

Upper Colorado River
Wild & Scenic Stakeholders
Alternative Management Plan

2015

Annual
Monitoring
Report

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INTRODUCTION

BACKGROUND & PURPOSE

In June 2015, after an eight-year planning and environmental analysis effort, the Bureau of Land Management (BLM) approved Revised Resource Management Plans (RMPs) for the Kremmling and Colorado River Valley field offices.¹ In accordance with the National Environmental Policy Act (NEPA) of 1969,² separate Environmental Impact Statements (EISs) and Records of Decision (RODs) were prepared for both RMPs.

As a part of the RMP revision process, the BLM was required to inventory waterways within the Planning Area pursuant to requirements under the Wild and Scenic Rivers Act of 1968³ to determine if those waterways are in free-flowing condition and possess one or more Outstandingly Remarkable Values (ORVs) that may be eligible for protection. Accordingly, the BLM completed the eligibility phase of the Wild and Scenic Rivers (WSR) evaluation process in 2007. The WSR Eligibility Study considered all river segments in the Planning Area, which included a large segment of the Upper Colorado River.⁴ In 2014, a Suitability Study was finalized during the second phase of the WSR study process.

Because part of the RMP Planning Area included National Forest System (NFS) lands, the White River National Forest was invited to join as a cooperator with the BLM in 2008 in preparing an interagency WSR Suitability Report. By jointly examining eligible segments of river within the Planning Area,⁵ the BLM and USFS were able to comprehensively assess the suitability of these river segments and avoid conflicting determinations which would result in management challenges. The USFS issued its ROD concurrently with the BLM in June 2015.

The Upper Colorado River Wild and Scenic Stakeholder Group (SG) was established in 2008 to bring state and local government, water users, and other interested entities together to develop a

¹ The 2015 Revised RMP replaces the 1984 Glenwood Springs Resource Area RMP.

² 42 U.S.C. §4321

³ 16 U.S.C §1271

⁴ See Attachment A: Project Area Map

⁵ The USFS portion of the WSR Suitability Report evaluated four river segments – two segments on Deep Creek, and two segments on the Colorado River, totaling approximately 17.25 miles. *These four river segments were previously found to be eligible in the WRNF's 2002 Land and Resource Management Plan.*

plan that balances protection of the ORVs with Colorado's other management priorities through cooperative and voluntary efforts. An Alternative Management Plan, developed by the SG, was submitted to BLM and USFS in January 2012 as a Wild and Scenic management alternative to protect the ORVs identified in the Eligibility Reports for BLM Segments 4 – 7 (USFS Segments 1 – 2) of the Upper Colorado River. The purpose of the SG Plan is to balance permanent protection of the ORVs, certainty for the stakeholders, water project yield, and flexibility for water users.

As indicated in the RODs, both BLM and USFS deferred a W&S suitability determination for the Colorado River segments within the RMP Planning Area. By deferring a suitability determination, both the BLM and USFS chose to rely, in part, on the Alternative Management Plan, prepared by the SG, which was included as one of the four management alternatives in the Draft and Final EIS documents. The SG Plan will be used in concert with the agencies' land management authorities to protect the free flowing condition, ORVs, classification and water quality of these stream segments. While the SG Plan is in operation, eligibility determinations for two stream segments will remain in place.

GOALS OF THE SG PLAN

The SG Plan aims to monitor and protect all the ORVs identified in the BLM's original eligibility report, while focusing on the primary streamflow-influenced ORVs identified below. Implementation procedures in the SG Plan provide a feedback loop to periodically assess and confirm that the management measures under the SG Plan, in coordination with the BLM's and USFS's other land management actions, are protective of all ORVs.

- Primary streamflow-influenced ORVs:
 - Recreational Fishing
 - Recreational Floatboating
- Other streamflow-influenced ORVs:
 - Wildlife
 - Botanical
 - Scenic
- Additional ORVs:
 - Geological
 - Historical
 - Paleontological

In the first 3-to-5 years of implementation of the SG Plan, the SG will gather necessary data and develop specific indicators which will be used to gauge whether the ORVs are being protected. These indicators are referred to in the Plan as ORV Indicators.

Streamflow-influenced ORVs may be affected by factors such as flows, temperature and water quality. The SG Plan establishes ranges for these factors, referred to as Resource Guides, which are described in Part III of the SG Plan. The SG has negotiated the provisional Resource Guides as one source of information among others for informing SG discussions under the Plan.

