CANDIDATE CONSERVATION AGREEMENT WITH ASSURANCES FOR FLUVIAL ARCTIC GRAYLING IN THE UPPER BIG HOLE RIVER



Montana Fish, Wildlife & Parks

STATUS REPORT

2008

CANDIDATE CONSERVATION AGREEMENT WITH ASSURANCES FOR FLUVIAL ARCTIC GRAYLING IN THE UPPER BIG HOLE RIVER

Status Report 2008

Tomelleri

Peter Lamothe
Montana Fish, Wildlife & Parks

The Candidate Conservation Agreement with Assurances for Fluvial Arctic Grayling in the Upper Big Hole River State and Federal Agency Partnership includes:

Montana Fish, Wildlife & Parks
USDA Natural Resources Conservation Service
Montana Department of Natural Resources and Conservation
U.S. Fish and Wildlife Service
USFWS Partners for Fish and Wildlife Program

TABLE OF CONTENTS

I. INTRODUCTION

A Candidate Conservation Agreement with Assurances (CCAA) is an agreement between the U.S. Fish and Wildlife Service (USFWS) and any non-Federal entity whereby non-Federal property owners who voluntarily agree to manage their lands or waters to remove threats to species at risk of becoming threatened or endangered receive assurances against additional regulatory requirements should that species be subsequently listed under the Endangered Species Act (ESA). According to the USFWS, since 2000 there have been 17 CCAA's approved in 13 different states (Womack 2008). The project areas associated with these CCAA's range from a one-acre area aiming to protect the Greater and Lesser Cave Beetles in Kentucky to a 1,051,752-acre area targeting the recovery of the Southern Idaho Ground Squirrel (Womack 2008).

The conservation goal of the CCAA for the Fluvial Arctic Grayling in the Upper Big Hole River (Big Hole Grayling CCAA) is to secure and enhance a population of fluvial (river-dwelling) Arctic grayling (Thymallus arcticus); (grayling) within the upper reaches of their historic range in the Big Hole River drainage. Under the Big Hole Grayling CCAA, Montana Fish, Wildlife & Parks (FWP) holds an ESA section 10(a)(1)(A) Enhancement of Survival Permit issued to it by USFWS and will issue Certificates of Inclusion to non-Federal property owners within the Project Area who agree to comply with all of the stipulations of the Program and develop an approved site-specific conservation plan (Figure 1). Site-specific conservation plans will be developed with each landowner by an interdisciplinary technical team made up of individuals representing FWP, USFWS, USDA Natural Resources Conservation Service (NRCS), and Montana Department of Natural Resources and Conservation (DNRC) (collectively the Agencies). The conservation guidelines of the Big Hole Grayling CCAA will be met by implementing conservation measures that:

1. Improve streamflows

2. Improve and protect the function of riparian habitats

3. Identify and reduce or eliminate entrainment threats for grayling

4. Remove barriers to grayling migration

This planning effort will help alleviate private property concerns, as well as generate support from private landowners which will improve habitat conditions for grayling throughout the Project Area. The goal for the population of grayling inhabiting the Project Area is to increase the abundance and distribution of grayling within the Project Area (FWP and USFWS 2006).

This year's report is an abbreviated version of previous year's reports. Summaries of additional conservation measures implemented in the upper Big Hole watershed as part of the Big Hole Grayling CCAA are included in the Arctic Grayling Recovery Program 2008 Montana Arctic Grayling Annual Report.

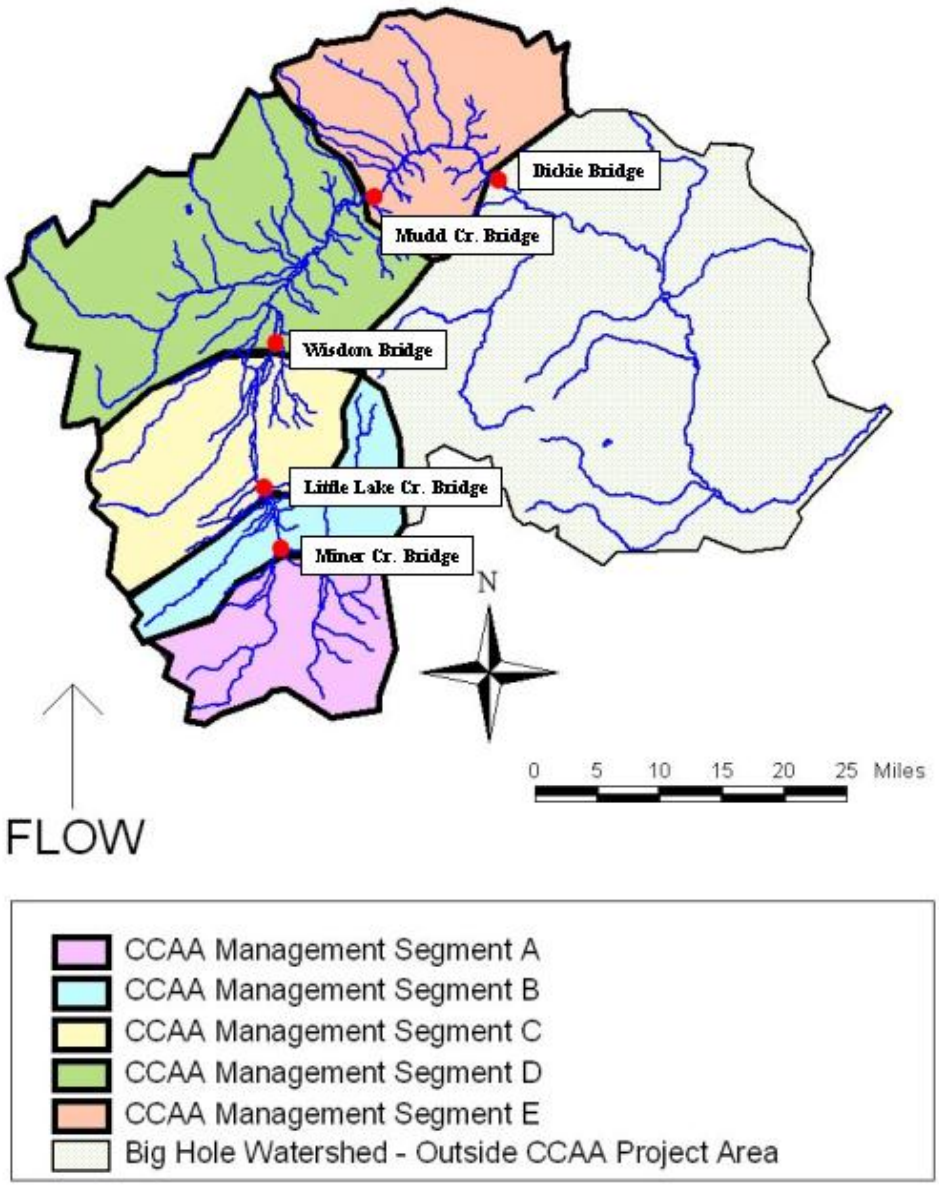

Figure 1. The Big Hole Grayling CCAA Project Area and Management Segments.

Most of the habitat occupied by grayling in the Big Hole River and its tributaries is on or adjacent to private property. The recovery of grayling in the system is linked to the active involvement of private landowners, and is viewed as critical to the conservation of the species in the Project Area. However, the occurrence or expansion of grayling in waters on their properties is a concern to private landowners because of potential regulatory restrictions on ranch operations should grayling be listed as threatened or endangered under the Environmental Site Assessment (ESA) in the future. These restrictions may affect landowner willingness to participate in efforts to conserve the species.

