

**Range-Wide Status of Colorado River Cutthroat Trout (*Oncorhynchus clarkii pleuriticus*):  
2005**

Christine L. Hirsch  
USDA Forest Service  
Glenwood Springs, Colorado

Shannon E. Albeke  
Colorado Division of Wildlife  
Denver, Colorado

Thomas P. Nesler  
Colorado Division of Wildlife  
Fort Collins, Colorado

This status update was developed and completed under the oversight of a Colorado River cutthroat trout conservation team that, in addition to the primary authors, contributed information and editorial oversight necessary to the completion of this status report. Members of the conservation team included the individuals listed below.

Dirk Miller  
Wyoming Game and Fish Department

Tom Pettengill  
Utah Division of Wildlife Resources

Jay Thompson  
U.S. Bureau of Land Management

Patty Schrader-Gelatt  
U.S. Fish and Wildlife Service

Tom Nesler  
Colorado Division of Wildlife

Christine Hirsch  
U.S. Forest Service

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## Executive Summary

The distribution and abundance of Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*; CRCT) have declined from historical levels over their entire range. For this CRCT assessment we used existing information provided by 48 fisheries professionals applied through a consistent methodology to assess the extent of CRCT historical range, their current distribution, including genetic status, and evaluated the foreseeable risks to 285 populations designated as “conservation populations” by management agencies.

We estimated CRCT historically occupied about 21,386 miles of habitat in the western U.S. CRCT currently occupy about 3,022 miles of habitat in 51 of the 61 4<sup>th</sup> level HUC’s historically occupied. Of the 3,022 currently occupied miles, 224 occur outside of our estimate of historical habitat. Thirteen percent of the historically occupied habitat is currently occupied. The 224 miles of occupied habitat outside estimated historical habitat would equal an addition 1% of the total historically occupied habitat. These streams are typically above historical barriers in stream segments not believed to have been historically occupied but still within the historical range.

Genetic testing has been completed across about 1,150 miles of habitat (38% of occupied habitats), but sample sizes were variable. CRCT with no evidence of genetic introgression currently occupy about 782 stream miles (26%) of occupied habitat. Another 68 miles of currently occupied habitats (2%) contained CRCT identified as part of a mixed stock where the CRCT were not introgressed even though hybridizing trout were present. We propose that even though genetic sampling was nonrandom because sampling likely occurred more frequently in CRCT populations which appeared non-introgressed, some of the habitats currently occupied by CRCT with no genetic testing likely support populations which are not introgressed. An additional 470 miles of occupied habitat were identified as containing genetically unaltered CRCT based on no record of stocking or by having no hybridizing species present. Most of the habitats currently occupied by CRCT (74% of currently occupied habitat) were on lands administrated by Federal agencies. Two-thirds of all occupied habitats occur on National Forests. An additional 23 miles were in designated National Parks and 209 miles were within Bureau of Land Management managed lands. Approximately 466 miles of occupied habitat on National Forest Lands were within designated wilderness.

A total of 285 separate CRCT populations currently occupying 1,796 miles of habitat were designated as “conservation populations” (59% of currently occupied habitat, 8% of historical). These conservation populations were spread throughout the historical range, occurring in 34 of the 51 hydrologic units historically occupied by CRCT. Two-thirds of these conservation populations were isolated from other populations, isolated populations occurred in 739 miles or 41% of occupied habitat; well-connected meta-populations occupied 280 miles or 16% of occupied habitat. Of the 285 designated conservation populations, 153 (54%) tested as genetically unaltered or were viewed as being potentially unaltered. More isolated populations were at higher risks due to temporal variability, population size, and isolation than meta-populations, but these isolated populations were generally at less risk from hybridization and disease than meta-populations.

The protocol used for this assessment was not designed to address lake populations. As of 2003, the CRCT Conservation Team was tracking 41 lakes containing conservation populations. When one of these lakes was connected to occupied stream habitat, its length was included in the current assessment. Eighteen of the 41 lakes are included as seven stream miles in this assessment. Other lakes with conservation populations were either not connected to a stream system or not connected to a known stream population of CRCT but are still believed to have important conservation value. There are additional lakes included in both the historical, currently occupied, and conservation population habitat totals which were not being previously tracked. The CRCT Conservation Team is currently working to revise the database to include lakes as polygons.

This assessment shows CRCT currently are well distributed across their historical range. The data suggest genetically unaltered CRCT occupy at least 26% and possibly up to 41% of currently occupied habitats. Two different conservation management strategies are needed and being implemented to conserve CRCT. One strategy concentrates on preventing introgression, disease and competition risks through isolation of CRCT, while the other concentrates on preserving meta-population function and multiple life-history strategies by connecting occupied habitats. Currently, most conservation populations are isolated although there are ongoing restoration efforts to create meta-populations.



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## Introduction

Within the last 29 years, assessments have been conducted related to the status of Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*; CRCT) over part or all of their historical range (Behnke and Zarn 1976, Binns 1977, Behnke 1979, Behnke and Benson 1980, Martinez 1988, Oberholtzer 1990, Young 1995, Young et al. 1996). These assessments were either conducted over only a portion of CRCT historical range, involved a small number of experts with specific detailed knowledge of the assessment area, or were constrained by a lack of consistency in the sources of information and criteria used. In addition, the CRCT Conservation Team has been tracking the status of CRCT since 1999 (CRCT Task Force 2001, CRCT Conservation Team 2003). This report is meant to update these past assessments using a protocol consistently applied throughout the CRCT historical range. We assessed historically occupied range, current distribution, general abundance, genetic status, and risks for CRCT throughout their historical range. Fisheries professionals from Colorado, Utah, Wyoming, and New Mexico (state wildlife agencies, U.S. Fish and Wildlife Service, U.S. Forest Service, and Bureau of Land Management) provided the information for this assessment. State fisheries staffs identified and designated “conservation populations”, but information from many different sources was used to assess risks and threats to these populations. The information for this status update was primarily compiled during 2004. This assessment was accomplished as a critical component of range-wide coordination for CRCT conservation under the guidance of the 2001 Conservation Agreement (CRCT Task Force 2001). This status update will be helpful in meeting the objectives of the range-wide conservation effort in a number of respects, and should be viewed as a “snap shot” for CRCT distribution, relative population health and a valuable benchmark for evaluating future changes. This assessment provides consistent information on the status of CRCT current through 2005 and is intended to be used as an information base by individual states and other agencies, working collaboratively, to assess, plan and prioritize their ongoing and future CRCT conservation efforts, and by the U.S. Fish and Wildlife Service (FWS) in relation to their responsibilities under the federal Endangered Species Act of 1973, as amended (ESA).

The three states where CRCT presently occur (Colorado, Utah, and Wyoming) have the primary responsibility under their respective state wildlife laws to manage and conserve CRCT. The U.S. Forest Service (FS), Bureau of Land Management (BLM), National Park Service (NPS), Tribal governments, and other federal land and resource management agencies play an essential role in this conservation effort because of their legal responsibility for ensuring species viability and for management of aquatic habitats on federal and Tribal lands. Through the petition process of ESA, the FWS concluded in a 90-day finding in April 2004 that a December 1999, citizen-based petition to list CRCT did not contain sufficient or substantial information to indicate a listing may be warranted (FR 69(76):21151-21158, 04/20/04). In March 1999, prior to this action, a cooperative conservation strategy and agreement was first signed by the Directors of the three State wildlife agencies and U.S. Fish and Wildlife Service through an initiative of the Colorado River Fish and Wildlife Council. A revised and updated strategy and conservation agreement, expanded to formally include the three State offices of the BLM, Regions 2 and 4 of the USFS, the NPS-Intermountain Region, Ute Indian Tribe, and the three State Trout Unlimited organizations was completed in April 2001. The above parties recognize the mutual benefits of collaboration to further the collective knowledge of this subspecies, implement conservation actions, and provide the best scientific information as the basis for CRCT conservation.

### Analysis Area

**The analysis area included the known historical range of CRCT within Colorado, New Mexico, Utah, and Wyoming. We relied primarily on Behnke (1992, 2002) to delineate the likely historical range (Figure 1).** This area includes the mountainous portions of the Colorado River drainage within Wyoming, Utah and Colorado comprised by the Upper Colorado, Green, Yampa, White, Gunnison, San Juan, Dolores, Fremont, and Escalante river drainages. The portions of these drainages located within Arizona are believed to have never supported CRCT. Populations of this subspecies occurring outside designated historical range have not been recognized to date by fisheries experts within this cooperative program. The current range-wide conservation effort partitioned CRCT range into eight Geographic Management Units (GMU's). These watershed-based GMU's were designated to allow for more focused conservation planning and implementation at a finer scale of resolution.

### Methods

An interstate and interagency working group of fishery biologists, managers, and GIS specialists representing the states of Colorado, Utah, Wyoming, BLM, and FS met December 16, 2003, in Denver, Colorado, to initiate a range-wide effort to update status information for CRCT. This group agreed the assessment would include: 1) estimating the historically occupied range; 2) determining current distribution and identifying specific population characteristics; 3) identifying conservation populations and assessing relative population health using a ranking system similar to that proposed by Rieman et al. (1993); and 4) evaluating expansion and restoration potential of conservation populations. The group recognized such an assessment would be based primarily on expert opinion supported by existing empirical data and in some cases, particularly when historically occupied range was assessed, the assessment would be more qualitative. Field data were used where available. The protocol summarized below is a modified version of the protocol used for the westslope (Shepard et al. 2003) and Yellowstone (May et al. 2003) cutthroat trout. Bonneville cutthroat trout (May et al. 2005) followed the modified protocol established for CRCT and a 2006 update to the Yellowstone cutthroat trout status assessment is planned using this protocol. Appendix A contains a detailed description of the protocol.

### Geographic Information System

This assessment used the National Hydrography Dataset (NHD) as the base for the effort (see <http://nhd.usgs.gov/> for more information on NHD). We used the 1:24,000 scale of NHD as available. Some watershed areas required using the 1:100,000 scale. The USFS Natural Resource Information System (NRIS) provided ArcGIS tools that greatly assisted with this process. To increase continuity and consistency, only streams identified on the stream layer as being perennial had information entered into the database. We acknowledge intermittent and ephemeral streams may provide habitat used by CRCT during specific periods when sufficient flows occur; however this assessment did not include these streams. Consequently, we may have underestimated both historically and currently occupied habitats. We also acknowledge some perennial streams that historically and/or currently support CRCT will not be shown on the stream layer and therefore they will not be included in this assessment. It is anticipated these streams will be added in the future during subsequent efforts to improve NHD. However NHD is the best hydrography layer currently available and it is the national standard.





Figure 1. CRCT geographic management units based on second level hydrologic unit boundaries.

### Data Quality Control and Assurance

This study ranked the reliability of information based on its source (Table 1). Information associated with judgment calls and anecdotal sources, in general, were viewed as being less reliable and/or accurate than information developed as part of detailed surveys and studies that has undergone substantial analysis and review.

In order to assure consistency and completeness, a specific work group (team) completed the assessment of a given 4<sup>th</sup> level hydrologic unit code (HUC, 8-digit EPA designation) before moving to another HUC. There were 61 4<sup>th</sup> level HUCs in basins that historically supported CRCT. During the assessment of each HUC, the teams employed a systematic approach by starting at the mouth of the largest stream and proceeding to its headwaters. Each tributary system beginning in a clockwise fashion and starting at the lower most portion of the main stream was completed using the same orderly process. The actual stream layers were attributed through a database with the specific information developed during the status update using fish biologists and a GIS-data entry person as critical members of the team.

Table 1. Ranking of the relative reliability of data sources.

| Information Source     | Relative Degree of Reliability |
|------------------------|--------------------------------|
| Professional Judgment  | Lower                          |
| Anecdotal Information  | Lower                          |
| Letter                 | Lower                          |
| News Account           | Lower                          |
| Data Files             | Moderate                       |
| Agency Report          | Moderate                       |
| Published Paper        | Higher                         |
| Thesis or Dissertation | Higher                         |

The assessment protocol was partitioned into four primary components for conducting this assessment. First, the historical range occupied by CRCT at the time of the first European exploration (approximately 1800) of the Northern Rocky Mountains was estimated. Second, the current distribution with density, genetic status and habitat information for CRCT was developed and displayed on a mapping segment basis. Third, conservation populations were identified and classified as either isolated or meta-populations (networked or connected populations – e.g., interbreeding populations) and their relative health was evaluated. Relative health was assessed based on three aspects: 1) influences associated with genetic introgression, 2) influences associated with disease, and 3) a general population health determination. Health determinations represented relative determinations indicating a higher or lower level of concern. The mapping and population health determinations were completed for all conservation populations including those associated with lakes (adfluvial) that are maintained by natural reproduction. CRCT populations supported entirely by annual or routine stocking were not included as part of this assessment. Exceptions would be those populations serving as a wild broods that require periodic stocking to bring in new genetic material as part of the brood maintenance plan. Genetic, disease and population risk assessments were done for each conservation population. Fourth and finally, the assessment included evaluation of the potential for restoration of



conservation populations within the historical boundary and for the expansion of existing conservation populations.

### **Barriers**

Prior to delineating historically and currently occupied habitats, we identified all significant barriers to upstream fish movement. Barriers (either long-term geologic, natural short-term, or anthropogenic) that prevented or dramatically reduced upstream fish movement were considered “significant” and long term-geologic barriers were used to assess whether individual stream segments were likely historically occupied by CRCT, assess potential influences of genetic introgression or disease to existing CRCT populations, and determine whether existing subpopulations were connected with other subpopulations. The identification of barrier location and distinguishing characters was very important. During the effort to describe the historical distribution of the subspecies, we identified those barriers that represent long-term geologic features that may have influenced historical distributions. These barrier locations were located (as points in ArcGIS) on the population mapping segments. Before mapping current distribution, we identified other significant barriers (e.g., natural short-term and/or anthropogenic barriers), their locations (as points in ArcGIS), and other relevant features, including barrier type, blockage extent, and barrier significance. Only those barriers believed to have a significant influence on cutthroat distribution or population integrity (life history expression, spawning, competition and hybridization) were identified. Data sources for barriers were also identified. If the barrier extended over an extended distance (e.g., temperature or chemical barrier) the downstream point of the barrier was marked on the map.

### **Part 1 - Determining Historical Distribution**

The historically occupied range of CRCT was assessed based on the believed distribution at the time Europeans first entered the Rocky Mountain West (approximately 1800). This assessment was done at a relatively coarse level. There was an initial effort to adjust the base stream layer by identifying the lower extremes of historical distribution based on the lowest probable elevation limits (6000 feet in elevation or 5500 feet on north-facing slopes). Fishery professionals familiar with each major drainage basin (4<sup>th</sup> code HUC) defined historical distribution for the remaining stream mapping segments within each 4<sup>th</sup> code HUC by identifying the historical range based on their personal knowledge of the area, known anecdotal information, known habitat restrictions, known geologic barriers, and historical fisheries data and reports. This information was used to edit CRCT historical range maps. CRCT were assumed to have occupied all stream segments within the adjusted base stream layer of their broad known historical distribution unless information or professional judgment indicated CRCT likely did not occupy specific mapping segments of stream.

### **Part 2 - Determining Current Distribution, Genetic Status, Density and Habitat Conditions**

The lower and upper bounds of all stream segments presently occupied by naturally self-sustaining populations of CRCT were located and data and data sources associated with the individual characteristics of the occupied segments were identified. Each 4<sup>th</sup> level HUC working group made initial determinations on occupied habitat based on viewing the map and referring to available information. When there was no upstream barrier or distribution survey available, professional judgment was used to determine upstream distribution and, less commonly, downstream distribution. Specific information associated with current occupancy was tracked on a stream segment basis. Barrier locations, fish stocking records, genetic information, cutthroat

trout population demographics, and information on habitat and nonnative fish were important in these determinations. Each identified segment must have all attributes in common. If one or more attributes changed, a new segment was created. Only naturally occurring, self-sustaining populations (i.e., no routine augmentation with hatchery fish) of CRCT were addressed in this status review.

### **Part 3 - Identification of Individual Conservation Populations and Application of Relative Health Evaluations for each Population**

For this stage of assessment the focus changed from CRCT-occupied mapping segments to conservation populations and the factors that have the potential to influence the well-being of the identified populations. Determinations were made relative to which occupied mapping units were combined into a specific conservation population with conservation being the primary management objective. In general, stream segments and adjacent streams were combined into one conservation population if there were no complete barriers restricting movement between them, however exceptions were made at the discretion of the local biologist. Conservation populations were further categorized based on connectedness into meta-populations or as isolated populations. To be considered connected in a meta-population, a total barrier could not be present within the meta-population's stream network. Both meta-populations and isolated populations were identified as conservation populations. Conservation populations were categorized as genetically unaltered (i.e., core conservation populations) or displaying unique life history traits and ecological characteristics in the presence of hybridization (i.e., conservation populations). Life history attributes of the population and status of the conservation population as a source or a sink were identified. A population was considered a "source" if individuals could move into another population, providing a source of gene flow to the receiving population. A population was considered a "sink" if it could receive individuals from another population. Information on conservation activities, land-use and fishery management were identified for each conservation population. *The level of impact or effectiveness of these activities was not described, listing merely means that these things occurred in the occupied watershed.*

#### **Conservation Population Health Evaluations**

Only conservation populations were evaluated for relative genetic and disease influences and general population health. It is important to note these evaluations did not and should not define inherent probability of persistence or exclusion but rather identified index conditions that put a population at greater or lesser risk based on certain attributes.

Genetic Stability Assessment A genetic stability index was made for each conservation population (e.g., networked or isolated) using an index ranking of 1 to 4 to indicate low to progressively higher levels of possible risk. The index should be viewed merely an indicator of possible or potential genetic influences.

Significant Disease Influence Assessment A significant disease influence assessment was made for each meta- (networked) or isolated population using a ranking of 1 to 5 to indicate low to progressively higher levels of risk associated with the possible or potential influence of significant diseases. Population isolation and security were important considerations but do not assure protection. The diseases of concern are those that cause severe and significant impacts to population health and include but are not limited to whirling disease, furunculosis, infectious pancreatic necrosis virus, etc. The level of influence should be viewed as an indicator of possible or potential disease influences.

### **Conservation Population General Health Assessment**

A generalized population health assessment was completed for each meta- or isolated population using an index ranking that includes consideration of four factors: temporal variability relative to stochastic influences (based on habitat size), adult population size, environmental attributes affecting population production, and population connectivity based on Rieman et al. (1993). The ranking for temporal variability was derived as a cumulative length total of stream segments identified as being part of the conservation population. Population size of sexually mature CRCT (15 cm and larger) were derived from the density information associated with the stream segments identified for each conservation population. This size range was felt to reasonably reflect that component of a CRCT population that can be viewed as sexually active (e.g., approximating an effective population). Population production ranking was derived from stream segment information associated with habitat quality, presence of non-native fish, potential for disease and the level of land use interaction with the population. The degree of connectedness was based on migration of individuals, the presence of subpopulations and opportunity for gene flow between them, and the relative ease of movement between them. The index value for general population health is just a qualitative assessment of possible or potential health.

The population assessment identified source/sink relationships that may exist between headwater CRCT conservation populations and those conservation populations lower in the drainage, especially where barriers to upstream movement might exist. While headwater CRCT populations may include those isolated by impassible barriers to upstream fish movement (and thus could not be re-founded or receive external genetic material without human intervention), these headwater populations may be important sources for re-founding and augmenting lower populations. This was handled by a simple identifier indicating that a given population operates as a source. The most downstream population would automatically become a “sink” recipient.

### **Part 4 - Evaluation of Potential CRCT Population Restoration and Expansion Opportunities.**

This evaluation was based on an initial range-wide review of stream segments not currently associated with conservation populations. The potential for restoration and/or expansion of CRCT populations was assessed during this evaluation. Similar to the mapping exercise associated with currently occupied stream segments, lower and upper bounds of all stream segments viewed as having the potential to support CRCT were identified and evaluated. Using the base hydrography layer within each 4<sup>th</sup> level HUC overlaid with current CRCT occupied habitat, conservation population and barrier locations, each team systematically identified and evaluated CRCT restoration and expansion potentials on a stream segment basis.

The assessment teams identified and grouped as many connected stream segments as possible. Locations of existing barriers, or potential sites where a barrier could be constructed, were an important component for locating downstream boundaries of potential restoration areas, as was 1) fish stocking and/or nonnative fish presence, 2) habitat quality attributes, and 3) significance of any fishery present. Each identified stream segment had all attributes in common or, if one or more attributes changed, a new segment was created. The relative complexity of removal (chemical and/or physical removals) of any existing fish within the potential restoration or expansion segment was also identified as a fourth variable.

A generalized restoration opportunity assessment for each potential restoration stream segment was performed by ranking the latter four variables identified above. The ranking for each

restoration variable was derived from the information and judgment of the working group doing the assessment. Ranking scores for each of the four variables are presented in Appendix A. The ranks assigned to each of the variables were combined into a rating of overall restoration potential for each stream segment. The four variables were weighted equally to derive the overall restoration ranking. The overall score was divided into logical rankings associated with restoration potential (High Restoration Potential = 4 to 6; Intermediate Restoration Potential = 7 to 9; Low Restoration Potential = 10 to 13; and, Very Low Restoration Potential = 14 to 16). If a complete barrier occurred in the lower portion of a segment, the ranking was elevated to the next higher restoration or expansion rank. The identification of one or more unknown conditions associated with the restoration variables resulted in labeling that segment as having unknown restoration potential.

### **Workshops, Assessment Teams, HUC's, GMU's and the Geo-database**

A total of five workshops were held to obtain the information for this status update for Parts 1, 2, and 3 in 2004. Workshops were held in Delta, Durango, and Steamboat Springs, Colorado, and Price and Vernal, Utah. At each workshop a systematic application of the assessment protocol was undertaken (Appendix A). A total of 48 fisheries professionals from 7 state and federal agencies (Appendix B) provided the information used in this assessment. In addition to the fisheries professionals, 13 GIS and data management specialists (5 with a biology and/or fisheries background) also participated in these workshops to assist with data entry and display of status information (Appendix B). At each workshop consistency was maintained by having two individuals with specific knowledge of the protocols attend all five workshops. As a backup several of the GIS specialists attended more than one workshop thereby assisting in the maintenance of continuity. To the degree possible information on CRCT was verified and edited at each workshop. A second round of workshops was held during the spring of 2005 to complete Part 4 of the protocol, correct errors found during data validation, and add data collected during the summer of 2003. Data validation consisted of comparing the conservation population information in this database to the existing database maintained by the Colorado River cutthroat trout conservation team. Information stored in statewide databases was available in hard copy files or in computer databases was brought to the workshops by the participants to assist them in providing information of the status update. The CRCT Conservation Team has committed to annual updates of the database during which new information will be added and corrections will be made.

The fisheries professionals that completed this assessment had experience levels ranging from several months to several decades. Collectively, these fishery professionals had a combined total of 759 years of professional fisheries experience, of which 516 years were directly applicable to CRCT conservation and management. Many of the participants had Master of Science degrees (22), twenty had Bachelor of Science degrees, three had Bachelor of Arts degrees, one had a Master of Arts degree, and one had a Doctorate of Philosophy.

## Results and Discussion

Initially 61 4<sup>th</sup> level HUC's within the Colorado River upstream of Lake Powell were included in this status update. A total of 51 HUC's were judged to contain stream segments defined as historical habitat. Ten HUC's were excluded from further analysis because there was a consensus that these HUC's were not historically (circa 1800) occupied by CRCT. The base NHD stream coverage included a variety of channels including perennial streams, ephemeral and intermittent channels, ditches, and canals. The status update attempted to refine the NHD layer by removing all ditches, canals, most ephemeral and intermittent channels and other habitats deemed as incapable of supporting CRCT. Ditches currently supporting CRCT were retained. A total of 136,933 stream miles were in the base NHD coverage excluding labeled canals and ditches after all stream miles below 6000 feet in elevation were excluded or below 5500 feet in elevation for north facing slopes.

### *Historical Range*

As described in the methods section, the historical perspective for this status update was based on habitat believed to be inhabited when early European explorers entered western portions of the North American Continent (circa 1800 AD). A systematic review of the base elevation corrected NHD stream layer (136,933 miles) resulted in the removal of total of 115,547 miles (84%) of stream channel judged to be mislabeled canals and ditches, stream segments above complete barriers that would have precluded CRCT on or before 1800, and stream segments judged to have insufficient habitat necessary to support CRCT populations (e.g., intermittent or ephemeral channels). In general, streams currently capable of supporting trout were assumed to have been historically occupied if they were not above a historical barrier. Conversely, streams which cannot currently support trout were assumed not to have been historically occupied unless they were known to be degraded by such things as water withdrawals, channel alterations, human-caused barriers, or chemical contamination. At the completion of the systematic review, **21,386 miles of stream habitat were identified as having the potential of being historically (circa 1800) occupied by CRCT** (Figure 3). The estimated amount of historical range in each state was about 13,615 miles in Colorado (64%), 3,465 miles in Utah (16%), 4,185 miles in Wyoming (20%), and 121 miles (0.6%) in New Mexico (Figure 2). The historical range subdivided by GMU was 346 miles (2%) in Lower Colorado, 4,699 miles (22%) in Upper Colorado, 1,241 miles (6%) in Dolores, 2,211 miles (10%) in Lower Green, 4,383 miles (20%) in Upper Green, 3,398 miles (16%) in Gunnison, 2,046 miles (10%) in San Juan, and 3,064 miles (14%) in Yampa. It is important to note that a biologist knowledgeable of the Chuska Mountains (San Juan GMU, Chaco watershed) was not available during our workshops. The historical distribution in this area was based on generalized historical distribution presented in Behnke and Benson (1980) and Young et al. (1995) concurrently with best professional judgment based on site specific elevation and stream pattern.

Several 4<sup>th</sup> level HUC's, including Lower Green, Dirty Devil, Paria, Lower Lake Powell, Lower San Juan, Chinle, Blanco Canyon, McElmo, Upper Lake Powell, and Bitter, were excluded as historical habitats, even though previous assessments may have included some or parts of these basins within the historical range. These watersheds were excluded based on one or more of the

following: 1) habitat was judged to be unsuitable due to extreme conditions, 2) habitats where CRCT occurred would have been eliminated before 1800 and there was no way of re-founding the population, or 3) historical records indicated that specific streams were devoid of fish.

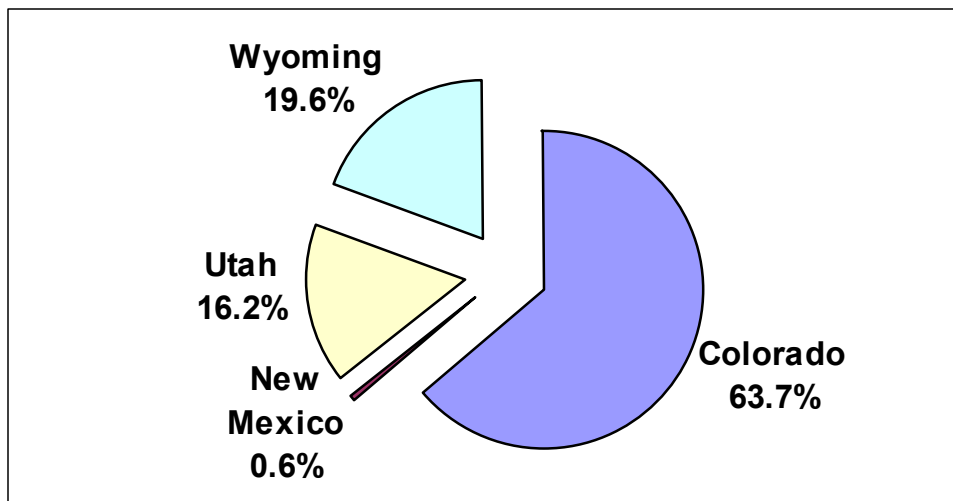


Figure 2. Percent of the 21,386 miles of historically occupied streams by state.

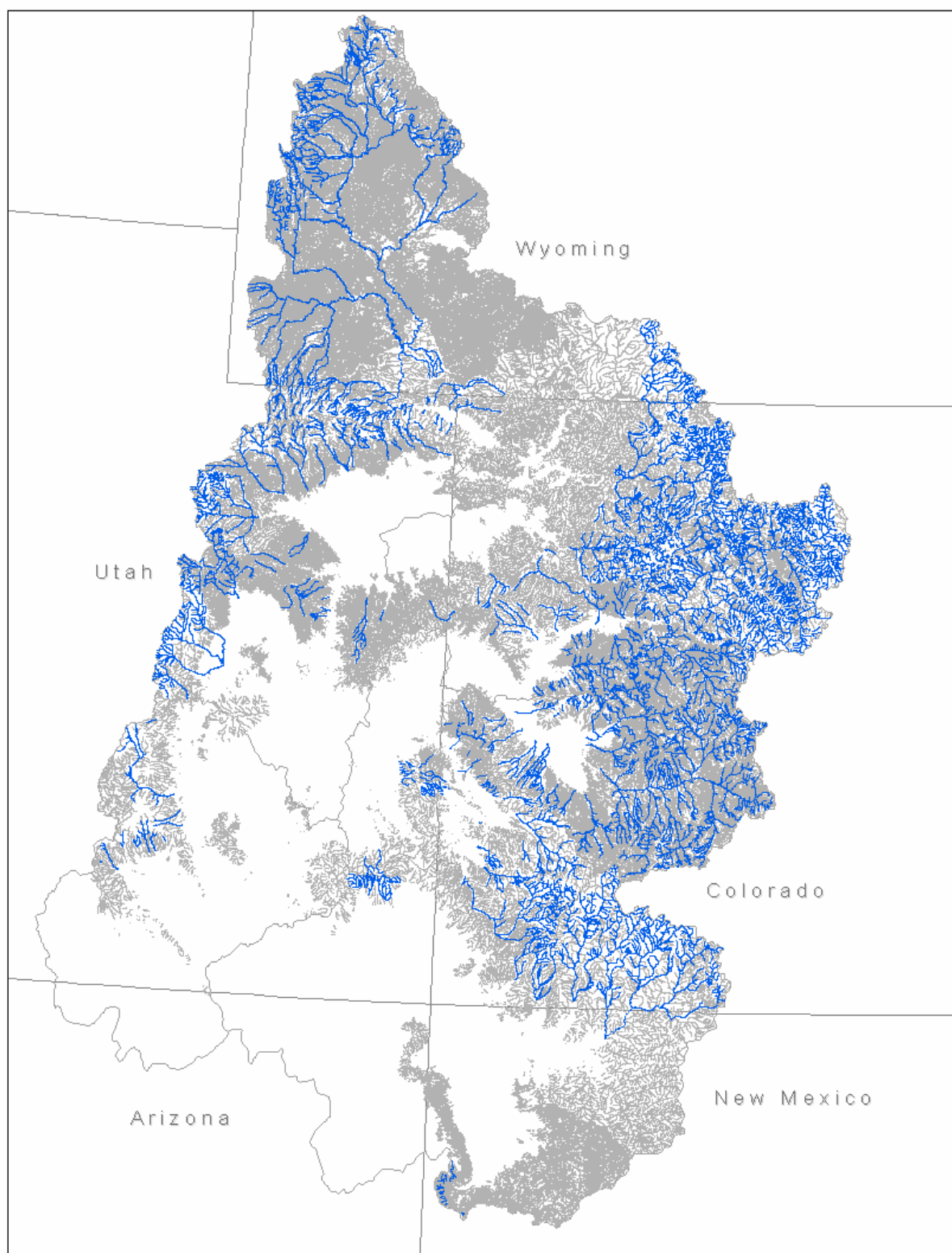


Figure 3. Streams included (blue) as part of the historical distribution and excluded (gray) from the stream layer for historically occupied watersheds.

*Current Distribution*

CRCT currently occupy about 3,022 miles of habitat (Figure 3). Of the 3,022 currently occupied miles, 224 occurred outside historical habitats we delineated. Thirteen percent of historically occupied habitats we designated are currently occupied. The 224 miles of occupied habitat outside estimated historical habitat would equal an additional 1% of the total historically occupied habitat. These streams are typically above historical barriers in segments not believed to have been historically occupied but still within the historical range.

CRCT currently occupy about 1,359 miles in Colorado (45% of total currently occupied habitat; 10% of Colorado historical habitat), 1,111 miles in Utah (37% of total current; 32% of Utah historical), 552 miles in Wyoming (18% of total current; 13% of Wyoming historical), and are believed to be extirpated from New Mexico (Figure 4). The Lower Green GMU contained the largest amount of occupied habitat (791 stream miles). Followed by the Upper Green GMU (691 mi), Upper Colorado GMU (601 mi), Yampa GMU (404 mi), Gunnison GMU (292 mi), San Juan GMU (119 mi), Lower Colorado GMU (64 mi), and the Dolores GMU (60 mi), respectively. CRCT occupied habitat in 42 of the 51 fourth level HUC's determined to support historical habitat (Table 2). They are believed to be extirpated from the following 9 fourth level HUC's: Upper Colorado-Kane Springs, Upper Green-Slate, Big Sandy, Vermillion, Middle San Juan, Chaco, Mancos, Lower San Juan-Four Corners, and Montezuma.

Persistence (the amount of historical habitat still occupied) varied from 5 to 6 percent in the Dolores and San Juan GMUs, respectively, to 36 percent in the Lower Green River GMU. While the Lower Green River only contains 10% of the historical habitat, it has 26% of the currently occupied stream miles. Conversely, the San Juan, Dolores, and Gunnison GMUs all contain a lower percent of the occupied habitat compared to the percent of historical habitat they contain (Table 2).



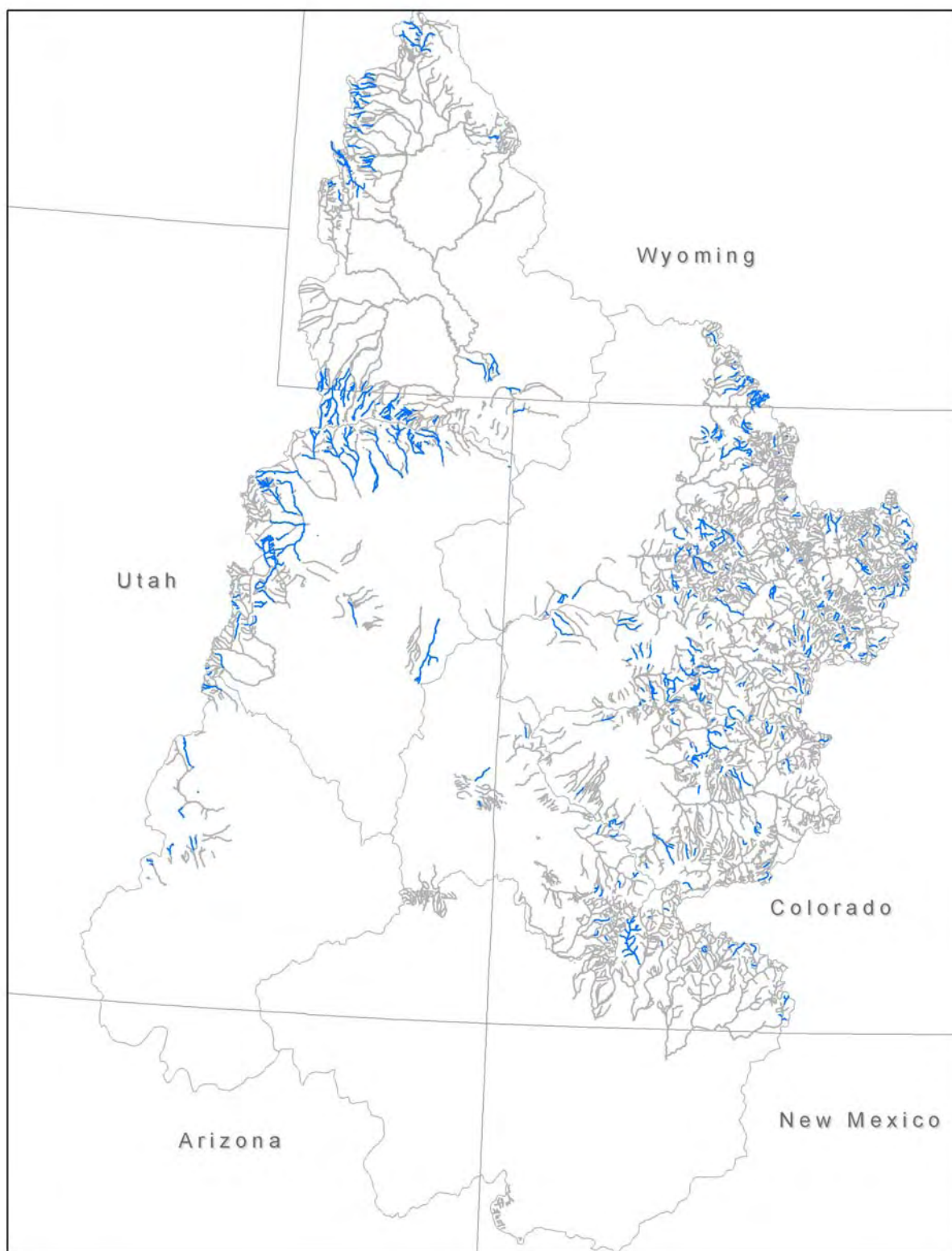


Figure 4. Currently occupied stream segments supporting CRCT (blue) overlaying the historically designated habitat (gray).

Table 2. Currently occupied CRCT habitat per hydrologic unit and percentage of historically-occupied habitat. All watersheds within each GMU are presented.

| HUC code    | Unit Name                             | Historical Miles (percent of total historical miles) | Currently Occupied Miles (percent of total currently occupied miles) | Percent of Unit Historical Habitat Currently Occupied |
|-------------|---------------------------------------|--|--|---|
| 14010001    | Colorado Headwaters                   | 2,111 (9.9%)   | 221 (7.3%)   | 10.4%   |
| 14010002    | Blue                                  | 456 (2.1%)   | 46 (1.5%)  | 10.0%   |
| 14010003    | Eagle                                 | 624 (2.9%)   | 62 (2.1%)  | 9.9%  |
| 14010004    | Roaring Fork                          | 758 (3.5%)   | 75 (2.5%)  | 9.9%  |
| 14010005    | Colorado Headwaters-Plateau           | 604 (2.8%)   | 150 (5.0%)   | 24.9%   |
| 14010006    | Parachute-Roan                        | 145 (0.7%)   | 47 (1.6%)  | 32.5%   |
| <b>1401</b> | <b>Upper Colorado River GMU total</b> | <b>4,699 (22.0%)</b>                                 | <b>600 (19.9%)</b>   | <b>12.8%</b>  |
| 14020001    | East-Taylor                           | 546 (2.6%)   | 34 (1.1%)  | 6.2%  |
| 14020002    | Upper Gunnison                        | 1,257 (5.9%)   | 88 (2.9%)  | 7.0%  |
| 14020003    | Tomichi                               | 518 (2.4%)   | 13 (0.4%)  | 2.5%  |
| 14020004    | North Fork Gunnison                   | 479 (2.2%)   | 107 (3.5%)   | 22.2%   |
| 14020005    | Lower Gunnison                        | 371 (1.7%)   | 12 (0.4%)  | 3.2%  |
| 14020006    | Uncompahgre                           | 226 (1.1%)   | 39 (1.3%)  | 17.2%   |
| <b>1402</b> | <b>Gunnison River GMU total</b>       | <b>3,398 (15.9%)</b>                                 | <b>292 (9.7%)</b>  | <b>8.6%</b>   |
| 14030001    | Westwater Canyon                      | 24 (0.1%)  | 5 (0.2%)   | 21.3%   |
| 14030002    | Upper Dolores                         | 690 (3.2%)   | 16 (0.5%)  | 2.4%  |
| 14030003    | San Miguel                            | 314 (1.5%)   | 28 (0.9%)  | 8.8%  |
| 14030004    | Lower Dolores                         | 132 (0.6%)   | 10 (0.3%)  | 7.8%  |
| 14030005    | Upper Colorado-Kane Springs           | 81 (0.4%)  | 0  | 0%  |
| <b>1403</b> | <b>Dolores River GMU total</b>        | <b>1,241 (5.8%)</b>                                  | <b>59 (2.0%)</b>   | <b>4.8%</b>   |
| 14040101    | Upper Green                           | 1,622 (7.6%)   | 284 (9.4%)   | 17.5%   |
| 14040102    | New Fork                              | 387 (1.8%)   | 9 (0.3%)   | 2.3%  |
| 14040103    | Upper Green-Slate                     | 70 (0.3%)  | 0  | 0%  |
| 14040104    | Big Sandy                             | 355 (1.7%)   | 0  | 0%  |
| 14040105    | Bitter                                | 0  | 0  | n/a   |
| 14040106    | Upper Green-Flaming Gorge Res.        | 707 (3.3%)   | 207 (6.8%)   | 29.3%   |
| 14040107    | Blacks Fork                           | 853 (4.0%)   | 157 (5.2%)   | 18.4%   |
| 14040108    | Muddy                                 | 333 (1.6%)   | 34 (1.1%)  | 10.3%   |
| 14040109    | Vermilion                             | 56 (0.3%)  | 0  | 0%  |
| <b>1404</b> | <b>Upper Green River GMU total</b>    | <b>4,383 (20.5%)</b>                                 | <b>691 (22.9%)</b>   | <b>15.8%</b>  |
| 14050001    | Upper Yampa                           | 1,701 (8.0%)   | 135 (4.5%)   | 7.9%  |
| 14050002    | Lower Yampa                           | 40 (0.2%)  | 9 (0.3%)   | 23.1%   |
| 14050003    | Little Snake                          | 488 (2.3%)   | 153 (5.0%)   | 31.3%   |
| 14050004    | Muddy                                 | 61 (0.3%)  | 9 (0.3%)   | 15.1%   |
| 14050005    | Upper White                           | 631 (3.0%)   | 75 (2.5%)  | 11.9%   |
| 14050006    | Piceance-Yellow                       | 62 (0.3%)  | 8 (0.3%)   | 12.2%   |
| 14050007    | Lower White                           | 81 (0.4%)  | 16 (0.5%)  | 19.7%   |
| <b>1405</b> | <b>Yampa River GMU total</b>          | <b>3,064 (14.3%)</b>                                 | <b>404 (13.4%)</b>   | <b>13.2%</b>  |
| 14060001    | Lower Green-Diamond                   | 26 (0.1%)  | 1 (0.0%)   | 3.5%  |
| 14060002    | Ashley-Brush                          | 158 (0.7%)   | 87 (2.9%)  | 55.1%   |
| 14060003    | Duchesne                              | 608 (2.8%)   | 288 (9.5%)   | 47.4%   |
| 14060004    | Strawberry                            | 402 (1.9%)   | 148 (4.9%)   | 36.8%   |
| 14060005    | Lower Green-Desolation Canyon         | 152 (0.7%)   | 12 (0.4%)  | 8.1%  |
| 14060006    | Willow                                | 101 (0.5%)   | 72 (2.4%)  | 71.0%   |
| 14060007    | Price                                 | 396 (1.9%)   | 139 (4.6%)   | 35.1%   |
| 14060008    | Lower Green subbasin                  | 0  | 0  | n/a   |

| HUC code    | Unit Name                             | Historical Miles (percent of total historical miles) | Currently Occupied Miles (percent of total currently occupied miles) | Percent of Unit Historical Habitat Currently Occupied |
|-------------|---------------------------------------|--|--|---|
| 14060009    | San Rafael                            | 367 (1.7%)   | 44 (1.5%)  | 11.9%   |
| <b>1406</b> | <b>Lower Green River GMU total</b>    | <b>2,211 (10.3%)</b>                                 | <b>791 (26.2%)</b>   | <b>35.8%</b>  |
| 14070001    | Upper Lake Powell                     | 0  | 0  | n/a   |
| 14070002    | Muddy                                 | 86 (0.4%)  | 14 (0.5%)  | 16.8%   |
| 14070003    | Fremont                               | 154 (0.7%)   | 26 (0.9%)  | 16.9%   |
| 14070004    | Dirty Devil                           | 0  | 0  | n/a   |
| 14070005    | Escalante                             | 105 (0.5%)   | 24 (0.8%)  | 22.4%   |
| 14070006    | Lower Lake Powell                     | 0  | 0  | n/a   |
| 14070007    | Paria                                 | 0  | 0  | n/a   |
| <b>1407</b> | <b>Lower Colorado River GMU total</b> | <b>346 (1.6%)</b>                                    | <b>64 (2.1%)</b>   | <b>18.6%</b>  |
| 14080101    | Upper San Juan                        | 643 (3.0%)   | 20 (0.7%)  | 3.1%  |
| 14080102    | Piedra                                | 367 (1.7%)   | 18 (0.6%)  | 5.0%  |
| 14080103    | Blanco Canyon                         | 0  | 0  | n/a   |
| 14080104    | Animas                                | 487 (2.3%)   | 81 (2.7%)  | 16.6%   |
| 14080105    | Middle San Juan                       | 203 (0.9%)   | 0  | 0%  |
| 14080106    | Chaco                                 | 67 (0.3%)  | 0  | 0%  |
| 14080107    | Mancos                                | 111 (0.5%)   | 0  | 0%  |
| 14080201    | Lower San Juan-Four Corners           | 147 (0.7%)   | 0  | 0%  |
| 14080202    | Mcelmo                                | 0  | 0  | n/a   |
| 14080203    | Montezuma                             | 20 (0.1%)  | 0  | 0%  |
| 14080204    | Chinle                                | 0  | 0  | n/a   |
| 14080205    | Lower San Juan                        | 0  | 0  | n/a   |
| <b>1408</b> | <b>San Juan River GMU total</b>       | <b>2,046 (9.6%)</b>                                  | <b>119 (3.9%)</b>  | <b>5.8%</b>   |
|             | <b>Grand total</b>                    | <b>21,386 (100%)</b>                                 | <b>3,022 (100%)</b>  | <b>14.1%</b>  |

Although the intent of this assessment was to report current CRCT status, not to analyze patterns or causes, an interesting pattern emerged related to how well CRCT were able to persist in their historical habitats. We noticed that the 4<sup>th</sup> level watersheds (the smallest unit we analyzed) with the best CRCT persistence (highest percent of historical habitat currently occupied) tended to be watersheds which had lower amounts of historical habitat. These watersheds were comprised of mixed warm-water and cold-water streams in contrast to those comprised primarily of cold-water streams and rivers which had high amounts of historical habitat. To explore this pattern further, we calculated the density of historic habitat in each 4<sup>th</sup> level watershed and compared it to CRCT persistence (Table 3 and Figure 5). This pattern may be partly explained by the likelihood that non-native trout stocking would have occurred more in the “prime” trout habitat (high historic density) and less in “marginal” trout habitat (low historic density). Alternatively, introduced non-native trout may not have persisted as well in more marginal habitat. In addition, non-native trout would have been better able to invade the more well-connected habitats in the core areas than the more isolated areas in the marginal habitat. This is an area worthy of further study.

In many 4<sup>th</sup> level watersheds, restoration efforts improved the proportion of CRCT persistence when compared to historical habitats. For this assessment, data were only available for CRCT introductions and population expansions for conservation populations. These data are also presented in Table 3.

Table 3. Percent of historical habitat occupied in currently occupied CRCT watersheds and the number of refounded or expanded conservation populations, number of miles of occupied habitat outside the historical range, and historical habitat density. Watersheds with at least 15% of historical habitat currently occupied are in bold.

| <u>Name</u>                          | <u># of refounded<br/>or expanded<br/>conservation<br/>populations</u> | <u>Occupied<br/>miles outside<br/>historical<br/>range</u> | <u>Percent of<br/>Historical<br/>Habitat<br/>Occupied</u> | <u>Historical<br/>Habitat<br/>Density<br/>(mi/mi<sup>2</sup>)</u> |
|--------------------------------------|--|--|---|---|
| <i>Upper Colorado River Basin</i>    |  |  |   |   |
| Colorado Headwaters                  | 12   | 25   | 10%   | 0.72  |
| Blue                                 | 0  | 7  | 10%   | 0.68  |
| Eagle                                | 1  | 11   | 10%   | 0.64  |
| Roaring Fork                         | 2  | 15   | 10%   | 0.52  |
| <b>Colorado Headwaters-Plateau</b>   | <b>0</b>   | <b>10</b>  | <b>25%</b>  | <b>0.19</b>   |
| <b>Parachute-Roan</b>                | <b>1</b>   | <b>0</b>   | <b>33%</b>  | <b>0.21</b>   |
| <i>Gunnison River Basin</i>          |  |  |   |   |
| East-Taylor                          | 0  | 1  | 6%  | 0.70  |
| Upper Gunnison                       | 4  | 19   | 7%  | 0.52  |
| Tomichi                              | 0  | 5  | 3%  | 0.47  |
| <b>North Fork Gunnison</b>           | <b>0</b>   | <b>5</b>   | <b>22%</b>  | <b>0.49</b>   |
| Lower Gunnison                       | 0  | 0.2  | 3%  | 0.22  |
| <b>Uncompahgre</b>                   | <b>0</b>   | <b>0</b>   | <b>17%</b>  | <b>0.20</b>   |
| <i>Dolores River Basin</i>           |  |  |   |   |
| <b>Westwater Canyon</b>              | <b>0</b>   | <b>0</b>   | <b>21%</b>  | <b>0.02</b>   |
| Upper Dolores                        | 0  | 0  | 2%  | 0.32  |
| San Miguel                           | 0  | 0  | 9%  | 0.20  |
| Lower Dolores                        | 0  | 0  | 8%  | 0.15  |
| <i>Upper Green River Basin</i>       |  |  |   |   |
| <b>Upper Green</b>                   | <b>15</b>  | <b>2</b>   | <b>18%</b>  | <b>0.55</b>   |
| New Fork                             | 0  | 0  | 2%  | 0.31  |
| <b>Upper Green-Flaming Gorge Res</b> | <b>0</b>   | <b>0</b>   | <b>29%</b>  | <b>0.29</b>   |
| <b>Blacks Fork</b>                   | <b>7</b>   | <b>0</b>   | <b>18%</b>  | <b>0.31</b>   |
| Muddy                                | 0  | 0  | 10%   | 0.34  |
| <i>Yampa River Basin</i>             |  |  |   |   |
| Upper Yampa                          | 4  | 0  | 8%  | 0.65  |
| <b>Lower Yampa</b>                   | <b>0</b>   | <b>0</b>   | <b>23%</b>  | <b>0.03</b>   |
| <b>Little Snake</b>                  | <b>10</b>  | <b>12</b>  | <b>31%</b>  | <b>0.16</b>   |
| <b>Muddy</b>                         | <b>1</b>   | <b>0</b>   | <b>15%</b>  | <b>0.06</b>   |
| Upper White                          | 2  | 0  | 12%   | 0.46  |
| Piceance-Yellow                      | 0  | 0  | 12%   | 0.07  |
| <b>Lower White</b>                   | <b>0</b>   | <b>0</b>   | <b>20%</b>  | <b>0.03</b>   |
| <i>Lower Green River Basin</i>       |  |  |   |   |
| Lower Green-Diamond                  | 2  | 1  | 4%  | 0.03  |
| <b>Ashley-Brush</b>                  | <b>0</b>   | <b>2</b>   | <b>55%</b>  | <b>0.24</b>   |
| <b>Duchesne</b>                      | <b>0</b>   | <b>5</b>   | <b>47%</b>  | <b>0.23</b>   |
| <b>Strawberry</b>                    | <b>2</b>   | <b>0.4</b>   | <b>37%</b>  | <b>0.34</b>   |
| Lower Green-Desolation Canyon        | 0  | 0  | 8%  | 0.08  |
| <b>Willow</b>                        | <b>0</b>   | <b>61</b>  | <b>71%</b>  | <b>0.10</b>   |

|                                   |          |            |            |             |
|-----------------------------------|----------|------------|------------|-------------|
| <b>Price</b>                      | <b>1</b> | <b>14</b>  | <b>35%</b> | <b>0.21</b> |
| San Rafael                        | 2        | 7          | 12%        | 0.15        |
| <i>Lower Colorado River Basin</i> |          |            |            |             |
| <b>Muddy</b>                      | <b>0</b> | <b>0</b>   | <b>17%</b> | <b>0.06</b> |
| <b>Fremont</b>                    | <b>8</b> | <b>1</b>   | <b>17%</b> | <b>0.08</b> |
| <b>Escalante</b>                  | <b>2</b> | <b>0.4</b> | <b>22%</b> | <b>0.05</b> |
| <i>San Juan River Basin</i>       |          |            |            |             |
| Upper San Juan                    | 0        | 7          | 3%         | 0.19        |
| Piedra                            | 0        | 0          | 5%         | 0.55        |
| <b>Animas</b>                     | <b>2</b> | <b>15</b>  | <b>17%</b> | <b>0.36</b> |

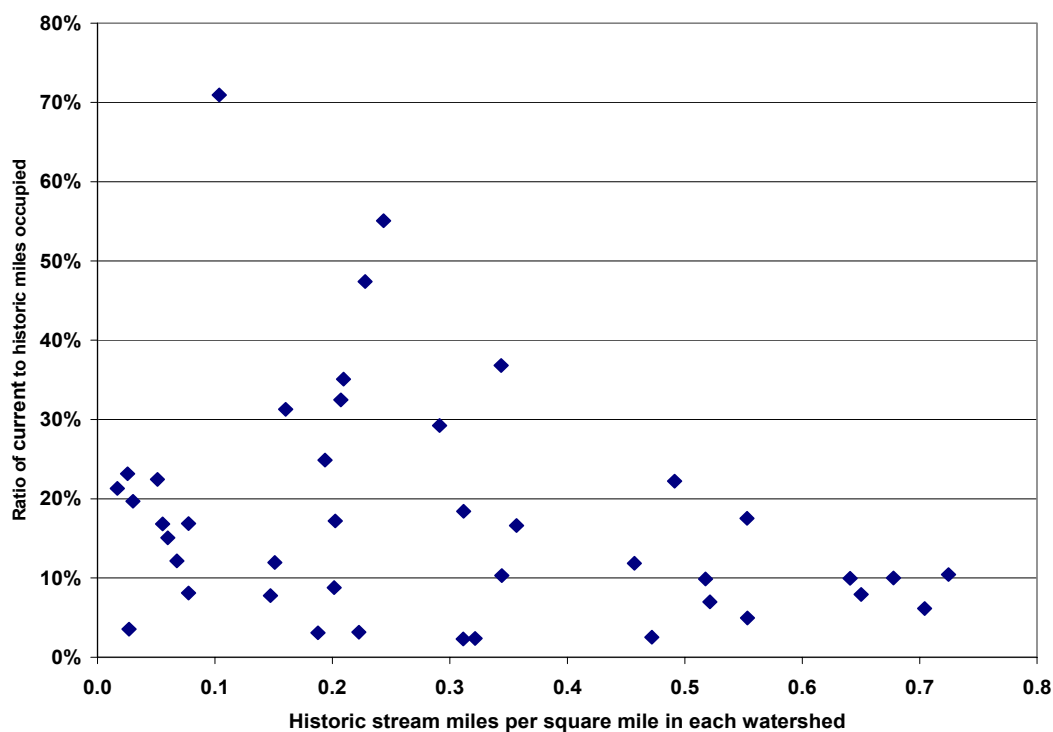


Figure 5. Graph displaying the relationship between the proportion of historical habitat currently occupied and the density of historical habitat in each occupied 4<sup>th</sup> level watershed.

### Genetic Status

Genetic testing of CRCT across all of the currently occupied area has not been completed and existing tests were not conducted in a random fashion. Consequently, the available genetics information does not constitute a representative sample taken from the entire CRCT population. Instead, there was a tendency to sample fish from known, more accessible populations and from newly discovered populations that appeared to be typical of the CRCT phenotype. Genetic sampling has been conducted in over 1,150 miles of occupied habitats (38% of occupied habitats). Results of genetic sampling were extrapolated across the currently occupied segment from which the sample was taken, which may include one or more miles of occupied habitat. No evidence of introgression was found from samples covering about 782 miles (68% of tested area, 26% of occupied habitats, and 4% of historical habitats; Table 4; Figure 6). CRCT identified in 470 miles (16% of occupied habitats and 2% of historical habitats) were suspected of being genetically unaltered, based on the absence of introduced hybridizing species and the lack of records that identify stocking of hybridizing species, good meristic characteristics, or the population was adjacent to a pure population. CRCT in about 367 miles (12% of occupied habitats or 2% of historical habitat) were hybridized based on genetic testing. Another 1,334 miles of occupied habitat (44% of occupied habitats and 6% of historical habitats) were identified as having the potential of being hybridized due to the presence, or past stocking, of hybridizing nonnative species or subspecies (Table 4). Genetic results associated with each GMU are presented in Table 5.

To provide insight into the likely genetic status of CRCT within habitats classified as “Suspected Unaltered” and “Potentially Hybridized” we refer the reader to the recent westslope cutthroat (WCT) status review that was completed in February, 2003 (Shepard et al. 2003). For central Idaho where limited genetic testing has been conducted, the assessment team took a closer look at classification results for 10 separate 4th code HUC’s where some genetic testing had been conducted, they compared the level of introgression within tested stream segments to the classifications for stream segments where no genetic testing had been done. Seven of these ten HUC’s had the majority of the stream segments classified as “Potentially Hybridized”. Of these seven, genetic testing in five HUC’s found no evidence of introgression, while genetic testing in one HUC found 65% of tested stream length had no evidence of introgression and testing in another HUC found evidence of introgression in all tested samples. Conversely, some stream segments in one HUC that supported WCT classified as being primarily “Suspected Unaltered” tested as introgressed, while genetic testing in the other two HUC’s that were predominated by streams classified as “Suspected Unaltered” found no evidence of introgression. We caution against drawing specific conclusions about genetic status of CRCT populations identified as suspected unaltered or potentially hybridized from a genetic perspective. The only definitive way of determining genetic status is through formal genetic testing.

Table 4. Genetic status for Colorado River cutthroat trout by stream length (miles) within their current range as of 2005.

| <b>Genetic status</b>                          | <b>Miles</b> | <b>% of occupied</b> | <b>% of historical</b> |
|--|--------------|----------------------|------------------------|
| Tested; Unaltered (<1% introgressed)           | 782          | 26                   | 3.7                    |
| Tested; $\geq 1\%$ to $\leq 10\%$ introgressed | 218          | 7                    | 1.0                    |
| Tested; $>10\%$ to $\leq 20\%$ introgressed    | 83           | 3                    | 0.4                    |
| Tested; $>20\%$ introgressed                   | 67           | 2                    | 0.3                    |
| Suspected Unaltered                            | 470          | 16                   | 2.2                    |
| Potentially Altered                            | 1334         | 44                   | 6.2                    |
| Mixed Stock; Altered and Unaltered             | 68           | 2                    | 0.3                    |
| <b>TOTAL</b>                                   | <b>3022</b>  |                      | <b>14.1</b>            |

Table 5. Stream miles currently occupied by Colorado River cutthroat trout by genetic status in each GMU.

| <b>Genetic status</b>                          | <b>GMU</b>            |                       |                  |                   |
|--|-----------------------|-----------------------|------------------|-------------------|
|  | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>   | <b>Gunnison</b>   |
| Tested; Unaltered (<1% introgressed)           | 90 (14.9%)            | 47 (72.7%)            | 5 (8.8%)         | 56 (19.2%)        |
| Tested; $\geq 1\%$ to $\leq 10\%$ introgressed | 49 (8.1%)             | 0                     | 4 (6.7%)         | 22 (7.4%)         |
| Tested; $>10\%$ to $\leq 20\%$ introgressed    | 22 (3.6%)             | 0                     | 4 (7.5%)         | 7 (2.5%)          |
| Tested; $>20\%$ introgressed                   | 14 (2.3%)             | 0                     | 4 (6.9%)         | 18 (6.2%)         |
| Suspected Unaltered                            | 104 (17.2%)           | 6 (10.0%)             | 8 (13.4%)        | 43 (14.6%)        |
| Potentially Altered                            | 323 (53.8%)           | 11 (17.3%)            | 31 (52.8%)       | 146 (50.1%)       |
| Mixed Stock; Altered and Unaltered             | 0                     | 0                     | 2 (3.8%)         | 0                 |
| <b>Total</b>                                   | <b>600 (100%)</b>     | <b>64 (100%)</b>      | <b>59 (100%)</b> | <b>292 (100%)</b> |

| <b>Genetic status</b>                          | <b>GMU</b>         |                    |                   |                   |
|--|--------------------|--------------------|-------------------|-------------------|
|  | <b>Upper Green</b> | <b>Lower Green</b> | <b>San Juan</b>   | <b>Yampa</b>      |
| Tested; Unaltered (<1% introgressed)           | 152 (21.9%)        | 199 (25.2%)        | 29 (24.6%)        | 205 (50.7%)       |
| Tested; $\geq 1\%$ to $\leq 10\%$ introgressed | 92 (13.3%)         | 0                  | 8 (7.0%)          | 43 (10.8%)        |
| Tested; $>10\%$ to $\leq 20\%$ introgressed    | 16 (2.3%)          | 12 (1.5%)          | 0                 | 21 (5.1%)         |
| Tested; $>20\%$ introgressed                   | 7 (1.0%)           | 21 (2.6%)          | 0                 | 4 (0.9%)          |
| Suspected Unaltered                            | 147 (21.3%)        | 102 (12.8%)        | 9 (7.2%)          | 52 (12.8%)        |
| Potentially Altered                            | 212 (30.7%)        | 458 (57.8%)        | 73 (61.2%)        | 80 (19.7%)        |
| Mixed Stock; Altered and Unaltered             | 66 (9.6%)          | 0                  | 0                 | 0                 |
| <b>Total</b>                                   | <b>691 (100%)</b>  | <b>791 (100%)</b>  | <b>119 (100%)</b> | <b>404 (100%)</b> |

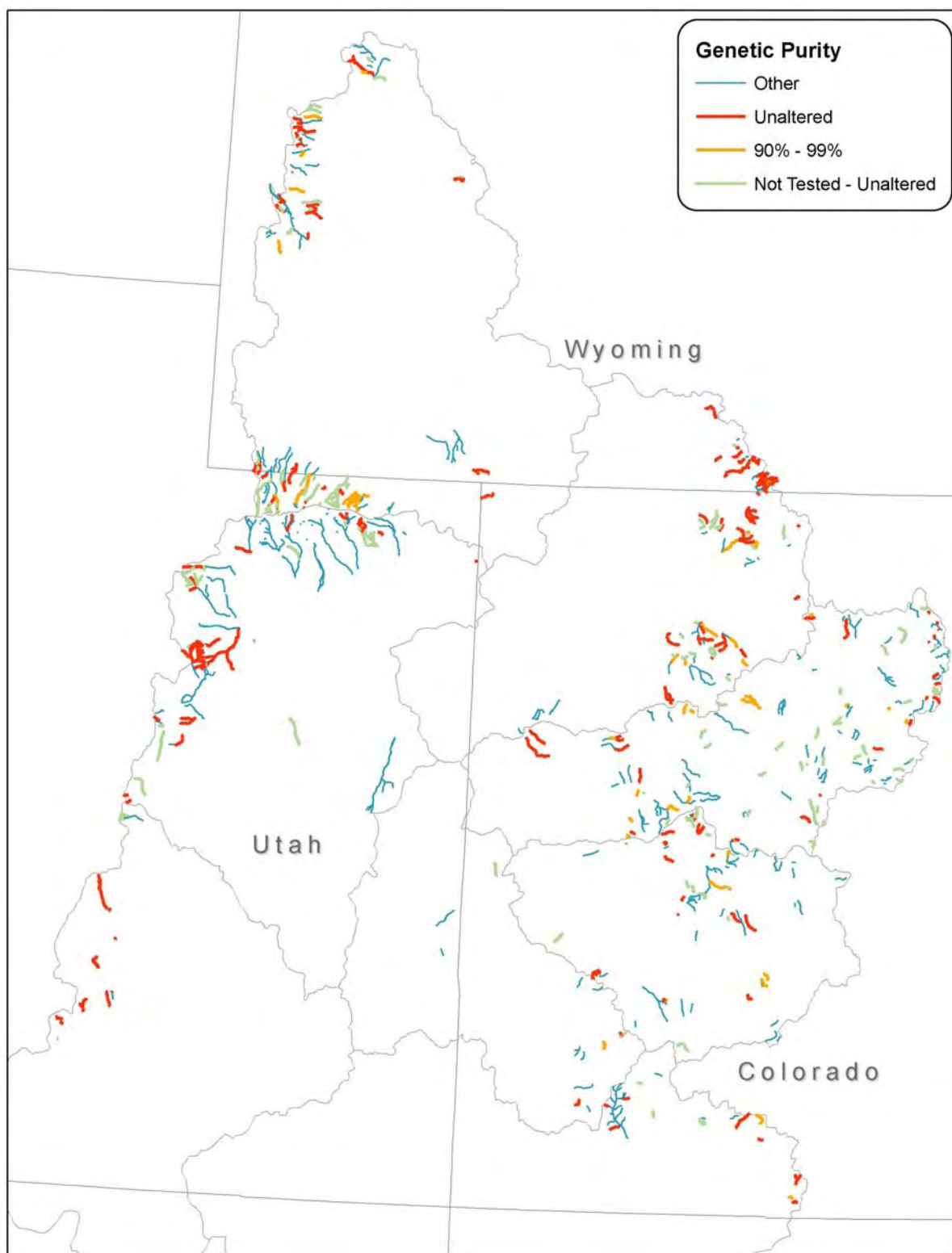


Figure 6. Genetic status of currently occupied CRCT stream segments.



## Elevation

CRCT occupied elevations ranging from about 5,500 feet to over 12,000 feet. The elevation range of historical habitat was slightly larger (Figure 7). Fifty-nine percent of currently occupied habitat was between 7,500 and 9,500 feet. Only 48% of historical habitat occurred in that range. Cutthroat persistence (how much historical habitat is still occupied) ranged from 17% to 21% between 8,000 and 10,500 feet (Table 6).