STAKEHOLDER PARTICIPATION

The SG Plan stipulates that no formal funding assessments are to be levied during the Pre-Provisional Period (i.e., the period after submittal of the SG plan to the federal agencies and before the effective date). As of December 2015, funding for the SG effort has been provided by voluntary stakeholder contributions and by the Colorado Water Conservation Board (CWCB) through its Wild and Scenic Alternatives Fund.

2015 PLAN HIGHLIGHTS

The SG Plan contemplates the performance of a number of tasks prior to its effective date. These tasks are specified in Attachment B to the SG Plan (“Timeline and Task List”)⁶.

During the Period Prior to Submittal of Endorsed SG Plan

Section 1 of Attachment B outlines tasks that were to be completed prior to submittal of an endorsed plan to BLM and the USFS. These tasks, which include agreement on instream flow (ISF) amounts for recommendation to the CWCB and finalizing the definition of year-types for use in the SG Plan, were completed prior to 2012. Appropriate language was incorporated in the SG Plan, which was submitted to BLM and the USFS in January 2012.

During the Period Following Submittal of Endorsed SG Plan until Effective Date (Pre-Provisional Period)

Section 2 of Attachment B outlines tasks to be completed after submittal of the endorsed SG Plan to BLM and the USFS but prior to the effective date of the SG Plan. Actions taken during this

⁶ See Attachment C: Timeline & Task List from the SG Plan.

period are approved by unanimous consensus of all endorsing entities. As of December 2015, the SG had accomplished the following steps toward completion of the identified tasks:

- Provided a formally endorsed SG Plan to BLM and USFS.
- Implemented annual monitoring activities contemplated for the Pre-Provisional Period.
- Engaged in good faith efforts toward reaching agreement on final Resource Guides and ORV Indicators. These efforts included a floatboating survey piloted in 2012 and continued during the 2013 and 2015 seasons, with the addition of fishing-related survey questions during the 2015 season.
- Implemented Cooperative Measures.
- Made joint written recommendations to the CWCB for ISF water rights and supported CWCB in securing decrees for such rights. The CWCB filed water court applications for three Colorado River ISF water rights recommended by the SG on November 30, 2011. Entry of a decree for the CWCB ISF water rights by December 21, 2015 is a long-term protection measure, or “milestone” identified in the SG Plan. That milestone was achieved two years ahead of the deadline, with the entry of final decrees for the ISF water rights in March 2013 and a July 12, 2011 appropriation date.
- Discussed commitments by Windy Gap Firing Enterprise, Northern Water and its Subdistrict and Denver Water pursuant to Section III.C.2.C of the SG Plan (Poison Pill).
- Held 18 full SG meetings, multiple committee and work group meetings, and completed Annual Monitoring Reports for each year of the pre-provisional period.
- Developed the Stakeholder MOU contemplated in the SG Plan, which was subsequently executed by SG members in anticipation of the Provisional Period.
- Continued discussions, and conducted two SG workshops, to determine the extent to which channel maintenance flows may be incorporated into the SG Plan.

2015 Cooperative Measures

The SG Plan provides for a process to implement voluntary strategies (Cooperative Measures) that complement the Long-Term Protection Measures in providing protection to the ORV's. The Stakeholder Group is committed to vigorously exploring potential Cooperative Measures that would achieve provisional or final ORV Indicators and/or Resource Guides pursuant to the procedures specified in the SG Plan. Various factors come into consideration in determining which strategies might be available and/or effective in providing protection to the ORV's, including the predicted general flow condition for the year, the available operational

opportunities that arise during the year, and the commitment to respect the priority system and water users' operations. Using this information, the SG collaborates with other entities and water users in seeking opportunities to provide protection to the ORV's.

The SG uses the Colorado Basin River Forecast Center ("CBRFC") 50% Forecasts of April through July undepleted flows at Kremmling and Dotsero to guide cooperative efforts for Segments 4-6 and Segment 7. The year 2015 began with predictions far lower than average flow conditions in the Wild and Scenic segments. The May 1st Colorado Basin River Forecast Center ("CBRFC") 50% Forecasts for the Kremmling gage and Dotsero gage sites predicted April-July undepleted flow volumes that corresponded to the "Dry Typical Year" category pursuant to SG Plan criteria. Consequently, the Cooperative Measures Workgroup began the year concerned with possible low flows that might impact the ORV's. However, the actual water availability outlook changed with significant precipitation occurring through May and June of that year. The actual 2015 flows turned out to be in the "Wettest 25%" category at both the Kremmling and Dotsero gage locations for the second year in a row.

