown Dam area	Backpack Electrofishing	Monitoring fish movements around Milltown Dam	Radial gate pool	3 days/wk 3/1-12/1	David Schmetterling	0	Y	3	0	Y
Clark Fork (Upper)	Fish Creek Drainage	Backpack Electrofishing	Monitor fish populations in response to habitat restoration	2,000'	July	Ladd Knotek	≤1	Y	30	0	Y
Clark Fork (Upper)	Rattlesnake Creek Drainage	Backpack Electrofishing	Monitor fish populations; collect wct genetic samples	2,000'	August	Ladd Knotek	≤1	N	0	0	Y
Flathead (Mid Fork)	Granite Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	68	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Flathead (Mid Fork)	Morrison Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	4	0	Y
Flathead (Mid Fork)	Ole Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	73	0	Y
Flathead (North Fk)	South Coal Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	18	0	Y
Flathead (North Fk)	Big Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	61	0	Y
Flathead (North Fk)	Coal Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	17	0	Y
Flathead (North Fk)	Hallowat Creek (3 sections)	Electrofishing	Abundance Monitoring	450m	Aug-Sept	Tom Weaver	≤5	Y	277	4	Y
Flathead (North Fk)	N. Coal Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	1	0	Y
Flathead (North Fk)	Red Meadow Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	2	0	Y
Flathead (North Fk)	Whale Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	33	0	Y
Flathead (South Fk)	Wounded Buck Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	79	1	Y
Flathead River (Main Stem)	Flathead River near Columbia Falls	Electrofishing	WCT Genetics Survey, Species Comp, Population Estimate/Assessment	3 km	Feb-Mar	Clint Muhlfeld	≤1	Y	39	0	Y
Kootenai	Bear Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	72	0	Y
Kootenai	Bear Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Big Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Bobtail Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Boulder Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Burnt Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Callahan Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	34	0	Y
Kootenai	Callahan Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Canyon Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Cedar Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Cripple Horse Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Dodge Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Dunn Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Fisher River (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Fivemile Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Glenn Lake Irrigation Canal	Electrofishing Trapping	Diversion Assessment	Beginning to Glen Lake	Jul-Oct	Mike Hensler	≤1	Y	191	7	Y
Kootenai	Grave Creek	Electrofishing	Juvenile Population Assessment to assess effectiveness of habitat restoration project.	400 m	Jul-Oct	Jim Dunnigan	≤1	Y	68	3	Y
Kootenai	Grave Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	145	5	Y
Kootenai	Grave Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Keeler Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	18	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Keeler Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Kootenai River	Electrofishing, Radio Transmitter Insertion	Population Assessment and Radio Tracking	Dam to State Line	Jul-Oct	Mike Hensler	≤2	Y	51	2	Y
Kootenai	Kootenai River	Electrofishing	Population Assessment and Migration Assessment	Libby Dam to Idaho border	March-Oct.	Ryan Sylvester	≤1	N	0	0	Y
Kootenai	Lake Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Libby Creek	Electrofishing and Trapping	Juvenile Population Assessment	2 sections, 300 m each	Jul-Oct	Jim Dunnigan	≤1	Y	6	0	Y
Kootenai	Libby Creek above Libby Falls	Electrofishing	Population Assessment	150 m	Jul-Oct	Mike Hensler	≤ 1	Y	51	0	Y
Kootenai	Libby Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Meadow Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	O'Brien	Electrofishing	Juvenile Population Estimate	150 m	July-Oct	Mike Hensler	≤1	Y	2	0	Y
Kootenai	O'Brien Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Parmenter Creek	Electrofishing	Juvenile Population Assessment to assess effectiveness of habitat restoration project.	150 m	Jul-Oct	Jim Dunnigan	≤1	N	0	0	Y
Kootenai	Parmenter Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Pine Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Pipe Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	12	0	Y
Kootenai	Pipe Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Quartz Creek (all forks and tributaries)	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	Y
Kootenai	Seventeenmile Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Silver Butte Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Star Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Sullivan Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Therriault Creek	Electrofishing	Juvenile Population Assessment to assess effectiveness of habitat restoration project.	150 m	Jul-Oct	Jim Dunnigan	≤1	Y	13	0	Y
Kootenai	Therriault Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Tobacco River and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	W.F. Quartz Creek	Electrofishing	Juvenile Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	61	0	Y
Kootenai	Warland Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	West Fisher Creek	Electrofishing	Population Assessment	150 m	Jul-Oct	Mike Hensler	≤1	Y	16	0	Y
Kootenai	Yaak River and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Young Creek	Electrofishing	Juvenile Population Assessment to assess effectiveness of habitat restoration project.	150 m	Jul-Oct	Jim Dunnigan	≤1	Y	7	0	Y
Kootenai	Young Creek and tributaries	Electrofishing	Population Assessment and Migration Assessment	Entire stream	June-Oct	Ryan Sylvester	≤1	N	0	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Little Blackfoot	American Gulch	Backpack Electrofishing	Determine upper extent of fish distribution in relation to grazing allotment	Three 300 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	Carpenter Creek	Backpack Electrofishing	Determine upstream extent of cutthroat trout distribution	Spot electrofishing up to ten 100 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	Clark Canyon	Backpack Electrofishing	Monitor status of isolated cutthroat trout population in relation to grazing	Three 300 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	Georgia Creek	Backpack Electrofishing	Determine upstream distribution of cutthroat trout	Spot electrofish up to ten 100 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	Headwaters of Middle and South Fork of Spotted Dog Creek	Backpack Electrofishing	Determine upper extent of fish distribution in relation to grazing allotment	Spot sampling several 100 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	Ontario Creek	Backpack Electrofishing	Monitoring to determine the extent cutthroat trout have reoccupied a reach that underwent mine reclamation	Two 500 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Little Blackfoot	South Trib to Hat Creek	Backpack Electrofishing	Determine fish presence and upstream distribution	Spot electrofish up to ten 100 foot reaches	Summer 2006	Archie Harper	0	--	--	--	Y
Rock Creek (Trib. To Upper Clark Fork)	EF Rock Creek	Electrofish	Population Assessment	Up to 1 mile	Summer	Rod Berg	0	Y	12	0	Y
Stillwater	Stillwater River	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	N	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Swan	Elk Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	67	0	Y
Swan	Goat Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	59	1	Y
Swan	Lion Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	34	1	Y
Swan	Squeezer Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	55	0	Y
Swan	Swan River	Electrofishing	Fish Community Assessment	5 mi.	Summer	Scott Rumsey	≤1	Y	14	0	Y
Whitefish	Swift Creek	Electrofishing	Abundance Monitoring	150 m	Aug-Sept	Tom Weaver	≤1	Y	19	0	Y

Streambed Coring/Substrate Composition

Successful incubation and fry emergence are dependent on gravel composition, gravel permeability, water temperature, and surface flow conditions. Redds become less suitable for incubating embryos if fine sediments and organic materials are deposited in interstitial spaces of the gravel during the incubation period.