The Big Hole Grayling CCAA is a collaborative effort among private landowners, state and federal agencies, and non-government organizations. These stakeholders have agreed to work together for the common goals of preserving grayling, improving the local fishery, addressing private property concerns, maintaining the current land ownership dynamics, and enhancing the overall health of the upper Big Hole watershed.

II. LEGAL STATUS OF FLUVIAL ARCTIC GRAYLING

On April 24, 2007 the USFWS determined that the grayling population in the upper Missouri River basin was no longer warranted for listing under the ESA. This determination removed grayling from the Candidate Species List. Grayling remain a "Species of Special Concern" in Montana. On November 15, 2007 a lawsuit was filed by the Center for Biological Diversity, the Grayling Restoration Alliance, the Federation of Flyfishers and the Western Watersheds Project to overturn the USFWS decision not to list the grayling population in the upper Missouri River basin as either Threatened or Endangered. To date, that lawsuit has not been resolved by the courts. The current legal status of grayling does not remove the need for the Big Hole Grayling CCAA since it is still possible that grayling may become listed as either Threatened or Endangered under the ESA in the future.

III. LANDOWNER ENROLLMENT

On August 1, 2006 the USFWS issued FWP ESA section 10(a)(1)(A) Enhancement of Survival Permit # TE-104415 authorizing the Big Hole Grayling CCAA. The issuance of this permit allowed for the official enrollment of any non-federal landowner within the Big Hole Grayling CCAA Project Area. Enrolled non-federal landowners are provided incidental take coverage and regulatory assurances once the non-federal landowner, FWP, and the USFWS counter-sign the Certificate of Inclusion and the approved site-specific conservation plan for the enrolled property. In 2008, one private landowner enrolled 4,393 acres of private and 1,620 acres of land leased from the state of Montana into the program. In 2008, one private landowner requested to unenroll 1,231 acres (all of their enrolled property) from the Big Hole Grayling CCAA. The Certificate of Inclusion for this landowner was terminated on December 12, 2008. Currently, there are 32 landowners (Participating Landowners) that have enrolled 154,070 acres of private and 7,650 acres of state land into the Big Hole Grayling CCAA (Table 1, Figure 2). Enrollment for the Big Hole Grayling CCAA will remain open until 90 days prior to a proposed ESA listing date for grayling being published by the USFWS in the Federal Register. As of February 15, 2009 the USFWS had counter-signed 29 of the 32 Certificates of Inclusion signed and submitted by FWP. The remaining three Certificates of Inclusion will be cosigned once the initial assessment of the properties for immediate threats to grayling and water rights compliance have been completed and submitted to the USFWS.

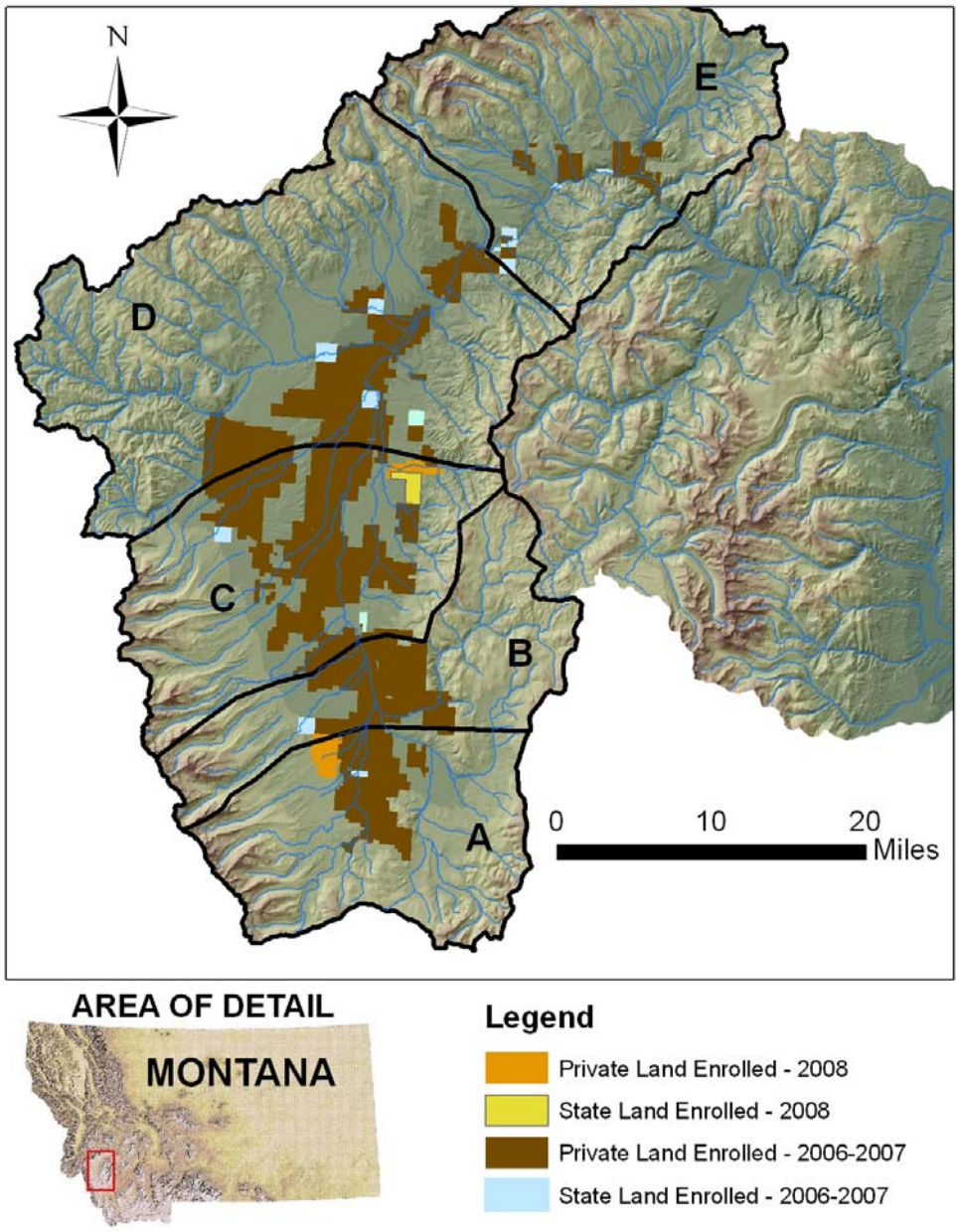

Figure 2. Area of state and private land enrolled into the Big Hole Grayling CCAA Program since August 1, 2006.

Table 1. Landowners, acreage enrolled and year of enrollment in the Big Hole Grayling CCAA.