The Kremmling gage peaked at a daily mean flow of 6,660 cfs, while the Dotsero gage peaked at a daily mean flow of 12,400 cfs. The unexpectedly higher flow conditions beginning in May changed the focus of the Cooperative Measures group from concerns with possible low flows, to monitoring high flow conditions that might impact the ORV's.

The stream flow levels were such that operators of the Upper Colorado River Basin reservoirs implemented Coordinated Reservoir Operations (CROS) to enhance spring peak flows for endangered species in the 15-Mile Reach during the first week of June. The higher flows benefitted the W&S reaches as flows were well above the flushing flow level provided in the SG Plan. A surplus in the Green Mountain Historic Users Pool "HUP" was also declared for 2015, which allowed for additional Green Mountain Reservoir releases that helped support target flows for endangered fish in the 15-Mile Reach. These flows also boosted the flows in the Colorado River through the Wild and Scenic Segments. In addition, stream flows for the Gore Fest boating weekend in August provided a "standard experience", as defined on page 18 of the SG Plan.

Some members of the Cooperative Measures Working Group were regular participants in the weekly HUP calls where river conditions and operations were discussed in detail. That participation improved the water community's awareness of potential Wild and Scenic issues and allowed the Wild and Scenic members to become more aware of river conditions and operational plans that might impact the ORV's.

2015 MONITORING ACTIVITIES

OVERVIEW

During 2015, the SG conducted the following efforts contemplated for both the Pre-Provisional and Provisional periods, which were demarcated by the finalization of the BLM and USFS RODs in July (see SG Plan, Attachment B, section 2.C.).

- Gathered data collected by others: USGS water quality and quantity, BLM water temperature, CO Parks & Wildlife (CPW) *Pteronarcys* exuviae counts
- The SG conducted temperature monitoring and floatboating/fishing survey work at selected sites from Gore Canyon to Two Rivers Park in Glenwood Springs
- Evaluated available monitoring data and, where appropriate, compared data to provisional ORV Indicators and Resource Guides

Table 1 summarizes monitoring and evaluation efforts undertaken by the SG and other agencies during 2015.

| Provisional Monitoring Parameters | 2015 Monitoring | Responsible Party |
|--|--|-------------------|
| <u>ORV INDICATORS</u> | | |
| Recreational Fishing: | | |
| Quality Trout | Ongoing | CPW |
| Biomass | Ongoing | CPW |
| Species Diversity | Ongoing | CPW |
| Total Fishing Effort | Ongoing | SG |
| Catch/Unit Effort | Ongoing | SG |
| Recreational Boating: | | |
| Narrative during Provisional Period | Not applicable | SG |
| <u>ORV RESOURCE GUIDES</u> | | |
| Recreational Fishing: | | |
| Flow Guides | Year-end evaluation | SG |
| Flushing Flow | Year-end evaluation | SG |
| Recreational Boating: | | |
| Usable Days | Year-end evaluation | SG |
| Visitor Preference Surveys | Ongoing | SG |
| Water Quality: | | |
| CDPHE existing water quality standards | Year-end evaluation, during Provisional Period | MonWG |
| Temperature: | | |
| CDPHE existing temperature standards | Year-end evaluation | MonWG |

Table 1. Responsible Party for monitoring 2015.

2015 Monitoring by Other Entities

U.S. Bureau of Land Management

The U.S. Bureau of Land Management (BLM) conducts various monitoring activities on the Wild & Scenic stream reaches. Currently, the BLM supports two water temperature monitoring locations. In addition, the BLM is conducting various monitoring to support other ORVs. For instance, the BLM currently monitors populations of Bald Eagles, River Otters, riparian vegetation, and noxious weeds.

U.S. Geological Survey

Figure 1 represents the annual daily average streamflow recorded at the U.S. Geological Survey (USGS) gage **09058000 Colorado River NEAR KREMMLING, CO** and Figure 2 represents USGS gage **09070500 Colorado River NEAR DOTSERO, CO**. The SG has selected these two stream gages for monitoring flows in the Wild and Scenic stream segments. These gages are operated by the USGS as part of the National Streamflow Information Program (NSIP)⁷.