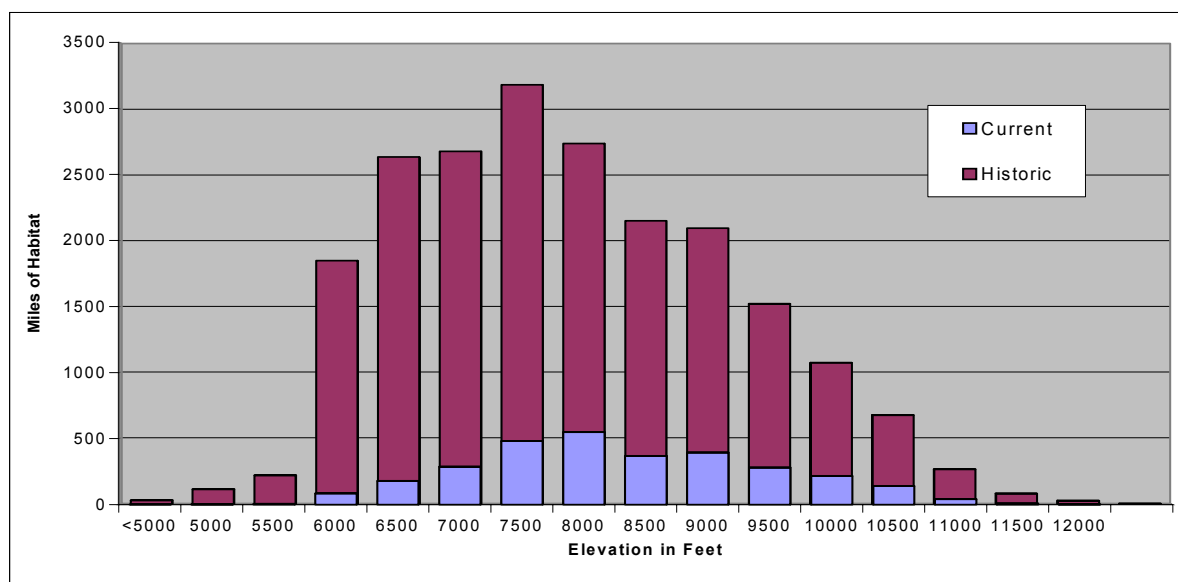


Figure 7. Histogram of elevation of historical and currently occupied habitat.

Table 6. Amount of historical and currently occupied habitat by elevation range and the percent of historical occupied by elevation.

| Elevation (feet) | Miles occupied | Miles of historical | % of historical occupied |
|------------------|----------------|---------------------|--------------------------|
| <5000            | 0.0            | 27.5                | 0.0%                     |
| 5000             | 0.3            | 111.2               | 0.3%                     |
| 5500             | 3.9            | 216.6               | 1.8%                     |
| 6000             | 84.2           | 1848.2              | 4.6%                     |
| 6500             | 178.1          | 2634.5              | 6.8%                     |
| 7000             | 286.2          | 2678.0              | 10.7%                    |
| 7500             | 479.9          | 3183.0              | 15.1%                    |
| 8000             | 548.8          | 2737.2              | 20.1%                    |
| 8500             | 367.6          | 2149.9              | 17.1%                    |
| 9000             | 394.1          | 2095.3              | 18.8%                    |
| 9500             | 278.9          | 1520.4              | 18.3%                    |
| 10000            | 216.7          | 1072.0              | 20.2%                    |
| 10500            | 139.7          | 673.8               | 20.7%                    |
| 11000            | 39.7           | 262.5               | 15.1%                    |
| 11500            | 7.8            | 78.0                | 10.0%                    |
| 12000            | 1.5            | 24.0                | 6.4%                     |
| 12500            | 0.0            | 0.7                 | 0.0%                     |

## Colorado River Cutthroat Trout Densities

Densities of sexually mature CRCT (15 cm and larger) were based on number of adults per mile for each stream segment. Densities were summarized into density ranges by state (Table 7) and included all CRCT occupied streams regardless of genetic purity. A total of 813 miles of occupied habitat (27% of currently occupied habitat) supported populations identified within the 0 to 50 fish/mile range. Densities of 51-150 and 151-400 adult trout/mile of occupied habitat occurred in 18% and 19%, respectively, of total occupied habitat. Densities over 400 fish/mile occurred in 242 miles of CRCT habitat (8%). The remaining 858 occupied stream miles (28%) had unknown CRCT densities. CRCT densities also varied by GMU (Table 8)

Table 7. Currently-occupied stream miles in Colorado, Utah, and Wyoming and total percentage by density categories of sexually mature CRCT in the three states.

| Density Range (fish/mile) | Colorado            | Utah                | Wyoming           | Total               |
|---------------------------|---------------------|---------------------|-------------------|---------------------|
| 0 to 50                   | 237 (17.4%)         | 435 (39.2%)         | 141 (25.5%)       | 813 (26.9%)         |
| 51 to 150                 | 255 (18.8%)         | 156 (14.0%)         | 134 (24.3%)       | 545 (18.0%)         |
| 151 to 400                | 277 (20.3%)         | 147 (13.2%)         | 141 (25.5%)       | 564 (18.7%)         |
| Over 400                  | 58 (4.3%)           | 105 (9.5%)          | 78 (14.2%)        | 242 (8.0%)          |
| Unknown                   | 533 (39.2%)         | 268 (24.1%)         | 58 (10.4%)        | 858 (28.4%)         |
| <b>Total</b>              | <b>1,359 (100%)</b> | <b>1,111 (100%)</b> | <b>552 (100%)</b> | <b>3,022 (100%)</b> |

Table 8. Currently occupied stream habitat (miles) in each of the eight GMU's by density categories of sexually mature CRCT.

| Density Range (fish/mile) | Upper Colorado    | Lower Colorado   | Dolores          | Gunnison          |
|---------------------------|-------------------|------------------|------------------|-------------------|
| 0 to 50                   | 77 (12.8%)        | 19 (29.3%)       | 22 (36.2%)       | 51 (17.6%)        |
| 51 to 150                 | 115 (19.2%)       | 19 (29.5%)       | 12 (19.9%)       | 39 (13.3%)        |
| 151 to 400                | 119 (19.8%)       | 6 (10.0%)        | 12 (20.3%)       | 32 (11.0%)        |
| Over 400                  | 15 (2.5%)         | 19 (29.5%)       | 0 (0.0%)         | 8 (2.6%)          |
| Unknown                   | 274 (45.7%)       | 1 (1.7%)         | 14 (23.6%)       | 162 (55.4%)       |
| <b>Total</b>              | <b>600 (100%)</b> | <b>64 (100%)</b> | <b>59 (100%)</b> | <b>292 (100%)</b> |

| Density Range (fish/mile) | Upper Green       | Lower Green       | San Juan          | Yampa             |
|---------------------------|-------------------|-------------------|-------------------|-------------------|
| 0 to 50                   | 108 (15.7%)       | 394 (49.7%)       | 60 (50.2%)        | 83 (20.4%)        |
| 51 to 150                 | 122 (17.6%)       | 108 (13.7%)       | 22 (18.2%)        | 108 (26.8%)       |
| 151 to 400                | 190 (27.5%)       | 88 (11.1%)        | 19 (16.0%)        | 98 (24.2%)        |
| Over 400                  | 117 (16.9%)       | 31 (4.0%)         | 10 (8.4%)         | 42 (10.3%)        |
| Unknown                   | 154 (22.3%)       | 170 (21.5%)       | 9 (7.2%)          | 74 (18.2%)        |
| <b>Total</b>              | <b>691 (100%)</b> | <b>791 (100%)</b> | <b>119 (100%)</b> | <b>404 (100%)</b> |

## Habitat Quality

The evaluation of habitat quality took both natural characteristics (e.g., gradient and stream size) and human disturbance (e.g., sediment from roads or grazing) into account. The total amount of CRCT habitat viewed as excellent was approximately 384 miles (13% of currently occupied). Habitat amounts associated with good, fair, and poor conditions were 1414 (47%), 882 (29%), and 171 (6%), respectively. Only 171 (6%) miles of occupied habitat conditions were unknown. Habitat quality considerations by state and GMU are presented in Tables 9 and 10.

Table 9. Habitat quality ratings in currently occupied stream miles in each of the three states.

| <b>Habitat Quality</b> | <b>Colorado</b>     | <b>Utah</b>         | <b>Wyoming</b>    | <b>Totals</b>       |
|------------------------|---------------------|---------------------|-------------------|---------------------|
| Excellent              | 168 (12.4%)         | 166 (14.9%)         | 50 (9.1%)         | 384 (12.7%)         |
| Good                   | 287 (21.1%)         | 357 (32.2%)         | 238 (43.0%)       | 882 (29.2%)         |
| Fair                   | 726 (53.4%)         | 487 (43.9%)         | 201 (36.4%)       | 1,414 (46.8%)       |
| Poor                   | 66 (4.9%)           | 65 (5.8%)           | 40 (7.3%)         | 171 (5.7%)          |
| Unknown                | 112 (8.2%)          | 36 (3.2%)           | 23 (4.2%)         | 171 (5.7%)          |
| <b>Total</b>           | <b>1,359 (100%)</b> | <b>1,111 (100%)</b> | <b>552 (100%)</b> | <b>3,022 (100%)</b> |

Table 10. Currently occupied stream miles by habitat quality rating in each of the eight GMU's .

| <b>Habitat Quality</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>   | <b>Gunnison</b>   |
|------------------------|-----------------------|-----------------------|------------------|-------------------|
| Excellent              | 77 (12.9%)            | 13 (20.8%)            | 0 (0.0%)         | 26 (8.8%)         |
| Good                   | 142 (23.6%)           | 13 (20.3%)            | 33 (55.2%)       | 52 (17.9%)        |
| Fair                   | 264 (44.0%)           | 32 (49.2%)            | 27 (44.8%)       | 199 (68.1%)       |
| Poor                   | 35 (5.8%)             | 6 (9.6%)              | 0 (0.0%)         | 4 (1.4%)          |
| Unknown                | 82 (13.7%)            | 0 (0.0%)              | 0 (0.0%)         | 11 (3.8%)         |
| <b>Total</b>           | <b>600 (100%)</b>     | <b>64 (100%)</b>      | <b>59 (100%)</b> | <b>292 (100%)</b> |

| <b>Habitat Quality</b> | <b>Upper Green</b> | <b>Lower Green</b> | <b>San Juan</b>   | <b>Yampa</b>      |
|------------------------|--------------------|--------------------|-------------------|-------------------|
| Excellent              | 141 (20.3%)        | 20 (2.6%)          | 46 (38.4%)        | 61 (15.1%)        |
| Good                   | 218 (31.6%)        | 324 (40.9%)        | 8 (7.1%)          | 91 (22.4%)        |
| Fair                   | 269 (39.0%)        | 353 (44.6%)        | 65 (54.5%)        | 206 (51.0%)       |
| Poor                   | 39 (5.7%)          | 59 (7.4%)          | 0 (0.0%)          | 28 (6.9%)         |
| Unknown                | 24 (3.4%)          | 36 (4.5%)          | 0 (0.0%)          | 18 (4.5%)         |
| <b>Total</b>           | <b>691 (100%)</b>  | <b>791 (100%)</b>  | <b>119 (100%)</b> | <b>404 (100%)</b> |

## Occupied Stream Width

The average width of occupied stream segments was assessed for all occupied habitat. Almost three-quarters of the occupied streams were less than 15 feet wide, with the highest percentage in the 5 to 10 foot range (Table 11). This pattern was fairly consistent across GMU's. The San Juan GMU overall had the largest streams with 30% of the occupied streams greater than 20 feet wide (Table 12).

Table 11. Stream width of currently occupied stream miles in each of the three states.

| <b>Stream Width</b> | <b>Colorado</b>     | <b>Utah</b>         | <b>Wyoming</b>    | <b>Totals</b>       |
|---------------------|---------------------|---------------------|-------------------|---------------------|
| < 5 feet            | 131 (9.6%)          | 184 (16.5%)         | 119 (21.6%)       | 434 (14.3%)         |
| 5 to 10 feet        | 633 (46.6%)         | 413 (37.2%)         | 235 (42.6%)       | 1,281 (42.4%)       |
| 10 to 15 feet       | 251 (18.5%)         | 156 (14.0%)         | 90 (16.2%)        | 497 (16.4%)         |
| 15 to 20 feet       | 121 (8.9%)          | 141 (12.7%)         | 36 (6.5%)         | 298 (9.9%)          |
| 20 to 25 feet       | 101 (7.5%)          | 107 (9.6%)          | 10 (1.9%)         | 218 (7.2%)          |
| > 25 feet           | 0                   | 41 (3.7%)           | 32 (5.8%)         | 73 (2.4%)           |
| Unknown             | 122 (9.0%)          | 69 (6.2%)           | 30 (5.4%)         | 221 (7.3%)          |
| <b>Total</b>        | <b>1,359 (100%)</b> | <b>1,111 (100%)</b> | <b>552 (100%)</b> | <b>3,022 (100%)</b> |

Table 12. Currently occupied stream miles by stream width in each of the eight GMU's .

| <b>Stream Width</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>     | <b>Gunnison</b>     |
|---------------------|-----------------------|-----------------------|--------------------|---------------------|
| < 5 feet            | 60 (10.0%)            | 4 (6.8%)              | 11 (18.0%)         | 33 (11.2%)          |
| 5 to 10 feet        | 289 (48.2%)           | 29 (45.4%)            | 37 (61.5%)         | 125 (42.8%)         |
| 10 to 15 feet       | 93 (15.4%)            | 22 (34.6%)            | 4 (7.0%)           | 76 (26.0%)          |
| 15 to 20 feet       | 56 (9.4%)             | 1 (1.0%)              | 8 (13.5%)          | 16 (5.4%)           |
| 20 to 25 feet       | 19 (3.2%)             | 8 (12.3%)             | 0                  | 31 (10.5%)          |
| > 25 feet           | 0                     | 0                     | 0                  | 0                   |
| Unknown             | 83 (13.8%)            | 0                     | 0                  | 12 (4.2%)           |
| <b>Total</b>        | <b>600 (100.0%)</b>   | <b>64 (100.0%)</b>    | <b>59 (100.0%)</b> | <b>292 (100.0%)</b> |

| <b>Stream Width</b> | <b>Upper Green</b> | <b>Lower Green</b> | <b>San Juan</b>   | <b>Yampa</b>      |
|---------------------|--------------------|--------------------|-------------------|-------------------|
| < 5 feet            | 121 (17.5%)        | 152 (19.3%)        | 0                 | 52 (12.9%)        |
| 5 to 10 feet        | 306 (44.3%)        | 248 (31.4%)        | 62 (52.5%)        | 185 (45.7%)       |
| 10 to 15 feet       | 106 (15.4%)        | 106 (13.4%)        | 4 (3.5%)          | 86 (21.2%)        |
| 15 to 20 feet       | 74 (10.7%)         | 90 (11.3%)         | 16 (13.4%)        | 38 (9.5%)         |
| 20 to 25 feet       | 20 (3.0%)          | 89 (11.2%)         | 36 (30.7%)        | 15 (3.7%)         |
| > 25 feet           | 34 (4.9%)          | 37 (4.7%)          | 0                 | 1 (0.4%)          |
| Unknown             | 30 (4.3%)          | 69 (8.7%)          | 0                 | 27 (6.6%)         |
| <b>Total</b>        | <b>691 (100%)</b>  | <b>791 (100%)</b>  | <b>119 (100%)</b> | <b>404 (100%)</b> |

## Stocking and Presence of Non-Native Species

Within the currently occupied CRCT habitat approximately 1,362 miles (45%) have no record of non-native fish stocking. The remaining 1,660 miles (55%) of occupied habitat have at least one record of stocking of non-native fish. Non-native stocking by state and GMU are presented in Tables 13 and 14.

Table 13. Currently-occupied CRCT stream habitat (miles) by state for which records of stocking with non-native salmonids has not (no record) or has (records exist) occurred.

| <b>Record of Stocking</b>        | <b>Colorado</b>     | <b>Utah</b>         | <b>Wyoming</b>    | <b>Totals</b>       |
|----------------------------------|---------------------|---------------------|-------------------|---------------------|
| No record of non-native stocking | 591 (43.5%)         | 519 (46.7%)         | 252 (45.7%)       | 1,362 (45.1%)       |
| Record of non-native stocking    | 768 (56.5%)         | 592 (53.3%)         | 300 (54.3%)       | 1,660 (54.9%)       |
| <b>Total</b>                     | <b>1,359 (100%)</b> | <b>1,111 (100%)</b> | <b>552 (100%)</b> | <b>3,022 (100%)</b> |

Table 14. Non-native stocking records for currently occupied stream habitat (miles) in the eight GMU's.

| <b>Record of Stocking</b>        | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>   | <b>Gunnison</b>   |
|----------------------------------|-----------------------|-----------------------|------------------|-------------------|
| No record of non-native stocking | 273 (45.4%)           | 37 (57.3%)            | 24 (40.7%)       | 111 (38.1%)       |
| Record of non-native stocking    | 328 (54.6%)           | 27 (42.7%)            | 35 (59.3%)       | 181 (61.9%)       |
| <b>Total</b>                     | <b>600 (100%)</b>     | <b>64 (100%)</b>      | <b>59 (100%)</b> | <b>292 (100%)</b> |

| <b>Record of Stocking</b>        | <b>Upper Green</b> | <b>Lower Green</b> | <b>San Juan</b>   | <b>Yampa</b>      |
|----------------------------------|--------------------|--------------------|-------------------|-------------------|
| No record of non-native stocking | 346 (50.1%)        | 325 (41.1%)        | 41 (34.4%)        | 204 (50.6%)       |
| Record of non-native stocking    | 345 (49.9%)        | 466 (58.9%)        | 78 (65.6%)        | 200 (49.4%)       |
| <b>Total</b>                     | <b>691 (100%)</b>  | <b>791 (100%)</b>  | <b>119 (100%)</b> | <b>404 (100%)</b> |

Even more pertinent was the information associated with presence of non-native fish that were considered sympatric with CRCT. Within the currently occupied habitat there were 1,108 miles (37%) that were identified as having no non-native fish present. A total of 1,914 miles (63%) of occupied habitat were identified as having sympatric CRCT and non-native fish. Wyoming had the highest percent of occupied habitat without non-native trout (45%), followed by Colorado (39%) and Utah (29%, see Table 15). Within GMU's, the Yampa, Lower Colorado, and Upper Colorado GMU's had the lowest percentage of occupied miles where CRCT and non-native trout were sympatric all at around 50% (Table 16). The Gunnison and Lower Green GMU's had the highest percentage of occupied miles where CRCT and non-native trout were sympatric at over 70%.

In most areas, there are more miles of stream with non-native trout than there are miles with records of stocking, implying that there has been either invasion or unrecorded stocking in significant parts of the occupied range. In Utah, 519 miles of occupied habitat (47%) do not

have any stocking records associated with them; however, only 327 miles (29%) remain free of non-native trout. At the GMU scale, the Gunnison, Upper Green, and Lower Green show large increases between the miles of stream with stocking records and the miles of occupied habitat with non-native trout. The Yampa and Upper Colorado GMUs show slightly lower amounts of habitat with non-native trout present than the length of habitat stocked.

Table 15. Record of presence or absence of non-native trout sympatric with CRCT within the currently occupied CRCT habitat (stream miles) in the three states.

| <b>Presence or Absence of Non-Native Trout</b> | <b>Colorado</b>     | <b>Utah</b>         | <b>Wyoming</b>    | <b>Totals</b>       |
|--|---------------------|---------------------|-------------------|---------------------|
| No record of non-native trout                  | 533 (39.2%)         | 327 (29.4%)         | 247 (44.8%)       | 1,108 (36.7%)       |
| Record of non-native trout                     | 826 (60.8%)         | 784 (70.6%)         | 305 (55.2%)       | 1,914 (63.3%)       |
| <b>Total</b>                                   | <b>1,359 (100%)</b> | <b>1,111 (100%)</b> | <b>552 (100%)</b> | <b>3,022 (100%)</b> |

Table 19. Record of presence or absence of non-native fish sympatric with CRCT within the currently occupied CRCT habitat (stream miles) in eight GMU's.

| <b>Presence or Absence of Non-Native Trout</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>   | <b>Gunnison</b>   |
|--|-----------------------|-----------------------|------------------|-------------------|
| No record of non-native trout                  | 282 (47.0%)           | 33 (51.2%)            | 21 (35.6%)       | 68 (23.1%)        |
| Record of non-native trout                     | 318 (53.0%)           | 31 (48.8%)            | 38 (64.4%)       | 224 (76.9%)       |
| <b>Total</b>                                   | <b>600 (100%)</b>     | <b>64 (100%)</b>      | <b>59 (100%)</b> | <b>292 (100%)</b> |

Table 19 (cont.)

| <b>Presence or Absence of Non-Native Trout</b> | <b>Upper Green</b> | <b>Lower Green</b> | <b>San Juan</b>   | <b>Yampa</b>      |
|--|--------------------|--------------------|-------------------|-------------------|
| No record of non-native trout                  | 229 (33.1%)        | 217 (27.5%)        | 41 (34.9%)        | 216 (53.4%)       |
| Record of non-native trout                     | 463 (66.9%)        | 574 (72.5%)        | 78 (65.1%)        | 188 (46.6%)       |
| <b>Total</b>                                   | <b>691 (100 %)</b> | <b>791 (100%)</b>  | <b>119 (100%)</b> | <b>404 (100%)</b> |

## CRCT Occurrence by Land Status

Of the 3,022 miles of habitats currently occupied by CRCT at the time of this assessment, 2,248 miles (74% of currently occupied habitat) were associated with land administered by Federal agencies. Two-thirds of all occupied habitats occurred on National Forests (USFS). An additional 23 miles were in designated National Parks (NPS) and 209 miles were in Bureau of Land Management (BLM). Approximately 466 miles of occupied habitat on National Forest Lands were within designated wilderness. Approximately 774 miles occurred on land with other administrative designations including 98 miles associated with habitat on Ute Tribal lands (Table 17; Figure 8). Remaining habitat occurred on State (121 miles) and private (555 miles) lands. It is important to note that the legislative mandate associated with the NPS has a strong focus on preservation of natural environmental conditions. A similar focus would be associated with lands designated as wilderness. The legislative mandate for the USFS and the BLM on most lands outside of wilderness includes a multiple use resource theme that is much broader than that of the NPS. Included in the multiple use focus of the land use agencies is direction associated with the conservation of biodiversity and the protection of the environmental components such as soil and water. As such, the land use agencies have developed land use plans that provide necessary direction intended to keep the multiple uses of these lands consistent with conservation of biodiversity and protection of basic environmental conditions and processes, including special protection for cutthroat trout (e.g., stream buffers or road location and density restrictions).

Table 17. Miles of habitat occupied within the various land ownership boundaries associated with CRCT by GMU.

| GMU            | NPS                | FS-Wilderness        | FS-non Wilderness      | BLM                 | Tribal             | State               | PVT                  |
|----------------|--------------------|----------------------|------------------------|---------------------|--------------------|---------------------|----------------------|
| Upper Colorado | 22                 | 111                  | 278                    | 70                  | --                 | 10                  | 109                  |
| Lower Colorado | --                 | --                   | 57                     | 2                   | --                 | --                  | 5                    |
| Dolores        | --                 | 2                    | 40                     | 1                   | --                 | 5                   | 12                   |
| Upper Green    | --                 | 90                   | 393                    | 78                  | --                 | 23                  | 109                  |
| Lower Green    | 1                  | 94                   | 336                    | 12                  | 98                 | 69                  | 180                  |
| Gunnison       | --                 | 105                  | 136                    | 18                  | --                 | 1                   | 31                   |
| San Juan       | --                 | 22                   | 81                     | 2                   | --                 | --                  | 13                   |
| Yampa          | --                 | 42                   | 229                    | 25                  | --                 | 13                  | 95                   |
| <b>Total</b>   | <b>23<br/>(1%)</b> | <b>466<br/>(15%)</b> | <b>1,550<br/>(51%)</b> | <b>209<br/>(7%)</b> | <b>98<br/>(3%)</b> | <b>121<br/>(4%)</b> | <b>555<br/>(18%)</b> |

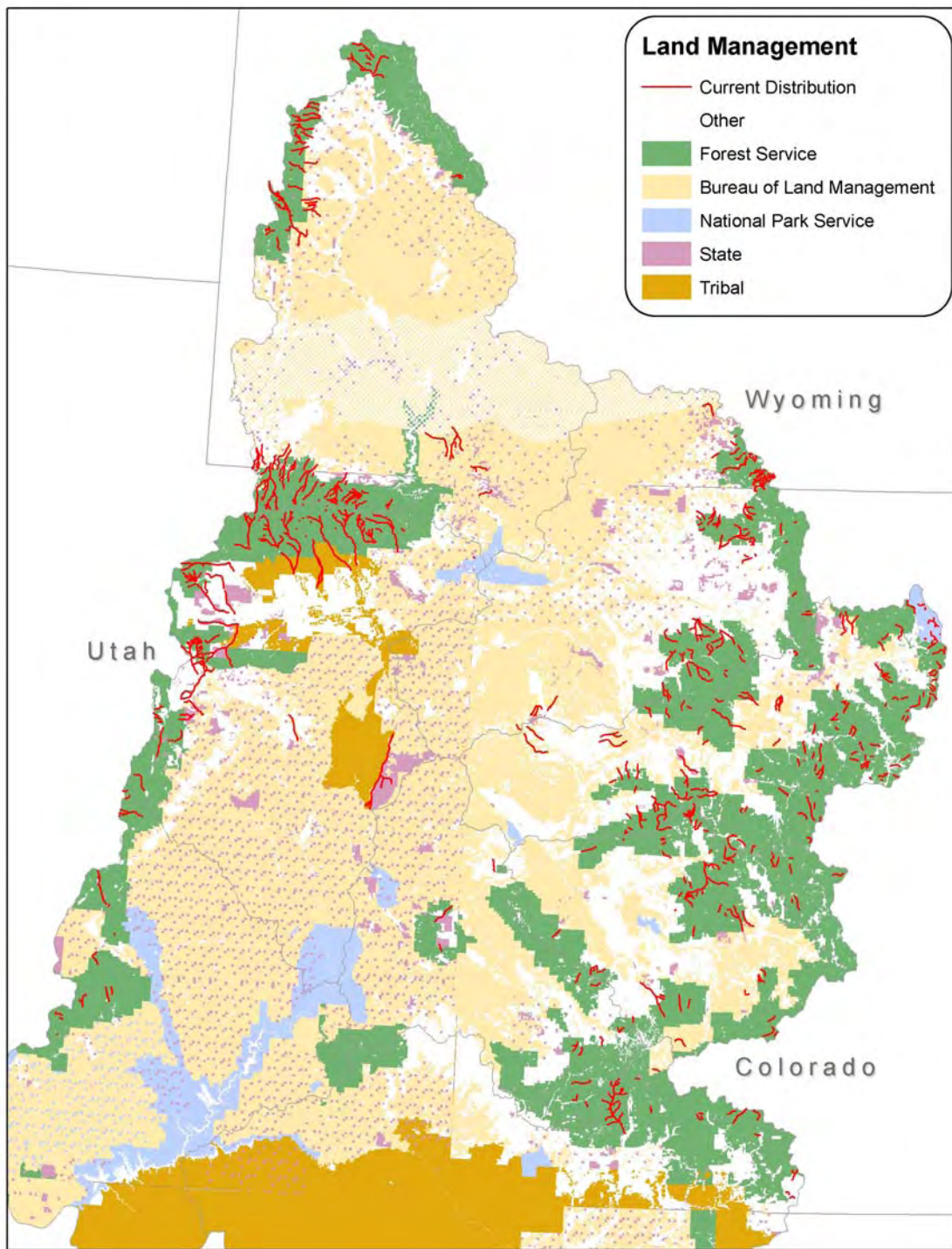


Figure 8. Currently occupied CRCT habitat associated with the primary agencies (USFS, BLM, NPS, State, and Tribal).



### *Conservation Populations*

A total of 285 populations of CRCT occupying about 1,796 miles of habitat (59% of currently occupied habitats; 8% of historical range) were designated as conservation populations by State agencies (Figure 9). Forty populations occurring in 102 miles of habitat occur above historical barriers and therefore outside of our estimate of historical range. Conservation populations are known (genetic testing complete) or suspected to be at least 90 percent genetically pure or were otherwise determined to be important for CRCT conservation. The designated conservation populations were spread throughout the historical range, occurring in habitat within three States, in all eight GMU's, and in 34 of the 51 fourth level HUC's identified as being historically occupied by CRCT. Eight conservation populations occupied habitats that crossed state boundaries. Colorado had the greatest number of conservation populations and the most area occupied, but it also had the lowest percent of historical occupied and the shortest average population length (Table 18). Utah had the smallest number of conservation populations, but had the second most habitat occupied, the highest percent of historical occupied and longest average population length. Conservation populations were more densely concentrated within the northeast GMU's (Upper Green, Upper Colorado, and Yampa GMU's) of the historical range (Figure 10).

Table 18. Distribution of conservation populations across Colorado, Wyoming, and Utah. Eight populations cross state lines and are double counted in this table.

| <b>State</b> | <b>Number of conservation populations</b> | <b>Miles of stream occupied by conservation populations</b> | <b>Percent of State's historical habitat occupied</b> | <b>Average length of habitat occupied by population (range)</b> |
|--------------|---|---|---|---|
| Colorado     | 145                                       | 709.2   | 5.2%  | 4.9   |
| Utah         | 63  | 579.7   | 16.7%   | 9.2   |
| Wyoming      | 85  | 507.3   | 12.1%   | 6.0   |
| <b>Total</b> | <b>285*</b>                               | <b>1796.2</b>   | <b>8.4%</b>   | <b>6.1</b>  |

\* 8 populations cross state boundaries.

Individual conservation populations occupied stream lengths ranging from less than 0.1 miles to over 65 miles of occupied habitat (median = 3.7 miles, Table 19). The distribution of lengths of habitat occupied by conservation populations was skewed with most (61%) of the populations occupying 5 miles or less (Figure 11). Most of the GMU's had a similar median stream length occupied per conservation population of about three miles; the exceptions are the two Green River GMU's which had median values twice as high. In addition, although the Upper Colorado and the Upper Green GMU have similar numbers of conservation populations, the populations in the Upper Green River occupy more than twice as much habitat. A similar comparison can be made between the Gunnison and the Lower Green GMU's.

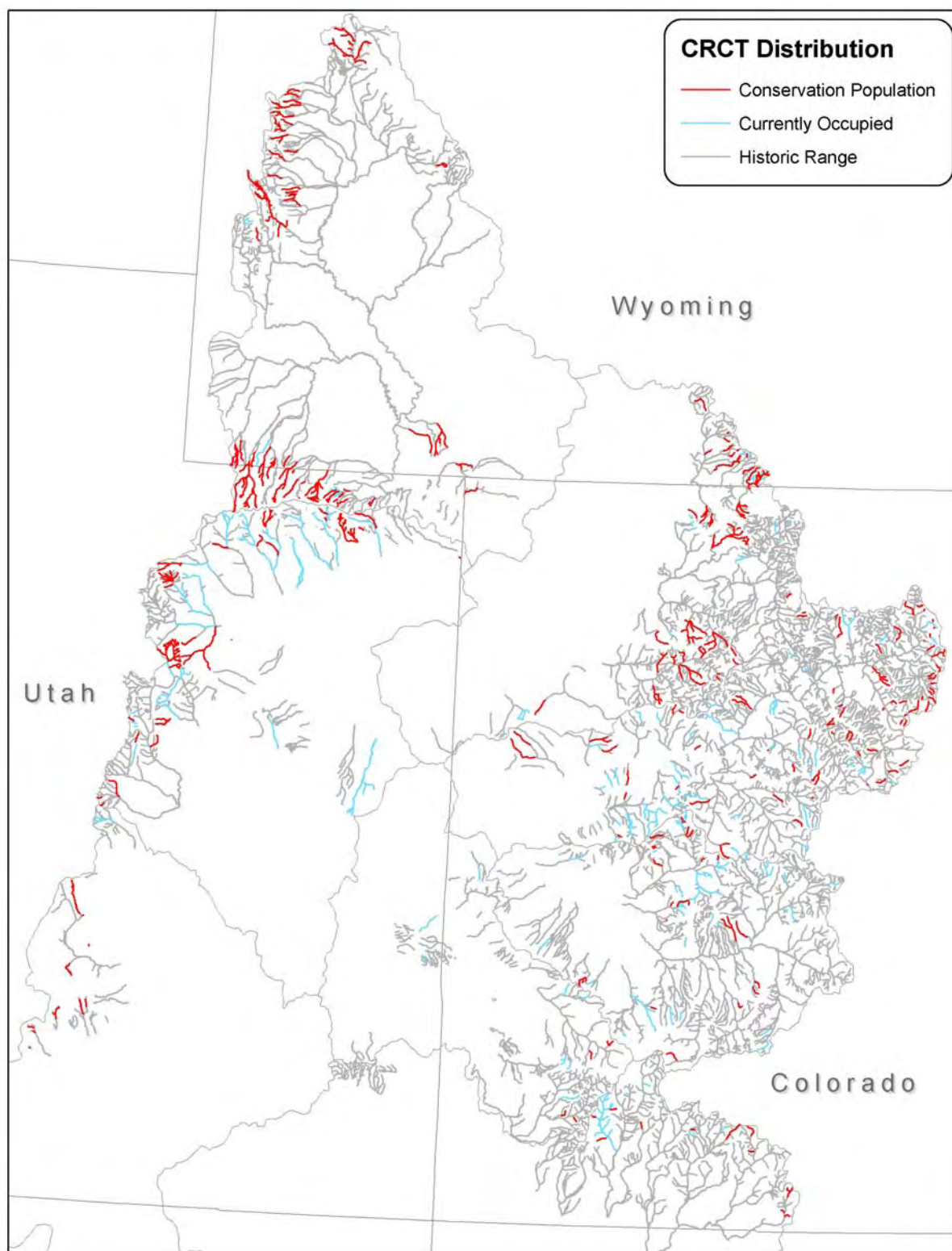


Figure 9. Map comparing historical range (gray) to stream section currently occupied by CRCT (light blue) and those stream sections occupied by conservation populations (red).

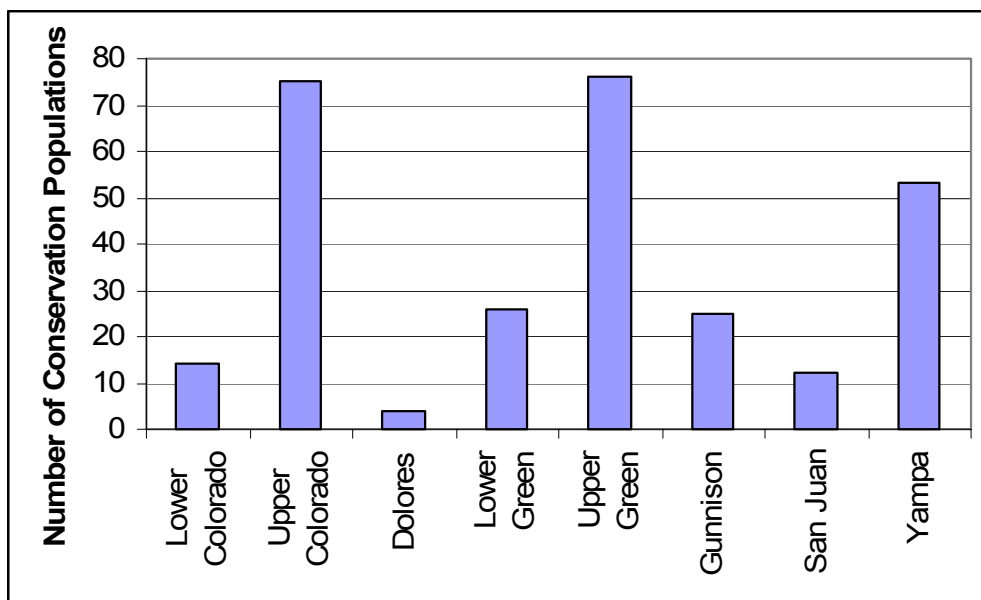


Figure 10. Number of conservation populations associated with each GMU.

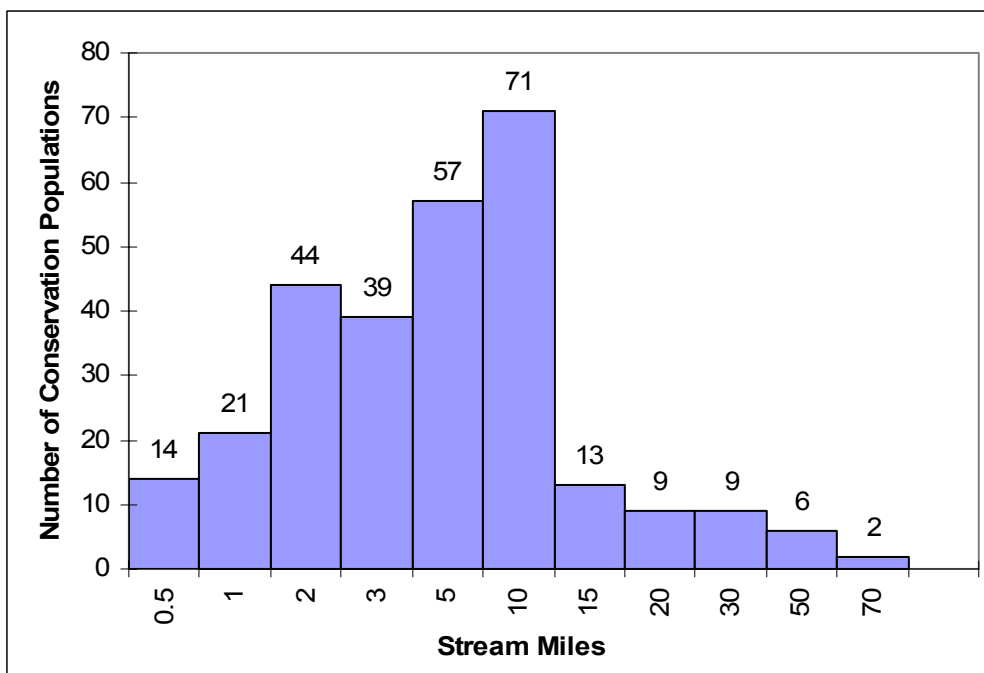


Figure 11. Frequencies of the number of miles occupied by designated conservation populations of Colorado River cutthroat trout throughout their range. Mileage bins are labeled with the top of the bin range such that those in bin “2” are those populations ranging in length from 1 to 2 miles.

Table 19. Descriptive statistics of amount of habitat occupied by conservation populations by GMU.

| GMU name       | Number of populations | Miles occupied | Percent of historical occupied | Median length occupied (mi) | Range       |             |
|----------------|-----------------------|----------------|--------------------------------|-----------------------------|-------------|-------------|
|                |                       |                |                                |                             | minimum     | maximum     |
| Lower Colorado | 14                    | 50             | 14%                            | 2.9                         | 0.33        | 13.5        |
| Upper Colorado | 75                    | 302            | 6%                             | 3.1                         | 0.20        | 17.8        |
| Dolores        | 4                     | 14             | 1%                             | 3.6                         | 2.26        | 4.8         |
| Lower Green    | 26                    | 307            | 14%                            | 6.9                         | 0.41        | 59.4        |
| Upper Green    | 76                    | 650            | 15%                            | 5.6                         | 0.02        | 65.6        |
| Gunnison       | 25                    | 92             | 3%                             | 3.3                         | 0.14        | 12.2        |
| San Juan       | 12                    | 42             | 2%                             | 2.6                         | 0.85        | 8.6         |
| Yampa          | 53                    | 339            | 11%                            | 3.4                         | 0.46        | 37.5        |
| <b>Total</b>   | <b>285</b>            | <b>1796</b>    | <b>8%</b>                      | <b>3.7</b>                  | <b>0.02</b> | <b>65.6</b> |

Most conservation populations (188 populations, 739 miles) existed as independent non-networked units (e.g., a single stream or stream segment) and were not connected to adjacent populations (Table 20). Seventy-two conservation populations (513 miles) existed with very little connectivity and seventeen conservation populations (265 miles) have a moderate degree of connectivity within the population provided by 2 to 5 tributary streams (Table 21). Only 8 populations (280 miles) were judged as having strong connectivity (i.e., associated with more than 5 streams and migratory forms present). Almost all of the strongly connected conservation populations are in Utah (270 of 280 occupied miles). Two of the three strongly connected conservation populations in Wyoming cross into Utah. There are no strongly connected conservation populations in Colorado.

Table 20. Number and miles of conservation populations of CRCT by degree of within population network or connectivity for the eight GMU's.

| GMU            | Strong Network |              | Moderate Network |              | Weak Network |              | Non-Networked |              |
|----------------|----------------|--------------|------------------|--------------|--------------|--------------|---------------|--------------|
|                | #              | Miles        | #                | Miles        | #            | Miles        | #             | Miles        |
| Upper Colorado | -              | -            | 1                | 17.8         | 15           | 69.3         | 59            | 214.4        |
| Lower Colorado | -              | -            | -                | -            | 2            | 14.7         | 12            | 34.9         |
| Dolores        | -              | -            | -                | -            | -            | -            | 4             | 14.3         |
| Upper Green    | 4              | 144.5        | 7                | 85.0         | 33           | 249.2        | 32            | 171.6        |
| Lower Green    | 3              | 134.6        | 1                | 30.2         | 7            | 74.0         | 15            | 68.6         |
| Gunnison       | -              | -            | 1                | 4.2          | 5            | 32.7         | 19            | 55.4         |
| San Juan       | -              | -            | -                | -            | 1            | 6.7          | 11            | 35.2         |
| Yampa          | 1              | 0.6          | 7                | 127.5        | 9            | 65.9         | 36            | 144.9        |
| <b>Totals</b>  | <b>8</b>       | <b>279.7</b> | <b>17</b>        | <b>264.7</b> | <b>72</b>    | <b>512.5</b> | <b>188</b>    | <b>739.3</b> |

Most conservation populations (60%) occur either with non-native trout or have a record of stocking (Table 21). The percentage of conservation populations occurring with non-native trout or with a record of stocking is similar between states: 57% in Colorado, 68% in Utah, and 61% in Wyoming. The distribution of conservation populations and occurrence of non-natives or stocking by GMU is displayed in Table 21.

Table 21. Distribution of conservation populations by GMU and the occurrence of non-native trout or stocking records.

| GMU name       | number of conservation populations | # with stocking and/or non-native trout (percent) | miles occupied by conservation populations | miles with stocking and/or non-native trout (percent) |
|----------------|------------------------------------|---|--|---|
| Lower Colorado | 14                                 | 6 (43%)   | 49.6                                       | 24.3 (49%)  |
| Upper Colorado | 75                                 | 43 (57%)  | 301.6                                      | 191.3 (63%)   |
| Dolores        | 4                                  | 3 (75%)   | 14.3                                       | 8.2 (57%)   |
| Lower Green    | 26                                 | 18 (69%)  | 307.3                                      | 197.8 (64%)   |
| Upper Green    | 76                                 | 52 (68%)  | 650.3                                      | 478.9 (74%)   |
| Gunnison       | 25                                 | 12 (48%)  | 92.3                                       | 59.8 (65%)  |
| San Juan       | 12                                 | 5 (42%)   | 41.9                                       | 16.5 (39%)  |
| Yampa          | 53                                 | 31 (58%)  | 338.9                                      | 238.4 (68%)   |

Life history characterizations expressed as resident, fluvial or ad-fluvial were tracked for each conservation population. A resident only life history was associated with 271 populations (95%). A resident and fluvial or a resident and adfluvial combination were identified in 2 (0.7%) and 7 (2.5%) conservation populations, respectively. Four populations were classified as purely ad-fluvial and one was purely fluvial. See Figure 12 for a breakdown of conservation populations by life history characteristics by length of habitat occupied.

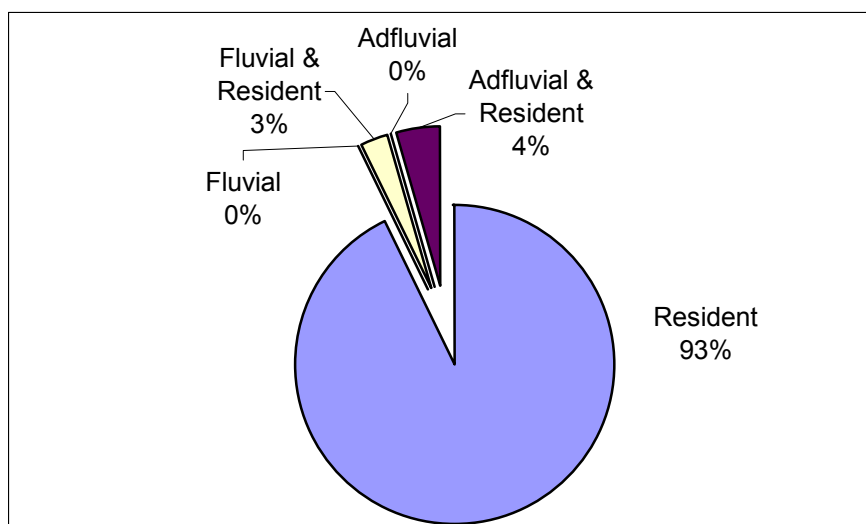


Figure 12. Percentage breakdown associated with the varying life history characterizations expressed in CRCT conservation populations. Percentage breakdown is based on miles of stream occupied.

Of the 285 conservation populations, 153 (54%) were identified as “core” conservation populations, defined as being at least 99% pure based on genetic testing (Figures 13 and 14). These core conservation populations occurred in 785 (44%) miles of habitat. Other conservation populations were known or suspected to be at least 90% pure and were put into functional categories. There were 53 conservation populations that occupied about 355 miles of habitat

(20%) that were identified as being likely to become part of the CRCT conservation focus and 634 miles of habitat (35%) that supported 77 populations that had unique life histories (e.g., fluvial or adfluvial behaviors). One population occupying about 16 miles (1%) of habitat was identified as having a known or probable ecological adaptation to extreme environmental conditions (e.g., temperature, alkalinity, pH, and/or sediment) and one population occupying about 6 miles was identified as having a predisposition for large size.

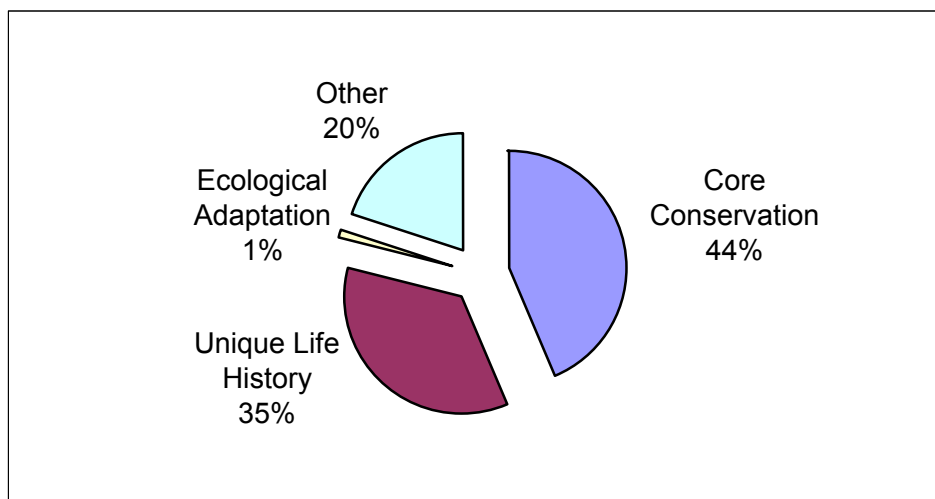


Figure 13. Percent breakdown for miles of habitat by conservation population qualifier for Colorado River cutthroat trout.

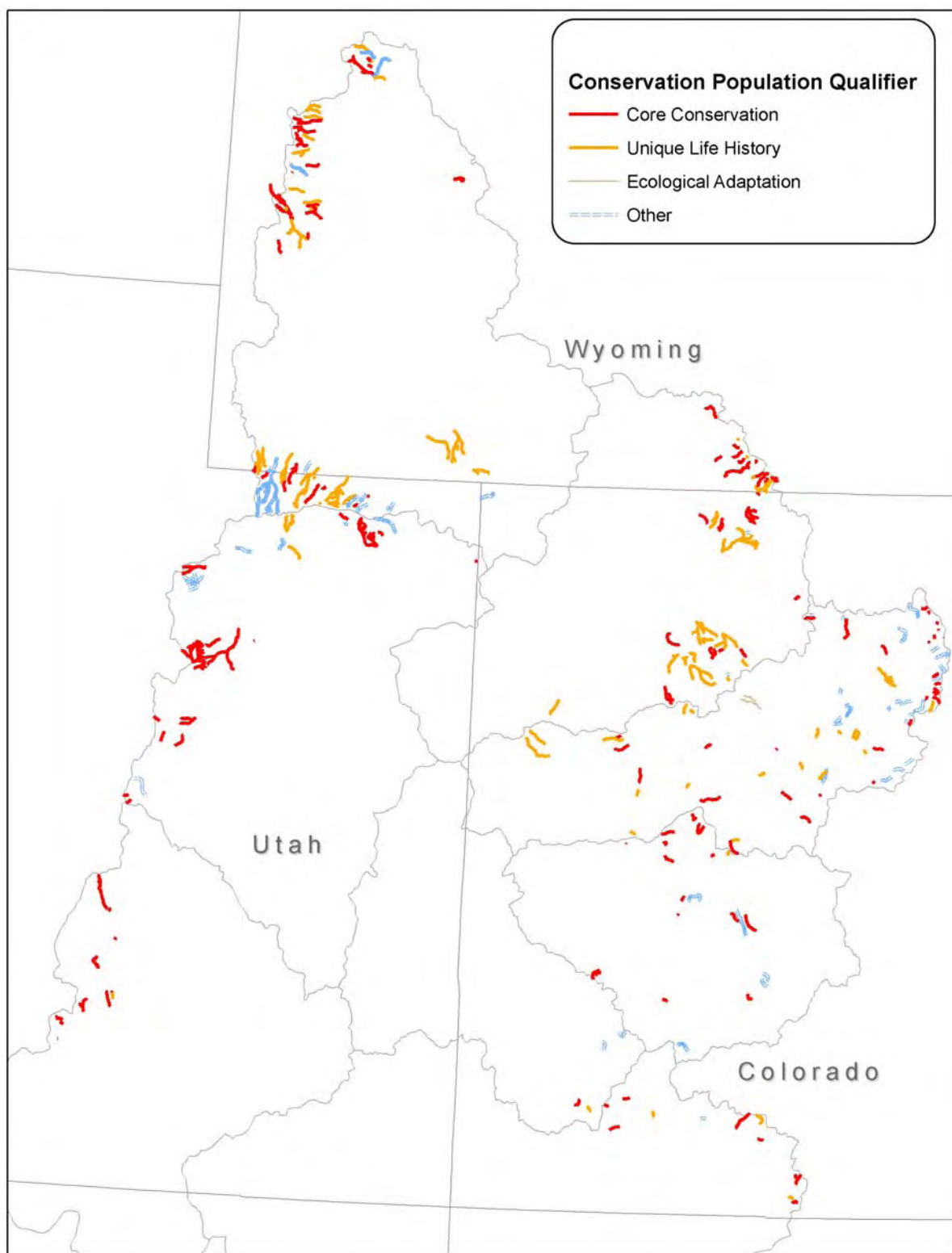


Figure 14. Designated conservation populations of CRCT and the reason for which they were designated throughout their range.

Almost half of the individual conservation populations are protected by a complete barrier (Table 22). Populations above a complete barrier had a much smaller average population length than those with no barrier or a partial barrier. Table 23 displays the barrier status of conservation populations in each GMU. Distributions range from almost all populations above a complete barrier in the Lower Colorado and San Juan to 62% of populations having no barrier in the Upper Green.

Table 22. Presence and effectiveness of barriers below conservation populations. Although there are only 285 conservation populations, there are 300 segments with barrier status. This occurs when a population contains one or more barriers within its range. This occurred in three GMU's: Upper Colorado, Upper Green, and Yampa.

| Barrier Type | Number of conservation populations | % of total conservation populations | Total stream length occupied | % of total stream length occupied | Average population length |
|--------------|------------------------------------|-------------------------------------|------------------------------|-----------------------------------|---------------------------|
| Complete     | 139                                | 46%                                 | 610 miles                    | 34%                               | 4.4 miles                 |
| Partial      | 27                                 | 9%                                  | 200 miles                    | 11%                               | 7.4 miles                 |
| None         | 124                                | 41%                                 | 950 miles                    | 53%                               | 7.7 miles                 |
| Unknown      | 10                                 | 3%                                  | 36 miles                     | 2%                                | 3.6 miles                 |
| <b>TOTAL</b> | <b>300</b>                         |                                     | <b>1796 miles</b>            |                                   | <b>6.0 miles</b>          |

Table 23. Barrier effectiveness by GMU. Populations are segmented by partial barriers within the Upper Colorado, Upper Green, and Yampa GMU and therefore the count is higher than the number of populations.

| GMU            | Barrier Type |         |      |         |
|----------------|--------------|---------|------|---------|
|                | Complete     | Partial | None | Unknown |
| Lower Colorado | 13           | 0       | 1    | 0       |
| Upper Colorado | 38           | 15      | 22   | 6       |
| Dolores        | 2            | 0       | 2    | 0       |
| Lower Green    | 15           | 4       | 7    | 0       |
| Upper Green    | 25           | 4       | 52   | 2       |
| Gunnison       | 9            | 2       | 14   | 0       |
| San Juan       | 11           | 0       | 0    | 1       |
| Yampa          | 26           | 2       | 26   | 1       |



Genetic purity varied across conservation populations. Table 24 presents genetic status of conservation populations. All but 20 miles of streams with unaltered CRCT are considered conservation populations (see also Table 4). Eighty percent of streams with CRCT 90% to 99% pure are considered conservation populations. Streams less than 90% pure or suspected hybridized have also been included as conservation population when the designating state agency determined the population still had important conservation value. Streams with pure CRCT not included as conservation populations may be added as conservation populations in the future, or, in some cases represented lakes in which pure CRCT had been stocked for recreation.

Table 24. Miles of stream occupied by conservation population by genetic category. Streams with no genetic testing results available were assumed to be unaltered or hybridized based on stocking records.

| <b>GMU</b>                     | <b>Unaltered</b> | <b>90% - 99%</b> | <b>80% - 89%</b> | <b>&lt; 80%</b> | <b>Not Tested - Unaltered</b> | <b>Not Tested - Hybridized</b> | <b>Co-existence</b> | <b>Total</b>  |
|--------------------------------|------------------|------------------|------------------|-----------------|-------------------------------|--------------------------------|---------------------|---------------|
| Upper Colorado                 | 89.6             | 34.5             | 0                | 5.4             | 56.3                          | 115.8                          | 0                   | <b>301.6</b>  |
| Lower Colorado                 | 46.6             | 0                | 0                | 0               | 0                             | 3.0                            | 0                   | <b>49.6</b>   |
| Dolores                        | 5.3              | 4.0              | 0                | 0               | 2.8                           | 0                              | 2.3                 | <b>14.3</b>   |
| Upper Green                    | 151.7            | 74.5             | 16.0             | 6.8             | 145.1                         | 190.9                          | 65.6                | <b>650.4</b>  |
| Lower Green                    | 198.1            | 0                | 0                | 0               | 80.0                          | 29.3                           | 0                   | <b>307.3</b>  |
| Gunnison                       | 56.0             | 11.1             | 0                | 0               | 6.3                           | 19.0                           | 0                   | <b>92.3</b>   |
| San Juan                       | 29.3             | 7.9              | 0                | 0               | 2.8                           | 1.9                            | 0                   | <b>41.9</b>   |
| Yampa                          | 185.8            | 43.5             | 3.2              | 3.6             | 38.7                          | 64.2                           | 0                   | <b>338.9</b>  |
| <b>Genetic Category Totals</b> | <b>762.3</b>     | <b>175.4</b>     | <b>19.2</b>      | <b>15.7</b>     | <b>331.9</b>                  | <b>424.0</b>                   | <b>67.8</b>         | <b>1796.2</b> |

### Risks to Conservation Populations

This status update evaluated two types of risks associated with conservation populations: 1) risks associated with genetic contamination and 2) risks associated with catastrophic diseases.

#### *Genetic Contamination Risks:*

Risk of genetic contamination was evaluated by determining the proximity and accessibility of hybridizing species. A total of 150 conservation populations (53%) were ranked as being at no risk of genetic contamination due to the presence of a secure barrier preventing immigration of hybridizing species. Twenty eight (10%) and 84 (29%) populations were at either low to moderate risk, respectively. Twenty-three populations (8%) were rated as being at high genetic risk (Figure 15). Low genetic risk was defined as hybridizing species being greater than 10 km away from the population, moderate risk was defined as hybridizing species being within 10 km from the population, and high genetic risk was defined as hybridizing species being sympatric with the population. Genetic risks to the 285 CRCT conservation populations by population numbers and miles of habitat occupied also varied by GMU (Table 25). Degree of connectivity of conservation populations was evaluated against the degree of genetic risk (Table 26). Of the populations considered as having a low risk of genetic contamination 133 (75%) were identified as being non-networked independent or isolated entities (Figure 16). Only nine (5%) conservation populations viewed to be at low risk had either moderate or strongly networked within population connectivity. In general, populations having limited connectivity were at a lower level of genetic risk when compared to populations with greater degrees of connectivity and larger within population networks. Also, across levels of connectivity, the “no risk” populations (those protected by a barrier) were smaller than populations with higher levels of risk as seen in Figure 16 where the percentage of “no risk” populations is always greater than the percentage of “no risk” stream miles.

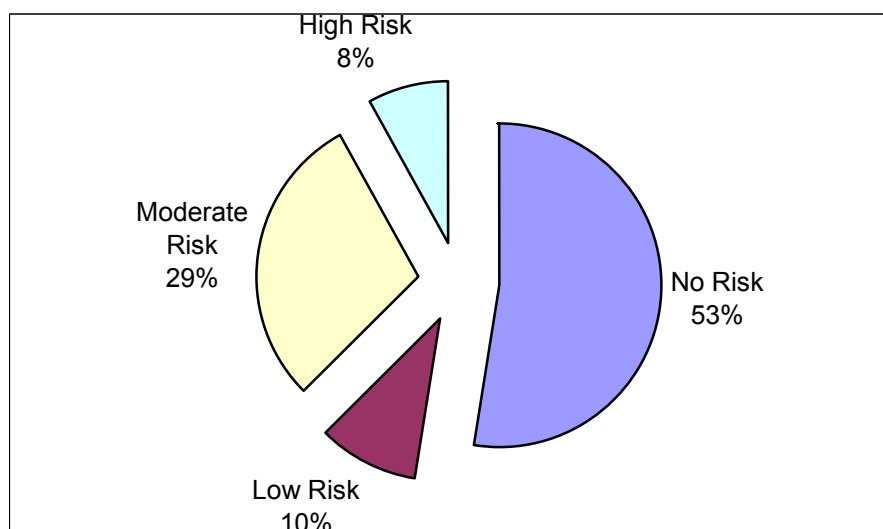


Figure 15. Relative risk of genetic contamination for the 285 CRCT conservation populations.

Table 25. Ranked risks associated with genetic contamination for the 285 conservation populations by GMU. Values reflect number of populations and miles occupied.

|                | Ranked Risk by Number of Populations |           |           |           | Ranked Risk by Miles Occupied |            |            |            |
|----------------|--------------------------------------|-----------|-----------|-----------|-------------------------------|------------|------------|------------|
| GMU            | No Risk                              | Low Risk  | Mod. Risk | High Risk | No Risk                       | Low Risk   | Mod. Risk  | High Risk  |
| Upper Colorado | 53                                   | 4         | 18        | --        | 186                           | 11         | 105        | --         |
| Lower Colorado | 13                                   | --        | --        | 1         | 47                            | --         | --         | 3          |
| Dolores        | 1                                    | 1         | 2         | --        | 4                             | 5          | 14         | --         |
| Upper Green    | 22                                   | 12        | 28        | 14        | 73                            | 93         | 259        | 225        |
| Lower Green    | 14                                   | 1         | 9         | 2         | 132                           | 3          | 160        | 12         |
| Gunnison       | 10                                   | 1         | 13        | 1         | 28                            | 8          | 44         | 12         |
| San Juan       | 11                                   | --        | 1         | --        | 36                            | --         | 6          | --         |
| Yampa          | 26                                   | 9         | 13        | 5         | 94                            | 47         | 162        | 36         |
| <b>Totals</b>  | <b>150</b>                           | <b>28</b> | <b>84</b> | <b>23</b> | <b>598</b>                    | <b>164</b> | <b>745</b> | <b>289</b> |

Table 26. Ranked risks associated with genetic contamination for the 285 conservation populations by degree of within population connectivity (networks). Values reflect number of populations and miles occupied.

|                                | Ranked Risks by Number of Populations |           |           |           | Ranked Risks by Miles Occupied |            |            |            |
|--------------------------------|---------------------------------------|-----------|-----------|-----------|--------------------------------|------------|------------|------------|
| Within Population Connectivity | No Risk                               | Low Risk  | Mod Risk  | High Risk | No Risk                        | Low Risk   | Mod Risk   | High Risk  |
| Population Isolated            | 117                                   | 16        | 43        | 12        | 376                            | 62         | 213        | 88         |
| Weakly Connected               | 29                                    | 7         | 29        | 7         | 155                            | 44         | 241        | 73         |
| Moderately Connected           | 2                                     | 4         | 8         | 3         | 7                              | 17         | 179        | 62         |
| Strongly Connected             | 2                                     | 1         | 4         | 1         | 60                             | 42         | 112        | 66         |
| <b>Totals</b>                  | <b>150</b>                            | <b>28</b> | <b>84</b> | <b>23</b> | <b>598</b>                     | <b>164</b> | <b>745</b> | <b>289</b> |

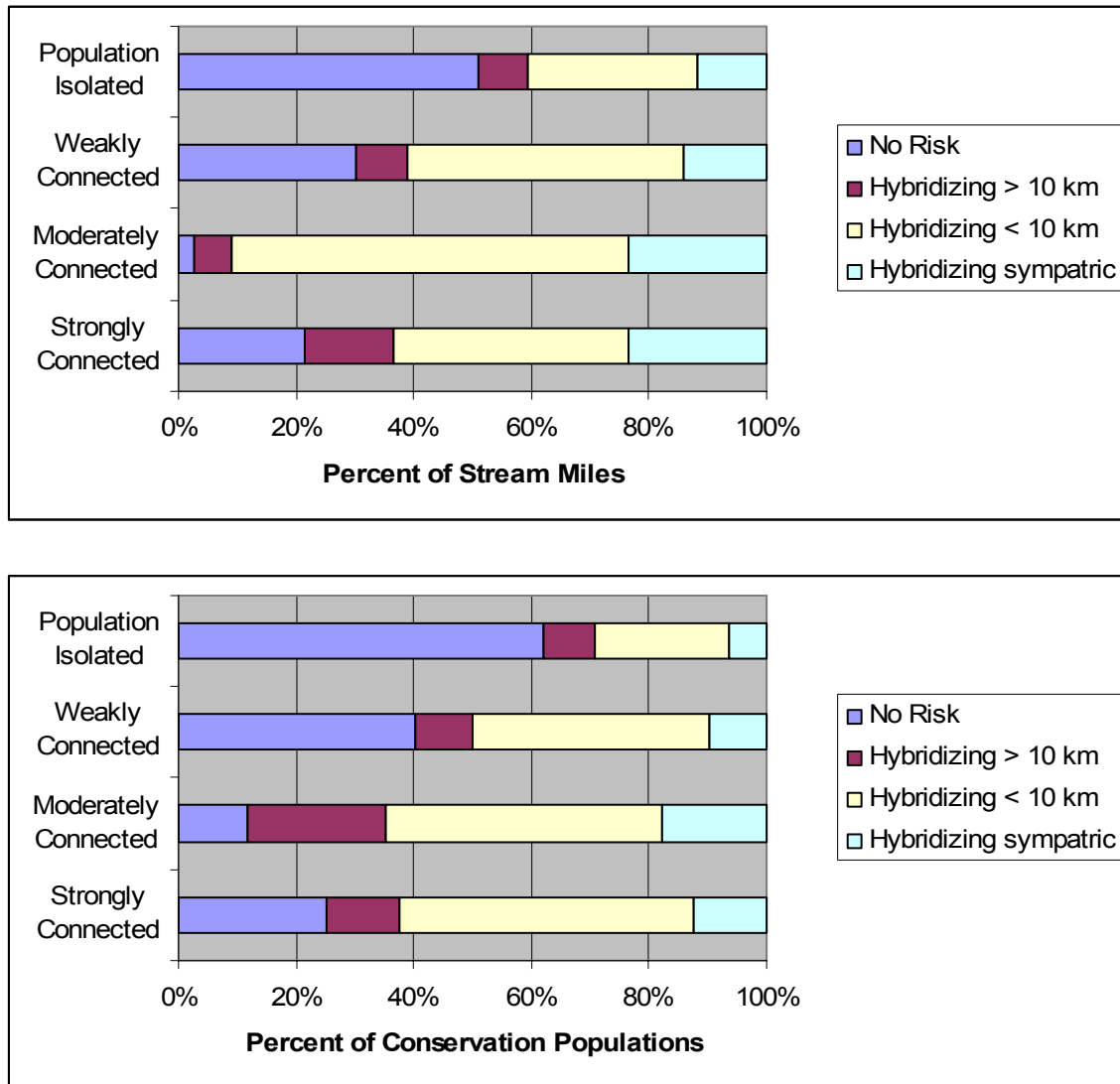


Figure 16. Genetic risk for percent of stream miles and percent of conservation populations. Data is grouped by connectedness, showing a more explicit relationship. CRCT conservation populations are ranked into four risk groups from no risk of hybridization to sympatric hybridization. The other risk groups were associated with hybridizing fish being further away or closer than 10 km.

