MEMORANDUM OF UNDERSTANDING AND

CONSERVATION AGREEMENT

FOR

WESTSLOPE CUTTHROAT TROUT
(Oncorhynchus clarki lewisi)

IN

MONTANA

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
1420 East Sixth Avenue
Helena, Montana 59620

MAY 1999

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This Memorandum of Understanding and Conservation Agreement (Agreement) has been developed to expedite implementation of conservation measures for westslope cutthroat trout *(Oncorhynchus clarki lewisi*) in Montana (Fig. 1) as a collaborative and cooperative effort among resource agencies, conservation and industry organizations, resource users, and private land owners. Threats that warrant consideration of westslope cutthroat trout as a Species of Concern by the State of Montana, a Sensitive Species by the U.S. Forest Service, a Species of Special Concern by the Bureau of Land Management, and as Species of Special Management Concern by the U.S. Fish and Wildlife Service should be significantly reduced or eliminated through implementation of this Agreement.

I. CONSERVATION AND RESTORATION GOAL

Background

A management goal and objectives for westslope cutthroat trout (WCT) in Montana were developed by the Westslope Cutthroat Trout Steering Committee (WCTSC), which includes representatives from American Wildlands, Montana Chapter of the American Fisheries Society, Montana Department of Natural Resources and Conservation (DNRC), Montana Farm Bureau, Montana Fish, Wildlife and Parks (FWP), Montana Stockgrowers Association, Montana Trout Unlimited, Montana Wildlife Federation, Natural Resource Conservation Service (NRCS), private landowners, U.S. Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and U.S. Forest Service (USFS). Two earlier drafts of the management goal were presented to the public for their review and comment. Comments were reviewed by the WCTSC and incorporated into the management goal and objectives.

The basic premise of the management goal for WCT presented below is to protect existing populations, and ensure the long-term persistence of WCT within their historic range in Montana. In order to protect existing populations and help them persist over time, it will be necessary to increase numbers in some, and expand others. Simply maintaining the status quo will not be sufficient for long-term persistence of all populations.

Fig. 1. Map showing historical range of westslope cutthroat trout in Montana.

Technically feasible and measurable objectives to attain the management goal have been developed as part of the goal. Objectives are not regulations, but rather are guidance that, if followed and achieved, should ensure the management goal is met. Ideally, 100% attainment of the objectives should occur. Realistically, objectives may not be attained at 100%. For example, because of natural and human-caused variability, it is probable that some populations will go extinct over time. However, additional populations will be reestablished, and other populations not currently known will likely be discovered, resulting in a high level of compliance overall.

Although the goal and objectives are based on the best current scientific thought, as outlined in Appendix A of the management plan, the WCTSC acknowledges that there remain sources of uncertainty about the habitat needs and population dynamics of WCT. This uncertainty may necessitate the goal or objectives being modified over time to reflect changes in current knowledge about WCT.

GOAL:

The management goal for westslope cutthroat trout in Montana is to ensure the long-term, self-sustaining persistence of the subspecies within each of the five major river drainages they historically inhabited in Montana (Clark Fork, Kootenai, Flathead, upper Missouri, and Saskatchewan), and to maintain the genetic diversity and life history strategies represented by the remaining local populations.

OBJECTIVES:

The following objectives will be required to attain the goal of this strategy:

Objective 1.	Protect all genetically pure WCT populations
Objective 2.	Protect introgressed (less than 10% introgressed) populations
Objective 3.	Ensure the long-term persistence of the WCT within their native range
Objective 4.	Provide technical information, administrative assistance, and financial resources to assure compliance with the listed objectives and encourage conservation of WCT
Objective 5.	Design and implement an effective monitoring program by the year 2002 to document persistence and demonstrate progress towards goal

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Objective 1. Protect all genetically pure WCT populations

All genetically pure populations are to be provided the protection necessary to ensure their long-term persistence. For purposes of this objective and overall management plan, WCT populations are assumed to be pure westslope, until determined by genetic testing, if they have the physical characteristics of WCT described by Behnke (1992). Protection includes expansion of small, isolated populations where possible and maintaining or developing high quality habitats to

prevent extirpation due to small population size or stochastic events. In some instances protection could also include genetically replicating and establishing a population that cannot otherwise be maintained in its present condition (i.e., establishing that genetic stock at another location). Protection will be further defined in action plans in the upper Missouri basin, and in 4th code sub-basin plans developed as part of this agreement.

Also for the purposes of this Conservation Agreement, a population is defined as the aggregate of WCT in each stream identified in the Montana Rivers Information System (MRIS) database and on 7.5 minute USGS maps, whether named or unnamed, that supports WCT. Thus, each tributary that supports WCT, regardless of its length, constitutes a population. While this is recognized as a somewhat arbitrary definition, it will help ensure consistency when identifying populations for management and monitoring purposes.

Individual 4th code sub-basin plans developed as part of this agreement will replace the Short-term Strategy for Conservation of WCT in the upper Missouri River Basin. As part of the Short-term Strategy for the Conservation of WCT in the Upper Missouri River basin, federal land managers were to evaluate all streams containing 90-100%WCT populations to determine potential impacts of ongoing activities. For those streams on federal lands where ongoing activities were identified as having moderate or high impacts, land managers were to develop and implement action plans to show how the potential impacts will be modified. Action plans for all WCT populations on federally managed lands in the upper Missouri River basin will be compiled and summarized by 2002, with a summary of how those impacts were/are being addressed. Through this plan, their implementation and effectiveness will be tracked.

Objective 2. Protect slightly introgressed (less than 10% introgressed) populations

Populations where a genetic sample shows greater than a 90% WCT genetic contribution indicate suitable habitat for WCT and may have genetic value. The protections afforded to pure westslope populations, therefore, will be provided to such populations until land management and fish management agencies make a determination about the role of such habitats and populations for WCT restoration. Populations that have been identified as introgressed from a genetic sample may contain significant numbers of genetically pure individuals due to the nature of genetic sampling. This can result because genetic samples either contain a few genetically pure individuals mixed with introgressed individuals, or because genetic samples were taken in a lower location where introgression has occurred, but a genetically pure population still exists further upstream in the drainage. Determinations will be conducted on a water by water basis as part of basin planning that will be completed for fourth code HUCs (see Agreement Assessment section on page 8).