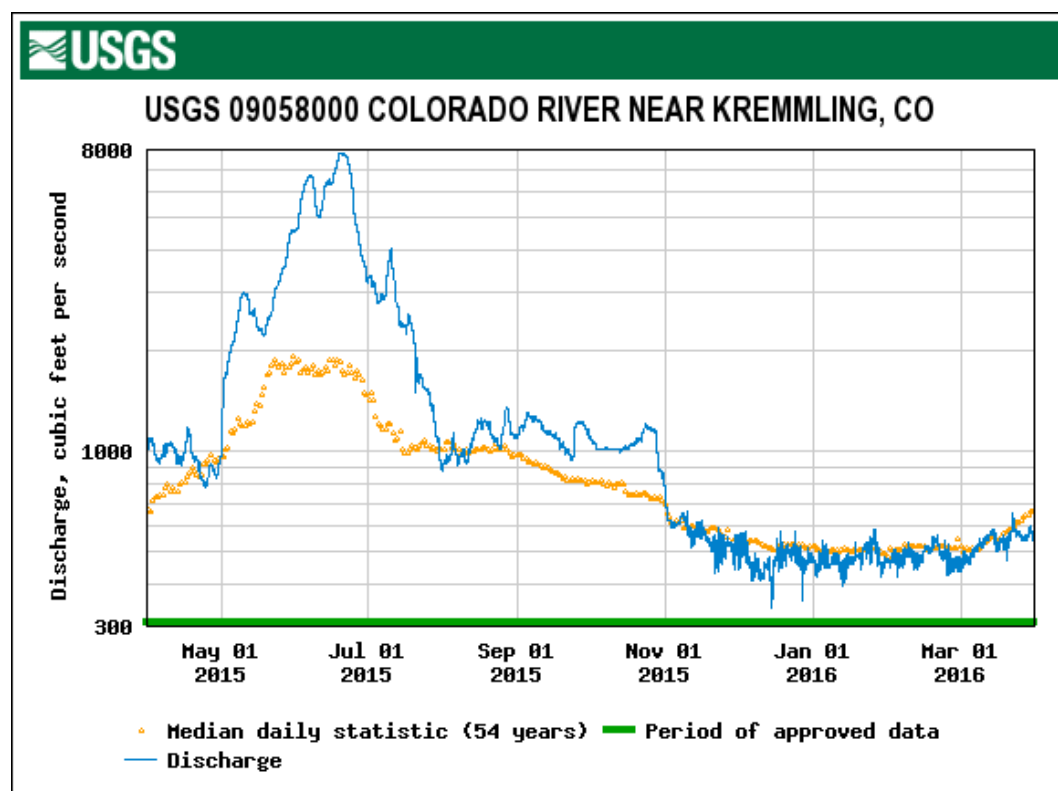


Figure 1. Daily streamflow USGS gage **09058000 Colorado River NEAR KREMMLING, CO**

⁷ In addition to streamflow, each site is sampled four to six times per year for a full suite of physical and chemical water quality parameters.