Landowner	Management Segment(s)	Private Land Enrolled (acres)	State Land Enrolled (acres)
1. Dooling Livestock Co. (2006)	A	6,300	0
2. Upper Big Hole LLC. (2006)	A	3,100	0
3. Lapham Ranch Co. (2006)	A&B	7,000	0
4. Jackson Ranches, Inc. (2006)	A&B	4,230	200
5. H Lazy J Ranch (2006)	A&B	3,370	640
6. Strodtman Trust (2006)*	A&B	1,231*	0
7. Peterson Brothers Cattle Company (2007)	A&B	2,400	400
8. Dick Hirschy Cattle Inc. / Heidi Hirschy (2007)	A, B, C&D	24,153	0
9. Robert Wueste (2008)	A&C	4,393	1,620
10. Rocky Mountain Ranches (2006)	B	3,445	0
11. Finch Ranches, LLC (2007)	B	1,052	0
12. Husted Ranches, Inc. (2006)	B&C	3,744	0
13. Johnson Brothers, Inc. (2006)	B&C	2,490	0
14. Ralph Huntley and Son, Inc. (2006)	C	9,200	560
15. Wisdom River Cattle Co. (2006)	C	3,721	0
16. Foster Company (2006)	C	2,017	400
17. Fred and Lynn Hirschy (2007)	C	1,550	0
18. John and Phyllis Erb / Erb Livestock Co. (2006)	C&D	23,174	560
19. Big Hole Grazing Association (2006)	C&D	5,192	0
20. John Nelson (2007)	C&D	3,340	640
21. Jack Hirschy Livestock, Inc. (2007)	C&D	14,787	0
22. Harrington, Co. (2007)	C&D	8,334	640
23. Big Hole River LLC. (2006)	D	1,473	0
24. Stanley Rasmussen (2006)	D	160	0
25. Joe and Barbara Clemans (2006)	D	30	0
26. Quarter Circle 3T Ranch (2007)	D	2,530	640
27. Weaver Ranch (2007)	D	680	0
28. Ralston Ranch, Inc. (2006)	E	2,850	0
29. LaMarche Creek Ranch (2006)	E	1,670	0
30. Reinhardt Ranch Co. (2006)	E	900	70
31. Christiansen's East Bench Ranch (2007)	E	6,336	1,280
32. K.L. Spear (2007)	E	700	0
33. Ernest Bacon (2007)	E	980	0
Totals		155,301	7,650

*Landowner was unenrolled from the Big Hole Grayling CCAA on December 12, 2008. Acreage for the property is excluded from totals.

Table 2. Dates of approval for Certificates of Inclusion (COI) and expected dates for completion of site-specific plans.

Landowner	Date COI cosigned by FWP and USFWS	Expected date for completion of site-specific plan
1. Wisdom River Cattle Co.	4/4/2007	10/4/2009
2. Big Hole Grazing Association	4/4/2007	10/4/2009
3. Stanley Rasmussen	4/4/2007	10/4/2009
4. Joe and Barbara Clemans	4/4/2007	10/4/2009
5. Reinhardt Ranch Co.	4/4/2007	10/4/2009
6. Dooling Livestock Co.	4/12/2007	10/12/2009
7. Upper Big Hole LLC.	4/12/2007	12/12/2008*
8. Lapham Ranch Co.	4/12/2007	10/12/2009
9. Jackson Ranches, Inc.	4/12/2007	10/12/2009
10. H Lazy J Ranch	4/12/2007	10/12/2009
11. Husted Ranches, Inc.	4/12/2007	10/12/2009
12. John and Phyllis Erb / Erb Livestock Co.	4/12/2007	10/12/2009
13. Ralston Ranch, Inc.	4/12/2007	10/12/2009
14. LaMarche Creek Ranch	4/12/2007	10/12/2009
15. Dick Hirschy Cattle Inc. / Heidi Hirschy	1/3/2008	7/3/2010
16. Finch Ranches, LLC	2/25/2008	8/25/2010
17. Johnson Brothers, Inc.	2/25/2008	8/25/2010
18. Ralph Huntley and Son, Inc.	2/25/2008	8/25/2010
19. Big Hole River LLC	4/25/2008	10/25/2010
20. Rocky Mountain Ranches	11/17/2008	5/17/2011
21. Harrington, Co.	11/17/2008	5/17/2011
22. Weaver Ranch	12/5/2008	6/5/2011
23. K.L. Spear	12/11/2008	6/11/2011
24. Fred and Lynn Hirschy	12/12/2008	6/12/2011
25. Peterson Brothers Cattle Company	12/15/2008	6/15/2011
26. Quarter Circle 3T Ranch	1/6/2009	7/6/2011
27. Christiansen's East Bench Ranch	1/6/2009	7/6/2011
28. John Nelson	2/15/2009	8/15/2011
29. Jack Hirschy Livestock, Inc.	2/15/2009	8/15/2011
30. Robert Wueste	**	12/15/2011
31. Foster Company	**	12/15/2011
32. Ernest Bacon	**	12/15/2011

*Site-specific completed and cosigned by the landowner, FWP and the USFWS;
**Certificate of Inclusion not yet cosigned by both FWP and the USFWS.

IV. BIG HOLE GRAYLING CCAA RAPID ASSESSMENTS

The Participating Landowners in the Big Hole Grayling CCAA must allow the Agencies to conduct a "rapid assessment" of the enrolled property within 90 days of enrolling into the Big Hole Grayling CCAA. The rapid assessment focuses on the identification of immediate threats of mortality to grayling on the property and the validation of water rights compliance. Immediate threats to grayling may include structures, mechanical devices or pollutants that pose a threat of immediate mortality to grayling. Examples include: unscreened pumping from a creek or river, or toxic effluent entering into a creek or river. Additional information may be gathered through the assessments that assist with the development of the site-specific conservation plan with the Participating Landowner (Petersen and Lamothe 2006).

A. SURVEYS FOR IMMEDIATE THREATS TO GRAYLING

Surveys for immediate threats to grayling were conducted on the properties enrolled by Ernest Bacon and Robert Wueste. No immediate threats to grayling were identified during the surveys. Monitoring of enrolled property for immediate threats continues as the site-specific conservation plan is being developed by the Agencies.

B. WATER RIGHTS COMPLIANCE EVALUATION

The 2008 water rights compliance efforts completed by DNRC included miscellaneous flow rate assessments documenting diversions associated with 15 Participating Landowners. Initial water rights compliance for these landowners was completed in previous years. Most of the 2008 assessments were in conjunction with other flow monitoring efforts by DNRC which included mainstem and basin inflow synoptic measurement runs, continuous flow gaging of four large diversions, and diversion reductions associated with conservation efforts. In addition, initial water rights compliance was conducted per the rapid assessment protocol on diversions owned by Ernest Bacon. With assistance from FWP, DNRC evaluated 10 diversions for verification of compliance between 6/18/2008 and 6/25/2008.

V. SITE-SPECIFIC CONSERVATION PLANS COMPLETED AND APPROVED

The site-specific plan for the Upper Big Hole LLC (COI# Big Hole Grayling CCAA – 0039) was completed and approved by all parties on December 12, 2008. This site-specific plan is a ten-year agreement between the Participating Landowner, FWP, and the USFWS. Updates on the implementation of this site-specific plan, including compliance monitoring results, will be included annually in future reports.

VI. CONSERVATION MEASURES

Through the process of developing site-specific conservation plans for enrolled landowners the Agencies identify projects that will improve streamflows, enhance riparian and stream habitat quality, provide passage to fish through irrigation structures, and reduce or eliminate the entrainment of grayling within irrigation ditches. The following are projects that were either initiated or completed in 2008 or will be initiated in 2009. Additional projects that address conservation measures are described in the Arctic Grayling Recovery Program 2008 Montana Arctic Grayling Annual Report.

A. PROJECTS COMPLETED IN 2008

The following projects were completed in 2008. The projects were initiated in either 2006 or 2007. The project funding, permits, contracts and Environmental Assessments were completed prior initiating construction of the projects.

Big Hole River Restoration – Little Lake Creek Road Reach – Phase II

Project Overview

The Big Hole Restoration – Little Lake Creek Road Reach – Phase II Project focused on riparian habitat restoration on one mile of the Big Hole River near the town of Jackson, MT (Figures 3 and 4). The project is a collaborative effort between Dick Hirschy Cattle Company and FWP.