Objective 3. Ensure the long-term persistence of the westslope cutthroat trout within their native range

The long-term persistence of westslope cutthroat trout within their native range will be ensured by maintaining at least ten population aggregates distributed throughout the five major river drainages in which they occur, each occupying at least 50 miles of connected habitat, distributed as follows:

Saskatchewan River	At least one interconnected population
Kootenai River drainage:	At least one interconnected population
Flathead River drainage:	At least two geographically separate interconnected populations
Clark Fork River drainage:	At least two geographically separate interconnected populations
Missouri River drainage:	At least four geographically separate interconnected populations, with at least one each in the following drainages:

East Front tributaries (Sun, Teton, Marias)
Southern tributaries (Smith, Belt, Judith)
Upper Missouri (Big Hole, Gallatin, Madison)
Middle Missouri (Boulder, Jefferson)

To ensure that these population aggregates persist, they must be isolated from potentially introgressing species, and at least one local population (tributary population within the connected habitat), must persist for more than 10 years (representing 2-3 generations). Monitoring at a frequency of at least once every 10 years must be done to document this persistence. If at least one local population persists within each population aggregate, individuals from that persisting local population would have the potential to disperse and re-found any other local population that might go extinct.

The interconnected populations within each major river drainage should be geographically separate to help ensure long-term persistence. The subbasins targeted to provide these interconnected population aggregates will be identified according to the attached schedule (Table 1). Every effort should be made to develop interconnected populations that have open connectivity up and down stream throughout at least 50 continuous miles of stream habitats. However, it might be impossible to have upstream connectivity of all headwater habitats of some tributaries due to natural upstream migration barriers. Where these conditions exist, monitoring of persistence must be done above any natural barriers, as well as somewhere else within the connected habitats, to ensure that these segments of the population persist. If isolated headwater segments become extinct, those population segments must be re-founded by moving WCT from below the natural barrier.

While at least 50 miles of interconnected habitats has been recommended as the minimum for conserving population aggregates, it might not be possible to reach this goal in a particular geographic region. If detailed analyses have failed to identify any area in a geographic region where at least 50 miles of stream habitats could be connected to support interconnected populations; the largest feasible area of interconnected habitats that can be found should be used to develop interconnected populations so that the intent of the objective is met. In this case, the

rationale and analyses showing the unavailability of larger habitat areas must be documented.

Before the 50-mile interconnected population is publicly identified, landowners within the 50-mile corridor will be contacted and provided information about project proposals, and will be provided the opportunity to contribute to the project design. Landowner consent and support will be an essential component of identifying the locations.

Objective 4. Provide technical information, administrative assistance, and financial resources to assure compliance with the listed objectives and encourage conservation of WCT

Numerous heretofore unsurveyed populations of WCT may occur on private lands. Private landowners on whose lands these unknown populations exist, as well as those on whose lands WCT are known to exist, might be hesitant to allow survey, inventory, or follow-up monitoring due to fears about potential Endangered Species Act (ESA) listing and subsequent regulation. Similarly, because of unknown regulatory restrictions associated with potential ESA listing, landowners whose lands will be included as part of the expansion of existing populations, particularly those within the 50-mile connected populations, could be hesitant to support such efforts. To help offset/alleviate these concerns and garner voluntary support of private landowners, it is important that administrative assistance be available to private landowners wherever possible to provide regulatory relief. Such relief includes approval of negotiated, mutually acceptable Candidate Conservation Agreements with assurances (if the species remains unlisted), or Habitat Conservation Plans if the species becomes listed. Most landowners lack the financial resources or technical expertise to write such agreements. To ensure voluntary cooperation of private landowners, these types of agreements will be completed with landowners, if requested, as part of the planning and environmental review (MEPA/NEPA) process associated with expansion of existing populations. The USFWS and Montana FWP will jointly share responsibility to actually prepare such agreements for private landowners. Provisions included in the CCA/HCP will be negotiated with landowners, will meet the biological needs of WCT, and will provide landowners with assurances that they will not face further requirements beyond what is required by the Agreements. If possible, incentives (e.g., waiver of inheritance tax) should be provided to those landowners who voluntarily harbor and nurture populations of WCT.

Objective 5. Design and implement an effective monitoring program by the year 2002 to document persistence and demonstrate progress towards goal

An effective monitoring program will be designed and implemented to document distribution, genetic integrity, and persistence of westslope populations. Such a monitoring program will include information on the status of WCT populations, their habitat, and ongoing and planned management actions. The monitoring program will allow managers to assess the overall status of WCT in Montana, and gauge the efficacy of management actions. Outcomes of management actions will be employed in an adaptive management approach in which future management actions are modified and refined according to information obtained from the outcomes of previous management actions. WCT population and genetics monitoring data will be housed in the MRIS database maintained by FWP. Monitoring data maintained by MRIS will be

summarized at least annually by the WCT Coordinator or FWP, and will be reported to the Steering Committee to assess progress towards meeting Agreement objectives.

It is important that these objectives are read together and are not considered independent of one another. For example, some of the major river basins may already meet or exceed the requirements of Objective 3. This does not mean that the other existing interconnected populations in those basins in excess of those that meet Objective 3 may be degraded, because all existing pure populations and some introgressed populations are to be protected under Objectives 1 and 2.

The importance of Objective 4 cannot be overemphasized. The success of the WCT management plan depends upon the cooperation of public land managers and users, as well as the voluntary cooperation of private land owners. This management plan emphasizes cooperative efforts between land owners and mangers as well as other resource users and agencies as the key to westslope cutthroat trout management. Cooperation will be maximized if the responsible agencies provide the necessary information and assistance to other cooperating entities.

Carefully monitored recreational fishing that may include harvest will be allowed for those populations that contain a sufficient number of individuals to provide for regulated angler use.

II. AGREEMENT

By signing this Agreement, the signators accept the goals and objectives contained herein, will incorporate them into their respective planning and budgeting process, and will strive to accomplish the goals and objectives within identified time frames. Further, the signators commit to work through their budgeting processes to gain the resources necessary to work towards accomplishment of goals and objectives of this plan (Reference Section V - Authority, Non-Fund Obligating Document). Implementation of this plan, and achievement of its goals and objectives should ensure the long-term viability of WCT.

The success of this agreement towards achieving the management goal and objectives for WCT in Montana will be determined by: 1) the number of extant pure populations in the future vs. the present number known as of 1/1/99 (Table 2), 2) the number of stream miles occupied by pure WCT populations (should increase), and 3) the overall trends of monitored populations (should be stable or increasing). The status of the Westslope Cutthroat Trout Conservation Agreement will be evaluated annually to assess program progress and ensure its continued satisfactory implementation.