Hollow core sampling permits the measurements of the size range of materials in the streambed that are indicative of spawning and incubation habitat quality. The most significant parameter is percent fines in a given spawning area.

Field crews use a standard 15.2-cm hollow core sampler to collect four samples across each of three transects at each study area. Study areas are selected based on observations of natural spawning.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of streambed coring/substrate composition activities within bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 3.

Table 3. A summary of streambed coring/substrate composition activities within bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	No. BT handled	Do in 2006?
Blackfoot	Arrastra Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Bear Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Belmont Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Blanchard Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Chamberlain Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Cottonwood Creek	McNeil cores	Assess spawning substrates: both non- and bull trout spawning sites	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Dunham Creek	McNeil cores	Assess spawning substrates: assess restoration of bull trout spawning area	6 cores – 6" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	East Twin	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Elk Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Gold Creek	McNeil cores	Assess spawning substrates: both non- and bull trout spawning sites	12 cores – 4 - 6" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Johnson Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Kleinschmidt Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 6" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Monture Creek	McNeil cores	Assess spawning substrates: both non-and bull trout spawning sites	18 cores – 4 - 6" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Nevada Spring Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 6" deep	July	Ron Pierce	0	Y	0	0	N

Blackfoot	Rock Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 6" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	Wasson Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Blackfoot	West Twin Creek	McNeil cores	Assess spawning substrates: non-bull trout spawning areas	6 cores – 4" deep	July	Ron Pierce	0	Y	0	0	N
Kootenai	Bear Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Callahan Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Grave Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Keeler Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	O'Brien Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Pipe Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Quartz Creek	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y
Kootenai	Wigwam River	Core Sampling/ Substrate Score	Habitat Quality Index	150 m	Mar-Apr/ Sept	Mike Hensler	0	Y	0	0	Y

Redd Counts

A reliable census of annual spawner escapement is a valuable element of any fisheries monitoring program. These data are frequently used as measures of anticipated production in succeeding generations. They also provide an index of success in regulating the fishery. Redd Counts provide a repeatable way to estimate annual spawner escapement.

Timing of final redd counts is critical, because as redds age, they lose the characteristic "cleaned" or "bright" appearance becoming more difficult to identify. Experienced field crews conduct surveys by walking the channel within spawning areas. They visually identify redds by the presence of a pit or depression and associated tail area of disturbed gravel. If timing is proper, identification of redds presents little problem. We classify redds based on the following criteria:

1. Definite - no doubt. The area is definitely "cleaned" and or pit and tail area are recognizable. Not in an area typically cleaned by stream hydraulics.

2. Probable - an area cleaned that may be due to stream hydraulics but a pit and tail are recognizable, or an area that does not appear clean but has a definite pit and tail.

Both classes of redds are included in the final totals, which are compared annually as an index of spawner escapement. A Montana Bull Trout Redd Survey Manual describing procedures for conducting redd surveys is attached (Spalding 1997)

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP.

A summary of redd count data by year, drainage and tributary is appended to the end of this report. A summary of redd count activities within bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 4.

Table 4. A summary of redd count activities in bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort	Comp leted?	No. BT handled	Actual Mort.	Do in 2006 ?
Bitterroot	Chicken Creek	Redd count	Long-term Population Monitoring	0.7 miles	October	Mike Jakober (USFS)	0	--	--	--	Y
Bitterroot	Daly Creek	Redd count	Long-term Population Monitoring	1.4 miles	October	Rob Brassfield (USFS)	0	--	--	--	Y
Bitterroot	Deer Creek	Redd count	Long-term Population Monitoring	1.5 miles	October	Mike Jakober (USFS)	0	--	--	--	Y
Bitterroot	East Fork Bitterroot River	Redd Counts	Monitoring		10/05	Clancy, Nyce	0	Y	0	0	Y
Bitterroot	Meadow Creek	Redd count	Long-term Population Monitoring	2 miles	October	Mike Jakober (USFS)	0	--	--	--	Y
Blackfoot	Copper Creek	Redd Counts	Long-term Population Monitoring	6 miles	Fall	Laura Burns Len Walch (USFS)	0	Y	0	0	Y
Blackfoot	Dunham Creek	Redd Counts	Long-term Population Monitoring	2 miles	Fall	Ron Pierce	0	Y	0	0	Y
Blackfoot	Gold Creek	Redd Counts	Long-term Population Monitoring	2 miles	Fall	Ron Pierce	0	Y	0	0	Y
Blackfoot	Morrell Creek	Redd Counts	Long-term Population Monitoring	4 miles	Sept-Oct	Ladd Knotek	0	Y	0	0	Y
Blackfoot	North Fork Blackfoot River	Redd Counts	Long-term Population Monitoring	10 km	Fall	David Schmetterling Ron Pierce	0	Y	0	0	Y
Clark Fork (Lower)	Bull River drainage	Redd Counts	Long-term Population Monitoring	40 km	Sept-Nov	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	Fish Trap Creek drainage	Redd Counts	Long-term Population Monitoring	10 km	Aug-Nov	Brad Liermann	0	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort	Comp leted?	No. BT handled	Actual Mort.	Do in 2006 ?
Clark Fork (Lower)	Graves Creek	Redd Counts	Long-term Population Monitoring	5 km	Aug-Nov	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	Prospect Creek	Redd Counts	Long-term Population Monitoring	20 km	Aug-Nov	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	Vermillion River	Redd Counts	Long-term Population Monitoring	20 km	Aug-Nov	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	W. Fk. Thompson River	Redd Counts	Long-term Population Monitoring	10 km	Aug-Nov	Brad Liermann	0	Y	0	0	Y
Clark Fork (Lower)	Whitepine Creek	Redd Counts	Long-term Population Monitoring	5 km	Aug-Nov	Brad Liermann	0	N	0	0	Y
Clark Fork (Middle)	Cedar Creek	Redd Counts	Fluvial adult population estimates	2-4 miles	Sept-Nov	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	Fish Creek	Redd Counts	Fluvial adult population estimates	6-10 miles	Sept-Nov	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	Rattlesnake Creek	Redd Counts	Fluvial adult population estimates	5-7 miles	Sept-Nov	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	St. Regis River	Redd Counts	Fluvial adult population estimates	2-4 miles	Sept-Nov	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	Trout Creek	Redd Counts	Fluvial adult population estimates	2-4 miles	Sept-Nov	Ladd Knotek	0	N	0	0	Y
Flathead (Mid Fork)	Granite Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (Mid Fork)	Lodgepole Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (Mid Fork)	Morrison Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (Mid Fork)	Ole Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (North Fk)	Big Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (North Fk)	Coal Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (North Fk)	Cyclone Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort	Comp leted?	No. BT handled	Actual Mort.	Do in 2006 ?
Flathead (North Fk)	Frozen Creek/Lake	Redd Counts	Monitoring Populations	1 mi.	Oct-Nov	Tom Weaver	0	N	0	0	Y
Flathead (North Fk)	Trail Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (South Fk)	Danaher Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Flathead (South Fk)	Gordon Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Flathead (South Fk)	Little Salmon Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Flathead (South Fk)	Quintonkin Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (South Fk)	Sullivan Creek	Redd Counts	Spawner Escapement	Mouth-Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (South Fk)	Wheeler Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (South Fk)	Wounded Buck Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	Y	0	0	Y
Flathead (South Fk)	Youngs Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Kootenai	Bear Creek	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler Jim Dunnigan	0	Y	0	0	Y
Kootenai	Blue Sky Creek	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Callahan Creek	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Clarence Creek	Redd Counts	Population Assessment	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Grave Creek and associated tributaries	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort	Comp leted?	No. BT handled	Actual Mort.	Do in 2006 ?
Kootenai	Keeler Creek and associated tributaries	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Libby Creek	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Pipe Creek and associated tributaries	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Quartz Creek and associated tributaries	Redd Counts	Spawner Escapement	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	W.F. Fisher Creek	Redd Counts	Population Assessment	Headwaters-Confluence	Oct	Mike Hensler	0	Y	0	0	Y
Kootenai	Wigwam River	Redd Counts	Population Assessment	Headwaters to British Columbia Border	Oct	Mike Hensler	0	Y	0	0	Y
Little Blackfoot	Little Blackfoot River	Redd Counts	Locate spawning reach	20 miles	Sept 2003	Len Walch Archie Harper (USFS)	0	N	0	0	N
Stillwater	Fitzsimmons Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Stillwater	Stillwater River	Redd Counts	Spawner Escapement	150 m	Aug-Sept	Tom Weaver	0	N	0	0	Y
Swan	Elk Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Goat Creek	Redd Counts	Spawner Escapement	Mouth - Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Holland Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort	Comp leted?	No. BT handled	Actual Mort.	Do in 2006 ?
Swan	Lion Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Lost Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Soup Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Squeezer Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Swan	Woodward Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Scott Rumsey	0	Y	0	0	Y
Whitefish	E. Fk. Swift Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Whitefish	Swift Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y
Whitefish	W Fk. Swift Creek	Redd Counts	Spawner Escapement	Mouth – Headwaters	Sept-Oct	Tom Weaver	0	N	0	0	Y