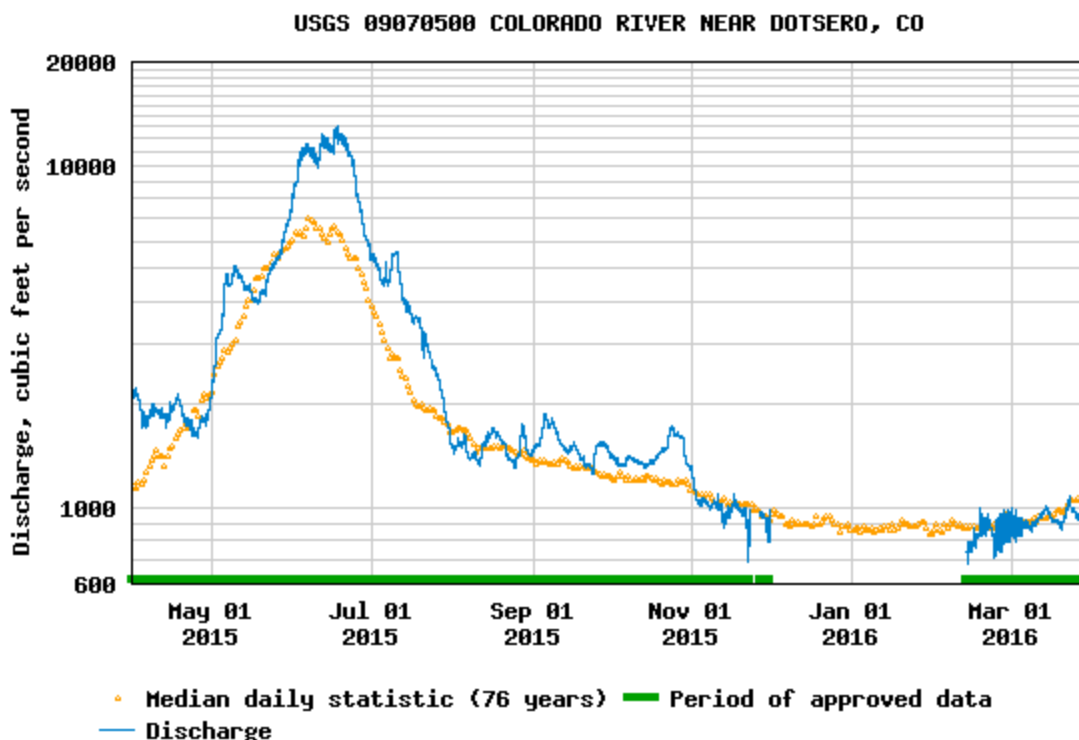


Figure 2. Daily average streamflow during 2015 at USGS gage **09070500 Colorado River NEAR DOTSERO, CO**

2015 Hydrology⁸

Two USGS stream gages on the Colorado River (at Kremmling and Dotsero) are currently available for monitoring flows in the W&S stream segments. Based on the actual 2015 total annual volume at the Kremmling and Dotsero gages (refer to tables, below), the SG determined the “year type” for Segments 4, 5, 6 and 7. Note: the “Wild & Scenic Water Year”, as defined by the SG, extends from April 1st through March 31st.

| Segments 4 – 6 | |
|----------------|---------------------------|
| Year Type | Annual Volume @ Kremmling |
| Wettest 25% | >769,500 af |
| Wet Typical | 525,000 - 769,500 af |
| Dry Typical | 454,500 – 525,500 af |
| Driest 25% | <454,000 af |

Table 2. Year type classification for Segments 4 – 6. Year types are based on the annual flow volume in acre feet (af) calculated from April 1st to March 31st.

⁸ Colorado River Basin Forecast Center, June 1, 2015 Water Supply Forecast Discussion.

| Segment 7 | |
|------------------|--------------------------------|
| Year Type | Annual Volume @ Dotsero |
| Wettest 25% | >1,519,500 af |
| Wet Typical | 1,234,000 – 1,519,500 af |
| Dry Typical | 1,029,500 – 1,234,000 af |
| Driest 25% | <1,029,500 af |

Table 3. Year type classification for Segment7. Year types are based on the annual flow volume in acre feet (af) calculated from April 1st to March 31st.

During the 2015-2016 season, May was very wet compared to the previous year. A significant amount of precipitation and below average temperatures occurred throughout the month. Monthly precipitation amounts were impressive, with several locations throughout the CRBFC forecast area receiving between 200 and 400 percent of their May average and some locations nearing record amounts. Cooler temperatures also delayed melting of the higher elevation snowpack, resulting in higher June runoff volumes than previously anticipated.

Although seasonal water supply forecasts improved everywhere, many remained below- to much-below average, due to the warm dry winter. An exception to this was the Colorado River headwaters, where near- to above-average runoff volumes occurred.

According to the SG's method of predicting and typing, the 2015 water year falls within the "Wettest 25%" category.

Colorado Parks and Wildlife

Biosurveys conducted by Colorado Parks and Wildlife (CPW) provide data that can be used in assessing the provisional ORV Indicators for Recreational Fishing. CPW conducts bi-annual fish population surveys (two-mile river segments) at the sites shown in Figure 3, depending on water conditions.

