



CARIBOU-TARGHEE NATIONAL FOREST & CURLEW NATIONAL GRASSLAND

F Y 2 0 1 6 Aquatic Organism Passage Update

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AOP SUMMARY

The USDA Forest Service is a conservation leader in assessing and developing restoration strategies for Aquatic Organism Passage (AOP) at road stream/crossings. Restoring AOP on National Forest lands continues to be a priority for the Caribou-Targhee National Forest (CTNF) that is supported by the Caribou and Targhee Revised Forest Plans. These management plans place an emphasis on restoring aquatic habitat connectivity for aquatic species including Bonneville and Yellowstone cutthroat trout.

AOP Assessments in 2005 and 2007 on the CTNF evaluated 607 road/stream crossings with 166 complete assessments and 441 partial assessments. An estimated 56% of the road crossings located on the CTNF were inventoried in this effort. Collectively, a majority (73%) of the culverts across the Forest did not meet the criteria to pass fish.

Since 1999 the CTNF has proactively developed partnerships to restore fish passage on private and National Forest lands. To date a total of 64 structures accounting for approximately 126 miles of stream secured, have been upgraded or removed to facilitate AOP. Since 2005, the CTNF has accomplished about 5.5 AOP projects per year as a result of conducting the AOP Inventories. An additional seven AOP projects, accounting for approximately 14.5 miles of stream secured are scheduled to be completed in 2016.

The CTNF continues to improve AOP by incorporating the best technology including stream simulation structures. Since 1999, 86% of the Forests AOP restoration projects have been implemented using bridges (n=13) and open-bottom-arch culverts (n=32). The CTNF has been successful at restoring AOP across the Forest by developing partnerships to help fund these conservation actions. To date the Forest and partners have invested over six million dollars for AOP restoration on the CTNF.

After reviewing the Forest's AOP restoration accomplishments to date it is evident that AOP program has expanded AOP restoration work beyond sites prioritized in 2005 and sites that received a complete assessment in 2005 and 2007. The CTNF AOP reports provided recommendations for AOP restoration and the Forest has successfully restored 46% (n=22) of the sites prioritized on cutthroat stronghold streams. In contrast, the CTNF has completed 42 AOP restoration projects on sites that were not previously prioritized (11 completely assessed sites that were not prioritized, 22 sites that were partially surveyed, and on 9 sites that were not surveyed at all). With this program expansion, the CTNF has continued to place an emphasis for the AOP program on cutthroat stronghold streams to enhance connectivity and populations. In this effort, the Forest has also expanded the AOP program off National Forest lands to enhance and maintain migratory life histories that are a critical link to preserving and expanding cutthroat populations on the Forest.

With this expansion and strategic re-focusing of the AOP program on the CTNF it would serve the AOP program to revisit past AOP recommendations and develop new AOP recommendations to move the program forward in a proactive fashion. This report contains new AOP recommendations that encompasses sites surveyed in 2005 and 2007 in addition to AOP emphasis areas identified by fisheries staff that were not previously surveyed.

AOP INVENTORY

The USDA Forest Service is a conservation leader in assessing and developing restoration strategies for Aquatic Organism Passage (AOP) at road stream/crossings. Across National Forest lands the road network is expansive and in many cases bisects perennial streams and riparian areas that provide habitat and migratory corridors for both terrestrial and aquatic species. These intersections between roads and streams can fragment aquatic habitat therefore impacting aquatic species.

Restoring AOP on National Forest lands continues to be a priority for the Caribou-Targhee National Forest (CTNF) that is supported by the Caribou and Targhee Revised Forest Plans (USDA, FS 2003 and 1997). These management plans place an emphasis on restoring aquatic habitat connectivity for aquatic species including Bonneville (BCT) and Yellowstone cutthroat trout (YCT) and include the following direction:

Caribou Revised Forest Plan, Aquatic Influence Zone – Prescription 2.8.3, Desired Future Conditions:

- *Properly functioning riparian systems contain a mosaic of well-connected habitats that support diverse populations of native and desired non-native species. All life phases are fully supported.*
- *Native aquatic and riparian dependent species population strongholds are increasing and well distributed within historic ranges. Improved aquatic and riparian habitat conditions contribute to the recovery of federally listed aquatic and riparian-dependent species, and keep species-at-risk from becoming listed, allowing them to expand into previously occupied habitat. Fragmentation is reduced as connectivity between streams and rivers improves.*

Targhee Revised Forest Plan - Fisheries, Water, and Riparian Resource Goals:

- *Maintain or restore aquatic habitats necessary to support overall biodiversity, including unique genetic fish stocks such as native cutthroat trout that evolved within specific geo-climatic regions.*
- *Maintain or restore habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.*

The CTNF AOP Assessments also complement management actions and priorities included in the Management Plan for Conservation of BCT in Idaho (Teuscher and Capurso, 2007) and the Management Plan for Conservation of YCT in Idaho (IDFG 2007). The Idaho BCT Plan includes general range-wide management actions including:

“Identify fish passage barriers. Complete fish passage surveys at all road crossings and irrigation diversions within the range of Bonneville cutthroat trout in Idaho. Coordinate with land management agencies and private landowners to provide fish passage at irrigation diversion dams and road culverts. Connecting populations is a priority, but in some circumstances barriers prevent non-native fish expansion and will be considered in decision making.”

The Idaho BCT Plan also lists conservation action priorities by stream and management unit. For some streams a Priority 1 action includes investigating habitat connectivity for some streams in the Nounan Valley, Riverdale, and Malad River Management units.

In addition, the Idaho YCT Plan identifies culverts that are improperly placed and have the potential to impact fish movement and fragment habitat as a threat to YCT. The report lists assessing and restoring fish passage as a Priority 1 conservation action in the Portneuf River, Palisades/Salt River, South Fork Snake River, and Teton River GMU's. The plan also acknowledges that extensive surveys necessary to assess this threat have not been conducted in Idaho.

In southeast Idaho the CTNF has made a proactive effort at identifying, prioritizing and restoring AOP on National Forest lands. In 2005 and 2007, an effort was made to identify all road/stream crossings

on perennial waters and AOP assessments were conducted on a subset of road/stream crossings using the National Inventory and Assessment Procedure (NIAP, Clarkin et al, 2003). In 2005 the AOP survey effort covered streams that were identified as Bonneville or Yellowstone cutthroat trout strongholds or were water quality impaired. The survey effort in 2007 focused on all other fish bearing streams on the Forest. Reports have been prepared, covering both AOP assessments (Lyman, 2005 and 2007), that include AOP restoration priorities for the Forest. At this juncture, it is important for the Forest to review our AOP restoration efforts over the past ten years and identify accomplishments and review AOP recommendations in order to help prioritize future AOP restoration actions for the next ten years.

The objective for this report is threefold: review and consolidate information from the 2005 and 2007 CTNF AOP reports, gather and report on CTNF AOP accomplishments, and develop new AOP restoration recommendations for the CTNF AOP program using this information.

AOP METHODS

Starting in 2004 the Intermountain Region spearheaded the AOP survey effort by providing Forests in the region funding to hire seasonal survey crews. The region also specified the NIAP as the field assessment protocol. In 2005 and 2007 the CTNF hired and trained seasonal survey crews to conduct the AOP assessments across the Forest. The surveys were coordinated by Fisheries Biologist, Corey Lyman.

It is estimated that the Forest contains 1,080 road/stream crossings¹ located on perennial streams (Lyman 2005) and priority was given to surveying Bonneville and Yellowstone cutthroat stronghold streams and water quality limited streams in 2005. While the 2007 AOP survey effort was used to cover all other fish bearing streams not prioritized in 2005. The Forest's Fish Distribution surveys from 1997 to 2004 were used to prioritize efforts based on cutthroat trout distribution and the 2002 Integrated Report from Idaho Department of Water Quality² was used to define water quality impaired streams. Some of the 2007 effort was focused on the Dubois Ranger District where the Forest was initiating the resurveying of the Forest Fish Distribution Surveys.

With an estimated 1,080 road/stream crossings, it was expected that crews would not be able to survey all road/stream crossings on fish bearing streams on the Forest in two seasons, even with a priority hit-list. NIAP surveys typically took 1.5 hours to complete per site. In order to get the best quality data and on-the-ground coverage, survey crews were given the flexibility to decide the extent of survey efforts on the ground by conducting either partial or complete AOP surveys.