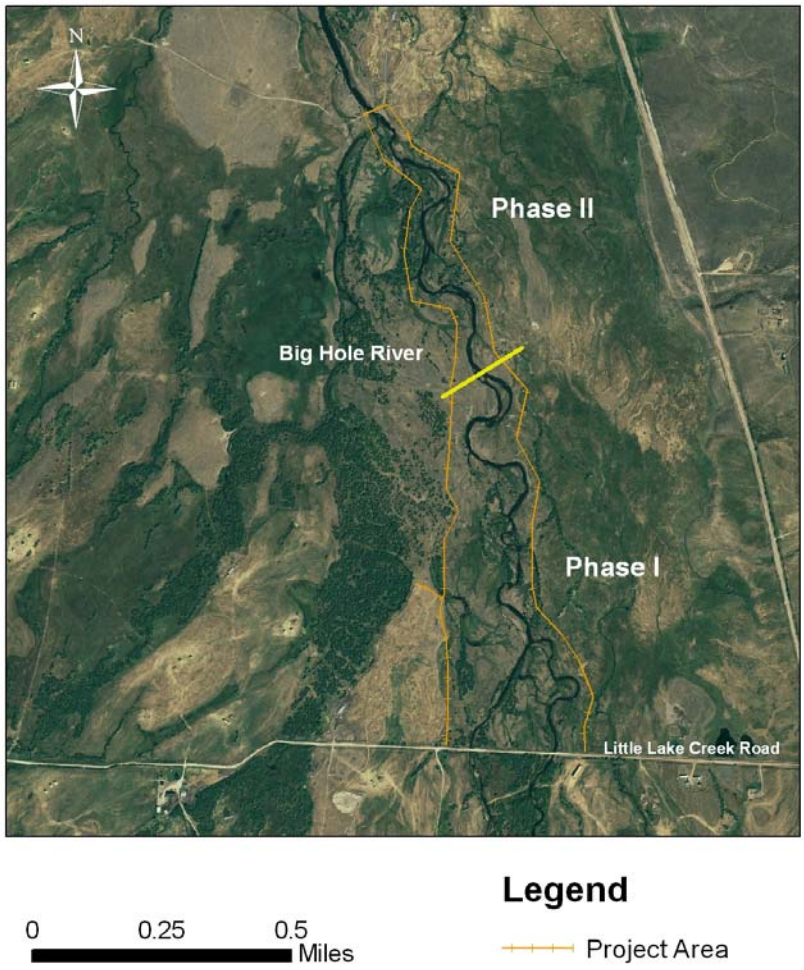

Figure 3. Project Area location for Big Hole River Restoration – Little Lake Creek Road Reach- Phase II Project.

Phase I of the project which included the installation of the riparian fence was funded in part by the Big Hole Watershed Committee (BHWC) and the USFWS Partners for Fish and Wildlife Program (Partners); (Lamothe et al. 2007). Phase II of the project focused on planting mature willow transplants on the outside streambanks (Figure 4) and willow bundles (4-6 ft in length and 8-10 willows per bundle) on point bars. All transplanted willows were pruned after planting. The goal is that by transplanting large numbers of native willows the streambanks will stabilize focusing the hydrological energy on scouring out existing pools, adding depth and cover to the aquatic system. The project is protected by an agreement with the landowner to keep cattle completely out of the project area until 2012. Confluence Consulting, Inc. provided the project oversight and R.E. Miller and Sons was in charge of project construction. Project design, funding, permitting, an environmental assessment and public comment were completed in 2007 and 2008. The landowner and the State Wildlife Grant (SWG) program provided support and funding for the project (Table 3). The project was completed in November of 2008.

Figure 4. Willow transplants along an outside bend of the Big Hole River within the project area.

Table 3. Funding partners and financial contributions for the Big Hole Restoration – Little Lake Creek Road` Reach-Phase II Project.

Funding Partner	Financial Contribution
FWP - SWG	$20,364.00
Dick Hirschy Cattle Co.	In Kind – Lost grazing Acreage

Big Hole River Restoration - McDowell Reach

Project Overview

The Big Hole Restoration – McDowell Reach Project focused on riparian habitat restoration and streambank stabilization on six river miles of the Big Hole River near the town of Wisdom, MT (Figure 5). The efforts focused on enhancing the riparian habitat and streambank stability within the project area (Figure 6). The project is a collaborative effort among one private landowner (John and Phyllis Erb/Erb Livestock Co.), a state and federal agency (FWP and Partners), and non-government organizations (BHWC and TNC). Project design, funding, permitting and public comment were completed in 2007 and 2008 (Lamothe et al. 2007). The project includes approximately 12 miles of riparian fence (3-strand electric), riparian revegetation (mature transplants and nursery stock) and streambank stabilization (sodmats, revegetation, bank pinning and willow wattles) (Lamothe et al. 2007). Rocky Mountain Fencing constructed the riparian fence, project oversight was provided by PBS&J, Rowe Excavation Inc. constructed the project, and labor was provided by the Montana Conservation Corps. The landowner, the BHWC, and the SWG program provided support and funding for the project (Table 4). Additional restoration work on this reach of the Big Hole River was conducted in fall 2008 and was managed by Jeff Everett (USFWS Partners) and funded by the BHWC.

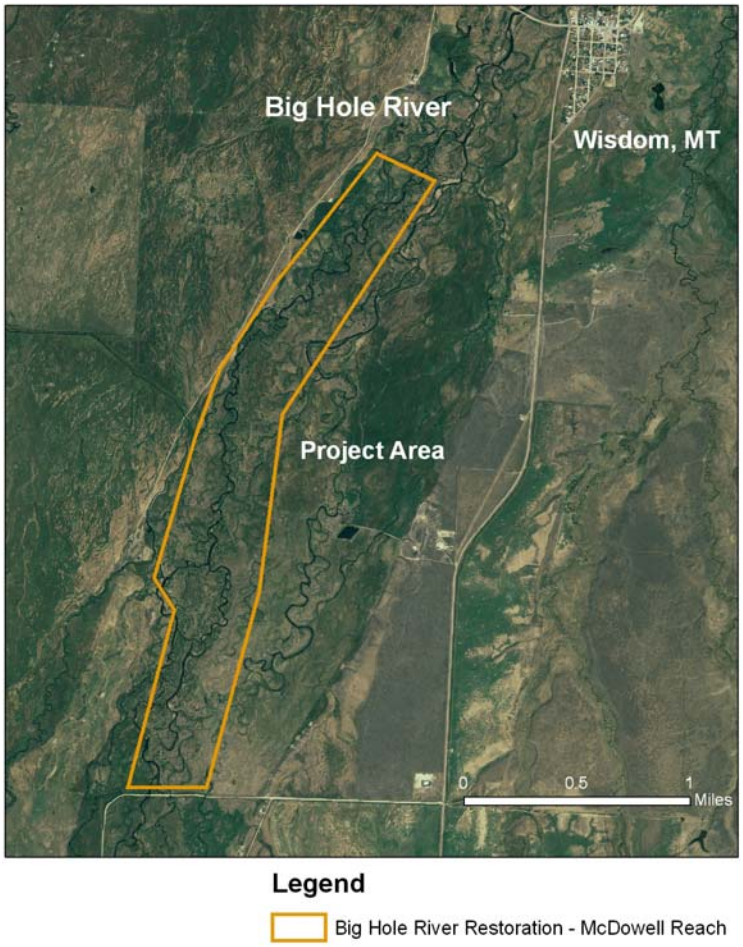

Figure 5. The location of the Big Hole River Restoration – McDowell Reach project area.

Figure 6. A member of the MCC crews contracted to prune newly transplanted willows within the restoration reach.

Table 4. Funding secured to date for the Big Hole River Restoration – McDowell Reach Project.