Genetic Sampling

Montana Fish, Wildlife & Parks plans to collect genetic samples from representative populations throughout Montana. These populations are dispersed across northwestern Montana in the Kootenai, Flathead, Swan, and Clark Fork drainages. Thorough sampling will enable us to construct a dendrogram of relatedness and uniqueness of populations in and between different drainages. This will assist managers to prioritize the most unique, and important populations. Sampling in the Clark Fork drainage will also be important in determining genetic relationships for conservation planning and passage decisions at Cabinet, Noxon, Thompson Falls, and Milltown dams. While conducting fish disease sampling for species other than bull trout, we may capture them incidentally. A small fin clip about the size of a paper hole punch, ideally from a rayed fin, will be collected. Bull trout will be returned immediately after obtaining the fin clip. Nuclear and/or mitochondrial DNA will be used to determine the genetic structure and variability of populations. Laboratory analysis will be conducted at the University of Montana Wild Trout and Salmon Genetics Lab. Bull trout will be captured using variety of collection methods. We will fit a collection method or a number of methods to suit each sample site.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of genetic and microchemistry sampling activities within bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 5.

Table 5. A summary of genetic and microchemistry analysis activities in bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Albert Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	N	0	0	Y
Clark Fork (Middle)	Cedar Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	Y	30	0	Y
Clark Fork (Middle)	Fish Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	Y	50	0	Y
Clark Fork (Middle)	Grant Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	N	0	0	Y
Clark Fork (Middle)	Rattlesnake Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	N	0	0	Y
Clark Fork (Middle)	St. Regis River Drainage	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	Y	30	0	Y
Clark Fork (Middle)	Trout Creek	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Ladd Knotek	0	Y	15	0	Y
Flathead (South Fk.)	Doctor Lake	Fin Clip (30-50 fish)	Genetic Survey		Jul-Sept	Scott Rumsey	0	N	0	0	Y
Kootenai	Bear Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y
Kootenai	Callahan Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y
Kootenai	Callahan Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	10	Y	30	0	Y
Kootenai	Grave Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y
Kootenai	O'Brien Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y
Kootenai	Pipe Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	28	0	Y
Kootenai	Quartz Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	West Fisher Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	21	0	Y
Kootenai	West Fisher Creek	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	10	Y	21	0	Y
Kootenai	West Fisher Creek	Fin Clip (30-50 fish)	Genetic Survey	Entire Stream	Jul-Sept	Mike Hensler	0	Y	30	0	Y
Kootenai	Wigwam River	Juvenile sacrifice to obtain otoliths	Natal Tributary Assessment	Entire Stream	Jul-Sept	Jim Dunnigan	≤10	Y	30	0	Y

Radio Telemetry

Radio-telemetry is used to allow assessment of juvenile and sub-adult bull trout movements, distribution, and habitat use of bull trout.

Radio-transmitters are surgically implanted into the body cavity of captured bull trout. Fish are obtained by angling and electrofishing. Only fish that appear to be in good condition are selected for implantation. Radio implanted fish are monitored both from the ground and from the air.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of radio telemetry activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 6.