Partial AOP surveys were used to document sites that had various structures (i.e. bridges and fords) that either did not meet the requirements listed above or did not warrant a full survey effort. Partial AOP surveys provided descriptive information about the structure and site and provided a rationale as to why a complete assessment was not needed.

Complete assessments were done following the NIAP (Clarkin et al, 2003) and were conducted at road/stream crossing sites that contained culverts and had instream flows and habitat conditions to support fish. The NIAP provides a frame work for surveying road/stream crossings. The assessment is

¹ The Forest conducted a GIS analysis that identified and quantified road and stream network nexuses on the CTNF. The routing and location of road and stream networks as defined in GIS is approximate, therefore the number of crossings identified (1,080) should be considered as an estimate that needs to be refined.

² The IDEQ Integrated Report was released in 2002 and approved by the EPA in 2005 and can be found at the following link: <http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/>

data-intensive and provides enough site information to assist in analyzing fish passage and aid in developing preliminary site restoration design. The NIAP captures site data associated with the road way, crossing, and stream channel. The majority of the survey effort is capturing a longitudinal survey of the stream corridor and crossing structure and a cross-section of the tailwater control. These measurements are used to develop site information such as culvert slope, outlet drop, and residual inlet depth that can be applied to regional fish screen criteria or FishXing to further analyze fish passage at a site.

The USFS Region 1 Fish Passage Evaluation Criteria screening process was used to classify existing crossings as meeting, needing further hydraulic analysis, or failing to meet fish passage criteria for selected resident fish species. Region 1 constructed two flow charts for juvenile and adult cutthroat. These flowcharts attempt to define whether passage is provided through existing structures at the time of survey.

The following evaluation categories were used to classify road/stream crossings for juvenile and adult cutthroat for Region 1:

CHANNEL SIMULATION: Conditions assumed to be passable for all species/life stages.

GREEN: Conditions assumed adequate for passage of the analysis species life stage.

GRAY: Conditions may not be adequate for the analysis species life stage presumed present. Additional analysis is required to determine the extent of barrier. It is here where we would denote possible flow barriers using hydraulic analysis.

RED: Conditions do not meet passage criteria at all desired flows for the analysis species life stage; assumed to be a barrier for that life stage.

More information on the NIAP methods and the USFS Region 1 Fish Passage Evaluation Criteria flow charts can be found in the 2005 and 2007 CTNF AOP Reports (Lyman, 2005 and 2007).

AOP SURVEY RESULTS

The AOP Assessments in 2005 and 2007 on the CTNF evaluated 607 road/stream crossings with 166 complete assessments and 441 partial assessments (Table 1). The total number of road crossings across the Forest is estimated to be 1,080. Approximately 56% of the road crossings located on the CTNF were inventoried in 2005 and 2007 (Table 1). There is potentially an additional 473 road/stream crossings that were not inventoried. These crossings may be located on fish bearing streams and missed in the inventory process or could be on small first-order non-fish bearing tributaries and do not impact fish passage. It is known that not all fish bearing road/stream crossings were inventoried as will be discussed in the AOP recommendation section.

In 2005, the highest priority road crossings on streams considered Bonneville and Yellowstone cutthroat trout strongholds and water quality impaired were inventoried. A total of 51 crossings were completely assessed on cutthroat stronghold streams. This constitutes 31% of the sites surveyed with complete assessments.

Table 1. Summary of 2005 Priority Crossings and 2007 Secondary Crossings Inventoried and those estimated to be remaining.			
Priority (2005)	# Complete Assessments Inventoried	# Partial Assessments Inventoried	# Crossing Sites Remaining
Cutthroat Stronghold Streams	38	244	?
303(d) Listed Streams	35		
Cutthroat Strongholds on 303(d) listed streams	13		
Secondary (2007)			
All Other Fish Bearing Streams	80	197	?
Total	166	441	Potentially 473

Of the 166 complete assessments 73% of these crossing sites do not meet the criteria to pass fish (RED), and are a barrier for at least one life stage (Table 2). Most of the RED crossings were associated with circular and squashed pipe-arch culverts. Of the 166 complete assessments only 10% of the culverts evaluated met the passage criteria and were not a barrier (GREEN) to at least one life stage. Only 5% of crossings surveyed were found not to be a barrier to juvenile trout (Table 2). GREEN rated crossings included all crossing types (circular culverts, squashed pipe-arch culverts, and open-bottom arch culverts). The remaining 17% of the 166 complete assessments were found to be undeterminable (GREY) and candidates for further evaluation (e.g.; Fish Xing software) (Table 2).

Table 2. Summary of Aquatic Organism Passage Ratings for 2005 and 2007				
Lifestage	RED	GREY	GREEN	Total
Adult	113	29	24	166
Juvenile	130	28	8	166
	73%	17%	10%	

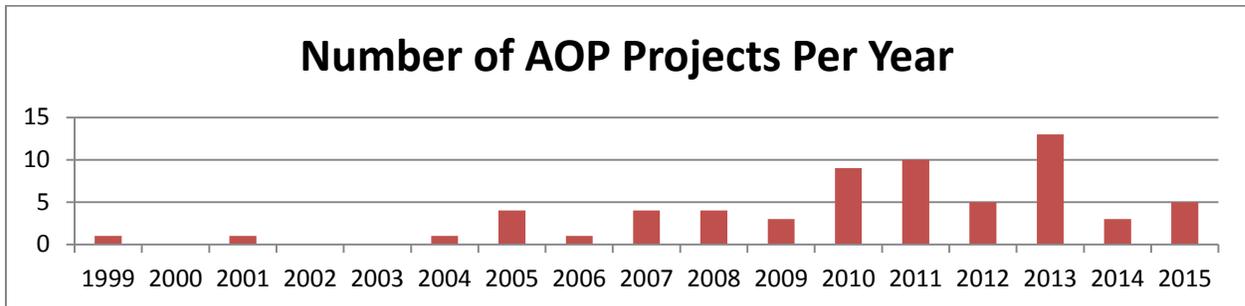
The results provided in Table 2 do not segregate AOP inventory results based on year surveyed or on a sites priority rating (cutthroat stronghold, water quality impaired, and fish bearing) but provide a collective look at AOP ratings at road/stream crossings across the Forest. Collectively, a majority (73%) of the culverts across the Forest rated out as RED and do not meet the criteria to pass fish. These findings were similar to AOP surveys conducted on neighboring forests in 2004 where the Sawtooth and Boise National Forests found 67% and 90% respectively, of all crossing surveyed were rated as RED and did not meet the criteria to pass fish (Chatel, 2004 and Kellett, 2004).

AOP RESTORATION ACCOMPLISHMENTS

Since 1999 the CTNF has proactively developed partnerships to restore fish passage on private and National Forest lands. To date a total of 64 structures accounting for approximately 126 miles of stream secured, have been upgraded or removed to facilitate AOP (Appendix A, Table 3). Since 2005,

on average, the CTNF has accomplished about 5.5 AOP projects per year as a result of conducting the AOP inventories (Figure 1). And an additional seven AOP projects, accounting for approximately 14.5 miles of stream secured are scheduled to be completed in 2016.

Figure 1. Graph depicting the number of AOP restoration projects per year accomplished by the CTNF. The number of AOP projects on the Forest has increased significantly since 2005 when the AOP surveys were started.



The CTNF continues to improve AOP by incorporating the best technology including stream simulation structures. Stream simulation is accomplished by installing bridges or open-bottom-arch culverts that include a natural streambed throughout the structure. Typically these structures are oversized and also include streambanks. Since 1999, 86% of the Forests AOP restoration projects have been implemented using stream simulation structures. The majority of these structures were bridges (n=13) and open-bottom-arch culverts (n=32). In other cases the Forest has taken an interdisciplinary approach when managing our road networks and has been able to reroute roads or convert roads to trails in order to decrease the number of road/stream crossings on the Forest. With this effort we have obliterated four road crossings and converted five road crossings to trail bridges.

The CTNF has been successful at restoring AOP across the Forest by developing partnerships to help fund these conservation actions. To date the Forest and partners have invested over six million dollars for AOP restoration on the CTNF.