Funding Partner	Financial Contribution
FWP - SWG	$86,950.00
BHWC	$75,000.00
John and Phyllis Erb	Value of on-site materials

Huntley Irrigation Improvement Project

Project Overview

The NRCS, FWP, and DNRC collaborated with Ralph Huntley and Son, Inc. to improve the ability to control and measure irrigation withdrawals from the Big Hole River at three points of diversion (Figure 7). The project replaced three existing diversions and four headgates in need of repair with new structures (Figure 8). The project also installed two irrigation water measuring devices in the associated irrigation systems. The project design and permitting were completed in 2007. Project construction was completed in November 2008. The total cost for the project including design, construction, and oversight is $75,123.00 (Table 5).

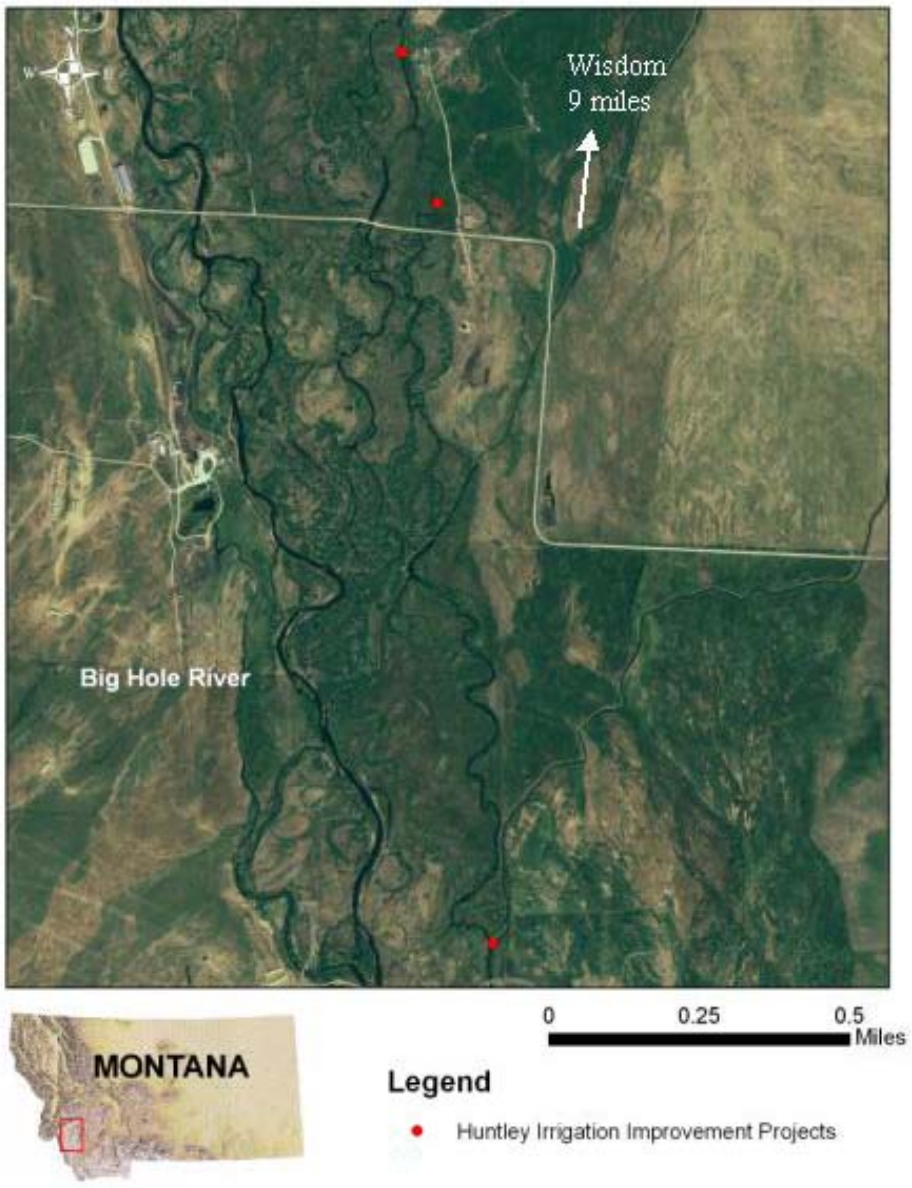

Figure 7. The location of the points of diversion involved in the Huntley Irrigation Improvement Project.

Figure 8. One of the new headgates installed as part of the Huntley Irrigation Improvement Project.

Table 5. Funding partners and contributions for the Huntley Irrigation Improvement Project.

Funding Partner	Financial Contribution
Ralph Huntley & Son, Inc. (EQIP)	$54,136.00
FWP - SWG	$11,987.00
Ralph Huntley & Son, Inc. (cash)	$5,000.00
DNRC	$4,000.00

EQIP=Environmental Quality Initiative Program; SWG = State Wildlife Grant

Hirschy Irrigation Structure Improvement

Project Overview

Dick Hirschy Cattle Co. and FWP collaborated to install a new headgate, rock diversion, and a flow measuring device at one point of diversion on the Big Hole River in 2008 (Figures 9 and 10). The diversion was designed so that migrating fish can pass by the structure. The permits, environmental assessment, and construction contracts for the project were completed in 2008 prior to project construction. The landowner and the FWP-SWG program supported and funded the project (Table 6).

Table 6. Funding partners and contributions for the Huntley Irrigation Improvement Project.

Funding Partner	Financial Contribution
FWP - SWG	$20,000.00
Dick Hirschy Cattle Company (cash)	$5,000.00

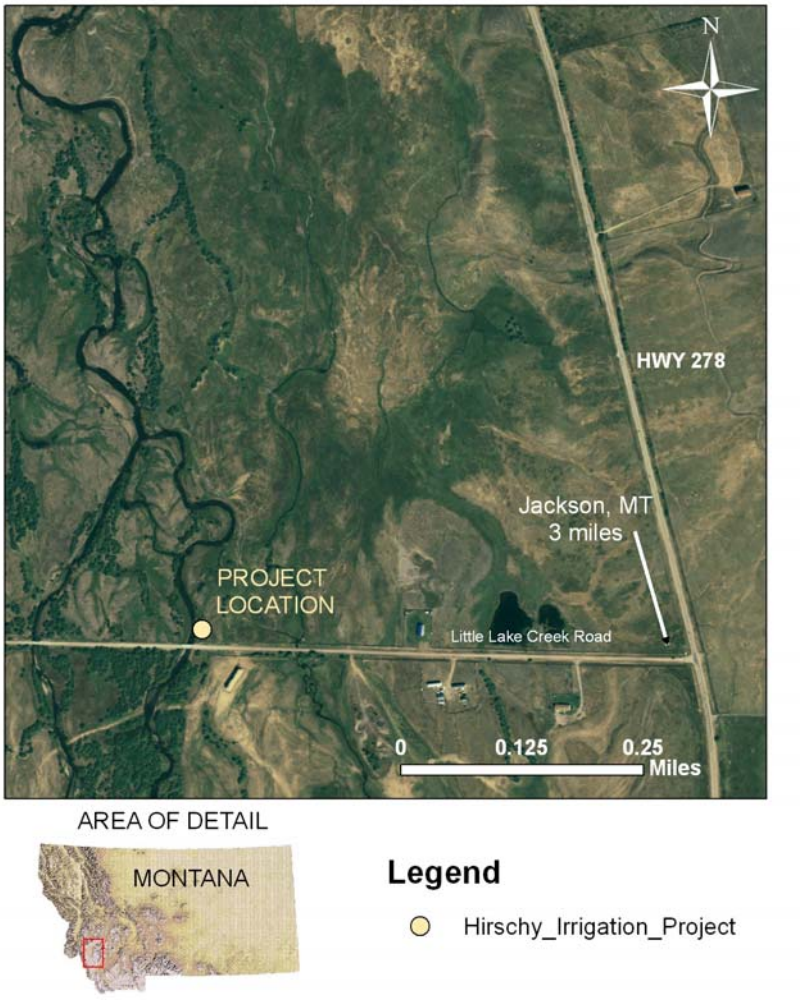

Figure 9. Project location map for the Hirschy Irrigation Improvement Project.