Table 6. A summary of radio telemetry activities in bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort	Do in 2006?
Blackfoot	Clearwater River/Morrell Cr	Radio Telemetry	Determine Migration, Spawning, Habitat Use, Timing		Year Round	Ladd Knotek, David Schmetterling	0	--	--	--	Y
Clark Fork (Lower)	Thompson Falls Dam (above and below)	Radio Telemetry	Determine migration, movements, and spawning area use	100 km	Year-round	Brad Liermann Jay Stuckey	≤2	Y	1	0	Y
Clark Fork (Middle)	Grant Creek	Radio Telemetry	Determine Migration, Spawning, Habitat Use, Timing		Year round	Ladd Knotek	0	N	0	0	N
Clark Fork (Middle)	Mainstem	Radio Telemetry	Migration, movements & Habitat Use	0	Year-round	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	Rattlesnake Creek	Radio Telemetry	Determine Migration, Spawning, Habitat Use, Timing		Year round	Ladd Knotek	0	N	0	0	N
Clark Fork (Upper)	Milltown Dam	Radio Telemetry	Determine migration, movements, and spawning area use		Spring-Fall 1999	David Schmetterling	0	Y	3	0	Y
Flathead	Flathead River	Radio Telemetry	Determine Habitat Use	85 km	Year-round	Clint Muhlfeld	≤3	N	0	0	Y
Flathead (Mid Fork)	Main Stem	Radio Telemetry	Determine Habitat Use	71 km	Year-round	Clint Muhlfeld	≤3	N	0	0	Y
Flathead (North Fk)	Main Stem	Radio Telemetry	Determine Habitat Use	93 km	Year-round	Clint Muhlfeld	≤3	N	0	0	Y
Flathead (North Fk)	Trail Creek	PIT Tagging and Electrofishing	Determine survival and life history characteristics	6 miles	Fall and winter	Clint Muhlfeld	≤3	Y	300 juveniles	1	Y
Kootenai	Kootenai River	Radio Telemetry	Determine habitat use, and effects of dam operations	Kootenai Falls to Libby Dam	Year-round	Mike Hensler Jim Dunnigan Brian Marotz	≤3	N	0	0	Y
Kootenai	Kootenai River and tributaries	Radio Telemetry	Habitat use and movement	Idaho Border to Libby Dam and all tributaries	Year Round	Ryan Sylvester	≤3	N	0	0	Y

Snorkeling

Snorkeling is done by personnel to determine presence/absence in small streams, and often is done in conjunction with Electrofishing to refine population estimates. Snorkeling is also useful to determine presence or absence of bull trout, size/age class, and numbers.

Snorkeling involves swimming on the surface with the current through pre-established transects. Species and size are recorded as the swimmer(s) descend a monitoring reach. It is the least stressful method of collection and provides for low to no mortality as compared to other methods of collection.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of snorkeling activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 7.

Table 7. A summary of snorkeling activities in bull trout habitat completed in 2005 or scheduled for 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Bitterroot	Boulder Creek	Snorkeling	Population assessment	2000'	July-Aug	Mike Jakober (USFS)	0	--	--	Y
Bitterroot	Chaffin Creek	Snorkeling	Species Composition/ Range	1000'	July-Sept	Rob Brassfield (USFS)	0	--	--	Y
Bitterroot	Daly Creek	Snorkeling	Species Composition/ Range	1000'	July-Sept	Rob Brassfield (USFS)	0	--	--	Y
Bitterroot	Tin Cup Creek	Snorkeling	Species Composition/ Range	1000'	July-Sept	Rob Brassfield (USFS)	0	--	--	Y
Bitterroot	Trapper Creek	Snorkeling	Species Composition/ Range	1000'	July-Sept	Rob Brassfield (USFS)	0	--	--	Y
Blackfoot	Morrell Creek	Snorkeling	Population Assessment, Bull trout capture for telemetry	2 mi	Jul-Sept	Ladd Knotek, David Schmetterling	0	--	--	Y
Clark Fork (Middle)	Fish Creek	Snorkeling	Population Assessment	40 km	Jul-Sept	Ladd Knotek	0	N	0	Y
Clark Fork (Middle)	Grant Creek	Snorkeling	Population Assessment	10 km	Jul-Sept	Ladd Knotek	0	N	0	Y
Clark Fork (Middle)	Main stem	Snorkeling	Population Assessment	100 km	Jul-Sept	Ladd Knotek	0	N	0	Y
Clark Fork (Middle)	Rattlesnake Creek	Snorkeling	Population Assessment	10 km	Jul-Sept	Ladd Knotek	0	Y	0	Y
Clark Fork (Middle)	St. Regis River	Snorkeling	Population Assessment	30 km	Jul-Sept	Ladd Knotek	0	N	0	Y
Flathead	Flathead River	Snorkeling	Population Assessment	30 km	Jul-Sept	Clint Muhlfeld	0	N	0	Y

Trapping and Tagging

Population information derived from trapping and tagging is used to determine the status of bull trout in a drainage, thus directing appropriate conservation measures. Trapping also occurs as part of whirling disease monitoring program, and bull trout may be incidentally captured. Captured bull trout are released, except in situations where they are specifically targeted as part of whirling disease studies on bull trout (see whirling disease section below). Trapping is also used as a method to remove introduced species such as brook trout from bull trout spawning areas. Bull trout are also trapped below dams for transportation around these migration barriers to reinstate upstream passage.

More detailed discussion of methodologies can be found in previous Annual Section 6 Reports submitted by MFWP. A summary of trapping and tagging activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 8.