Nothing in this agreement, including its goals and objectives, shall interfere with the recovery of any species presently listed under the Endangered Species Act.

It must be realized that neither this Agreement, nor any other regulatory (e.g., ESA) or voluntary planning effort, will result in complete restoration of WCT throughout their historic range. Many of the factors and threats that have led to the current restricted distribution of WCT in

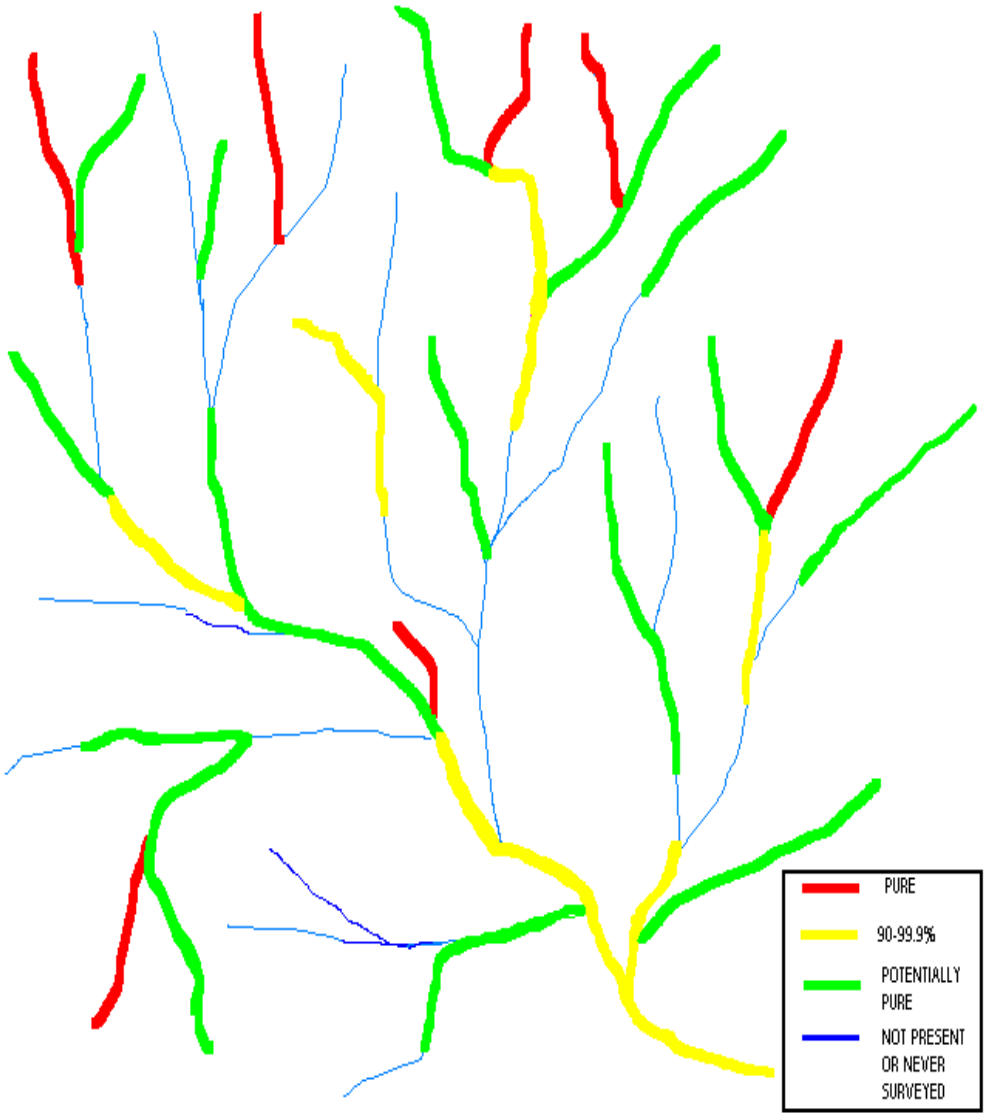
Montana are irreversible (e.g., establishment of introduced species in mainstem rivers, permanent destruction of habitat), at least with current technology. For example, the introduction of nonnative species has eliminated WCT or swamped WCT genes in portions of their range. Because of the size and complexity of the waters where these introduced species have become established, it is not logistically or technically possible to eradicate those species in many of them. Therefore, this plan attempts to reduce or halt threats to the viability of WCT, and then restore and expand a sufficient number of populations to ensure the long-term persistence of WCT in Montana.

III. AGREEMENT ASSESSMENT

To assess program progress, a baseline of known pure populations in each fourth code HUC (e.g., Bitterroot River, Big Hole River, Smith River) as of 1/1/99 will be established (Table 2). Known pure populations will be based on a sample of at least 25 genetically pure fish, ideally collected throughout a stream's length. Where a genetically pure sample of less than 25 fish exists as of 1/1/1999, field personnel will have until 1/1/2004 to collect additional fish for genetic analysis to provide a sample size of at least 25 fish to confirm the genetic purity of the population. Those most recent sampling efforts will be used for determining the genetic purity of that population, so if additional sampling indicates slight introgression, the population will be deemed introgressed. If no additional genetic sampling occurs by 1/1/2004 for populations that were determined to be pure based on a sample of less than 25 fish prior to 1/1/1999, that population will be assumed to be genetically pure.

Per Objective 1, all known genetically pure populations must be protected. The majority of known westslope cutthroat trout populations have not been genetically tested, and are classified as potentially pure. Potentially pure populations that are later proven to be pure through genetic analysis will be added to the baseline of pure populations. For example, if there are seven known genetically pure populations within a fourth code HUC, then the baseline that must be maintained in that HUC is seven. If over the next five years two potentially pure populations are determined by genetic testing to be pure, the baseline will become 9 (7+2) (See Example 1). That baseline of 9 pure populations in that fourth code HUC must then be maintained. Slightly introgressed (<10%), populations will be protected as pure until a site specific management direction is developed for the population.

If a pure population becomes extirpated or introgressed, due to "natural" or human-caused reasons, it must be "replaced" by either locating pure populations in previously unsampled streams, or by (re)establishing pure WCT populations in areas lacking pure WCT (either fishless streams or streams where competing or introgressing species are first eradicated) (See Example 1). Before any fishless segment of a stream is used for the re-founding of WCT, an environmental assessment must be done that includes macroinvertebrate and amphibian sampling results along with the rationale why introduction of WCT will not impact existing macroinvertebrate and/or amphibian populations.