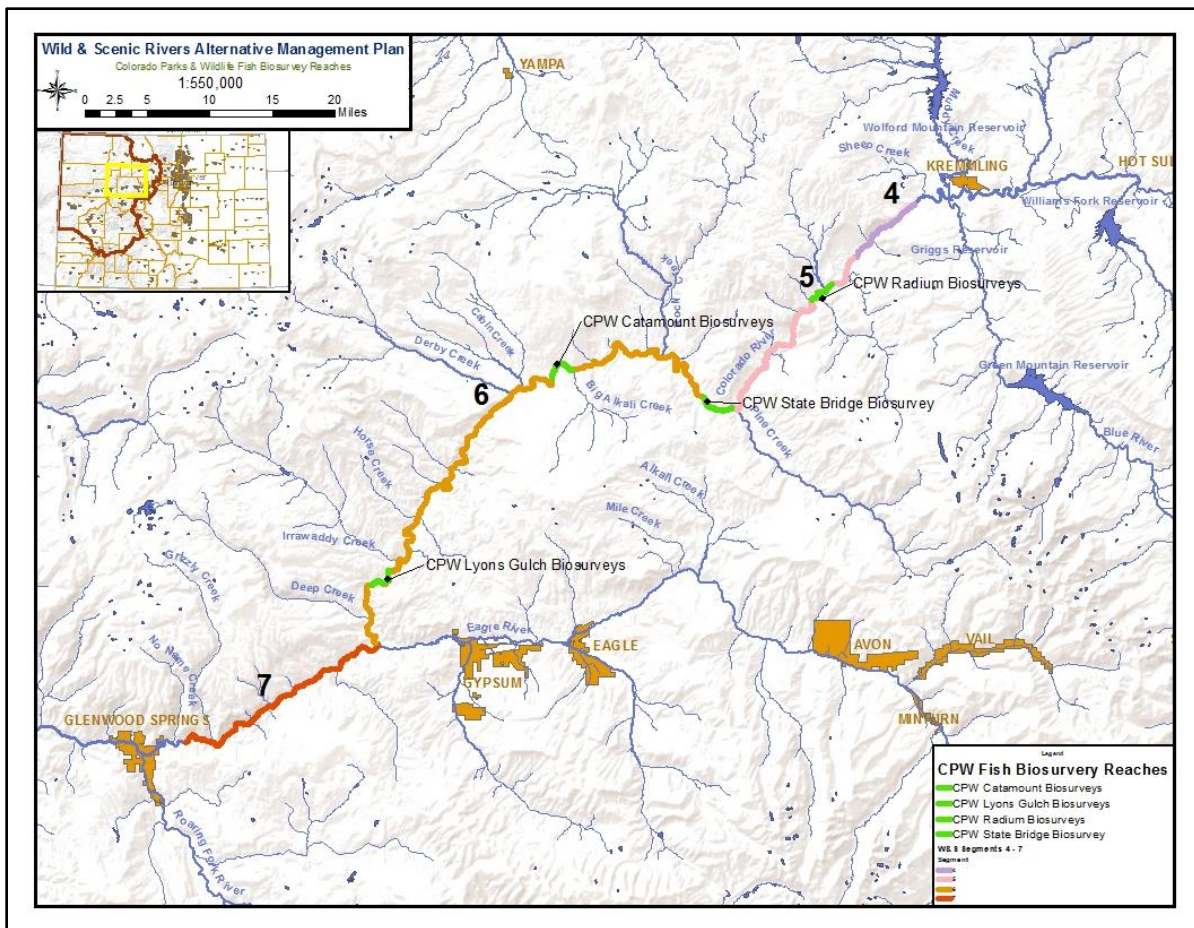


Figure 3. Colorado Parks and Wildlife Biosurvey Sample Sites and Associated Fishing Restrictions

In order to provide ongoing perspective on trout populations in W&S Segments 5 and 6, Table 4 shows the results of CPW's spring biosurveys at the Radium, State Bridge, Catamount and Lyons Gulch sites between 2010 and 2015.

| Sampling Metric (Brown Trout) | 2010 | 2011 | 2012 | 2013 | 2014 ^a | 2015 |
|---|------|------|------|------|-------------------|------|
| Radium (W&S Segment 5) | | | | | | |
| Trout Quality (# > 14"/acre) | 36 | 44 | 46 | 50 | N/A | 56 |
| Biomass (lbs/acre) | 103 | 110 | 143 | 162 | N/A | 129 |
| State Bridge (W&S Segment 6) | | | | | | |
| Trout Quality (# > 14"/acre) | N/A | N/A | N/A | 33 | N/A | 20 |
| Biomass (lbs/acre) | N/A | N/A | N/A | 112 | N/A | 57 |
| Catamount (W&S Segment 6) | | | | | | |
| Trout Quality (# > 14"/acre) | N/A | 11 | N/A | 20 | N/A | 41 |
| Biomass (lbs/acre) | N/A | 35 | N/A | 58 | N/A | 84 |
| Lyons Gulch (W&S Segment 6) | | | | | | |
| Trout Quality (# > 14"/acre) | 11 | N/A | 10 | 1 | N/A | 2 |
| Biomass (lbs/acre) | 26 | N/A | 29 | 6 | N/A | 5 |

Table 4. CPW Annual Fish Bio-surveys. ** High water conditions prevented CPW personnel from conducting biosurveys in the Wild & Scenic stream segments in 2014.

In addition to Quality Fish⁹ and Biomass data, CPW maintains a current list of fish species captured at each site, which can be used to monitor species diversity in Segment 5 of the Wild and Scenic stream reach.¹⁰ The following list includes 14 fish species and three hybrids captured by CPW at the Radium sample site, as of 2015.