*Catastrophic Disease Risk:*

Catastrophic disease risk was assessed based on proximity and accessibility of disease causing pathogens. The diseases of concern are those that cause severe and significant impacts to population health and include but are not limited to whirling disease, furunculosis, infectious pancreatic necrosis virus, etc.

One hundred seventy-nine populations (63%) were judged to have very limited risk from disease because disease and pathogens are not known to exist in the watershed or a barrier provides complete blockage to upstream fish movement. Seventy populations (25%) are at minimal disease risk because they are either farther than 10 kilometers from significant diseases or pathogens or they are protected by a barrier, but the barrier may be at risk of failure. Twenty-seven populations (9%) were at moderate risk because disease or pathogens have been identified within 10 kilometers of the conservation population, but not within the same stream segment. Four populations (1.4%) are at high risk because disease or pathogens are sympatric with the cutthroat population. Five populations (1.8%) are known to be infected with a significant disease (Table 27).

Table 27. Ranked risks associated with catastrophic diseases for the 285 conservation populations by GMU. Values reflect number of populations and miles occupied.

| GMU            | Ranked Risks by Number of Populations |           |           |           |          | Ranked Risks by Miles Occupied |            |            |           |           |
|----------------|---------------------------------------|-----------|-----------|-----------|----------|--------------------------------|------------|------------|-----------|-----------|
|                | Limited Risk                          | Min. Risk | Mod. Risk | High Risk | Infected | Limited Risk                   | Min. Risk  | Mod. Risk  | High Risk | Infected  |
| Upper Colorado | 48                                    | 19        | 6         | 1         | 1        | 173                            | 77         | 37         | 8         | 7         |
| Lower Colorado | 9                                     | 2         | 1         | --        | 2        | 24                             | 8          | 3          | --        | 15        |
| Dolores        | 1                                     | 2         | 1         | --        | --       | 2                              | 8          | 4          | --        | --        |
| Upper Green    | 50                                    | 19        | 6         | 1         | --       | 345                            | 220        | 44         | 42        | --        |
| Lower Green    | 23                                    | 3         | --        | --        | --       | 270                            | 37         | --         | --        | --        |
| Gunnison       | 11                                    | 8         | 6         | --        | --       | 37                             | 46         | 9          | --        | --        |
| San Juan       | 8                                     | 4         | --        | --        | --       | 30                             | 12         | --         | --        | --        |
| Yampa          | 29                                    | 13        | 7         | 2         | 2        | 130                            | 133        | 52         | 1         | 23        |
| <b>Totals</b>  | <b>179</b>                            | <b>70</b> | <b>27</b> | <b>4</b>  | <b>5</b> | <b>1010</b>                    | <b>541</b> | <b>149</b> | <b>51</b> | <b>45</b> |

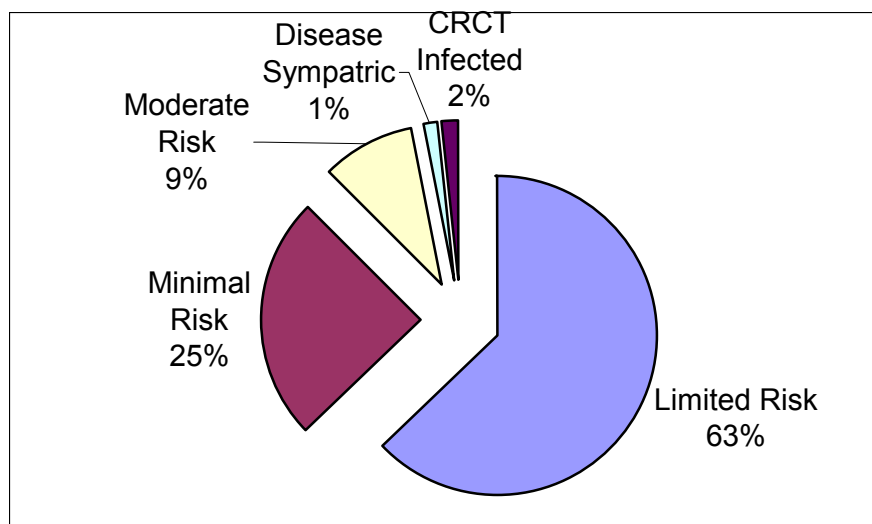


Figure 17. Relative risk of catastrophic disease for the 285 CRCT conservation populations.

Degree of connectivity of conservation population was evaluated against the degree of catastrophic disease risk (Table 27; Figure 17). Of the 179 populations considered as having a limited risk of catastrophic disease 66% were identified as being non-networked independent or isolated entities (Table 28). In general, populations having limited connectivity were at somewhat lower levels of risk from catastrophic diseases when compared to populations with greater degrees of within population connectivity and larger networks (Figure 18).

Table 28. Ranked risks associated with catastrophic diseases for the 285 conservation populations by degree of within population connectivity (networks). Values reflect number of populations and miles occupied.

|                                | Ranked Risk by Number of Populations |           |           |           |          | Ranked Risk by Miles Occupied |            |            |           |           |
|--------------------------------|--------------------------------------|-----------|-----------|-----------|----------|-------------------------------|------------|------------|-----------|-----------|
| Within Population Connectivity | Limited Risk                         | Min. Risk | Mod. Risk | High Risk | Infected | Limited Risk                  | Min. Risk  | Mod. Risk  | High Risk | Infected  |
| Population Isolated            | 118                                  | 48        | 21        | -         | 1        | 404                           | 234        | 99         | -         | 2         |
| Weakly Connected               | 51                                   | 13        | 2         | 3         | 3        | 362                           | 97         | 23         | 9         | 22        |
| Moderately Connected           | 7                                    | 5         | 4         | -         | 1        | 138                           | 79         | 27         | -         | 21        |
| Strongly Connected             | 3                                    | 4         | -         | 1         | -        | 107                           | 131        | -          | 42        | -         |
| <b>Totals</b>                  | <b>179</b>                           | <b>70</b> | <b>27</b> | <b>4</b>  | <b>5</b> | <b>1011</b>                   | <b>541</b> | <b>149</b> | <b>51</b> | <b>45</b> |

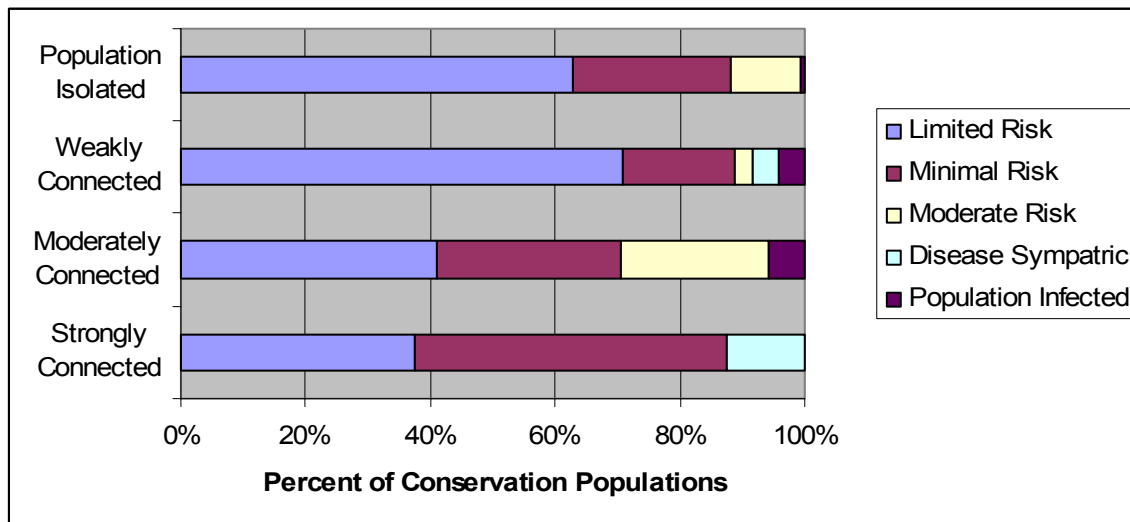
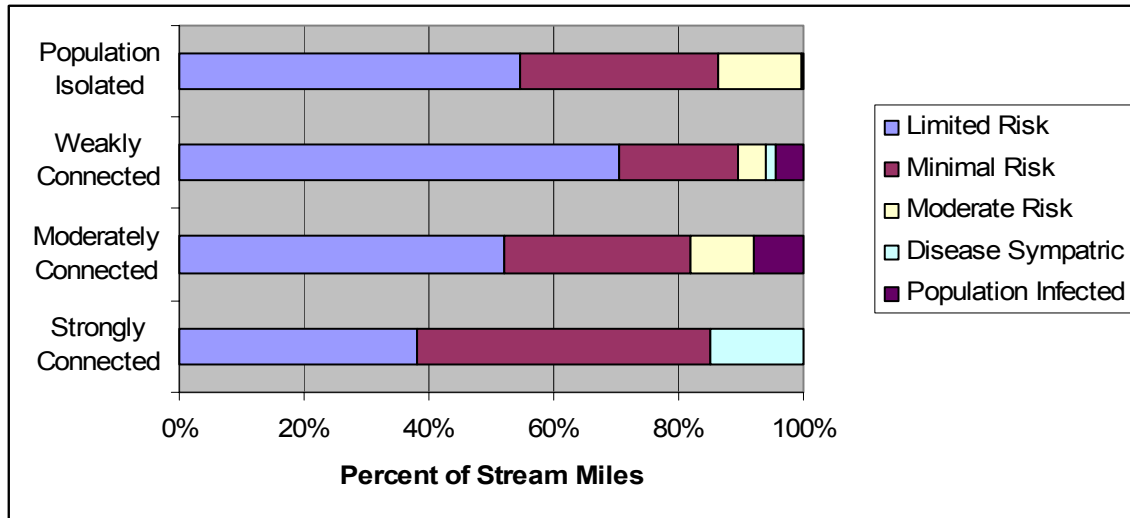


Figure 18. Disease Risk for percent of stream miles and percent of conservation populations. Data is grouped by connectedness, showing a more explicit relationship. CRCT conservation populations are ranked into five risk groups from limited disease risk to infected populations.

### General Population Health

A generalized population health evaluation based on four indicators of health was completed for each conservation population. Components of the health evaluation included: 1. **Temporal variability** associated the amount of occupied habitat as an indicator of patch size and resiliency; 2. **Population size** of adults as an estimator of effective population size; 3. **Population demographics** (growth and survival) estimator based on habitat quality, presence of non-native fish and disease, and consideration of land use influences; and, 4. **Degree of within population connection**. These indicators of relative health were analyzed individually and as a composite based on a weighted formula. Table 29 provides a review of each of the health indicators by number of conservation populations and by miles of habitat occupied by conservation populations. It is important to note that individual health indicators and the composite of these indicators are merely a relative indicator of general health much like a physician's general exam or health screening.

**Temporal variability** information contained in Table 29 indicates the majority (196) of conservation populations (69%) occupied habitats that were less than 6 miles in length. Twenty-five percent of the populations (72) occupied between 6 and 19 miles of habitat. There were 17 populations that had either high (2 populations, at least 50 miles) or moderately high (15 populations, 20 to 49 miles) ratings for the amount of habitat occupied.

**Population size** information presented in Table 29 indicates twelve percent of the populations had at least 2,000 adults. Roughly one-third of the populations had between 500 and 2,000 adults and another third had 50 to 500 adults. About one quarter of the populations had adult population estimates of fewer than 50 fish.

**Production potential (growth and survival):** There were no conservation populations with a production potential demographics rating of low. Most of the conservation populations (89%) were judged to have a moderately high health condition related to quality factors associated with production potential. Twenty-nine populations (10%) were judged to have moderately low production potential. Three populations (1%) were judged to have high population potential. Habitat quality, presence of non-native trout species, presence or proximity of catastrophic diseases, land uses, and recovery actions were included in this metric.

**Population connectivity:** Assessment of within population connectivity or networks indicated that a substantial majority of populations (66%, 188 populations) exist as non-networked (i.e., single streams) entities. There were 72 weakly connected populations (25%) in which adult straying into the population is possible. Seventeen populations were considered moderately connected, having migratory forms present but only occasional genetic exchange possible. Eight populations were considered strongly connected, with migratory forms present and open migration corridors.



Table 29. Population health ratings associated with the 285 conservation populations by number of populations and miles of stream occupied for the various health indicators and the composite of these indicators.

|  | Ranked Health Scores by <b>Number of Populations</b> |           |            |           |  | Ranked Health by <b>Miles Occupied</b> |            |            |            |
|--|--|-----------|------------|-----------|--|--|------------|------------|------------|
| Rank Scores                              | High   | Mod-High  | Mod-Low    | Low       |  | High                                   | Mod-High   | Mod-Low    | Low        |
| Temporal Variability-Stream Length       | 2  | 15        | 72         | 196       |  | 125                                    | 435        | 718        | 519        |
| Population Size-Mature Adults            | 33   | 82        | 99         | 71        |  | 610                                    | 669        | 315        | 202        |
| Production Potential-Quality Factors     | 3  | 253       | 29         | 0         |  | 6                                      | 1368       | 422        | 0          |
| Levels of Within Population Connectivity | 8  | 17        | 72         | 188       |  | 280                                    | 265        | 513        | 739        |
| <b>Composite Rating</b>                  | <b>4</b>   | <b>81</b> | <b>151</b> | <b>49</b> |  | <b>186</b>                             | <b>952</b> | <b>556</b> | <b>102</b> |

Composite scores of general population health for the 285 conservation populations (Table 30; Figure 19) allowed for a more balanced or tempered review of general health conditions associated with CRCT conservation populations. Only 4 conservation populations (less than 2%) were judged to have a high degree of general health (Figure 18). Eighty-one CRCT conservation populations (28%) were judged to have a moderately high degree of general health. Of the remaining populations, 151 (53%) were judged to have a moderately low level of general health and 49 (17%) had a low level of general health. Seventy percent of the conservation populations had a low to moderately low composite health determination. The small population sizes and isolated condition of Colorado River cutthroat trout conservation populations appear to be the factors most contributing to their general persistence risks. However, this reduces the population's risk of genetic or disease contamination. The influence of within population connectivity on general population health was more obvious than the relationships associated with genetic or disease risks (Table 31), indicating that general CRCT population health was positively influenced by expanded within population connectivity associated with larger networks (Figures 20 and 21). Again, it is important to note that individual health indicators and the composite ratings of these indicators do not represent existing problems, but summarize risk factors relating to overall population health.

Table 30. Population health composite rating associated with the 285 conservation populations by number of populations and miles of stream occupied for the various GMU's.

| Rank Scores         | Ranked Health Scores by Number of Populations (%) |           |            |           | Ranked Health by Miles Occupied |            |            |            |
|---------------------|---|-----------|------------|-----------|---------------------------------|------------|------------|------------|
|                     | High  | Mod-High  | Mod-Low    | Low       | High                            | Mod-High   | Mod-Low    | Low        |
|                     | 1   | 2         | 3          | 4         | 1                               | 2          | 3          | 4          |
| Upper Colorado (75) | 0   | 12 (16%)  | 48 (64%)   | 15 (20%)  | 0                               | 98 (32%)   | 163 (54%)  | 41 (14%)   |
| Lower Colorado (14) | 0   | 3 (21%)   | 9 (64%)    | 2 (14%)   | 0                               | 25 (51%)   | 23 (46%)   | 1.3 (3%)   |
| Dolores (4)         | 0   | 0         | 3 (75%)    | 1 (25%)   | 0                               | 0          | 9.5 (66%)  | 4.8 (34%)  |
| Upper Green (76)    | 2 (3%)  | 32 (42%)  | 35 (46%)   | 7 (9%)    | 98 (15%)                        | 397 (61%)  | 137 (21%)  | 18 (3%)    |
| Lower Green (26)    | 2 (8%)  | 10 (38%)  | 12 (46%)   | 2 (8%)    | 88 (29%)                        | 156 (51%)  | 61 (20%)   | 2.6 (1%)   |
| Gunnison (25)       | 0   | 5 (20%)   | 13 (52%)   | 7 (28%)   | 0                               | 31 (34%)   | 49 (54%)   | 11 (12%)   |
| San Juan (12)       | 0   | 3 (25%)   | 9 (75%)    | 0         | 0                               | 21 (50%)   | 21 (50%)   | 0          |
| Yampa (53)          | 0   | 16 (30%)  | 22 (42%)   | 15 (28%)  | 0                               | 223 (66%)  | 92 (27%)   | 23 (7%)    |
| <b>Totals</b>       | <b>4</b>  | <b>81</b> | <b>151</b> | <b>49</b> | <b>186</b>                      | <b>952</b> | <b>556</b> | <b>102</b> |

Table 31. Population health associated with the composite health scores for the 285 conservation populations by level of connectivity. Values reflect number of populations and miles occupied for the health composite rating.

| Composite Rating                | Ranked Health by Number of Populations by Composite Rating |           |            |           | Ranked Health by Miles Occupied by Composite Rating |            |            |            |
|---------------------------------|--|-----------|------------|-----------|---|------------|------------|------------|
|                                 | High   | Mod-High  | Mod-Low    | Low       | High  | Mod-High   | Mod-Low    | Low        |
|                                 | 1  | 2         | 3          | 4         | 1   | 2          | 3          | 4          |
| Connectivity                    |  |           |            |           |   |            |            |            |
| Population Strongly Connected   | 4  | 4         | 0          | 0         | 186   | 94         | 0          | 0          |
| Population Moderately Connected | 0  | 15        | 2          | 0         | 0   | 257        | 8          | 0          |
| Population Weakly Connected     | 0  | 29        | 39         | 4         | 0   | 311        | 182        | 19         |
| Populations Independent         | 0  | 33        | 110        | 45        | 0   | 290        | 366        | 83         |
| <b>Totals</b>                   | <b>4</b>   | <b>81</b> | <b>151</b> | <b>49</b> | <b>186</b>  | <b>952</b> | <b>556</b> | <b>102</b> |

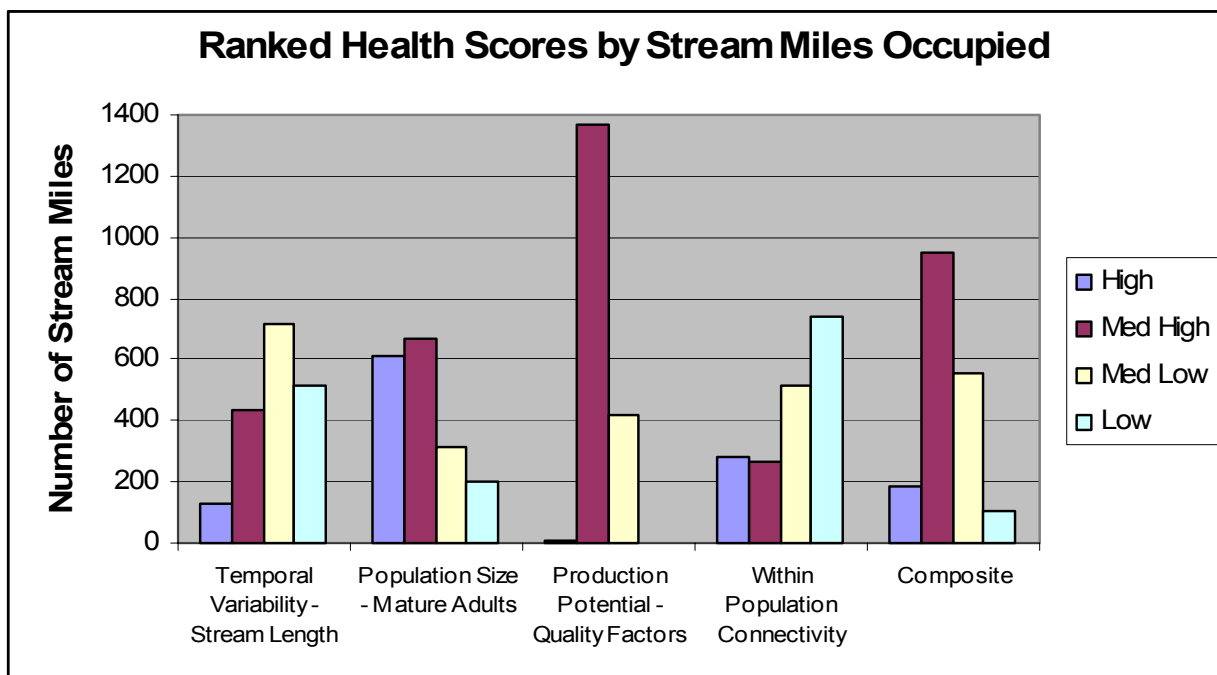
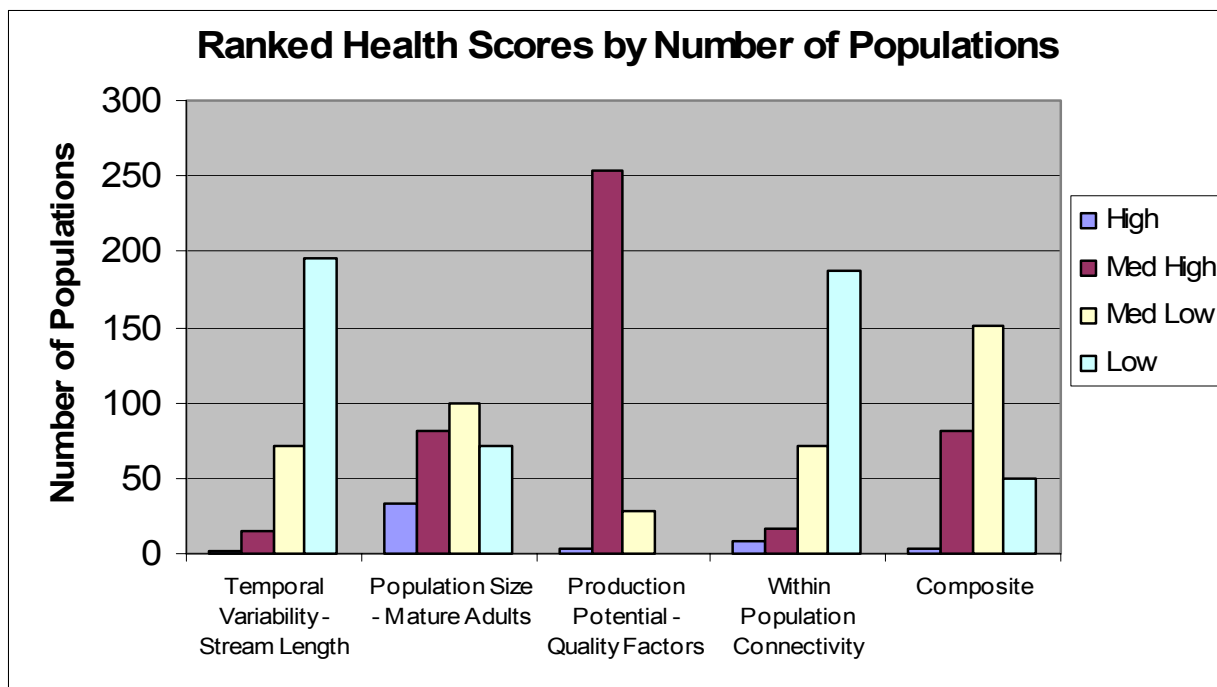


Figure 19. Ranked health scores by number of populations (top) and stream miles occupied (bottom). CRCT conservation populations are ranked into low to high levels of health.

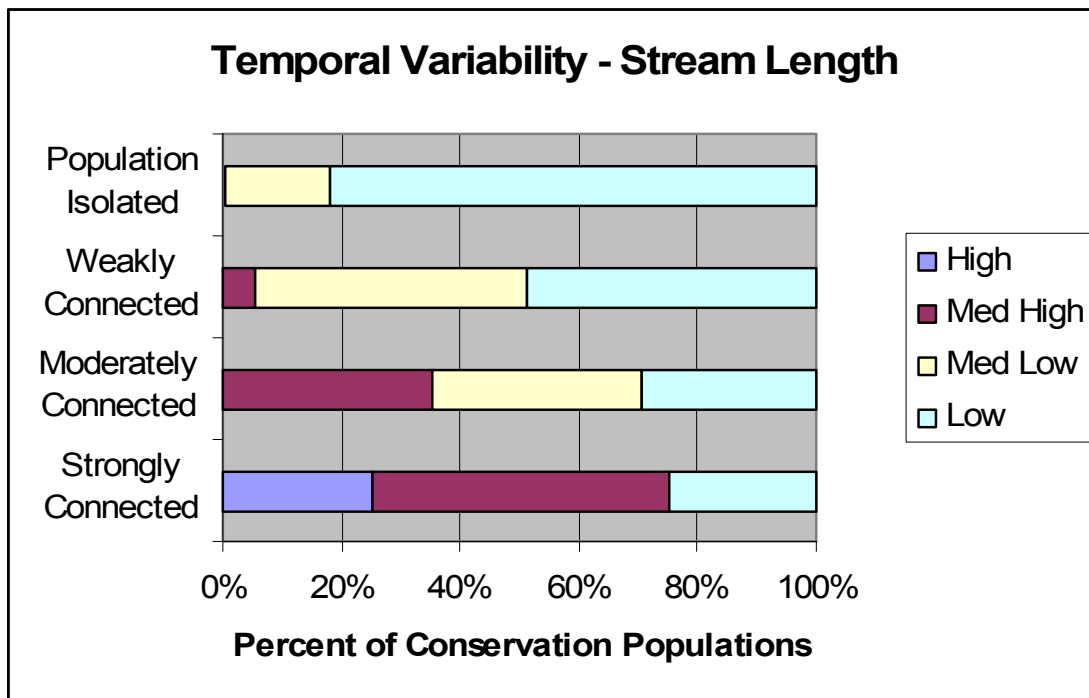
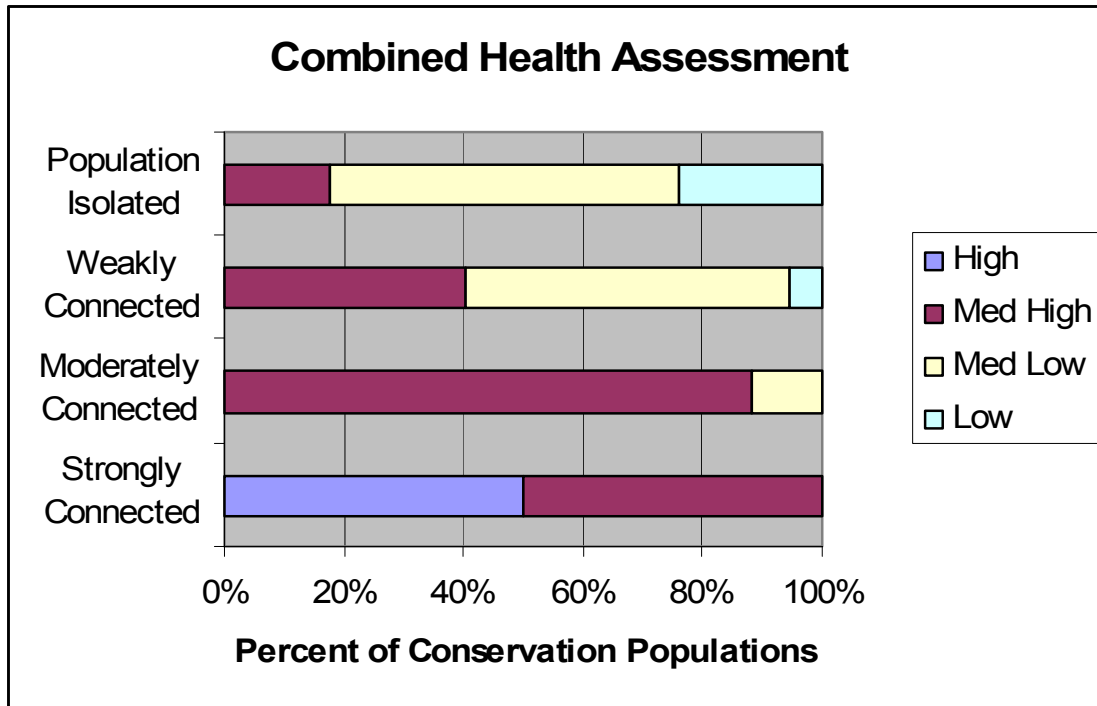


Figure 20. Ranked health scores for percent of conservation populations. Data is grouped by connectedness, showing a more explicit relationship. CRCT conservation populations are ranked into low to high levels of health.

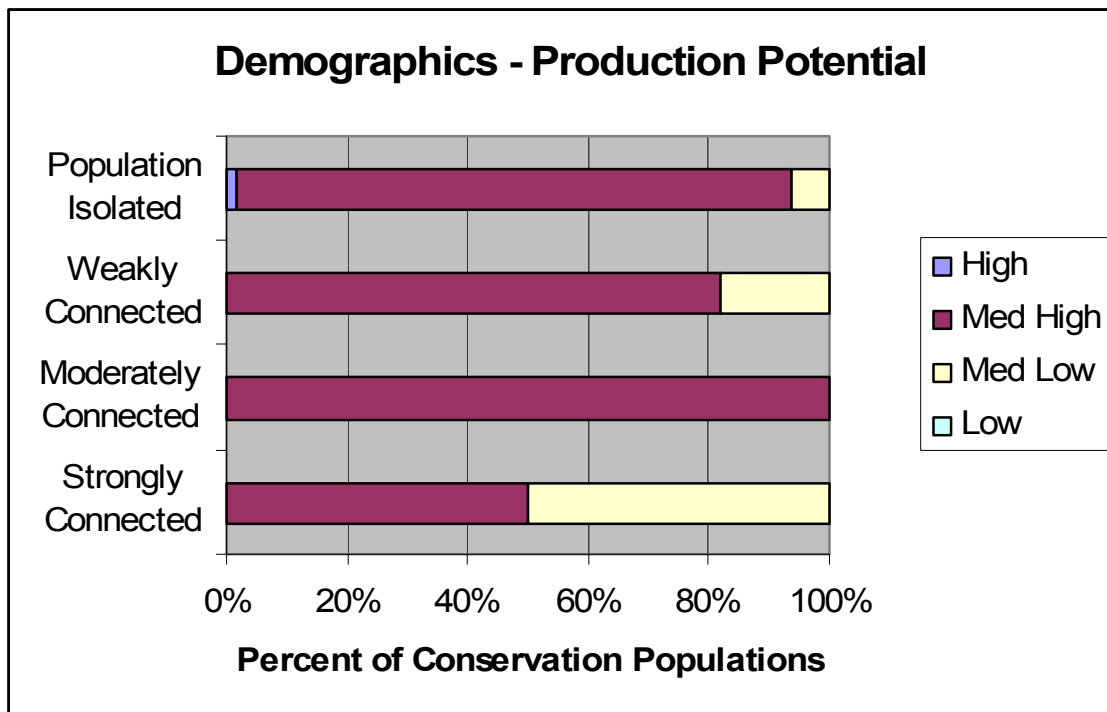
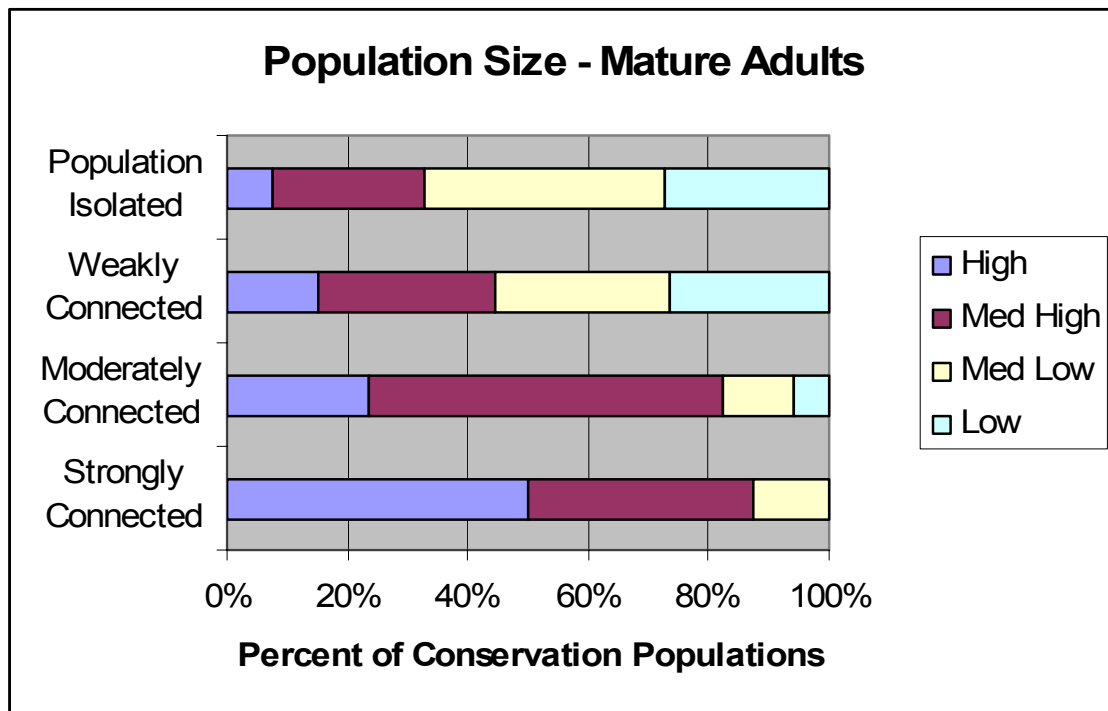


Figure 21. Ranked health scores for percent of conservation populations. Data is grouped by connectedness, showing a more explicit relationship. CRCT conservation populations are ranked into low to high levels of health.

### Restoration Activities Implemented for Conservation Populations

Restoration, conservation, and management activities that had been implemented to conserve designated conservation populations were evaluated for the 285 conservation populations (Table 32). The majority of populations (72%) had one or more conservation actions (e.g., activities or projects) implemented to improve conditions. For 28% of the conservation populations no specific conservation actions were identified. During this status update there was no attempt to address the significance of the conservation actions, either on a specific CRCT population or with regard to conservation in general. Relative significance will have to be addressed in subsequent assessments conducted by the coordinated conservation effort. Common activities include special fishing regulations (49%), barrier construction (18%), refounding a pure population (19%), land-use mitigation or protections (21%), and removal of competing or hybridizing species by chemical means (12%) or physical means (14%).

### Land Uses Associated with Conservation Populations

Similar to the approach associated with conservation actions, land uses and human activities associated with the 285 CRCT conservation populations were identified (Table 33). **No attempt was made to address significance of these activities, either on a specific CRCT population or with regard to conservation in general.** The relative significance of these activities may be addressed in subsequent assessments. The majority of populations (99%) had one or more land uses or human activities (e.g., angling, roads, recreation, etc) occurring within the influence zone of the population. Only four (1.4%) of the populations were judged as having no land use activities within the population influence zone. Common land use activities include angling (71%), livestock grazing (68%), non-angling recreation (73%), roads (42%), and timber harvest (24%).

Table 32. Number and percentage of CRCT conservation populations (285) that have had various types of conservation, restoration, and management actions implemented to conserve them as of 2005. Each population can have multiple actions.

| Conservation Action   | Count | Percent of Total |
|---|-------|------------------|
| Special Angling Regulations   | 140   | 49%              |
| Land-use mitigation direction and requirements (e.g., Forest Plan direction, regulation, permit req., coordination stipulations, etc)         | 60    | 21%              |
| Re-founding pure population   | 54    | 19%              |
| Barrier construction  | 51    | 18%              |
| Physical removal of competing/hybridizing species   | 41    | 14%              |
| Chemical removal of competing/hybridizing species   | 35    | 12%              |
| Population covered by special protective mgt emphasis (e.g., National Park, wilderness, special management area, conservation easement, etc.) | 32    | 11%              |
| Population Restoration/Expansion  | 24    | 8%               |
| Water lease/In-stream flow enhancement  | 20    | 7%               |
| Riparian fencing  | 17    | 6%               |
| Bank stabilization  | 12    | 4%               |
| Pool development  | 10    | 4%               |
| Channel restoration   | 9     | 3%               |
| In-stream cover habitat   | 8     | 3%               |
| Spawning habitat enhancement  | 8     | 3%               |
| Riparian restoration  | 7     | 3%               |
| Public outreach efforts at site (Interpretative site)   | 6     | 2%               |
| Diversion modification  | 5     | 2%               |
| Culvert replacement   | 4     | 1%               |
| Barrier removal   | 3     | 1%               |
| Grade control   | 3     | 1%               |
| Installation of fish screens to prevent loss  | 3     | 1%               |
| Woody debris placement  | 3     | 1%               |
| Fish ladders to provide access  | 1     | <1%              |
| Increase irrigation efficiency  | 1     | <1%              |
| Other   | 32    | 11%              |
| None  | 80    | 28%              |

Table 33. Number and percentage (of the 285 conservation populations evaluated) of designated CRCT conservation populations where various land uses were identified. Each population can have multiple activities present.

| Land Use Activity                                 | Count | Percent of Total |
|---|-------|------------------|
| Recreation (non-angling)                          | 207   | 73%              |
| Angling   | 202   | 71%              |
| Range (Livestock grazing)                         | 195   | 68%              |
| Roads   | 120   | 42%              |
| Timber Harvest                                    | 67    | 24%              |
| De-watering                                       | 45    | 16%              |
| Fish Stocking (e.g., non-native fish)             | 12    | 4%               |
| Mining  | 12    | 4%               |
| Hydroelectric, water storage and/or flood control | 3     | 1%               |
| Other   | 36    | 13%              |
| None  | 4     | 1%               |
| Unknown   | 3     | 1%               |

### *Restoration and Expansion Analysis*

Restoration and expansion opportunities were assessed in unoccupied historical habitat. For this exercise, currently occupied habitats were not considered. About 18,000 miles of historical habitat (86%) were identified as not currently occupied by conservation populations of CRCT (Figure 21). The assessment subsequently focused on these stream segments for their restoration/expansion potential. In order to objectively evaluate the restoration or expansion potential within this unoccupied area it was deemed important to determine how much of the historical habitat was currently incapable of supporting CRCT due to significant environmental changes. The working groups reviewed the unoccupied stream sections and made judgments on current suitability and determined that 4,749 miles of this habitat (26%) is unsuitable based on current habitat limitations (e.g., excessive temperatures, significantly reduced stream flows, channel alteration, etc.) or because they were judged to be associated with recreational fisheries of such importance to make consideration of their use in CRCT conservation unrealistic at this time. The remaining stream miles (13,253) of suitable habitat were carried through the assessment and rated in relation to the potential for restoration or expansion of CRCT conservation populations (Table 34). From 10 to 43 percent of the unoccupied habitat was considered unsuitable in each of the GMUs (Table 34).

There were four general attributes deemed of particular importance to the potential success of restoration or expansion in these suitable habitats. The first attribute related to past stocking and presence of non-native fish, especially other trout species that would



compete or genetically contaminate CRCT. The second attribute addressed the relative quality of the habitat. The third attribute dealt with a consideration of the significance of any existing fishery within the suitable stream segments. The fourth attribute addressed the relative complexity of removal of any non-native fish present within the stream segments. These attributes were assessed individually and in combination. There was also consideration given to the presence of barriers that could provide security from competing and/or contaminating species of fish.

Table 34. Potential restoration and expansion opportunity assessment base information by GMU (miles and percentages).

| <b>GMU</b>     | <b>Historical habitat not occupied by CRCT – miles</b> | <b>Historical CRCT habitat no longer suitable for CRCT – miles (% of GMU)</b> | <b>Unoccupied historical CRCT habitat that is suitable for CRCT restoration – miles (% of GMU)</b> |
|----------------|--|---|--|
| Upper Colorado | 3999   | 400 (10%)   | 3599 (90%)   |
| Lower Colorado | 268  | 129 (48%)   | 138 (52%)  |
| Dolores        | 1170   | 441 (38%)   | 729 (62%)  |
| Upper Green    | 3595   | 1545 (43%)  | 2050 (57%)   |
| Lower Green    | 1309   | 573 (44%)   | 737 (56%)  |
| Gunnison       | 3065   | 504 (16%)   | 2561 (84%)   |
| San Juan       | 1854   | 639 (34%)   | 1215 (66%)   |
| Yampa          | 2744   | 519 (19%)   | 2224 (81%)   |
| <b>Totals</b>  | <b>18,002</b>  | <b>4,749 (26%)</b>  | <b>13,253 (74%)</b>  |

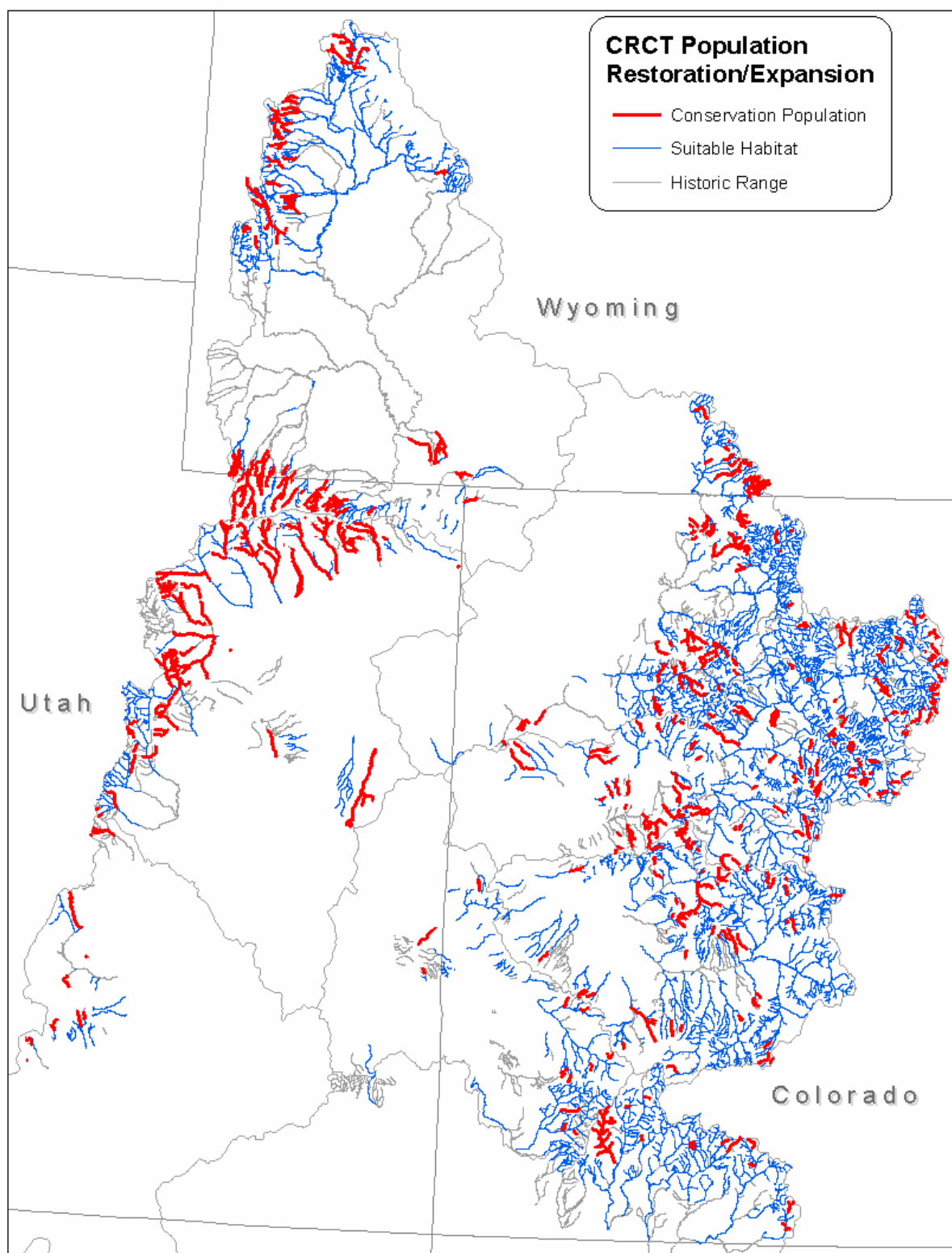


Figure 22. Map displaying all historical habitat, habitat occupied by conservation populations (red) and habitat suitable for restoration and expansion (blue). Grey lines are either unsuitable or currently occupied by a CRCT population not considered a conservation population.

*Past Stocking and Presence of Non-native Trout*

Of the 13,253 miles identified as potentially suitable habitat, 389 miles (3%) had no record of non-native fish stocking or they were judged to be barren of fish. Another 224 miles (2%) of stream either had a record of stocking or they contained only CRCT that were not included within the conservation populations. Three thousand seven hundred ten miles (28%) had records indicating that non-native trout were present in low numbers. Another 6,053 miles (46%) had non-native trout in high numbers and in the remaining 2,877 miles (22%) of suitable habitat it was unknown whether non-native trout were present (Tables 35 and 36).

Table 35. Non-native trout stocking or presence in habitat suitable for CRCT expansion or reclamation.

| <b>Record of Stocking and Presence or Non-Native Trout</b>                                | <b>Miles of Suitable Historical Habitat (percent of total)</b> |
|---|--|
| No record of Stocking--Segment is Barren  | 389 (3%)   |
| Record of Stocking and/or Segment has only CRCT – Not Included as Conservation Population | 224 (2%)   |
| Record of Stocking and Segment has Non-native Trout in Low Numbers                        | 3710 (28%)   |
| Record of Stocking and Segment has Non-native Trout in High Numbers                       | 6053 (46%)   |
| Unknown Presence of Non-native Trout  | 2877 (22%)   |
| <b>Total</b>  | <b>13,253</b>  |

Table 36. Non-native trout stocking or presence in suitable habitat by GMU.

| <b>Non-native presence</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>    | <b>Gunnison</b>     |
|----------------------------|-----------------------|-----------------------|-------------------|---------------------|
| Barren                     | 39 (1.1%)             | 0                     | 34 (4.7%)         | 3 (0.1%)            |
| CRCT only                  | 100 (2.8%)            | 0                     | 0                 | 4 (0.2%)            |
| Few non-natives            | 636 (17.7%)           | 4 (2.7%)              | 470 (64.5%)       | 979 (38.2%)         |
| Many non-natives           | 1,665 (46.3%)         | 135 (97.3%)           | 109 (15.0%)       | 675 (26.4%)         |
| Unknown                    | 1,159 (32.2%)         | 0                     | 115 (15.7%)       | 900 (35.1%)         |
| <b>Total</b>               | <b>3,599 (100%)</b>   | <b>138 (100%)</b>     | <b>729 (100%)</b> | <b>2,561 (100%)</b> |

| <b>Non-native presence</b> | <b>Upper Green</b>  | <b>Lower Green</b> | <b>San Juan</b>     | <b>Yampa</b>         |
|----------------------------|---------------------|--------------------|---------------------|----------------------|
| Barren                     | 92 (4.5%)           | 31 (4.2%)          | 103 (8.5%)          | 87 (3.9%)            |
| CRCT only                  | 9 (0.5%)            | 18 (2.4%)          | 52 (4.3%)           | 41 (1.8%)            |
| Few non-natives            | 332 (16.2%)         | 187 (25.4%)        | 900 (74.1%)         | 202 (9.1%)           |
| Many non-natives           | 1,552 (75.7%)       | 498 (67.6%)        | 61 (5.0%)           | 1,359 (61.1%)        |
| Unknown                    | 66 (3.2%)           | 3 (0.4%)           | 99 (8.2%)           | 536 (24.1%)          |
| <b>Total</b>               | <b>2,050 (100%)</b> | <b>737 (100%)</b>  | <b>1,215 (100%)</b> | <b>2,224 (100 %)</b> |

*Quality Considerations of Habitat Associated with Restoration and Expansion of CRCT*

Of the 13,253 miles of suitable but unoccupied habitat, 998 miles (8%) had habitat quality rated as excellent. Another 5,355 miles (40%) had habitat quality rated as good. About 3,441 miles (26%) had habitat rated as fair. Nine hundred eleven miles (7%) had habitat quality rated as poor and 2,548 miles (36%) of suitable habitat had unknown quality (Tables 37 and 38).

Table 37. Information relative to habitat quality of suitable habitat (miles) being considered for conservation population restoration or expansion.

| Habitat Quality           | Miles of Suitable Historical Habitat |
|---------------------------|--------------------------------------|
| Excellent Habitat Quality | 998 (8%)                             |
| Good Habitat Quality      | 5,355 (40%)                          |
| Fair Habitat Quality      | 3,441 (26%)                          |
| Poor Habitat Quality      | 911 (7%)                             |
| Unknown Habitat Quality   | 2,548 (19%)                          |
| <b>Total</b>              | <b>13,253</b>                        |

Table 38. Habitat quality by GMU in suitable habitat considered for CRCT restoration.

| Habitat Quality | Upper Colorado      | Lower Colorado    | Dolores           | Gunnison            |
|-----------------|---------------------|-------------------|-------------------|---------------------|
| Excellent       | 506 (14.1%)         | 21 (15.1%)        | 29 (4.0%)         | 162 (6.3%)          |
| Good            | 1,350 (37.5%)       | 40 (28.6%)        | 285 (39.1%)       | 702 (27.4%)         |
| Fair            | 595 (16.5%)         | 56 (40.7%)        | 303 (41.5%)       | 673 (26.3%)         |
| Poor            | 135 (3.7%)          | 22 (15.7%)        | 9 (1.3%)          | 189 (7.4%)          |
| Unknown         | 1,013 (28.2%)       | 0                 | 103 (14.1%)       | 834 (32.6%)         |
| <b>Total</b>    | <b>3,599 (100%)</b> | <b>138 (100%)</b> | <b>729 (100%)</b> | <b>2,561 (100%)</b> |

| Habitat Quality | Upper Green         | Lower Green       | San Juan            | Yampa               |
|-----------------|---------------------|-------------------|---------------------|---------------------|
| Excellent       | 38 (1.8%)           | 20 (2.7%)         | 157 (12.9%)         | 64 (2.9%)           |
| Good            | 663 (32.3%)         | 438 (59.5%)       | 562 (46.3%)         | 1,315 (59.1%)       |
| Fair            | 978 (47.7%)         | 169 (22.9%)       | 334 (27.5%)         | 333 (15.0%)         |
| Poor            | 321 (15.7%)         | 107 (14.5%)       | 57 (4.7%)           | 71 (3.2%)           |
| Unknown         | 50 (2.4%)           | 3 (0.4%)          | 105 (8.6%)          | 440 (19.8%)         |
| <b>Total</b>    | <b>2,050 (100%)</b> | <b>737 (100%)</b> | <b>1,215 (100%)</b> | <b>2,224 (100%)</b> |

*Significance of Recreational Fisheries Associated with Restoration and Expansion of CRCT*

Of the 13,253 miles of suitable but unoccupied habitat, 584 miles (4%) were judged to have no fishery present. Another 5,133 miles (39%) had fisheries of minor significance. Three thousand five hundred sixty miles (27%) had fisheries rated as of moderate significance. Another 1,625 miles (12%) had fisheries rated as major significance and 2,350 miles (18%) had unknown fisheries significance (Tables 39 and 40).

Table 39. Information relative to significance of fisheries associated with current recreational fisheries (miles) being considered for conservation population restoration or expansion.

| <b>Significance of Fisheries</b>   | <b>Miles of Suitable Historical Habitat</b> |
|------------------------------------|---|
| No fisheries Present               | 584 (4%)                                    |
| Fisheries of Minor Significance    | 5,133 (39%)                                 |
| Fisheries of Moderate Significance | 3,560 (27%)                                 |
| Fisheries of Major Significance    | 1,625 (12%)                                 |
| Unknown Fisheries Significance     | 2,350 (18%)                                 |
| <b>Total</b>                       | <b>13,253</b>                               |

Table 40. Information relative to significance of fisheries associated with current recreational fisheries (miles) being considered for conservation population restoration or expansion by GMU.

| <b>Fishery Significance</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>    | <b>Gunnison</b>     |
|-----------------------------|-----------------------|-----------------------|-------------------|---------------------|
| No fishery                  | 67 (1.8%)             | 0                     | 20 (2.7%)         | 186 (7.3%)          |
| Minor                       | 1,549 (43.0%)         | 66 (47.9%)            | 268 (36.7%)       | 944 (36.9%)         |
| Moderate                    | 686 (19.1%)           | 12 (9.0%)             | 256 (35.1%)       | 518 (20.2%)         |
| Major                       | 398 (11.1%)           | 60 (43.2%)            | 84 (11.5%)        | 149 (5.8%)          |
| Unknown                     | 899 (25.0%)           | 0                     | 103 (14.1%)       | 764 (29.8%)         |
| <b>Total</b>                | <b>3,599 (100%)</b>   | <b>138 (100%)</b>     | <b>729 (100%)</b> | <b>2,561 (100%)</b> |

| <b>Fishery Significance</b> | <b>Upper Green</b>  | <b>Lower Green</b> | <b>San Juan</b>     | <b>Yampa</b>        |
|-----------------------------|---------------------|--------------------|---------------------|---------------------|
| No fishery                  | 92 (4.5%)           | 31 (4.2%)          | 81 (6.7%)           | 109 (4.9%)          |
| Minor                       | 417 (20.4%)         | 165 (22.3%)        | 773 (63.6%)         | 952 (42.8%)         |
| Moderate                    | 1,124 (54.8%)       | 189 (25.7%)        | 225 (18.5%)         | 550 (24.7%)         |
| Major                       | 365 (17.8%)         | 349 (47.4%)        | 24 (2.0%)           | 197 (8.8%)          |
| Unknown                     | 52 (2.5%)           | 3 (0.4%)           | 112 (9.2%)          | 417 (18.8%)         |
| <b>Total</b>                | <b>2,050 (100%)</b> | <b>737 (100%)</b>  | <b>1,215 (100%)</b> | <b>2,224 (100%)</b> |

*Considerations Associated with the Complexity of Removal of Non-Native Trout*

Of the 13,253 miles of suitable but unoccupied habitat, 232 miles (2%) had no fish present. Another 837 miles (6%) were judged to have minor complexity of fish removal. About 3,277 miles (25%) had moderate complexity of fish removal. Another 6,211 miles (47%) were judged to have major complexity of fish removal and 2,695 miles (20%) had unknown complexity of fish removal (Tables 41 and 42).

Table 41. Information relative to complexity of non-native trout removal associated with suitable habitat (miles) being considered for conservation population restoration or expansion.

| <b>Complexity of non-native removal</b> | <b>Miles of Suitable Historical Habitat</b> |
|---|---|
| No fish Present                         | 232 (2%)                                    |
| Minor Complexity of Fish Removal        | 837 (6%)                                    |
| Moderate Complexity of Fish Removal     | 3,277 (25%)                                 |
| Major Complexity of Fish Removal        | 6,211 (47%)                                 |
| Unknown Complexity of Fish Removal      | 2,695 (20%)                                 |
| <b>Total</b>                            | <b>13,253</b>                               |

Table 42. Information relative to complexity of non-native trout removal associated with suitable habitat (miles) being considered for conservation population restoration or expansion by GMU.

| <b>Removal complexity</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>    | <b>Gunnison</b>     |
|---------------------------|-----------------------|-----------------------|-------------------|---------------------|
| No fish present           | 16 (0.4%)             | 0                     | 4 (0.6%)          | 3 (0.1%)            |
| Minor                     | 369 (10.3%)           | 6 (4.0%)              | 30 (4.1%)         | 247 (9.6%)          |
| Moderate                  | 1,007 (28.0%)         | 37 (27.0%)            | 213 (29.2%)       | 490 (19.1%)         |
| Major                     | 1,112 (30.9%)         | 96 (69.1%)            | 373 (51.1%)       | 929 (36.3%)         |
| Unknown                   | 1,095 (30.4%)         | 0                     | 109 (15.0%)       | 893 (34.9%)         |
| <b>Total</b>              | <b>3,599 (100%)</b>   | <b>138 (100%)</b>     | <b>729 (100%)</b> | <b>2,561 (100%)</b> |

| <b>Removal complexity</b> | <b>Upper Green</b>  | <b>Lower Green</b> | <b>San Juan</b>     | <b>Yampa</b>        |
|---------------------------|---------------------|--------------------|---------------------|---------------------|
| No fish present           | 74 (3.6%)           | 31 (4.2%)          | 76 (6.3%)           | 29 (1.3%)           |
| Minor                     | 120 (5.8%)          | 16 (2.1%)          | 7 (0.6%)            | 43 (2.0%)           |
| Moderate                  | 284 (13.8%)         | 232 (31.5%)        | 93 (7.7%)           | 921 (41.4%)         |
| Major                     | 1,570 (76.6%)       | 455 (61.8%)        | 927 (76.3%)         | 750 (33.7%)         |
| Unknown                   | 3 (0.1%)            | 3 (0.4%)           | 112 (9.2%)          | 481 (21.6%)         |
| <b>Total</b>              | <b>2,050 (100%)</b> | <b>737 (100%)</b>  | <b>1,215 (100%)</b> | <b>2,224 (100%)</b> |

|  |
|--|
| <b>Combined Rating of Restoration and Expansion Rankings of CRCT</b> |
|--|

Of the 13,253 miles of suitable but unoccupied habitat, only 176 miles (1%) were judged to have high potential for CRCT restoration or expansion. Another 406 miles (3%) had intermediate restoration or expansion potential. About 7,540 miles (57%) were rated as having a low potential for restoration or expansion. And 1,978 miles (15%) were rated as very low for CRCT restoration or expansion. The remaining 3,151 miles (24%) had unknown potential for restoration or expansion due to one or more missing pieces of information (Table 43). Table 44 displays the combined restoration ratings by GMU.

Table 43. Information relative to significance of fisheries associated with suitable habitat (miles) being considered for conservation population restoration or expansion.

| <b>Combined CRCT Restoration or Expansion Rating</b> | <b>Miles of Suitable Historical Habitat</b> |
|--|---|
| High Overall Potential                               | 176 (1%)                                    |
| Intermediate Potential                               | 406 (3%)                                    |
| Low Potential  | 7,541 (57%)                                 |
| Very Low Potential                                   | 1,978 (15%)                                 |
| Unknown Potential                                    | 3,151 (24%)                                 |
| <b>Total</b>   | <b>13,253</b>                               |

Table 44. Restoration potential (miles of habitat) by GMU for CRCT.

| <b>Restoration Potential</b> | <b>Upper Colorado</b> | <b>Lower Colorado</b> | <b>Dolores</b>    | <b>Gunnison</b>     |
|------------------------------|-----------------------|-----------------------|-------------------|---------------------|
| High                         | 3 (0.1%)              | 0                     | 4 (0.6%)          | 0                   |
| Intermediate                 | 240 (6.7%)            | 0                     | 30 (4.2%)         | 32 (1.3%)           |
| Low                          | 1,713 (47.6%)         | 86 (61.7%)            | 496 (68.1%)       | 1,515 (59.1%)       |
| Very Low                     | 390 (10.8%)           | 53 (38.3%)            | 84 (11.5%)        | 19 (0.7%)           |
| Unknown                      | 1,254 (34.8%)         | 0                     | 115 (15.7%)       | 995 (38.8%)         |
| <b>Total</b>                 | <b>3,599 (100%)</b>   | <b>138 (100%)</b>     | <b>729 (100%)</b> | <b>2,561 (100%)</b> |

| <b>Restoration Potential</b> | <b>Upper Green</b>  | <b>Lower Green</b> | <b>San Juan</b>     | <b>Yampa</b>        |
|------------------------------|---------------------|--------------------|---------------------|---------------------|
| High                         | 75 (3.6%)           | 31 (4.2%)          | 62 (5.1%)           | 2 (0.1%)            |
| Intermediate                 | 17 (0.8%)           | 0                  | 30 (2.4%)           | 57 (2.6%)           |
| Low                          | 1,017 (49.6%)       | 356 (48.3%)        | 988 (81.3%)         | 1,371 (61.6%)       |
| Very Low                     | 865 (42.2%)         | 347 (47.1%)        | 24 (2.0%)           | 196 (8.8%)          |
| Unknown                      | 75 (3.7%)           | 3 (0.4%)           | 112 (9.2%)          | 598 (26.9%)         |
| <b>Total</b>                 | <b>2,050 (100%)</b> | <b>737 (100%)</b>  | <b>1,215 (100%)</b> | <b>2,224 (100%)</b> |

## Conclusions

### *Historical Perspective*

No quantitative estimates of Colorado River cutthroat trout historical abundance were available prior to this status assessment effort. Previous historical distribution was often defined as all of the colder waters of the upper basin (e.g., Behnke and Benson 1980). Behnke (1979) originally estimated that Colorado River cutthroat trout were reduced to less than 1% of their historical range, and all populations were believed to be at least slightly hybridized. Since that time, many new populations of CRCT have been discovered and Dr. Behnke did not reiterate this estimate in his 1992 update of the 1979 monograph. Other status assessments focused on current distribution (e.g., Young et al. 1996).

To account for the various changes that influence historical CRCT distribution, this status update used a systematic approach to provide an estimation of the amount of stream habitat that was historically occupied. The NHD stream layer (primarily at the 1:24,000 scale) was used as the basis for the assessment. This status update also anchored the historical perspective to a more definitive point in time (circa 1800). It was felt that a perspective closely associated with the movement into and subsequent settlement of the Colorado River Basin by early European settlers provided a reasonable point of reference of comparison with present conditions. Our estimates suggest approximately 21,386 miles of streams located within 51 4<sup>th</sup> level HUC's, were occupied by CRCT before European settlement. The 21,386 miles of historically occupied habitat is in stark contrast to the nearly 136,900 miles of stream contained in the 1:24,000 NHD hydrography layer associated with the watersheds of the Colorado River Basin. About 115,550 miles of streams were excluded from the NHD coverage as being historically occupied due to a number of factors including passage barriers (e.g., physical, temperature, etc.), artificial channels (e.g., ditches and canals) and inadequate habitat (e.g., minimal flows, excessive gradients, intermittent or ephemeral flows, excessive temperatures, etc.).

Our status update estimated that about 21,386 miles of habitat were historically occupied within the historical geographical boundary (Figure 1). Of our total, Colorado contained the most historical habitat (13,615 miles; 64% of total), Wyoming was believed to have 4,185 miles (20% of total), Utah contained 3,465 miles (16%) , and New Mexico had 121 miles (0.6%). It is important to note that a biologist knowledgeable of the Chuska Mountains area (Chaco watershed) was not available during our workshops. The historical distribution in this area was based on generalized historical distribution presented in Behnke and Benson (1980) and Young et al. (1995) concurrently with best professional judgment based on site specific elevation and stream pattern.

Our status update attempted to deal with sources of variation by applying a standard protocol in a uniform manner. We used the NHD stream layer at the 1:24,000 scale in most cases and because the maps were geo-referenced the actual calculation of miles was completed with GIS capabilities. We also anchored to a specific point in time (circa 1800). We believe these and other improvements allowed for a relatively precise determination of the historical perspective. Because of these improvements we believe that our estimate of historical habitat occupied by CRCT provides a solid basis for determining the current status of the subspecies.



*Current Distribution and Conservation Populations*

Over the last three decades there have been numerous attempts to define the nature of contemporary CRCT distribution (Binns 1977, Behnke 1979, Behnke and Benson 1980, Martinez 1988, Oberholtzer 1990, Behnke 1992, Young 1995, Young et al. 1996, CRCT Task Force 2001, Behnke 2002). These attempts have varied due to the point in time the assessment was completed, the amount and quality of the information from which the assessment was derived, and scope of the respective assessment. These previous assessments defined the current status by identifying the number of populations and sometimes the extent of occupied habitat known to exist at the time of the respective assessment. The more detailed early efforts were conducted by State employees and focused on a limited portion of the range within one state (e.g., Binns 1977, Martinez 1988, Oberholtzer 1990). Binns (1977) found 12 streams in Wyoming he considered pure, and 40 total streams occupied, including hybridized populations. For comparison, this status assessment identified 85 conservation populations in Wyoming. Oberholtzer (1990) identified 17 occupied streams in the Little Snake River within Wyoming. Martinez (1988) focused on Northwest Colorado. She identified 96 occupied streams, 59 of which would be considered conservation populations based on genetics (meristic counts). Young et al. (1996) identified 318 populations across the full range of CRCT, 83 were considered pure (26%). He also found that 45% of existing populations were sympatric with non-natives and only 27% were protected by barriers. An interagency CRCT conservation team was established in 1999 to focus on CRCT conservation. As state and federal agencies within the range of CRCT focused on CRCT, many more populations were discovered and some were expanded or refounded. This is demonstrated in Table 45 which is a compilation from 3 past conservation team reports (CRCT Conservation Team 2003).

Our status update provided a further refinement of status information based on information provided by 48 professional fishery biologists having specific knowledge of CRCT. This recent information update identified 3,022 miles of occupied stream habitat in 42 4<sup>th</sup> level HUC's. Of the 3,022 currently occupied miles, 224 occurred outside of historical habitats we delineated. Thirteen percent of the historically occupied habitats we designated are currently occupied. The 224 miles of occupied habitat outside estimated historical habitat would equal an additional 1% of the total historically occupied habitat. These streams are typically above historical barriers in stream segments not believed to have been historically occupied but still within the historical range.