AOP PRIORITIES

The CTNF AOP reports from 2005 and 2007 provided recommendations for AOP restoration. These recommendations were tiered between reports with emphasis given to cutthroat stronghold streams surveyed in 2005 as the top priority. Priority lists were generated in both reports based on sites priority rating (cutthroat stronghold, water quality impaired, and fish bearing) and were listed based upon the amount of perennial stream habitat available upstream. Streams with culverts that blocked the most miles were rated the highest priority for each category.

The CTNF continues to be strategic in where we implement AOP restoration. To date the priority for AOP restoration continues to be cutthroat stronghold streams. The 2005 AOP report identified 48 sites for AOP restoration and to date we have addressed 22 of these structures or 46% of the structures identified on cutthroat stronghold streams. In contrast, the CTNF has completed 42 AOP restoration projects on sites that were not previously prioritized (11 completely assessed sites that were not prioritized, 22 sites that were partially surveyed, and on 9 sites that were not surveyed at all). Three of the nine sites that were not surveyed for AOP were for projects completed before the AOP inventories began. A complete listed of CTNF AOP accomplishments can be found in Table 4, Appendix A.

Looking back on the AOP restoration accomplishments to date it is evident that AOP restoration program on the Forest has expanded beyond sites prioritized in 2005 and sites that received a complete assessment in 2005 and 2007. This trend continues in 2016 with AOP restoration scheduled for seven

sites where only one site was prioritized and completely assessed in 2005, four sites were partially surveyed, and two sites were not inventoried at all.

There are several factors for the departure or program expansion from the previously surveyed and prioritized AOP sites. These factors are inter-related and include limited AOP survey scale and intensity, partnership development, CTNF planning efforts, and budget. These factors are addressed below.

One of the major factors driving AOP project development on the Forest pertains to the limited scope and scale of the 2005 and 2007 AOP survey efforts. To date many of the high-profile and high-benefit AOP projects for cutthroat trout on the Forest have been surveyed and completed (46% of prioritized sites on cutthroat stronghold streams have been restored). In other cases many of the projects to date have been off National Forest lands where a connected resource, the fishery, initiated and emphasized a higher restoration need or priority for the AOP program. These sites were not accounted for in the 2005 and 2007 AOP surveys, which were mostly conducted on National Forest lands, and represent a significant data gap for the AOP program.

In other cases the Forest AOP surveys in 2005 and 2007 had limited scope and intensity. The survey teams had limited time to invest in complete assessments versus partial assessments and in some cases the survey emphasis was misplaced. In 2005 and 2007 some problematic sites were known to staff and were recommended as complete assessments to the survey crew and in other cases the lack of front-end knowledge coupled with limited survey time may have limited the quality and number of sites completely assessed. As mentioned above the CTNF has completed AOP restoration on just as many partial assessment sites as we have on sites with full assessments. It is recognized that the AOP survey effort may not have captured enough data for sites that were partially assessed and this also represents a data gap that has contributed to the AOP program straying from previously listed AOP priorities.

Since 2007 the CTNF and partners have worked together to address these data gaps by expanding the AOP survey effort in key watersheds. For example, in 2011 Trout Unlimited conducted the Blackfoot Watershed Barrier Assessment (TU, 2011) and in 2015 the CTNF conducted the Nounan Reach AOP Assessment on tributaries of the Bear River (Lyman and Mabey, 2015) using the NIAP. These two surveys accounted for an additional 50 complete assessments on road/stream crossings on and off the Forest in key cutthroat stronghold streams.

Other factors that have adjusted AOP restoration emphasis on the CTNF have been internal planning programs and partnership development. As mentioned above the Forest has successfully developed partnerships with the State and counties to accomplish high-priority AOP projects off National Forest lands. Other partnerships such as the PacifiCorp ECC, Trout Unlimited Home Rivers Initiative, and the Upper Blackfoot Confluence have regional scopes (i.e. Bear River and Upper Blackfoot Watersheds) and emphasis has been placed in working in those areas where outside funding is available for native fish conservation actions. These partnerships and projects have been strategic and have helped foster AOP restoration to benefit native cutthroat trout.

Within the Forest Service, planning programs have also directed where AOP restoration work has occurred on the CTNF. In many cases these efforts are strategically located where partnerships mentioned above have been developed and funding is available. Both watershed analyses and the National Watershed Condition Framework planning efforts have collectively developed holistic watershed plans that include and prioritize AOP restoration actions at the watershed or subwatershed scales. Fortunately these recent planning processes have been focused on watersheds that support native cutthroat trout populations and have AOP issues.

On the Forest, roughly 20 Watershed Analysis have been completed since 1995 covering 29 fifth-level watersheds. Recently, seven AOP projects spanning five years have been completed in Mink Creek due to the interdisciplinary process included in the Lower Portneuf Watershed Analysis (CTNF, 2010)

completed in 2010. And within the last five years the National Watershed Condition Framework has resulted in classification of 260 subwatersheds across the CTNF and Watershed Restoration Action Plans were developed for Jackknife Creek subwatershed (HUC6) and Lanes Creek-Diamond Creek Watershed (HUC5). These plans have advanced 11 AOP projects since 2011 and have resulted in a rise of AOP projects completed in 2011-13 as seen in Figure 1. Three more AOP projects are planned to be completed within the Lanes Creek-Diamond Creek Watershed in 2016. These planning processes foster cross-resource collaboration and help guide the development of the Watershed and Fisheries Annual Five-Year Action Plans to address AOP and resource improvement needs across the forest.

Lastly, budget has played a role in directing where AOP projects are accomplished on the Forest. When available, intermittent internal funding sources have also been used to accomplish AOP restoration. In 2010 and 2011 stimulus funding was directed at road improvements on Brockman Road and accounted for the spike of AOP projects in 2010-11 seen in Figure 1 (Brockman Road included four AOP projects). Other funding sources, including Forest highways dollars, were used to relocate a section of road in Georgetown Canyon in 2010-14 and resulted in the removal of two culverts and the restoration of AOP. These funding sources continue to play a pivotal role in developing and completing AOP projects on the Forest. The Forest has been proactive in fostering interdisciplinary team coordination to develop shelf-ready projects that can be implemented when funding becomes available. In this effort the CTNF has become known as a can-do Forest in the Intermountain Region with high quality projects benefiting multiple resources including the AOP program.

As we move forward, the CTNF AOP program plans to continue to embrace planning efforts, develop partnerships, and work internally and externally to procure funding to accomplish AOP restoration projects on and off National Forest lands. However with that said, the CTNF needs to reassess our past AOP inventories and priorities and develop new recommendations to help guide the Forest AOP program in the future.

AOP RECOMMENDATIONS

The CTNF AOP reports from 2005 and 2007 provided recommendations for AOP restoration and the Forest has proactively and successfully restored 46% of these sites. To date the CTNF has continued to place an emphasis for the AOP program on cutthroat stronghold streams in an effort to enhance connectivity and populations. In this effort, the forest has also expanded the AOP program off National Forest lands to enhance and maintain migratory life histories that are a critical link to preserving and expanding cutthroat populations on the Forest.

With this expansion and strategic re-focusing of the AOP program on the CTNF it would serve the program to revisit past AOP recommendations and develop new AOP recommendations to move the program forward in a proactive fashion. In this effort, new AOP recommendations have been developed that encompass sites surveyed in 2005 and 2007 in addition to priority areas identified by fisheries staff that were not previously surveyed.

In summary the CTNF Fisheries staff has reviewed all 166 complete AOP assessments including the 48 sites prioritized for restoration and assigned a new AOP Priority Rating (High, Medium, Low, and No Action) based on the staffs' knowledge of the stream systems fish composition, stream order, and location. These AOP Priority Ratings are summarized in Table 3 and a detailed list by site is available in Table 5, Appendix B.

To date the CTNF AOP program has accomplished AOP restoration on 32 of 166 sites that were completely assessed including 22 of 48 sites that were previously prioritized for cutthroat trout. These sites are highlighted in Table 5, Appendix B and represent about a third of the AOP program accomplishments listed in Table 4, Appendix A.

A High rating was given to 14 of 166 sites that were completely assessed including 6 of 48 sites that were previously prioritized for cutthroat trout. These sites are mostly located on streams that support a cutthroat stronghold population and have suitable stream habitat above the crossing. Additional sites on Paris and Eightmile creeks have been elevated as a priority due to the potential for native fish restoration actions in out-years. Sites rated as High are the CTNF AOP Programs emphasis for developing partnerships and funding and implementing AOP restoration.