Example: In this hypothetical 4th code HUC drainage, there are seven pure (red) populations, six slightly introgressed (yellow) populations, and 15 potentially pure (green) populations. Therefore, the baseline that must be maintained for this drainage is seven pure (red) populations. If one or more of the potentially pure (green) populations are genetically tested, and found to be pure WCT, then those populations will be added to the baseline. For example, if two of the potentially pure (green) populations are later found to be pure, they would be reclassified as pure, and changed from green to red on the map. The baseline that would have to be maintained would then be nine (the original seven pure plus the two additional populations). The slightly introgressed (yellow) populations must be protected as pure until such time as a management direction for those populations is determined through a drainage management plan.

If a pure population is lost, then it must be replaced, either by rehabilitating an introgressed (yellow) population to make it pure (red), establishing a new, pure population, or by locating a new, pure populations in an unsurveyed (blue) portion of the drainage.

In some instances, introgressed populations have been mapped above and below reaches in which pure WCT have been mapped. In these instances, genetic testing is probably necessary to verify the purity. These mapped pure populations surrounded by introgressed populations will not count against the baseline if, within five years after this plan is signed, they are proven through genetic analysis to be introgressed. Those populations that are not tested within five years will be considered pure and will be included in the baseline. If later they are found to be introgressed, they must be "replaced."

Management plans will be cooperatively developed for each fourth code HUC identifying all pure populations, priority introgressed populations, how those areas will be protected; areas where survey work should be conducted; and a plan for monitoring. These management plans could also identify the status of introgressed populations, and justification for how each of those populations will be managed (e.g., justification for keeping or protecting as pure or "releasing" introgressed populations should be included in the plan). At least two 4th code basin management plans will be completed each year - one each from the Missouri and Columbia River drainages. Ideally, these will be developed cooperatively by personnel representing signators to the agreement with interests in the basin. Lacking cooperative development of these plans, FWP will complete them and will seek input from the cooperators.

IV. OTHER SPECIES INVOLVED

The primary focus of this agreement is the conservation and enhancement of westslope cutthroat trout and the ecosystems upon which they depend; however, most other aquatic and riparian-dependent species occurring within or adjacent to westslope cutthroat trout habitat will also benefit. Most notable of these are bull trout (*Salvelinus confluentus*), inland redband trout (*Oncorhynchus mykiss* ssp.), and fluvial Arctic grayling (*Thymallus arcticus*). By using an ecosystem approach, the accomplishment of actions identified in the management plan should significantly reduce or eliminate threats for several species.

V. AUTHORITY

* The signatory parties hereto enter into this Conservation Agreement under federal and state law, as applicable, including, but not limited to Section 2(c)(2) of the ESA, which states that "the policy of Congress is that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species."

* All parties to this Agreement recognize that they each have specific statutory responsibilities that cannot be abdicated, particularly with respect to the management and conservation of wildlife, their habitat, and the management, development and allocation of water resources. Nothing in this Agreement or the Management Plan is intended to abrogate any of the parties' respective responsibilities. Each signator has final approval authority for any activities undertaken as a result of this agreement on the lands owned or administered by the signatory party.

* This Agreement is subject to, and is intended to be consistent with, all applicable Federal and

State laws and interstate compacts.

* This instrument in no way restricts the parties involved from participating in similar activities with other public or private agencies, organizations, or individuals.

* Modifications within the scope of this document shall be made by the issuance of a bilaterally executed modification prior to any changes being performed.

* **Non-Fund Obligating Document**: This instrument is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

VI. STATUS OF WESTSLOPE CUTTHROAT TROUT IN MONTANA

WCT distribution was thought to be restricted to headwater streams in Montana by as early as 1959 (Hanzel 1959). WCT were placed on the U.S. Fish and Wildlife Service's Red Book of threatened and endangered species from 1966-1972, but were dropped from that list with passage of the Endangered Species Act in 1973 due to uncertainty about their classification. They were considered a Category 2 Candidate species by the USFWS until the deletion of that category in February 1996. WCT are listed as a Species of Special Concern by the BLM, a Sensitive Species by the USFS, and have been listed as a Class A State Species of Special Concern by the FWP and the Montana Chapter of the American Fisheries Society since 1972. Class A designation indicates limited numbers and/or limited habitats both in Montana and elsewhere in North America; elimination from Montana would be a significant loss to the gene pool of the species or subspecies. The USFWS was petitioned to list WCT as threatened under the Endangered Species Act on May 21, 1997 (American Wildlands et al. 1997). Factors cited in the petition to support listing include detrimental land management activities and presence of introduced nonnative species that compete with, prey on, or hybridize with WCT. The petitioners cited a lack of adequate protective and restorative programs, and a continued jeopardy to populations due to ongoing and proposed activities and programs as justification to list the subspecies.

Recent extensive surveys and genetic testing of populations have been ongoing, with data being entered into the Montana Rivers Information System (MRIS) database. A summary of the MRIS GIS database shows that WCT (genetically tested and untested) in Montana occupy reaches that total over 11,900 stream miles within their historical range in the Columbia and upper Missouri River basins in Montana (based on 1:100,000 scale hydrography). Pure populations occupy reaches totaling 2,630 stream miles (Table 2). Federal lands are estimated to support over 75%

of the remaining WCT in Montana. Because fish distribution data, including point data, is reported by stream reach, the actual occupied miles may be less, especially in the Missouri basin.

Extensive management, conservation, and restoration efforts have been undertaken on behalf of WCT in Montana in recent years to stop declines in numbers and distribution, to protect and expand existing populations, and to gain a better understanding of the biology, habitat requirements, and behavior of the subspecies. Actions that have been undertaken include: imposition of restrictive fishing regulations, extensive survey and inventory efforts, genetic testing of populations to determine uniqueness and purity; development of brood stock and genetic conservation guidelines, protection of important populations, restoration and enhancement of habitat and populations, enforcement of laws, education efforts, and cooperative development of this management plan.

VII. PROBLEMS FACING THE SPECIES

The success of any conservation or recovery program depends on eliminating or reducing the impact of threats to WCT. Potential threats to WCT are numerous, and vary by location. Many are site specific. The USFWS categorizes risks to WCT as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range
B. Disease, predation, competition and hybridization
C. Over utilization for commercial, recreational, scientific, or educational purposes
D. The inadequacy of existing regulatory mechanisms to protect populations of WCT
E. Other natural or human induced factors affecting its continued existence

Signatories to this agreement will address these threats, to the extent that they exist, with management and restoration actions.