Figure 10. Connecting the new headgate to the irrigation ditch on the Hirschy Irrigation Improvement Project.

Rock Creek Riparian Fence

Project Overview

The project constructed approximately 4,000 linear feet of three-strand electric fence with jack-leg braces along one side of Rock Creek on the property of Wisdom River Cattle Company (Figure 11). The fence was used to reduce the size of the existing pasture and offered additional protection to riparian habitat along Rock Creek. The project was completed in June 2008. The project cost $10,500.00 to implement and was funded through the SWG program.

Figure 11. New fencing along Rock Creek design to enhance protection of riparian habitat.

B. PROJECTS SCHEDULED FOR COMPLETION IN 2009

The following projects are scheduled for completion in 2009. The projects were initiated in either 2007 or 2008. The projects have been funded and contracts are in place with the consultants or contractors.

Fish Exclusion Projects

Project Overview

FWP is working with a landowner on the North Fork of the Big Hole River (North Fork) to address continued low levels (< 10 individuals) of grayling entrainment in irrigation ditches in this part of the watershed. In 2007, PBS&J was awarded a contract to generate design options for fish exclusion devices for two irrigation systems off of the North Fork. The project was funded through the FWP-SWG. The cost of generating the design options was $23,105.00. A final design and screen types will be evaluated in spring 2009. The installation of the fish screens is scheduled for fall 2009.

Miner Creek Riparian Fences

Project Overview

The project calls for the construction of approximately 4.5 miles of riparian pasture along two braids of Miner Creek on the Johnson Brothers, Inc. property near the town of Jackson, MT (Figure 12). Three types of fencing will constructed including: 0.33 miles of jack-leg fence, 1.67 miles of 5 strand barbed wire fence on wooden posts, and 2.5 miles of three-strand electric fence on fiberglass posts. The goal of the projects is to allow the landowner to manage cattle on the

property in a manner that leads to enhance riparian and stream habitat conditions. The cost of the project is $20,361.00 and includes the landowner in-kind contribution of disposing of old fence material.

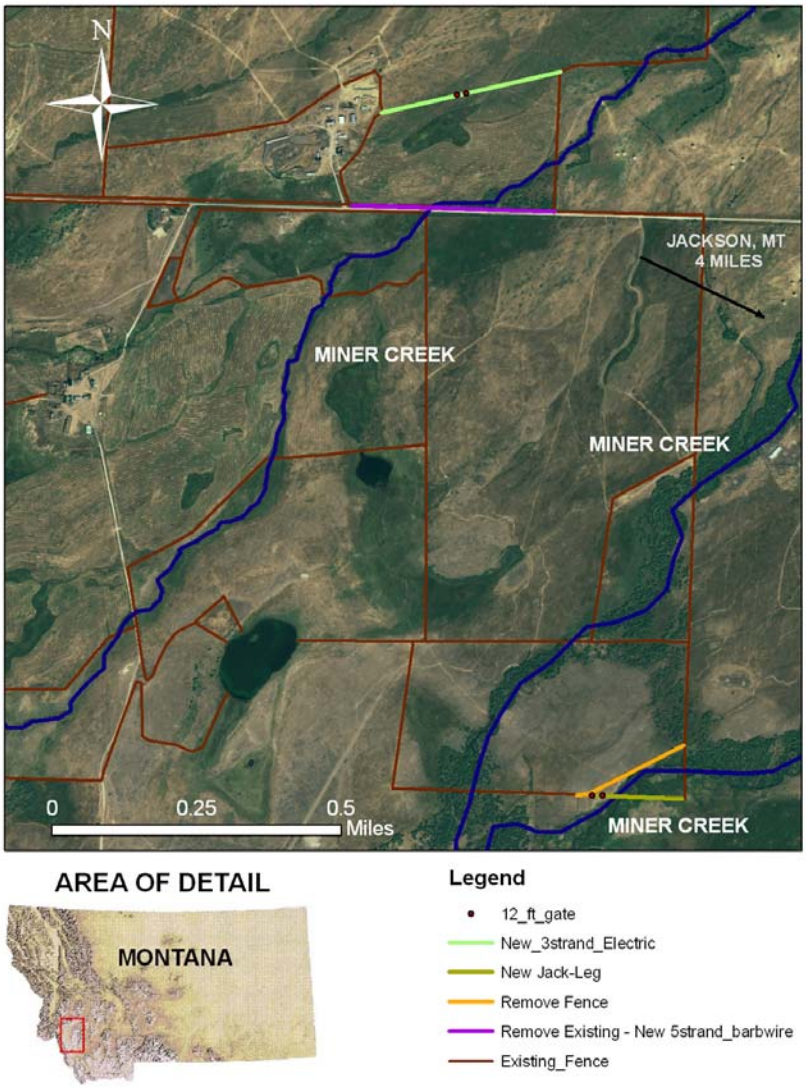

Figure 12. Location of fencing projects designed to protect riparian habitat along two braids of Miner Creek.

Wisdom Bridge Streambank Stabilization Project

Project Overview

In 2008, Confluence Consulting, Inc. was contracted to design methods to stabilize approximately 150 feet of streambank along the Big Hole River directly upstream of the Highway 43 Bridge near the town of Wisdom, MT. The erosion occurring at this location has

reached a point where an existing fence is at risk of falling into the river and fish habitat has been severely degraded (Figure 13). The design was developed in consultation with representatives from the Montana Department of Transportation (MDT). The design calls for stabilizing the streambank using a combination of a rock toe and revegetating with native grasses, sedges, and willows. Construction of the project is scheduled for October 2009. The cost of the design was $16,250.00. The permits, Environmental Assessment, contracts for construction will be put in place in 2009, prior to project construction.

Figure 13. Eroding streambanks along the Big Hole River near the town of Wisdom, MT.

C. PROJECTS INITIATED IN 2009

The following projects are being initiated in 2009 and will be completed in either 2010 or 2011. The projects have been funded and contracts are in place with Oasis Consulting.

North Fork Restoration Project

Project Overview

The North Fork offers a unique opportunity in terms of protecting the grayling population of the upper Big Hole watershed. In recent years, no grayling have been captured in the North Fork during fall grayling population monitoring efforts, yet small numbers (<10 individuals) of grayling have been consistently captured within the irrigation ditches connected to the North Fork (FWP data 2006-2008). These data suggests that grayling are trying to access habitats in the North Fork, but are being limited by entrainment within these irrigation ditches and possibly by habitat conditions in the North Fork. As part of an effort to address these issues, Oasis Environmental will begin collecting data on a six-mile reach of the North Fork in 2009 to

provide the information necessary to generate a restoration design by fall 2010 (Figures 14 and 15). The data collection will include: collection of channel cross-section data at 30 stations in both 2009 and 2010; collection of continuous streamflow data at two mainstem locations, two side channels locations, and in up to five irrigation ditches in both 2009 and 2010; three longitudinal profiles of a minimum of 1,000 ft within the project reach in both 2009 and 2010, surveys of streambank vegetation; and an evaluation of eroding streambanks. The riparian fencing along the project reach is scheduled for installation in 2009 and restoration activities are expected to begin in 2011.