Following a systematic review of the occupied habitat, 285 conservation populations were identified which had been previously identified by State wildlife agencies. These populations included 153 judged to be "core conservation populations" based on genetic testing (less than 1% introgressed) and information indicating no record of non-native stocking and no contaminating species being present and 132 additional conservation populations having other attributes viewed as important to CRCT conservation. In total these 285 conservation populations occupied 1,796 miles (8.4% of historical habitat) of habitat.

Table 45. Numbers and miles/acres of CRCT conservation populations in Colorado, Utah and Wyoming known to exist on July 1, 1998; March 30, 2001; and July 16, 2003, from CRCT Conservation Team documents.

| Geographic Management Units | Existing CRCT Stream Populations |        |      |         |      |          | Existing CRCT Lake Populations |       |      |       |      |         |
|-----------------------------|----------------------------------|--------|------|---------|------|----------|--------------------------------|-------|------|-------|------|---------|
|                             | 1998                             |        | 2001 |         | 2003 |          | 1998                           |       | 2001 |       | 2003 |         |
|                             | #                                | Miles  | #    | Miles   | #    | Miles    | #                              | Acres | #    | Acres | #    | Acres   |
| State of Colorado-Total     | 87                               | 230.3+ | 125  | 319.7 + | 144  | 405.3+   | 9                              | 496.4 | 28   | 672.1 | 27   | 367.2   |
| Colorado                    | 47                               | 107.1  | 76   | 159.6+  | 76   | 189.9+   | 7                              | 171.4 | 19   | 234.0 | 19   | 234.0   |
| Dolores                     | 3                                | 2.5+   | 4    | 9.0     | 4    | 9.0      | 0                              | 0     | 0    | 0     | 0    | 0       |
| Gunnison                    | 3                                | 10.0+  | 11   | 47.5    | 21   | 83.8     | 0                              | 0     | 3    | 78.1  | 2    | 75.1    |
| San Juan                    | 12                               | 37.5   | 11   | 31.6    | 13   | 35.6     | 0                              | 0     | 1    | 18.0  | 0    | 0       |
| White                       | 4                                | 11.0   | 4    | 11.0    | 4    | 11.0     | 1                              | 287   | 2    | 291.0 | 1    | 4       |
| Yampa                       | 18                               | 64.0   | 19   | 61.0    | 26   | 76+      | 1                              | 38    | 3    | 51.0  | 5    | 54.1    |
| State of Utah-Total         | 8                                | 36.0+  | 35   | 177.05  | 56   | 272.5    | 0                              | 0     | 6    | 110.6 | 10   | 164     |
| Northeastern                | 4                                | 30.0   | 20   | 121.6   | 23   | 147.6    | 0                              | 0     | 4    | 106.9 | 5    | 142.9   |
| Southeastern                | 2                                | 6.0+   | 7    | 32.2    | 22   | 80.0     | 0                              | 0     | 0    | 0     | 0    | 0       |
| Southern                    | 2                                | 0+     | 8    | 23.25   | 11   | 44.9     | 0                              | 0     | 2    | 3.7   | 5    | 21.1    |
| State of Wyoming-Total      | 66                               | 258.0  | 70   | 279.3   | 86   | 331.8    | 3                              | 104.5 | 3    | 104.5 | 4    | 592.5   |
| Black's Fork/Eastside       | 9                                | 42.4   | 10   | 43.4    | 17   | 69.9     | 0                              | 0     | 0    | 0     | 1    | 488     |
| East Fork                   | 2                                | 11.0   | 1    | 11.0    | 1    | 11.0     | 1                              | 28    | 1    | 28.0  | 1    | 28      |
| Little Snake                | 32                               | 90.9   | 36   | 97.2    | 38   | 98.7     | 0                              | 0     | 0    | 0     | 0    | 0       |
| Upper Green                 | 3                                | 17.3   | 3    | 17.3    | 3    | 17.3     | 1                              | 5.5   | 1    | 5.5   | 1    | 5.5     |
| Westside                    | 20                               | 96.4   | 20   | 110.4   | 27   | 134.9    | 1                              | 71    | 1    | 71.0  | 1    | 71      |
| Grand Total                 | 161                              | 524.3+ | 227  | 776.05+ | 286  | 1,009.5+ | 12                             | 600.9 | 37   | 887.2 | 41   | 1,123.7 |

+ = mileage or acreage information is incomplete

It is important to note there was a significant difference in how populations were identified in the various status assessments. Previous assessments identified populations based on the occupied stream (e.g., Little Vasquez Creek, Abrams Creek, or U M Creek) without determining whether the streams were in the same drainage basin and connected either directly or indirectly. In early assessments, a few occupied streams across the range were identified. As additional inventories were completed, other streams within occupied drainages were found to contain CRCT and were subsequently referred to as populations (e.g., Bunker Creek, Poose Creek, East Fork Williams Fork), even though they were tributary to the same stream (e.g., East Fork Williams Fork). Caution should be used when comparing the number of CRCT populations identified in the various status assessments. Because most early assessments linked CRCT populations to specific streams there would be a tendency to over estimate the number of actual populations. Our assessment applied a systematic approach focused on teasing out CRCT populations based on connectivity. We identified a number of populations (97) that consisted of multiple connected streams or stream segments that made up population networks. We also identified a substantial number of populations (188) which were non-networked, or isolated. Table 46 provides a comparison between the stream data presented in Table 45 and the current assessment. An attempt was made to count the number of individual streams in each population, but it should be noted some of these streams were unnamed and may not have been recognized as a stream population previously.

Table 46. Numbers and miles/acres of CRCT Conservation populations known to exist on July 16, 2003, and June 30, 2005, by Basin GMU.

| Geographic Management Units | Existing CRCT Populations* |             |                |                  |             |
|-----------------------------|----------------------------|-------------|----------------|------------------|-------------|
|                             | 2003                       |             | 2005           |                  |             |
|                             | # of Stream Populations    | Miles       | # of Streams** | # of Populations | Miles       |
| Lower Colorado              | 11                         | 45          | 14             | 14               | 50          |
| Upper Colorado              | 76                         | 190         | 78             | 75               | 302         |
| Dolores                     | 7                          | 19          | 4              | 4                | 14          |
| Lower Green                 | 28                         | 150         | 85             | 26               | 307         |
| Upper Green                 | 62                         | 300         | 138            | 76               | 650         |
| Gunnison                    | 21                         | 84          | 25             | 25               | 92          |
| San Juan                    | 13                         | 36          | 12             | 12               | 42          |
| Yampa                       | 68                         | 186         | 79             | 53               | 339         |
| <b>Grand Total</b>          | <b>286</b>                 | <b>1010</b> | <b>435</b>     | <b>285</b>       | <b>1796</b> |

\*In 2003, each stream was considered to be a population, while in 2005 all connected streams were considered a single population.

\*\*Stream numbers include all individual stream tributaries containing CRCT.

The protocol used for this assessment was not designed to address lake populations. As of 2003, the CRCT Conservation Team was tracking 41 lakes containing conservation populations (Table 45). When one of these lakes was connected to occupied stream habitat, its length was included in the current assessment. Eighteen of the 41 lakes are included as seven stream miles in this assessment. Other lakes with conservation populations were either not connected to a stream system or not connected to a known stream population of CRCT but are still believed to have important conservation value. There are additional lakes also included in both the historical, currently occupied, and occupied by conservation population totals which were not being separately tracked. The CRCT Conservation Team is currently working to revise the database to include lakes as polygons.

This status update evaluated several important characteristics associated with conservation populations. The first characteristic was the relative risk to each population associated with genetic contamination, either as an initial influence or as a continuation of influences. A majority of conservation populations (63%) were rated as having a low to moderately-low risk of genetic contamination. Thirty-seven percent of the populations were considered to be a moderately-high to high risk. The second characteristic was associated with the risks associated with catastrophic diseases (e.g., whirling disease), either as an initial influence or as a continuation of influences. The majority of conservation populations (87%) were identified as having limited or minimal level of risk from disease. Eleven percent of the populations were rated as segments having a moderate to high risk from catastrophic diseases and 2% were identified as already being inflected. This status update also made a determination of general population health based on the interaction of four important variables (i.e., amount of habitat occupied as a surrogate for temporal variability, population size of reproductive CRCT, demographic interaction of habitat quality, presence of competing species, disease risk and within population connectedness). Eighty-five CRCT populations (30%) were rated as having either high general health (4 populations) or moderately high general health (81 populations). One hundred fifty-one populations (53%) were rated as having moderately low general health and 49 populations (17%) were rated as having low general health.

A majority of conservation populations (72%) had been influenced by one or more conservation activities or projects (e.g., habitat enhancement, population enhancement, special fishing regulations, or improved land use coordination). All but 4 conservation populations were associated with land uses occurring within their respective watersheds. There were three populations with unknown land uses. As was pointed out in the methods section and in the protocol, no level of significance was attached to either the value or significance of influence associated with the conservation actions or land uses identified.

#### *Conservation Population Restoration and Expansion Potential*

This status update included an effort to explore opportunities for conservation restoration or expansion. We reviewed the component of the historically occupied habitat not currently supporting CRCT. To our knowledge this was a first systematic approach taken to assess restoration or expansion potentials. While the approach applied can be viewed as cursory, it did generate many pieces of important information. About 18,000 miles (86%) of historical habitat

are not currently occupied by CRCT. Of this total, 4,749 miles (26%) were judged to be unsuitable for restoration due to habitat changes associated with reduced stream flows, elevated temperatures, significant channel alterations and other important habitat considerations or were judged to be associated with recreational fisheries of such importance to make consideration of their use for CRCT conservation unrealistic at this time. In total, 13,253 miles (62%) of historical habitat were evaluated for their potential to contribute to future CRCT conservation by passing them through a screen of four important considerations (i.e., presence of non-native trout, habitat quality, significance of any fishery, and relative complexity of removal of undesirable fish). For a relatively high proportion of these suitable miles (approximately 1/4) not all of the considerations could be addressed and therefore we were unable to complete the restoration and expansion evaluation. Of the remaining suitable miles, 176 were judged as having a high potential, 406 miles had intermediate potential, 7,541 miles had low potential, and 1,978 miles had very low potential.

We are certain the findings of this assessment represent a marked improvement in information associated with CRCT status. Our basic assessment approach was strengthened by the knowledge and expertise of 48 professional fishery biologists. Collectively, this group had a combined total of 759 years of fishery experience, 516 of which were specific to cutthroat trout management or conservation. Use of geo-referenced database (i.e., ArcGIS 9.0) was applied by 13 capable GIS and data management specialists. The information developed in this CRCT status update represents the best scientific information available to assist in the conservation and management of CRCT. This assessment will serve as a baseline for measuring future conservation progress. In addition, this information will be used for prioritizing CRCT conservation efforts and assist in conservation planning by the states, tribes, and others with CRCT management responsibility. Updating this database with data from a well-designed field-monitoring program could serve as a barometer to monitor the status of CRCT over time.

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## Appendix A. Assessment Protocol

The range-wide assessment for CRCT included: 1) estimating range that was historically occupied; 2) determining current distribution and identifying specific attributes associated with current distribution; 3) identifying the various conservation populations and assessing relative population health using a ranking system approach similar to that proposed by Rieman et al. (1993); and 4) evaluating the potential for further expansion and restoration of conservation populations. The group recognized that such an assessment would be based primarily on expert opinion supported more or less by existing empirical data and in some cases, particularly when historically occupied range was assessed, the assessment would be more qualitative. However, where field data were available these data were used and referenced. The protocol detailed below represents a modified version of the protocols developed for the westslope (Shepard et al. 2003), Yellowstone (May et al. 2003), and Bonneville (May et al. 2005) cutthroat trout subspecies.

### Geographic Information System

This assessment used the National Hydrography Dataset (NHD) as the base for the effort (see <http://nhd.usgs.gov/> for more information on NHD). We used the 1:24,000 scale of NHD as available. Some watershed areas required using the 1:100,000 scale. **An effort will be made to correct the information to as it becomes available.** The USFS Natural Resource Information System (NRIS) provided ArcGIS tools that greatly assisted with this process. An event creation tool, developed the NRIS team, was used to geo-reference CRCT population segments. The tool uses a “point-and-click” user interface to reference these population segments against the NHD stream network. To increase continuity and consistency, only streams identified on the stream layer as being perennial had information entered into the database. We recognize that intermittent and ephemeral streams may provide habitat that is used by CRCT during specific periods when sufficient flows occur. We also fully anticipate that some perennial streams that support CRCT will not be shown on the stream layer and therefore they will not be included in this assessment. It is anticipated that these streams will be added in the future during subsequent efforts to improve NHD.

### Data Quality Control and Assurance

When constructing the dataset, identification of the source of information and linking the sources to an anticipated reliability was conducted. This assessment identified sources of information entered into the database as a means for providing a relative determination of reliability and accuracy. Data Source Tables were created to track how the information was derived (Table 1). Information associated with judgment calls and anecdotal sources, in general, may be viewed as being less reliable and/or accurate than information developed as part of detailed surveys and studies that has undergone substantial analysis and review.

In the logistics of data generation, entering the data and ensuring data entry accuracy was handled by making the effort a “real time” exercise. In order to assure consistency and completeness a specific work group (team) completed the assessment of a given 4<sup>th</sup> level hydrologic unit code (HUC, 8-digit EPA designation) before moving to another HUC. There were 60 4<sup>th</sup> level HUCs within the historical range of CRCT. During the completion of the



assessment for each HUC, the teams were asked to employ a systematic approach starting with the main stream from mouth and proceeding to the headwaters of that stream. Then each tributary system beginning in a clockwise fashion and starting at the lower most portion of the main stream was completed using the same orderly process. The use of 4<sup>th</sup> level HUCs was for accounting purposes only. The actual stream layers, either as cutthroat mapping segments or when used to identify discrete populations, were attributed through a database with the specific information developed during the status update using fishery biologists and a GIS-data entry person as a critical members of the team.

Table 1. Example look-up table for data sources with a relative index for information reliability and accuracy.

| Information 'Source    | Relative Degree of Reliability |
|------------------------|--------------------------------|
| Professional Judgment  | Lower                          |
| Anecdotal Information  | Lower                          |
| Letter                 | Lower                          |
| News Account           | Lower                          |
| Data Files             | Moderate                       |
| Agency Report          | Moderate                       |
| Published Paper        | Higher                         |
| Thesis or Dissertation | Higher                         |

The assessment protocol was partitioned into four primary components for conducting this assessment. First, the historical range that was occupied by CRCT at the time of the first European exploration (approximately 1800) of the Northern Rocky Mountains was estimated. Second, the current distribution with density, genetic status and habitat information for CRCT was developed and displayed on a mapping segment basis. Third, conservation populations were identified, either as isolated and meta-populations (networked or connected populations – e.g., interbreeding populations) and relative health was evaluated for each population identified. Relative health was assessed based on three aspects: 1) influences associated with genetic introgression, 2) influences associated with disease, and 3) a general population health determination. Health determinations represented relative determinations indicating a higher or lower level of concern. The mapping and population health determinations were completed for all conservation populations including those associated with lakes (adfluvial) that are maintained by natural reproduction. **The actual location of lakes will not be shown on the initial maps but can be added at a later date.** CRCT populations supported entirely by annual or routine stocking were not included as part of this assessment. Exceptions would be those populations serving as a wild broods that require periodic stocking to bring in new genetic material as part of the brood maintenance plan. Genetic, disease and population risk assessments will be done for each conservation population. Fourth and finally, the assessment included evaluation of the potential for restoration of conservation populations within the historical boundary and for the expansion of existing conservation populations.

**Definition of Terms**

Definitions of terms used for this protocol are provided in italics as they are first used.

**Population mapping unit (segment)** – *each stream, or occupied segment of stream, will be treated as a separate population (stock) mapping unit or segment and connectivity between these segments will determine whether these segments function in terms of an isolated population or as a “metapopulation (connected)”.*

**Conservation Populations** – *those cutthroat populations existing in a genetically unaltered condition (core conservation populations with genetic analysis indicating greater than 99% purity) and/or populations having unique ecological, genetic and behavioral attribute of significance that maybe genetically introgressed (See Cutthroat Trout Management: A Position Paper – Genetic Considerations Associated with Cutthroat Trout Management). Conservation populations may exist as isolated populations or networks of subpopulations.*

**Meta-population** – *infers that interbreeding between subpopulations (population mapping segments) can occur within a few generations (3-15 years). Also referred to as a connected or networked population.*

**Sub-Population** – *A discrete component of a meta-population or networked population. Usually associated with individual streams and/or stream segments.*

**Isolated Population** – *populations that occupy isolated habitat fragments and these populations exist independently from connected groups of subpopulations.*

**Genetic Risk** – *risk of initial or on-going genetic introgression (hybridization) with introduced species or subspecies.*

**Population Risk** – *risk of deterministic or stochastic declines in a population that could lead to a reduced probability of viability for that population. Linked to temporal, population size, production considerations and degree of isolation.*

**Significant Disease (Pathogens) Risk** – *Those diseases and the associated pathogens that have the potential to cause significant detrimental influences on population health. Including but not limited to the following: whirling disease, furunculosis, infectious pancreatic necrosis virus, etc.*

**Competing Species** – *Those species that compete with cutthroat trout for food and space. Can be salmonid and non-salmonid. Generally, non-natives that have been introduced within cutthroat trout habitats. Certain competing species (i.e., brown trout) are predatory on cutthroat trout. Introduced rainbow and brook trout can be viewed as both a competitive and hybridizing species.*

**Hybridizing Species** – *Those species or subspecies of trout that readily hybridize with cutthroat trout, primarily introduced rainbow trout. Can also include subspecies of cutthroat trout that have been introduced to habitats outside of their respective historical range.*

## Barriers

Barrier identification was the first action taken in parts 1 and 2 of the assessment. Barriers to fish movement (either long-term geologic, natural short-term, or anthropogenic barriers) were used to assess whether individual stream segments were likely historically occupied by CRCT, assess potential influences of genetic introgression or disease to existing CRCT populations, and determine whether existing subpopulations were connected with other subpopulations. The identification of barrier location and distinguishing characters was very important. During the effort to describe the historical distribution of the subspecies, we identified those barriers that represent long-term geologic features that may have influenced historical distributions. These barrier locations were located (as points in ArcGIS) on the population mapping segments. Before mapping current distribution, we identified other significant barriers (e.g., natural short-term and/or anthropogenic barriers), their locations (as points in ArcGIS), and other relevant features, including barrier type (Table 2), blockage extent (Table 3), and barrier significance (Table 4). Only those barriers believed to have a significant influence on cutthroat distribution or population integrity (life history expression, spawning, competition and hybridization) were identified. Data sources for barriers were also identified (Table 5). If the barrier extended over an extended distance (e.g., temperature or chemical barrier) the downstream point of the barrier was marked on the map.

Table 2. Types of barriers to upstream fish movement (Check the one that best applies to each barrier)..

| Code | Barrier Type                            |
|------|---|
| 1    | Water diversion                         |
| 2    | Fish culture facility/research facility |
| 3    | Temperature                             |
| 4    | Bedrock                                 |
| 5    | Culvert                                 |
| 6    | Debris                                  |
| 7    | Insufficient flow                       |
| 8    | Manmade Dam                             |
| 9    | Manmade temporary restoration barrier   |
| 10   | Pollution                               |
| 11   | Beaver dams                             |
| 12   | Velocity barrier                        |
| 13   | Waterfall                               |
| 14   | Unknown                                 |

Table 3. Extent of blockage caused by barriers (Check the one that best applies).

| Code | Blockage Extent |
|------|-----------------|
| 1    | Complete        |
| 2    | Partial         |
| 3    | Unknown         |

Table 4. Barrier significance (Check all that apply for each barrier).

| Code | Barrier Significance  |
|------|---|
| 1    | Prevents or limits introgression  |
| 2    | Prevents ingress of competing species   |
| 3    | Temporary, but presently prevents introgression or ingress of competing species |
| 4    | Confines population to small area of usable habitat                             |
| 5    | Limits or precludes opportunity for population re-founding                      |
| 6    | Limits expression of life history characteristics                               |
| 7    | Unknown   |

Table 5. Information sources associated with barrier (Check one that best applies).

| Code | Barrier Information Source  |
|------|---|
| 1    | Judgment - Anecdotal and/or extrapolated information from other streams |
| 2    | Judgment - Ocular Reconnaissance  |
| 3    | Minor Sampling  |
| 4    | Major Sampling  |

### Determining Historical Distribution

The historically occupied range of CRCT was assessed based on the believed distribution at the time Europeans first entered the Rocky Mountain West (approximately 1800). This assessment was done at a relatively coarse level. There was an initial effort to adjust the base stream layer by identifying the lower extremes of historical distribution based on the lowest probable elevation limits (6000 feet in elevation or 5500 feet on north-facing slopes). Fishery professionals familiar with each major drainage basin (4<sup>th</sup> code HUC) defined historical distribution for the remaining stream mapping segments within each 4<sup>th</sup> code HUC by identifying the historical range based on their personal knowledge of the area, known anecdotal information, known habitat restrictions, known geologic barriers, and historical fisheries data and reports. This information was used to edit CRCT historical range maps. CRCT were assumed to have occupied all stream segments within the adjusted base stream layer of their broad known historical distribution unless information or professional judgment indicated CRCT likely did not occupy specific mapping segments of stream.

### Determining Current Distribution, Genetic Status, Densities and Habitat Conditions

The lower and upper bounds of all stream segments presently occupied by naturally self-sustaining populations of CRCT were located and data and data sources associated with the individual characteristics of the occupied segments were identified. Each 4<sup>th</sup> level HUC working group made initial determinations on occupied habitat based on viewing the map and referring to available information. Specific information associated with current occupancy was tracked on a stream segment basis. Barrier locations were important in these determinations, as was the information associated with Tables 8 to 18. Each identified stream segment must have all

attributes in common. If one or more attributes changed, a new segment was created. Table 8 identifies fish stocking associated with the occupied stream segments. Genetic information and status was identified for each CRCT mapping unit in Tables 9 and 10. For Table 9, the category determination was based on information from the largest sample and/or the most recent sample. Only naturally occurring, self-sustaining populations (i.e., no routine augmentation with hatchery fish) of CRCT were addressed in this status review. Relative density based on a projected number per mile of sexually mature adults (set at 15 cm and larger) for each CRCT mapping segment was also identified (Tables 11 and 12). It was assumed that both trend and detailed population sampling could be supported by a level of statistical review (Table 12). The information in Table 12 was used to provide specific density values for Table 11. Habitat information was identified for each CRCT mapping unit (Table 14 and 15). Tables 17 and 18 related presence of non native fish sympatric with CRCT in the mapping segment.

Table 8. Fish stocking associated with the occupied stream segment (Check all that apply).

| Code | Fish Stocking Status   |
|------|--|
| 1    | No Record of fish stocking   |
| 2    | Record of rainbow stocking   |
| 3    | Record of brown trout stocking                                     |
| 4    | Record of brook trout stocking                                     |
| 5    | Record of Lake trout stocking                                      |
| 6    | Record of fine-spotted YCT stocking                                |
| 7    | Record of large –spotted YCT stocking                              |
| 8    | Record of CRCT stocking  |
| 9    | Record of other cutthroat trout subspecies being stocked. Specify: |
| 10   | Other non-native fish stocked. Specify:                            |

Table 9. Genetic status of CRCT within a mapping segment (Check one that best applies).

| Code | Genetic Status   |
|------|--|
| 1    | Genetically unaltered (>99.0%) as a result of introduced species interaction– tested via electrophoresis or DNA  |
| 2    | Introgressed (hybridized) with introduced species – tested and found to be 90% to 99% CRCT genetic material in individual fish throughout population     |
| 3    | Introgressed (hybridized) with introduced species – tested and found to be 80% to 89% CRCT genetic material in individual fish throughout the population |
| 4    | Introgressed (hybridized) with introduced species– tested and found to be less than 80% CRCT genetic material in individual fish throughout population   |
| 5    | Not Tested -- Suspected unaltered with no record of stocking or contaminating species present  |
| 6    | Not Tested -- Potentially hybridized with records of introduced hybridizing species being stocked or occurring in stream                                 |
| 7    | Hybridized and Pure populations co-exist (sympatric) in stream (use only if reproductive isolation is suspected and/or testing has been completed)       |

Table 10. Specify the specific information associated with genetic sampling and analysis. More than one entry can be made for a mapping segment. (Add the specific genetic information in this table)(**This Table will not be specifically included in status update as a separate entity**)

| Sample Number | Collection Date | Collection ID | Number of Fish Sampled | Analysis Date | Analysis Code | % CRCT |
|---------------|-----------------|---------------|------------------------|---------------|---------------|--------|
|               |                 |               |                        |               |               |        |
|               |                 |               |                        |               |               |        |
|               |                 |               |                        |               |               |        |
|               |                 |               |                        |               |               |        |
|               |                 |               |                        |               |               |        |
|               |                 |               |                        |               |               |        |

| Analysis Code | Genetic Analysis |
|---------------|------------------|
| 1             | Allozymes        |
| 2             | PINES            |
| 3             | Microsatellites  |
| 4             | DNA              |

Table 11. Population density (numbers per mile) of sexually mature adults (15 cm and larger) within the mapping segment (Check the one that best applies).

| Code | Mapping Segment Standing  |
|------|---|
| 1    | 0 to 50 fish per mile (Specific density within this range if available_____)    |
| 2    | 50 to 150 fish per mile (Specific density within this range if available_____)  |
| 3    | 151 to 400 fish per mile (Specific density within this range if available_____) |
| 4    | Over 400 fish per mile (Specific density within this range if available_____)   |
| 5    | Unknown   |

Table 12. **(This Table is for informational purposes to support Table 11)** Population estimates of CRCT 15 cm and larger) expressed as number per mile (Complete with specific sample information that applies).

| Sample ID | Sample Date | Estimated fish/mile | Coefficient of Variation % | 95% Confidence Interval | Estimate Type Code |
|-----------|-------------|---------------------|----------------------------|-------------------------|--------------------|
|           |             |                     |                            |                         |                    |
|           |             |                     |                            |                         |                    |
|           |             |                     |                            |                         |                    |

| Code | Population Estimate Type |
|------|--------------------------|
|      | 3 pass removal           |
|      | 2 pass removal           |
|      | 1 pass removal           |
|      | Mark-recapture           |
|      | Single pass removal      |

Table 13. Source of population density information (Check one that best applies).

| Code | Source of CRCT density information                 |
|------|--|
| 1    | Judgment-extrapolated information from other areas |
| 2    | Judgment - Ocular Reconnaissance                   |
| 3    | Spot Sampling                                      |
| 4    | Trend Sampling                                     |
| 5    | Detailed Population Sampling                       |
| 6    | Unknown  |

Table 14. Relative quality of occupied habitat (Check one that best applies). Refer to Box B (pages 26-29) for desired habitat reference conditions.

| Code | Habitat Quality Determination   |
|------|---|
| 1    | Excellent habitat quality (e.g., ample pool environment, low sediment levels, optimal temperatures, quality riparian habitat, etc.) |
| 2    | Good habitat quality (may have some habitat attributes that are slightly less than ideal)   |
| 3    | Fair habitat quality (has a greater number of attributes that are less than ideal)  |
| 4    | Poor habitat quality (most habitat attributes reflect inferior conditions)  |
| 5    | Unknown   |



Table 15. Relative of width of occupied stream segment (Check one that best applies).

| Code | Average width of occupied stream segment |
|------|--|
| 1    | < 5 feet                                 |
| 2    | 5 to 10 feet                             |
| 3    | 10 to 15 feet                            |
| 4    | 15 to 20 feet                            |
| 5    | 20 to 25 feet                            |
| 6    | Over 25 feet                             |
| 7    | Unknown                                  |

Table 16. Source of habitat quality and stream width information Check **one** that best applies).

| Code | Source of habitat information                        |
|------|--|
| 1    | Judgment-extrapolated information from other streams |
| 2    | Judgment - Ocular Reconnaissance                     |
| 3    | Spot Habitat Sampling                                |
| 4    | Trend Habitat Sampling                               |
| 5    | Detailed Habitat Sampling                            |

Table 17. Presence of non native fish sympatric with CRCT in the mapping segment (Check all that apply).

| Code | Presence of Non-Native Fish                |
|------|--|
| 1    | No non-native fish present                 |
| 2    | Rainbow trout                              |
| 3    | Brown trout                                |
| 4    | Brook trout                                |
| 5    | Lake trout                                 |
| 6    | Fine-spotted YCT                           |
| 7    | Large-spotted YCT                          |
| 8    | Other cutthroat trout subspecies. Specify: |
| 9    | Other trout. Specify:                      |
| 10   | Other fish. Specify:                       |
| 11   | Unknown                                    |

Table 18. Source information associated with presence of non-native fish (Check one that best applies).

| Code | Source of non-native fish information                |
|------|--|
| 1    | Judgment-information extrapolated from other streams |
| 2    | Judgment -- Ocular Reconnaissance                    |
| 3    | Spot Sampling  |
| 4    | Trend Sampling                                       |
| 5    | Detailed Sampling                                    |
| 6    | Unknown  |

### Identification of Individual Conservation Populations and Application of Relative Health Evaluations for each Population

For this stage of assessment the focus changed from CRCT occupied mapping segments to conservation populations and the factors that have the potential to influence the well-being of the identified populations. Determinations were made relative to which occupied mapping units were combined into a specific conservation population with conservation being the primary management objective. Conservation populations were further sub-divided based on connectedness into meta-populations or as isolated populations (Table 19). To be considered connected in a meta-population, a total barrier cannot be present within the meta-population's stream network. Both meta-populations and isolated populations were identified as conservation populations. Conservation populations were categorized as genetically unaltered (i.e., core conservation populations) or displaying unique life history traits and ecological characteristics in the presence of hybridization (i.e., conservation populations) (Table 20). Life history attributes of the population (Table 21) and status of the conservation population as a source or a sink (Table 22) were identified. Information on conservation activities, land-use and fishery management were identified for each conservation population (Tables 23 and 24). No degree of significance was (or should be) attributed to the conservation activities or the land uses that were identified as being associated with each conservation population. The significance of the conservation activities and/or land uses to each specific conservation population will have to be addressed in subsequent specific assessments.

Table 19. Degree of connectedness associated with the conservation population (Check one that best applies).

| Code | Degree of Connectedness   |
|------|---|
| 1    | Strongly connected. Migratory forms (fluvial/ad-fluvial) must be present and migration corridors must be open (significant connectivity). Occupied habitat consists of numerous (> 5) individual streams w/ sub-populations.              |
| 2    | Moderately connected. Migratory forms are present but connection periodically disrupted. Genetic exchange limited at times. Occupied habitat consists of a few (4-5) individual streams w/ sub-populations.                               |
| 3    | Weakly connected. Questionable whether migratory forms exist within connected habitat; however possible infrequent straying of adults within occupied connected habitat. Occupied habitats consists of 3 to 4 streams w/ sub-populations. |
| 4    | Population not networked or connected. Population functions as an isolated entity with <u>no</u> interaction with other populations or sub-populations. Passage barrier may be present.   |

Table 20. Conservation Population Qualifier (Check one that best applies)

| Code | Conservation Population Qualifier  |
|------|--|
| 1    | Core Conservation Population (must be genetically unaltered – greater than 99% CRCT genes)   |
| 2    | Known or Probable Unique Life History (fluvial, ad-fluvial, or resident) May include populations that represent the last, best CRCT population within a given watershed or drainage basin. |
| 3    | Known or Probable Ecological Adaptation to extreme environmental condition (e.g. temperature, alkalinity, pH, sediment)  |
| 4    | Known or Probable Predisposition for large size or unique coloration   |
| 5    | Other – Population occupies habitat that is likely to become part of the CRCT conservation focus   |

Table 21. Life history attributes associated with the conservation population (Check all that apply).

| Code | Life History Attributes   |
|------|---|
| 1    | Resident Life History (e.g. Resides in one stream or a network of smaller streams for entire life)                    |
| 2    | Fluvial Life History (e.g. Resides primarily in a larger stream or river but migrates to other streams to spawn)      |
| 3    | Ad-fluvial Life History (e.g. Resides primarily in a lake environment but migrates to riverine environments to spawn) |

Table 22. Is the population a source of a sink (Check one that best applies)

| Code | Is Conservation Population a Source or Sink                         |
|------|---|
| 1    | Conservation population is a source to other populations downstream |
| 2    | Conservation population is a sink from upstream population sources. |
| 3    | Not Applicable  |

Table 23. Conservation activities associated with the conservation population (Check all that apply).

| Code | Conservation Actions   |
|------|--|
| 1    | Water lease/In-stream flow enhancement   |
| 2    | Channel restoration  |
| 3    | Bank stabilization   |
| 4    | Riparian restoration   |
| 5    | Diversion modification   |
| 6    | Barrier removal  |
| 7    | Barrier construction   |
| 8    | Culvert replacement  |
| 9    | Installation of fish screens to prevent loss   |
| 10   | Fish ladders to provide access   |
| 11   | Spawning habitat enhancement   |
| 12   | Woody debris placement   |
| 13   | Pool development   |
| 14   | Increase irrigation efficiency   |
| 15   | Grade control  |
| 16   | In-stream cover habitat  |
| 17   | Re-founding pure population  |
| 18   | Riparian fencing   |
| 19   | Physical removal of competing/hybridizing species  |
| 20   | Chemical removal of competing/hybridizing species  |
| 21   | Public outreach efforts at site (Interpretative site)  |
| 22   | Population Restoration/Expansion   |
| 23   | Special Angling Regulations  |
| 24   | Land-use mitigation direction and requirements (e.g., Forest Plan direction, regulation, permit req., coordination stipulations, etc.) |
| 25   | Population covered by special protective mgt emphasis (e.g., Nat'l Park, wilderness, special mgt area, conservation easement, etc.)    |
| 26   | Other:   |
| 27   | None:  |

Table 24. Land-use and fishery management activities associated with conservation population (Check all that apply).

| Code | Activity  |
|------|---|
| 1    | Timber Harvest                                    |
| 2    | Range (Livestock grazing)                         |
| 3    | Mining  |
| 4    | Recreation (non-angling)                          |
| 5    | Angling   |
| 6    | Roads   |
| 7    | De-watering                                       |
| 8    | Fish Stocking (e.g., non-native fish)             |
| 9    | Hydroelectric, water storage and/or flood control |
| 10   | Other   |
| 11   | Unknown   |
| 12   | None  |

### **Conservation Population Health Evaluations**

Only conservation populations were evaluated for relative genetic and disease influences and general population health. It is important to note that these evaluations did not and should not define inherent probability of persistence or exclusion but rather identified index conditions that put a population at greater or lesser risk based on certain attributes.

Genetic Stability Assessment A genetic stability index was made for each conservation population (e.g., Network- or isolate) using a index ranking of 1 to 4 to indicate low to progressively higher levels of possible risk (Table 25). The index was not and should not be viewed as an absolute but rather as an indicator of possible or potential genetic influences.

Table 25. Genetic index ranking (Check one that best applies).

| Rank | Risk Characterization   |
|------|---|
| 1    | Introduced hybridizing species <b>cannot interact</b> with existing CRCT population. <b>Barrier provides complete blockage to upstream fish movement.</b>   |
| 2    | Introduced hybridizing species are in same stream and/or drainage <b>further than 10 km</b> from CRCT population, but not in same stream segment as CRCT, <b>or within 10 km where existing barriers exist, but may be at risk of failure.</b>  |
| 3    | Introduced hybridizing species are in same stream and/or drainage <b>within 10 km of CRCT population and no barriers exist</b> between introduced species and CRCT population. However, introduced hybridizing species have not yet been found in same stream segment as CRCT population. |
| 4    | Introduced hybridizing species are <b>sympatric</b> with CRCT in same stream segment.   |

Significant Disease Influence Assessment A significant disease influence assessment was made for each meta- (networked) or isolate population using a ranking of 1 to 5 to indicate low to progressively higher levels of risk associated with the possible or potential influence of significant diseases (Table 26). Population isolation and security were important considerations but were not viewed as absolutes. The diseases of concern are those that cause severe and significant impacts to population health and include but are not limited to whirling disease, furunculosis, infectious pancreatic necrosis virus, etc. The assessment was completed and/or reviewed by fish health professional. The level of influence was not and should not be viewed as an absolute but rather as an indicator of possible or potential disease influences.

Table 26. Significant diseases risk influence index (Check one that best applies).

| Rank | Risk Characterization  |
|------|--|
| 1    | Significant diseases and the pathogens that cause these diseases <b>have very limited opportunity to interact</b> with existing CRCT population. Significant disease and pathogens are not known to exist stream or watershed associated with CRCT population. <b>Barrier provides complete blockage to upstream fish movement.</b> Stocking of fish from other sources does not occur.        |
| 2    | Significant diseases and/or pathogens have been introduced and/or identified in same stream and/or drainage <b>further than 10 km</b> from CRCT population, but not in same stream segment as CRCT, <b>or within 10 km where existing barriers exist, but may be at risk of failure.</b> Stocking of fish from others source areas requires fish health screening and pathogen free clearance. |
| 3    | Significant diseases and/or pathogens have been introduced and/or have been identified in same stream and/or drainage <b>within 10 km of CRCT population and no barriers exist</b> between disease and/or pathogens and diseased fish species and the CRCT population. However, diseases and/or pathogens have not yet been found in same stream segment as CRCT population.                   |
| 4    | Significant disease and/or pathogens and disease carrying species are <b>sympatric</b> with CRCT in same stream segment but CRCT have not tested positive.   |
| 5    | CRCT population is known to be positive for significant disease and/or pathogens are present. CRCT population has a history of impacts from significant diseases. Environmental and/or biological conditions may have intensified disease impact.  |

### Conservation Population General Health Assessment

A generalized population health assessment was completed for each meta- or isolate population using an index ranking that includes consideration of four factors (See attachment A). General population health was indexed from low to high by using a 1 to 4 ranking system based on four variables identified by Rieman et al. (1993) (Table 27). The ranking for temporal variability was derived as a cumulative length total of stream segments identified as being part of the conservation population. Population size of CRCT that are sexually mature (15 cm and larger) were derived from the density information associated with the stream segments identified for each conservation population (Tables 11). This size range was felt to reasonably reflect that component of a CRCT population that can be viewed as sexually active (e.g. approximating an effective population). Population production ranking was derived from stream segment

Table 27. Ranks of various types of risk to conservation populations. Individual variable rankings to be generated from the information associated with currently occupied habitat data and specific conservation population information.

| Variable   | Description  | Rank | Criteria  |
|--|--|------|---|
| <b>Temporal Variability – Influence of stochastic catastrophic events on a whole population</b>  | Habitat Quantity -- Stream length occupied will be used to index temporal variability. Assumption is that larger habitat patch sizes will be less likely to be in synchrony with regard to stochastic events and, to a degree, with deterministic influences. Ranking for temporal variability will be derived as a cumulative total of stream segments identified as being part of the conservation population.   | 1    | At least 50 miles of occupied habitat   |
|  |  | 2    | 20 to 49 miles of occupied habitat  |
|  |  | 3    | 6 to 19 miles of occupied habitat   |
|  |  | 4    | < 6 miles of occupied habitat   |
| <b>Population Size – Associated with the potentially sexually reproductive component of the CRCT population.</b>   | Defined as the number of fish greater than 15 cm (refer to density determinations and/or specific population survey information ... Tables 11 and 12). Population size will be derived from expanding the density information associated with the stream segments identified for each conservation population and adjusting the total to reflect the amount of occupied habitat. Although it is recognized that a 15 cm cutoff in low elevation streams will not exclude all immature fish, most CRCT conservaton populations are restricted to high elevations where the cutoff will yield a conservative estimate of sexually mature fish. . | 1    | > 2,000 Adults  |
|  |  | 2    | 500 – 2,000 Adults  |
|  |  | 3    | 50 – 500 Adults   |
|  |  | 4    | < 50 Adults   |
| <b>Population Production (Growth/ Survival) – Influence of deterministic demographic factors on whole population</b><br><br><b>See Box C (pages 30-32)</b> | Factors that influence population production include habitat quality, disease, competition, and predation. Important considerations include land-use influence on habitat that could be influencing a population's potential. As important would be the application of enhancement actions targeted to improve population condition.   | 1    | Greater than 50% of habitat in excellent condition; No non-native competitive species present. No catastrophic diseases present; No land uses identified; Substantial enhancement (>5 enhancement types) efforts have been undertaken.                            |
|  |  | 2    | Greater than 50% of habitat in good and excellent condition; Non-native competitive species maybe present; Catastrophic diseases present in close proximity; One to two land uses associated with population; Three to 5 enhancement efforts have been undertaken |

| Variable                       | Description  | Rank | Criteria  |
|--------------------------------|--|------|---|
|                                |  | 3    | Greater than 50% of habitat in fair, good and excellent condition; Non-native competitive species may be present; Catastrophic diseases present in close proximity; Three to four land uses associated with population; One or two enhancement efforts have been undertaken |
|                                |  | 4    | Greater than 50% of habitat in poor condition Population associated with poor quality habitat; Non-native competitive species maybe present; Catastrophic diseases sympatric with population; Greater than 5 land uses associated with population; No enhancement .         |
| <b>Population Connectivity</b> | Relates to how isolated or connected is the conservation population from other conservation populations or sub-populations? Select from information in Table 19. | 1    | <u>Strongly connected.</u> Migratory forms must be present and migration corridors must be open (connected)   |
|                                |  | 2    | <u>Moderately connected.</u> Migratory forms are present, but connection with migratory populations disrupted at a frequency that allows only occasional genetic exchange.  |
|                                |  | 3    | <u>Weakly connected.</u> Questionable whether migratory form exists within connected habitat; however, possible infrequent straying of adults into area occupied by population  |
|                                |  | 4    | <u>Population not connected.</u> Population is isolated from any other population segment, usually due to a barrier, but possibly due to lack of movement.  |



information associated with habitat quality, presence of non-native fish, potential for disease and the level of land use interaction with the population (See Box C). The degree of connectedness was taken from Table 19. These four main factors were weighted to derive a final index as follows: Temporal Variability = 0.7; Population Size = 1.2; Population Productivity (Growth/Survival) = 1.6; and Isolation = 0.5. The index value for general population health was not and should not be viewed as an absolute but rather as an indicator of possible or potential health.

The population assessment identified source/sink relationships that may exist between headwater CRCT conservation populations and those conservation populations lower in the drainage, especially where barriers to upstream movement might exist. While headwater CRCT populations may include those isolated by impassible barriers to upstream fish movement (and thus could not be re-founded or receive external genetic material without human intervention), these headwater populations may be important sources for re-founding and augmenting lower populations. This was handled by a simple identifier indicating that a given population operates as a source. The most downstream population would automatically become a “sink” recipient.

### **Evaluation of Potential CRCT Population Restoration and Expansion Opportunities.**

This evaluation was based on an initial range-wide review of stream segments not currently associated with conservation populations. This mapping exercise facilitated assessment of potential restoration and/or expansion opportunities. Similar to the mapping exercise associated with currently occupied stream segments, lower and upper bounds of all stream segments viewed as having the potential to support CRCT were identified and evaluated. Using the base hydrography layer within each 4<sup>th</sup> level HUC overlaid with current CRCT occupied habitat, conservation population and barrier locations, each team systematically identified and evaluated CRCT restoration and expansion potentials on a stream segment basis.

**The information for these segments can be treated as a block of segments or can be developed for each NHD segment.** The assessment teams identified segments as large as possible. The specific information was tracked on a stream segment basis. Again, considering barrier locations was important as was the information associated with Tables 28 to 31. Each identified stream segment had all attributes in common or, if one or more attributes changed, a new segment was created. Fish stocking and/or fish presence (Table 28), habitat attribute (Table 29), significance of any fishery (Table 30), associated with the stream segment was identified. The relative complexity of removal (chemical and/or physical removals) of any existing fish within the potential restoration or expansion segment was also identified (Table 31).

Table 28. Fish stocking and/or presence of fish associated with the restoration or expansion stream segment. (Check the one that best applies)

| Code | Non-native Fish Stocking and/or Presence Status  |
|------|--|
| 1    | No Record of fish stocking and the segment is barren   |
| 2    | Record of stocking and/or hybridized CRCT are the only trout present but they are not part of a conservation population.   |
| 3    | Record of non-native trout stocking and/or the presence of non-native trout in low numbers. Includes all non-native trout: rainbow, brown, Brook, Lake, and other cutthroat. Hybridized CRCT may or may not be present.              |
| 4    | Record of non-native trout stocking and/or the presence of non-native trout being present in high numbers. Includes all non-native trout: rainbow, brown, Brook Lake, and other cutthroat. Hybridized CRCT may or may not be present |
| 5    | Unknown presence or stocking record of non-native trout.   |

Table 29. Relative habitat quality of the potential restoration or expansion segment. (Check the one that best applies)

| Code | Habitat Quality Determination   |
|------|---|
| 1    | Excellent habitat quality (e.g., ample pool environment, low sediment levels, optimal temperatures, quality riparian habitat, etc.) |
| 2    | Good habitat quality (may have some habitat attributes that are slightly less than ideal)   |
| 3    | Fair habitat quality (has a greater number of attributes that are less than ideal)  |
| 4    | Poor habitat quality (most habitat attributes reflect inferior conditions)  |
| 5    | Habitat Quality Unknown   |

Table 30. Relative significance of any fishery associated with the potential restoration or expansion segment. (Check the one that best applies)

| Code | Relative Significance of a Fishery             |
|------|--|
| 1    | No fishery present                             |
| 2    | Minor fishery (i.e., minimal use)              |
| 3    | Moderate fishery                               |
| 4    | Major fishery (i.e., significant level of use) |
| 5    | Significance Unknown                           |

Table 31. Relative complexity associated with removal of any fish associated with the potential restoration or expansion segment. (Check the one that best applies)

| Code | Relative Complexity of Non-native Fish Removal=  |
|------|--|
| 1    | No fish present  |
| 2    | Minor complexity (e.g., simple drainage, few fish, low flows, simple habitats, etc.)             |
| 3    | Moderate complexity  |
| 4    | Major complexity (e.g., significant flows, multiple channels, many fish, complex habitats, etc.) |
| 5    | Unknown complexity   |

Table 32. Source information for the potential CRCT restoration or expansion segment. (Check the one that best applies)

| Code | Description  |
|------|--|
| 1    | Judgment-information extrapolated from other streams |
| 2    | Ocular Reconnaissance                                |
| 3    | Spot Sampling  |
| 4    | Trend Sampling                                       |
| 5    | Detailed Sampling                                    |
|      | Unknown  |

A generalized restoration opportunity assessment for each potential restoration stream segment was performed by rating the information contained in Tables 28 through Table 31. Restoration potentials were ranked using a 1 to 4 ranking system for each of the four variables identified above (Table 33). The ranking for each restoration variable was derived from the information and judgment of the working group doing the assessment. The ranks assigned to each of the variables were combined into a rating of overall restoration potential for each stream segment. The four variables were weighted equally to derive the overall restoration ranking. The overall score was divided into logical rankings associated with restoration potential (High Restoration Potential = 4 to 6; Intermediate Restoration Potential = 7 to 9; Low Restoration Potential = 10 to 13; and, Very Low Restoration Potential = 14 to 16). If a complete barrier occurred in the lower portion of a segment, the ranking was elevated to the next higher restoration or expansion rank. The identification of one or more unknown conditions associated with the restoration variables resulted in labeling that segment as having unknown restoration potential.

Table 33. Ranking of the various restoration potential factors for each stream segment.

| Variable  | Description   | Rank | Criteria   |
|---|---|------|--|
| <b>Biological Considerations Associated with CRCT Restoration Opportunities</b>           | Specifically addresses the biological considerations associated the presence of other trout in potential restoration segments (Table 28). | 1    | No record of fish stocking <u>and</u> the segment is barren  |
|   |   | 2    | Hybridized CRCT are present in the absence of other trout and segment is not part of a conservation population.        |
|   |   | 3    | CRCT maybe present and there are non-native trout present in low numbers. Segment not part of conservation population. |
|   |   | 4    | CRCT maybe present and there are non-native trout present in high numbers. Segment not part of conservation population |
| <b>Habitat Considerations Associated with CRCT Restoration Opportunities</b>              | Specifically addresses habitat quality of potential restoration segments. See habitat quality ranking in Table 29                         | 1    | Excellent habitat quality  |
|   |   | 2    | Good habitat quality   |
|   |   | 3    | Fair habitat quality   |
|   |   | 4    | Poor habitat quality   |
| <b>Social and Political Considerations Associated with CRCT Restoration Opportunities</b> | Specifically addresses the relative significance of an existing fishery (Table 30).   | 1    | No fishery present.  |
|   |   | 2    | Minor fishery (i.e. minimal use)   |
|   |   | 3    | Moderate fishery   |
|   |   | 4    | Major fishery (i.e. significant use level)   |
| <b>Relative Complexity Considerations Associated with CRCT Restoration Opportunities</b>  | Specifically addresses the complexity of non-native trout or hybrid CRCT removals (chemical or physical) (Table 31).                      | 1    | No fish present  |
|   |   | 2    | Minor complexity.  |
|   |   | 3    | Moderate complexity.   |
|   |   | 4    | Major complexity.  |
|   |   |      |  |

### **Box C - Generalized Population Health Evaluations**

As indicated in the status update protocol each conservation population will receive a generalized population health assessment (Table 27) based on four (4) variables identified by Rieman et.al. (1993). Each of these variables will be ranked based on information contained in the status update database. The variables are related to both deterministic (e.g. changes that are predictable) and/or stochastic (e.g. changes due to chance events) processes that could influence the well-being of a population of CRCT. It should be noted that this generalized health evaluation should not be viewed as an absolute but rather as a relative index of possible or potential health influences associated with the population.

Temporal Variability As used in this health evaluation, temporal variability is linked the population's ability to withstand stochastic influences to the occupied habitat. As such, the amount of occupied habitat becomes a significant indicator of how influential environmental (e.g. fire or drought) or hydrologic (e.g. flooding) events are likely to be to the population. The assumption is that increased habitat provides a greater opportunity for increased habitat complexity and a greater resistance to catastrophic events that could influence the entire population. To receive a low temporal risk ranking we are calling for at least 50 miles of occupied habitat to be present. On the other end of the scale, a very high temporal risk ranking would be associated with occupied habitat of less than 6 miles. The temporal risk ranking will be derived as a cumulative total of stream segments identified as being part of the specific conservation population.

Population Size Variability of Individuals Larger than 15 cm As used in this risk evaluation, this is the population size based on the number of individuals larger than 15 cm in the conservation population. This size threshold is viewed as a reasonable length associated with CRCT that would be sexually active (e.g. related to the effective population). The concept of effective population size plays an important role in the long-term conservation scenario of a population by being related to genetic drift, loss of genetic diversity and population inbreeding. Effective population size is also important in maintaining "critical population mass" needed for adjustments from migration and natural selective influences. A larger sexually active population size, in general, reflects conditions where all life stages are represented in the population. The population size will be derived from the density information associated with Tables 11 and 12. To receive a low adult population size risk ranking we are calling for an adult population size of greater than 2000 individuals. At the other end of the risk scale, a very high risk ranking would be associated with an adult population size of less than 50 adults.

Population Production (Growth/Survival) Variability Factors that influence population production include habitat quality, disease, competition and predation. Land uses that influence habitat quality as well as efforts to enhance habitat are also important. To a significant degree population production factors reflect deterministic processes. The development of a ranking for population production will include consideration of the database information associated with habitat condition, presence of competitive fish, presence of catastrophic disease, the nature of land uses associated with the conservation population and the number of conservation actions taken to improve conditions associated with the conservation population (Table A1). For the purposes of developing an initial ranked score associated with population production, the habitat quality, presence of disease, land uses and implementation of conservation actions will be weighted equally. The final population production score assigned to the conservation population will be increased by one level if non-native fish are sympatric with the population. The composite scores for population production variable ranking can range from 4 to 16 with a 4 being the best production ranking and 16 being the worst ranking. Partitioning of the initial ranked scores for population production follows: High Population Production = 4 to 6; Intermediate Population Production = 7 to 10; Low Population Production = 11 to 13; and, Very Low Population Production = 14 to 16. The final ranked score will reflect an adjustment to reflect the presence of non-native fish competition and predation. If non-native fish are sympatric with the conservation population, the ranked

score should be adjusted to the next higher population production level (i.e. Example: If the initial ranked score falls within the intermediate population production range (score of 7 to 10) and non-native fish are present; the final ranked score will automatically be changed to the low population production level. The final ranking will be inserted as the population production potential ranking in Table 27.

Population Connectivity Variable Populations of CRCT exist as either isolated populations or networks. Isolate populations operate as a discrete entity usually within a single stream. A population network (often referred to as a meta-population) consists of several local sub-populations operating with a level of movement and genetic exchange. Most often population networks represent several local sub-populations each occupying a specific component (e.g. specific streams) of a drainage network. In general, the diversity of local sub-populations and the nature of connectivity within the population network contribute to the stability of the population, especially in terms of how stochastic events might influence population performance through time. The basis for ranking population connectivity will be taken directly from the database (Table 19).

These four main factors will be weighted to derive a final index value using the following weighting criteria: Temporal Variability = 0.7; Population Size = 1.2; Population Productivity (Growth/Survival) = 1.6; and Isolation = 0.5. The individual factors and the final composite index scores represent only a relative indicator of population health. They should not be viewed as absolutes but rather as indicators of possible or potential health influences associated with each population.

| <b>Box C-Table 1. Ranks of the various types of population production factors</b> |  |             |   |
|---|--|-------------|---|
| <b>Variable</b>   | <b>Description</b>   | <b>Rank</b> | <b>Criteria</b>   |
| <b>Habitat Quality –</b>  | Habitat Quantity – Derived from the occupied stream segment habitat quality information contained in the database (Table 14).                                  | 1           | > 50% of occupied stream segment judged to have an excellent habitat rating.                                    |
|   |  | 2           | > 50% of occupied stream segments judged to have excellent and good habitat ratings.                            |
|   |  | 3           | > 50% of occupied stream segments judged to have excellent, good and fair habitat ratings.                      |
|   |  | 4           | > 50% of occupied stream segments judged to be in poor habitat condition.                                       |
| <b>Presence of catastrophic disease</b>   | Developed from the risk assessment associated with significant disease (Table 26).   | 1           | Significant diseases not known to exist and/or complete barrier to fish migration present.                      |
|   |  | 2           | Significant diseases not in close proximity and/or barriers at risk of failure.                                 |
|   |  | 3           | Disease in close proximity and no barrier exists.   |
|   |  | 4           | Disease sympatric with population and/or known to be infected.  |
| <b>Presence of land uses</b>  | Ranking gauged on the number of land uses associated with the conservation population. This variable is associated with the information contained in Table 24. | 1           | Population occurs within wilderness or land with management that precludes extractive or detrimental land uses. |
|   |  | 2           | Population associated with on 1 to 2 land uses.   |
|   |  | 3           | Population associated with 3 to 4 land uses.  |
|   |  | 4           | Population associated with five (5) or more land uses.  |
| <b>Implementation of Conservation Actions</b>                                     | This variable is associated with the conservation actions identified in Table 23.  | 1           | A substantial (>5 actions) number of conservation actions have been implemented.                                |
|   |  | 2           | Three (3) to 5 conservation actions have been implemented.  |
|   |  | 3           | Only 1 to 2 conservation actions have been implemented.   |
|   |  | 4           | No conservation actions have been implemented.  |

**Appendix B. Fisheries professionals who participated in the CRCT assessment workshops and their experience level.**

| Name                 | Affiliation                         | Position Title    | Highest Degree | Years Experience | Years of Cutthroat Trout Mgt / Conservation Experience |
|----------------------|-------------------------------------|-------------------|----------------|------------------|--|
| Todd Allison         | USDA Forest Service                 | Fishery Biologist | BS             | 6                | 3  |
| Bill Atkinson        | Colorado Division of Wildlife       | Fishery Biologist | BS             | 7                | 4  |
| Garn Bickell         | Utah Division of Wildlife Resources | Fishery Biologist | BS             | 10               | 3  |
| Dan Brauch           | Colorado Division of Wildlife       | Fishery Biologist | BS             | 14               | 8  |
| Kevin Christopherson | Utah Division of Wildlife Resources | Fishery Biologist | MS             | 24               | 5  |
| Paul Cowley          | USDA Forest Service                 | Fishery Biologist | MS             | 18               | 18   |
| Chad Crosby          | Utah Division of Wildlife Resources | Fishery Biologist | MS             | 37               | 37   |
| Alan Czenkusch       | Colorado Division of Wildlife       | Fishery Biologist | MA             | 22               | 15   |
| Alan Dale            | USDA Forest Service                 | Fishery Biologist | BS             | 6                | 5  |
| Greg Eaglin          | USDA Forest Service                 | Fishery Biologist | MS             | 12               | 10   |
| Bill Elmlad          | Colorado Division of Wildlife       | Fishery Biologist | BS             | 25               | 6  |
| Kathy Foster         | USDA Forest Service                 | Fishery Biologist | BS             | 18               | 10   |
| Tom Fresques         | USDI Bureau of Land Management      | Biologist         | BA             | 14               | 6  |
| Patty Gelatt         | USDI Fish and Wildlife Service      | Fishery Biologist | BS             | 20               | 2  |
| Dave Gerhardt        | USDA Forest Service                 | Fishery Biologist | MS             | 20               | 13   |
| Greg Glasgow         | USDA Forest Service                 | Fishery Biologist | BS             | 15               | 13   |



| Name             | Affiliation                         | Position Title    | Highest Degree | Years Experience | Years of Cutthroat Trout Mgt / Conservation Experience |
|------------------|-------------------------------------|-------------------|----------------|------------------|--|
| Alex Gouley      | USDA Forest Service                 | Fishery Biologist | BS             | 5                | 5  |
| Justin Hart      | Utah Division of Wildlife Resources | Fishery Biologist | MS             | 2                | 2  |
| Dale Hepworth    | Utah Division of Wildlife Resources | Fishery Biologist | MS             | 31               | 26   |
| Christine Hirsch | USDA Forest Service                 | Fishery Biologist | MS             | 14               | 4  |
| Doug Homan       | Colorado Division of Wildlife       | Biologist         | BS             | 29               | 22   |
| Michael Hudson   | Utah Division of Wildlife Resources | Fishery Biologist | MS             | 8                | 5  |
| Chris James      | USDA Forest Service                 | Fishery Biologist | BS             | 15               | 7  |
| Mike Japhet      | Colorado Division of Wildlife       | Fishery Biologist | BA             | 28               | 25   |
| Pam Jewkes       | USDA Forest Service                 | Fishery Biologist | BA             | 3                | 1  |
| Robert Keith     | Wyoming Game and Fish               | Fishery Biologist | MS             | 14               | 8  |
| Chris Kennedy    | USDI Fish and Wildlife Service      | Fishery Biologist | BS             | 7                | 7  |
| Dan Kowalski     | Colorado Division of Wildlife       | Fishery Biologist | MS             | 1                | 1  |
| Mark Lacy        | USDA Forest Service                 | Fishery Biologist | BS             | 24               | 22   |
| Kirk Madariaua   | Colorado Division of Wildlife       | Biologist         | BS             | 21               | 17   |
| Bruce May        | USDA Forest Service                 | Fishery Biologist | MS             | 34               | 31   |
| Tom Mendenhall   | USDI Bureau of Land Management      | Fishery Biologist | BS             | 20               | 20   |

| Name             | Affiliation                         | Position Title           | Highest Degree | Years Experience | Years of Cutthroat Trout Mgt / Conservation Experience |
|------------------|-------------------------------------|--------------------------|----------------|------------------|--|
| Dirk Miller      | Wyoming Game and Fish               | Asst. Fishery Mgt Coord. | MS             | 16               | 8  |
| Kirk Mullins     | Utah Division of Wildlife Resources | Biologist                | BS             | 15               | 10   |
| Joe Neal         | USDA Forest Service                 | Fishery Biologist        | BS             | 11               | 11   |
| Tom Pettengill   | Utah Division of Wildlife Resources | Fishery Biologist        | MS             | 29               | 20   |
| Dirk Renner      | USDA Forest Service                 | Fishery Biologist        | MS             | 8                | 1  |
| John Riger       | Colorado Division of Wildlife       | Biologist                |                | 26               | 26   |
| Kevin Rogers     | Colorado Division of Wildlife       | Fishery Biologist        | PhD            | 14               | 8  |
| Craig Schaugaard | Utah Division of Wildlife Resources | Fishery Biologist        | MS             | 13               | 8  |
| Hilda Sexauer    | Wyoming Game and Fish               | Fishery Biologist        | MS             | 12               | 8  |
| Brett Thompson   | USDA Forest Service                 | Fishery Biologist        | MS             | 4                | 4  |
| Jay Thompson     | USDI Bureau of Land Management      | Fishery Biologist        | MS             | 13               | 10   |
| Paul Thompson    | Utah Division of Wildlife Resources | Fishery Biologist        | MS             | 12               | 12   |
| Leisa Tooker     | Utah Division of Wildlife Resources | Biologist                | MS             | 4                | 2  |
| Bill Wengert     | Wyoming Game and Fish               | Fishery Biologist        | MS             | 31               | 14   |
| Marc Wethington  | New Mexico Game and Fish            | Fishery Biologist        | BS             | 14               |  |
| Jim Whelan       | USDA Forest Service                 | Fishery Biologist        | BS             | 13               | 13   |

| Name             | Affiliation                         | Position Title  | Highest Degree | Years Experience | Years of Cutthroat Trout Mgt / Conservation Experience |
|------------------|-------------------------------------|-----------------|----------------|------------------|--|
| Shannon Albeke   | Colorado Division of Wildlife       | Biologist-GIS   | BA             | 5                | 1  |
| Paul Burnett     | USDA Forest Service                 | Biologist-GIS   | MS             | 6                | 5  |
| Douglas Diekman  | USDI Bureau of Land Management      | GIS Specialist  |                |                  |  |
| Ken Holsinger    | USDI Bureau of Land Management      | Biologist-GIS   | BA             |                  |  |
| Pam Levitt       | USDI Bureau of Land Management      | GIS Specialist  | AS             | 10               |  |
| Dave Mann        | Utah Division of Wildlife Resources | GIS Specialist  | MS             | 10               |  |
| Peggy Miller     | Utah Division of Wildlife Resources | Biologist-GIS   | MS             | 2                | 2  |
| Kirk Nordyke     | Wyoming Game and Fish               | GIS Coordinator | MS             | 13               | 0  |
| Dennis Oberlie   | Wyoming Game and Fish               | Biologist-GIS   | BS             | 20               | 20   |
| Ashleah Rollings | Colorado Division of Wildlife       | GIS Specialist  | BA             | 2                | 1  |
| Dave Taylor      | USDI Bureau of Land Management      | GIS Specialist  | AS             | 20               | 0  |
| Joe Vieira       | USDI Bureau of Land Management      | GIS Specialist  | MS             | 15               | 0  |
| Scott Vuono      | USDA Forest Service                 | GIS Specialist  | BS             | 5                | 1  |

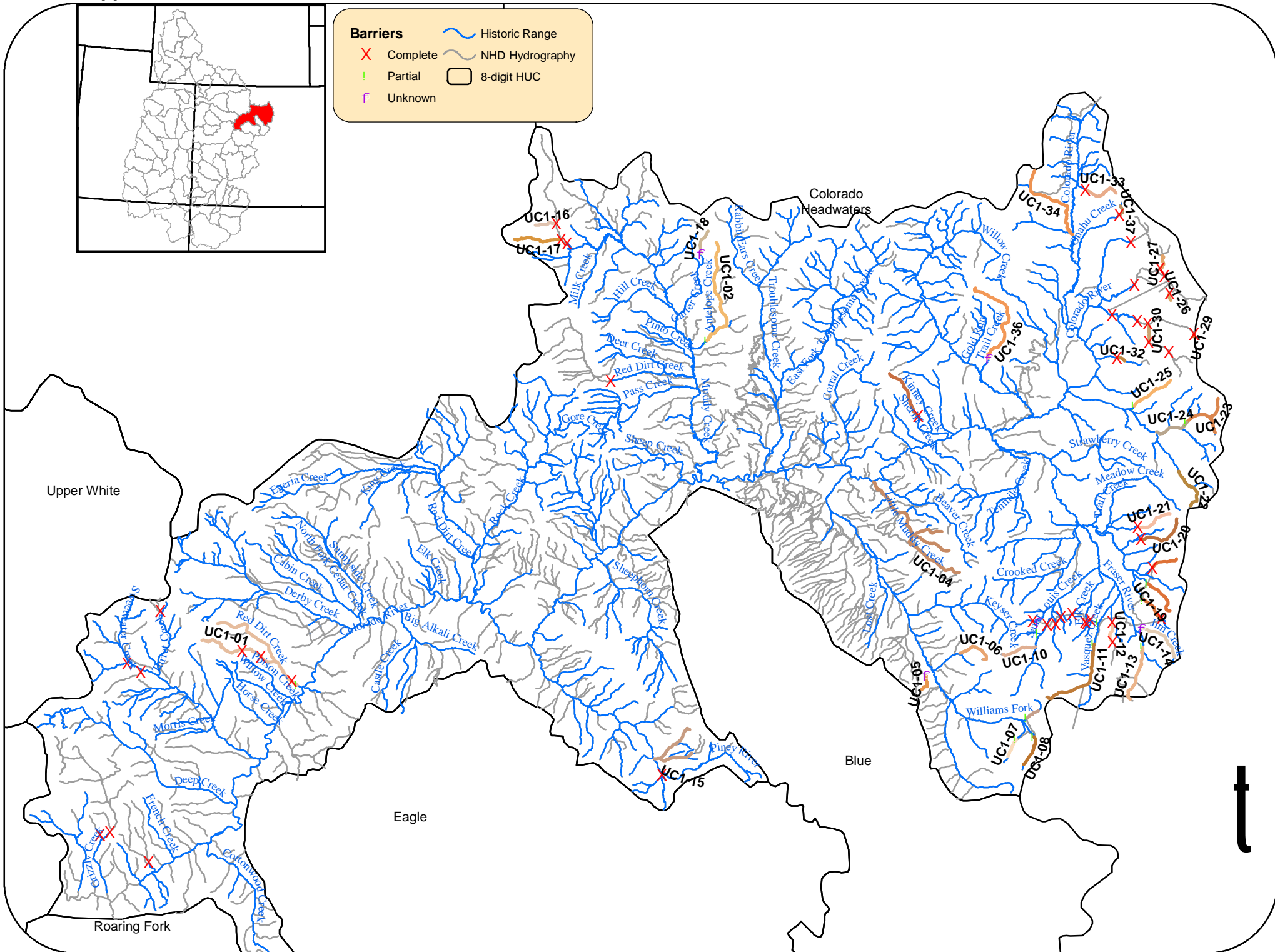
## Appendix C. Maps and information collected for each CRCT Conservation Population.