Table 8. Summary of trapping/tagging activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Blackfoot	East Fork Twin Creek	Trapping/Tagging	Evaluate Milltown Dam Removal	N/A	Spring/ Summer	Ladd Knotek/ David Schmetterling	0	--	--	--	Y
Blackfoot	Johnson Creek	Trapping/Tagging	Evaluate Milltown Dam Removal	N/A	Spring/ Summer	Ladd Knotek/ David Schmetterling	0	--	--	--	Y
Blackfoot	West Fork Twin Creek	Trapping/Tagging	Evaluate Milltown Dam Removal	N/A	Spring/ Summer	Ladd Knotek/ David Schmetterling	0	--	--	--	Y
Clark Fork (Lower)	Cabinet Gorge Reservoir	Merwin Trapping	Fish abundance monitoring	Two traps in Bull River Bay	Oct	Brad Liermann	≤1	Y	0	0	N
Clark Fork (Lower)	Noxon Reservoir	Merwin Trapping	Fish abundance monitoring	Two traps in each of Vermilio n and Marten Cr bays	Oct	Brad Liermann	≤1	N	0	0	Y
Clark Fork (Lower)	Thompson Falls Dam	Trap and Provide Fish Passage Over Dam	Provide fish passage and determine migration movements and spawning areas	100km	Mar-Nov	Brad Liermann/ Jay Stuckey	≤1	Y	0	0	Y
Clark Fork (Middle)	Deer Creek	Trapping/Tagging	Adult estimate, Evaluate Milltown Estimates	NA	Spring/ Summer	Ladd Knotek	0	Y	0	0	Y
Clark Fork (Middle)	Grant Creek	Trapping/Tagging	Adult estimate (return)	NA	Spring/ Summer	Ladd Knotek	<1%	N	0	0	Y
Clark Fork (Middle)	Marshall Creek	Trapping	Adult estimate and Outmigrant Estimates	NA	Spring/ Summer	Ladd Knotek	0	Y	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Rattlesnake Creek	Trapping/Tagging	Adult estimate and Outmigrant Estimates	NA	All year	Ladd Knotek	<1%	N	0	0	Y
Clark Fork (Upper)	Milltown Reservoir	Trapping	Monitor Northern Pike	Reservoir-wide	March-May	David Schmetterling	0	Y	1	0	N
Kootenai	Bear Creek	Trapping	Capture adults for radio telemetry	NA	April	Jim Dunnigan	1	N	0	0	N
Kootenai	Bear Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Big Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Bobtail Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Boulder Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Burnt Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Callahan Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Canyon Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Cedar Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Cripple Horse Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Dodge Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Dunn Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Fisher River (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Fivemile Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Glenn Lake Irrigation Canal (Grave Creek)	Trapping below (behind) juvenile fish screen within the irrigation canal to assess fish screen efficiency	Diversion Fish Screen Assessment	Beginning to Glen Lake	May-Aug	Jim Dunnigan	≤1	Y	191	7	Y
Kootenai	Grave Creek	Juvenile downstream weir	Obtain estimates of juvenile out migration and age structure.	Approximate RM 3	May-Nov.	Jim Dunnigan	3	N	0	0	N
Kootenai	Grave Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Keeler Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Koocanusa Reservoir	Hoop Trapping	Capture burbot for population assessment, Bull trout captured incidentally	Entire reservoir	Entire year	Jim Dunnigan	0	Y	0	0	Y
Kootenai	Kootenai River	Electrofishing Trapping Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤5	N	0	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Lake Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Libby Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Meadow Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	O'Brien Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Parmenter Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Pine Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Pipe Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Quartz Creek (all forks and tributaries)	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Seventeenmile Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Silver Butte Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Star Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Sullivan Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	No. BT handled	Actual Mort.	Do in 2006?
Kootenai	Therriault Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Tobacco Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Warland Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Yaak River and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Kootenai	Young Creek	Trapping/Weir	Determine effectiveness of remote site incubators at increasing abundance of juvenile and adult WCT abundance	Approx. Rm1.0 (1000 ft)	4/1-7/30	Jim Dunnigan	0	N	0	0	Y
Kootenai	Young Creek	Electrofishing /Weir	Juvenile Population Assessment to assess effectiveness of habitat restoration project.	150 m	Jul-Oct	Jim Dunnigan	≤1	Y	1	0	Y
Kootenai	Young Creek and tributaries	Electrofishing/Trapping /Weir	Population and Migration Assessments	Entire stream	Entire Year	Ryan Sylvester	≤1	N	0	0	N
Swan	Swan Lake	Small hoop & cod traps	Capture lake trout for telemetry study	Entire lake	Summer/ Fall	Scott Rumsey	<1	N	--	--	Y

Habitat Restoration

Habitat restoration projects being done by or in conjunction with Montana Department of Fish, Wildlife and Parks include a variety of activities including stream bank restoration, riparian improvement, riparian fencing, off-site water development, screening of water diversions, installation of instream structures, sediment source reductions, removal of culverts and other barriers, wetland improvements, and various other activities. Projects will be designed and implemented to minimize impacts to native fish and the aquatic environment. All will ultimately provide long-term benefits.

Habitat restoration projects occur throughout the range of bull trout in Montana throughout the year. Many of these projects are at least partially funded by the Department's Future Fisheries Improvement Program. This program solicits and funds habitat restoration projects on a twice/year basis, with applications accepted in January and July. All projects approved for funding must undergo MEPA analysis before commencing. Copies of all EAs will be provided to the USFWS for review as they are completed. Because of the funding cycle and contractual deadlines, it is expected that the list of proposed projects will need to be modified at least once during the year. In addition, other projects in which the Department is a cooperator will be included in future amendments as well.

Steps to minimize any take are included in the project designs. They include timing projects to during low flows and during periods when bull trout are least likely to be impacted; avoiding working in spawning grounds during spawning periods; installing silt screens to reduce sediment inputs; monitoring for bull trout during projects; and minimizing impacts to the riparian and stream channel zones.

A summary of habitat restoration activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks appears in Table 9.

Table 9. A summary of habitat restoration activities in bull trout habitat completed in 2005 or scheduled for completion in 2006 by Montana Department of Fish, Wildlife and Parks.