- Bluehead sucker
- Colorado River cutthroat
- Lake trout
- Mountain whitefish
- Speckled dace
- White/longnose hybrid
- Brook trout
- Flannelmouth sucker
- Longnose sucker
- Northern pike
- White sucker
- Rainbow / cutthroat hybrid
- Brown trout
- Kokanee salmon
- Mottled sculpin
- Rainbow trout
- White/flannel hybrid

⁹ The SG Plan contemplates using # of quality fish per acre vs CPW's units (# of quality fish per mile).

¹⁰ CPW and Trout Unlimited are also conducting preliminary studies of *Pteronarcys californica* (Giant Stonefly) exuviae as a possible indicator of macroinvertebrate population density. The SG is monitoring progress on these efforts and may include these and/or other studies in future reports.

MONITORING BY STAKEHOLDER GROUP

Water Temperature

Since 2012, the W&S Monitoring Work Group (MonWG) has been collecting and reviewing water temperature data at six sites within the W&S segments. Table 5 and Figure 4, below, show the locations and entities responsible for these six water temperature stations.

Currently, the MonWG maintains three water temperature sites located on the Colorado River below the confluence with Piney Creek (Colorado River Above State Bridge), below the confluence with Red Dirt Creek and above Dotsero.

The BLM also maintains two water temperature sites located on the Colorado River at Pumphouse and Radium.

In addition to the MonWG & BLM temperature sites, the USGS has two real-time temperature monitoring sites anchoring the W&S segments, one is at the Kremmling gage (USGS gage 09058000 Colorado River NEAR KREMMLING, CO) and the other is located in Segment 6 (USGS gage 09071750 Colorado River ABOVE GLENWOOD SPRINGS, CO). At this time there are no stations collecting simultaneous air and water temperature readings.

The MonWG is currently archiving their water temperature data in the Water Information Library and Unified Reference (WILBUR) database maintained by the Grand County Water Information Network (GCWIN). These data are accessible on GCWIN's website at <http://wilbur.gcwin.org>

| TEMPERATURE STATION | ENTITY |
|--|--------|
| 09058000 Colorado River Near Kremmling, CO | USGS |
| COR-Pumphouse | BLM |
| COR-Radium | BLM |
| Colorado River Above State Bridge | W&S |
| Colorado River Below Red Dirt Creek | W&S |
| Colorado River Above Dotsero | W&S |
| 09071750 Colorado River Above Glenwood Springs, CO | USGS |

Table 5. Wild & Scenic Water Temperature Sites.