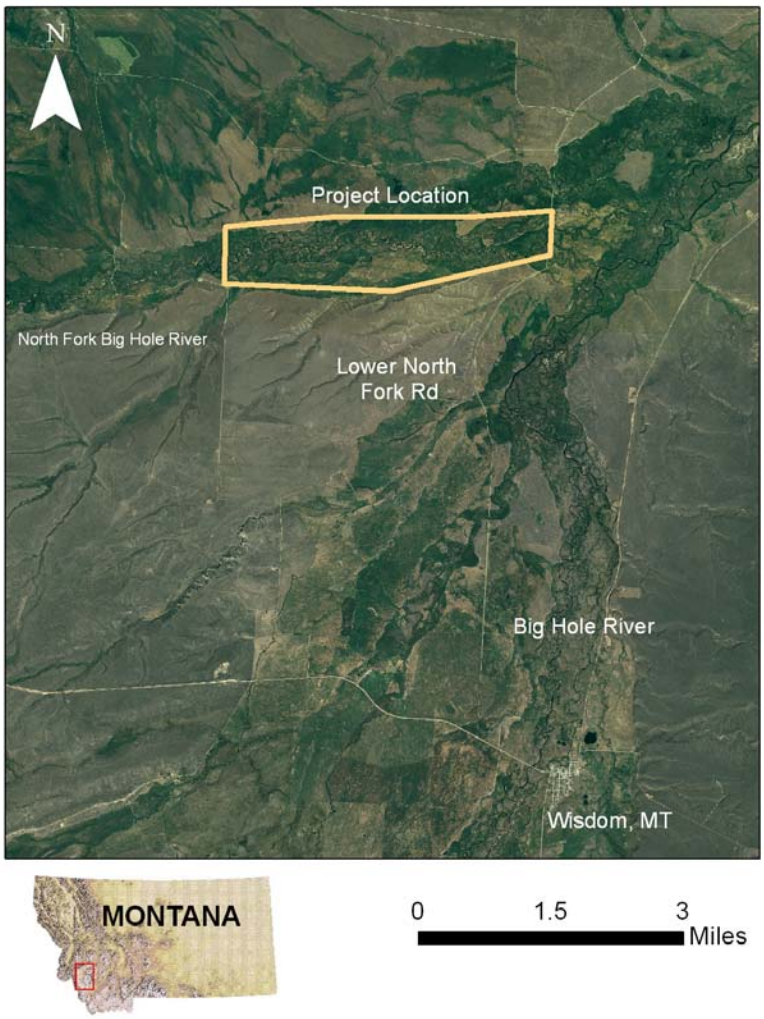

Figure 14. Location of the North Fork Restoration Project.

Figure 15. Streambank and riparian conditions typical to the North Fork.

Big Lake Creek Restoration

Project Overview

Big Lake Creek historically was considered important to grayling for spawning and juvenile rearing habitat. Recent fish population monitoring efforts show that that is no longer the case, possibly due to issues with a lack of connectivity between Big Lake Creek and the Big Hole River and poor streamflow conditions due to demands for water to irrigate pastures. This project represents a unique opportunity to begin a restoration effort near the headwaters of the creek and work downstream, as needed, to complete the restoration efforts. The project will occur along 1.25 miles of Big Lake Creek on the property of Wisdom River Cattle Company (Figures 16 and 17). Oasis Environmental has been contracted to collect channel morphology, vegetation, and streamflow data within the project reach for two years (2009 and 2010). These data will allow for the generation of a restoration design that will guide restoration efforts in fall 2011.

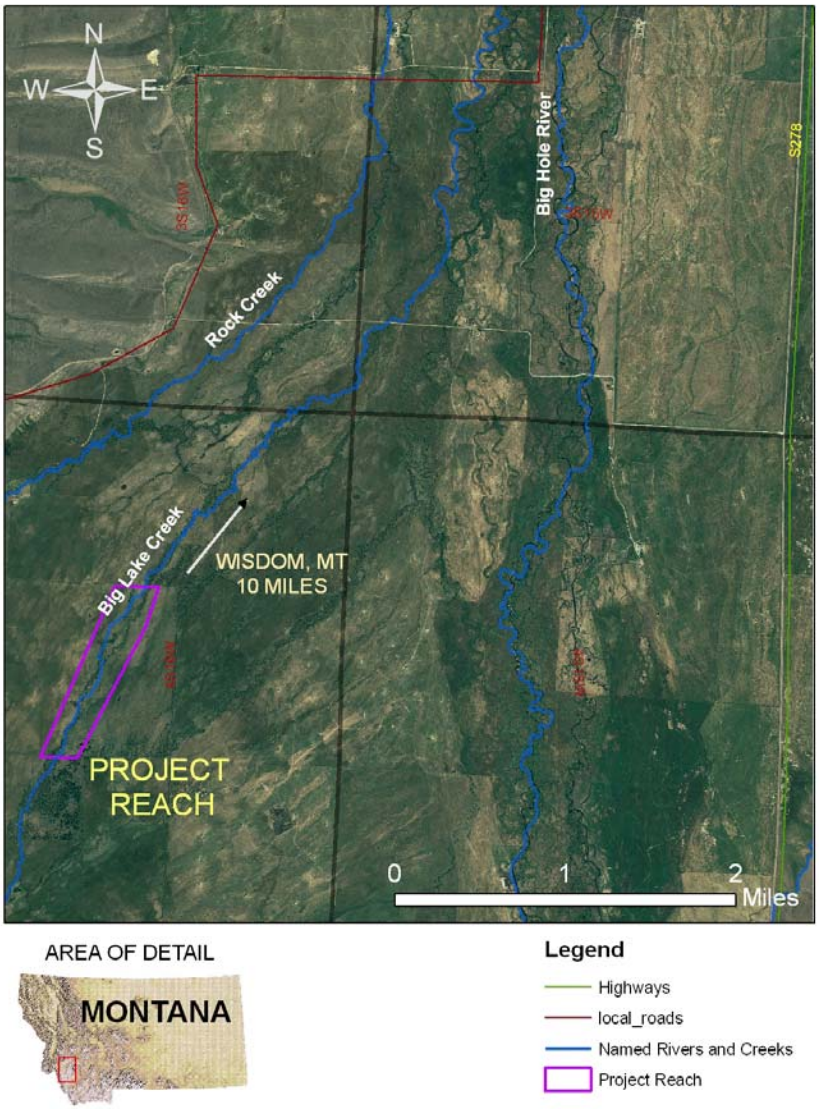

Figure 16. The location of the Big Lake Creek Restoration Reach.

Figure 17. Habitat conditions within the restoration reach in November 2008.

VII. MONITORING

The Big Hole Grayling CCAA requires a wide variety of monitoring associated with the restoration activities implemented under this agreement and the biological responses of the grayling population from those activities. This report focuses on two aspects of the monitoring associated with the implementation of the Big Hole Grayling CCAA (entrainment and fish movement in restoration reaches). Summaries and results from other monitoring activities associated with the Big Hole Grayling CCAA are described in the Arctic Grayling Recovery Program 2008 Montana Arctic Grayling Annual Report.

A. ENTRAINMENT SURVEYS

In 2008, FWP surveyed approximately 4.90 miles of irrigation ditch in nine locations for entrained grayling. Survey crews captured a total of six grayling in three locations. These fish were rescued from the ditches, but prior to release, the grayling were measured, weighed, and given an individual VI or Passive Integrated Technology (PIT) tag.