VIII. CONSERVATION ACTIONS

Threats to WCT, and thus restoration and recovery of WCT, can be grouped into the general categories of fisheries management, habitat management, genetics/population management, and administration, evaluation and information management. Some or all may apply in each watershed. Management actions within individual watersheds must therefore address specific causes of decline in each of these general categories (fisheries, habitat, and population management) that apply to a watershed. It must be realized that in some instances, actions to achieve long-term beneficial effects may cause short-term degradation (e.g., increased sediment during stream channel restoration project). However, long-term benefits ultimately will offset any short-term impacts.

<u>Fisheries Management</u>

* Where logistically and technically feasible, and in accordance with the objectives of this plan, suppress or eradicate introduced species that compete with, hybridize with, or prey on genetically pure WCT.
* Isolate pure WCT populations from introduced species that compete with, hybridize with, or prey on genetically pure WCT (after completion of an environmental assessment).
* Introduce or reintroduce pure WCT where necessary for management of WCT following recommendations of Leary et al. (1997).
* Implement angling regulations to prevent overharvest, and in specific locations where necessary, minimize incidental catch of WCT.
* Educate anglers about fishing regulations and proper identification of WCT.
* Develop/implement fish stocking policies that are not detrimental to WCT.
* Develop/implement fish management goals that emphasize WCT in watersheds containing pure and priority introgressed WCT populations.
* Prevent unnecessary scientific collection of WCT and regulate collection methods.
* Preclude stocking of fish that compete with, prey on, or hybridize with WCT in all pure WCT watersheds.
* Monitor and prevent spread of disease that may negatively impact WCT.
* Prevent illegal introductions of nonnative aquatic flora and fauna.
* Do not allow stocking of fish that compete with, hybridize with, or prey on WCT in new ponds within watersheds that contain important WCT populations.
* Work with owners of licensed ponds containing fish that may compete with, hybridize with, or prey on WCT to voluntarily replace those fish with pure WCT provided by FWP.

Habitat Management

* Maintain and protect WCT habitat from degradation by achieving compliance with existing habitat protection laws, policies, and guidelines.
* Restore physical integrity of degraded habitat where logistically and technically feasible.
* Achieve compliance with water quality standards and develop TMDLs for water quality impaired streams (streams listed on the DEQ 303(d) impaired water bodies list) that are priority WCT habitat.
* Restore and maintain hydrologic conditions (flow, timing, duration) to mimic natural processes where necessary to meet Agreement objectives.
* Operate dams to minimize impacts where necessary to meet Agreement objectives.
* Identify, monitor, and maintain existing barriers to keep introduced species at bay; install new barriers where necessary to prevent invasion of introduced species.
* Identify and document fishless streams/reaches above natural barriers as potential introduction/expansion locations.
* Determine effectiveness of existing habitat protection regulations and BMPs.

Genetics/Population Management

* Maintain sufficient population size in watersheds and manage populations (numbers and life

forms) for long-term viability.
* Determine purity of WCT populations, and continue to monitor genetic status; Utilize non-lethal technology for genetic testing of small populations.
* Prevent hybridization with rainbow trout and Yellowstone cutthroat trout.
* Maintain/restore connectivity between genetically pure populations - prevent fragmentation.
* Survey for WCT in unsurveyed areas, and assess status of new populations.
* Determine genetic baselines in each watershed.
* Maintain locally adapted, genetically pure populations.
* Develop genetically diverse brood stock for use in stocking and recovery programs (see Leary et al. 1991).
* Develop and follow fish stocking and reintroduction policies and protocols for WCT in Montana.

Administration, Evaluation, and Information Management

* Secure funding and cooperation to implement restoration strategies (e.g., appropriations, MOUs, cooperative agreements, challenge cost share, etc.).
* Develop and implement education actions to garner support for WCT restoration.
* Annually update MRIS database with WCT distribution, monitoring, and genetics data.
* Ensure restoration strategies are included as part of, and coordinated with, other conservation efforts, management plans, and cooperative agreements.
* Evaluate overall effectiveness of the conservation strategy.
* Encourage establishment of local watershed groups to implement restoration objectives.

IX. COORDINATION AND ADMINISTRATION

The following coordination and administration activities will occur to ensure the Agreement is implemented:

Coordinating Conservation Activities

* Administration of the Agreement will be conducted by the Westslope Cutthroat Trout Steering Committee (WCTSC) in coordination with other involved states. The WCTSC will consist of representatives from each signatory to this Agreement, and may include technical and legal advisors, and other members as deemed necessary by the signators.

* Because the areas of concern covered by this Agreement are located in Montana, and because the State of Montana has primary jurisdiction over westslope cutthroat trout within the State, the designated WCTSC leader will be the Montana Department of Fish, Wildlife and Parks representative.

* Authority of WCTSC shall be limited to making recommendations for the conservation of westslope cutthroat trout to the Director of FWP. Recommendations from the WCTSC will be forwarded to the other Agreement signators by the FWP Director as preferred, to be altered only with explanations from appropriate management agency or organization staff.

The Director will provide copies of comments, recommendations, and actions to the signatories and to other interested parties upon request.

* The WCTSC will meet annually, along with field personnel actually implementing this plan, to develop yearly conservation schedules, review budgets, and review and revise the Agreement as required.

* The WCTSC will meet at least on a semiannual basis to report on progress and effectiveness of the Conservation Agreement implementation.

* WCTSC meetings will be open to interested parties. Minutes of the meetings and progress reports will be distributed to the WCTSC, the species work groups and to other interested parties, upon request, by the WCTSC leader.

* Unforeseen Circumstances - Circumstances may arise that are unforeseen or are beyond the control of the cooperators and limit the ability of cooperators to meet the objectives of this Agreement (e.g., prohibition of the use of chemical fish toxicants; inability to establish 50-mile interconnected population). These circumstances may require modification of conservation objectives. If such circumstances arise, they will be addressed by mutual consent of the WCTSC, and necessary amendments to this Agreement will be formulated to accommodate those circumstances.

* Agreement Amendment Procedures - Amendments to this Agreement may be required over time. Minor amendments may be made at the discretion of, and by unanimous vote of the WCTSC. Major amendments to this Agreement can be proposed by any cooperating party. Proposed amendments must contain sufficient, justifiable reasoning for amending the plan. Proposed major amendments will be reviewed by members of the WCTSC and WCT Technical Committee, and comments regarding the proposed amendment(s) will be provided to all members. Consensus of the WCTSC is required to approve, modify, or reject the proposed amendment. No amendments will be allowed that have the potential to further adversely affect any threatened or endangered species.