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Bitterroot	Kolb Spring Creek	Channel reconstruction	Improve spawning/rearing habitat, riparian condition and water quality	1 mile	2001-2002	Ladd Knotek	0	N	0	N
Bitterroot	Lolo Creek	Install Fish Screen	Reduce entrainment	1 mile	2003-2005	Ladd Knotek	0	N	0	Y
Blackfoot	Arrastra Creek	Culvert replacement	Improve fish passage for bull trout and WSCT	200'	Fall 2004	Ron Pierce	0	Y	0	N
Blackfoot	Ashby Creek	Habitat Restoration	Improve habitat for WSCT	2500'	Fall 2005	Ron Pierce	0	N	0	Y
Blackfoot	Clearwater River	Install self-cleaning screen on Clearwater Irrigation Ditch	Prevent entrainment	50'	Fall 2005	Ron Pierce	0	N	0	Y
Blackfoot	Cottonwood Creek	Culvert replacement	Fish passage for WSCT and bull trout	200'	Fall 2005	Ron Pierce	0	N	0	Y
Blackfoot	Dick Creek	Fish screen installation	Prevent entrainment	100'	Fall 2005	Ron Pierce, Greg Neudecker	0	N	N	Y
Blackfoot	Dry Creek	Revegetation of stream banks	Improve habitat	1000	Spring 2006	Ron Pierce Ryen Aasheim	0	N	0	Y
Blackfoot	Dunham Creek	Diversion improvement	Improve fish passage for bull trout and WSCT	200'	Fall 2005	Ron Pierce	0	N	0	N
Blackfoot	East Willow Creek	Install new culvert	Provide fish passage and improved flow capacity	100 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	Y
Blackfoot	Hoyt Creek	Channel reconstruction	Improve habitat conditions	2000'	Fall 2005	Ron Pierce, Ryen Aasheim	0	N	0	Y
Blackfoot	Jacobsen Spring Creek	Habitat Restoration	Improve habitat for WSCT	2500'	Fall 2005	Ron Pierce, Ryen Aasheim	0	N	0	Y
Blackfoot	Kleinschmidt Creek	Revegetation of stream banks	Improve habitat conditions	2000'	Fall 2005	Ron Pierce, Ryen Aasheim	0	N	0	Y
Blackfoot	Kleinschmidt Creek	Remove streamside feedlot, reconstruct channel, grazing changes	Improve habitat and water quality	500'	Fall 2005	Ron Pierce, Ryen Aasheim	0	N	0	Y
Blackfoot	Moose Creek	Install new culvert	Provide fish passage and improved flow capacity	150 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	Y
Blackfoot	Moose Creek	Culvert replacement	Improve fish passage	100'	Summer 2005	Ron Pierce Laura Burns	0	N	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Blackfoot	Murphy Spring Creek	Install fish screen	Eliminate fish losses to ditch	100'	Fall 2005	Ron Pierce, Greg Neudecker	0	N	0	Y
Blackfoot	Nevada Creek	Grazing changes, stream stabilization, replace a diversion with a fish ladder	Improve water quality and habitat, prevent an avulsion channel, improve movements	1 mile of grazing, 200' of stream work	Fall 2005	Ron Pierce	0	N	0	Y
Blackfoot	Nevada Spring Creek	Channel Reconstruction Fencing for 3 miles of stream	Habitat Restoration	3 miles	In Progress	Ron Pierce	0	Y	0	Y
Blackfoot	North Fork	Fish-Friendly Diversion	Move point of diversion – convert from flood to sprinkler irrigation	100'	July-September 2002	Ron Pierce, Greg Neudecker	0	N	O	N
Blackfoot	Pearson Creek	Fencing and water developments	Remove livestock from streambanks	20' of bank for water lines	Fall 2005	Ron Pierce	0	N	0	Y
Blackfoot	Poorman Creek	Install new culverts on unnamed tributaries	Provide improved flow capacity and decrease sediment delivery	75 feet	Summer 2006	Ron Pierce Laura Burns	0	--	--	Y
Blackfoot	Poorman Creek	Install new culvert	Provide fish passage and improved flow capacity	100 feet	Late summer 2006	Ron Pierce Laura Burns	0	--	--	Y
Blackfoot	Poorman Creek	6 Culvert replacements, 3 mainstem and 3 in tribs	Improve fish passage	200'	Summer 2005	Ron Pierce Laura Burns	0	N	0	Y
Blackfoot	Rock Creek	Sediment seal project	Instream flow enhancement	3000'	Spring 2005	Ron Pierce	0	N	0	N
Blackfoot	Rock Creek	Revegetation of stream banks	Improve habitat	4000	Spring 2006	Ron Pierce Ryen Aasheim	0	N	0	Y
Blackfoot	Salmon Creek	Revegetation of stream banks	Improve habitat	2000	Spring 2006	Ron Pierce Ryen Aasheim	0	N	0	Y
Blackfoot	Ward Creek	Fencing, water development and riparian reveg	Improve habitat conditions	3000'	Fall 2005	Ron Pierce	0	Y	0	N
Blackfoot	Warren Creek	Elevate Stream channel	Habitat restoration	4000'	Spring 2006	Ron Pierce Greg Neudecker	0	N	0	Y
Blackfoot	Wasson Creek	Habitat Restoration	Improve habitat conditions for bull trout and WSCT	2500'	Fall 2005	Ron Pierce	0	Y	0	N

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Clark Fork (Lower)	Bull River	Restore riparian area, remove berms, plug existing ditches, and revegetate floodplain area and floodplain	Riparian/wetland restoration	2650'	Summer 2004	Brad Liermann	0	N	0	Y
Clark Fork (Lower)	Bull River	Riparian revegetation and reed canary grass removal	Re-establish native plant community and improve riparian habitat	2500'	Summer/fall 2005	Brad Liermann	0	Y	0	Y
Clark Fork (Lower)	Cooper Gulch	Remove undersized double culvert and replace with a bridge	Improve road stability and reduce sediment in bull trout spawning tributary	200'	Summer 2006	Brad Liermann	0	--	--	Y
Clark Fork (Lower)	Crow Creek	Reconstruct channel and replant riparian vegetation	Improve fish habitat and improve thermal regime	2000'	Summer 2006 or 2007	Brad Liermann	0	--	--	Y
Clark Fork (Lower)	Elk Creek	Channel reconstruction and riparian revegetation	Sediment reduction and rearing habitat improvement	2000'	Summer/fall 2005	Brad Liermann	0	N	0	Y
Clark Fork (Lower)	Lost Girl Creek	Reclaim road, install water bars and re-vegetate	Reduce sediment run-off	5000'	Summer 2004	Brad Liermann	0	Y	0	N
Clark Fork (Lower)	Pilgrim Creek	Remove old railroad bridge and pilings	Reduce sediment and stabilize reach	1000'	Summer/fall 2006	Brad Liermann	O	--	--	Y
Clark Fork (Lower)	Pilgrim Creek	Channel reconstruction and riparian revegetation	Improve spawning and rearing habitat	1000'	Summer/ Fall 2005	Brad Liermann	0	N	0	Y
Clark Fork (Lower)	SF Bull R	Reclaim road	Reduce sediment run-off	5000'	Summer 2006	Brad Liermann	0	Y	0	Y
Clark Fork (Lower)	W. F. Pilgrim	Stabilize mass wasting event and reactivate historic channel	Reduce sediment and improve fish habitat	1000'	Summer/fall 2006	Brad Liermann	0	--	--	Y
Clark Fork (Middle)	Deer Creek	Upgrade & screen irrigation diversion, habitat improvement	Decrease fish losses, Improve instream habitat	1 mile	2001-2003	Ladd Knotek	0	N	0	Y
Clark Fork (Middle)	Dry Creek	Replace diversion dam with series of rock weirs	Enhance upstream fish passage	~50 m	July - Sept 2004	Ladd Knotek	0	Y	0	N
Clark Fork (middle)	Main Stem	Provide Fish Passage	Upstream fish passage around irrigation dam	N/A	2006-2007	Ladd Knotek	0	--	--	Y
Clark Fork (Middle)	Marshall Creek	Install fish ladder, screen & upgrade irrigation diversion. Improve 3000' of channel habitat, fence riparian area.	Fish passage, habitat improvement, decrease fish losses	2 miles	2001-2003	Ladd Knotek	0	Y	0	Y
Clark Fork (Middle)	Mill Creek	Correct 2 fish passage barriers	Provide fish passage	3 miles	2004-2006	Ladd Knotek	0	Y	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Clark Fork (Middle)	Ninemile Creek	Stabilize eroding stream banks using soft stabilization techniques and planting native vegetation, and install 10,400 feet of riparian fencing along both sides of the stream within a 1.75 mile reach. Protection of the Cedar Creek Road bridge will involve placement of rip rap.	Stream restoration and stabilization	1.75 miles	2005	Ladd Knotek	0	N	0	N
Clark Fork (Middle)	Ninemile Creek	Riparian fencing (FFI-28-02)	Stream restoration and stabilization	1150 feet	2005	Ladd Knotek	0	N	0	N
Clark Fork (Middle)	Rattlesnake Creek	Channel stabilization	Improve spawning and rearing habitat	2500'	2005	Ladd Knotek	0	N	0	Y
Clark Fork (Middle)	Rattlesnake Creek	Install fish ladder, upgrade diversion & install screen (FFI-22-02) (FFI-21-02)	Provide fish passage & decrease entrainment losses	2 miles	2005	Ladd Knotek	0	Y	0	N
Clark Fork (Middle)	Trout Creek	Install Fish Screen	Prevent fish entrainment	N/A	2006-2007	Ladd Knotek	0	--	--	Y
Clark Fork (Upper)	Lost Creek (Heggelund)	Habitat improvement, off-site water, revegetation	Stream restoration	3 miles	June-Sept	Eric Reiland	0	N	--	N
Clark Fork (Upper)	Lost Creek (Lord)	Habitat improvement, off-site water, revegetation	Stream restoration	1.5 miles	June-Sept	Eric Reiland	0	N	--	N
Clark Fork (Upper)	Lost Creek (Ueland)	Habitat improvement, off-site water, revegetation	Stream restoration	6 miles	June-Sept	Eric Reiland	0	N	--	N
Clark Fork (Upper)	Lost Creek (Lampert Ranch)	Riparian fencing	Reduce erosion	2.1 miles	Spring 2006	Pat Saffel	0	N	--	Y
Clark Fork (Upper)	Lost Creek (Mathews Ranch)	Riparian fencing	Improved flows during fall spawning period; reduced sediment	1500'	Spring 2006	Pat Saffel	0	N	--	Y
Kootenai River	Grave Creek	Habitat enhancement in lower 3 miles		3 miles	Fall 2002-2005	Jim Dunnigan	0	N	0	Y
Kootenai	Pipe Creek	Bank stabilization and salmonid habitat enhancement	Increase stream channel stability and increase quantity and quality of salmonid habitat	4500 ft. total	Fall 2004	Jim Dunnigan	0	N	0	Y