B. FISH MOVEMENT USING PIT TAGS

In 2008, FWP installed and monitored six PIT tag antennae stations within or near past, present, and future stream reaches where restoration activities have been implemented by the Agencies. The data collected at these antennae stations will help to evaluate the effectiveness of these restoration projects in increasing the number of grayling in these areas.

In 2008, approximately 1,300 PIT tags were implanted into nine different species of fish (Arctic

grayling (55), brook trout (709), brown trout (119), rainbow trout (162), burbot (103), mountain whitefish (68), white suckers (55), long nose suckers (43) and mottled sculpin (2)). The data for recaptures (detections) and movement are currently in the process of analysis. The goal of the monitoring is to capture fish movement data associated with reaches of the Big Hole River and its tributaries that have had restoration activities completed in the last five years. The monitoring will continue as long as resources are available. The BHWC and the FWP-SWG program provided funding for the purchase of the monitoring equipment.

VIII. SUMMARY OF ESTIMATED TAKE ASSOCIATED WITH THE BIG HOLE GRAYLING CCAA

In 2007, the grayling distinct population segment (DPS) in the upper Missouri River basin was determined to be unwarranted for listing under the ESA by the USFWS and was removed from the Candidate Species List. Due to its legal status there was no take of grayling associated with the implementation or monitoring of the Big Hole Grayling CCAA in 2008.

IX. PUBLIC OUTREACH, TECHNICAL COMMITTEES, AND SPECIAL FUNDING

The Big Hole Grayling CCAA represents a collaborative effort among the Participating Landowners, the Agencies, and several non-government organizations with a conservation interest in grayling and the Big Hole watershed. Working groups and technical committees have and will be formed to deal with a variety of issues associated with the Big Hole Grayling CCAA as they arise to meet our commitments and maximize the effectiveness of this Program.

A. HUB AND SPOKE WORKING GROUP

The Hub and Spoke Working Group is made up of both government and non-government organizations directly involved in preserving the health of the Big Hole River watershed and the local grayling population. Members of the Big Hole Watershed Steering Committee created the concept for this group. The group met regularly throughout the year to provide updates on issues associated with the upper Big Hole watershed, grayling recovery, to discuss restoration project ideas, and brainstorm on project funding opportunities. Members of the group represent: the BHWC, the Big Hole River Foundation, Montana Trout Unlimited, the Western Water Project, The Nature Conservancy, FWP, the USFWS, DNRC, and NRCS.

B. UPPER BIG HOLE WATERSHED WATER RIGHTS TECHNICAL COMMITTEE

The Upper Big Hole Watershed Water Rights Technical Committee was formed to assist and provide technical expertise to the Agencies and private landowners in dealing with the water right issues associated with implementing the conservation measures described in the Big Hole Grayling CCAA. The Committee is made up of staff from FWP, DNRC, the Western Water Project, and the Montana Water Trust. In 2008, the Committee assisted landowners with information on Applications to Change a Water Right, provided input into streamflow monitoring needs, and provided technical advice on how to address water right related issues.

C. NRCS SPECIAL FUNDING

In 2008, NRCS provided funding for a full-time technician with both FWP and DNRC. The

funding for the technician with FWP was not renewed and the position was discontinued in June. The hope is that funding for this position will be renewed in the future to continue with the important work the funding allowed to be accomplished as part of this effort. The position with DNRC is dedicated to collecting hydrological data that will assist in the completion of the site-specific plans.

D. THE ARCTIC GRAYLING RECOVERY WEBSITE

The AGRP Website was discontinued in 2008 due to a shift in resources. Information related to grayling recovery is available at the FWP website. The website can be accessed at: http://fwp.mt.gov/wildthings/concern/grayling.html

X. LITERATURE CITED

Lamothe, P., J. Magee, E. Rens, A. Petersen, A. McCullough, J. Everett, K. Tackett, J. Olson, M. Roberts, and M. Norberg. Candidate Conservation Agreement with Assurances for Fluvial Arctic Grayling in the Upper Big Hole River Annual Report 2007. Montana Fish, Wildlife & Parks. 58 pp.

Montana Department of Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service. 2006. Candidate Conservation Agreement with Assurances for Fluvial Arctic Grayling in the Upper Big Hole River. 153 pp.

Petersen, A. and P. Lamothe. 2006. Candidate Conservation Agreement with Assurances Big Hole River Rapid Assessment Findings Report. Submitted to: Fluvial Arctic Workgroup. Montana Fish, Wildlife and Parks, Bozeman, MT.

Womack, K.L. 2008. Factors affecting landowner participation in the Candidate Conservation Agreements with Assurances program. Utah State University. 137 pp.

ACKNOWLEDGEMENTS

Henry Ford once said," Whether you believe you can, or whether you believe you can't, you're absolutely right". I would like to thank the following (in random order) for believing that we "can" help to preserve the biological and cultural heritage of the upper Big Hole watershed.

Jim Magee, Emily "Emma" Rens, Austin McCullough, Adam Petersen, Tracy Elam, Jeff Everett, Mike Roberts, Travis Zangri, Dick Oswald, Pat Flowers, Bruce Rich, Jeff Hagener, Joe Maurier, Chris Smith, Chris Hunter, Ken McDonald, Bob Snyder, Mel Frost, Nancy Podolinsky, Travis Horton, Karen Zackheim, Andy Brummond, Bill Schenk, Becky Dockter, Glenn Phillips, Mark Lere, Mike McClane, Don Skaar, Craig Fager, Vanna Boccadori, Rick Dorvall, Paul Valle, Jim Boetticher, Noorjahan Parwana, Jill Luebeck, Jamie Murdoch, Michelle Cavanaugh, Randy Smith, Steve Luebeck, Jim Hagenbarth, Bill Cain, the Big Hole Watershed Committee, Doug Peterson, Mark Wilson, Randy Gazda, Dave White, Kris Berg, Tim Griffiths, Vic Hager, Dennis Loreth, Tim Ouellette, Joe Fidel, Jim Olsen, Rich Nordquist, Kyle Tackett, Buddy Drake, the Arctic Grayling Workgroup, Bruce Farling, Stan Bradshaw, Laura Zeimer, Jim Stutzman, Montana Chapter of the American Fisheries Society, John Ferguson, Richard Hutto, Mike Bias, Steve Parker, Rob Thomas, Tim Dwyer The Big Hole River Foundation, Oasis Consulting, Inc., Confluence Consulting Inc., PBS&J, R.E. Miller and Sons, Rowe Excavation, Inc., Jeff Schahczenski, Pat Munday, Rob Thomas, Mary Sexton, Jan Langel, Lisa Bay, Tim Swanson, Nathan Korb, Perk Perkins, The Nature Conservancy of Montana, Montana Trout Unlimited, the Western Water Project, the Montana Water Trust, the Orvis Foundation, John and Phyllis Erb, Calvin, Brooke & Brynn Erb, Guy and Joni Peterson, Arlene Winn, John Dooling, Fred and Lynn Hirschy, Heidi Hirschy, Jack Hirschy, John Jackson, Joe Johnson, Nate Finch, Peter Frick, Martin Jackson, Bus and John Husted, Joe and Barbara Clemans, Stanley Rasmussen, Dave and June Guckenberg, John Reinhardt, Phil Ralston, Thomas Luckey, Clayton and Blake Huntley, Harold Peterson, John Nelson, Tom Mitchell, Brad Foster, Walt Zobel and Frances Strodtman-Royer, the Big Hole Grazing Association, Ray and Gloria Weaver, Max Lapham, Ted Christiansen, Ernest Bacon, Don Reese and Robert Wueste.