Non-native fish species code look-up table.

| Common Species Name                           | Species Code |
|---|--------------|
| No Non-Native fish present                    | None         |
| Rainbow Trout                                 | RBT          |
| Brown Trout                                   | BRN          |
| Brook Trout                                   | BRK          |
| Lake Trout                                    | LAK          |
| Fine-spotted YCT                              | YCT          |
| Large-spotted YCT                             | YCT          |
| Other cutthroat species (specify in comments) | CUT          |
| Other trout species (specify in comments)     | TRT          |
| Other species (specify in comments)           | FSH          |
| Unknown                                       | UNK          |

# Upper Colorado GMU

Colorado Headwaters (14010001)



Barriers

X Complete

Partial

Unknown

Historic Range

NHD Hydrography

8-digit HUC

## 14010001

## Colorado Headwaters

|  | <i>Stream Miles</i>      | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>             | <i>Source or Sink</i> | <i>Life History</i> |
|--|--------------------------|--|-------------------------|-----------------------------|---|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UC1-01</u> | 16.12                    | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization    | Known or Probable Ecological Adaptation | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23250                                    | Red Dirt Creek           | 14010001cd027                                  | 90% - 99%               | Unknown                     | Good                                    | 10 to 15 feet         | None                |
| WC: 27359                                    | West Fork Red Dirt Creek | 14010001cd028                                  | 90% - 99%               | Unknown                     | Good                                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UC1-02</u> | 9.44                     | Population Isolated                            | Limited Disease Risk    | Hybridizing species < 10 km | Core Conservation Population            | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 25595                                    | Antelope Creek           | 14010001cd031                                  | Unaltered               | 151 to 400 fish             | Fair                                    | 5 to 10 feet          | UNK                 |
| <b>Conservation Population</b> <u>UC1-03</u> | 4.32                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population            | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23527                                    | Kinney Creek             | 14010001cd008                                  | Not Tested - Unaltered  | 0 to 50 fish                | Fair                                    | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC1-04</u> | 17.81                    | Moderately Connect                             | Moderate Disease Risk   | Hybridizing species < 10 km | Known or Probable Unique Life History   | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 24054                                    | Kelly Creek              | 14010001cd005                                  | Not Tested - Hybridized | 0 to 50 fish                | Good                                    | 10 to 15 feet         | BRK                 |
| WC: 24066                                    | Cub Creek                | 14010001cd006                                  | Not Tested - Hybridized | Unknown                     | Excellent                               | 20 to 25 feet         | BRK, FSH            |
| WC: 23642                                    | Little Muddy Creek       | 14010001cd007                                  | Not Tested - Hybridized | 50 to 150 fish              | Good                                    | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UC1-05</u> | 1.47                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                   | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22551                                    | Ute Creek                | 14010001cd046                                  | 90% - 99%               | 50 to 150 fish              | Good                                    | Unknown               | None                |
| <b>Conservation Population</b> <u>UC1-06</u> | 3.02                     | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Other                                   | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23515                                    | Kinney Creek             | 14010001cd004                                  | Not Tested - Hybridized | Unknown                     | Good                                    | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UC1-07</u> | 1.57                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                   | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 26725                                    | Steelman Creek           | 14010001cd002                                  | 90% - 99%               | 151 to 400 fish             | Excellent                               | 15 to 20 feet         | BRK                 |
| <b>Conservation Population</b> <u>UC1-08</u> | 2.47                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population            | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                          | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23026                                    | Bobtail Creek            | 14010001cd001                                  | Unaltered               | 0 to 50 fish                | Excellent                               | 10 to 15 feet         | BRK                 |

## 14010001

## Colorado Headwaters

|  | <i>Stream Miles</i>             | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---------------------------------|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UCI-09</u> | 1.09                            | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23503                                    | Williams Fork                   | 14010001cd003                                  | Not Tested - Hybridized | 151 to 400 fish             | Good                                  | 10 to 15 feet         | BRK, CUT            |
| <b>Conservation Population</b> <u>UCI-10</u> | 2.82                            | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 25482                                    | Iron Creek                      | 14010001cd025                                  | Not Tested - Unaltered  | 0 to 50 fish                | Fair                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-11</u> | 6.84                            | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23571                                    | Vasquez Creek                   | 14010001cd024                                  | Not Tested - Hybridized | 0 to 50 fish                | Good                                  | 15 to 20 feet         | BRK                 |
| <b>Conservation Population</b> <u>UCI-12</u> | 1.65                            | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 24030                                    | Little Vasquez Creek            | 14010001cd023                                  | Unaltered               | 0 to 50 fish                | Fair                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-13</u> | 4.58                            | Population Isolated                            | Minimal Disease Risk    | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 20367                                    | Fraser River                    | 14010001cd044                                  | Not Tested - Hybridized | Unknown                     | Unknown                               | Unknown               | UNK                 |
| <b>Conservation Population</b> <u>UCI-14</u> | 3.78                            | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23242                                    | Jim Creek                       | 14010001cd022                                  | Unaltered               | 0 to 50 fish                | Fair                                  | 15 to 20 feet         | BRK                 |
| <b>Conservation Population</b> <u>UCI-15</u> | 6.74                            | Weakly Connected                               | Minimal Disease Risk    | Hybridizing species < 10 km | Other                                 | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 27284                                    | East Meadow Creek               | 14010001cd049                                  | Not Tested - Unaltered  | Unknown                     | Good                                  | 5 to 10 feet          | BRK                 |
| WC: 27272                                    | Meadow Creek                    | 14010001cd050                                  | Not Tested - Unaltered  | Unknown                     | Unknown                               | Unknown               | UNK                 |
| <b>Conservation Population</b> <u>UCI-16</u> | 1.7                             | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>              | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 59                                       | N. Unnamed Trib. to Muddy Creek | 14010001cd030                                  | 90% - 99%               | 151 to 400 fish             | Excellent                             | 5 to 10 feet          | None                |

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|  | <i>Stream Miles</i>     | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|-------------------------|--|-------------------------|-----------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UCI-17</u> | 3.99                    | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23038                                    | Little Green Creek      | 14010001cd029                                  | Unaltered               | Over 400 fish               | Excellent                    | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-18</u> | 1.99                    | Population Isolated                            | Minimal Disease Risk    | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22404                                    | Carter Creek            | 14010001cd047                                  | Not Tested - Hybridized | Unknown                     | Unknown                      | < 5 feet              | UNK                 |
| <b>Conservation Population</b> <u>UCI-19</u> | 7.39                    | Weakly Connected                               | Population is Infected  | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 27323                                    | North Fork Ranch Creek  | 14010001cd019                                  | Unaltered               | 50 to 150 fish              | Fair                         | 10 to 15 feet         | BRK                 |
| WC: 28123                                    | Middle Fork Ranch Creek | 14010001cd020                                  | Not Tested - Unaltered  | 0 to 50 fish                | Good                         | 10 to 15 feet         | BRK                 |
| WC: 27335                                    | South Fork Ranch Creek  | 14010001cd021                                  | Not Tested - Unaltered  | 0 to 50 fish                | Fair                         | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UCI-20</u> | 4.07                    | Population Isolated                            | Minimal Disease Risk    | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19403                                    | Cabin Creek             | 14010001cd018                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UCI-21</u> | 3.02                    | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 25521                                    | Hamilton Creek          | 14010001cd017                                  | Unaltered               | 151 to 400 fish             | Excellent                    | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-22</u> | 3.72                    | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19023                                    | Arapaho Creek           | 14010001cd015                                  | Not Tested - Hybridized | 0 to 50 fish                | Good                         | 15 to 20 feet         | BRK                 |
| <b>Conservation Population</b> <u>UCI-23</u> | 5.26                    | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                        | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19338                                    | Buchanan Creek          | 14010001cd012                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                    | 15 to 20 feet         | None                |
| WC: 22385                                    | Thunderbolt Creek       | 14010001cd014                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UCI-24</u> | 2.89                    | Population Isolated                            | Moderate Disease Risk   | Hybridizing species < 10 km | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>      | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19338                                    | Buchanan Creek          | 14010001cd013                                  | Not Tested - Hybridized | Unknown                     | Good                         | 20 to 25 feet         | BRK, BRN            |



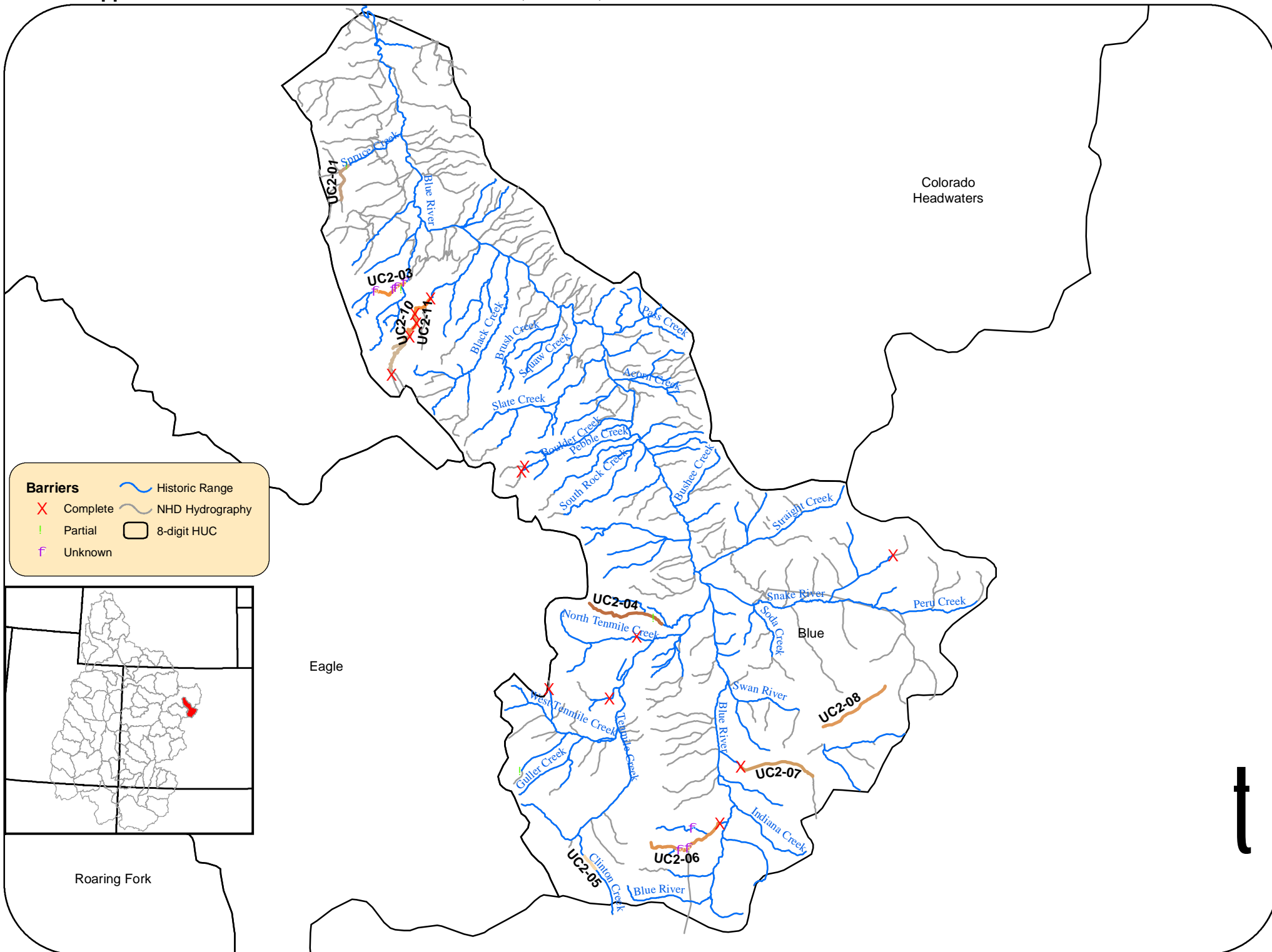
## 14010001

## Colorado Headwaters

|  | <i>Stream Miles</i>        | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>      | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|----------------------------|--|--------------------------|-----------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UCI-25</u> | 3.63                       | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 26915                                    | Roaring Fork Arapaho Creek | 14010001cd011                                  | Not Tested - Hybridized  | 50 to 150 fish              | Excellent                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UCI-26</u> | 0.61                       | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 72897                                    | Lake Nanita                | 14010001cd039                                  | Unaltered                | Over 400 fish               | Excellent                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UCI-27</u> | 1.18                       | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 69                                       | Ptarmigan Creek            | 14010001cd045                                  | Unaltered                | Unknown                     | Good                         | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-29</u> | 0.19                       | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 20313                                    | East Inlet                 | 14010001cd040                                  | Unaltered                | Unknown                     | Poor                         | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UCI-30</u> | 1.56                       | Population Isolated                            | Limited Disease Risk     | Hybridizing species < 10 km | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 21493                                    | Paradise Creek             | 14010001cd038                                  | Unaltered                | Unknown                     | Good                         | 15 to 20 feet         | None                |
| <b>Conservation Population</b> <u>UCI-32</u> | 0.7                        | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23684                                    | Columbine Creek            | 14010001cd043                                  | Unaltered                | 50 to 150 fish              | Good                         | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UCI-33</u> | 2.98                       | Population Isolated                            | Limited Disease Risk     | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 26674                                    | Timber Creek               | 14010001cd036                                  | Not Tested - Unaltered   | Over 400 fish               | Good                         | < 5 feet              | None                |
| WC: 26674                                    | Timber Lake                | 14010001cd041                                  | Unaltered                | Unknown                     | Excellent                    | Unknown               | None                |
| <b>Conservation Population</b> <u>UCI-34</u> | 7.7                        | Weakly Connected                               | Significant Disease Risk | Hybridizing species < 10 km | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>         | <u>Population ID</u>                           | <u>Genetic Status</u>    | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22961                                    | Baker Gulch                | 14010001cd035                                  | Not Tested - Hybridized  | Unknown                     | Unknown                      | Unknown               | BRK                 |

**14010001****Colorado Headwaters**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>UCI-36</u></b>      | 8.39                    | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>< 10 km | Other                           | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 25660                          | Trail Creek               |                         | 14010001cd010  | Not Tested - Unaltered       | 151 to 400 fish                | Fair                            | 15 to 20 feet              | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UCI-37</u></b>      | 0.86                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization    | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 21449                          | Onahu Creek               |                         | 14010001cd056  | Unaltered                    | Unknown                        | Good                            | 5 to 10 feet               | None                      |



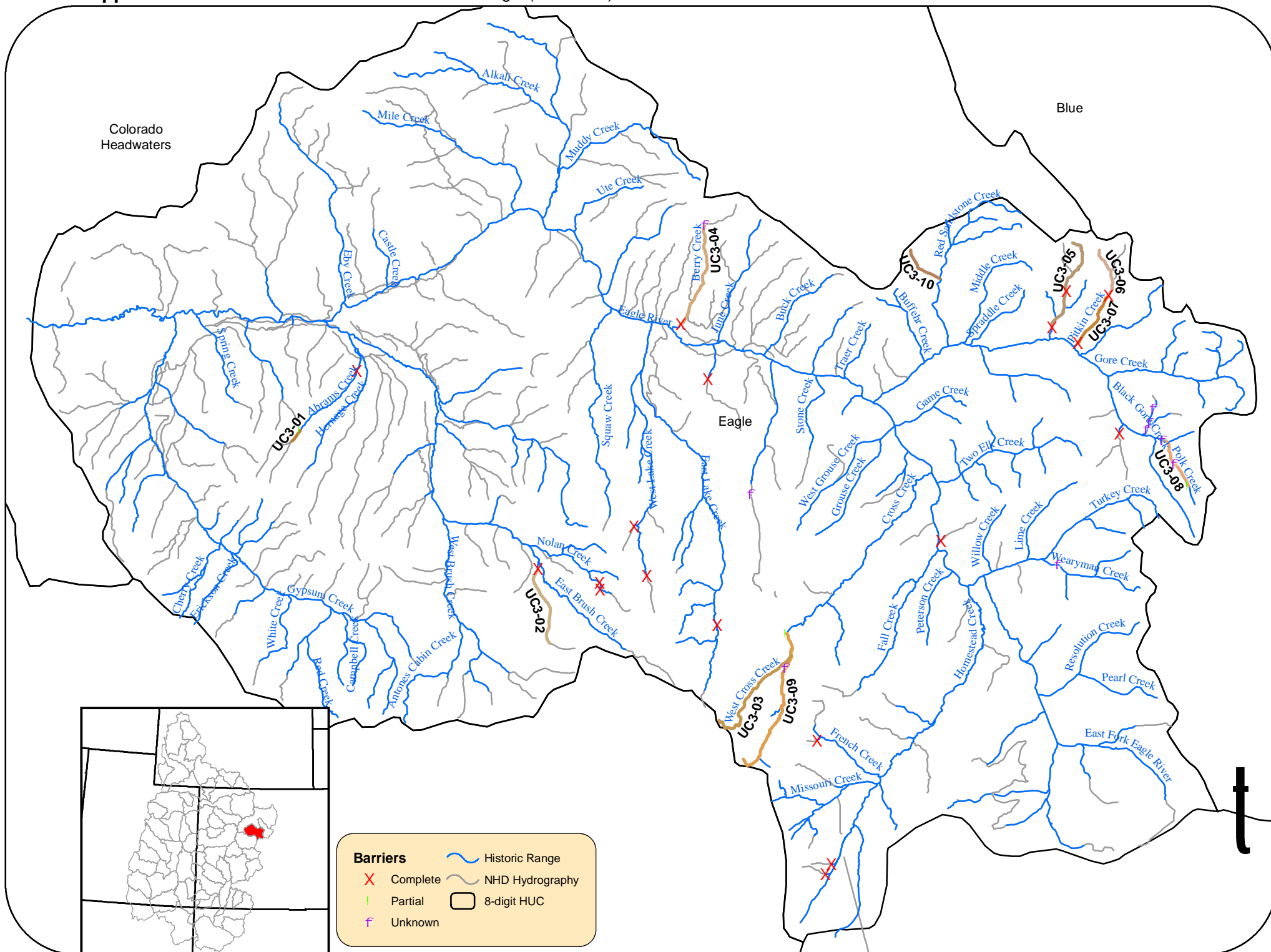
# 14010002 Blue

|  | <i>Stream Miles</i>   | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|-----------------------|--|-------------------------|-----------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UC2-01</u> | 2.14                  | Population Isolated                            | Minimal Disease Risk    | Hybridizing species > 10 km | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22997                                    | Spruce Creek          | 14010002cd022                                  | Not Tested - Unaltered  | 50 to 150 fish              | Excellent                    | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UC2-03</u> | 3.29                  | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization    | Other                        | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23090                                    | Cataract Creek        | 14010002cd001                                  | Not Tested - Hybridized | Unknown                     | Excellent                    | 15 to 20 feet         | BRK                 |
| WC: 23177                                    | Elliott Creek         | 14010002cd007                                  | 90% - 99%               | Unknown                     | Excellent                    | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UC2-04</u> | 4.33                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 21155                                    | Meadow Creek          | 14010002cd017                                  | Not Tested - Unaltered  | 151 to 400 fish             | Excellent                    | Unknown               | BRK                 |
| WC: 21155                                    | Meadow Creek          | 14010002cd018                                  | Unaltered               | 151 to 400 fish             | Excellent                    | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC2-05</u> | 0.87                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19554                                    | Clinton Reservoir     | 14010002cd005                                  | Not Tested - Unaltered  | Unknown                     | Unknown                      | Unknown               | None                |
| <b>Conservation Population</b> <u>UC2-06</u> | 4.53                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22133                                    | Spruce Creek          | 14010002cd020                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                    | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UC2-07</u> | 4.12                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 24179                                    | French Gulch          | 14010002cd008                                  | Not Tested - Unaltered  | 50 to 150 fish              | Good                         | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC2-08</u> | 3.94                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                        | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 22260                                    | North Fork Swan River | 14010002cd023                                  | Not Tested - Unaltered  | 50 to 150 fish              | Good                         | 5 to 10 feet          | None                |
| WC: 22260                                    | North Fork Swan River | 14010002cd024                                  | Not Tested - Hybridized | 50 to 150 fish              | Good                         | 5 to 10 feet          | BRK                 |

14010002

Blue

|   | <i>Stream<br/>Miles</i>         | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>       | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|---|---------------------------------|--|------------------------------|-------------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> <u><b>UC2-09</b></u> | 3.53                            | <i>Weakly Connected</i>                                | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Other</i>                    | <i>Source</i>              | <i>Res</i>                |
| <i>Ind. Pops.:</i>                                      | <u><b>Stream Name</b></u>       | <u><b>Population ID</b></u>                            | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>         | <u><b>Habitat</b></u>           | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 23090   | Cataract Creek                  | 14010002cd004  | Not Tested - Hybridized      | 50 to 150 fish                      | Excellent                       | 20 to 25 feet              | None                      |
| WC: 129   | Unnamed Trib. to Cataract Creek | 14010002cd009  | Not Tested - Hybridized      | Unknown                             | Unknown                         | Unknown                    | UNK                       |
| <b>Conservation<br/>Population</b> <u><b>UC2-10</b></u> | 1.02                            | <i>Weakly Connected</i>                                | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Other</i>                    | <i>Source</i>              | <i>Res</i>                |
| <i>Ind. Pops.:</i>                                      | <u><b>Stream Name</b></u>       | <u><b>Population ID</b></u>                            | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>         | <u><b>Habitat</b></u>           | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 23090   | Cataract Creek                  | 14010002cd003  | Not Tested - Hybridized      | Unknown                             | Excellent                       | 15 to 20 feet              | BRK                       |
| <b>Conservation<br/>Population</b> <u><b>UC2-11</b></u> | 0.6                             | <i>Weakly Connected</i>                                | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Other</i>                    | <i>Source</i>              | <i>Res</i>                |
| <i>Ind. Pops.:</i>                                      | <u><b>Stream Name</b></u>       | <u><b>Population ID</b></u>                            | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>         | <u><b>Habitat</b></u>           | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 23090   | Cataract Creek                  | 14010002cd002  | Not Tested - Hybridized      | Unknown                             | Excellent                       | 15 to 20 feet              | BRK                       |



14010003

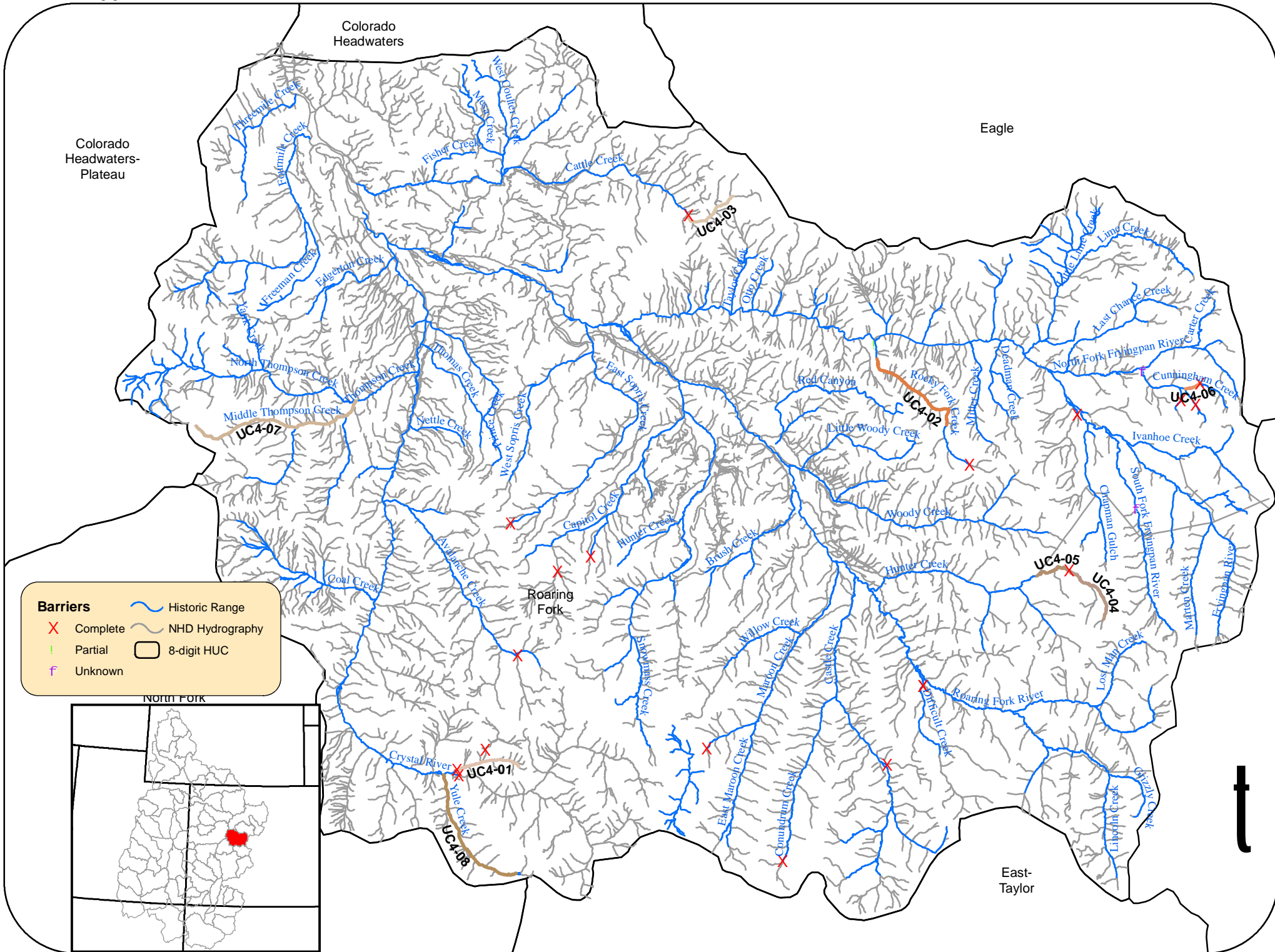
## Eagle

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>UC3-01</u></b>      | 0.52                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization    | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 23414                          | Abrams Creek              |                         | 14010003cd021  | Unaltered                    | 151 to 400 fish                | Fair                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-02</u></b>      | 3.18                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 27195                          | Hat Creek                 |                         | 14010003cd020  | Not Tested - Unaltered       | 0 to 50 fish                   | Fair                                     | 10 to 15 feet              | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-03</u></b>      | 4.8                     | Population Isolated                                    | Limited Disease Risk         | Hybridizing species<br>< 10 km | Known or Probable<br>Unique Life History | Source                     | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 25406                          | West Cross Creek          |                         | 14010003cd013  | Not Tested - Hybridized      | 50 to 150 fish                 | Good                                     | 20 to 25 feet              | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-04</u></b>      | 4.26                    | Weakly Connected                                       | Limited Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19162                          | Berry Creek               |                         | 14010003cd001  | Not Tested - Unaltered       | 50 to 150 fish                 | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-05</u></b>      | 4.03                    | Weakly Connected                                       | Limited Disease Risk         | Hybridizing species<br>> 10 km | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 23806                          | Booth Creek               |                         | 14010003cd002  | Not Tested - Hybridized      | 50 to 150 fish                 | Fair                                     | 5 to 10 feet               | CUT                       |
| <b>Conservation<br/>Population</b> | <b><u>UC3-06</u></b>      | 2.02                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Source                     | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 24389                          | Pitkin Creek              |                         | 14010003cd004  | Not Tested - Hybridized      | Unknown                        | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-07</u></b>      | 2.31                    | Weakly Connected                                       | Limited Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 24389                          | Pitkin Creek              |                         | 14010003cd003  | Not Tested - Hybridized      | Unknown                        | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-08</u></b>      | 2.11                    | Weakly Connected                                       | Limited Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 24391                          | Polk Creek                |                         | 14010003cd007  | Not Tested - Unaltered       | 50 to 150 fish                 | Fair                                     | 5 to 10 feet               | None                      |

# 14010003 Eagle

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>             | <i>Population<br/>Qualifier</i>                  | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|---|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>UC3-09</u></b>      | 6.46                    | <i>Weakly Connected</i>                                | <i>Minimal Disease Risk</i>  | <i>Hybridizing species<br/>&lt; 10 km</i> | <i>Other</i>                                     | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>               | <b><u>Habitat</u></b>                            | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 23103                          | Blogett Lake              |                         | 14010003cd010  | Not Tested - Hybridized      | 50 to 150 fish                            | Good   | 20 to 25 feet              | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC3-10</u></b>      | 1.7                     | <i>Weakly Connected</i>                                | <i>Moderate Disease Risk</i> | <i>Hybridizing species<br/>&gt; 10 km</i> | <i>Known or Probable<br/>Unique Life History</i> | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>               | <b><u>Habitat</u></b>                            | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 24149                          | Indian Creek              |                         | 14010003cd023  | Not Tested - Hybridized      | Unknown                                   | Fair   | < 5 feet                   | BRN                       |





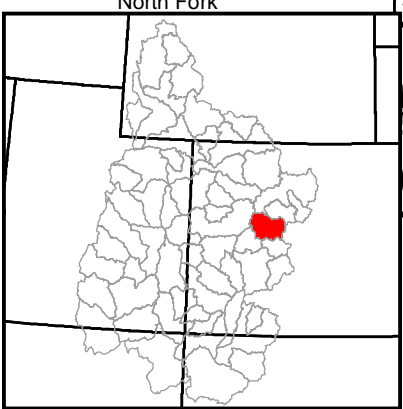
**Barriers**

- Complete
- Partial
- Unknown

Historic Range

NHD Hydrography

8-digit HUC



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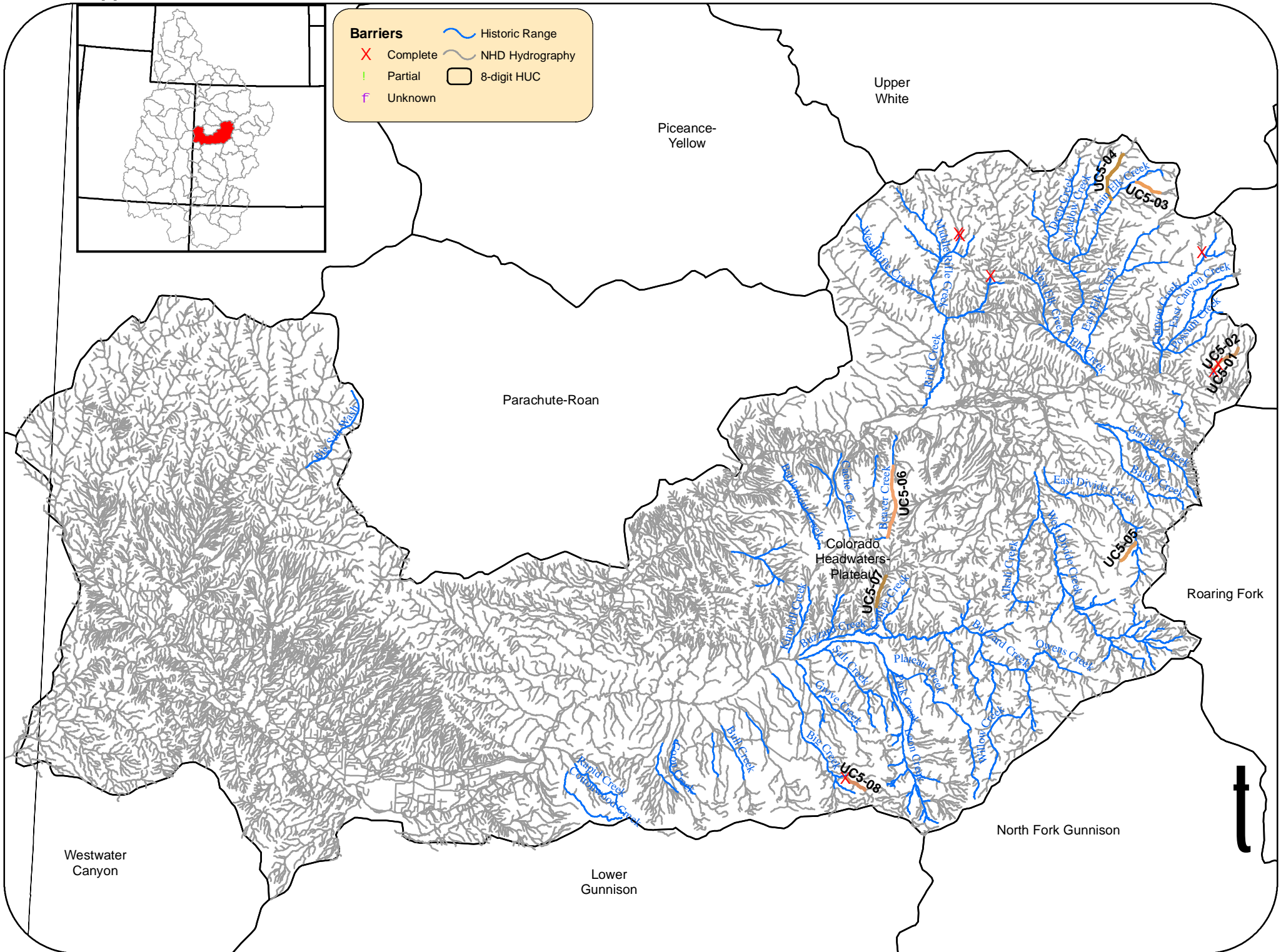
14010004

## Roaring Fork

|  | <i>Stream Miles</i>   | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|-----------------------|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UC4-01</u> | 3.11                  | Population Isolated                            | Minimal Disease Risk    | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 21030                                    | Lost Trail Creek      | 14010004cd008                                  | Unaltered               | 151 to 400 fish             | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC4-02</u> | 5.36                  | Population Isolated                            | Moderate Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 24454                                    | Rocky Fork Creek      | 14010004cd002                                  | < 80%                   | Unknown                     | Good                                  | 5 to 10 feet          | YCT                 |
| <b>Conservation Population</b> <u>UC4-03</u> | 2.79                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 19491                                    | Cattle Creek          | 14010004cd001                                  | Not Tested - Unaltered  | 50 to 150 fish              | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC4-04</u> | 3.61                  | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23230                                    | Hunter Creek          | 14010004cd005                                  | Unaltered               | Unknown                     | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UC4-05</u> | 2.03                  | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23230                                    | Hunter Creek          | 14010004cd004                                  | Unaltered               | Unknown                     | Good                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UC4-06</u> | 0.74                  | Population Isolated                            | Moderate Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23957                                    | Cunningham Creek      | 14010004cd003                                  | Unaltered               | 50 to 150 fish              | Good                                  | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>UC4-07</u> | 8.86                  | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 54                                       | Middle Thompson Creek | 14010004cd080                                  | Not Tested - Hybridized | 151 to 400 fish             | Good                                  | 5 to 10 feet          | TRT                 |
| <b>Conservation Population</b> <u>UC4-08</u> | 6.93                  | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 181                                      | Yule Creek            | 14010004cd081                                  | Not Tested - Hybridized | 151 to 400 fish             | Good                                  | 10 to 15 feet         | BRK                 |

# Upper Colorado GMU

## Colorado Headwaters - Plateau (14010005)



14010005

## Colorado Headwaters-Plateau

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>UC5-01</u></b>      | 0.69                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization    | Core Conservation<br>Population          | Sink                       | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 28072                          | Mitchell Creek            |                         | 14010005cd008  | Unaltered                    | Unknown                        | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-02</u></b>      | 2.21                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization    | Core Conservation<br>Population          | Source                     | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 28072                          | Mitchell Creek            |                         | 14010005cd009  | Not Tested - Unaltered       | 151 to 400 fish                | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-03</u></b>      | 2.17                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 28200                          | Ute Creek                 |                         | 14010005cd007  | 90% - 99%                    | 151 to 400 fish                | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-04</u></b>      | 4.26                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19756                          | Corral Creek              |                         | 14010005cd006  | 90% - 99%                    | 151 to 400 fish                | Fair                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-05</u></b>      | 2.02                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19746                          | Camp Creek                |                         | 14010005cd010  | Not Tested - Unaltered       | 0 to 50 fish                   | Good                                     | < 5 feet                   | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-06</u></b>      | 5.81                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19097                          | Beaver Creek              |                         | 14010005cd011  | Unaltered                    | 151 to 400 fish                | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-07</u></b>      | 2.68                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>> 10 km | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19275                          | Brush Creek               |                         | 14010005cd017  | 90% - 99%                    | Unknown                        | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>UC5-08</u></b>      | 2.02                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization    | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 27791                          | East Fork Big Creek       |                         | 14010005cd027  | Unaltered                    | 50 to 150 fish                 | Good                                     | 10 to 15 feet              | None                      |






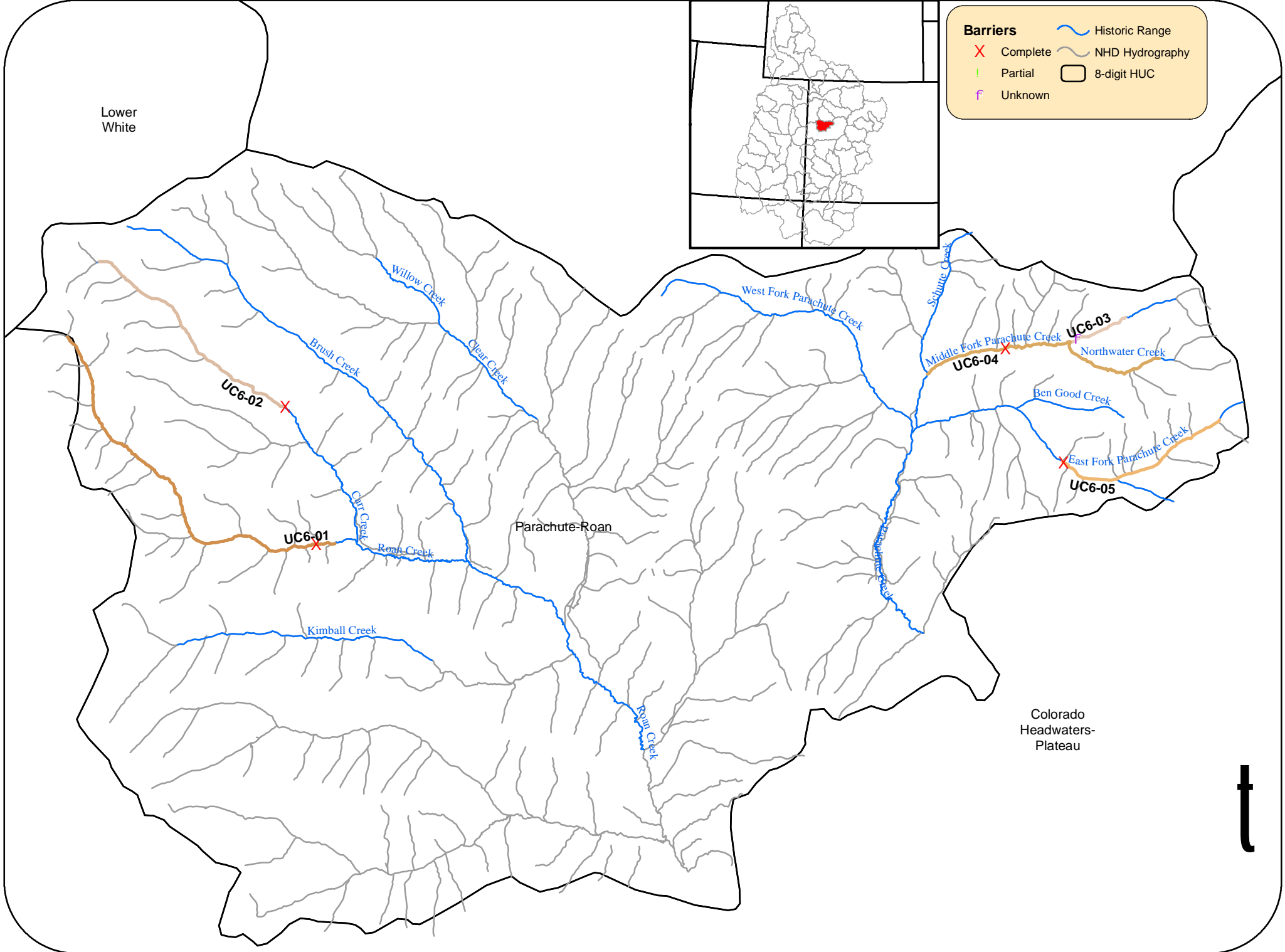
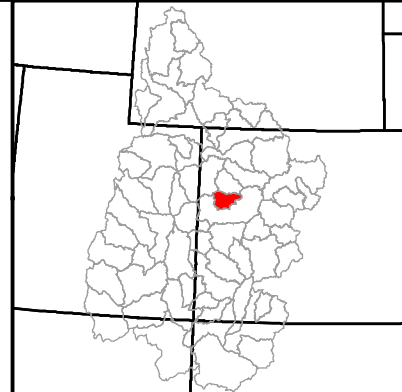
# Upper Colorado GMU

Parachute - Roan (14010006)

Lower  
White

**Barriers**  
X Complete  
! Partial  
f Unknown

 Historic Range  
 NHD Hydrography  
 8-digit HUC



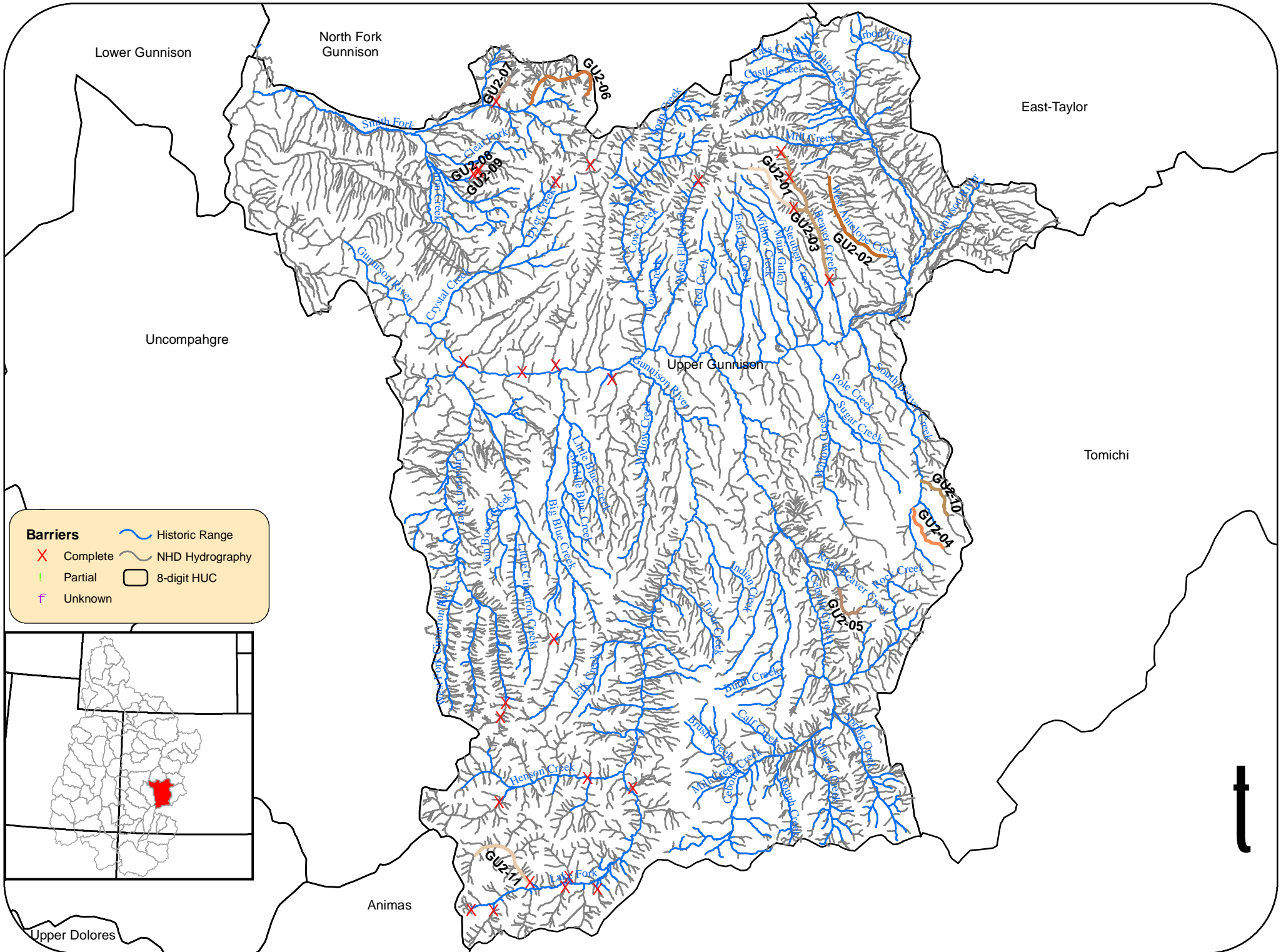
14010006

## Parachute-Roan

|                                | <i>Stream Miles</i>         | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|-----------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>UC6-01</u></b>        | 14.36  | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>   | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 21701                      | Roan Creek                  | 14010006cd001                                  | Unaltered                    | 151 to 400 fish             | Poor                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>UC6-02</u></b>        | 8.65   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>   | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 19441                      | Carr Creek                  | 14010006cd002                                  | Unaltered                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>UC6-03</u></b>        | 2.15   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>   | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 21472                      | Middle Fork Parachute Creek | 14010006cd003                                  | Unaltered                    | 0 to 50 fish                | Poor                        | < 5 feet                              | None                      |
| <b>Conservation Population</b> | <b><u>UC6-04</u></b>        | 9.24   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Sink Res                  |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>   | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 21383                      | Northwater Creek            | 14010006cd004                                  | Unaltered                    | 151 to 400 fish             | Poor                        | 5 to 10 feet                          | None                      |
| WC: 21472                      | Middle Fork Parachute Creek | 14010006cd005                                  | 90% - 99%                    | 151 to 400 fish             | Fair                        | 10 to 15 feet                         | None                      |
| WC: 21472                      | Middle Fork Parachute Creek | 14010006cd008                                  | Not Tested - Hybridized      | Unknown                     | Fair                        | 10 to 15 feet                         | BRN, RBT                  |
| <b>Conservation Population</b> | <b><u>UC6-05</u></b>        | 6.3  | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Sink Res                  |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>   | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 21460                      | East Fork Parachute Creek   | 14010006cd006                                  | Unaltered                    | 0 to 50 fish                | Good                        | 5 to 10 feet                          | BRK                       |

# Gunnison GMU

Upper Gunnison (14020002)



14020002

## Upper Gunnison

|                                |                                 | <i>Stream Miles</i> | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>  | <i>Source or Sink</i>      | <i>Life History</i>       |
|--------------------------------|---------------------------------|---------------------|--|------------------------------|-----------------------------------|------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>GU2-01</u></b>            | 5.02                | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 44355                      | West Beaver Creek               |                     | 14020002cd011                                  | Unaltered                    | 50 to 150 fish                    | Good                         | 5 to 10 feet               | BRK                       |
| <b>Conservation Population</b> | <b><u>GU2-02</u></b>            | 8.14                | Population Isolated                            | Minimal Disease Risk         | No Risk of Hybridization          | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 48016                      | West Antelope Creek             |                     | 14020002cd014                                  | Unaltered                    | 0 to 50 fish                      | Good                         | < 5 feet                   | None                      |
| <b>Conservation Population</b> | <b><u>GU2-03</u></b>            | 12.2                | Weakly Connected                               | Minimal Disease Risk         | Hybridizing species are sympatric | Other                        | Sink                       | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 44355                      | West Beaver Creek               |                     | 14020002cd012                                  | Unaltered                    | 50 to 150 fish                    | Good                         | 10 to 15 feet              | BRK                       |
| WC: 38237                      | Beaver Creek                    |                     | 14020002cd013                                  | Not Tested - Hybridized      | 151 to 400 fish                   | Excellent                    | 10 to 15 feet              | BRK, RBT                  |
| <b>Conservation Population</b> | <b><u>GU2-04</u></b>            | 4.24                | Moderately Connect                             | Limited Disease Risk         | Hybridizing species < 10 km       | Other                        | Source                     | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 41810                      | Deer Beaver Creek               |                     | 14020002cd015                                  | 90% - 99%                    | 151 to 400 fish                   | Good                         | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> | <b><u>GU2-05</u></b>            | 3.28                | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 38182                      | Road Beaver Creek               |                     | 14020002cd016                                  | Unaltered                    | 50 to 150 fish                    | Fair                         | < 5 feet                   | BRK                       |
| <b>Conservation Population</b> | <b><u>GU2-06</u></b>            | 7.91                | Weakly Connected                               | Minimal Disease Risk         | Hybridizing species > 10 km       | Other                        | Source                     | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 40535                      | North Smith Fork Gunnison River |                     | 14020002cd007                                  | Not Tested - Hybridized      | Unknown                           | Good                         | 5 to 10 feet               | UNK                       |
| <b>Conservation Population</b> | <b><u>GU2-07</u></b>            | 2.05                | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 48771                      | Second Creek                    |                     | 14020002cd001                                  | Unaltered                    | 50 to 150 fish                    | Fair                         | < 5 feet                   | None                      |
| <b>Conservation Population</b> | <b><u>GU2-08</u></b>            | 0.39                | Weakly Connected                               | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population | Sink                       | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 45197                      | Doug Creek                      |                     | 14020002cd002                                  | Unaltered                    | 50 to 150 fish                    | Fair                         | < 5 feet                   | None                      |



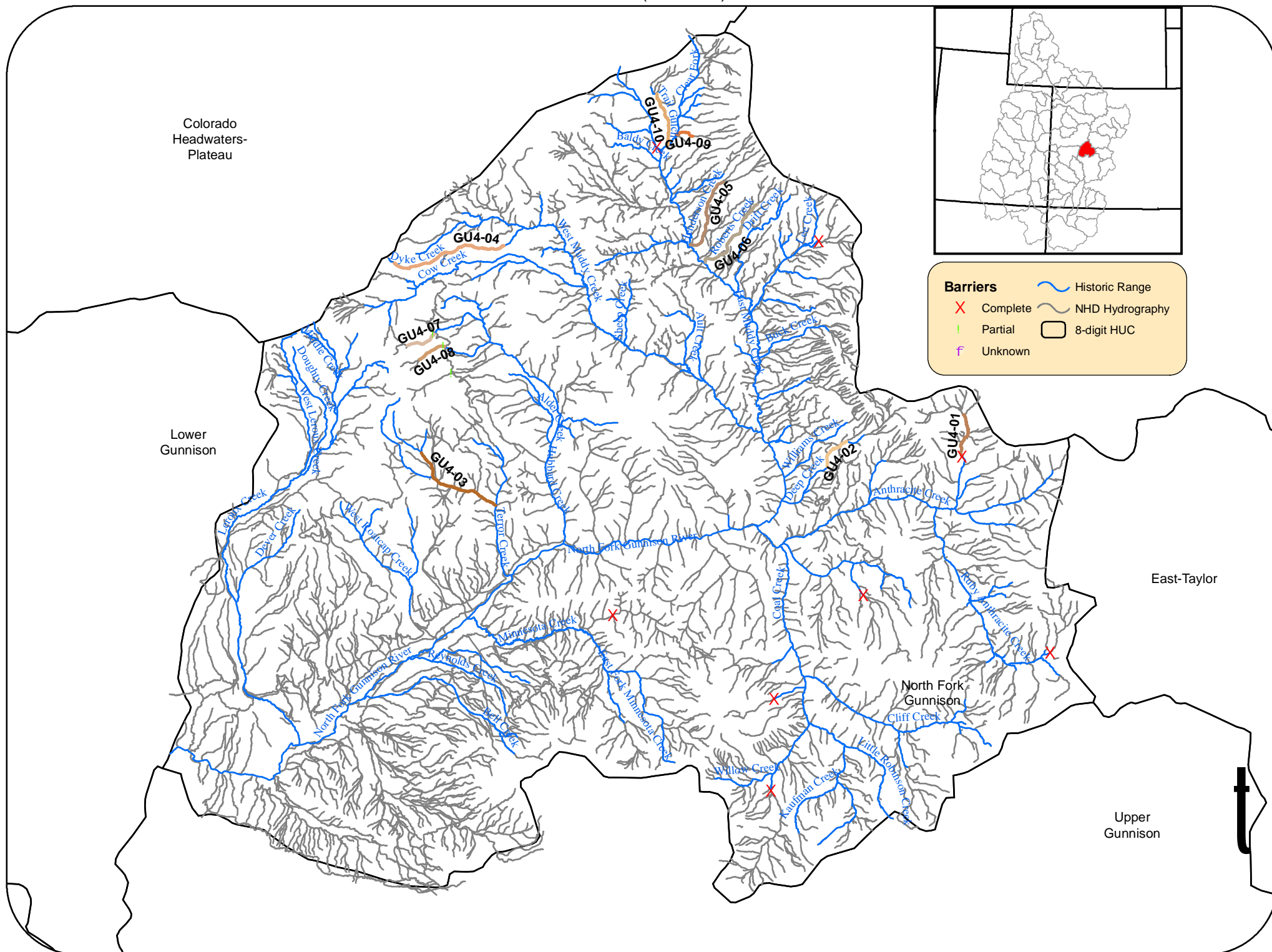
14020002

## Upper Gunnison

|                                | <i>Stream Miles</i>          | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>        | <i>Life History</i>       |
|--------------------------------|------------------------------|--|------------------------------|-----------------------------|-----------------------------|------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>GU2-09</u></b>         | 0.14   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>    | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>   | <b><u>Non Natives</u></b> |
| WC: 45197                      | Doug Creek                   | 14020002cd003                                  | Unaltered                    | 50 to 150 fish              | Poor                        | < 5 feet                     | None                      |
| <b>Conservation Population</b> | <b><u>GU2-10</u></b>         | 3.72   | Weakly Connected             | Limited Disease Risk        | Hybridizing species < 10 km | Other                        | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>    | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>   | <b><u>Non Natives</u></b> |
| WC: 38251                      | East Fork South Beaver Creek | 14020002cd017                                  | 90% - 99%                    | 151 to 400 fish             | Good                        | 5 to 10 feet                 | None                      |
| <b>Conservation Population</b> | <b><u>GU2-11</u></b>         | 6.27   | Population Isolated          | Minimal Disease Risk        | No Risk of Hybridization    | Other                        | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>    | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>   | <b><u>Non Natives</u></b> |
| WC: 48080                      | Lake Fork Gunnison River     | 14020002cd020                                  | Not Tested - Unaltered       | 50 to 150 fish              | Good                        | 10 to 15 feet                | BRK                       |

**Gunnison GMU**

North Fork Gunnison (14020004)



14020004

## North Fork Gunnison

|                                | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>GU4-01</u></b>      | 2.13   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 38047                      | North Anthracite Creek    | 14020004cd023                                  | 90% - 99%                    | Unknown                     | Good                        | 10 to 15 feet                         | YCT                       |
| <b>Conservation Population</b> | <b><u>GU4-02</u></b>      | 1.68   | Population Isolated          | Minimal Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39621                      | Deep Creek                | 14020004cd020                                  | Unaltered                    | Unknown                     | Fair                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>GU4-03</u></b>      | 4.52   | Population Isolated          | Minimal Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 38519                      | Cunningham Creek          | 14020004cd001                                  | Unaltered                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| WC: 43606                      | West Fork Terror Creek    | 14020004cd002                                  | Unaltered                    | 151 to 400 fish             | Fair                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>GU4-04</u></b>      | 5.63   | Population Isolated          | Limited Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39885                      | Dyke Creek                | 14020004cd006                                  | Unaltered                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>GU4-05</u></b>      | 3.71   | Population Isolated          | Moderate Disease Risk       | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 40600                      | Henderson Creek           | 14020004cd017                                  | Unaltered                    | Unknown                     | Good                        | < 5 feet                              | UNK                       |
| <b>Conservation Population</b> | <b><u>GU4-06</u></b>      | 3.98   | Population Isolated          | Minimal Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 44305                      | Roberts Creek             | 14020004cd018                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>GU4-07</u></b>      | 1.47   | Population Isolated          | Moderate Disease Risk       | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 49355                      | Main Hubbard Creek        | 14020004cd004                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>GU4-08</u></b>      | 1.34   | Population Isolated          | Minimal Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 48620                      | Middle Hubbard Creek      | 14020004cd003                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |

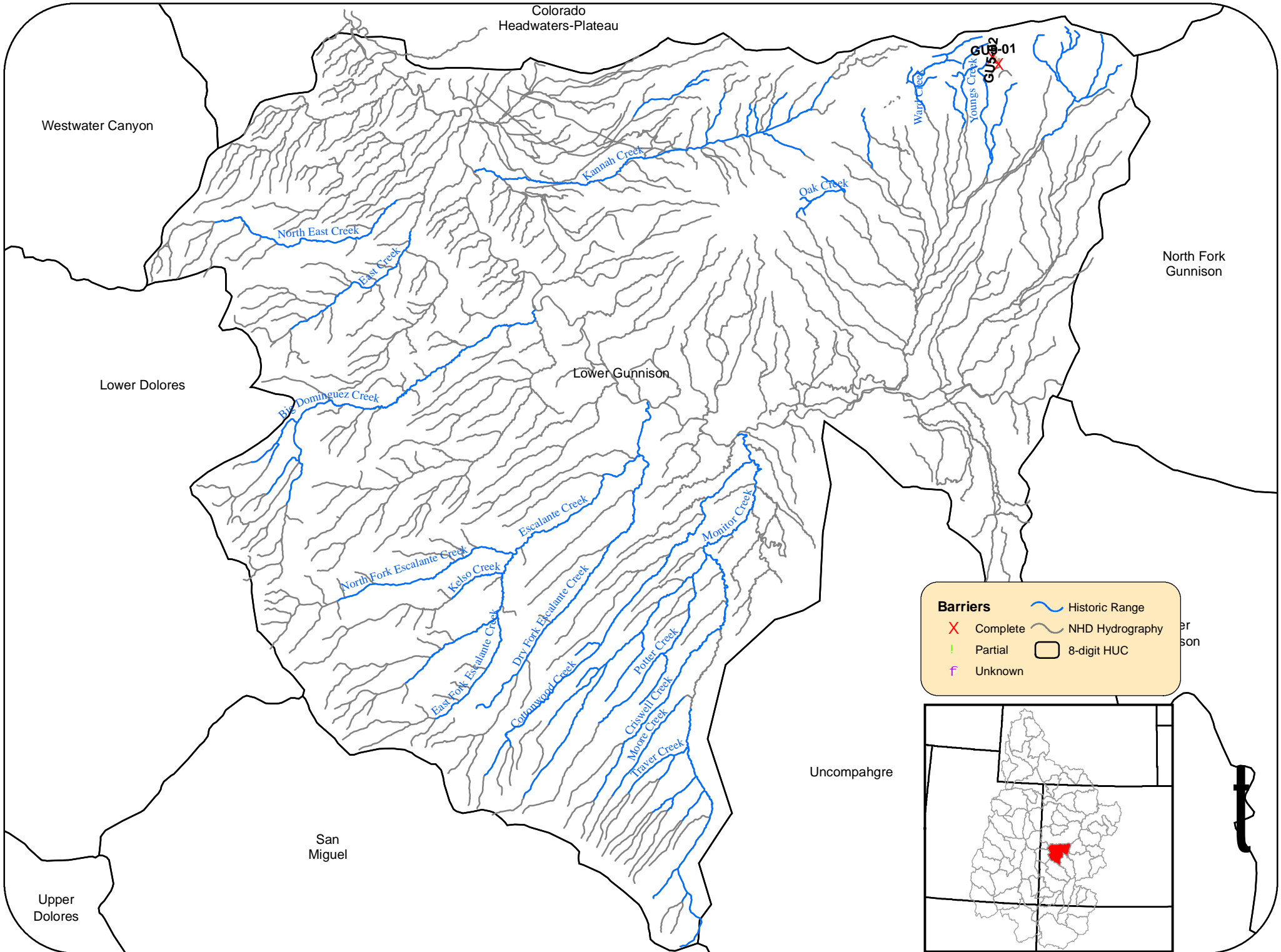
**14020004****North Fork Gunnison**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|---------------------------------|----------------------------|---------------------------|
| <i>Conservation<br/>Population</i> | <u><b>GU4-09</b></u>      | 0.87                    | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>< 10 km | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <u><b>Stream Name</b></u> |                         | <u><b>Population ID</b></u>                            | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>    | <u><b>Habitat</b></u>           | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 45870                          | Rock Creek                |                         | 14020004cd008  | Unaltered                    | 0 to 50 fish                   | Good                            | 5 to 10 feet               | BRK                       |
| <i>Conservation<br/>Population</i> | <u><b>GU4-10</b></u>      | 2.6                     | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>< 10 km | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <u><b>Stream Name</b></u> |                         | <u><b>Population ID</b></u>                            | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>    | <u><b>Habitat</b></u>           | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 46199                          | Trail Gulch               |                         | 14020004cd007  | Unaltered                    | Unknown                        | Fair                            | 5 to 10 feet               | None                      |

# Gunnison GMU

Lower Gunnison (14020005)

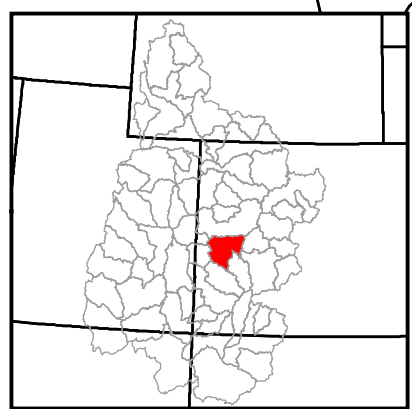
Colorado  
Headwaters-Plateau



**Barriers**

|   |          |
|---|----------|
| X | Complete |
| I | Partial  |
| f | Unknown  |

Historic Range  
NHD Hydrography  
8-digit HUC

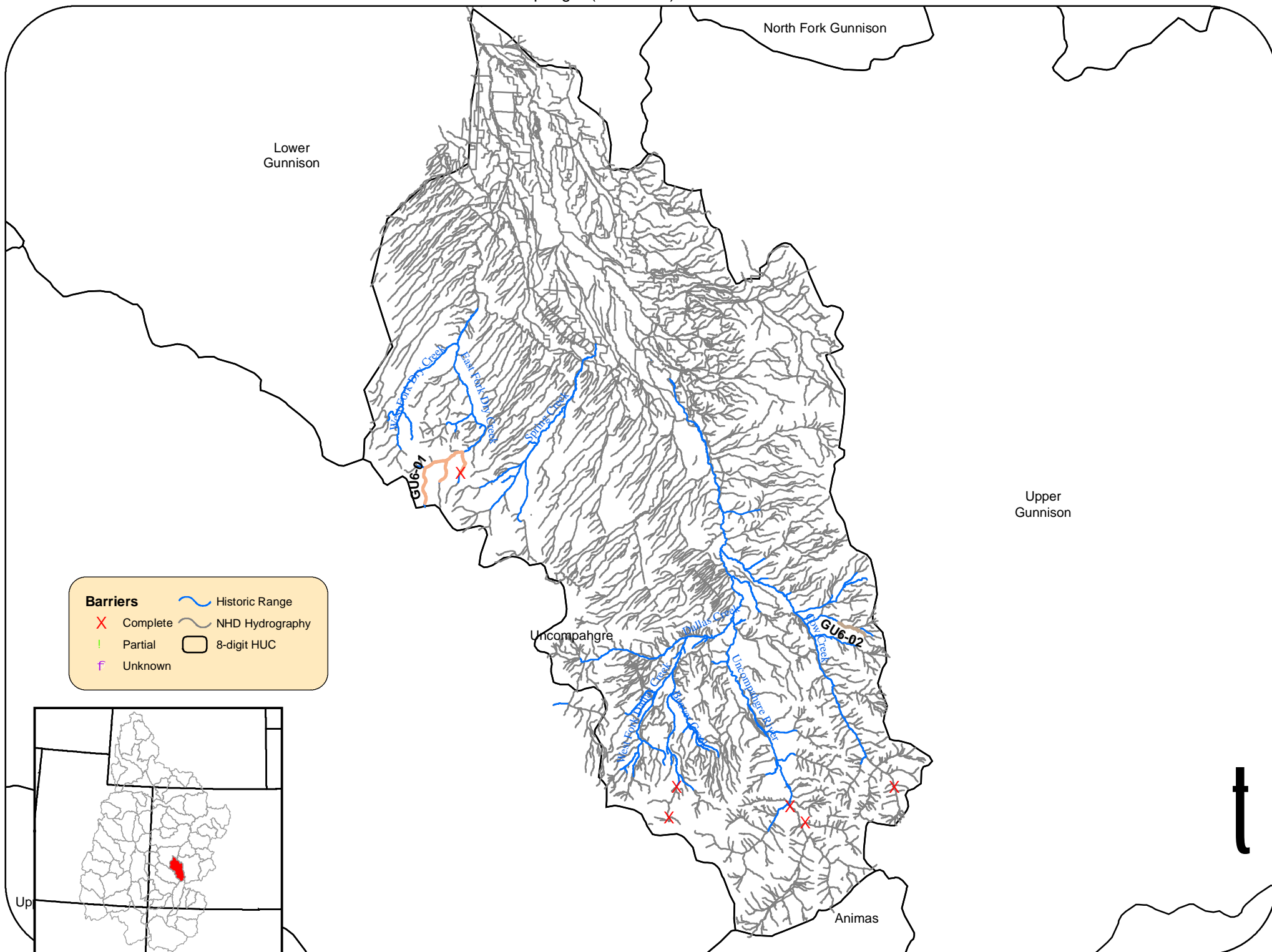


**14020005****Lower Gunnison**

|                                    |                              | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|------------------------------|-------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>GU5-01</u></b>         | 0.18                    | Population Isolated                                    | Moderate Disease Risk        | No Risk of<br>Hybridization   | Core Conservation<br>Population | Source                     | Ad-fluv                   |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>    |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 933461                         | Youngs Creek Reservoir No. 3 |                         | 14020005cd001  | Unaltered                    | Unknown                       | Good                            | Unknown                    | None                      |
| <b>Conservation<br/>Population</b> | <b><u>GU5-02</u></b>         | 0.25                    | Population Isolated                                    | Moderate Disease Risk        | No Risk of<br>Hybridization   | Core Conservation<br>Population | Source                     | Ad-fluv                   |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>    |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 933341                         | Youngs Creek Reservoir No. 2 |                         | 14020005cd002  | Unaltered                    | Unknown                       | Good                            | Unknown                    | None                      |