Drainage	Water	Action (Provide detailed description)	Purpose	Length/ Area	Date of Action	Personnel	Est. Mort.	Comp-leted?	Actual Mort.	Do in 2006?
Kootenai	Therriault Creek	Install irrigation diversion and fish screen	Eliminate entrainment into irrigation diversion ditch	400 ft.	6/1-10/30	Jim Dunnigan	0	N	0	Y
Kootenai River	Libby Creek	Install Fish Screen at Irrigation Diversion on Bebee Diversion	Eliminate juvenile entrainment	500'	Fall 2005	Jim Dunnigan	0	N	0	Y
Kootenai River	Libby Creek	Bank stabilization and salmonid habitat enhancement	Increase stream channel stability and increase quantity and quality of salmonid habitat, and restore historic wetland habitats.	2,800'	Fall 2005	Jim Dunnigan	0	Y	0	Y, project con't
Kootenai River	Therriault Creek	Bank stabilization and salmonid habitat enhancement	Increase stream channel stability and increase quantity and quality of salmonid habitat, and restore historic wetland habitats.	4,500'	Spring 2004	Jim Dunnigan	0	Y	0	Y, project con't.
North Fork Flathead	Hallowat Creek	Stream Restoration	Improve fish habitat	3.7 miles	2005	Mark Deleray Clint Muhlfeld	0	Y	0	N
Rock Creek	Beaver Creek	Stream Restoration (FFI-03-02)	Restore Degraded Channel	1.5 miles	Possibly in 2006	Pat Saffel	2	N	--	Y
Rock Creek	Main Stem Rock Creek (Strand Ranch/Rohrn sen Ranch/ Sanders Ranch/Gillie s Ranch Clark Ranch	Stream channel restoration and stabilization; riparian fencing; irrigation canal screening; grazing management	Reduce erosion and sediment input; improve stream integrity; reduce loss of fish in irrigation canals	17 miles	Feasibility Study in Spring 1998	Eric Reiland	15	N	--	N
Rock Creek	Upper Willow Creek	Stream Restoration	Restore Degraded Channel	2.6 miles	2005	Eric Reiland	5	Y	--	N

PERSONNEL

The following Montana Department of Fish, Wildlife and Parks personnel will be overseeing or conducting the activities described in previous sections.

Name	Education	Area	Prof. Exper. (Years)
Benner, Monty	B.S. University of Montana (Wildlife Biology - Aquatic)	Libby - Kootenai	10
Benson, Neil	B.S. University of Montana (Wildlife Biology - Aquatic)	Libby - Kootenai	16
Berg, Rodney	M.S. Montana State University (Fish & Wildlife Mgmt.)	Missoula-Clearwater	31
Cavigli, John	B.S. University of Idaho (Fisheries Biology)	Kalispell - Flathead	26
Clancy, Chris	M.S. Montana State University (Fish / Wildlife Mgmnt.)	Hamilton - Bitterroot	29
Daniels, Durae	B.A. Plattsburgh State (Environmental Science)	Flathead	10
Deleray, Mark	B.S. U.C. Berkeley (Biology) M.S. Montana State University (Fish/Wildlife Mgmnt)	Kalispell - Flathead	16
DeShazer, Jay	B.S. Montana State University (Fish/Wildlife Mgmnt.)	Libby - Kootenai	16
Dunnigan, Jim	B.S. University of Idaho M.S. University of Idaho	Libby, Kootenai	13
Garrow, Larry	B.S. University of Montana (Wildlife Biology - Aquatic)	Libby - Kootenai	20
Glutting, Stephen	B.S. University of Idaho (Fisheries Biology)	Kalispell - Flathead	25
Grisak, Grant	A.S. Northern Montana College (Biology) B.S. Northern Montana College (Biology) M.S. Montana State University (Fish/Wildlife Mgmnt.)	Kalispell	16
Hensler, Mike	B.A. Whitman College (Biology) B.S. Montana State University (Fish/Wildlife Mgmnt.) M.S. Montana State University (Fish/Wildlife Mgmnt.)	Libby - Kootenai	22
Hunt, Rick	B.S. University of Michigan (Fisheries Science)	Kalispell - Flathead	15
Knotek, Ladd	B.S. University of North Dakota (Fish/Wildlife Biology) M.S. Virginia Tech. (Fisheries Science)	Missoula - Clark Fork	17
Liermann, Brad	B.S. University of Montana (Wildlife Biology – Aquatic emphasis) M.S. Montana State University (Fish/Wildlife Mgt)	Thompson Falls, - Lower Clark Fork	11
Marotz, Brian	B.S. Univ. of Wisconsin at Stevens Point M.S. Louisiana State University at Baton Rouge	Flathead Kootenai	24
Michael, Gary	A.S. Peninsula College, WA (Fisheries)	Kalispell - Flathead	25
Muhlfeld, Clint	B.S. University of Montana (Aquatic Biology) M.S. University of Idaho (Fisheries Resources)	Kalispell - Flathead	16
Nyce, Leslie	B.S. Environmental Science – Biology Kutztown University, Kutztown, PA	Hamilton - Bitterroot	15