* Dispute Resolution - If disputes arise between members of the WCTSC regarding interpretation of, amendments to, or implementation of the Agreement, the WCTSC will strive to resolve them by consensus in a timely and equitable manner according to the following procedures: problems, concerns, and interpretations of this Agreement will be discussed at semi-annual work meetings of the WCTSC. It is hoped that most problems can be resolved at this level. Additional meetings may be convened at any time by any member of the WCTSC if disputes arise. If a consensus resolution to a dispute cannot be reached, an "unresolved dispute" will be deemed to exist upon written documentation by any member of the WCTSC. Within a 60-day period following documentation of an "unresolved dispute," the parties agree to seek facilitated resolution. The facilitator shall be mutually agreed upon by the signatory parties. If facilitated attempts to resolve a dispute fail, the majority vote will prevail. Majority and dissenting reports will be made to incorporate the position of individual members. These reports will be formally incorporated into meeting minutes.

Implementing Conservation Schedule

* It is expected that it will take approximately 10 years (see Table 1) to begin all actions described in this plan. Completion of Objective 3 will likely take approximately 20 years, and all Objectives will need to continue in perpetuity thereafter. The parties agree to work collaboratively to implement this Agreement according to the schedule presented in Table 1.

* As leader of the WCTSC, Montana FWP will coordinate conservation activities among the cooperators. The WCTSC will annually review conservation actions conducted by participants of this Agreement to determine if actions are in accordance with the Agreement.

* To effectively implement and administer this Agreement, a Montana WCT Coordinator is strongly recommended. The coordinator position should be housed within Montana FWP, but should be jointly funded by the signators to this agreement (Reference Section V- Authority, Non-Fund Obligating Document). The Coordinator will be responsible for administering this Agreement, coordinating interagency projects, ensuring established time frames are being met, seeking funding for WCT restoration projects, and completing the "accounting" to ensure at least baseline numbers are maintained.

* Conservation actions will be scheduled and reviewed on an annual basis by the signators on recommendations from the WCTSC. The Agreement is a flexible document and will be reviewed annually and revised as necessary.

Funding Conservation Actions (Reference Section V - Authority, Non-Fund Obligating Document)

* Numerous conservation and management actions are already being funded and implemented. However, additional funding will be necessary to achieve the objectives of this Agreement within the identified time frames. Because conservation of WCT is a cooperative effort, funding for the Agreement will be provided by a variety of sources. Federal, state and local sources will need to provide or secure funding to implement the Agreement, and will need to work in a cooperative manner on all aspects of it.

  - Federal sources include, but are not limited to, traditional agency funding and challenge cost share funding provided by the USFS, USFWS, BLM, Bonneville Power Administration, and Bureau of Reclamation. Other federal funding sources available for WCT conservation include National Fish and Wildlife Foundation *Bring Back the Natives* Grants, Land and Water Conservation (LWC) funds, the USFWS's *Partners for Wildlife* Program, and the NRCS's *WHIP* and *EQIP* grants.

  - State funding sources include, but are not limited to, direct appropriation of funds by the legislature, and traditional agency funding and challenge cost share funding provided by the Montana FWP, DNRC, and Montana Department of Environmental Quality.

Additional state funding sources available for WCT conservation include FWP's *Future Fisheries* Grants, DEQ *TMDL* grants, and various DNRC watershed and water quality grants.

- Local sources of funding may be provided by Conservation Districts, watershed groups, Native American affiliations, cities and towns, counties, local irrigation companies, and other supporting appropriations, and may be limited due to factors beyond local control. Additional local sources of funding include hydropower mitigation funding from Montana Power Company (Milltown Mitigation), PPL, AVISTA (lower Clark Fork Relicensing); Clark Fork settlement with ARCO; contributions from conservation organizations, industry groups, and individual private and industrial landowners.

* In-kind contributions in the form of personnel, field equipment, supplies, etc. will be provided by participating agencies. A description of the responsibilities of management agencies towards conservation of westslope cutthroat trout is provided in Table 3. In addition, each agency will have specific tasks, responsibilities and proposed actions/commitments related to their in-kind contributions.

* It is projected that actions involved with the expansion of habitat and populations will require the greatest expense during the first ten years of the agreement.

* It is understood that all funding commitments made under this Agreement are subject to appropriations by local, state or federal entities (Reference Section V - Authority, Non-Fund Obligating Document).

Conservation Progress Assessment

* Baseline population numbers and annual assessments will be assessed by fourth code HUC. Management plans will be developed for each fourth code HUC identifying pure and priority introgressed populations, and how those populations will be managed and conserved.

* A semiannual assessment of progress towards implementing actions identified in this agreement will be provided to the Director of FWP by the WCTSC. This assessment will be based on updates and evaluations by WCTSC members. The Director will provide copies of this assessment to the signatories of this document.

* An annual assessment of conservation accomplishments and subsequent yearly schedules will be made by the WCTSC. This assessment will determine the effectiveness of this agreement and whether revisions are warranted. It will be provided to the Director of FWP by WCTSC. The Director will provide copies of this assessment to the signatories of this document.

* If threats to the survival of westslope cutthroat trout become known that are not or cannot be resolved through this or any Conservation Agreement, FWP immediately will notify all signators.

X. DURATION OF AGREEMENT

The initial term of this Agreement shall be five (5) years. Prior to the end of each 5 year period, a thorough analysis of actions implemented for the species will be conducted by the WCTSC. If all signatories agree that sufficient progress has been made towards the conservation and recovery of the westslope cutthroat trout, this Agreement shall be extended for an additional five years, and will be reviewed every five years thereafter for renewal.

Any party, in writing, may terminate the Agreement in whole, or in part, at any time before the date of expiration.

XI. NATIONAL and MONTANA ENVIRONMENTAL POLICY ACT (MEPA/NEPA) COMPLIANCE

Signing of this agreement is covered under Authorities outlined in Section V above. We anticipate that any survey, collection or non-land disturbing research activities conducted through the Conservation Agreement will not entail significant state or federal actions under MEPA or NEPA, and will be given a categorical exclusion designation. However, each signatory agency holds the responsibility to review planned actions for their area of concern to ensure conformance with existing land use plans, and to conduct any necessary environmental analysis and private property affects assessment under MEPA and NEPA for those actions within their area.