A Medium rating was given to 62 of 166 sites that were completely assessed including 2 of 48 sites that were previously prioritized for cutthroat trout. These sites are located on streams where a predominantly non-native or declining native trout fishery is present and suitable stream habitat is available above the crossing. Two streams, East Fork Mink and West Fork Rattlesnake creeks were downgraded from a High priority due to the expansion of non-native brook trout and subsequent decline in cutthroat trout populations in these systems. AOP restoration at these Medium rated sites is a secondary priority for the AOP program and an interdisciplinary priority (watershed, fisheries, and engineering) for the CTNF. It is important for the Forest to promote connectivity for the fisheries resource while improving infrastructure that maintains watershed values and stability while enhancing the safety and longevity of our road networks. Developing partnerships and outside funding for these types of projects is a challenge.

A Low rating was given to 36 of 166 sites that were completely assessed including 10 of 48 sites that were previously prioritized for cutthroat trout. These sites are located on streams with a low potential to contain suitable habitat for fish (i.e. first order tributaries). In some cases these sites may be in the headwaters of a stream system that supports a cutthroat stronghold population, but the fish passage benefit is low. AOP restoration at these Low rated sites is not a priority for the AOP program. However the watershed and aquatic benefits of improving road/stream crossing structures at these sites provides an interdisciplinary priority (watershed, fisheries, and engineering) for the CTNF. Developing partnerships and outside funding for these types of projects is a challenge.

Lastly, a No Action rating was given to 22 of 166 sites that were completely assessed including 8 of 48 sites that were previously prioritized for cutthroat trout. Nine sites were rated GREEN for at least one lifestage and do not require any action. No Action ratings were primarily given to sites where investment in AOP is not a primary resource concern or in some instances there is not enough knowledge of the system related to connectivity and the threat of non-native fish invasion to move AOP projects forward as a priority. A total of eight sites on Tincup and Dry creeks warrant more investigation of non-native fish expansion before AOP enhancement should be undertaken on these cutthroat stronghold streams. Also a single site on Crooked Creek, located on a ditched portion of this stronghold stream, was excluded from AOP restoration due to the lack of long-term conservation plans for this stream reach.

Table 3. Summary of 2016 Priority Ratings for sites with complete assessments in 2005 and 2007, including an itemization of sites previously prioritized in 2005 for cutthroat trout.		
2016 Priority Rating	# 2005 and 2007 Complete Assessment Sites	# 2005 Complete Assessment Sites Prioritized on Cutthroat Strongholds
Fixed – AOP Restored	32	22
High	14	6
Medium	62	2
Low	36	10
No Action	22	8
Total	166	48

The new AOP Priority Rating (High, Medium, Low, and No Action) summarized in Table 3 and listed by site in Table 5, Appendix B provide a detailed direction for the CTNF AOP program. This rating system should be reviewed and adjusted on a five year basis to account for new information on fish populations and to follow suit with regional conservation actions and priorities. For example new non-native fish invasions or localized piscicide applications to restore native cutthroat populations by the state may influence a sites priority rating and should be accounted for and adjusted.

In addition to sites summarized in Table 3 and Table 5, Appendix B (sites that were completely assessed in 2005 and 2007 that have an AOP Priority Rating established) the CTNF AOP Program also needs to be dynamic and flexible in defining out-year AOP restoration needs. This flexibility will allow the program to account for data gaps in the 2005 and 2007 survey efforts, bring forward new AOP survey information, and be strategic with partnerships.

In out-years the Forest AOP program also plans to develop AOP restoration projects in the Nounan Reach of the Bear River and the in the Lanes Creek-Diamond Creek Watershed. Additional AOP surveys have been conducted in these geographic areas to help foster on-going partnerships and planning efforts. In 2016, the CTNF AOP program will be advancing projects on Eightmile Creek tributary of the Bear River and on Browns Canyon, Lanes, and Chippy creeks in the Lanes Creek watershed. Additional AOP projects are being looked at on Stauffer and Diamond Creek for 2017. These projects should also be considered as High priority for the CTNF AOP program.

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Appendix A

Table 4: AOP accomplishment projects on the CTNF listed by year completed.

HUC5 No	HUC5 Name	Xing ID	NAD83 E	NAD83 N	Stream Name	Year	Species	Structure Used	Miles Opened
1704020201	Henrys Lake-Henrys Fork	FSR061	478977	4942831	Tygee Creek	1999	YCT	Concrete Box with baffles	1
1704020702	Upper Blackfoot River	FSR095	470932	4739567	Mill Creek	2001	YCT	Circular Culvert	1
1704010402	McCoy Creek	FSR087	470448	4781419	Clear Creek	2004	YCT	Circular Culvert	1
1704010406	Snake River	Hwy 26	464359	4813607	Garden Creek	2005	YCT	Open-Bottom-Arch	5
1704020201	Henrys Lake-Henrys Fork	Hwy 87	473989	4942419	Howard Creek	2005	YCT	Bridge	0.1
1704020201	Henrys Lake-Henrys Fork	Hwy 87	472874	4943745	Targhee Creek	2005	YCT	Bridge	7
1704010503	Lower Salt River	FS087-3.5	494612	4778637	Trout Creek	2005	YCT	Baffled Culvert	6.3
1704010503	Lower Salt River	FS087-1.7	496589	4776509	Burns Creek	2006	YCT	Baffled Culvert	5.3
1704021401	Headwaters Camas Creek	FSR011	413285	4924088	Alex Draw	2007	YCT	Pipe-Arch	0.5
1704021401	Headwaters Camas Creek	FSR006	420601	4922813	Allan Canyon	2007	BRK	Pipe-Arch	1.3
1704020805	Lower Portneuf River	FS515-0.15	384725	4732250	Mink Creek	2007	YCT	Trail Bridge	0.3
1601020106	Eightmile Creek-Bear River	FS403-1.0	458493	4701878	South Skinner Creek	2007	BCT	Open-Bottom-Arch	0.4
1704010503	Lower Salt River	FSR136	493311	4765810	Deep Creek	2008	YCT	Open-Bottom-Arch	0.3
1704020403	Middle Teton River	FS235-1.7	474667	4841570	Horseshoe Creek	2008	YCT	Open-Bottom-Arch	1
1704010409	Antelope Creek	FS217-1.8	452957	4830164	Table Rock Creek	2008	YCT	Open-Bottom-Arch	3.1
1704010409	Antelope Creek	FS206-1.10, 1.11	456579	4829066	Wolverine Creek	2008	YCT	Bridge	3.7
1704020201	Henrys Lake-Henrys Fork	FSR053	461559	4939335	Duck Creek	2009	YCT	Open-Bottom-Arch	0.5
1704010403	Bear Creek	FS058-1.9	481420	4788943	Elk Creek	2009	YCT	Bridge	5
1704020201	Henrys Lake-Henrys Fork	PVT RD	474134	4942526	Howard Creek	2009	YCT	Bridge	2
1704020502	Outlet Grays Lake	FS077-3.90	464438	4786255	Brockman Creek	2010	YCT	Open-Bottom-Arch	3
1704020502	Outlet Grays Lake	FS086-0.01	463121	4786155	Corral Creek	2010	YCT	Open-Bottom-Arch	3
1704020201	Henrys Lake-Henrys Fork	FSR053	464092	4940604	Duck Creek	2010	YCT	Bridge	0.2
1704020201	Henrys Lake-Henrys Fork	FSR053	463464	4939783	Duck Creek	2010	YCT	Bridge	1.7
1601020101	Big Creek-Frontal Bear River	PVT Rd	467281	4653728	Fish Haven Creek	2010	BCT	Open-Bottom-Arch	0.1
1601020106	Eightmile Creek-Bear River	FS102-2.8	476611	4705327	Georgetown Creek	2010	BCT	Removed	0.5