# Gunnison GMU

Uncompahgre (14020006)



14020006

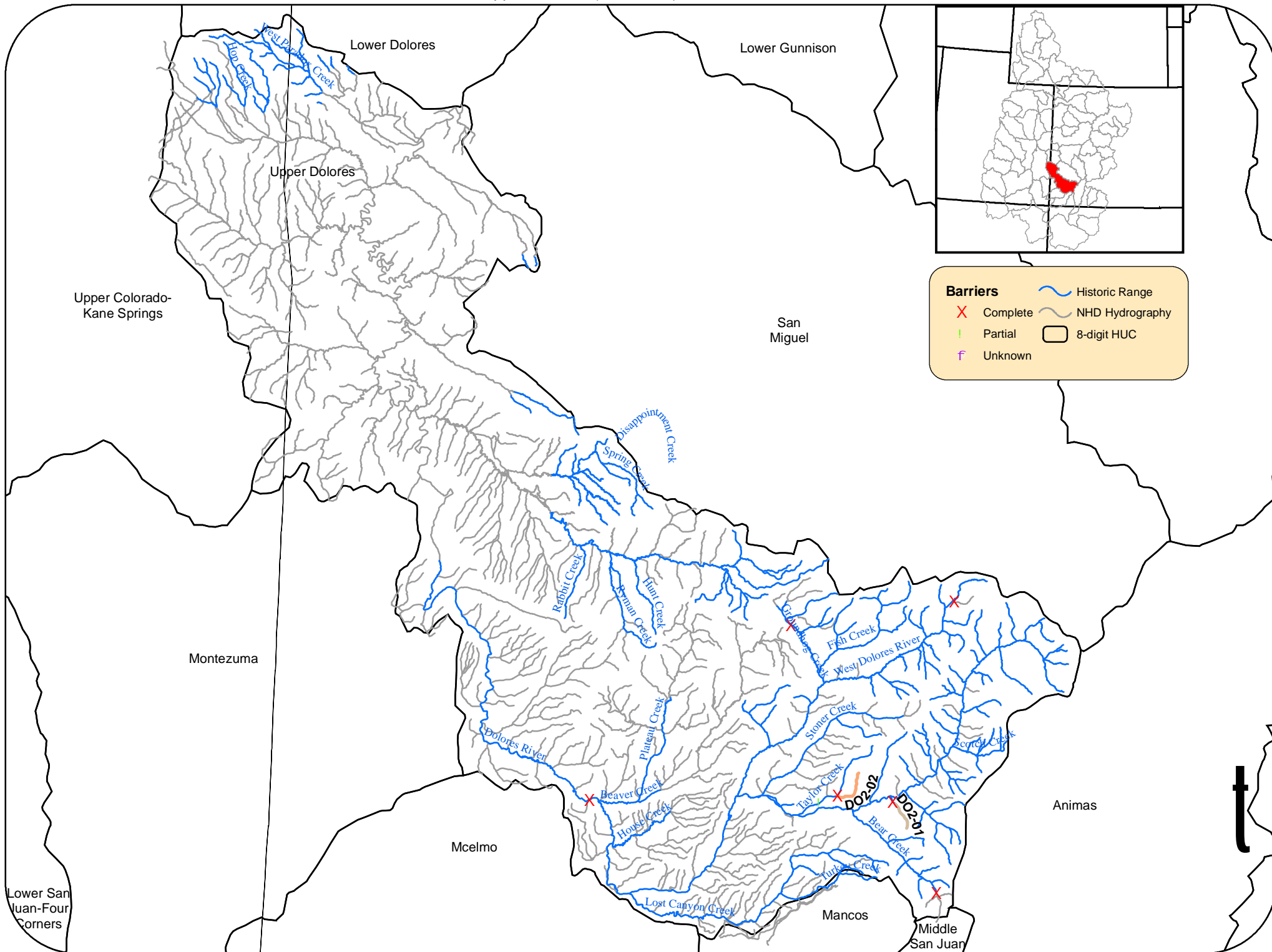
## Uncompahgre

|                                    | <i>Stream<br/>Miles</i>   | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>       | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|--|------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>GU6-01</u></b>      | 8.43   | Weakly Connected             | Limited Disease Risk          | Hybridizing species<br>< 10 km  | Core Conservation<br>Population | Not Applicable Res        |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b>      | <b><u>Non Natives</u></b> |
| WC: 48618                          | East Fork Dry Creek       | 14020006cd001  | Unaltered                    | 0 to 50 fish                  | Good                            | 5 to 10 feet                    | None                      |
| WC: 44521                          | Beaver Dams Creek         | 14020006cd002  | Unaltered                    | 0 to 50 fish                  | Good                            | < 5 feet                        | None                      |
| WC: 39702                          | Pryor Creek               | 14020006cd003  | Unaltered                    | 0 to 50 fish                  | Fair                            | < 5 feet                        | None                      |
| <b>Conservation<br/>Population</b> | <b><u>GU6-02</u></b>      | 2.1  | Population Isolated          | Limited Disease Risk          | Hybridizing species<br>< 10 km  | Core Conservation<br>Population | Not Applicable Res        |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b>      | <b><u>Non Natives</u></b> |
| WC: 41791                          | Nate Creek                | 14020006cd004  | Unaltered                    | 50 to 150 fish                | Fair                            | 5 to 10 feet                    | None                      |
| WC: 41791                          | Nate Creek                | 14020006cd011  | 90% - 99%                    | 0 to 50 fish                  | Fair                            | 5 to 10 feet                    | None                      |
| WC: 41791                          | Nate Creek                | 14020006cd012  | 90% - 99%                    | 0 to 50 fish                  | Poor                            | < 5 feet                        | None                      |



# Dolores GMU

Upper Dolores (14030002)



14030002

## Upper Dolores

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>             | <i>Population<br/>Qualifier</i>                  | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|---|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>DO2-01</u></b>      | 2.26                    | <i>Population Isolated</i>                             | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i>       | <i>Known or Probable<br/>Unique Life History</i> | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>               | <b><u>Habitat</u></b>                            | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 49723                          | Lado, Rio                 |                         | 14030002cd003  | Co-existence                 | 50 to 150 fish                            | Fair   | < 5 feet                   | RBT                       |
| <b>Conservation<br/>Population</b> | <b><u>DO2-02</u></b>      | 3.27                    | <i>Population Isolated</i>                             | <i>Minimal Disease Risk</i>  | <i>Hybridizing species<br/>&gt; 10 km</i> | <i>Core Conservation<br/>Population</i>          | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>               | <b><u>Habitat</u></b>                            | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 47767                          | Little Taylor Creek       |                         | 14030002cd002  | Unaltered                    | 0 to 50 fish                              | Fair   | < 5 feet                   | None                      |

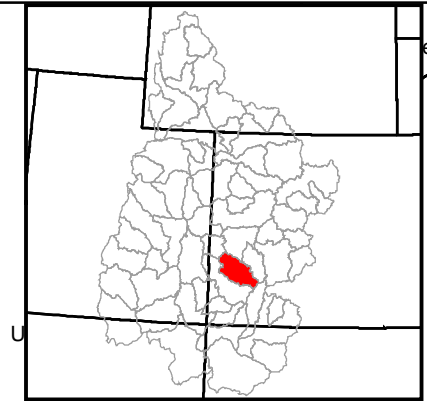
# Dolores GMU

San Miguel (14030003)

Lower Dolores

Lower Gunnison

er Gunnison



## Barriers



Complete



Partial



Unknown

Historic Range

NHD Hydrography

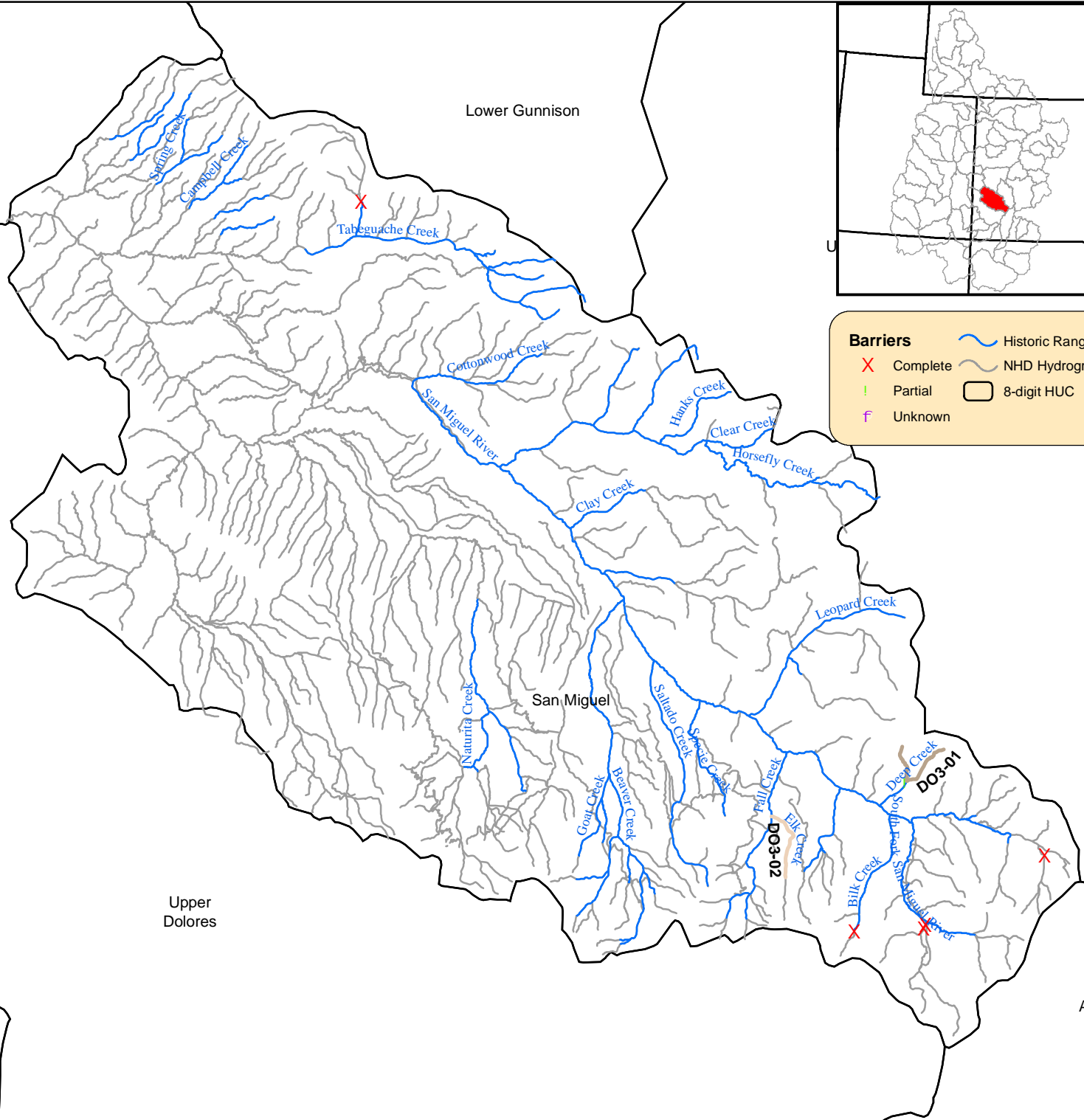
8-digit HUC

Montezuma

Upper Dolores

San Miguel

Animas

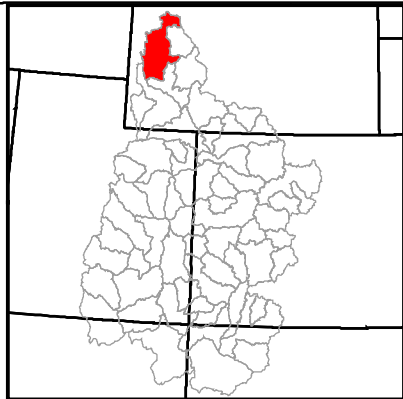


**14030003****San Miguel**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>DO3-01</u></b>      | 4.81                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Other                           | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 39671                          | Deep Creek                |                         | 14030003cd001  | Unaltered                    | Unknown                        | Good                            | 5 to 10 feet               | None                      |
| WC: 39671                          | Deep Creek                |                         | 14030003cd002  | Not Tested - Unaltered       | Unknown                        | Good                            | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>DO3-02</u></b>      | 3.99                    | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>< 10 km | Other                           | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 47298                          | Elk Creek                 |                         | 14030003cd007  | 90% - 99%                    | 151 to 400 fish                | Fair                            | 5 to 10 feet               | UNK                       |

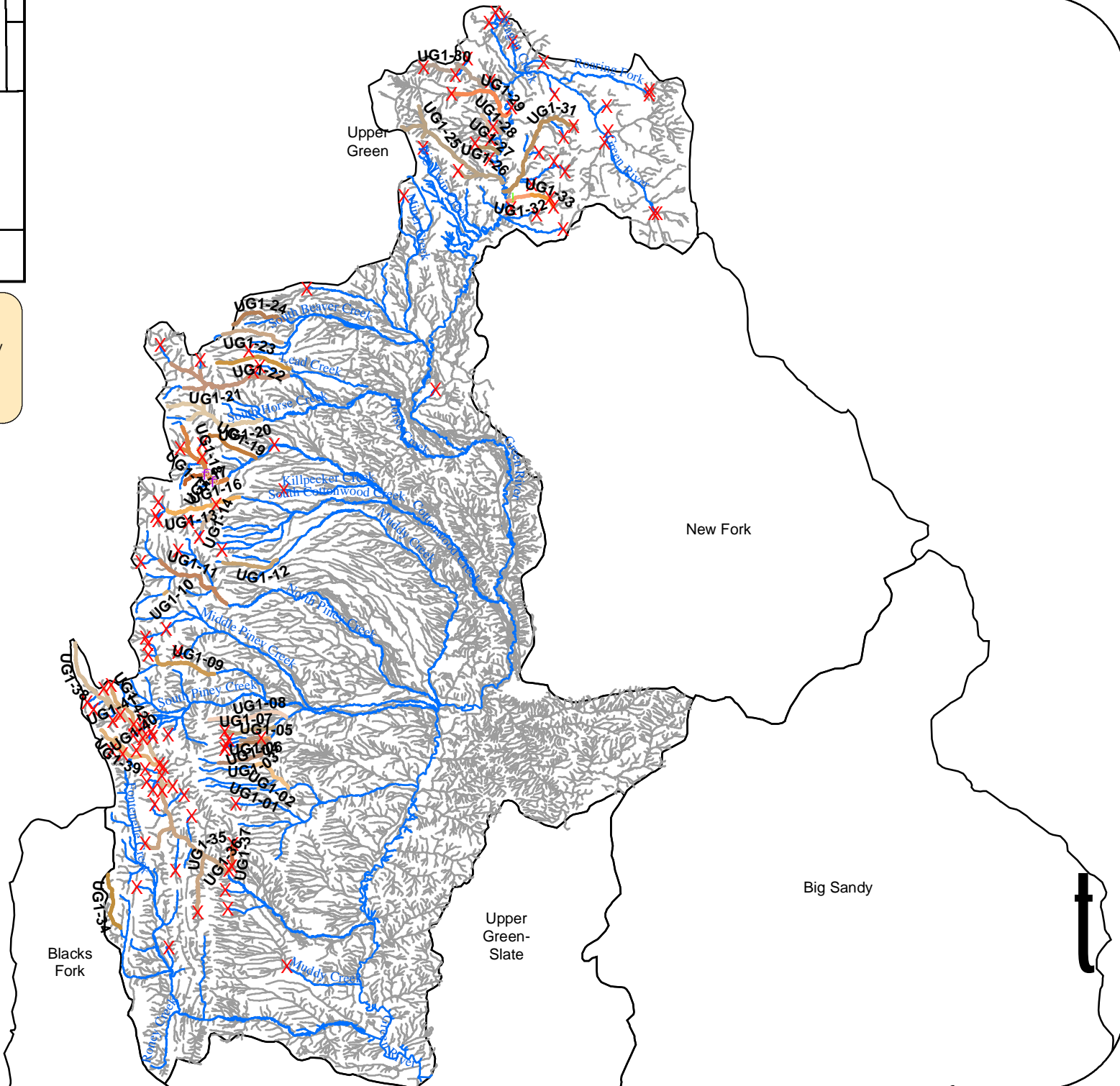
# Upper Green GMU

Upper Green (14040101)



## Barriers

- X Complete
- ! Partial
- f Unknown
- ~ Historic Range
- ~ NHD Hydrography
- 8-digit HUC



14040101

## Upper Green

|  | <i>Stream Miles</i>                     | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>    | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---|--|------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-01</u> | 0.02                                    | Population Isolated                            | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843250SE                               | Sawmill Creek                           | 14040101cd021                                  | Unaltered              | 0 to 50 fish                | Fair                                  | > 25 feet             | None                |
| <b>Conservation Population</b> <u>UG1-02</u> | 4.76                                    | Population Isolated                            | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843245SE                               | Fogarty Creek                           | 14040101cd020                                  | Unaltered              | 50 to 150 fish              | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-03</u> | 5.73                                    | Weakly Connected                               | Limited Disease Risk   | Hybridizing species < 10 km | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843284SE                               | South Beaver Creek                      | 14040101cd022                                  | Unaltered              | Over 400 fish               | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-04</u> | 2.77                                    | Weakly Connected                               | Limited Disease Risk   | Hybridizing species < 10 km | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843283SE                               | Unnamed Tributary to South Beaver Creek | 14040101cd023                                  | Not Tested - Unaltered | 50 to 150 fish              | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-05</u> | 0.96                                    | Weakly Connected                               | Limited Disease Risk   | Hybridizing species < 10 km | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843282SE                               | Beaver Creek                            | 14040101cd024                                  | Not Tested - Unaltered | 50 to 150 fish              | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-06</u> | 1.95                                    | Population Isolated                            | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843282SE                               | Beaver Creek                            | 14040101cd025                                  | Unaltered              | 151 to 400 fish             | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-07</u> | 4.85                                    | Weakly Connected                               | Limited Disease Risk   | Hybridizing species < 10 km | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843281SE                               | Unnamed Tributary to Beaver Creek       | 14040101cd026                                  | Unaltered              | Over 400 fish               | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG1-08</u> | 7.66                                    | Weakly Connected                               | Limited Disease Risk   | Hybridizing species < 10 km | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                      | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843280SE                               | Spring Creek                            | 14040101cd027                                  | Not Tested - Unaltered | 151 to 400 fish             | Unknown                               | Unknown               | None                |

14040101

## Upper Green

|  | <i>Stream Miles</i>    | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|------------------------|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-09</u> | 7.48                   | Weakly Connected                               | Limited Disease Risk    | Hybridizing species > 10 km       | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843285SE                               | Fish Creek             | 14040101cd028                                  | 90% - 99%               | 50 to 150 fish                    | Good                                  | 10 to 15 feet         | BRK, YCT            |
| WC: PE843285SE                               | Fish Creek             | 14040101cd029                                  | 90% - 99%               | 151 to 400 fish                   | Good                                  | 5 to 10 feet          | BRK, YCT            |
| <b>Conservation Population</b> <u>UG1-10</u> | 0.4                    | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Core Conservation Population          | Source                | Ad-fluv             |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843410SE                               | North Piney Lake       | 14040101cd031                                  | Unaltered               | 151 to 400 fish                   | Good                                  | > 25 feet             | None                |
| <b>Conservation Population</b> <u>UG1-11</u> | 10.44                  | Weakly Connected                               | Limited Disease Risk    | Hybridizing species are sympatric | Other                                 | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843375SE                               | North Piney Creek      | 14040101cd030                                  | Not Tested - Hybridized | 151 to 400 fish                   | Good                                  | 15 to 20 feet         | BRK, YCT            |
| <b>Conservation Population</b> <u>UG1-12</u> | 5.62                   | Population Isolated                            | Limited Disease Risk    | Hybridizing species < 10 km       | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843430SE                               | Muddy Creek            | 14040101cd032                                  | Co-existence            | Unknown                           | Poor                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-13</u> | 9.8                    | Weakly Connected                               | Limited Disease Risk    | Hybridizing species are sympatric | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844120SE                               | South Cottonwood Creek | 14040101cd033                                  | Co-existence            | 50 to 150 fish                    | Fair                                  | 15 to 20 feet         | BRK, YCT            |
| WC: PE844170SE                               | Bare Creek             | 14040101cd034                                  | Not Tested - Hybridized | 50 to 150 fish                    | Fair                                  | 10 to 15 feet         | UNK                 |
| <b>Conservation Population</b> <u>UG1-14</u> | 3.09                   | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844170SE                               | Bare Creek             | 14040101cd035                                  | 90% - 99%               | 50 to 150 fish                    | Fair                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UG1-15</u> | 13.21                  | Moderately Connect                             | Limited Disease Risk    | Hybridizing species are sympatric | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>     | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844020SE                               | North Cottonwood Creek | 14040101cd036                                  | Co-existence            | 0 to 50 fish                      | Fair                                  | 10 to 15 feet         | BRK                 |
| WC: PE844060SE                               | Irene Creek            | 14040101cd037                                  | Co-existence            | 0 to 50 fish                      | Poor                                  | 5 to 10 feet          | BRK                 |
| WC: PE844070SE                               | Hardin Creek           | 14040101cd039                                  | Co-existence            | Unknown                           | Unknown                               | Unknown               | BRK                 |
| WC: PE844080SE                               | Nylanden Creek         | 14040101cd041                                  | Co-existence            | Unknown                           | Unknown                               | Unknown               | BRK                 |
| WC: 82                                       | Sjhoberg Creek         | 14040101cd043                                  | Not Tested - Unaltered  | Unknown                           | Good                                  | 5 to 10 feet          | UNK                 |
| WC: 82                                       | Sjhoberg Creek         | 14040101cd044                                  | Unaltered               | 151 to 400 fish                   | Fair                                  | 5 to 10 feet          | None                |

14040101

## Upper Green

|  | <i>Stream Miles</i>                       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-16</u> | 0.41                                      | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844060SE                               | Irene Creek                               | 14040101cd038                                  | Unaltered               | 0 to 50 fish                | Poor                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UG1-17</u> | 2.53                                      | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844070SE                               | Hardin Creek                              | 14040101cd040                                  | Unaltered               | 0 to 50 fish                | Poor                                  | < 5 feet              | BRK                 |
| <b>Conservation Population</b> <u>UG1-18</u> | 1.01                                      | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844080SE                               | Nylanden Creek                            | 14040101cd042                                  | Unaltered               | 151 to 400 fish             | Poor                                  | < 5 feet              | BRK                 |
| <b>Conservation Population</b> <u>UG1-19</u> | 5.14                                      | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844050SE                               | Maki Creek                                | 14040101cd045                                  | 80% - 89%               | 50 to 150 fish              | Unknown                               | Unknown               | None                |
| <b>Conservation Population</b> <u>UG1-20</u> | 17.67                                     | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 87                                       | South Horse Creek                         | 14040101cd046                                  | Unaltered               | Over 400 fish               | Unknown                               | Unknown               | UNK                 |
| WC: 87                                       | South Horse Creek                         | 14040101cd047                                  | Unaltered               | Over 400 fish               | Poor                                  | 10 to 15 feet         | None                |
| WC: PE844280SE                               | Cow Creek                                 | 14040101cd048                                  | Unaltered               | 0 to 50 fish                | Fair                                  | < 5 feet              | None                |
| WC: 150                                      | Unnamed Tributary to South Horse Creek    | 14040101cd049                                  | Unaltered               | 151 to 400 fish             | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-21</u> | 20.72                                     | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844300SE                               | North Horse Creek                         | 14040101cd050                                  | Co-existence            | 50 to 150 fish              | Fair                                  | > 25 feet             | BRK, YCT            |
| WC: PE844300SE                               | North Horse Creek                         | 14040101cd051                                  | Co-existence            | 50 to 150 fish              | Fair                                  | > 25 feet             | BRK, YCT            |
| WC: PE844300SE                               | South Fork North Horse Creek              | 14040101cd052                                  | Not Tested - Hybridized | 0 to 50 fish                | Poor                                  | < 5 feet              | None                |
| WC: PE844300SE                               | South Fork North Horse Creek              | 14040101cd053                                  | Unaltered               | 50 to 150 fish              | Poor                                  | 5 to 10 feet          | None                |
| WC: PE844300SE                               | North Horse Creek                         | 14040101cd057                                  | Unaltered               | 0 to 50 fish                | Fair                                  | 5 to 10 feet          | None                |
| WC: 138                                      | Unnamed Tributary #2 to North Horse Creek | 14040101cd058                                  | Unaltered               | 0 to 50 fish                | Fair                                  | < 5 feet              | None                |
| WC: 137                                      | Unnamed Tributary #1 to North Horse Creek | 14040101cd059                                  | Unaltered               | 0 to 50 fish                | Fair                                  | < 5 feet              | None                |



14040101

## Upper Green

|  | <i>Stream Miles</i>              | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|----------------------------------|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-22</u> | 7.89                             | Population Isolated                            | Limited Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844310SE                               | Lead Creek                       | 14040101cd054                                  | 90% - 99%               | 50 to 150 fish                    | Good                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UG1-23</u> | 6.71                             | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844480SE                               | South Beaver Creek               | 14040101cd055                                  | Not Tested - Unaltered  | 151 to 400 fish                   | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG1-24</u> | 5.75                             | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 08                                       | Chall Creek                      | 14040101cd056                                  | Not Tested - Unaltered  | 151 to 400 fish                   | Fair                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG1-25</u> | 18.76                            | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE845020SE                               | Rock Creek                       | 14040101cd002                                  | Unaltered               | Over 400 fish                     | Good                                  | 10 to 15 feet         | BRK, BRN, RBT       |
| WC: PE845020SE                               | Rock Creek                       | 14040101cd003                                  | Unaltered               | Over 400 fish                     | Good                                  | 5 to 10 feet          | None                |
| WC: PE845020SE                               | Rock Creek                       | 14040101cd004                                  | Unaltered               | 151 to 400 fish                   | Good                                  | < 5 feet              | None                |
| WC: 79                                       | S. Unnamed Trib. to Rock Creek   | 14040101cd005                                  | Unaltered               | 50 to 150 fish                    | Good                                  | < 5 feet              | None                |
| WC: PE845020SE                               | Rock Creek                       | 14040101cd006                                  | Unaltered               | Over 400 fish                     | Good                                  | 5 to 10 feet          | None                |
| WC: 24                                       | E. Unnamed Trib. to Rock Creek   | 14040101cd007                                  | 90% - 99%               | 50 to 150 fish                    | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-26</u> | 2.08                             | Population Isolated                            | Limited Disease Risk    | Hybridizing species are sympatric | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 146                                      | Unnamed Tributary to Green River | 14040101cd016                                  | Co-existence            | 0 to 50 fish                      | Fair                                  | < 5 feet              | BRK                 |
| <b>Conservation Population</b> <u>UG1-27</u> | 1.05                             | Weakly Connected                               | Limited Disease Risk    | Hybridizing species are sympatric | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE845160SE                               | Klondike Creek                   | 14040101cd008                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | < 5 feet              | BRK, BRN, RBT       |
| <b>Conservation Population</b> <u>UG1-28</u> | 1.89                             | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>               | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE845160SE                               | Klondike Creek                   | 14040101cd009                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Good                                  | < 5 feet              | None                |

14040101

## Upper Green

|  | <i>Stream Miles</i>           | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|-------------------------------|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-29</u> | 10.35                         | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE845180SE                               | Tosi Creek                    | 14040101cd010                                  | Not Tested - Hybridized | Unknown                           | Fair                                  | 10 to 15 feet         | BRK, BRN, RBT       |
| <b>Conservation Population</b> <u>UG1-30</u> | 8.98                          | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE845240SE                               | Tepee Creek                   | 14040101cd011                                  | Not Tested - Hybridized | 151 to 400 fish                   | Fair                                  | 10 to 15 feet         | BRK                 |
| <b>Conservation Population</b> <u>UG1-31</u> | 13.63                         | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE841031SE                               | Green River                   | 14040101cd012                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | 5 to 10 feet          | BRK, YCT            |
| <b>Conservation Population</b> <u>UG1-32</u> | 2.72                          | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844900SE                               | Jim Creek                     | 14040101cd013                                  | Not Tested - Unaltered  | 50 to 150 fish                    | Good                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UG1-33</u> | 2.61                          | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization          | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE844900SE                               | Jim Creek                     | 14040101cd014                                  | Not Tested - Unaltered  | 50 to 150 fish                    | Excellent                             | 10 to 15 feet         | BRK                 |
| WC: 77                                       | S. Unnamed Trib. to Jim Creek | 14040101cd015                                  | Not Tested - Unaltered  | 50 to 150 fish                    | Excellent                             | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>UG1-34</u> | 5.72                          | Population Isolated                            | Limited Disease Risk    | Hybridizing species < 10 km       | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 86                                       | South Fork Fontenelle Creek   | 14040101cd001                                  | 90% - 99%               | 50 to 150 fish                    | Fair                                  | < 5 feet              | BRK, RBT            |
| <b>Conservation Population</b> <u>UG1-35</u> | 25.85                         | Moderately Connect                             | Limited Disease Risk    | Hybridizing species are sympatric | Known or Probable Unique Life History | Sink                  | Res, Fluv           |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>            | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843065SE                               | Rock Creek                    | 14040101cd100                                  | Unaltered               | 0 to 50 fish                      | Fair                                  | 5 to 10 feet          | None                |
| WC: PE843070L                                | Miller Creek                  | 14040101cd103                                  | Not Tested - Hybridized | Unknown                           | Fair                                  | 5 to 10 feet          | BRK, RBT            |
| WC: PE843095L                                | Little Fall Creek             | 14040101cd104                                  | Not Tested - Unaltered  | Unknown                           | Fair                                  | 5 to 10 feet          | BRK                 |
| WC: PE843025L                                | La Barge Creek                | 14040101cd105                                  | Co-existence            | 50 to 150 fish                    | Fair                                  | > 25 feet             | BRK, BRN, RBT       |
| WC: PE843025L                                | La Barge Creek                | 14040101cd106                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | 10 to 15 feet         | BRK, BRN, RBT       |

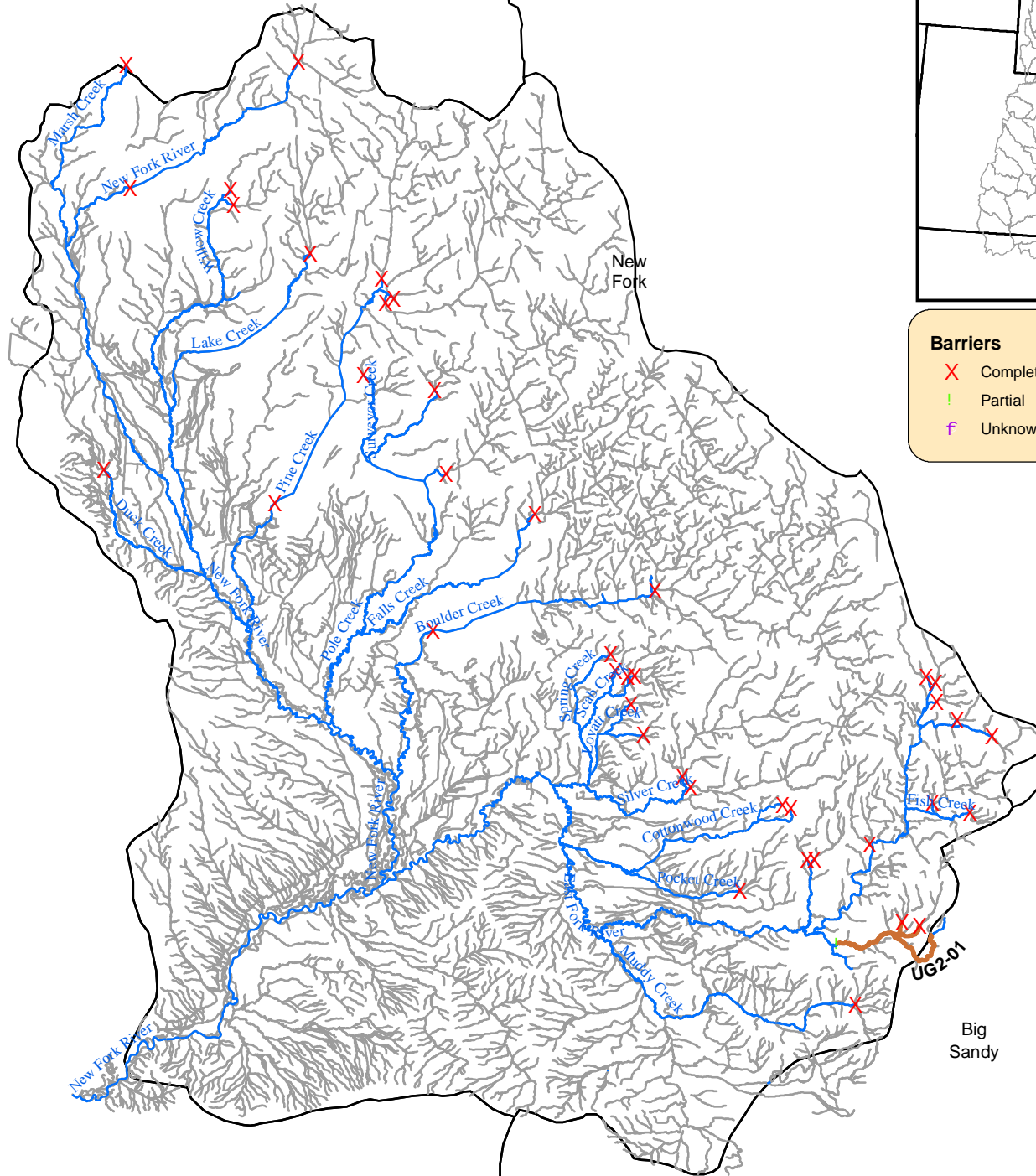
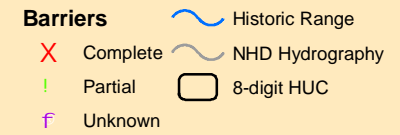
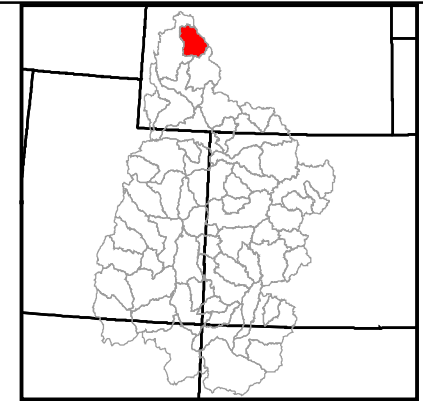
14040101

## Upper Green

|  | <i>Stream Miles</i>                      | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|--|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG1-36</u> | 0.41                                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843065SE                               | Rock Creek                               | 14040101cd101                                  | Unaltered               | 151 to 400 fish                   | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-37</u> | 2.3                                      | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843065SE                               | Rock Creek                               | 14040101cd102                                  | Unaltered               | 151 to 400 fish                   | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-38</u> | 23.17                                    | Moderately Connect                             | Limited Disease Risk    | Hybridizing species are sympatric | Core Conservation Population          | Source                | Res, Fluv           |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843025L                                | La Barge Creek                           | 14040101cd106                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | 10 to 15 feet         | BRK, BRN, RBT       |
| WC: PE843120L                                | Turkey Creek                             | 14040101cd107                                  | Co-existence            | 0 to 50 fish                      | Poor                                  | < 5 feet              | BRK, RBT            |
| WC: PE843180L                                | Nameless Creek                           | 14040101cd111                                  | Co-existence            | 0 to 50 fish                      | Good                                  | 10 to 15 feet         | BRK                 |
| WC: PE843210L                                | Trail Creek                              | 14040101cd116                                  | < 80%                   | 0 to 50 fish                      | Poor                                  | < 5 feet              | BRK, CUT, RBT       |
| <b>Conservation Population</b> <u>UG1-39</u> | 9.53                                     | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843155L                                | South La Barge Creek                     | 14040101cd108                                  | Co-existence            | 0 to 50 fish                      | Fair                                  | 15 to 20 feet         | BRK, CUT            |
| WC: PE843155L                                | South La Barge Creek                     | 14040101cd109                                  | Unaltered               | 151 to 400 fish                   | Good                                  | 10 to 15 feet         | BRK                 |
| WC: 151                                      | Unnamed Tributary to South LaBarge Creek | 14040101cd110                                  | Not Tested - Unaltered  | Unknown                           | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-40</u> | 1.62                                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843180L                                | Nameless Creek                           | 14040101cd112                                  | Co-existence            | 151 to 400 fish                   | Poor                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG1-41</u> | 1.27                                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843205L                                | Clear Creek                              | 14040101cd115                                  | Unaltered               | 50 to 150 fish                    | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG1-42</u> | 4.71                                     | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                       | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843200L                                | Spring Creek                             | 14040101cd113                                  | Unaltered               | 0 to 50 fish                      | Fair                                  | 5 to 10 feet          | BRK                 |
| WC: PE843200L                                | Spring Creek                             | 14040101cd114                                  | Unaltered               | 151 to 400 fish                   | Good                                  | 5 to 10 feet          | BRK                 |

Upper  
Green

New  
Fork



Big  
Sandy

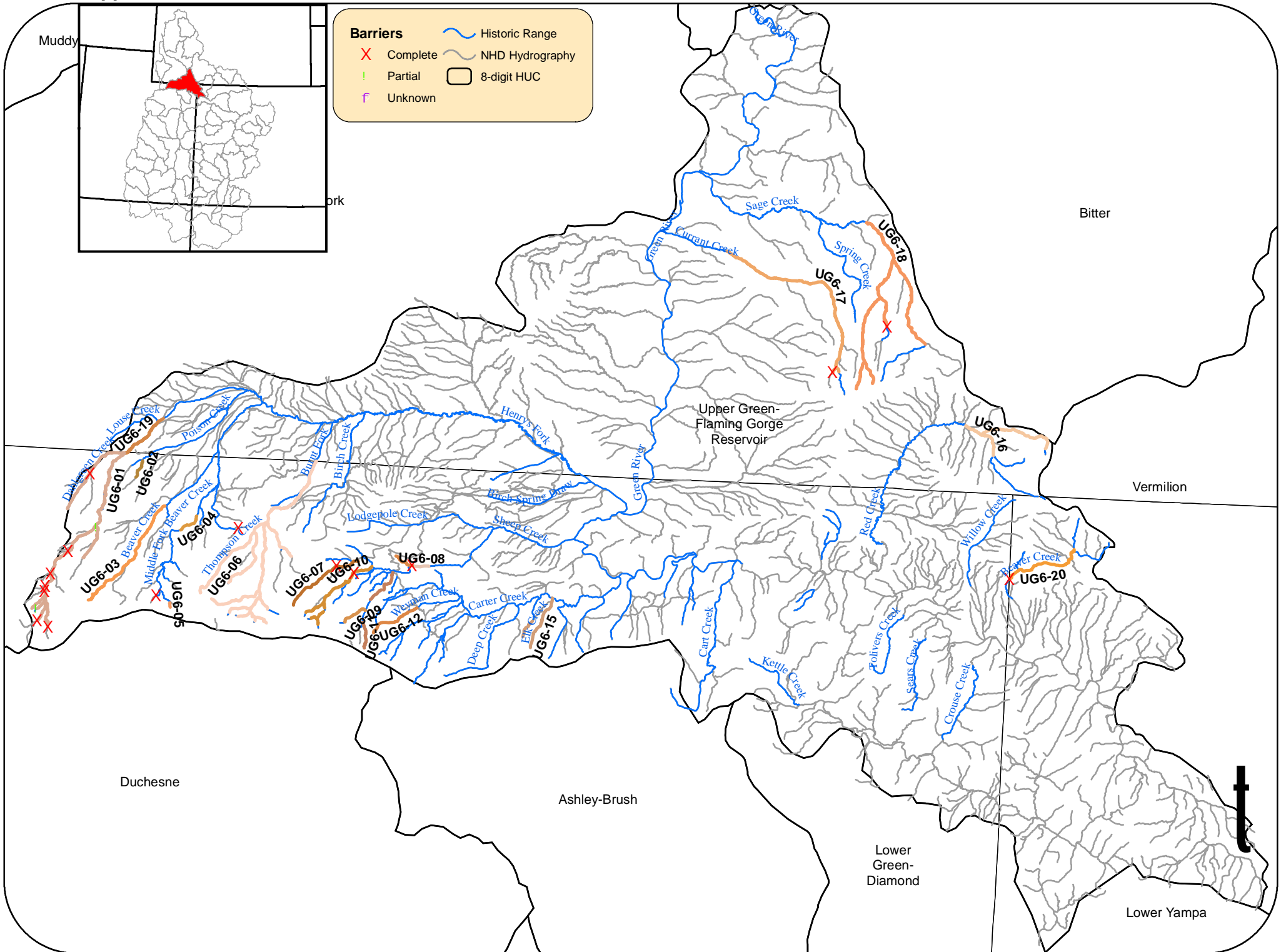
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# 14040102 New Fork

|  | <i>Stream Miles</i> | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>    | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|---------------------|--|------------------------|-----------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG2-01</u> | 8.93                | Weakly Connected                               | Limited Disease Risk   | Hybridizing species > 10 km | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: PE843560SE                               | Irish Canyon Creek  | 14040102cd001                                  | Unaltered              | Over 400 fish               | Good                         | 10 to 15 feet         | None                |
| WC: PE8435780S                               | Beaver Creek        | 14040102cd002                                  | Not Tested - Unaltered | Unknown                     | Good                         | < 5 feet              | None                |
| WC: PE843570SE                               | Willow Creek        | 14040102cd003                                  | Not Tested - Unaltered | Over 400 fish               | Good                         | 5 to 10 feet          | None                |
| WC: PE843560SE                               | Irish Canyon Creek  | 14040102cd004                                  | Unaltered              | Over 400 fish               | Good                         | 5 to 10 feet          | None                |

# Upper Green GMU

Upper Green - Flaming Gorge Reservoir (14040106)



14040106

## Upper Green-Flaming Gorge Reservoir

| <i>Conservation Population</i> | <i>Stream Miles</i>                | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--------------------------------|------------------------------------|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>UG6-01</b>                  | 32.36                              | Strongly Connected                             | Minimal Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>             | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICJ02001                  | S. Unnamed Trib. to Henrys Fork    | 14040106cd002                                  | Not Tested - Hybridized | Over 400 fish               | Excellent                             | 10 to 15 feet         | None                |
| WC: IICJ019011o                | Grass Lake Outlet                  | 14040106cd003                                  | Not Tested - Hybridized | 0 to 50 fish                | Excellent                             | < 5 feet              | None                |
| WC: 162                        | W. Unnamed Trib. #2 to Henrys Fork | 14040106cd004                                  | Not Tested - Hybridized | Over 400 fish               | Excellent                             | 5 to 10 feet          | None                |
| WC: IICJ01701                  | W. Unnamed Trib. #1 to Henrys Fork | 14040106cd005                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                             | < 5 feet              | None                |
| WC: IICJ015011o                | Sawmill Lake Outlet                | 14040106cd006                                  | Not Tested - Hybridized | 50 to 150 fish              | Excellent                             | < 5 feet              | BRK                 |
| WC: 163                        | W. Unnamed Trib. #3 to Henrys Fork | 14040106cd007                                  | Not Tested - Hybridized | 151 to 400 fish             | Excellent                             | < 5 feet              | None                |
| WC: IICJ06001                  | Joulious Creek                     | 14040106cd008                                  | Not Tested - Unaltered  | 151 to 400 fish             | Excellent                             | 5 to 10 feet          | None                |
| WC: IICJ06001                  | Joulious Creek                     | 14040106cd009                                  | Not Tested - Unaltered  | Unknown                     | Excellent                             | 5 to 10 feet          | None                |
| WC: IICJ05001                  | Dahlgreen Creek                    | 14040106cd010                                  | Not Tested - Unaltered  | Over 400 fish               | Excellent                             | 5 to 10 feet          | None                |
| WC: IICJ05001                  | Dahlgreen Creek                    | 14040106cd011                                  | Not Tested - Unaltered  | 50 to 150 fish              | Fair                                  | 5 to 10 feet          | None                |
| WC: IICJ01                     | Henrys Fork                        | 14040106cd012                                  | 90% - 99%               | Over 400 fish               | Excellent                             | 15 to 20 feet         | YCT                 |
| WC: IICJ01                     | Henrys Fork                        | 14040106cd016                                  | Not Tested - Hybridized | Unknown                     | Excellent                             | 5 to 10 feet          | None                |
| <b>UG6-02</b>                  | 1.43                               | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>             | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICJ045B01                 | Spring Creek                       | 14040106cd013                                  | Not Tested - Unaltered  | 151 to 400 fish             | Good                                  | < 5 feet              | None                |
| <b>UG6-03</b>                  | 10.14                              | Population Isolated                            | Minimal Disease Risk    | Hybridizing species > 10 km | Core Conservation Population          | Not Applicable        | Res, Ad-fluv        |
| <i>Ind. Pops.:</i>             | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841130U                  | North Fork Beaver Creek            | 14040106cd014                                  | Not Tested - Unaltered  | 50 to 150 fish              | Excellent                             | 15 to 20 feet         | BRK                 |
| WC: GR841130U                  | Gilbert Lake (GR-150)              | 14040106cd015                                  | Unaltered               | Unknown                     | Excellent                             | < 5 feet              | BRK                 |
| <b>UG6-04</b>                  | 1.78                               | Population Isolated                            | Minimal Disease Risk    | Hybridizing species > 10 km | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>             | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICJ040B02                 | Middle Fork Beaver Creek           | 14040106cd017                                  | Unaltered               | 50 to 150 fish              | Excellent                             | 20 to 25 feet         | BRK                 |
| <b>UG6-05</b>                  | 0.35                               | Population Isolated                            | Limited Disease Risk    | Hybridizing species > 10 km | Known or Probable Unique Life History | Not Applicable        | Res, Ad-fluv        |
| <i>Ind. Pops.:</i>             | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 941                        | Unnamed Lake #2                    | 14040106cd018                                  | Not Tested - Unaltered  | Unknown                     | Excellent                             | 5 to 10 feet          | BRK                 |

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## Upper Green-Flaming Gorge Reservoir

|                                | <i>Stream Miles</i>             | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>       | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------------|--|------------------------------|-----------------------------|-----------------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>UG6-06</u></b>            | 42.04  | Strongly Connected           | Significant Disease Risk    | Hybridizing species > 10 km       | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 33lo                       | Fish Lake Outlet                | 14040106cd058                                  | Not Tested - Unaltered       | Unknown                     | Good                              | 5 to 10 feet                          | BRK                       |
| WC: 139                        | Unnamed Tributary to Burnt Fork | 14040106cd059                                  | Unaltered                    | 151 to 400 fish             | Good                              | 15 to 20 feet                         | BRK                       |
| <b>Conservation Population</b> | <b><u>UG6-07</u></b>            | 6.33   | Moderately Connect           | Moderate Disease Risk       | Hybridizing species > 10 km       | Known or Probable Unique Life History | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICI05003                  | North Fork Sheep Creek          | 14040106cd047                                  | 90% - 99%                    | Unknown                     | Excellent                         | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>UG6-08</u></b>            | 1.23   | Moderately Connect           | Moderate Disease Risk       | Hybridizing species > 10 km       | Core Conservation Population          | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICI02                     | Sheep Creek                     | 14040106cd045                                  | 90% - 99%                    | 151 to 400 fish             | Excellent                         | 5 to 10 feet                          | BRK, RBT                  |
| <b>Conservation Population</b> | <b><u>UG6-09</u></b>            | 1.99   | Moderately Connect           | Moderate Disease Risk       | Hybridizing species > 10 km       | Core Conservation Population          | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICI030A01                 | Daggett Lake Outlet             | 14040106cd032                                  | 90% - 99%                    | 151 to 400 fish             | Excellent                         | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>UG6-10</u></b>            | 8.81   | Weakly Connected             | Minimal Disease Risk        | Hybridizing species are sympatric | Other                                 | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICI05001                  | Middle Fork Sheep Creek         | 14040106cd049                                  | 90% - 99%                    | Unknown                     | Excellent                         | 5 to 10 feet                          | BRK                       |
| WC: IICI05001                  | Middle Fork Sheep Creek         | 14040106cd050                                  | 90% - 99%                    | Unknown                     | Excellent                         | 5 to 10 feet                          | BRK                       |
| WC: IICI05001                  | Middle Fork Sheep Creek         | 14040106cd051                                  | 90% - 99%                    | Unknown                     | Excellent                         | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>UG6-11</u></b>            | 4.93   | Weakly Connected             | Limited Disease Risk        | Hybridizing species < 10 km       | Other                                 | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICI03001                  | South Fork Sheep Creek          | 14040106cd033                                  | 90% - 99%                    | 151 to 400 fish             | Excellent                         | 5 to 10 feet                          | BRK                       |
| WC: IICI03001                  | South Fork Sheep Creek          | 14040106cd034                                  | 90% - 99%                    | 50 to 150 fish              | Excellent                         | 5 to 10 feet                          | BRK                       |
| WC: IICI03001                  | South Fork Sheep Creek          | 14040106cd056                                  | Not Tested - Hybridized      | Unknown                     | Excellent                         | < 5 feet                              | BRK                       |
| <b>Conservation Population</b> | <b><u>UG6-12</u></b>            | 5.5  | Weakly Connected             | Minimal Disease Risk        | Hybridizing species < 10 km       | Other                                 | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: IICH050A01                 | Weyman Creek                    | 14040106cd039                                  | Not Tested - Hybridized      | Unknown                     | Excellent                         | < 5 feet                              | BRK                       |
| WC: 61                         | N. Unnamed Trib. to Sheep Creek | 14040106cd046                                  | 90% - 99%                    | 151 to 400 fish             | Fair                              | < 5 feet                              | BRK                       |



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## Upper Green-Flaming Gorge Reservoir

|  | <i>Stream Miles</i> | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---------------------|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG6-15</u> | 5.46                | Weakly Connected                               | Minimal Disease Risk    | Hybridizing species < 10 km       | Other                                 | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICH03001                                | Elk Creek           | 14040106cd041                                  | Not Tested - Hybridized | 151 to 400 fish                   | Good                                  | < 5 feet              | BRK, RBT            |
| WC: IICH03001                                | Elk Creek           | 14040106cd042                                  | Not Tested - Hybridized | Over 400 fish                     | Excellent                             | < 5 feet              | None                |
| WC: IICH030A01                               | Little Elk Creek    | 14040106cd043                                  | Not Tested - Hybridized | 50 to 150 fish                    | Excellent                             | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG6-16</u> | 9.95                | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization          | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR845880S                                | Red Creek           | 14040106cd028                                  | Unaltered               | 50 to 150 fish                    | Fair                                  | < 5 feet              | None                |
| WC: GR845860S                                | Little Red Creek    | 14040106cd029                                  | Unaltered               | Over 400 fish                     | Good                                  | < 5 feet              | None                |
| WC: GR845860S                                | Little Red Creek    | 14040106cd030                                  | Unaltered               | 151 to 400 fish                   | Fair                                  | < 5 feet              | None                |
| WC: GR845880S                                | Red Creek           | 14040106cd031                                  | Unaltered               | 0 to 50 fish                      | Poor                                  | 5 to 10 feet          | None                |
| WC: GR845860S                                | Little Red Creek    | 14040106cd061                                  | Unaltered               | 0 to 50 fish                      | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG6-17</u> | 15.98               | Population Isolated                            | Minimal Disease Risk    | Hybridizing species are sympatric | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841200S                                | Currant Creek       | 14040106cd020                                  | 80% - 89%               | 151 to 400 fish                   | Good                                  | 5 to 10 feet          | BRK, TRT            |
| WC: GR841200S                                | Currant Creek       | 14040106cd021                                  | 80% - 89%               | Unknown                           | Good                                  | < 5 feet              | BRK                 |
| WC: GR841200S                                | Currant Creek       | 14040106cd022                                  | Not Tested - Hybridized | 50 to 150 fish                    | Poor                                  | 5 to 10 feet          | BRK, TRT            |
| <b>Conservation Population</b> <u>UG6-18</u> | 28.38               | Population Isolated                            | Minimal Disease Risk    | Hybridizing species are sympatric | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841970S                                | Sage Creek          | 14040106cd023                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | < 5 feet              | None                |
| WC: GR841975S                                | Trout Creek         | 14040106cd024                                  | Not Tested - Hybridized | 151 to 400 fish                   | Fair                                  | 5 to 10 feet          | CUT                 |
| WC: GR841975S                                | Trout Creek         | 14040106cd025                                  | Not Tested - Hybridized | Unknown                           | Poor                                  | 5 to 10 feet          | CUT                 |
| WC: GR840976S                                | Gooseberry Creek    | 14040106cd026                                  | Not Tested - Hybridized | 0 to 50 fish                      | Poor                                  | < 5 feet              | CUT                 |
| WC: GR841970S                                | Sage Creek          | 14040106cd027                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | 5 to 10 feet          | CUT                 |
| WC: GR841975S                                | Trout Creek         | 14040106cd062                                  | Not Tested - Hybridized | 0 to 50 fish                      | Fair                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG6-19</u> | 4.4                 | Strongly Connected                             | Minimal Disease Risk    | Hybridizing species < 10 km       | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>  | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICJ01                                   | Henrys Fork         | 14040106cd019                                  | Not Tested - Hybridized | 151 to 400 fish                   | Good                                  | > 25 feet             | None                |

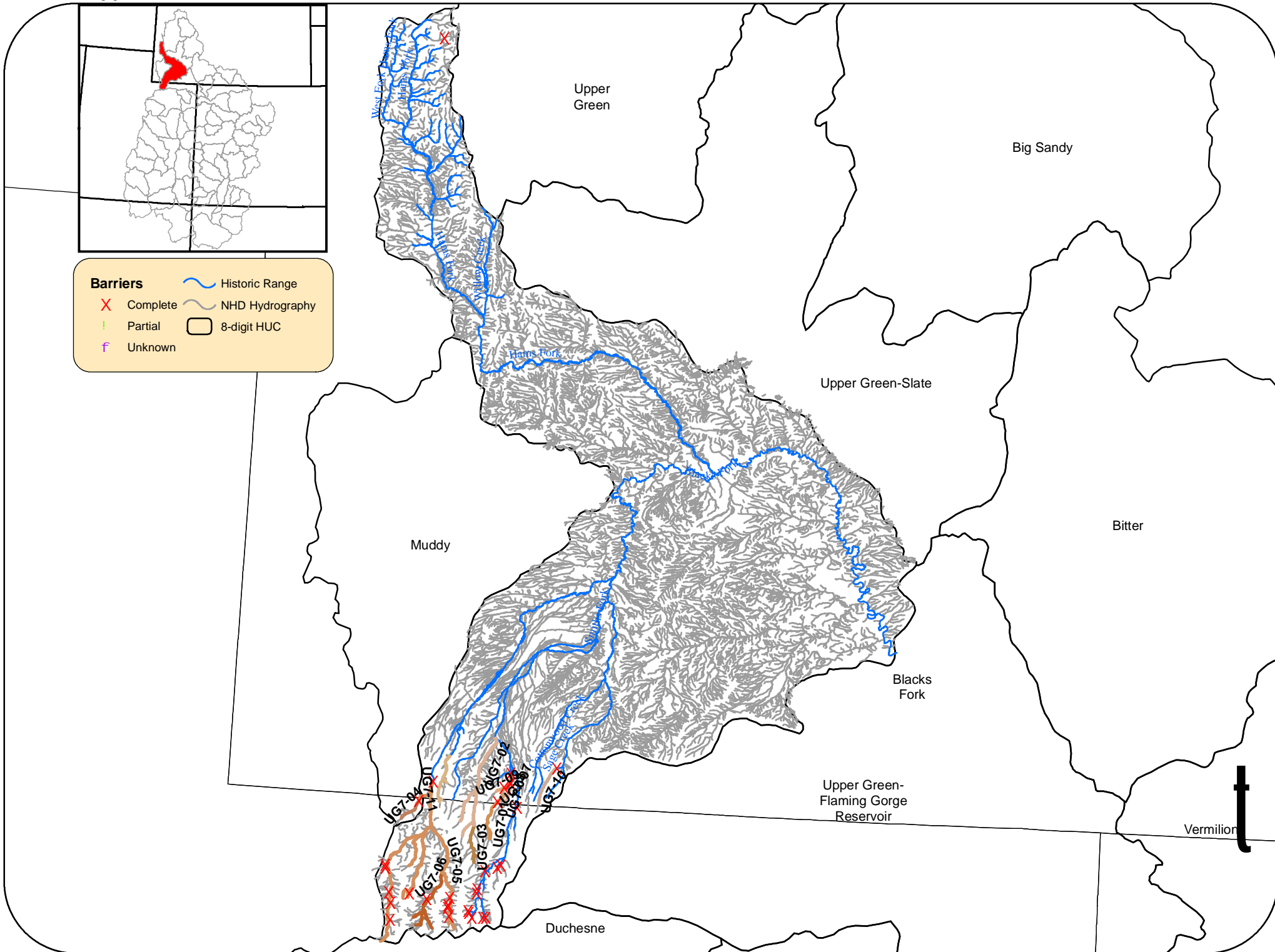
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## Upper Green-Flaming Gorge Reservoir

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>UG6-20</u></b>      | 6.38                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Other                           | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19124                          | Beaver Creek              |                         | 14040106cd001  | Unaltered                    | 151 to 400 fish               | Good                            | 5 to 10 feet               | None                      |

# Upper Green GMU

Blacks Fork (14040107)



14040107

## Blacks Fork

|  | <i>Stream Miles</i>                        | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|--|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG7-01</u> | 6.15                                       | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                         | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICK020A01                               | Gilbert Creek                              | 14040107cd001                                  | Unaltered               | 0 to 50 fish                | Good                                  | 5 to 10 feet          | None                |
| WC: IICK020A01                               | Gilbert Creek                              | 14040107cd002                                  | Unaltered               | Unknown                     | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG7-02</u> | 21.13                                      | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                         | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICK020B01                               | West Fork Smiths Fork                      | 14040107cd003                                  | Not Tested - Hybridized | Over 400 fish               | Good                                  | 10 to 15 feet         | None                |
| WC: GR841915U                                | Archie Creek                               | 14040107cd004                                  | Not Tested - Unaltered  | Over 400 fish               | Good                                  | 5 to 10 feet          | RBT                 |
| WC: IICK020B02                               | Steel Creek                                | 14040107cd005                                  | Not Tested - Unaltered  | Over 400 fish               | Good                                  | < 5 feet              | None                |
| WC: IICK020B01                               | West Fork Smiths Fork                      | 14040107cd031                                  | Not Tested - Hybridized | 151 to 400 fish             | Good                                  | 20 to 25 feet         | RBT                 |
| <b>Conservation Population</b> <u>UG7-03</u> | 5.21                                       | Weakly Connected                               | Minimal Disease Risk    | Hybridizing species > 10 km | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                         | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICK020B01                               | West Fork Smiths Fork                      | 14040107cd006                                  | Unaltered               | Over 400 fish               | Good                                  | 10 to 15 feet         | None                |
| WC: 159                                      | Unnamed Tributary to West Fork Smiths Fork | 14040107cd007                                  | Unaltered               | Unknown                     | Excellent                             | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG7-04</u> | 3.37                                       | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                         | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICK03002                                | Little West Fork Blacks Fork               | 14040107cd008                                  | Unaltered               | Over 400 fish               | Good                                  | 5 to 10 feet          | None                |

**14040107****Blacks Fork**

|                                |   | <i>Stream Miles</i> | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>         | <i>Population Qualifier</i> | <i>Source or Sink</i>      | <i>Life History</i>       |
|--------------------------------|---|---------------------|--|------------------------------|-----------------------------------|-----------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>UG7-05</u></b>                        | 65.6                | Strongly Connected                             | Minimal Disease Risk         | Hybridizing species are sympatric | Other                       | Sink                       | Res, Ad-fluv              |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                   |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IICK01                     | Blacks Fork                                 |                     | 14040107cd009                                  | Not Tested - Hybridized      | Unknown                           | Good                        | 5 to 10 feet               | BRK                       |
| WC: IICK01                     | Blacks Fork                                 |                     | 14040107cd010                                  | Not Tested - Hybridized      | Unknown                           | Good                        | > 25 feet                  | BRK                       |
| WC: IICK04001                  | East Fork Blacks Fork                       |                     | 14040107cd011                                  | Not Tested - Hybridized      | Unknown                           | Good                        | 20 to 25 feet              | BRK                       |
| WC: IICK040K01                 | Little East Fork                            |                     | 14040107cd012                                  | 90% - 99%                    | Over 400 fish                     | Excellent                   | 10 to 15 feet              | BRK                       |
| WC: IICK040K23                 | Unnamed Trib. #1 to Little East Fork        |                     | 14040107cd013                                  | Not Tested - Unaltered       | Over 400 fish                     | Excellent                   | < 5 feet                   | None                      |
| WC: IICK040K20                 | Unnamed Trib. #2 to Little East Fork        |                     | 14040107cd014                                  | Not Tested - Hybridized      | 50 to 150 fish                    | Excellent                   | < 5 feet                   | None                      |
| WC: IICK040K15                 | Unnamed Trib. #3 to Little East Fork        |                     | 14040107cd015                                  | Not Tested - Unaltered       | 0 to 50 fish                      | Excellent                   | 5 to 10 feet               | None                      |
| WC: IICK040K13                 | Unnamed Trib. #4 to Little East Fork        |                     | 14040107cd016                                  | Not Tested - Unaltered       | 151 to 400 fish                   | Excellent                   | < 5 feet                   | None                      |
| WC: IICK040K11                 | Unnamed Trib. #5 to Little East Fork        |                     | 14040107cd017                                  | Not Tested - Unaltered       | Unknown                           | Excellent                   | < 5 feet                   | None                      |
| WC: IICK050A01                 | Middle Fork Blacks Fork                     |                     | 14040107cd023                                  | Not Tested - Hybridized      | 151 to 400 fish                   | Excellent                   | 5 to 10 feet               | BRK                       |
| WC: 98                         | Unnamed Trib. #1 to Middle Fork Blacks Fork |                     | 14040107cd024                                  | Not Tested - Hybridized      | Unknown                           | Excellent                   | < 5 feet                   | BRK                       |
| WC: 108                        | Unnamed Trib. #2 to Middle Fork Blacks Fork |                     | 14040107cd025                                  | Not Tested - Hybridized      | Unknown                           | Excellent                   | < 5 feet                   | BRK                       |
| WC: IICK050B01                 | Brush Creek                                 |                     | 14040107cd026                                  | Not Tested - Hybridized      | Unknown                           | Excellent                   | 5 to 10 feet               | BRK                       |
| WC: IICK05001                  | West Fork Blacks Fork                       |                     | 14040107cd027                                  | Not Tested - Unaltered       | 151 to 400 fish                   | Good                        | 15 to 20 feet              | BRK                       |
| WC: IICK050T01                 | Unnamed Trib. #3 to West Fork Blacks Fork   |                     | 14040107cd028                                  | Not Tested - Unaltered       | 50 to 150 fish                    | Good                        | 5 to 10 feet               | BRK                       |
| WC: IICK050X01                 | Unnamed Trib. #2 to West Fork Blacks Fork   |                     | 14040107cd029                                  | Not Tested - Unaltered       | 50 to 150 fish                    | Good                        | 5 to 10 feet               | None                      |
| WC: IICK050ZC0                 | Unnamed Trib. #1 to West Fork Blacks Fork   |                     | 14040107cd030                                  | Not Tested - Unaltered       | 0 to 50 fish                      | Good                        | 10 to 15 feet              | None                      |
| <b>Conservation Population</b> | <b><u>UG7-06</u></b>                        | 13.2                | Moderately Connect                             | Minimal Disease Risk         | Hybridizing species < 10 km       | Other                       | Source                     | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                   |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>       | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IICK04002                  | Unnamed Trib. #1 to East Fork Blacks Fork   |                     | 14040107cd018                                  | Unaltered                    | 50 to 150 fish                    | Excellent                   | 10 to 15 feet              | None                      |
| WC: IICK04001                  | East Fork Blacks Fork                       |                     | 14040107cd019                                  | Not Tested - Unaltered       | 151 to 400 fish                   | Excellent                   | 10 to 15 feet              | None                      |
| WC: IICK040X01                 | Unnamed Trib. #2 to East Fork Blacks Fork   |                     | 14040107cd020                                  | Not Tested - Unaltered       | 0 to 50 fish                      | Excellent                   | < 5 feet                   | None                      |
| WC: IICK040W0                  | Unnamed Trib. #3 to East Fork Blacks Fork   |                     | 14040107cd021                                  | Not Tested - Unaltered       | 50 to 150 fish                    | Excellent                   | 5 to 10 feet               | None                      |
| WC: IICK040R01                 | Unnamed Trib. #4 to East Fork Blacks Fork   |                     | 14040107cd022                                  | Not Tested - Unaltered       | Unknown                           | Unknown                     | < 5 feet                   | None                      |