XII. FEDERAL AGENCY COMPLIANCE

* During the performance of this agreement, the participants agree to abide by the terms of Executive Order 11246 on non-discrimination and will not discriminate against any person because of race, color, religion, sex or national origin.

* No member or delegate to Congress or resident Commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

XIII. LITERATURE CITED

American Wildlands, Clearwater Biodiversity Project, Idaho Watersheds Project, Montana Environmental Information Center, Pacific River Council, Trout Unlimited Madison - Gallatin Chapter, and B. Lilly. 1997. Petition for a rule to list the westslope cutthroat trout as threatened throughout its range. Submitted to U.S. Fish and Wildlife Service on June 6,

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Behnke, R.J. 1992. Native Trout of Western North America. American Fisheries Society Monograph: 6. American Fisheries Society, Bethesda, Maryland. 275 pp.

Hanzel, D.A. 1959. The distribution of cutthroat trout (*Salmo clarkii*) in Montana. Proceedings of the Montana Academy of Sciences 19:32-71.

Leary, R.F., T. Dotson, D. Genter, B. Hill, G. Holton, J. Huston, K.L. Knudson, S. Rumsey, and G.K. Sage. 1991. Westslope cutthroat trout restoration program: past and present distribution, brood stock program, and conservation genetics committee report. Unpubl. Report, University of Montana Genetics Laboratory, Missoula. 23 pp.

Leary, R.F., B.B. Shepard, B.W. Sanborn, W.P. Dwyer, J.A. Brammer, R.A. Oswald, A. Tews, D. Kampwerth, M. Enk, R. Wagner, L. Kaeding. 1998. Genetic Conservation of the westslope cutthroat trout in the upper Missouri River drainage. Unpubl. Report prepared by the Upper Missouri River Westslope Cutthroat Trout Committee for the Montana Department of Fish, Wildlife and Parks, Helena, Mont. 10 pp.

XIV. SIGNATORS

We, the undersigned accept the goals and objectives contained herein, will incorporate them into our respective planning and budgeting process, and will strive to accomplish the goals and objectives within identified time frames:

Table 1. Projected implementation schedule for WCT populations. Each site is expected to take 5-10 years to complete once it is started, and will probably rely on chemical treatment to eradicate nonnative species. Emphasis will be on connecting existing pure populations. Implementation may begin sooner if the necessary funding and support is available.

Year	2000	2001	2002	2003	2004	2005	2006
_Missouri							
East Front	ID Site						
Southern Tribs.	ID/Admin	Start	Continue	Continue	Continue	Continue	Cont.
Upper Missouri	Continue	Continue	Continue	Continue	Continue	Monitor	Monitor
Middle Missouri	ID Site		Admin	Start	Continue	Continue	Continue
Upper Clark Fork	ID Site		Admin		Start	Continue	Continue
Kootenai		ID Site			Admin	Start	Continue
Lower Clark Fork	ID Site					Admin	Start
Flathead	ID Site	Monitor		Monitor		Monitor	
Saskatchewan		ID Site					Admin

ID = identification of potential site(s)
Admin = Completing all required MEPA and NEPA documents, and finding of No Significant Impact (FONSI) in the Record of Decision (ROD); development of acceptable Candidate Conservation Agreements or Habitat Conservation Plans
Start = Physically implementing the project Continue = continuing the treatment project and population expansion
Because of uncertain status of WCT in the Musselshell drainage, WCT there will be protected, but recovery efforts will not be focused there until recovery efforts in known range are completed.

Table 2. Baseline number of pure populations by 4th code HUC, and historical[1] and current distribution of WCT in Montana, by genetic purity.

Drainage	Stream Miles in Drainage[1]	Number Miles Surveyed	No. 100%	Miles 90-99.9%	Occupied < 90%	Un-tested
Upper Kootenai	2369.5	956.0	42.7	25.5	249.8	355.4
Fisher	1034.4	342.7	8.9	1.7	19.8	141.5
Yaak	650.9	292.9	85.8	3.6	39.2	75.3
Lower Kootenai	55.8	22.5	0.0			6.0
Moyie			0.0			0.0
Total Kootenai	4110.6	1614.1	137.4	30.8	308.8	578.2
Upper Clark Fork	2601.7	910.9	223.5	26.2	39.6	290.0
Flint-Rock Creek	2345.3	527.8	144.0	30.4	5.9	449.4
Blackfoot	3605.5	1207.5	254.9	59.2	39.8	665.7
Middle Clark Fork	2321.2	1018.0	105.0	28.2	32.2	701.8
Bitterroot	3667.2	1305.1	352.8	53.1	73.1	886.0
Lower Clark Fork	2126.1	877.0	248.9	31.2	19.0	407.8
Total Clark Fork	16,667.0	5846.3	1329.1	228.3	209.6	3400.7
N. Fork Flathead	1147.9	475.0	66.6	26.6	5.7	344.4
M. Fork Flathead	1301.0	528.5	18.8			452.0
Flathead Lake	947.4	214.4	65.6		1.7	69.0
S. Fork Flathead	1806.8	756.1	289.3	44.1	31.7	244.4
Stillwater	1030.7	519.8	11.6	9.2		425.0

[1]Historical range includes total mileage of stream reaches within the distribution of WCT in Montana. Not all reaches/miles were occupied, and due to natural and human-caused changes, much of the "historical" range will never be suitable.

Drainage	Stream Miles in Drainage	Number Miles Surveyed	No. 100%	Miles 90-99.9%	Occupied < 90%	Un-tested
Swan	887.8	453.9	22.9	6.9	3.7	270.6
Lower Flathead	3165.6	542.1	87.7		9.9	99.0
Total Flathead	10,287.2	3489.8	562.5	86.8	52.7	1904.4
St. Mary				7.4		
Red Rock	3488.4	1123.7	78.5	138.5	68.6	198.8
Beaverhead	1826.2	643.7	90.9	27.5	16.4	87.7
Ruby	1284.7	575.8	52.5	62.3	48.4	86.7
Big Hole	3953.7	1594.4	106.8	71.2	75.5	443.2
Jefferson	2176.2	456.7	21.5	12.0	5.8	18.6
Boulder	988.3	322.6	21.7	0	0	28.5
Madison	2517.1	793.9	11.8	18.4	43.9	234.9
Gallatin	2401.3	777.8	0	20.9	39.1	148.4
Upper Missouri	4763.9	1106.3	63.3	5.0	45.8	157.1
Upper Missouri - Dearborn	3538.7	1077.8	0.0	0	19.7	93.2
Smith	2858.3	986.4	26.7	11.9	23.0	407.5
Sun	2404.4	708.1	2.4	14.2	0.0	144.5
Belt	800.5	370.7	39.6	16.7	0.0	126.9
Two Medicine	1422.2	679.6	28.3	36.3	42.8	110.1
Cut Bank	1089.2	508.9	0.0	0.0	0.0	0.0
Marias	2493.7	1033.7	0.0	0.0	0.0	0.0
Willow	708.1	333.7	0.0	0.0	0.0	0.0
Teton	1751.4	774.6	30.7	9.0	0.0	70.0
Arrow	1326.3	520.4	0.0	0.0	0.0	13.3
Judith	3222.7	1152.3	11.9	21.9	4.2	153.9
	Stream	**Number**	**No.**	**Miles**	**Occupied**	