1704020502	Outlet Grays Lake	FSR086	462318	4786430	Sawmill Creek	2010	YCT	Open-Bottom-Arch	3
1704020805	Lower Portneuf River	FSR344	384670	4725007	South Fork Mink Creek	2010	YCT	Open-Bottom-Arch	0.5
1704020402	Teton Basin	FS009-2.70, 2.71	504005	4844962	Reunion Flat	2010	YCT	Bridge	0.5
1704010402	McCoy Creek	FS009-2.4 (FSR165)	477935	4773273	Anderson Gulch	2011	YCT	Open-Bottom-Arch	2
1704010402	McCoy Creek	FSR165	478447	4772701	Bilk Creek	2011	YCT	Open-Bottom-Arch	2
1704020201	Henrys Lake-Henrys Fork	FSR053	463961	4940467	Duck Creek	2011	YCT	Removed	0.7
1601020106	Eightmile Creek-Bear River	Pvt Rd	468830	4702663	Georgetown Creek	2011	BCT	Open-Bottom-Arch	0.5
1704020403	Middle Teton River	FS802-0.05	475489	4840691	Horseshoe Creek	2011	YCT	Bridge	1
1704021401	Headwaters Camas Creek	FS026-0.8	428538	4927458	Kay Creek	2011	YCT	Bridge	3
1601010203	Thomas Fork	FS111-5.1	486302	4701075	Preuss Creek	2011	BCT	Open-Bottom-Arch	2.6
1704020805	Lower Portneuf River	FSR163	383519	4729383	South Fork Mink Creek	2011	YCT	Open-Bottom-Arch	1
1704020805	Lower Portneuf River	FSR163	383808	4728302	South Fork Mink Creek	2011	YCT	Open-Bottom-Arch	0.7
1704020805	Lower Portneuf River	FS163-2.4	384368	4726271	South Fork Mink Creek	2011	YCT	Open-Bottom-Arch	1.3
1704020204	Middle Henrys Fork	Harriman SP	465409	4911559	Antelope Creek	2012	RBT	Open-Bottom-Arch	4
1704020204	Middle Henrys Fork	Harriman SP	465193	4911786	Big Bend	2012	RBT	Open-Bottom-Arch	1
1704010501	Upper Salt River	FS102-1.3 (FSR1102)	482275	4716506	Deer Creek	2012	YCT	Open-Bottom-Arch	1.9
1601020101	Big Creek-Frontal Bear River	Hwy 89	467201	4653795	Fish Haven Creek	2012	BCT	Open-Bottom-Arch	3.7
1704020201	Henrys Lake-Henrys Fork	FS061-6.9	480020	4943003	Tygee Creek	2012	YCT	Open-Bottom-Arch	2
1704021402	Upper Beaver Creek	FS177-0.25	417888	4916882	Corral Creek	2013	YCT	Removed	0.6
1704010503	Lower Salt River	FSR070	493401	4766179	Deep Creek	2013	YCT	Open-Bottom-Arch	0.5
1704010503	Lower Salt River	FS070-0.7	493516	4766816	Deep Creek	2013	YCT	Open-Bottom-Arch	2.8
1704010503	Lower Salt River	FS070-1.1	493091	4767336	Deep Creek	2013	YCT	Open-Bottom-Arch	0.3
1704010503	Lower Salt River	FS070-1.4	492880	4767627	Deep Creek	2013	YCT	Open-Bottom-Arch	1.8
1704010503	Lower Salt River	FS070-2.9	490950	4768748	Deep Creek	2013	YCT	Open-Bottom-Arch	0.5
1704010503	Lower Salt River	FS070-3.3	490698	4769053	Deep Creek	2013	YCT	Open-Bottom-Arch	1.5

1704010501	Upper Salt River	FSR111	488833	4714603	Deer Creek	2013	YCT	Bridge	6
1601020402	Deep Creek-Malad River	Hwy 36	404374	4674248	First Creek	2013	BCT	Open-Bottom-Arch	2.5
1601020106	Eightmile Creek-Bear River	FSR102	477071	4705715	Georgetown Creek	2013	BCT	Removed	0.2
1704020805	Lower Portneuf River	Bannock GS Rd	384526	4731981	Mink Creek	2013	YCT	Open-Bottom-Arch	1
1704010503	Lower Salt River	FSR070	493299	4767216	Pat Canyon	2013	YCT	Pipe-Arch	2
1704010503	Lower Salt River	FSR389	488170	4769670	Squaw Creek	2013	YCT	Trail Bridge	0.2
1601020101	Big Creek-Frontal Bear River	FSR413	461784	4655882	Fish Haven Creek	2014	BCT	Open-Bottom-Arch	1
1704020804	Garden Creek-Marsh Creek	FS541 2.90, 2.91	395105	4723273	Goodenough Creek	2014	YCT	Pipe-Arch	2.1
1704010402	McCoy Creek	FS087-0.1	473859	4777741	McCoy Creek	2014	YCT	Bridge	11
1704020701	Lanes Creek-Diamond Creek	TR088	479043	4752856	Lander Creek	2015	YCT	Trail Bridge	0.5
1704020701	Lanes Creek-Diamond Creek	TR022	482002	4753389	Lanes Creek	2015	YCT	Trail Bridge	1
1704020701	Lanes Creek-Diamond Creek	TR022	483743	4751867	Lanes Creek	2015	YCT	Trail Bridge	1
1704020805	Lower Portneuf River	FSR163	383819	4727378	South Fork Mink	2015	YCT	Concrete Box	0.8
1704010408	Pine Creek	Hwy 31	476217	4822308	West Fork Pine Creek	2015	YCT	Bridge	4

Appendix B

Table 5: 2005 and 2007 AOP Survey Data with Priority Rating. **Highlighted** text identifies inventoried crossings sites where AOP has been restored or sites rated as Green (meets criteria to pass fish) and AOP restoration is not warranted.

HUC5 No	HUC5 Name	NAD83 E	NAD83 N	Stream	Xing ID	Xing Type	Juv Rating	Adult Rating	Miles Blocked	Miles Upstream	Priority Status	Priority Rating
1704021504	Crooked Creek	361573	4904179	Crooked Creek	FS178 2.8	Circular	Red	Red	9.15	9.15	YCT	No Action
1704021503	Deep Creek	366607	4901930	Warm Springs Creek	FS198 0.1	Circular	Red	Red	0.90	2.30	WQ	Low
1704021503	Deep Creek	365627	4902963	Warm Springs Creek	FS198 1.0	Circular	Red	Red	1.40	1.40	WQ	Low
1704021502	Medicine Lodge Creek	392185	4918780	Corral Creek	FS323 0.1	Circular	Red	Red	0.86	1.12	YCT	Low
1704021502	Medicine Lodge Creek	392185	4918780	Corral Creek	FS323 0.15	Circular	Red	Red	0.86	1.12	YCT	Low
1704021502	Medicine Lodge Creek	392667	4919978	Corral Creek	FS323 1.0	Circular	Red	Red	0.26	0.26	YCT	Low
1704021501	Headwaters Medicine Lodge Creek	361642	4919221	North Fork Fritz Creek	FS195 1.0	Circular	Red	Red	5.01	5.01	YCT	High