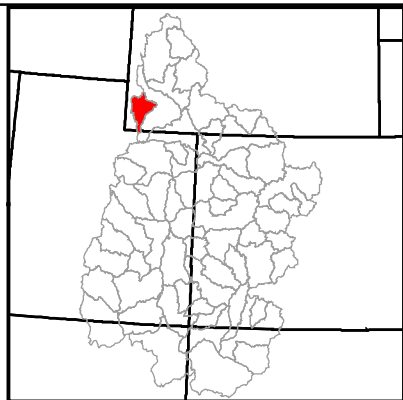
14040107

## Blacks Fork

|  | <i>Stream Miles</i>                | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>    | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|------------------------------------|--|------------------------|-----------------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG7-07</u> | 5.86                               | Weakly Connected                               | Minimal Disease Risk   | No Risk of Hybridization          | Core Conservation Population | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IICK020A01                               | Gilbert Creek                      | 14040107cd033                                  | Unaltered              | 0 to 50 fish                      | Good                         | 5 to 10 feet          | None                |
| WC: 20                                       | E. Unnamed Trib. to Gilbert Creek  | 14040107cd034                                  | Unaltered              | Unknown                           | Good                         | < 5 feet              | None                |
| WC: GR841930U                                | Little Gilbert Creek               | 14040107cd037                                  | Unaltered              | 0 to 50 fish                      | Good                         | < 5 feet              | None                |
| WC: GR841931U                                | W. Unnamed Trib. to Gilbert Creek  | 14040107cd038                                  | Unaltered              | 0 to 50 fish                      | Good                         | < 5 feet              | None                |
| WC: 145                                      | Unnamed Tributary to Gilbert Creek | 14040107cd047                                  | Unaltered              | 0 to 50 fish                      | Good                         | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG7-08</u> | 2.32                               | Weakly Connected                               | Minimal Disease Risk   | No Risk of Hybridization          | Core Conservation Population | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841930U                                | Little Gilbert Creek               | 14040107cd036                                  | Unaltered              | 0 to 50 fish                      | Good                         | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG7-09</u> | 1.05                               | Weakly Connected                               | Minimal Disease Risk   | No Risk of Hybridization          | Core Conservation Population | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841931U                                | W. Unnamed Trib. to Gilbert Creek  | 14040107cd035                                  | Unaltered              | 0 to 50 fish                      | Good                         | < 5 feet              | None                |
| <b>Conservation Population</b> <u>UG7-10</u> | 5.02                               | Population Isolated                            | Minimal Disease Risk   | Hybridizing species are sympatric | Other                        | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841880U                                | Sage Creek                         | 14040107cd032                                  | < 80%                  | Over 400 fish                     | Good                         | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG7-11</u> | 7.12                               | Population Isolated                            | Moderate Disease Risk  | Hybridizing species are sympatric | Other                        | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                 | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841965U                                | Horse Creek                        | 14040107cd040                                  | Co-existence           | 151 to 400 fish                   | Good                         | 5 to 10 feet          | RBT                 |
| WC: 58                                       | N. Unnamed Trib. to Horse Creek    | 14040107cd041                                  | Not Tested - Unaltered | Unknown                           | Good                         | < 5 feet              | None                |
| WC: GR841965U                                | S. Unnamed Trib. to Horse Creek    | 14040107cd042                                  | Not Tested - Unaltered | Unknown                           | Good                         | < 5 feet              | None                |

# Upper Green GMU

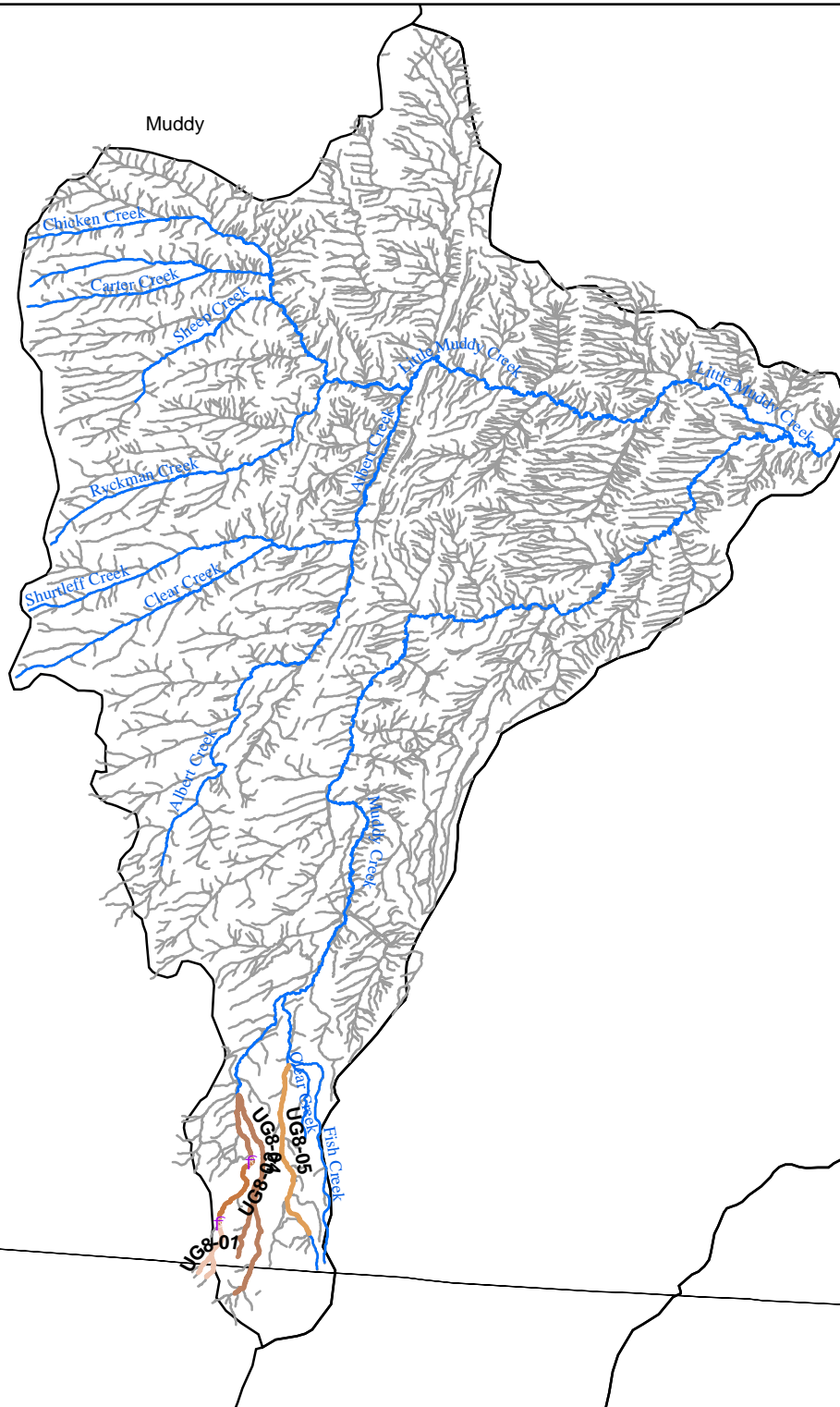
Muddy (14040108)



## Barriers

- Complete
- Partial
- Unknown

- Historic Range
- NHD Hydrography
- 8-digit HUC



Upper  
Green-  
Slate

Blacks  
Fork

Upper Green-  
Flaming Gorge  
Reservoir

t

14040108

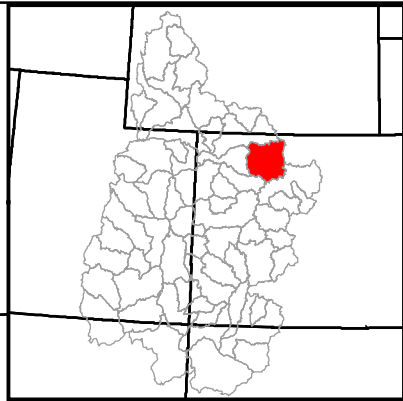
Muddy

|  | <i>Stream Miles</i>                   | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---------------------------------------|--|-------------------------|-----------------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>UG8-01</u> | 3.77                                  | Population Isolated                            | Minimal Disease Risk    | Hybridizing species > 10 km       | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841865U                                | Van Tassel Creek                      | 14040108cd001                                  | Unaltered               | Over 400 fish                     | Excellent                             | 10 to 15 feet         | None                |
| WC: 157                                      | Unnamed Tributary to Van Tassel Creek | 14040108cd002                                  | Unaltered               | 151 to 400 fish                   | Excellent                             | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG8-02</u> | 3.7                                   | Population Isolated                            | Minimal Disease Risk    | Hybridizing species > 10 km       | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841865U                                | Van Tassel Creek                      | 14040108cd003                                  | Unaltered               | Over 400 fish                     | Excellent                             | 10 to 15 feet         | None                |
| WC: GR841865U                                | Van Tassel Creek                      | 14040108cd004                                  | Not Tested - Unaltered  | 151 to 400 fish                   | Fair                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>UG8-04</u> | 18.29                                 | Population Isolated                            | Moderate Disease Risk   | Hybridizing species < 10 km       | Known or Probable Unique Life History | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841865U                                | Van Tassel Creek                      | 14040108cd005                                  | Not Tested - Unaltered  | 151 to 400 fish                   | Fair                                  | 5 to 10 feet          | UNK                 |
| WC: 160                                      | Unnamed Tributary to West Muddy Creek | 14040108cd006                                  | Not Tested - Unaltered  | Over 400 fish                     | Good                                  | < 5 feet              | None                |
| WC: 160                                      | Unnamed Tributary to West Muddy Creek | 14040108cd007                                  | Unaltered               | Unknown                           | Excellent                             | Unknown               | None                |
| WC: IICK010A01                               | West Muddy Creek                      | 14040108cd008                                  | Unaltered               | 151 to 400 fish                   | Good                                  | 5 to 10 feet          | None                |
| WC: IICK010A01                               | West Muddy Creek                      | 14040108cd009                                  | Not Tested - Hybridized | Unknown                           | Fair                                  | Unknown               | UNK                 |
| <b>Conservation Population</b> <u>UG8-05</u> | 8.54                                  | Population Isolated                            | Moderate Disease Risk   | Hybridizing species are sympatric | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                    | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR841840U                                | East Muddy Creek                      | 14040108cd010                                  | Not Tested - Hybridized | Unknown                           | Fair                                  | 5 to 10 feet          | RBT                 |
| WC: 03                                       | Beaver Dam Hollow                     | 14040108cd011                                  | Not Tested - Hybridized | Over 400 fish                     | Fair                                  | < 5 feet              | RBT                 |



# Yampa GMU

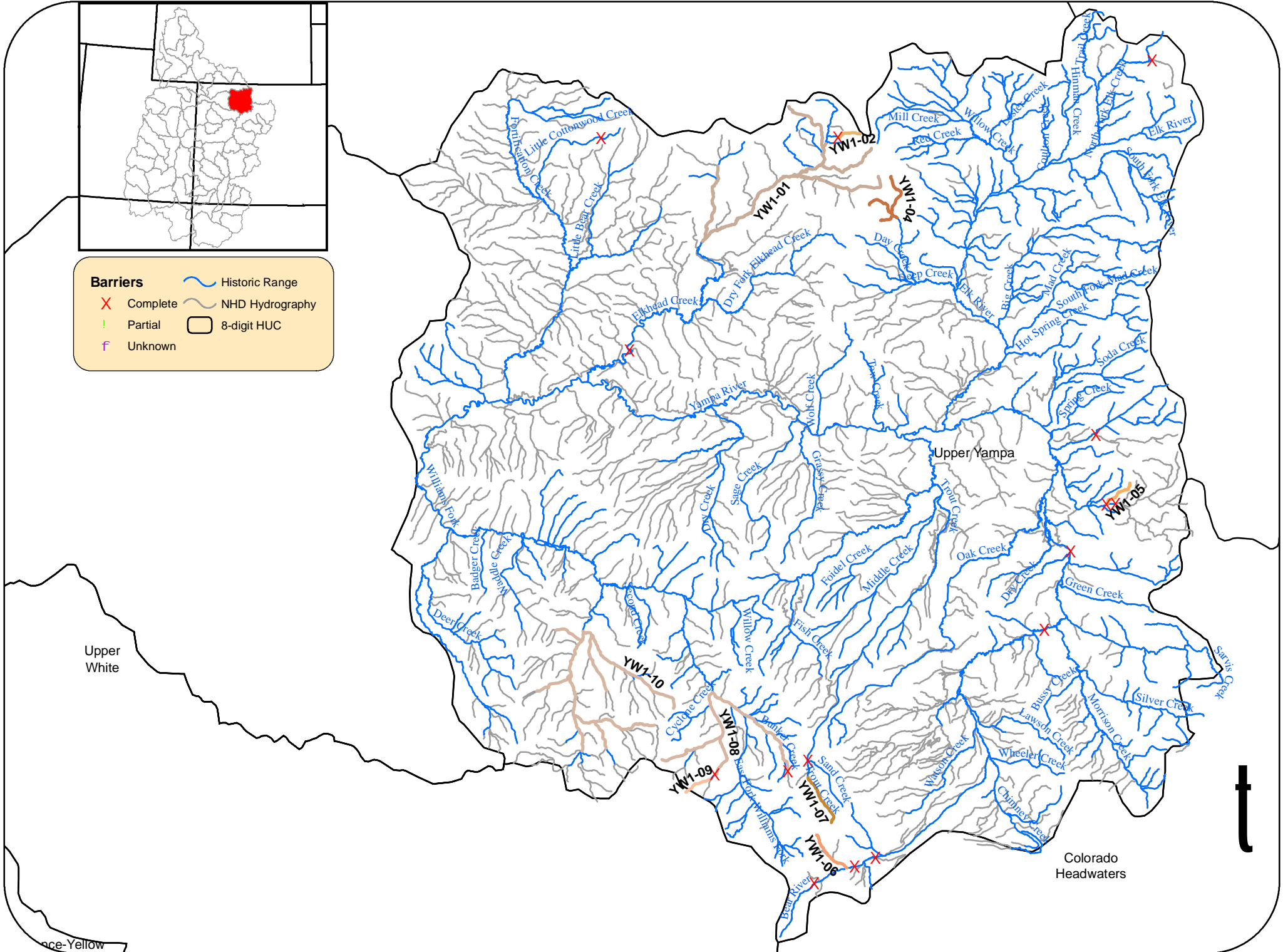
Upper Yampa (14050001)



## Barriers

- X Complete
- ! Partial
- f Unknown

- Historic Range
- NHD Hydrography
- 8-digit HUC



t

14050001

## Upper Yampa

|                                | <i>Stream Miles</i>             | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>YW1-01</u></b>            | 37.5   | Moderately Connect           | Limited Disease Risk        | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 23165                      | Elkhead Creek                   | 14050001cd001                                  | 90% - 99%                    | 50 to 150 fish              | Poor                        | 20 to 25 feet                         | FSH                       |
| WC: 20266                      | First Creek                     | 14050001cd002                                  | Unaltered                    | Over 400 fish               | Good                        | 10 to 15 feet                         | BRK, FSH                  |
| WC: 19035                      | Armstrong Creek                 | 14050001cd003                                  | Unaltered                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| WC: 23165                      | Elkhead Creek                   | 14050001cd004                                  | Unaltered                    | 151 to 400 fish             | Fair                        | 20 to 25 feet                         | None                      |
| WC: 19530                      | Circle Creek                    | 14050001cd007                                  | Unaltered                    | 0 to 50 fish                | Fair                        | 5 to 10 feet                          | BRK                       |
| WC: 23165                      | Elkhead Creek                   | 14050001cd008                                  | Unaltered                    | 50 to 150 fish              | Fair                        | 20 to 25 feet                         | FSH                       |
| WC: 20153                      | North Fork Elkhead Creek        | 14050001cd009                                  | Not Tested - Hybridized      | Unknown                     | Fair                        | 10 to 15 feet                         | UNK                       |
| <b>Conservation Population</b> | <b><u>YW1-02</u></b>            | 1.68   | Population Isolated          | Limited Disease Risk        | Hybridizing species > 10 km | Other                                 | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 22397                      | Torso Creek                     | 14050001cd006                                  | 90% - 99%                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>YW1-04</u></b>            | 6.98   | Moderately Connect           | Minimal Disease Risk        | Hybridizing species > 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 26395                      | Smith Creek                     | 14050001cd012                                  | 90% - 99%                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| WC: 62                         | N. Unnamed Trib. to Smith Creek | 14050001cd032                                  | Not Tested - Unaltered       | Unknown                     | Unknown                     | Unknown                               | UNK                       |
| WC: 80                         | S. Unnamed Trib. to Smith Creek | 14050001cd033                                  | Not Tested - Unaltered       | Unknown                     | Unknown                     | Unknown                               | UNK                       |
| <b>Conservation Population</b> | <b><u>YW1-05</u></b>            | 2.54   | Population Isolated          | Minimal Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 26074                      | Coyner Creek                    | 14050001cd016                                  | Unaltered                    | 0 to 50 fish                | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>YW1-06</u></b>            | 3.33   | Population Isolated          | Limited Disease Risk        | Hybridizing species > 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 21054                      | Mandall Creek                   | 14050001cd020                                  | 90% - 99%                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>YW1-07</u></b>            | 3.85   | Population Isolated          | Moderate Disease Risk       | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>       | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 23557                      | Trout Creek                     | 14050001cd021                                  | Unaltered                    | 50 to 150 fish              | Excellent                   | 10 to 15 feet                         | BRK                       |

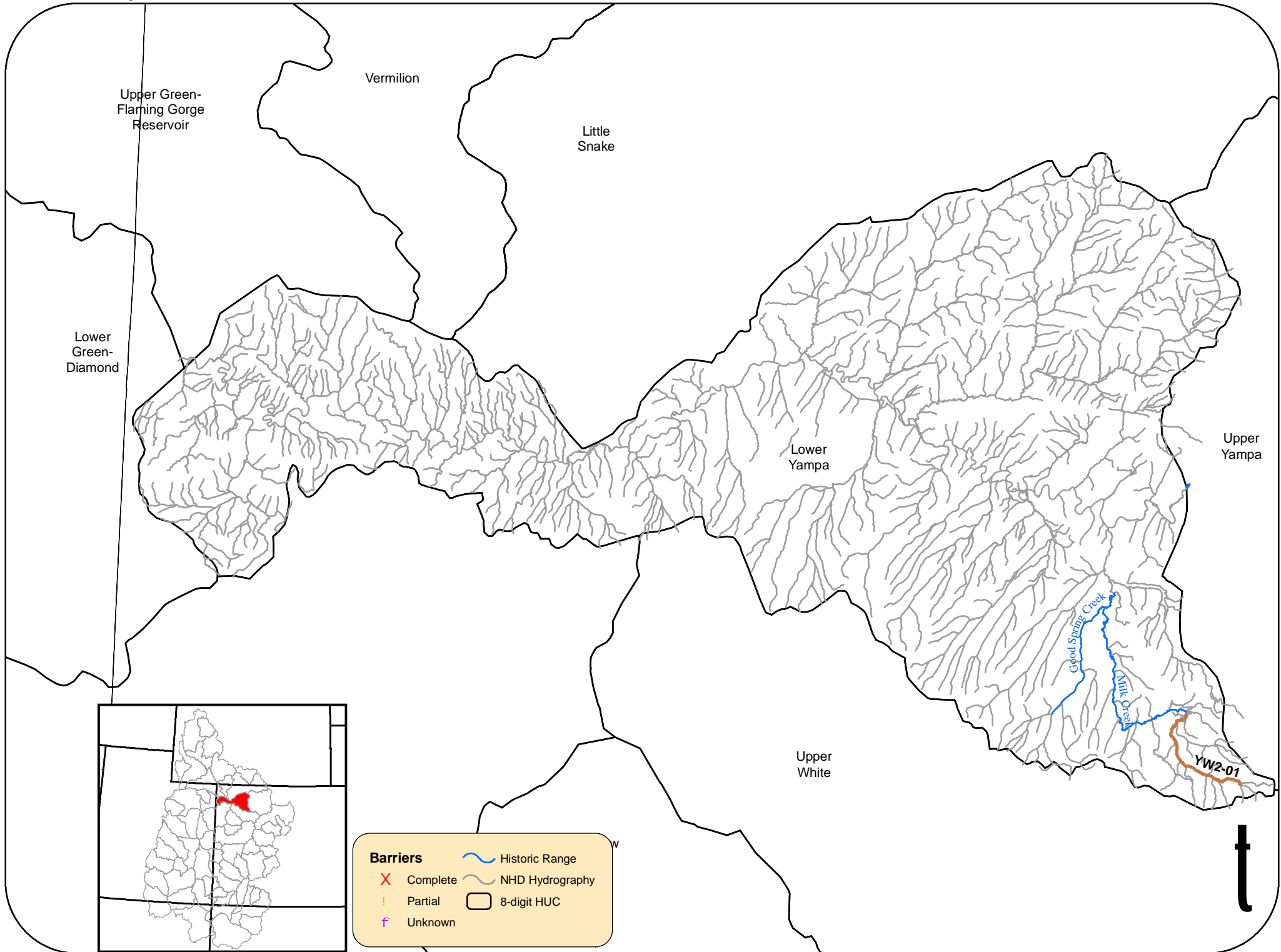
14050001

## Upper Yampa

|                                | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>YW1-08</u></b>      | 19.65  | Moderately Connect           | Minimal Disease Risk        | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 19364                      | Bunker Creek              | 14050001cd022                                  | 90% - 99%                    | Over 400 fish               | Good                        | Unknown                               | UNK                       |
| WC: 23418                      | Poose Creek               | 14050001cd024                                  | Unaltered                    | Over 400 fish               | Good                        | 15 to 20 feet                         | BRK, RBT                  |
| WC: 23301                      | Rough Creek               | 14050001cd025                                  | Unaltered                    | 151 to 400 fish             | Fair                        | Unknown                               | UNK                       |
| WC: 22816                      | East Fork Williams Fork   | 14050001cd038                                  | Not Tested - Hybridized      | Unknown                     | Good                        | 15 to 20 feet                         | UNK                       |
| <b>Conservation Population</b> | <b><u>YW1-09</u></b>      | 1.94   | Population Isolated          | Minimal Disease Risk        | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 23418                      | Poose Creek               | 14050001cd023                                  | Unaltered                    | 50 to 150 fish              | Good                        | 10 to 15 feet                         | None                      |
| <b>Conservation Population</b> | <b><u>YW1-10</u></b>      | 35.51  | Moderately Connect           | Minimal Disease Risk        | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 19150                      | Beaver Creek              | 14050001cd005                                  | 90% - 99%                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| WC: 20759                      | Indian Run                | 14050001cd026                                  | Unaltered                    | 151 to 400 fish             | Good                        | < 5 feet                              | None                      |
| WC: 19150                      | Beaver Creek              | 14050001cd027                                  | Unaltered                    | 50 to 150 fish              | Fair                        | 5 to 10 feet                          | None                      |
| WC: 23482                      | South Fork Williams Fork  | 14050001cd028                                  | Unaltered                    | 151 to 400 fish             | Good                        | 15 to 20 feet                         | None                      |
| WC: 27739                      | Pagoda Creek              | 14050001cd029                                  | Unaltered                    | 151 to 400 fish             | Good                        | 15 to 20 feet                         | None                      |
| WC: 22062                      | Slide Creek               | 14050001cd030                                  | 80% - 89%                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |
| WC: 23482                      | South Fork Williams Fork  | 14050001cd035                                  | Not Tested - Hybridized      | Unknown                     | Fair                        | 15 to 20 feet                         | UNK                       |
| WC: 21544                      | West Pine Creek           | 14050001cd036                                  | Not Tested - Hybridized      | Unknown                     | Fair                        | < 5 feet                              | None                      |
| WC: 19843                      | Cedar Creek               | 14050001cd037                                  | Not Tested - Unaltered       | Unknown                     | Unknown                     | Unknown                               | UNK                       |

# Yampa GMU

Lower Yampa (14050002)

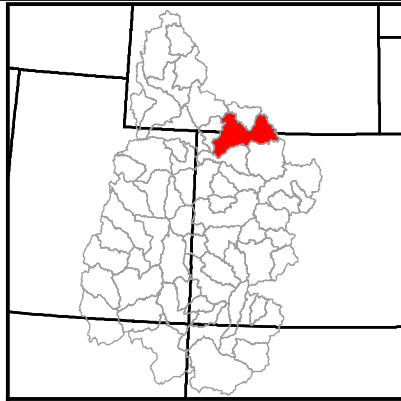


## 14050002 Lower Yampa

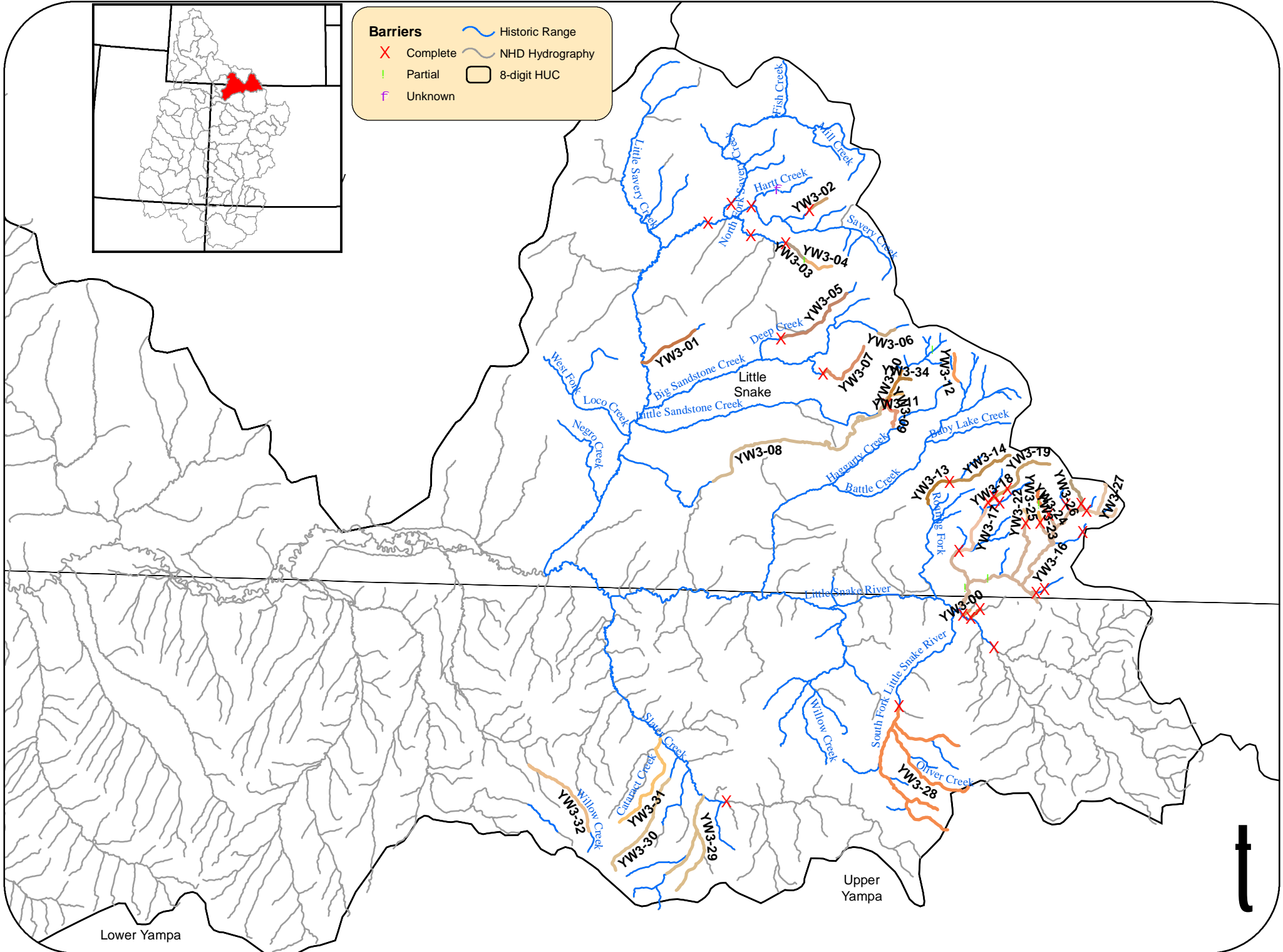
|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>  | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>YW2-01</u></b>      | 9.26                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>< 10 km | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>    | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 24961                          | Milk Creek                |                         | 14050002cd001  | Unaltered                    | 151 to 400 fish                | Good                            | 5 to 10 feet               | None                      |

# Yampa GMU

Little Snake (14050003)



- Barriers**
- Complete
  - Partial
  - Unknown
- Historic Range  
NHD Hydrography  
8-digit HUC



Lower Yampa

Upper  
Yampa

t

14050003

## Little Snake

|   | <i>Stream Miles</i>          | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>           | <i>Source or Sink</i>      | <i>Life History</i>       |
|---|------------------------------|--|------------------------------|-----------------------------------|---------------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> <u><b>YW3-00</b></u> | 0.46                         | Weakly Connected                               | Significant Disease Ris      | No Risk of Hybridization          | Core Conservation Population          | Not Applicable             | Res, Ad-fluv              |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR871010C                                       | Three Forks Ranch Creek      | 14050003cd011                                  | Unaltered                    | 0 to 50 fish                      | Fair                                  | < 5 feet                   | None                      |
| <b>Conservation Population</b> <u><b>YW3-01</b></u> | 0.65                         | Population Isolated                            | Moderate Disease Risk        | Hybridizing species < 10 km       | Core Conservation Population          | Not Applicable             | Res, Ad-fluv              |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: 32  | East Three Forks Ranch Creek | 14050003cd012                                  | Unaltered                    | 0 to 50 fish                      | Good                                  | < 5 feet                   | None                      |
| WC: GR872370C                                       | Hall Canyon                  | 14050003cd016                                  | Unaltered                    | 50 to 150 fish                    | Good                                  | < 5 feet                   | RBT                       |
| <b>Conservation Population</b> <u><b>YW3-02</b></u> | 1.07                         | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Known or Probable Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872485C                                       | Hatch Creek                  | 14050003cd013                                  | 80% - 89%                    | 0 to 50 fish                      | Fair                                  | < 5 feet                   | None                      |
| <b>Conservation Population</b> <u><b>YW3-03</b></u> | 1.42                         | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872480C                                       | Dirtyman Fork                | 14050003cd014                                  | Not Tested - Unaltered       | 0 to 50 fish                      | Good                                  | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>YW3-04</b></u> | 1.48                         | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population          | Source                     | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872480C                                       | Dirtyman Fork                | 14050003cd015                                  | Unaltered                    | 0 to 50 fish                      | Good                                  | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>YW3-05</b></u> | 4.5                          | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872346C                                       | Deep Creek                   | 14050003cd017                                  | Unaltered                    | Over 400 fish                     | Excellent                             | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>YW3-06</b></u> | 1.01                         | Population Isolated                            | Limited Disease Risk         | Hybridizing species are sympatric | Known or Probable Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872330C                                       | Big Sandstone Creek          | 14050003cd018                                  | Not Tested - Hybridized      | 0 to 50 fish                      | Good                                  | 5 to 10 feet               | BRK                       |
| <b>Conservation Population</b> <u><b>YW3-07</b></u> | 3.35                         | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization          | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>    | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u>       | <u><b>Habitat</b></u>                 | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: GR872350C                                       | Mill Creek                   | 14050003cd019                                  | Unaltered                    | 50 to 150 fish                    | Fair                                  | 5 to 10 feet               | None                      |

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## Little Snake

|                                |                                    | <i>Stream Miles</i> | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i>      | <i>Life History</i>       |
|--------------------------------|------------------------------------|---------------------|--|------------------------------|-----------------------------|---------------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>YW3-08</u></b>               | 13.38               | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872260C                  | Belvidere Ditch                    |                     | 14050003cd020                                  | Unaltered                    | 50 to 150 fish              | Fair                                  | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> | <b><u>YW3-09</u></b>               | 1.78                | Population Isolated                            | Limited Disease Risk         | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872685C                  | Haggarty Creek                     |                     | 14050003cd021                                  | Unaltered                    | 50 to 150 fish              | Excellent                             | 10 to 15 feet              | BRK                       |
| <b>Conservation Population</b> | <b><u>YW3-10</u></b>               | 1.93                | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population          | Sink                       | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872685C                  | Haggarty Creek                     |                     | 14050003cd022                                  | Unaltered                    | 0 to 50 fish                | Good                                  | 15 to 20 feet              | None                      |
| <b>Conservation Population</b> | <b><u>YW3-11</u></b>               | 0.65                | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population          | Source                     | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872687C                  | E. Unnamed Trib. to Haggarty Creek |                     | 14050003cd023                                  | Unaltered                    | 0 to 50 fish                | Good                                  | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> | <b><u>YW3-12</u></b>               | 1.52                | Population Isolated                            | Limited Disease Risk         | Hybridizing species < 10 km | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872722C                  | Haskins Creek                      |                     | 14050003cd024                                  | Unaltered                    | 0 to 50 fish                | Fair                                  | 5 to 10 feet               | BRK                       |
| <b>Conservation Population</b> | <b><u>YW3-13</u></b>               | 1.93                | Population Isolated                            | Population is Infected       | Hybridizing species < 10 km | Known or Probable Unique Life History | Sink                       | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872800C                  | Roaring Fork                       |                     | 14050003cd026                                  | Not Tested - Hybridized      | 0 to 50 fish                | Fair                                  | 5 to 10 feet               | BRK, RBT                  |
| <b>Conservation Population</b> | <b><u>YW3-14</u></b>               | 3.62                | Population Isolated                            | Moderate Disease Risk        | Hybridizing species > 10 km | Core Conservation Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>          |                     | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>                 | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR872800C                  | Roaring Fork                       |                     | 14050003cd025                                  | Unaltered                    | 50 to 150 fish              | Excellent                             | < 5 feet                   | BRK                       |



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|                                | <i>Stream Miles</i>                               | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |     |
|--------------------------------|---|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|-----|
| <b>Conservation Population</b> | <b><u>YW3-16</u></b>                              | 20.84  | Moderately Connect           | Population is Infected      | Hybridizing species < 10 km | Known or Probable Unique Life History | Sink                      | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: GR872840C                  | North Fork Little Snake River                     | 14050003cd027                                  | Not Tested - Hybridized      | 0 to 50 fish                | Excellent                   | 15 to 20 feet                         | BRK, RBT                  |     |
| WC: GR872860C                  | West Branch North Fork Little Snake River         | 14050003cd028                                  | < 80%                        | 0 to 50 fish                | Good                        | 15 to 20 feet                         | None                      |     |
| WC: GR872840C                  | North Fork Little Snake River                     | 14050003cd032                                  | Not Tested - Hybridized      | 0 to 50 fish                | Excellent                   | > 25 feet                             | RBT                       |     |
| WC: GR872840C                  | North Fork Little Snake River                     | 14050003cd033                                  | Unaltered                    | Over 400 fish               | Excellent                   | 15 to 20 feet                         | None                      |     |
| WC: GR872880C                  | Solomon Creek                                     | 14050003cd035                                  | Unaltered                    | 50 to 150 fish              | Excellent                   | 5 to 10 feet                          | None                      |     |
| WC: 43                         | Harrison Creek                                    | 14050003cd037                                  | 90% - 99%                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |     |
| WC: GR872940C                  | Deadman Creek                                     | 14050003cd039                                  | 90% - 99%                    | 50 to 150 fish              | Good                        | 10 to 15 feet                         | None                      |     |
| WC: 168                        | W. Unnamed Trib. to North Fork Little Snake River | 14050003cd043                                  | Unaltered                    | 0 to 50 fish                | Good                        | 5 to 10 feet                          | None                      |     |
| WC: 149                        | Unnamed Tributary to Rose Creek                   | 14050003cd046                                  | Unaltered                    | 50 to 150 fish              | Excellent                   | 5 to 10 feet                          | None                      |     |
| WC: 21854                      | Rose Creek  | 14050003cd047                                  | Unaltered                    | 0 to 50 fish                | Excellent                   | 5 to 10 feet                          | None                      |     |
| <b>Conservation Population</b> | <b><u>YW3-17</u></b>                              | 3.45   | Moderately Connect           | Minimal Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source                    | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: GR872860C                  | West Branch North Fork Little Snake River         | 14050003cd029                                  | Unaltered                    | 151 to 400 fish             | Good                        | 10 to 15 feet                         | None                      |     |
| <b>Conservation Population</b> | <b><u>YW3-18</u></b>                              | 1.21   | Weakly Connected             | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source                    | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: GR872860C                  | West Branch North Fork Little Snake River         | 14050003cd030                                  | Unaltered                    | 50 to 150 fish              | Fair                        | 10 to 15 feet                         | None                      |     |
| <b>Conservation Population</b> | <b><u>YW3-19</u></b>                              | 3.12   | Weakly Connected             | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source                    | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: GR872860C                  | West Branch North Fork Little Snake River         | 14050003cd031                                  | Unaltered                    | 50 to 150 fish              | Excellent                   | 10 to 15 feet                         | None                      |     |
| <b>Conservation Population</b> | <b><u>YW3-22</u></b>                              | 0.81   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source                    | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: GR872880C                  | Solomon Creek                                     | 14050003cd036                                  | Unaltered                    | 0 to 50 fish                | Poor                        | < 5 feet                              | None                      |     |
| <b>Conservation Population</b> | <b><u>YW3-23</u></b>                              | 0.55   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Source                    | Res |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b>                         | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |     |
| WC: 43                         | Harrison Creek                                    | 14050003cd038                                  | 90% - 99%                    | 0 to 50 fish                | Fair                        | < 5 feet                              | None                      |     |

14050003

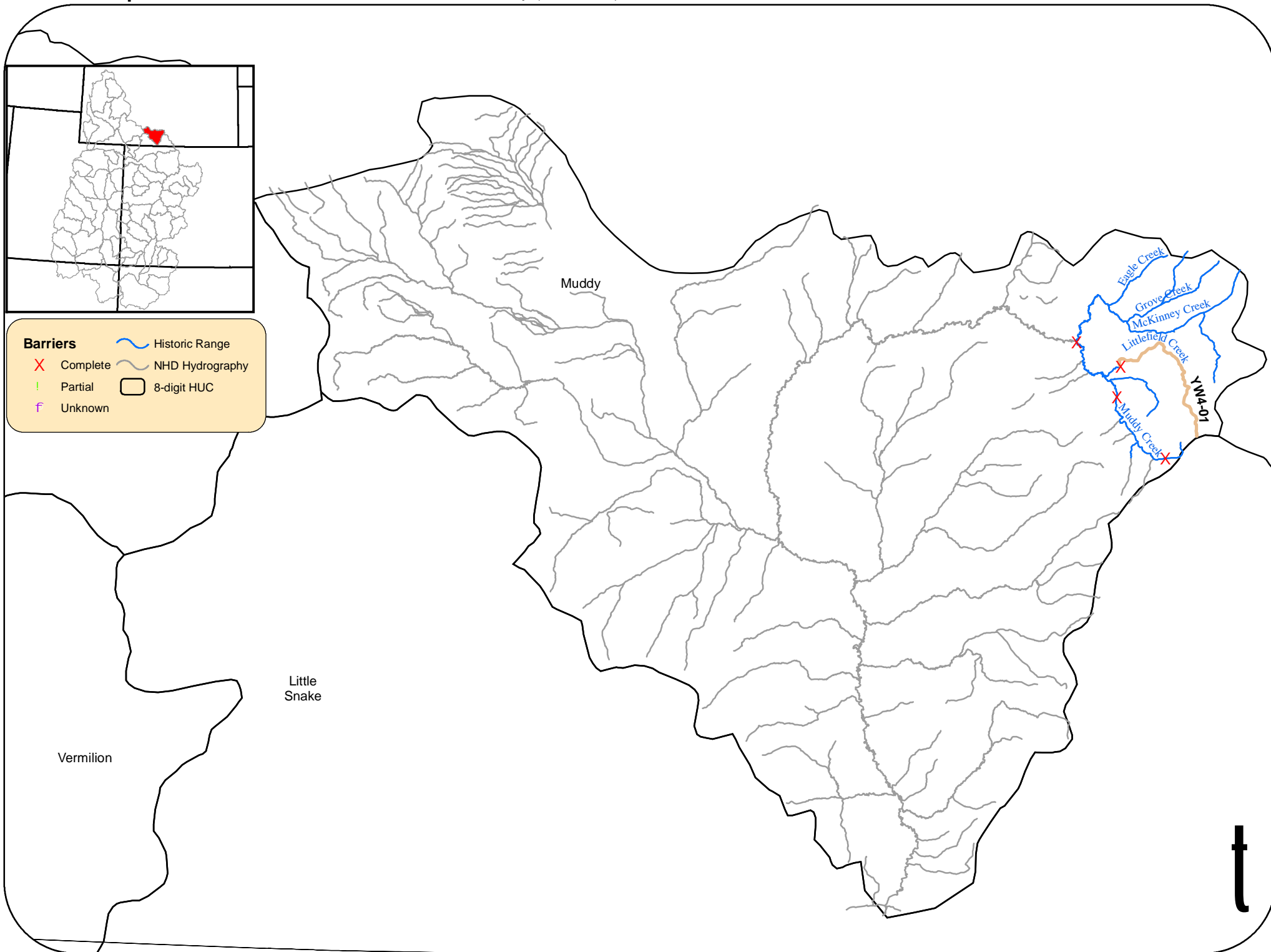
## Little Snake

|  | <i>Stream Miles</i>                               | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>    | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|---|--|------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>YW3-24</u> | 0.66  | Weakly Connected                               | Limited Disease Risk   | No Risk of Hybridization    | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR872940C                                | Deadman Creek                                     | 14050003cd040                                  | 90% - 99%              | 0 to 50 fish                | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>YW3-25</u> | 0.85  | Population Isolated                            | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR872940C                                | Deadman Creek                                     | 14050003cd041                                  | Unaltered              | 0 to 50 fish                | Good                                  | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>YW3-26</u> | 1.4   | Population Isolated                            | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 168                                      | W. Unnamed Trib. to North Fork Little Snake River | 14050003cd044                                  | Unaltered              | 0 to 50 fish                | Excellent                             | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>YW3-27</u> | 3.47  | Moderately Connect                             | Limited Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: GR872840C                                | North Fork Little Snake River                     | 14050003cd034                                  | Unaltered              | 50 to 150 fish              | Excellent                             | 5 to 10 feet          | None                |
| WC: 23                                       | E. Unnamed Trib. to North Fork Little Snake River | 14050003cd045                                  | Unaltered              | 50 to 150 fish              | Good                                  | < 5 feet              | None                |
| <b>Conservation Population</b> <u>YW3-28</u> | 20.8  | Weakly Connected                               | Minimal Disease Risk   | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 20802                                    | Johnson Creek                                     | 14050003cd006                                  | Unaltered              | 50 to 150 fish              | Fair                                  | 5 to 10 feet          | FSH                 |
| WC: 24092                                    | Oliver Creek                                      | 14050003cd007                                  | Unaltered              | 0 to 50 fish                | Poor                                  | 5 to 10 feet          | FSH                 |
| WC: 23470                                    | South Fork Little Snake River                     | 14050003cd008                                  | Unaltered              | 0 to 50 fish                | Poor                                  | 5 to 10 feet          | FSH                 |
| WC: 23470                                    | South Fork Little Snake River                     | 14050003cd009                                  | Unaltered              | 0 to 50 fish                | Fair                                  | 5 to 10 feet          | None                |
| WC: 21082                                    | Lopez Creek                                       | 14050003cd010                                  | Unaltered              | 0 to 50 fish                | Fair                                  | < 5 feet              | None                |
| WC: 23470                                    | South Fork Little Snake River                     | 14050003cd048                                  | Unaltered              | 0 to 50 fish                | Poor                                  | 10 to 15 feet         | FSH                 |
| <b>Conservation Population</b> <u>YW3-29</u> | 8.55  | Weakly Connected                               | Minimal Disease Risk   | Hybridizing species > 10 km | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                                | <u>Population ID</u>                           | <u>Genetic Status</u>  | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 23286                                    | South Fork Slater Creek                           | 14050003cd004                                  | Unaltered              | 50 to 150 fish              | Good                                  | 10 to 15 feet         | BRK                 |
| WC: 21123                                    | S. Fk. Slater Creek, W. Prong                     | 14050003cd005                                  | Not Tested - Unaltered | 50 to 150 fish              | Good                                  | 5 to 10 feet          | BRK                 |

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## Little Snake

|                                | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>YW3-30</u></b>      | 5.9  | Population Isolated          | Minimal Disease Risk        | Hybridizing species > 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 27032                      | Roaring Fork Slater Creek | 14050003cd003                                  | Not Tested - Unaltered       | 50 to 150 fish              | Good                        | 10 to 15 feet                         | None                      |
| <b>Conservation Population</b> | <b><u>YW3-31</u></b>      | 5.7  | Population Isolated          | Minimal Disease Risk        | Hybridizing species > 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 22959                      | Cataract Creek            | 14050003cd001                                  | Not Tested - Unaltered       | 151 to 400 fish             | Excellent                   | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>YW3-32</u></b>      | 4.89   | Population Isolated          | Minimal Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 22854                      | Willow Creek              | 14050003cd002                                  | Unaltered                    | 0 to 50 fish                | Fair                        | 5 to 10 feet                          | BRK, FSH                  |
| <b>Conservation Population</b> | <b><u>YW3-34</u></b>      | 0.64   | Strongly Connected           | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source Fluv               |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 02                         | Alisha Creek              | 14050003cd049                                  | Unaltered                    | 151 to 400 fish             | Good                        | 5 to 10 feet                          | None                      |

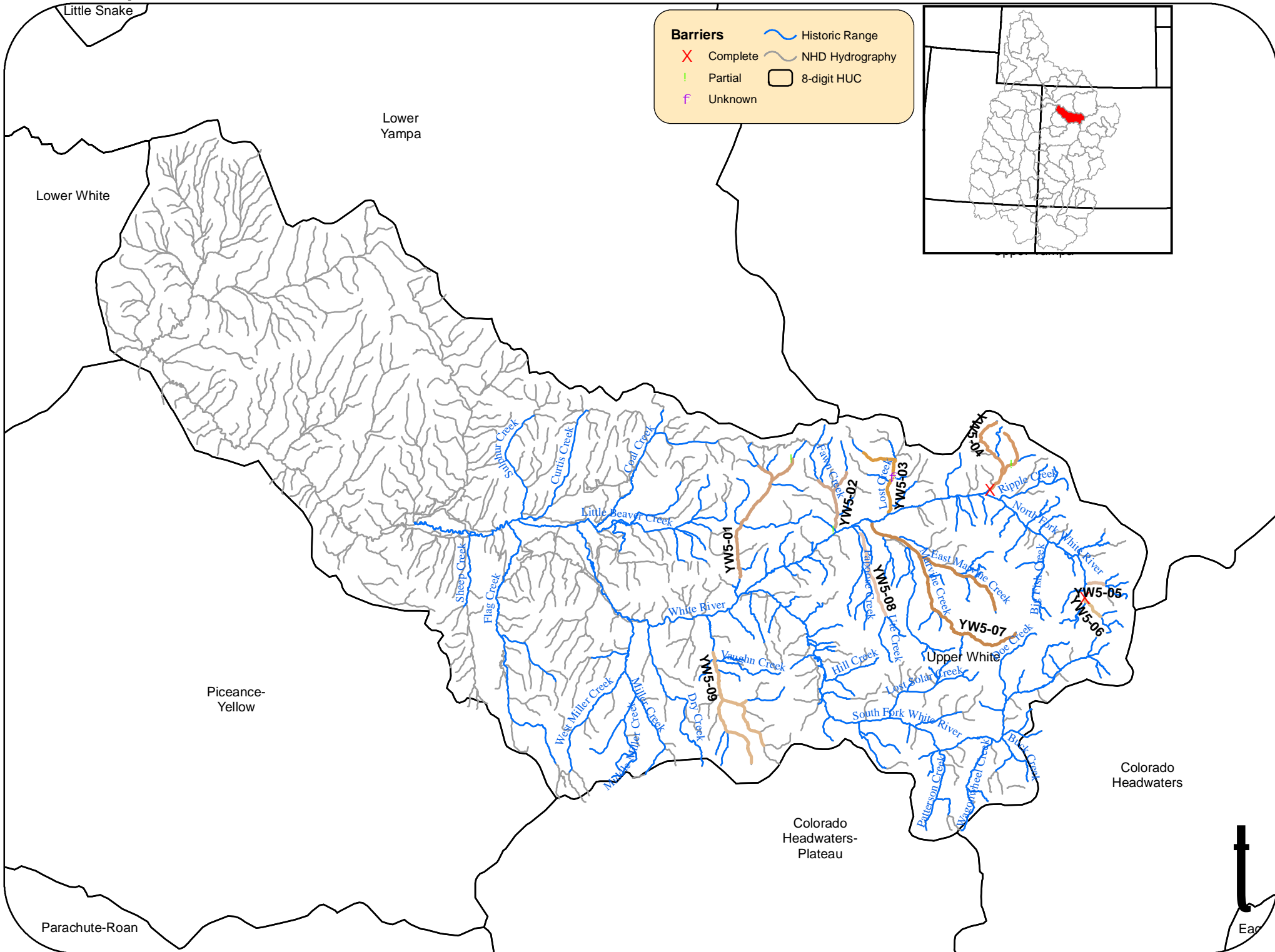


**14050004**      **Muddy**

|                                    |                      | <i>Stream<br/>Miles</i>   | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|----------------------|---------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>YW4-01</u></b> | 9.18                      | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 |                      | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: GR871240C                      |                      | Littlefield Creek         | 14050004cd001  | Unaltered                    | 0 to 50 fish                  | Good                            | 5 to 10 feet               | None                      |

# Yampa GMU

Upper White (14050005)



14050005

## Upper White

|                                | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>       | <i>Source or Sink</i>                 | <i>Life History</i>         |
|--------------------------------|---------------------------|--|------------------------------|-----------------------------|-----------------------------------|---------------------------------------|-----------------------------|
| <b>Conservation Population</b> | <b><u>YW5-01</u></b>      | 10.87  | Population Isolated          | Limited Disease Risk        | Hybridizing species < 10 km       | Known or Probable Unique Life History | Not Applicable Res          |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 24935                      | Big Beaver Creek          | 14050005cd004                                  | Not Tested - Hybridized      | Unknown                     | Fair                              | 10 to 15 feet                         | RBT                         |
| WC: 24935                      | Big Beaver Creek          | 14050005cd005                                  | 90% - 99%                    | 151 to 400 fish             | Good                              | 5 to 10 feet                          | None                        |
| WC: 19522                      | Allen Creek               | 14050005cd006                                  | Not Tested - Unaltered       | Unknown                     | Good                              | < 5 feet                              | None                        |
| <b>Conservation Population</b> | <b><u>YW5-02</u></b>      | 5.18   | Population Isolated          | Limited Disease Risk        | Hybridizing species > 10 km       | Known or Probable Unique Life History | Not Applicable Res          |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 20254                      | Fawn Creek                | 14050005cd001                                  | 90% - 99%                    | 151 to 400 fish             | Excellent                         | 10 to 15 feet                         | None                        |
| WC: 20254                      | Fawn Creek                | 14050005cd002                                  | Not Tested - Unaltered       | Unknown                     | Excellent                         | 5 to 10 feet                          | None                        |
| WC: 27892                      | West Fork Fawn Creek      | 14050005cd003                                  | Not Tested - Unaltered       | Unknown                     | Excellent                         | 5 to 10 feet                          | None                        |
| <b>Conservation Population</b> | <b><u>YW5-03</u></b>      | 5.96   | Population Isolated          | Limited Disease Risk        | Hybridizing species > 10 km       | Known or Probable Unique Life History | Not Applicable Res          |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 24959                      | Lost Creek                | 14050005cd010                                  | Not Tested - Hybridized      | Unknown                     | Excellent                         | 10 to 15 feet                         | BRK, RBT                    |
| WC: 24959                      | Lost Creek                | 14050005cd011                                  | Not Tested - Unaltered       | 151 to 400 fish             | Fair                              | 5 to 10 feet                          | None                        |
| WC: 27967                      | Hahn Creek                | 14050005cd012                                  | Not Tested - Unaltered       | Over 400 fish               | Good                              | < 5 feet                              | None                        |
| <b>Conservation Population</b> | <b><u>YW5-04</u></b>      | 9.32   | Weakly Connected             | Limited Disease Risk        | No Risk of Hybridization          | Core Conservation Population          | Not Applicable Res          |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 22044                      | Snell Creek               | 14050005cd013                                  | Unaltered                    | 50 to 150 fish              | Excellent                         | 5 to 10 feet                          | BRK                         |
| WC: 22044                      | Snell Creek               | 14050005cd014                                  | Not Tested - Unaltered       | 151 to 400 fish             | Good                              | 5 to 10 feet                          | BRK, RBT                    |
| WC: 22044                      | Snell Creek               | 14050005cd015                                  | Not Tested - Unaltered       | Over 400 fish               | Good                              | 5 to 10 feet                          | None                        |
| WC: 22044                      | Snell Creek               | 14050005cd016                                  | Not Tested - Unaltered       | Unknown                     | Good                              | < 5 feet                              | None                        |
| <b>Conservation Population</b> | <b><u>YW5-05</u></b>      | 1.07   | Population Isolated          | Moderate Disease Risk       | Hybridizing species are sympatric | Other                                 | Not Applicable Res, Ad-fluv |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 24721                      | Little Trappers Lake      | 14050005cd017                                  | < 80%                        | Unknown                     | Good                              | 5 to 10 feet                          | BRK                         |
| <b>Conservation Population</b> | <b><u>YW5-06</u></b>      | 1.76   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization          | Known or Probable Unique Life History | Not Applicable Res          |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>             | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b>   |
| WC: 22741                      | North Fork White River    | 14050005cd018                                  | Not Tested - Unaltered       | Unknown                     | Good                              | 5 to 10 feet                          | None                        |

14050005

## Upper White

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>        | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>YW5-07</u></b>      | 21.09                   | Weakly Connected                                       | Moderate Disease Risk        | Hybridizing species<br>are sympatric | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>          | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 23278                          | Marvine Creek             |                         | 14050005cd019  | Not Tested - Hybridized      | Unknown                              | Good                                     | 10 to 15 feet              | BRK, RBT                  |
| WC: 21105                          | East Marvine Creek        |                         | 14050005cd020  | Not Tested - Hybridized      | Unknown                              | Good                                     | 5 to 10 feet               | BRK, RBT                  |
| <b>Conservation<br/>Population</b> | <b><u>YW5-08</u></b>      | 5.61                    | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>are sympatric | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>          | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 22563                          | Ute Creek                 |                         | 14050005cd021  | Not Tested - Hybridized      | Unknown                              | Good                                     | 5 to 10 feet               | BRK, RBT                  |
| <b>Conservation<br/>Population</b> | <b><u>YW5-09</u></b>      | 13.91                   | Population Isolated                                    | Moderate Disease Risk        | Hybridizing species<br>< 10 km       | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>          | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 28111                          | West Fork North Elk Creek |                         | 14050005cd007  | Unaltered                    | 50 to 150 fish                       | Poor                                     | 5 to 10 feet               | BRK                       |
| WC: 20139                          | North Elk Creek           |                         | 14050005cd008  | Unaltered                    | 151 to 400 fish                      | Good                                     | 10 to 15 feet              | BRK                       |
| WC: 28109                          | East Fork North Elk Creek |                         | 14050005cd009  | Unaltered                    | 0 to 50 fish                         | Good                                     | < 5 feet                   | BRK                       |



**Barriers**

X Complete

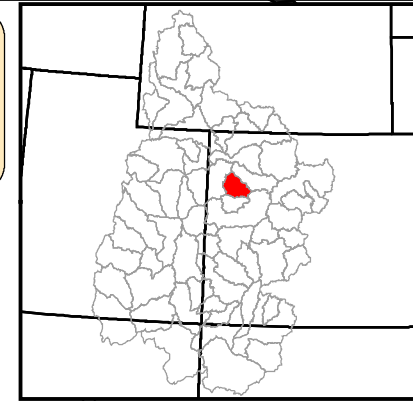
! Partial

f Unknown

~ Historic Range

~ NHD Hydrography

□ 8-digit HUC



Lower Yamp

White

Lower  
White

Piceance Creek

Black Sulphur Creek

YW6-01

X

Piceance-  
Yellow

Parachute-  
Roan

Colorado  
Headwaters-  
Plateau

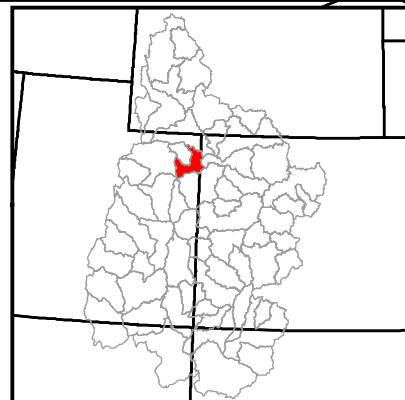


**14050006      Piceance-Yellow**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>        | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|--------------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>YW6-01</u></b>      | 7.58                    | Population Isolated                                    | Minimal Disease Risk         | Hybridizing species<br>are sympatric | Known or Probable<br>Unique Life History | Sink                       | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>          | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 19213                          | Black Sulphur Creek       |                         | 14050006cd001  | Not Tested - Hybridized      | 50 to 150 fish                       | Fair                                     | 5 to 10 feet               | None                      |
| WC: 25266                          | Canyon Creek              |                         | 14050006cd002  | Not Tested - Hybridized      | 50 to 150 fish                       | Fair                                     | < 5 feet                   | None                      |

# Lower Green GMU

Lower Green - Diamond (14060001)



Duchesne

**Barriers**

X

Complete

!