Drainage	Miles in Drainage	Miles Surveyed	100%	90-99.9%	< 90%	Un-tested
Bullwhacker - Dog**	1803.4	682.5	0.0	0.0	0.0	0.0
Flat Willow**	891.0	336.0	8.0	0.0	0.0	0.0
Box Elder**	1371.8	507.4	6.1	0.0	0.0	0.0
Upper Musselshell**	4676.3	1568.1	0.0	0.0	0.0	46.0
Middle Musselshell**	2477.2	782.6	0.0	0.0	0.0	0.0
Lower Musselshell**	1810.0	608.7	0.0	0.0	0.0	0.0
TOTAL Columbia	31,064.8	10,950.2	2029.0	345.9	571.1	5883.3
TOTAL Missouri	57,365.0	20,026.4	600.7	473.2	433.2	2569.3
Total - ALL	88,429.8	30,976.6	2629.7	819.1	1004.3	8452.6

**It is uncertain whether WCT naturally occurred in these drainages; it is suspected that they were introduced into them.

Table 3. Description of responsibilities of government agencies in WCT restoration.

Agency	Brief Description of Responsibilities
Bonneville Power Administration (BPA)	BPA manages dams and reservoirs within the range of WCT in Montana. BPA actions to manage and restore WCT include operating dams in such a manner that they protect and maintain conditions for WCT within specified operational requirements; and providing funding for population monitoring and rehabilitation of degraded habitats.
Montana Department of Environmental Quality (DEQ)	DEQ has authority under the Clean Water Act to protect WCT habitat on federal, state, and private lands from excessive point and nonpoint pollution, and to restore degraded waters so they meet clean water standards. DEQ maintains a list of impaired waters that includes those that do not fully support cold water fisheries. They also set a TMDL on pollution inputs to achieve clean water standards, and provide technical and financial assistance to improve and restore water quality to meet state standards.
Montana Department of Fish, Wildlife and Parks (FWP)	FWP's mission is to manage wildlife species for their perpetuation as members of ecosystems and to protect, maintain, and to the extent possible enhance populations of species. FWP's role is to develop and help implement cooperative species and water management plans, develop and enforce fishing regulations, monitor status and distribution of populations, maintain species distribution database, provide technical and financial assistance for conservation and habitat restoration projects, and plan and implement control/eradication programs for introduced nonnative species.
Montana Department of Natural Resources and Conservation (DNRC)	Responsible for management of State Trust Lands in Montana. DNRC's role in WCT conservation is to appropriately manage WCT habitat, and thereby cooperate in WCT restoration. DNRC also administers coordination of Conservation Districts, and provides financial and technical assistance to Conservation Districts and watershed groups. Conservation Districts and watershed groups are an essential component for implementing conservation and restoration efforts. DNRC also is responsible for managing and administering operations of some dams, as well as water rights adjudication.
Natural Resources Conservation Service (NRCS)	NRCS administers private lands assistance programs for the Dept. of Agriculture. Their role in WCT conservation is to provide technical and financial assistance to landowners to protect, maintain, or improve WCT habitat and cooperate and assist with habitat restoration projects and follow-up monitoring.
Tribal Governments	Tribal governments are responsible for management of fish and wildlife resources and the habitat they occupy within reservation boundaries. Their role in WCT conservation is to appropriately manage WCT habitat on tribal lands, participate in development of cooperative species and habitat management plans, cooperate and assist with habitat restoration projects, assist with WCT habitat and population monitoring, cooperate and assist with eradication/control projects for introduced species, and provide technical and financial assistance to implement management plans.

Agency	Brief Description of Responsibilities
U.S. Bureau of Reclamation (BOR)	The BOR manages dams and reservoirs in the Missouri and Columbia River basins. Their role is to manage those that are within WCT range in such a manner that they protect and maintain conditions for WCT, within specified operational requirements; and to provide funding for population monitoring and rehabilitation of degraded habitats.
U.S. Army Corps of Engineers (ACE)	The ACE manages dams and reservoirs in the Missouri River Basin. Their role is to manage those that are within WCT range in such a manner that they protect and maintain conditions for WCT, within specified operational requirements; and to provide funding for population monitoring and rehabilitation of degraded habitats.
U.S. Bureau of Land Management (BLM)	BLM administers public lands that include habitat occupied by WCT. BLM is mandated to protect habitat that supports viable populations of native fish species that occur on BLM lands. BLM's role in WCT conservation is to appropriately manage WCT habitat on BLM-administered lands, participate in development of cooperative species and habitat management plans, cooperate and assist with habitat restoration projects, assist with WCT population and habitat monitoring, assist with eradication/control projects for introduced species, and provide technical and financial assistance to implement management and conservation plans.
U.S. Fish and Wildlife Service (USFWS)	The USFWS oversees the Endangered Species Act, and is responsible for assessing the status of candidate species and recovering threatened and endangered species. Their role in WCT conservation is to advise and assist in implementation of this conservation agreement in regard to existing laws (e.g., NEPA, ESA), cooperate and assist with eradication/control projects for introduced species, cooperate and assist with range-wide habitat enhancement and monitoring projects, and provide funding to implement enhancement and management projects.
U.S. Forest Service (USFS)	The USFS administers National Forest system lands that include habitat occupied by WCT. USFS is mandated to protect habitat that supports viable populations of all native fish and wildlife species that occur on national forest lands. The USFS's role in WCT conservation is to appropriately manage WCT habitat on national forest lands, participate in development of cooperative species and habitat management plans, cooperate and assist with habitat restoration projects, conduct WCT habitat monitoring and assist with population monitoring, cooperate and assist with eradication/control projects for introduced species, and provide technical and financial assistance to implement management plans.