1704021404	Lower Beaver Creek	392935	4914734	Cow Creek	FS678 0.2	Circular	Red	Red	0.55	0.55	WQ	Low
1704021404	Lower Beaver Creek	392935	4914734	Cow Creek	FS678 0.21	Circular	Red	Red	0.55	0.55	WQ	Low
1704021402	Upper Beaver Creek	417888	4916882	Corral Creek	FS177 0.25	Circular	Red	Red	0.62	0.62	YCT	Fixed - AOP Restored
1704021402	Upper Beaver Creek	405059	4918596	Dairy Creek	FS006 0.6	Circular	Red	Grey	4.99	11.04	Fish Bearing	Medium
1704021402	Upper Beaver Creek	407761	4918644	Dairy Creek	FS087 0.1	Pipe Arch	Grey	Green	3.23	3.23	Fish Bearing	Low
1704021402	Upper Beaver Creek	398024	4925883	Grouse Creek	FS004 0.8	Circular	Red	Red	0.24	0.24	Fish Bearing	Low
1704021402	Upper Beaver Creek	397991	4919803	Kite Canyon Creek	FS323 4.4	Circular	Red	Red	1.40	1.40	Fish Bearing	Low
1704021402	Upper Beaver Creek	404894	4921742	Mill Creek	FS009 0.7	Circular	Red	Red	4.04	4.04	Fish Bearing	Low
1704021402	Upper Beaver Creek	393051	4924846	Mink Creek South Fork	FS163 2.4	Circular	Grey	Grey	1.29	1.29	YCT	Fixed - AOP Restored
1704021402	Upper Beaver Creek	405645	4926540	Sheep Creek	FS325 3.9	Circular	Red	Green	0.94	0.94	Fish Bearing	Low
1704021402	Upper Beaver Creek	406169	4918933	Telephone Creek	FS017 0.7	Circular	Red	Red	2.82	2.82	Fish Bearing	Low
1704021402	Upper Beaver Creek	413386	4917390	Three Mile Creek	FS021 2.7	Pipe Arch	Red	Red	0.29	2.24	Fish Bearing	Medium
1704021402	Upper Beaver Creek	413167	4917807	Three Mile Creek	FS477 0.4	Circular	Red	Red	1.95	1.95	Fish Bearing	Medium
1704021402	Upper Beaver Creek	410986	4914963	Three Mile Creek Middle	FS021 0.3	Circular	Red	Red	5.29	5.29	Fish Bearing	Medium
1704021402	Upper Beaver Creek	414653	4917426	West Fork Rattlesnake Creek	FS021 1.5	Circular	Red	Red	3.57	3.57	YCT	Medium
1704021402	Upper Beaver Creek	397853	4919650	White Pine Creek	FS323 4.6	Circular	Red	Red	2.23	2.23	Fish Bearing	Low
1704021401	Headwaters Camas Creek	421717	4923857	Bear Gulch Creek	FS019 1.5	Open Bottom Arch	Green	Green	0	5.24	Fish Bearing	No Action
1704021401	Headwaters Camas Creek	432667	4927113	Ching Creek	FS027 4.1	Pipe Arch	Red	Red	6.71	6.71	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	438474	4928290	Dry Creek Trib	FS327 4.0	Circular	Red	Red	1.86	1.86	Fish Bearing	No Action
1704021401	Headwaters Camas Creek	428538	4927458	Kay Creek	FS026 0.8	Circular	Red	Red	2.96	2.96	Fish Bearing	Fixed - AOP Restored
1704021401	Headwaters Camas Creek	430866	4927629	Little Creek	FS027 1.9	Pipe Arch	Red	Red	0.43	1.26	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	430710	4928240	Little Creek	FS027 2.2	Circular	Red	Red	0.84	0.84	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	415378	4925342	Pete Creek	FS006 7.7	Pipe Arch	Grey	Grey	1.36	5.57	Fish Bearing	Medium
1704021401	Headwaters Camas	414966	4926973	Pete Creek	FS010 0.9	Circular	Red	Red	4.00	4.21	Fish	Medium

	Creek										Bearing	
1704021401	Headwaters Camas Creek	415779	4930236	Pete Creek	FS010 3.5	Circular	Red	Red	0.21	0.21	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	433632	4927310	Scalp Creek	FS564 0.4	Circular	Red	Red	0.59	0.59	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	426629	4929850	Trail Creek	FS029 1.2	Pipe Arch	Red	Red	4.00	4.00	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	412709	4926487	West Camas Creek	FS006 9.80	Pipe Arch	Red	Grey	5.58	5.58	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	414074	4925929	West Camas Creek	FS011 0.10	Circular	Green	Green	0	10.50	Fish Bearing	No Action
1704021401	Headwaters Camas Creek	414074	4925929	West Camas Creek	FS011 0.11	Circular	Red	Grey	4.01	10.50	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	412673	4926470	West Camas Creek Trib	FS006 9.82	Pipe Arch	Red	Grey	0.92	0.92	Fish Bearing	Medium
1704021401	Headwaters Camas Creek	438474	4928286	West Dry Creek Unnamed Trib	FS327 4.0	Circular	Red	Red	3.19	3.19	YCT	No Action
1704020805	Lower Portneuf River	387344	4730626	East Mink Creek	FS524 0.1	Circular	Red	Red	4.64	4.64	YCT	Medium
1704020805	Lower Portneuf River	403527	4743438	Inman Creek	FS018 0.15	Pipe Arch	Grey	Grey	4.65	4.65	YCT	High
1704020805	Lower Portneuf River	384368	4726271	Miners Creek	FS006 16.5	Circular	Red	Red	16.58	16.58	Fish Bearing	Medium
1704020805	Lower Portneuf River	384725	4732250	Mink Creek	FS515 0.15	Circular	Red	Red	9.06	9.06	WQ	Fixed - AOP Restored
1704020804	Garden Creek-Marsh Creek	395105	4723273	Goodenough Creek	FS541 2.90	Circular	Red	Red	2.09	2.09	YCT, WQ	Fixed - AOP Restored
1704020804	Garden Creek-Marsh Creek	395105	4723273	Goodenough Creek	FS541 2.91	Circular	Red	Red	2.09	2.09	YCT, WQ	Fixed - AOP Restored
1704020802	Middle Portneuf River	410176	4737158	North Fork Pebble Creek	FS013 1.10	Circular	Grey	Green	1.09	1.09	WQ	High
1704020802	Middle Portneuf River	410176	4737158	North Fork Pebble Creek	FS013 1.11	Circular	Grey	Green	1.09	1.09	WQ	High
1704020802	Middle Portneuf River	412790	4733295	North Fork Pebble Creek	FS036 1.3	Circular	Red	Grey	3.16	4.25	WQ	High
1704020802	Middle Portneuf River	410387	4735340	Pebble Creek	FS024 0.5	Circular	Red	Red	1.80	1.80	WQ	High
1704020701	Lanes Creek-Diamond Creek	482275	4730457	Bear Canyon	FS102 0.1	Circular	Grey	Grey	2.19	2.19	YCT	High
1704020701	Lanes Creek-Diamond Creek	478979	4750599	Browns Canyon	FS107 4.4	Circular	Green	Green	0.75	0.75	YCT	2016 AOP Project
1704020701	Lanes Creek-Diamond Creek	483587	4725572	Diamond Creek	FS102 1.4	Circular	Grey	Grey	5.34	5.34	YCT, WQ	High
1704020701	Lanes Creek-Diamond Creek	483606	4726912	Stewart Canyon	FS102 0.5	Circular	Red	Red	1.42	1.42	YCT	Low
1704020502	Outlet Grays Lake	464438	4786255	Brockman Creek	FS077 3.9	Circular	Grey	Green	9.06	9.06	WQ	Fixed - AOP Restored
1704020502	Outlet Grays Lake	464438	4786255	Brockman Creek	FS077 3.91	Circular	Grey	Green	9.06	9.06	WQ	Fixed - AOP Restored

1704020502	Outlet Grays Lake	463121	4786155	Corral Creek	FS086 0.02	Circular	Red	Grey	3.59	3.59	WQ	Fixed - AOP Restored
1704020407	Moody Creek	457216	4834478	Modoc Creek	FS005 2.3	Pipe Arch	Red	Grey	3.30	3.30	Fish Bearing	High
1704020407	Moody Creek	457254	4834322	Moody Creek South	FS218 1.9	Circular	Red	Red	0.11	6.15	Fish Bearing	Medium
1704020407	Moody Creek	459725	4840349	North Moody Creek	FS256 0.4	Circular	Red	Red	6.87	6.87	WQ	Medium
1704020407	Moody Creek	459725	4840349	North Moody Creek	FS256 0.45	Circular	Red	Red	6.87	6.87	WQ	Medium
1704020403	Middle Teton River	476621	4840940	Horseshoe Creek	FS175 0.10	Circular	Red	Red	11.93	18.13	YCT, WQ	Low
1704020403	Middle Teton River	476621	4840940	Horseshoe Creek	FS175 0.11	Circular	Grey	Grey	11.93	18.13	YCT, WQ	Low
1704020403	Middle Teton River	474667	4841570	North Fork Horseshoe Creek	FS235 1.7	Circular	Red	Red	1.88	2.69	YCT, WQ	Fixed - AOP Restored
1704020403	Middle Teton River	474282	4842416	North Fork Horseshoe Creek	FS235 2.4	Circular	Red	Red	0.73	0.73	YCT, WQ	Low
1704020403	Middle Teton River	474328	4842312	North Fork Horseshoe Creek	FS235 2.5	Circular	Red	Red	0.08	0.81	YCT, WQ	Low
1704020403	Middle Teton River	475489	4840691	North Fork Horseshoe Creek	FS802 0.05	Circular	Red	Red	3.51	6.20	YCT 303d	Fixed - AOP Restored
1704020402	Teton Basin	499784	4851148	Kiln Creek	FS088 0.8	Pipe Arch	Red	Red	1.04	1.04	Fish Bearing	Medium
1704020402	Teton Basin	500971	4845286	Meyers Creek	FS045 0.63	Circular	Red	Red	5.33	5.33	Fish Bearing	No Action
1704020402	Teton Basin	504005	4844962	Reunion Flat	FS009 2.70	Pipe Arch	Grey	Green	0.5	0.5	Fish Bearing	Fixed - AOP Restored
1704020402	Teton Basin	504005	4844962	Reunion Flat	FS009 2.71	Pipe Arch	Grey	Green	0.5	0.5	Fish Bearing	Fixed - AOP Restored
1704020303	Lower Falls River	502688	4877521	Squirrel Creek	FS264 11.9	Pipe Arch	Red	Red	1.62	1.62	Fish Bearing	Medium
1704020302	Upper Falls River	508779	4885712	Calf Creek	FS261 17.60	Pipe Arch	Red	Red	0.38	2.16	Fish Bearing	Medium
1704020302	Upper Falls River	508779	4885712	Calf Creek	FS261 17.61	Pipe Arch	Red	Red	0.38	2.16	Fish Bearing	Medium
1704020302	Upper Falls River	508998	4886237	Calf Creek	FS261 18.0	Pipe Arch	Grey	Grey	0.48	1.77	Fish Bearing	Low
1704020302	Upper Falls River	509500	4886544	Calf Creek	FS261 19.1	Circular	Red	Red	1.30	1.30	Fish Bearing	Medium
1704020302	Upper Falls River	504446	4883734	North Boone Creek	FS261 13.90	Pipe Arch	Red	Red	6.14	6.14	Fish Bearing	Medium
1704020302	Upper Falls River	504446	4883734	North Boone Creek	FS261 13.91	Pipe Arch	Red	Red	6.14	6.14	Fish Bearing	Medium
1704020206	Warm River	475183	4903361	Warm River Trib	FS150 0.1	Pipe Arch	Red	Red	0.22	0.22	Fish Bearing	Medium
1704020205	Robinson Creek	481427	4888563	Fish Creek	FS092 0.4	Circular	Red	Red	1.87	2.97	Fish Bearing	Medium
1704020205	Robinson Creek	484218	4888678	Fish Creek	FS092 2.3	Pipe Arch	Grey	Grey	1.11	1.11	Fish	Low