Partial

f

Unknown

Historic Range

NHD Hydrography

8-digit HUC

Ashley-Brush

Upper Green-  
Flaming Gorge  
Reservoir

Jones Hole Creek

LG101  
X

Lower  
Yampa

Lower  
Green-  
Diamond

Lower  
White

Lower Green-  
Desolation Canyon



**14060001      Lower Green-Diamond**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LG1-01</u></b>      | 0.9                     | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIBM03001                      | Ely Creek                 |                         | 14060001cd001  | Unaltered                    | 151 to 400 fish               | Fair                            | < 5 feet                   | None                      |

# Lower Green GMU

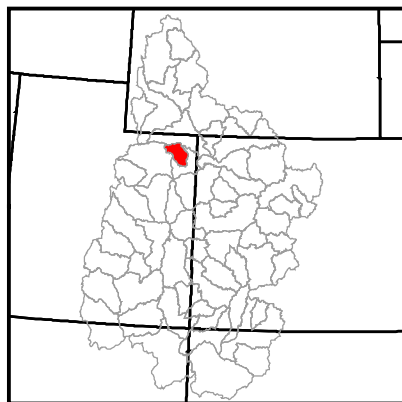
Ashley - Brush (14060002)

Upper Green-  
Flaming Gorge  
Reservoir

Ashley-  
Brush

Duchesne

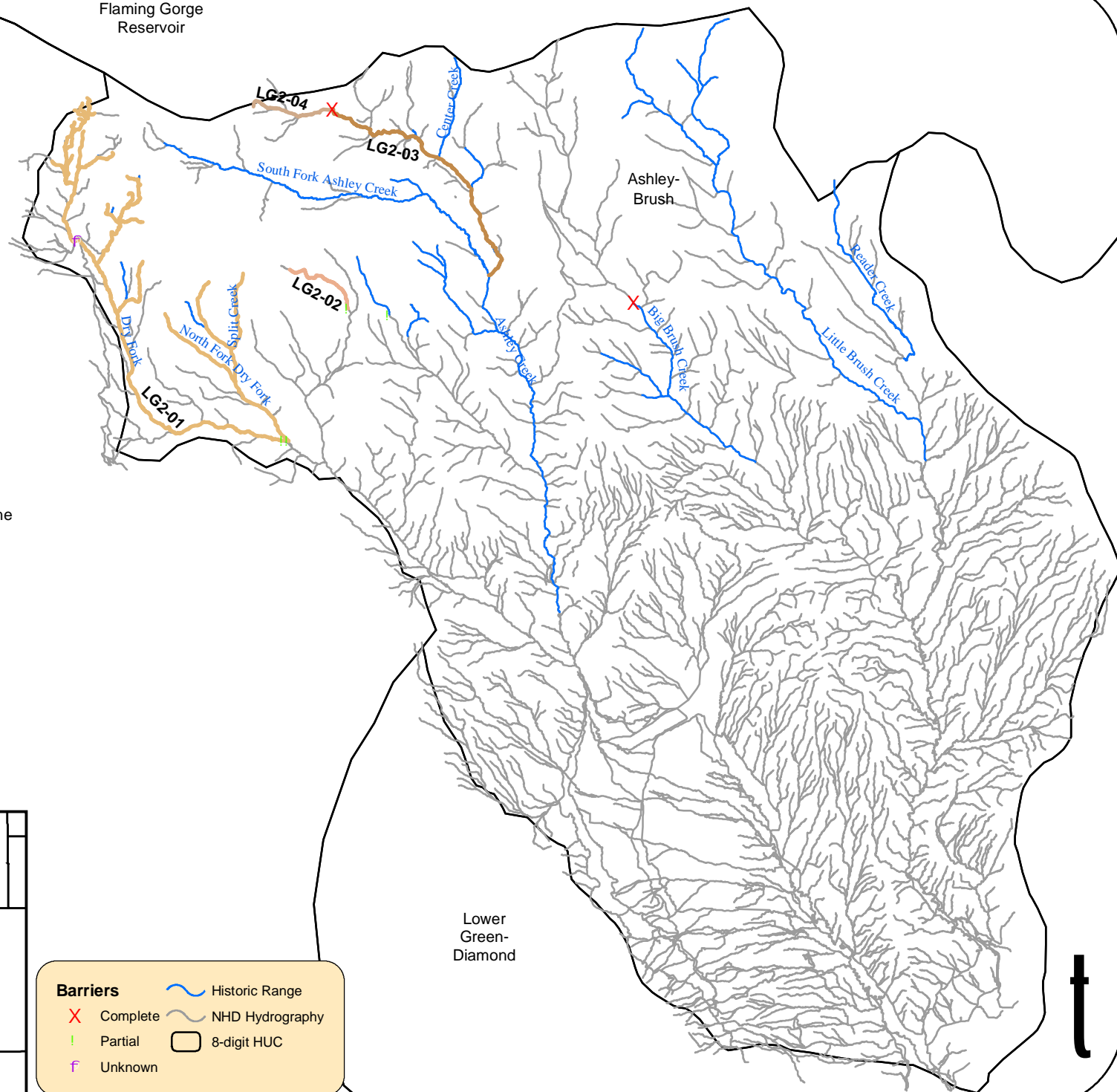
Lower  
Green-  
Diamond



## Barriers

- X Complete
- ! Partial
- f Unknown

- Historic Range
- NHD Hydrography
- 8-digit HUC



14060002

## Ashley-Brush

| <i>Conservation Population</i>               | <i>Stream Miles</i>                       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>         | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|---|--|-------------------------|-----------------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>LG2-01</u> | 46.57                                     | Strongly Connected                             | Limited Disease Risk    | Hybridizing species < 10 km       | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBH01002                                | Dry Fork                                  | 14060002cd001                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Poor                         | 10 to 15 feet         | BRK                 |
| WC: IIBH01002                                | Dry Fork                                  | 14060002cd003                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Good                         | 10 to 15 feet         | BRK                 |
| WC: IIBH01002                                | Dry Fork                                  | 14060002cd006                                  | Unaltered               | 0 to 50 fish                      | Good                         | 10 to 15 feet         | BRK                 |
| WC: IIBH01002                                | Dry Fork                                  | 14060002cd007                                  | Unaltered               | 0 to 50 fish                      | Excellent                    | 5 to 10 feet          | BRK                 |
| WC: 72                                       | Reynolds Creek                            | 14060002cd008                                  | Unaltered               | 0 to 50 fish                      | Excellent                    | 5 to 10 feet          | BRK                 |
| WC: 124                                      | Unnamed Trib. #5 to Dry Fork              | 14060002cd009                                  | Unaltered               | 0 to 50 fish                      | Good                         | 5 to 10 feet          | BRK                 |
| WC: IIBH01002                                | Dry Fork                                  | 14060002cd010                                  | Unaltered               | 0 to 50 fish                      | Good                         | 5 to 10 feet          | BRK                 |
| WC: 120                                      | Unnamed Trib. #4 to Dry Fork              | 14060002cd012                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 115                                      | Unnamed Trib. #3 to Dry Fork              | 14060002cd013                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 106                                      | Unnamed Trib. #2 to Dry Fork              | 14060002cd014                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 96                                       | Unnamed Trib. #1 to Dry Fork              | 14060002cd015                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 126                                      | Unnamed Trib. #6 to Dry Fork              | 14060002cd016                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 127                                      | Unnamed Trib. #7 to Dry Fork              | 14060002cd017                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 155                                      | Unnamed Tributary to Trib. #7 to Dry Fork | 14060002cd018                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 911                                      | Twin Lakes                                | 14060002cd019                                  | Unaltered               | 0 to 50 fish                      | Good                         | < 5 feet              | BRK                 |
| WC: 911                                      | Twin Lakes                                | 14060002cd020                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 17li                                     | E. Twin Lakes Inlet                       | 14060002cd021                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 56li                                     | N. Twin Lakes Inlet                       | 14060002cd022                                  | Unaltered               | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: IIBH010D01                               | Corral Park                               | 14060002cd023                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK, RBT            |
| WC: IIBH010C01                               | Split Creek                               | 14060002cd024                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Good                         | 5 to 10 feet          | BRK                 |
| WC: IIBH010C01                               | North Fork Dry Fork                       | 14060002cd026                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| WC: 135                                      | Unnamed Trib. to Split Creek              | 14060002cd027                                  | Not Tested - Unaltered  | 0 to 50 fish                      | Fair                         | < 5 feet              | BRK                 |
| <b>Conservation Population</b> <u>LG2-02</u> | 2.74                                      | Population Isolated                            | Limited Disease Risk    | Hybridizing species > 10 km       | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 84                                       | South Brownie Creek                       | 14060002cd028                                  | Unaltered               | 151 to 400 fish                   | Fair                         | 10 to 15 feet         | None                |
| <b>Conservation Population</b> <u>LG2-03</u> | 9.43                                      | Weakly Connected                               | Limited Disease Risk    | Hybridizing species are sympatric | Other                        | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                        | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>              | <u>Habitat</u>               | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBH07001                                | North Fork Ashley Creek                   | 14060002cd032                                  | Not Tested - Hybridized | 50 to 150 fish                    | Good                         | 20 to 25 feet         | RBT                 |
| WC: IIBH07001                                | North Fork Ashley Creek                   | 14060002cd033                                  | Not Tested - Hybridized | 50 to 150 fish                    | Good                         | 20 to 25 feet         | RBT                 |
| WC: IIBH07001                                | North Fork Ashley Creek                   | 14060002cd034                                  | Not Tested - Hybridized | 50 to 150 fish                    | Good                         | 10 to 15 feet         | RBT                 |

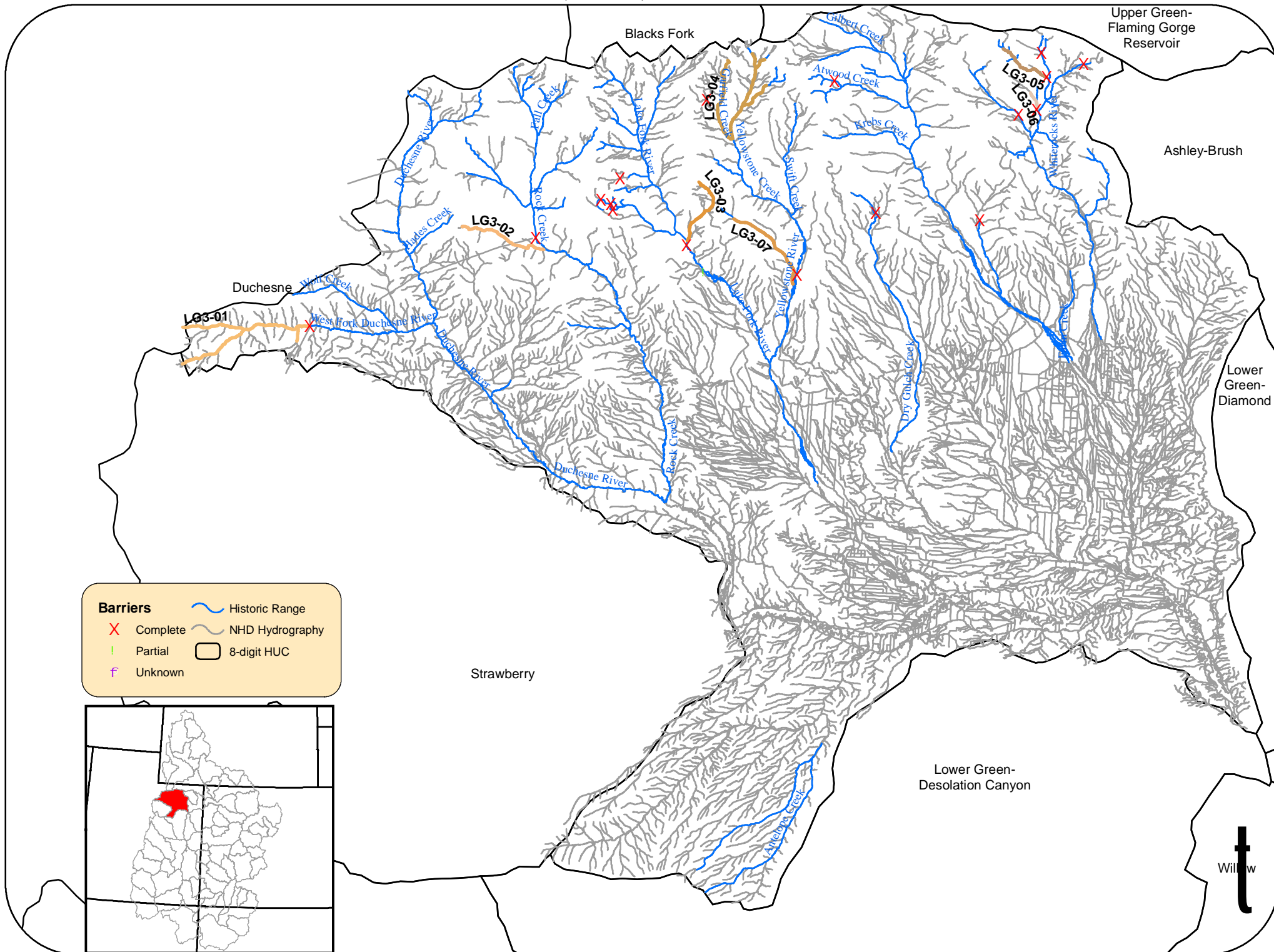
**14060002**      **Ashley-Brush**

|                                    |                      | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>     | <i>Hybridization<br/>Risk</i>                | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i> | <i>Life<br/>History</i> |
|------------------------------------|----------------------|-------------------------|--|-----------------------------|--|---------------------------------|---------------------------|-------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LG2-04</u></b> | 2.88                    | <i>Population Isolated</i>                             | <i>Limited Disease Risk</i> | <i>Hybridizing species<br/>are sympatric</i> | <i>Other</i>                    | <i>Source</i>             | <i>Res</i>              |

| <i>Ind. Pops.:</i> | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b> | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b> | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
|--------------------|---------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------|----------------------------|---------------------------|
| WC: IIBH07001      | North Fork Ashley Creek   | 14060002cd035               | Not Tested - Hybridized      | 0 to 50 fish                | Good                  | 5 to 10 feet               | BRK, RBT                  |



Duchesne (14060003)





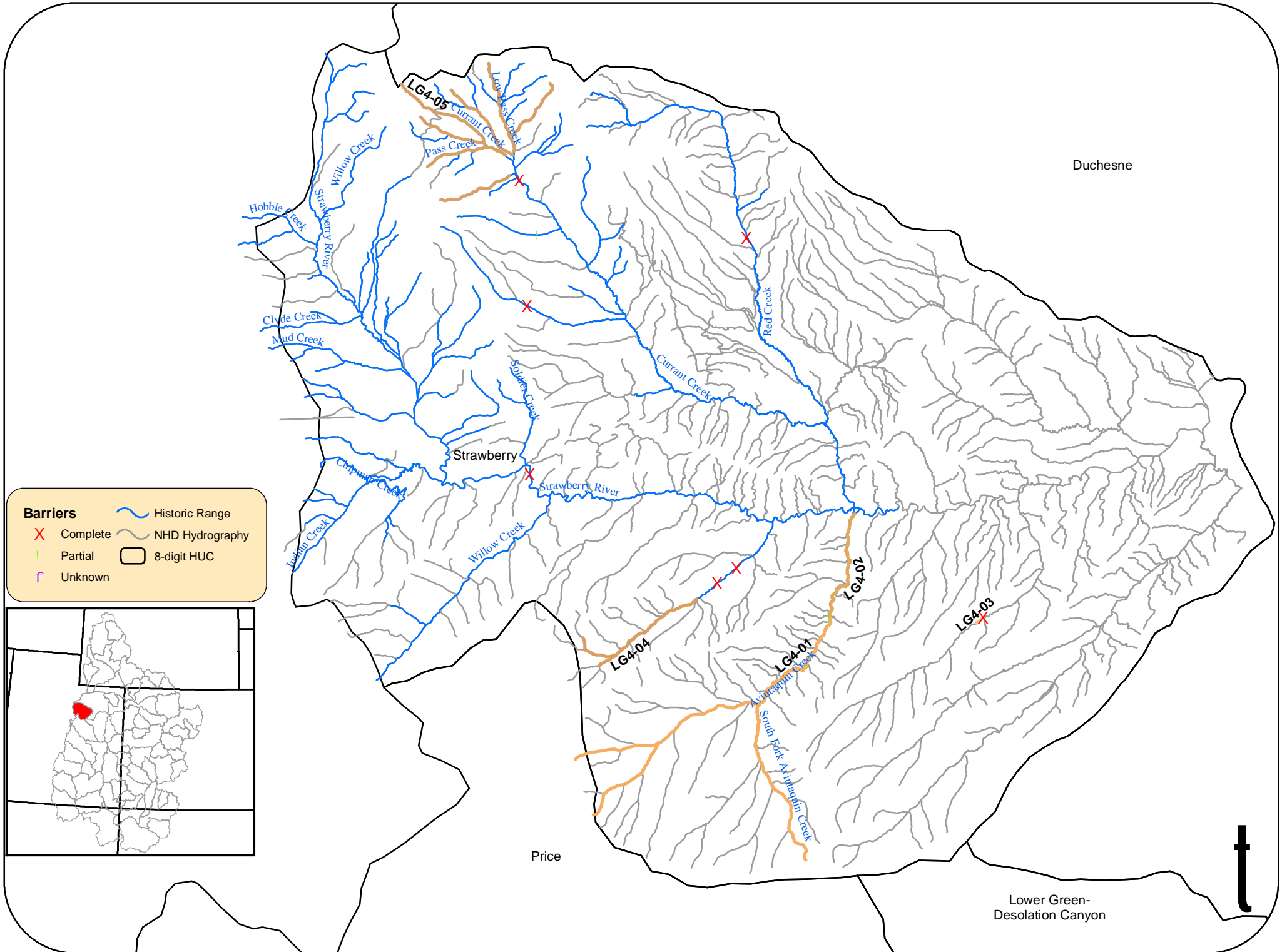
14060003

## Duchesne

|  | <i>Stream Miles</i>                          | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>     | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>           | <i>Source or Sink</i> | <i>Life History</i> |
|--|--|--|-------------------------|-----------------------------|---------------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <u>LG3-01</u> | 17.64  | Weakly Connected                               | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Sink                  | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 173                                      | W. Unnamed Trib. to West Fork Duchesne River | 14060003cd001                                  | Unaltered               | 151 to 400 fish             | Good                                  | 20 to 25 feet         | None                |
| WC: IIBE150F01                               | Vat Creek                                    | 14060003cd002                                  | Not Tested - Unaltered  | 0 to 50 fish                | Poor                                  | < 5 feet              | None                |
| WC: IIBE150I01                               | Little West Fork                             | 14060003cd003                                  | Not Tested - Unaltered  | 0 to 50 fish                | Poor                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>LG3-02</u> | 7.06   | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Other                                 | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBE100G01                               | South Fork Rock Creek                        | 14060003cd006                                  | Unaltered               | 50 to 150 fish              | Good                                  | 10 to 15 feet         | BRK                 |
| <b>Conservation Population</b> <u>LG3-03</u> | 6.1  | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBE020C01                               | Fish Creek                                   | 14060003cd022                                  | Not Tested - Hybridized | 0 to 50 fish                | Good                                  | 10 to 15 feet         | BRK, YCT            |
| <b>Conservation Population</b> <u>LG3-04</u> | 18.12  | Weakly Connected                               | Limited Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Source                | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBE020B04                               | Garfield Creek                               | 14060003cd029                                  | Not Tested - Hybridized | 151 to 400 fish             | Good                                  | 15 to 20 feet         | BRK, YCT            |
| WC: IIBE020B04                               | Yellowstone Creek                            | 14060003cd030                                  | Unaltered               | 50 to 150 fish              | Good                                  | 10 to 15 feet         | BRK, YCT            |
| WC: 27                                       | E. Unnamed Trib. to Yellowstone Creek        | 14060003cd031                                  | Not Tested - Hybridized | 0 to 50 fish                | Fair                                  | < 5 feet              | BRK, YCT            |
| WC: IIBE020B05                               | Milk Creek                                   | 14060003cd032                                  | Not Tested - Hybridized | 50 to 150 fish              | Good                                  | 10 to 15 feet         | BRK, YCT            |
| <b>Conservation Population</b> <u>LG3-05</u> | 4.51   | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Core Conservation Population          | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBE010C06                               | Reader Lakes Outlet                          | 14060003cd059                                  | Unaltered               | 0 to 50 fish                | Good                                  | 5 to 10 feet          | BRK                 |
| WC: IIBE010C06                               | Reader Lakes Outlet                          | 14060003cd060                                  | Unaltered               | 0 to 50 fish                | Good                                  | 5 to 10 feet          | BRK                 |
| <b>Conservation Population</b> <u>LG3-06</u> | 1.45   | Population Isolated                            | Limited Disease Risk    | No Risk of Hybridization    | Other                                 | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: 174                                      | W. Unnamed Trib. To Whiterocks River         | 14060003cd056                                  | Not Tested - Unaltered  | 151 to 400 fish             | Good                                  | 5 to 10 feet          | None                |
| <b>Conservation Population</b> <u>LG3-07</u> | 7.5  | Population Isolated                            | Minimal Disease Risk    | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <u>Stream Name</u>                           | <u>Population ID</u>                           | <u>Genetic Status</u>   | <u>Adult CRCT/mi</u>        | <u>Habitat</u>                        | <u>Stream Width</u>   | <u>Non Natives</u>  |
| WC: IIBE020B01                               | Hells Canyon                                 | 14060003cd025                                  | Not Tested - Unaltered  | 0 to 50 fish                | Fair                                  | < 5 feet              | None                |

# Lower Green GMU

Strawberry (14060004)



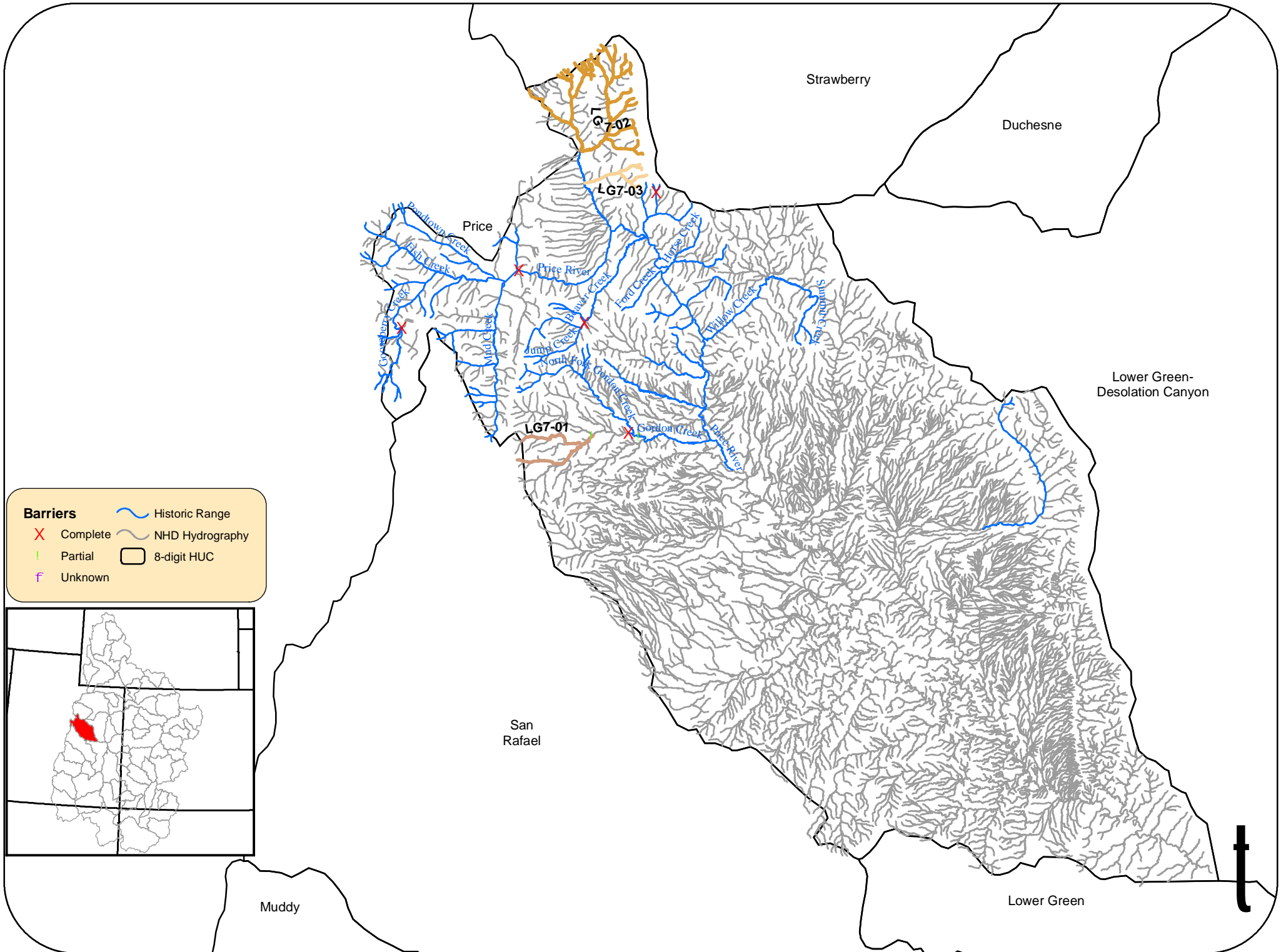
14060004

## Strawberry

|   | <i>Stream Miles</i>         | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i>      | <i>Life History</i>       |
|---|-----------------------------|--|------------------------------|-----------------------------|------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> <u><b>LG4-01</b></u> | 30.15                       | Moderately Connect                             | Limited Disease Risk         | Hybridizing species < 10 km | Core Conservation Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>   | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IIBE060G02                                      | West Fork Avintaquin Creek  | 14060004cd003                                  | Unaltered                    | 0 to 50 fish                | Fair                         | 10 to 15 feet              | BRN                       |
| WC: IIBE060G04                                      | South Fork Avintaquin Creek | 14060004cd004                                  | Unaltered                    | 0 to 50 fish                | Poor                         | 5 to 10 feet               | None                      |
| WC: IIBE060G02                                      | West Fork Avintaquin Creek  | 14060004cd005                                  | Unaltered                    | 0 to 50 fish                | Fair                         | 5 to 10 feet               | BRN                       |
| WC: IIBE060G07                                      | Mill Hollow                 | 14060004cd006                                  | Unaltered                    | 151 to 400 fish             | Poor                         | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>LG4-02</b></u> | 6.68                        | Weakly Connected                               | Limited Disease Risk         | Hybridizing species < 10 km | Core Conservation Population | Sink                       | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>   | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IIBE060G01                                      | Avintaquin Creek            | 14060004cd002                                  | Unaltered                    | 0 to 50 fish                | Fair                         | 10 to 15 feet              | BRN                       |
| <b>Conservation Population</b> <u><b>LG4-03</b></u> | 0.4                         | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Ad-fluv                   |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>   | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IIBE060C01                                      | Lake Canyon Lake            | 14060004cd001                                  | Unaltered                    | Unknown                     | Unknown                      | Unknown                    | BRK, RBT                  |
| <b>Conservation Population</b> <u><b>LG4-04</b></u> | 7.93                        | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>   | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IIBE060H01                                      | Timber Canyon               | 14060004cd007                                  | Unaltered                    | 151 to 400 fish             | Fair                         | 5 to 10 feet               | BRN                       |
| WC: IIBE060H01                                      | Timber Canyon               | 14060004cd008                                  | Unaltered                    | 0 to 50 fish                | Poor                         | < 5 feet                   | None                      |
| WC: 81  | Shotgun Draw                | 14060004cd009                                  | Unaltered                    | 0 to 50 fish                | Poor                         | < 5 feet                   | None                      |
| <b>Conservation Population</b> <u><b>LG4-05</b></u> | 28.58                       | Strongly Connected                             | Minimal Disease Risk         | Hybridizing species < 10 km | Other                        | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u>   | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IIBE060F01                                      | Racetrack Creek             | 14060004cd013                                  | Unaltered                    | 151 to 400 fish             | Fair                         | < 5 feet                   | BRK                       |
| WC: IIBE060F01                                      | Pass Creek                  | 14060004cd014                                  | Not Tested - Unaltered       | 0 to 50 fish                | Fair                         | 5 to 10 feet               | None                      |
| WC: IIBE060F01                                      | South Fork Currant Creek    | 14060004cd015                                  | Not Tested - Unaltered       | 0 to 50 fish                | Fair                         | 5 to 10 feet               | None                      |
| WC: IIBE060F01                                      | Currant Creek               | 14060004cd016                                  | Not Tested - Unaltered       | 50 to 150 fish              | Fair                         | 5 to 10 feet               | None                      |
| WC: IIBE060F01                                      | Right Fork Currant Creek    | 14060004cd017                                  | Unaltered                    | Over 400 fish               | Fair                         | 10 to 15 feet              | None                      |
| WC: IIBE060F01J                                     | Low Pass Creek              | 14060004cd018                                  | Not Tested - Unaltered       | 0 to 50 fish                | Fair                         | 5 to 10 feet               | None                      |
| WC: 47  | Jones Cabin Creek           | 14060004cd019                                  | Not Tested - Unaltered       | 0 to 50 fish                | Fair                         | < 5 feet                   | None                      |

# Lower Green GMU

Price (14060007)



**14060007      Price**

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LG7-01</u></b>      | 13.78                   | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAK100B02                     | Second Water Canyon       |                         | 14060007cd001  | Unaltered                    | Unknown                       | Good                            | 5 to 10 feet               | TRT                       |
| WC: IIAK100B01                     | First Water Canyon        |                         | 14060007cd002  | Unaltered                    | Unknown                       | Good                            | 5 to 10 feet               | TRT                       |

14060007

Price

| <i>Conservation Population</i>               | <i>Stream Miles</i>                                      | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>    | <i>Hybridization Risk</i> | <i>Population Qualifier</i>  | <i>Source or Sink</i> | <i>Life History</i> |
|--|--|--|------------------------|---------------------------|------------------------------|-----------------------|---------------------|
| <b>Conservation Population</b> <b>LG7-02</b> | 59.35  | Strongly Connected                             | Limited Disease Risk   | No Risk of Hybridization  | Core Conservation Population | Not Applicable        | Res                 |
| <i>Ind. Pops.:</i>                           | <i>Stream Name</i>                                       | <i>Population ID</i>                           | <i>Genetic Status</i>  | <i>Adult CRCT/mi</i>      | <i>Habitat</i>               | <i>Stream Width</i>   | <i>Non Natives</i>  |
| WC: IIAK190B01                               | Left Fork White River                                    | 14060007cd006                                  | Unaltered              | Unknown                   | Fair                         | 5 to 10 feet          | None                |
| WC: IIAK190B01                               | Middle Fork White River                                  | 14060007cd007                                  | Unaltered              | Unknown                   | Fair                         | 5 to 10 feet          | None                |
| WC: 64                                       | N. Unnamed Trib. to Watch Canyon                         | 14060007cd008                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 172                                      | W. Unnamed Trib. to Watch Canyon                         | 14060007cd009                                  | Not Tested - Unaltered | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 158                                      | Unnamed Tributary to W. Trib. to Watch Canyon            | 14060007cd010                                  | Not Tested - Unaltered | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 177                                      | Watch Canyon   | 14060007cd011                                  | Not Tested - Unaltered | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 99                                       | Unnamed Trib. #1 to Middle Fork White River              | 14060007cd012                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 154                                      | Unnamed Tributary to Trib. #1 to Middle Fork White River | 14060007cd013                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 109                                      | Unnamed Trib. #2 to Middle Fork White River              | 14060007cd014                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 117                                      | Unnamed Trib. #3 to Middle Fork White River              | 14060007cd016                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 122                                      | Unnamed Trib. #4 to Middle Fork White River              | 14060007cd017                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 103                                      | Unnamed Trib. #1 to Trib. #4 to Middle Fork White River  | 14060007cd018                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 112                                      | Unnamed Trib. #2 to Trib. #4 to Middle Fork White River  | 14060007cd019                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: IIAK190A01                               | Unnamed Trib. #2 to Right Fork White River               | 14060007cd020                                  | Unaltered              | 50 to 150 fish            | Fair                         | 5 to 10 feet          | None                |
| WC: 102                                      | Unnamed Trib. #1 to Right Fork White River               | 14060007cd021                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 102                                      | Unnamed Trib. #1 to Right Fork White River               | 14060007cd022                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: IIAK190A01                               | Unnamed Trib. #2 to Right Fork White River               | 14060007cd023                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: IIAK190A01                               | Right Fork White River                                   | 14060007cd024                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 118                                      | Unnamed Trib. #3 to Right Fork White River               | 14060007cd025                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 118                                      | Unnamed Trib. #3 to Right Fork White River               | 14060007cd026                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 105                                      | Unnamed Trib. #2 to Trib. #3 to Right Fork White River   | 14060007cd027                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: IIAK190A03                               | Trail Canyon   | 14060007cd028                                  | Unaltered              | Unknown                   | Unknown                      | > 25 feet             | None                |
| WC: 102                                      | Unnamed Trib. #1 to Right Fork White River               | 14060007cd029                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: 102                                      | Unnamed Trib. #1 to Right Fork White River               | 14060007cd030                                  | Unaltered              | Unknown                   | Unknown                      | Unknown               | None                |
| WC: IIAK190A02                               | Trail Hollow   | 14060007cd031                                  | Unaltered              | 50 to 150 fish            | Good                         | Unknown               | None                |
| WC: 153                                      | Unnamed Tributary to Trail Hollow                        | 14060007cd032                                  | Unaltered              | Unknown                   | Good                         | Unknown               | None                |
| WC: IIAK190A01                               | Johnson Fork   | 14060007cd033                                  | Unaltered              | 151 to 400 fish           | Fair                         | Unknown               | None                |
| WC: IIAK190A01                               | Johnson Fork   | 14060007cd034                                  | Unaltered              | Unknown                   | Fair                         | Unknown               | None                |

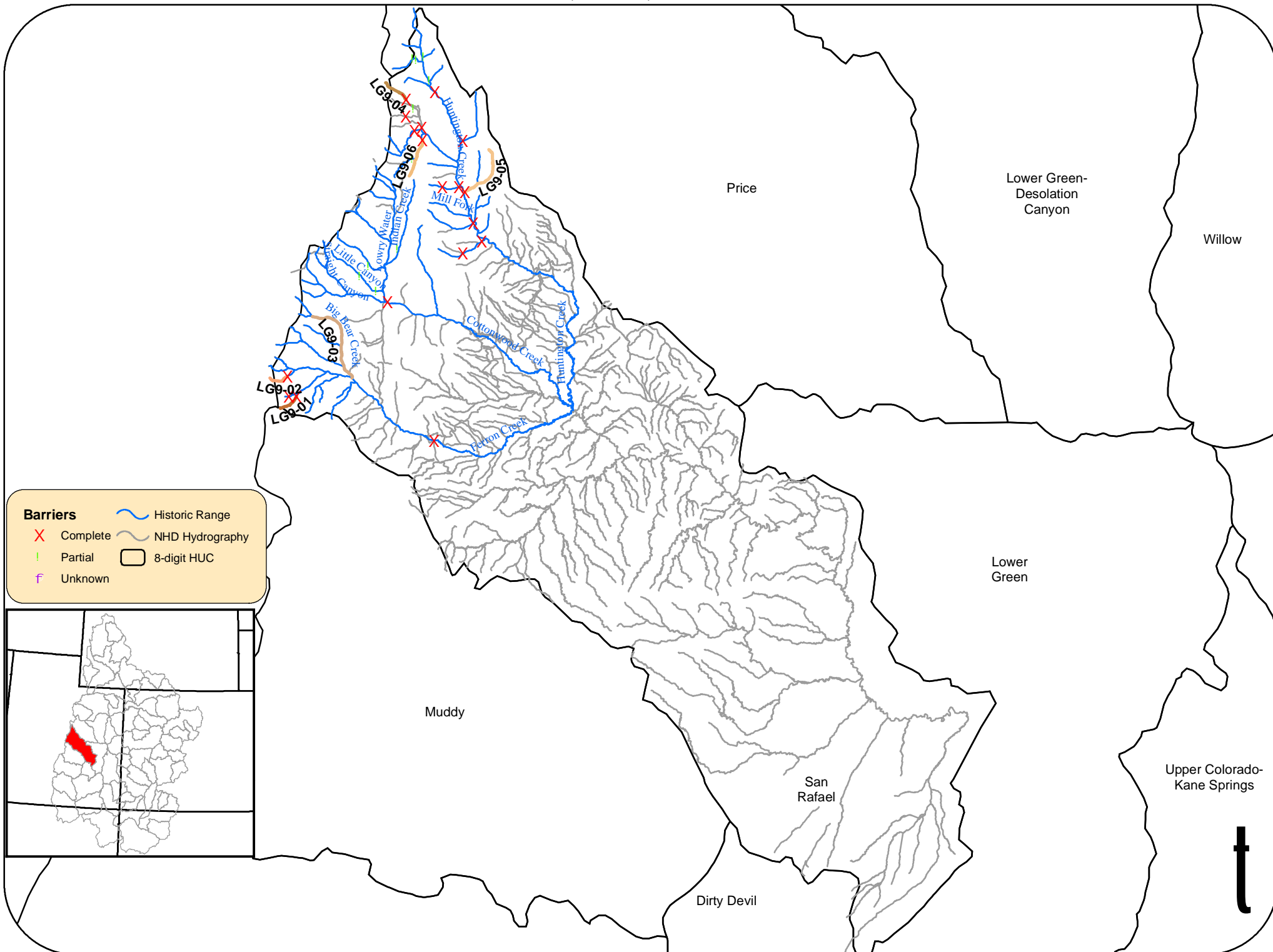
14060007

Price

|                                    |   | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>       | <i>Population<br/>Qualifier</i>         | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---|-------------------------|--|------------------------------|-------------------------------------|---|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LG7-03</u></b>                            | 8.97                    | <i>Weakly Connected</i>                                | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Core Conservation<br/>Population</i> | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>                       |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>         | <b><u>Habitat</u></b>                   | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAK190C01                     | Tabbyune Creek                                  |                         | 14060007cd036  | Unaltered                    | 151 to 400 fish                     | Fair                                    | 5 to 10 feet               | None                      |
| WC: 63                             | N. Unnamed Trib. to Tabbyune Creek              |                         | 14060007cd037  | Unaltered                    | Unknown                             | Fair                                    | Unknown                    | None                      |
| WC: 26                             | E. Unnamed Trib. to Tabbyune Creek              |                         | 14060007cd038  | Unaltered                    | Unknown                             | Unknown                                 | Unknown                    | None                      |
| WC: 144                            | Unnamed Tributary to E. trib. to Tabbyune Creek |                         | 14060007cd039  | Unaltered                    | Unknown                             | Unknown                                 | Unknown                    | None                      |

# Lower Green GMU

San Rafael (14060009)





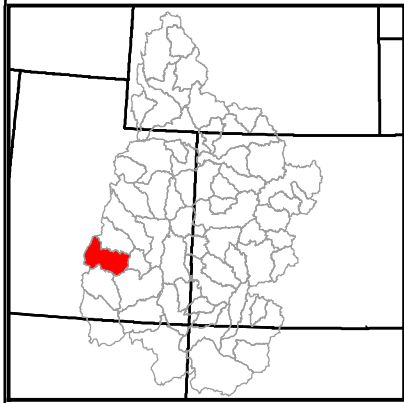
14060009

## San Rafael

|   | <i>Stream Miles</i>        | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i>      | <i>Life History</i>       |
|---|----------------------------|--|------------------------------|-----------------------------|------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> <b><u>LG9-01</u></b> | 2.22                       | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI120I010                                     | Indian Creek               | 14060009cd001                                  | Unaltered                    | Unknown                     | Good                         | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <b><u>LG9-02</u></b> | 2.11                       | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI120J01                                      | Duck Fork                  | 14060009cd002                                  | Unaltered                    | Unknown                     | Good                         | 10 to 15 feet              | TRT                       |
| <b>Conservation Population</b> <b><u>LG9-03</u></b> | 9.02                       | Population Isolated                            | Limited Disease Risk         | Hybridizing species < 10 km | Other                        | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI120G01                                      | Big Bear Creek             | 14060009cd003                                  | Not Tested - Unaltered       | 0 to 50 fish                | Fair                         | 10 to 15 feet              | None                      |
| <b>Conservation Population</b> <b><u>LG9-04</u></b> | 2.81                       | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI130M06                                      | Left Fork Huntington Creek | 14060009cd008                                  | Unaltered                    | 0 to 50 fish                | Good                         | 5 to 10 feet               | TRT                       |
| <b>Conservation Population</b> <b><u>LG9-05</u></b> | 6.19                       | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI130I01                                      | Tie Fork Canyon            | 14060009cd011                                  | Unaltered                    | 151 to 400 fish             | Fair                         | Unknown                    | None                      |
| WC: IIAI130I020                                     | Gentry Hollow              | 14060009cd012                                  | Unaltered                    | 50 to 150 fish              | Good                         | < 5 feet                   | None                      |
| <b>Conservation Population</b> <b><u>LG9-06</u></b> | 4.07                       | Population Isolated                            | Limited Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <b><u>Stream Name</u></b>  | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>        | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IIAI130M01                                      | Scad Valley Creek          | 14060009cd005                                  | Not Tested - Unaltered       | 151 to 400 fish             | Fair                         | < 5 feet                   | BRN                       |

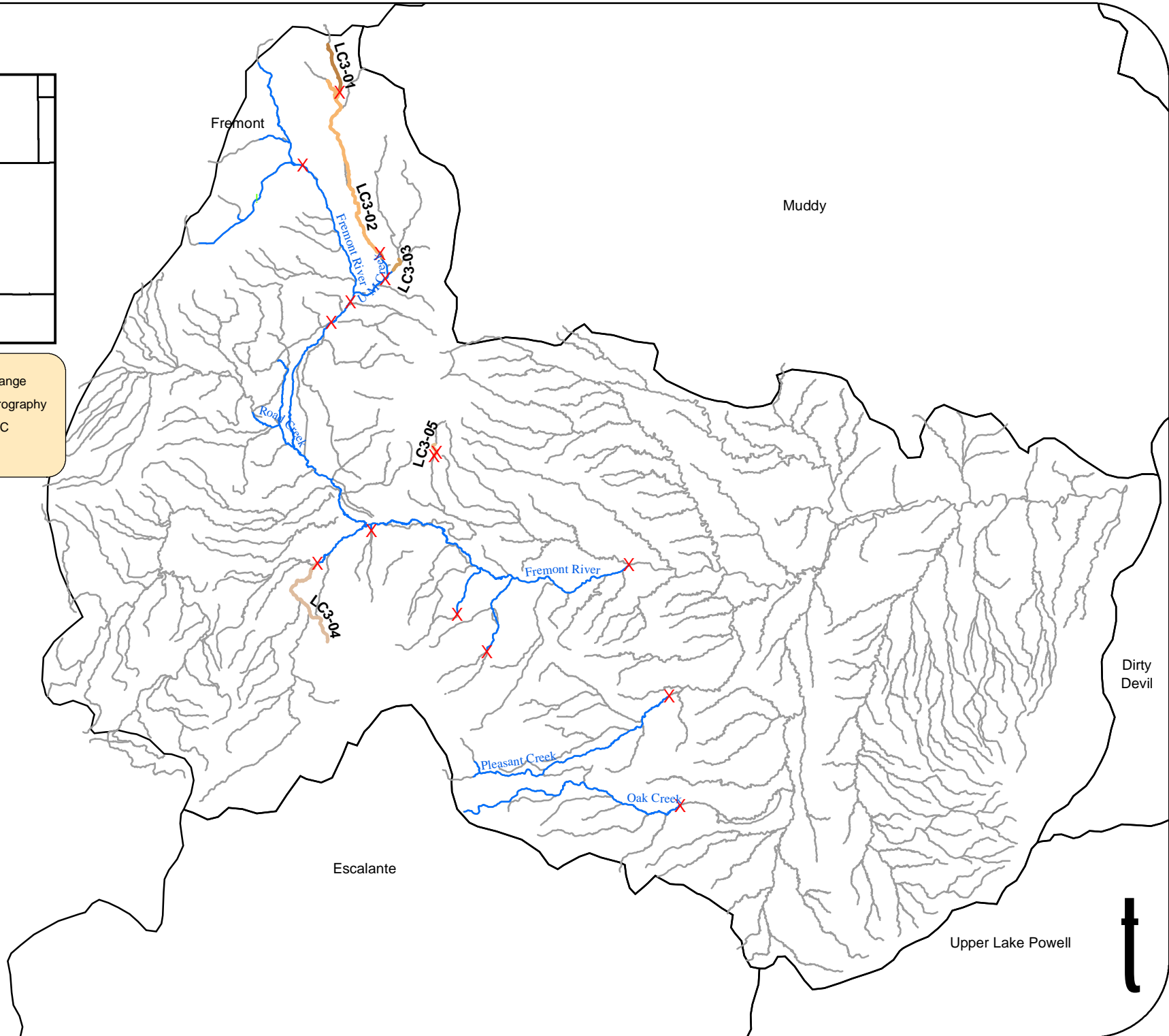
# Lower Colorado GMU

Fremont (14070003)



## Barriers

- Complete
- Partial
- Unknown
- Historic Range
- NHD Hydrography
- 8-digit HUC



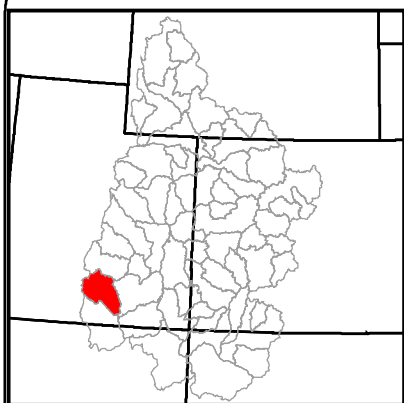
14070003

## Fremont

|   | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i>  | <i>Source or Sink</i>      | <i>Life History</i>       |
|---|---------------------------|--|------------------------------|-----------------------------|------------------------------|----------------------------|---------------------------|
| <b>Conservation Population</b> <u><b>LC3-01</b></u> | 3.21                      | Population Isolated                            | Moderate Disease Risk        | No Risk of Hybridization    | Core Conservation Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u> | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IAZ130Z02                                       | U M Creek                 | 14070003cd005                                  | Unaltered                    | 151 to 400 fish             | Poor                         | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>LC3-02</b></u> | 13.45                     | Weakly Connected                               | Population is Infected       | No Risk of Hybridization    | Core Conservation Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u> | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IAZ130Z02                                       | U M Creek                 | 14070003cd003                                  | Unaltered                    | 50 to 150 fish              | Fair                         | 10 to 15 feet              | TRT                       |
| WC: IAZ130Z020                                      | Left Fork U M Creek       | 14070003cd004                                  | Unaltered                    | 0 to 50 fish                | Poor                         | < 5 feet                   | TRT                       |
| <b>Conservation Population</b> <u><b>LC3-03</b></u> | 1.28                      | Weakly Connected                               | Population is Infected       | No Risk of Hybridization    | Core Conservation Population | Sink                       | Res, Ad-fluv              |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u> | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IAZ130Z010                                      | Short Creek               | 14070003cd001                                  | Unaltered                    | 50 to 150 fish              | Fair                         | < 5 feet                   | TRT                       |
| WC: IAZ130Z02                                       | U M Creek                 | 14070003cd002                                  | Unaltered                    | 0 to 50 fish                | Fair                         | 10 to 15 feet              | TRT                       |
| <b>Conservation Population</b> <u><b>LC3-04</b></u> | 7.18                      | Population Isolated                            | Minimal Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u> | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IAZ130U02                                       | Pine Creek                | 14070003cd006                                  | Unaltered                    | 0 to 50 fish                | Good                         | 5 to 10 feet               | None                      |
| <b>Conservation Population</b> <u><b>LC3-05</b></u> | 0.92                      | Population Isolated                            | Minimal Disease Risk         | No Risk of Hybridization    | Core Conservation Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                                  | <u><b>Stream Name</b></u> | <u><b>Population ID</b></u>                    | <u><b>Genetic Status</b></u> | <u><b>Adult CRCT/mi</b></u> | <u><b>Habitat</b></u>        | <u><b>Stream Width</b></u> | <u><b>Non Natives</b></u> |
| WC: IAZ130M01                                       | Sand Creek                | 14070003cd007                                  | Unaltered                    | 0 to 50 fish                | Poor                         | < 5 feet                   | None                      |

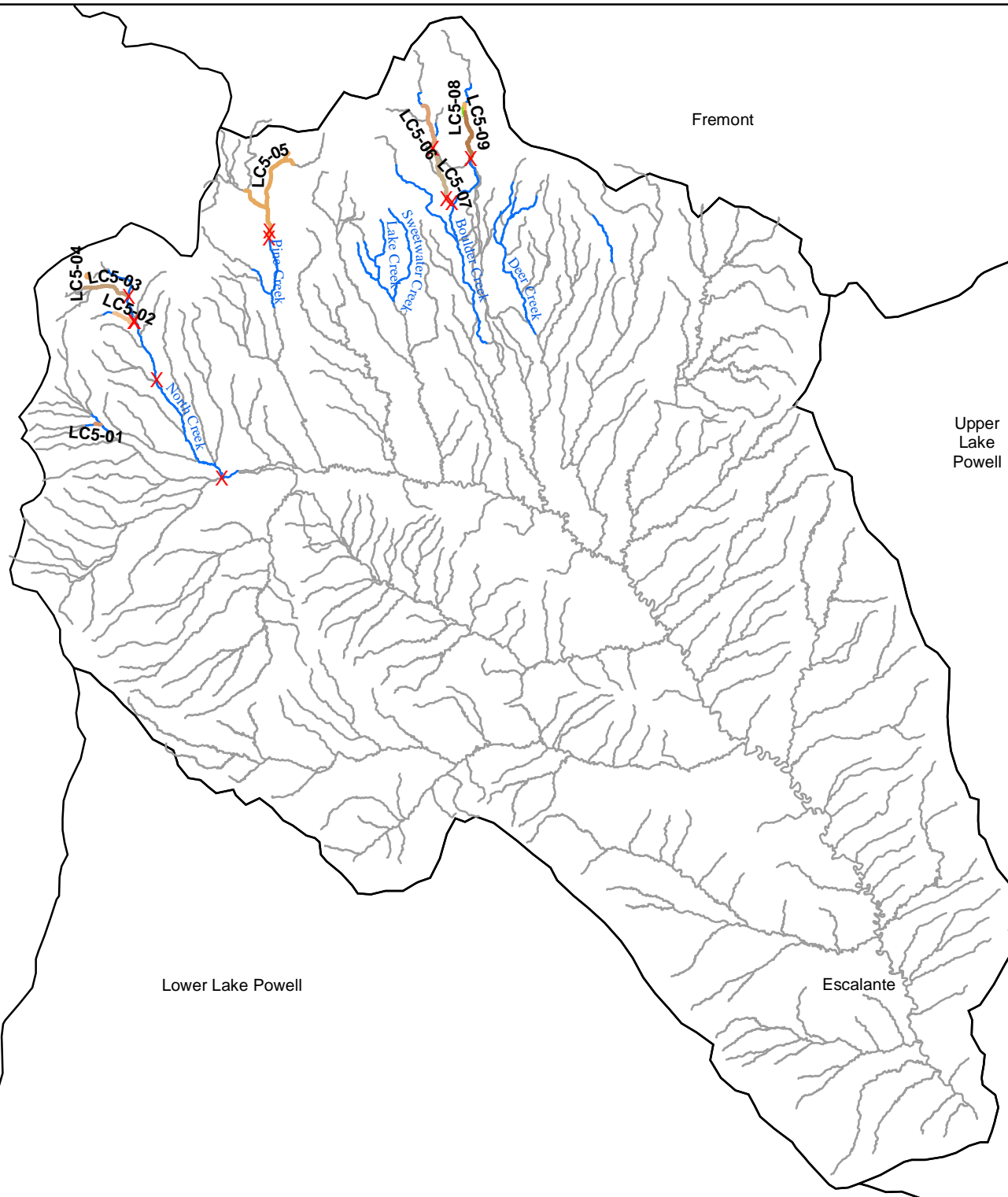
# Lower Colorado GMU

Escalante (14070005)



## Barriers

- Complete
  - Partial
  - Unknown
- Historic Range
- NHD Hydrography
- 8-digit HUC



14070005

## Escalante

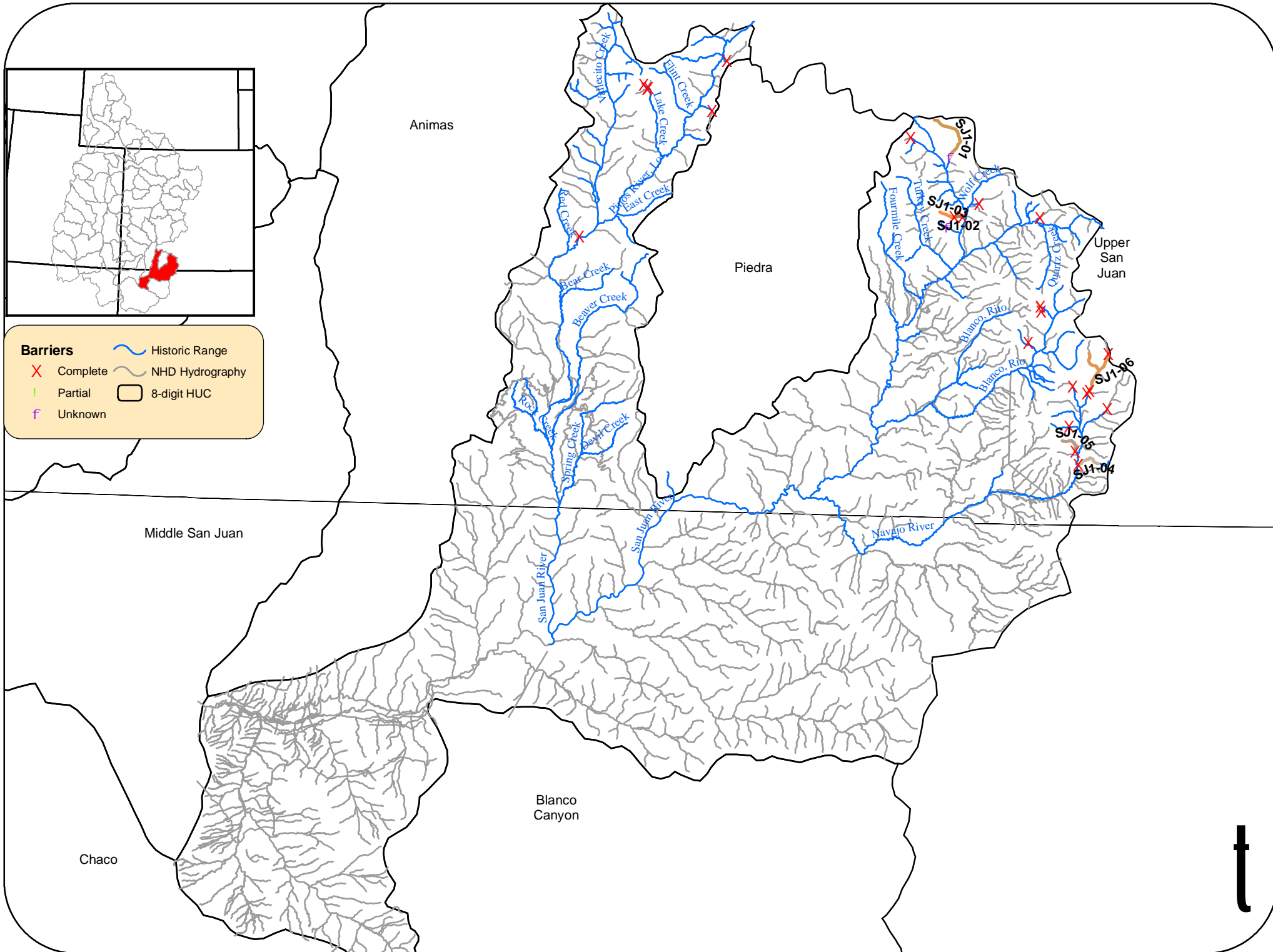
|                                    |                                | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i> | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|--------------------------------|-------------------------|--|------------------------------|-------------------------------|---------------------------------|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LC5-01</u></b>           | 0.33                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IAJ170B01                      | Water Canyon                   |                         | 14070005cd001  | Unaltered                    | 50 to 150 fish                | Poor                            | < 5 feet                   | None                      |
| <b>Conservation<br/>Population</b> | <b><u>LC5-02</u></b>           | 1.39                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IAJ160E01                      | White Creek                    |                         | 14070005cd002  | Unaltered                    | 151 to 400 fish               | Good                            | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>LC5-03</u></b>           | 2.84                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: IAJ160F01                      | Twitchell Creek                |                         | 14070005cd003  | Unaltered                    | 50 to 150 fish                | Good                            | 5 to 10 feet               | TRT                       |
| <b>Conservation<br/>Population</b> | <b><u>LC5-04</u></b>           | 0.44                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 16l                            | Dougherty Basin Inlet          |                         | 14070005cd006  | Unaltered                    | Unknown                       | Good                            | < 5 feet                   | BRK                       |
| <b>Conservation<br/>Population</b> | <b><u>LC5-05</u></b>           | 8.1                     | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 68                             | Pine Creek                     |                         | 14070005cd004  | Unaltered                    | Over 400 fish                 | Excellent                       | 10 to 15 feet              | None                      |
| WC: 111                            | Unnamed Trib. #2 to Pine Creek |                         | 14070005cd005  | Unaltered                    | 151 to 400 fish               | Excellent                       | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>LC5-06</u></b>           | 2.98                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 30                             | East Fork Boulder Creek        |                         | 14070005cd007  | Unaltered                    | Over 400 fish                 | Good                            | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>LC5-07</u></b>           | 3.79                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Sink                       | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 30                             | East Fork Boulder Creek        |                         | 14070005cd011  | Unaltered                    | Over 400 fish                 | Good                            | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>LC5-08</u></b>           | 0.61                    | Population Isolated                                    | Limited Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population | Source                     | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>           | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 128                            | Unnamed Trib. to Boulder Creek |                         | 14070005cd009  | Unaltered                    | Over 400 fish                 | Excellent                       | 15 to 20 feet              | None                      |

## 14070005 Escalante

|                                    |                                | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>        | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|--------------------------------|-------------------------|--|------------------------------|--------------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>LC5-09</u></b>           | 3.04                    | Population Isolated                                    | Limited Disease Risk         | Hybridizing species<br>are sympatric | Known or Probable<br>Unique Life History | Sink                       | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b>      |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>          | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 128                            | Unnamed Trib. to Boulder Creek |                         | 14070005cd010  | Not Tested - Hybridized      | 50 to 150 fish                       | Excellent                                | 20 to 25 feet              | BRK, RBT                  |

# San Juan GMU

Upper San Juan (14080101)

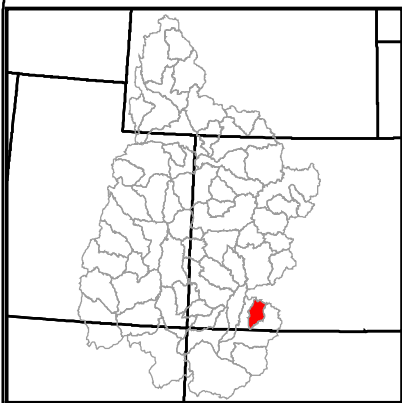


14080101

## Upper San Juan

|                                | <i>Stream Miles</i>       | <i>Connectivity of Conservation Population</i> | <i>Disease Risk</i>          | <i>Hybridization Risk</i>   | <i>Population Qualifier</i> | <i>Source or Sink</i>                 | <i>Life History</i>       |
|--------------------------------|---------------------------|--|------------------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------|
| <b>Conservation Population</b> | <b><u>SJ1-01</u></b>      | 5.68   | Population Isolated          | Limited Disease Risk        | Hybridizing species < 10 km | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 38275                      | Beaver Creek              | 14080101cd003                                  | 90% - 99%                    | Over 400 fish               | Excellent                   | 15 to 20 feet                         | None                      |
| <b>Conservation Population</b> | <b><u>SJ1-02</u></b>      | 0.85   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Sink Res                  |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39502                      | Himes Creek               | 14080101cd002                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>SJ1-03</u></b>      | 1.55   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39502                      | Himes Creek               | 14080101cd001                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>SJ1-04</u></b>      | 2.51   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39491                      | Headache Creek            | 14080101cd004                                  | Unaltered                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | BRK                       |
| <b>Conservation Population</b> | <b><u>SJ1-05</u></b>      | 2.22   | Population Isolated          | Limited Disease Risk        | No Risk of Hybridization    | Known or Probable Unique Life History | Not Applicable Res        |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 39415                      | Cutthroat Creek           | 14080101cd005                                  | 90% - 99%                    | 50 to 150 fish              | Good                        | 5 to 10 feet                          | None                      |
| <b>Conservation Population</b> | <b><u>SJ1-06</u></b>      | 6.66   | Weakly Connected             | Limited Disease Risk        | No Risk of Hybridization    | Core Conservation Population          | Source Res                |
| <i>Ind. Pops.:</i>             | <b><u>Stream Name</u></b> | <b><u>Population ID</u></b>                    | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b> | <b><u>Habitat</u></b>       | <b><u>Stream Width</u></b>            | <b><u>Non Natives</u></b> |
| WC: 49064                      | Navajo River              | 14080101cd008                                  | Unaltered                    | Over 400 fish               | Good                        | 15 to 20 feet                         | BRK                       |
| WC: 44486                      | Augustora Creek           | 14080101cd009                                  | Unaltered                    | 50 to 150 fish              | Fair                        | 15 to 20 feet                         | None                      |

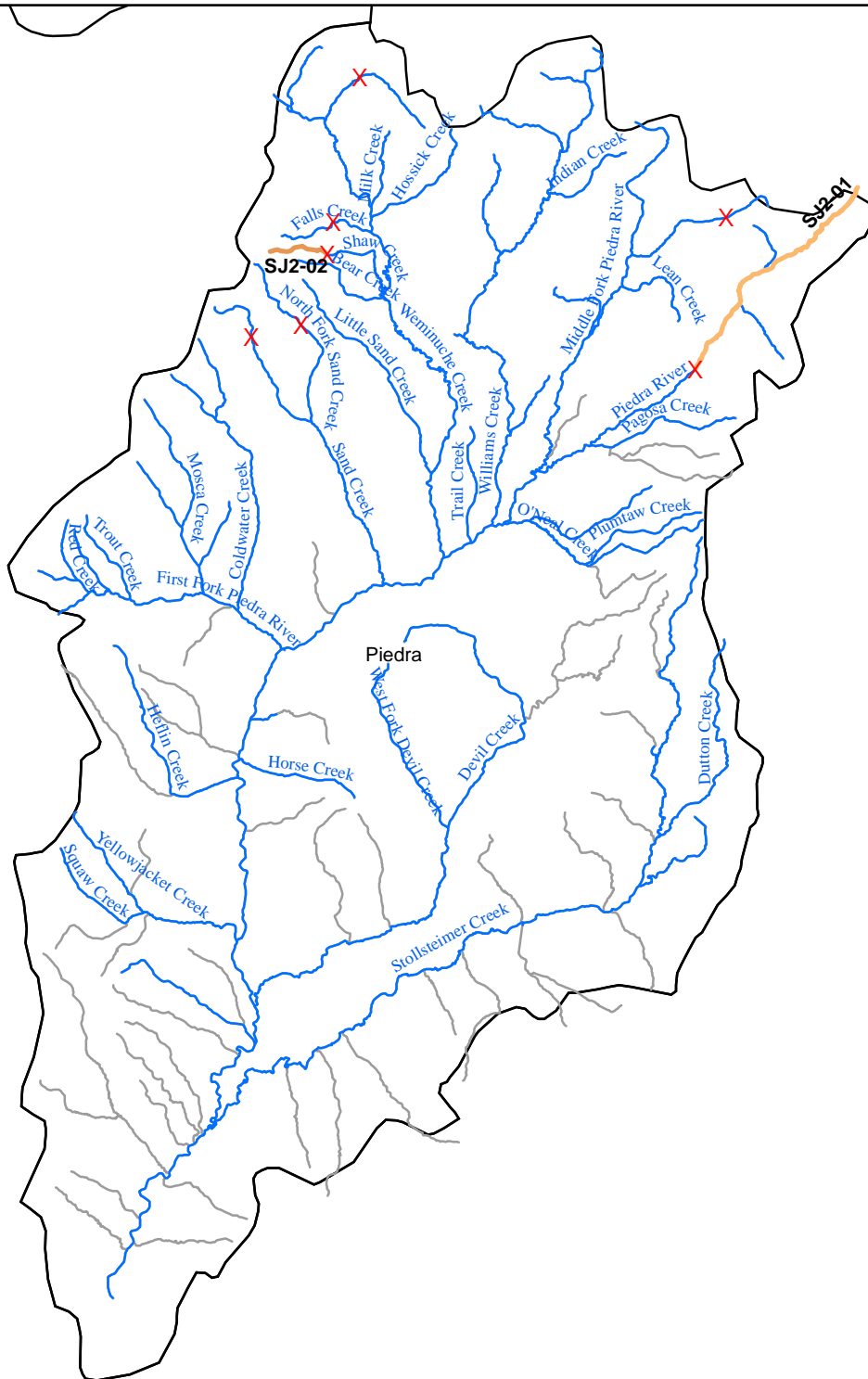




**Barriers**

- X Complete
- ! Partial
- f Unknown
- ~ Historic Range
- ~ NHD Hydrography
- 8-digit HUC

Upper  
San  
Juan

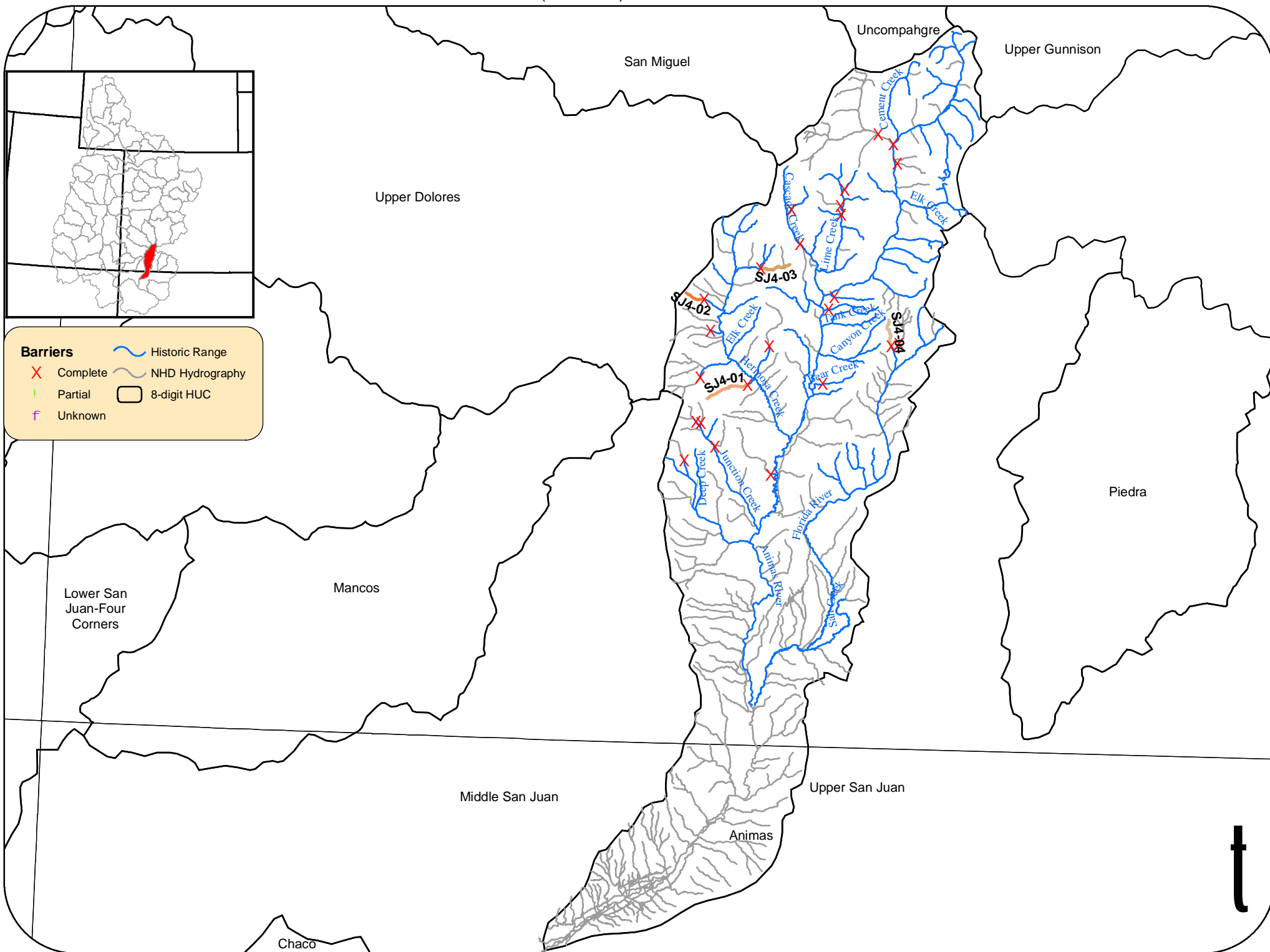


# 14080102      Piedra

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i>       | <i>Population<br/>Qualifier</i>         | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|-------------------------------------|---|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>SJ2-01</u></b>      | 8.56                    | <i>Population Isolated</i>                             | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Core Conservation<br/>Population</i> | <i>Not Applicable</i>      | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>         | <b><u>Habitat</u></b>                   | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 42096                          | Piedra River              |                         | 14080102cd001  | Unaltered                    | 151 to 400 fish                     | Excellent                               | 20 to 25 feet              | None                      |
| <b>Conservation<br/>Population</b> | <b><u>SJ2-02</u></b>      | 1.93                    | <i>Population Isolated</i>                             | <i>Limited Disease Risk</i>  | <i>No Risk of<br/>Hybridization</i> | <i>Other</i>                            | <i>Source</i>              | <i>Res</i>                |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>         | <b><u>Habitat</u></b>                   | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 43977                          | Shaw Creek                |                         | 14080102cd002  | Not Tested - Hybridized      | 50 to 150 fish                      | Good                                    | 5 to 10 feet               | None                      |

# San Juan GMU

Animas (14080104)



t

14080104

## Animas

|                                    |                           | <i>Stream<br/>Miles</i> | <i>Connectivity of<br/>Conservation<br/>Population</i> | <i>Disease<br/>Risk</i>      | <i>Hybridization<br/>Risk</i> | <i>Population<br/>Qualifier</i>          | <i>Source<br/>or Sink</i>  | <i>Life<br/>History</i>   |
|------------------------------------|---------------------------|-------------------------|--|------------------------------|-------------------------------|--|----------------------------|---------------------------|
| <b>Conservation<br/>Population</b> | <b><u>SJ4-01</u></b>      | 4.15                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 47565                          | Clear Creek               |                         | 14080104cd001  | Unaltered                    | 50 to 150 fish                | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>SJ4-02</u></b>      | 1.88                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 47325                          | Big Bend Creek            |                         | 14080104cd002  | Unaltered                    | 50 to 150 fish                | Good                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>SJ4-03</u></b>      | 3.15                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization   | Core Conservation<br>Population          | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 47628                          | East Fork Hermosa Creek   |                         | 14080104cd003  | Unaltered                    | 151 to 400 fish               | Fair                                     | 5 to 10 feet               | None                      |
| <b>Conservation<br/>Population</b> | <b><u>SJ4-04</u></b>      | 2.75                    | Population Isolated                                    | Minimal Disease Risk         | No Risk of<br>Hybridization   | Known or Probable<br>Unique Life History | Not Applicable             | Res                       |
| <i>Ind. Pops.:</i>                 | <b><u>Stream Name</u></b> |                         | <b><u>Population ID</u></b>                            | <b><u>Genetic Status</u></b> | <b><u>Adult CRCT/mi</u></b>   | <b><u>Habitat</u></b>                    | <b><u>Stream Width</u></b> | <b><u>Non Natives</u></b> |
| WC: 43923                          | West Virginia Gulch       |                         | 14080104cd018  | Not Tested - Unaltered       | 50 to 150 fish                | Good                                     | 5 to 10 feet               | None                      |