Ostrowski. Tom	B.S. Michigan State University (Forest Resource Mgmnt.)	Libby - Kootenai	16
Pierce, Ron	B.S. University of Montana	Missoula - Blackfoot	19
Rumsey, Scott	B.S. William Jewel College, MO (Wildlife Biology)	Kalispell - Swan	30
Saffel, Pat	B.S. South Dakota State (Fisheries Science) M.S. University of Idaho (Fishery Resources)	Missoula – Clark Fork, Blackfoot, Bitterroot	14
Schmetterling, Dave	B.S. University of Montana	Missoula - Blackfoot, Clark Fork	12
Sylvester, Ryan	B.S. University of Wyoming (Wildlife and Fisheries Biology and Management) M.S. South Dakota State University (Wildlife & Fisheries Sciences – Fisheries Specialization)	Libby – Kootenai	8
Vashro, Jim	B.S. University of Montana (Zoology - Aquatic Option) M.S. - Cornell University (Fishery Science)	Kalispell - Flathead	32
Wachsmuth, John	B.S. University of Montana (Parks and Recreation)	Kalispell - Flathead	24
Weaver, Tom	B.S. University of Montana (Wildlife Biology)	Kalispell - Flathead, Swan	29

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Other Qualified Personnel

In addition to the above listed individuals, the Department assumes the authority to sub-permit other qualified individuals engaged in bull trout recovery or conservation activities under the authority of this Section 6 authorization. These individuals include other agency biologists (Forest Service, BLM, U.S. Fish and Wildlife Service), university researchers, and biological consultants. Any individual seeking to collect fish in Montana must first obtain a Scientific Collectors Permit from the Department. Through this state permitting process, project proposals, personnel, and methodologies can be carefully scrutinized to ensure the proposed activities are necessary, in accordance with accepted protocols, and in compliance with ESA requirements. If a state collectors permit is issued, it will contain stipulations regarding types of activities authorized, timing of collection, collection methods, collection locations, and reporting requirements. Collection reports will be mandatory, and will be included with the Department's annual Section 6 report. Only activities that contribute to the conservation or recovery of bull trout will be permitted. If collection permits are issued for projects that may result in take, the Department will provide an amendment to the Service to ensure ESA requirements are met.

Qualified individuals also participate in other conservation and recovery actions beyond collection, such as habitat restoration, redd counts, and research. Such projects are often cooperative efforts involving numerous individuals and agencies. The Department assumes authorization to include such projects and individuals being done in cooperation with the Department under this Section 6 authorization.

REPORTING

Annual reports of project status and estimated take will be summarized in an annual report and submitted to the Service by February 28 of the following calendar year.

FWP, in cooperation with the Bonneville Power Administration, is scheduled to begin implementation of a major westslope cutthroat trout protection project in multiple lakes and tributaries within the South Fork Flathead drainage (BPA 2005). This project involves the chemical removal of hybridized trout from 21 South Fork Flathead lakes and, in some instances, portions of associated inlet and outlet steams. On May 15, 2002, the USFWS Field Supervisor determined that this project is "not likely to adversely affect" bull trout. FWP and the USFWS have agreed that FWP will include activities associated with this project that may result in the incidental take of bull trout in FWP's Section 6 Annual Report and Conservation Plan for Bull Trout in Montana. When these activities are initiated, FWP will insert a table specifically for South Fork Flathead westslope cutthroat trout projects. In this way, any incidental take of bull trout directly attributable to these projects can be easily evaluated.

Up to five mortalities will be taxidermist mounted and used for educational purposes. All other mortalities will be preserved frozen and shipped to the U.S. Fish and Wildlife Service's Fish Health Laboratory in Bozeman, Montana by the end of each field season.

CONCLUSION

The above listed activities represent a very comprehensive summary of all activities being conducted directly or in cooperation with the Montana Department of Fish, Wildlife and Parks. Although some of the above listed activities may result in take of bull trout, all will ultimately result in the conservation and recovery of the species. Any additional activities that may result in take of bull trout will be amended to this plan.

Not all activities reported result in handling or capture of bull trout. The actual take of bull trout attributed to the 2005 bull trout conservation activities where take occurred is summarized in the table below. Total take identified in this report as occurring in 2005 consisted of 3,692 bull trout handled, with a total of 239 mortalities.

Summary of take associated with bull trout conservation actions-2005

	Gillnetting		Electrofishing		Genetic sampling		Radio telemetry		Trapping/Tagging	
	Handled	Morts	Handled	Morts	Handled	Morts	Handled	Morts	Handled	Morts
Bitterroot	0	0	143	0	0	0	0	0	0	0
Blackfoot	1	0	270	0	0	0	0	0	0	0
Clark Fork	9	4	356	6	125	0	4	1	1	0
Clearwater	30	16	0	0	0	0	0	0	0	0
Flathead	83	48	672	5	0	0	300	0	0	0
Kootenai	88	44	759	17	310	0	0	0	191	7
Stillwater	0	0	0	0	0	0	0	0	0	0
Swan	142	85	229	2	0	0	0	0	0	0
Whitefish	0	0	19	0	0	0	0	0	0	0
Totals	353	197	2448	30	435	0	304	1	192	7

Total Handled	3692
Total Mortalities	239

References:

Bonneville Power Administration (BPA). South Fork Flathead Watershed Westslope Cutthroat Trout Conservation Program Final Environmental Impact Statement. July 2005.