											Bearing	
1704020205	Robinson Creek	481815	4889138	Fish Creek North Fork	FS082 0.8	Pipe Arch	Red	Red	3.88	3.88	Fish Bearing	Medium
1704020205	Robinson Creek	481095	4888335	Fish Creek North Fork	FS092 0.1	Circular	Red	Red	0.77	4.65	Fish Bearing	Medium
1704020205	Robinson Creek	485900	4883688	Schaefer Creek	FS470 0.5	Pipe Arch	grey	Grey	2.22	2.22	Fish Bearing	Low
1704020205	Robinson Creek	485533	4888788	Snow Creek	FS092 3.5	Circular	Red	Red	5.14	10.09	Fish Bearing	Medium
1704020205	Robinson Creek	487832	4894944	Snow Creek	FS094 1.6	Circular	Grey	Green	2.03	4.95	Fish Bearing	Low
1704020205	Robinson Creek	490756	4898940	Snow Creek	FS094 4.8	Pipe Arch	Grey	Green	1.60	1.60	Fish Bearing	Low
1704020205	Robinson Creek	490096	4897030	Snow Creek	FS518 0.2	Pipe Arch	Grey	Green	1.31	2.91	Fish Bearing	Low
1704020203	Henrys Fork-Island Park Reservoir	468043	4927042	Coffee Pot Creek	FS052 2.8	Circular	Red	Red	0.91	0.91	Fish Bearing	Low
1704020203	Henrys Fork-Island Park Reservoir	460932	4927080	Hotel Creek West Fork	FS048 2.1	Circular	Red	Red	2.25	2.25	Fish Bearing	Medium
1704020203	Henrys Fork-Island Park Reservoir	454704	4926334	Icehouse Creek	FS030 11.4	Pipe Arch	Red	Red	1.03	1.03	Fish Bearing	Low
1704020203	Henrys Fork-Island Park Reservoir	454919	4926344	Icehouse Creek East Fork	FS030 11.3	Circular	Red	Red	0.73	0.73	Fish Bearing	Low
1704020203	Henrys Fork-Island Park Reservoir	477267	4925773	Moody Creek South	FS218 6.2	Circular	Red	Red	6.04	6.04	Fish Bearing	Medium
1704020203	Henrys Fork-Island Park Reservoir	477267	4925773	Moose Creek	FS059 3.00	Pipe Arch	Green	Green	0	10.00	Fish Bearing	No Action
1704020203	Henrys Fork-Island Park Reservoir	481591	4922790	Moose Creek	FS059 3.01	Pipe Arch	Green	Green	0	10.00	Fish Bearing	No Action
1704020203	Henrys Fork-Island Park Reservoir	481591	4922790	Moose Creek	FS292 1.50	Pipe Arch	Grey	Green	3.92	3.92	Fish Bearing	No Action
1704020203	Henrys Fork-Island Park Reservoir	469037	4928319	Tyler Creek	FS052 4.10	Pipe Arch	Red	Red	1.06	1.06	Fish Bearing	Low
1704020203	Henrys Fork-Island Park Reservoir	469037	4928319	Tyler Creek	FS052 4.11	Pipe Arch	Red	Red	1.06	1.06	Fish Bearing	Low
1704020202	Sheridan Creek	446082	4927061	Howard Creek	FS035 2.30	Circular	Red	Red	2.66	2.66	Fish Bearing	Medium
1704020202	Sheridan Creek	446082	4927061	Howard Creek	FS035 2.31	Circular	Red	Grey	2.66	2.66	Fish Bearing	Medium
1704020202	Sheridan Creek	451624	4925515	Meyers Creek	FS045 0.62	Circular	Red	Grey	5.33	5.33	Fish Bearing	No Action
1704020202	Sheridan Creek	451624	4925515	Moose Creek	FS292 1.51	Pipe Arch	Grey	Green	3.92	3.92	Fish Bearing	No Action
1704020202	Sheridan Creek	447815	4924277	Taylor Creek	FS030 16.3	Circular	Red	Red	1.36	7.37	Fish Bearing	Low

1704020202	Sheridan Creek	447808	4926439	Taylor Creek	FS035 0.9	Pipe Arch	Red	Grey	6.01	6.01	Fish Bearing	Medium
1704020202	Sheridan Creek	453075	4926314	Willow Creek	FS030 11.50	Circular	Grey	Grey	6.57	8.75	Fish Bearing	Medium
1704020202	Sheridan Creek	453075	4926314	Willow Creek	FS030 11.51	Circular	Grey	Grey	6.57	8.75	Fish Bearing	Medium
1704020202	Sheridan Creek	455589	4930458	Willow Creek	FS046 3.0	Circular	Red	Red	2.18	2.18	Fish Bearing	Medium
1704020201	Henrys Lake-Henrys Fork	477503	4935315	Canyon Creek	FS060 2.4	Pipe Arch	Red	Red	2.89	2.89	Fish Bearing	Medium
1704020201	Henrys Lake-Henrys Fork	475662	4945549	Howard Creek	FS057 0.01	Circular	Red	Red	1.25	1.25	YCT, WQ	No Action
1704020201	Henrys Lake-Henrys Fork	480751	4932601	Reas Pass Creek	FS066 3.7	Pipe Arch	Red	Red	1.19	1.19	Fish Bearing	Medium
1704020201	Henrys Lake-Henrys Fork	460846	4939006	South Fork Duck Creek	FS053 2.8	Circular	Red	Red	2.93	2.93	WQ	No Action
1704020201	Henrys Lake-Henrys Fork	474810	4937378	Twin Creek	FS061Spur 0.1	Pipe Arch	Red	Red	2.17	3.41	Fish Bearing	Medium
1704020201	Henrys Lake-Henrys Fork	476617	4939972	Twin Creek	FS061Spur 4.3	Circular	Red	Red	1.24	1.24	Fish Bearing	Medium
1704020201	Henrys Lake-Henrys Fork	480020	4943003	Tygee Creek	FS061 6.9	Circular	Red	Red	0.35	0.35	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	496589	4776509	Burns Creek	FS087 1.7	Circular	Red	Red	5.27	5.27	YCT	Fixed - Passage Improved
1704010503	Lower Salt River	493516	4766816	Deep Creek	FS070 0.7	Pipe Arch	Red	Grey	2.81	6.90	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	493091	4767336	Deep Creek	FS070 1.1	Circular	Red	Red	0.27	4.09	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	492880	4767627	Deep Creek	FS070 1.4	Circular	Red	Red	1.81	3.82	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	490950	4768748	Deep Creek	FS070 2.9	Circular	Grey	Grey	0.51	2.01	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	490698	4769053	Deep Creek	FS070 3.3	Circular	Red	Red	1.50	1.50	YCT	Fixed - AOP Restored
1704010503	Lower Salt River	484867	4757942	Tincup Creek	HWY34 3.3	Circular	Red	Red	24.35	24.35	YCT	No Action
1704010503	Lower Salt River	485034	4757973	Tincup Creek	HWY34 3.5	Pipe Arch	Red	Red	0.23	24.58	YCT	No Action
1704010503	Lower Salt River	486416	4758644	Tincup Creek	HWY34 4.3	Pipe Arch	Green	Green	0	3.50	YCT	No Action
1704010503	Lower Salt River	486416	4758644	Tincup Creek	HWY34 4.4	Pipe Arch	Green	Green	0	0.15	YCT	No Action
1704010503	Lower Salt River	486828	4759307	Tincup Creek	HWY34 5.3	Pipe Arch	Red	Red	11.79	40.02	YCT	No Action
1704010503	Lower Salt River	486828	4759307	Tincup Creek	HWY34 5.31	Pipe Arch	Red	Red	11.79	40.02	YCT	No Action
1704010503	Lower Salt River	483705	4758126	Tincup Creek	HWY34 5.8	Pipe Arch	Red	Red	3.41	43.43	YCT	No Action
1704010503	Lower Salt River	483868	4758236	Tincup Creek	HWY34 5.81	Pipe Arch	Red	Red	3.41	43.43	YCT	No Action
1704010503	Lower Salt River	494612	4778637	Trout Creek	FS087 3.5	Circular	Red	Red	6.33	6.33	YCT	Fixed - Passage Improved
1704010502	Middle Salt River	481084	4748253	Flat Valley Creek	FS107 6.6	Circular	Red	Red	1.37	1.37	YCT	High
1704010501	Upper Salt River	482275	4716506	Deer Creek	FS102 1.3	Circular	Red	Red	1.92	1.92	YCT	Fixed - AOP Restored

1704010409	Antelope Creek	455055	4828508	Table Rock Creek	FS217 0.01	Circular	Red	Grey	1.73	4.80	YCT	Low
1704010409	Antelope Creek	452957	4830164	Table Rock Creek	FS217 1.8	Circular	Red	Red	3.07	3.07	YCT	Fixed - AOP Restored
1704010409	Antelope Creek	456517	4829273	Wolverine Creek	FS206 1.10	Circular	Red	Red	3.67	3.67	YCT	Fixed - AOP Restored
1704010409	Antelope Creek	456517	4829273	Wolverine Creek	FS206 1.11	Circular	Red	Red	3.67	3.67	YCT	Fixed - AOP Restored
1704010407	Fall Creek	460580	4802687	Fall Creek	FS077 7.6	Circular	Red	Grey	3.78	45.76	WQ	Medium
1704010407	Fall Creek	459757	4802071	Fall Creek	FS077 8.3	Circular	Grey	Green	41.98	41.98	WQ	Low
1704010407	Fall Creek	461618	4803590	Fall Creek	FS170 0.01	Circular	Grey	Grey	0.91	46.67	WQ	Low
1704010406	Snake River	473995	4806077	Indian Creek	FS161 0.01	Circular	Red	Red	6.78	6.78	YCT	Low
1704010403	Bear Creek	481420	4788943	Elk Creek	FS058 1.9	Circular	Red	Red	12.87	12.87	YCT, WQ	Fixed - AOP Restored
1704010402	McCoy Creek	477935	4773273	Anderson Gulch	FS009 2.4	Circular	Red	Red	1.26	1.26	Fish Bearing	Fixed - AOP Restored
1704010402	McCoy Creek	473859	4777741	McCoy Creek	FS087 0.1	Circular	Red	Red	11.76	11.76	YCT, WQ	Fixed - AOP Restored
1704010402	McCoy Creek	477816	4776775	Miners Delight	FS087 3.1	Circular	Red	Red	2.28	2.28	YCT	High
1602030901	Upper Deep Creek	356258	4677143	Rock Creek	FS037 0.8	Circular	Red	Grey	0.58	8.52	Fish Bearing	Low
1602030901	Upper Deep Creek	355833	4677863	Rock Creek	FS037 1.5	Circular	Green	Green	0	7.94	Fish Bearing	No Action
1601020303	Logan River	455637	4654429	Beaver Creek	FS411 0.15	Circular	Red	Grey	2.83	2.83	WQ	Medium
1601020303	Logan River	455850	4653543	Beaver Creek	FS411 0.75	Circular	Red	Red	0.57	3.40	WQ	Medium
1601020303	Logan River	456828	4650425	Beaver Creek	FS411 3.3	Circular	Red	Red	2.55	5.95	WQ	Medium
1601020106	Eightmile Creek-Bear River	452137	4706720	Eightmile Creek	FS402 0.1	Circular	Red	Red	1.95	6.75	WQ	High
1601020106	Eightmile Creek-Bear River	452444	4705531	Eightmile Creek	FS425 0.8	Circular	Grey	Grey	4.80	4.80	WQ	High
1601020106	Eightmile Creek-Bear River	470349	4703476	Georgetown Creek	0.5MileRD 0.1	Pipe Arch	Red	Red	4.60	13.92	Fish Bearing	Medium
1601020106	Eightmile Creek-Bear River	469241	4702808	Georgetown Creek	100West 0.01	Pipe Arch	Red	Red	0.83	14.75	Fish Bearing	Medium
1601020106	Eightmile Creek-Bear River	476611	4705327	Georgetown Creek	FS102 2.8	Pipe Arch	Red	Red	6.52	6.52	WQ	Fixed - AOP Restored
1601020106	Eightmile Creek-Bear River	474157	4704882	Georgetown Creek	FS225 0.01	Circular	Red	Red	9.31	9.31	Fish Bearing	Medium
1601020106	Eightmile Creek-Bear River	458493	4701878	South Skinner Creek	FS403 1.0	Circular	Red	Red	0.38	0.38	BCT	Fixed - AOP Restored
1601020105	Mill Creek-Ovid Creek	458913	4693406	North Creek	FS000 0.1	Pipe Arch	Red	Red	1.64	9.04	WQ	Medium
1601020105	Mill Creek-Ovid Creek	458337	4693361	North Creek	FS401 0.4	Circular	Grey	Green	3.28	7.40	WQ	Medium
1601020105	Mill Creek-Ovid Creek	458337	4693361	North Creek	FS401 0.41	Circular	Red	Red	3.28	7.40	WQ	Medium
1601020105	Mill Creek-Ovid Creek	455647	4693704	North Creek	FS401 2.2	Circular	Red	Red	0.21	4.12	WQ	Medium
1601020105	Mill Creek-Ovid Creek	455647	4693704	North Creek	FS401 2.4	Circular	Red	Red	0.11	3.91	WQ	Medium

1601020105	Mill Creek-Ovid Creek	455188	4693786	North Creek	FS401 2.5	Circular	Red	Red	0.31	3.80	WQ	Medium
1601020105	Mill Creek-Ovid Creek	454696	4693793	North Creek	FS401 2.8	Circular	Red	Red	3.49	3.49	WQ	Medium
1601020104	Montpelier Creek-Bear River	480938	4686591	Montpelier Creek	FS149 0.1	Pipe Arch	Red	Red	8.92	16.27	WQ	Medium
1601020104	Montpelier Creek-Bear River	484018	4688012	Montpelier Creek	US89 0.01	Pipe Arch	Red	Red	7.35	7.35	WQ	Medium
1601020104	Montpelier Creek-Bear River	485938	4693408	Snowslide Canyon	FS111 3.8	Circular	Red	Red	2.85	2.85	WQ	Medium
1601020103	Outlet Bear Lake	459307	4672903	Paris Creek	FSPSC 1.4	Circular	Red	Red	0.36	0.36	WQ	High
1601010203	Thomas Fork	486302	4701075	Preuss Creek	FS111 5.1	Circular	Red	Green	2.62	2.62	BCT, WQ	Fixed - AOP Restored