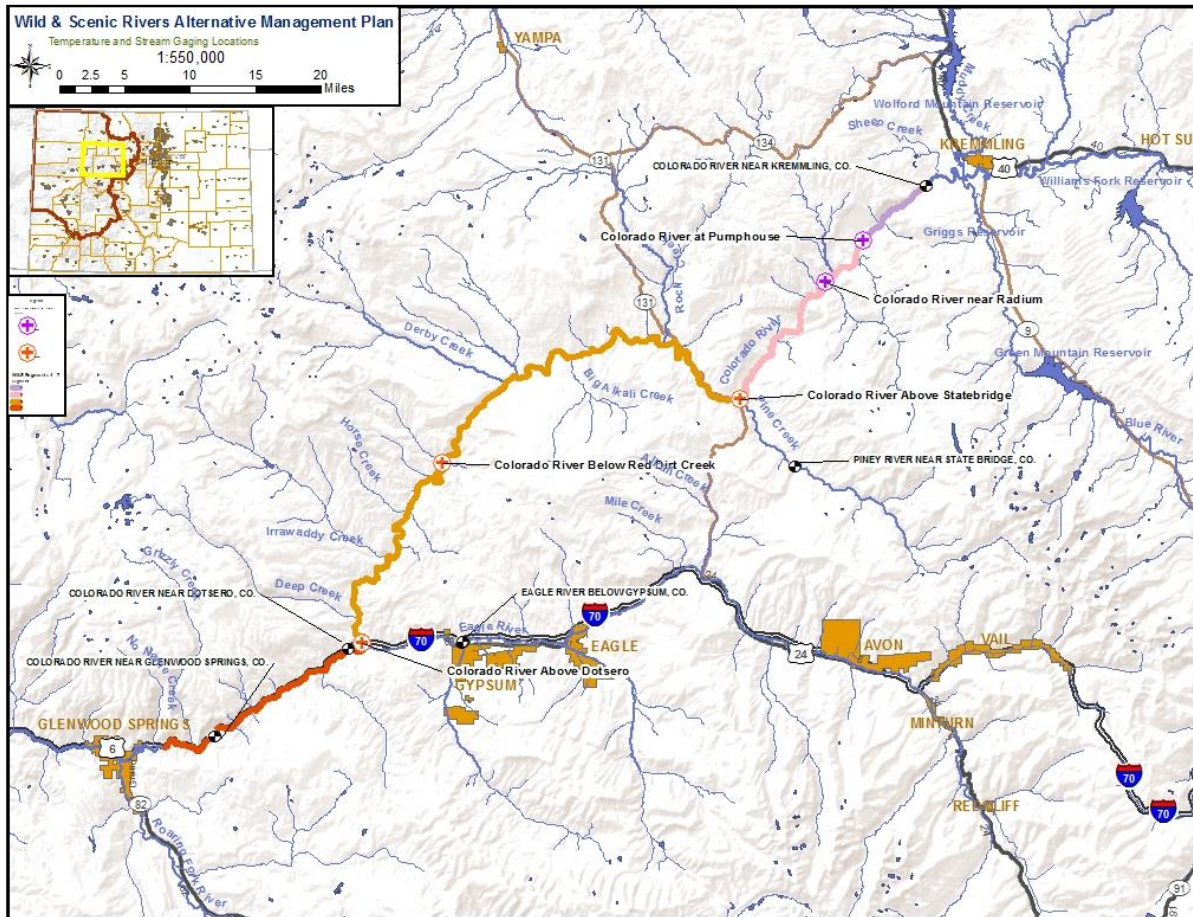


Figure 4. Site locations for temperature monitoring conducted by SG, BLM and USGS.

User Surveys

Following the user survey efforts¹¹ conducted in 2012, 2013 and 2014, the SG contracted with RRC Associates in 2015 to continue floatboating and fishing surveys, with the understanding that the data collected from user surveys would be used to inform management decisions, better understand and improve methods for future survey efforts, and to explore data analysis methods that could support future decision-making regarding the ORVs.

RRC Associates presented the results of the 2015 user surveys during the January 2016 SG meeting. RRC's annual survey reports can be downloaded from www.upcowildandscenic.com.

¹¹ The concept of a recreational floatboating survey (user survey) is documented in Attachment B.2.C.2 of the SG Plan as a possible monitoring action.

EVALUATION OF MONITORING RESULTS

The SG Plan uses two distinct measures to monitor and protect the ORVs:

ORV Indicators: Indicators which are used to gauge whether the ORVs are being adequately protected; and

Resource Guides: Guides to be used as one source of information, among others, for informing SG discussions under the SG Plan.

Until such time as final ORV Indicators and Resource Guides are developed, the SG Plan will use the provisional ORV Indicators and Resource Guides described below.

Provisional ORV Indicators

Recreational Fishing

The SG Plan includes the numeric standards shown in Table 6 as the Provisional ORV Indicators for Recreational Fishing.¹²

| Type | Name | Current level (if available) |
|----------------------|----------------------------|------------------------------|
| Fishery | Quality Trout | 24 fish over 14" per acre |
| Fishery | Biomass | 90 pounds per acre |
| Fishery | Species Diversity (SD) | 14 species of fish |
| Recreational Fishing | Total Fishing Effort (TFE) | TBD |
| Recreational Fishing | Catch/Unit Effort (CPUE) | TBD |

Table 6. Provisional ORV Indicators for Recreational Fishing in W&S Segments 4-6

The following evaluations of the Provisional ORV Indicators for Recreational Fishing are compared to CPW's biosurvey results shown in Table 4.

¹² Provisional ORV Indicators for Recreational Fishing apply to the Upper Colorado River from Gore Canyon to Red Dirt Creek.

Quality Trout Evaluation

As indicated in Table 4, CPW's 2015 biosurvey results at the Radium site indicated a quality Brown Trout value of 56 fish over 14" per acre. This number is 133% greater than the SG's Provisional ORV Indicator of 24 fish over 14" per acre.

Biomass Evaluation

CPW's 2015 biosurvey results at the Radium site indicated a brown trout biomass of 129 pounds per acre. This biomass, of brown trout alone, is 43% greater than the SG's Provisional ORV Indicator of 90 pounds per acre, which was originally intended to encompass all trout species.

Evaluation of Species Diversity

As of 2015, CPW had captured 17 different species of fish at the Radium Site, which is three species more than the SG's Provisional ORV Indicator of 14 species of fish.

Recreational Floatboating

The SG Plan includes the following narrative standard as the Provisional ORV Indicator for Recreational Floatboating¹³:

“Protect the existing range and quality of the outstanding floatboating opportunities.

This narrative standard does not imply mirroring any specific hydrology.”¹⁴

The SG's 2015 user surveys continued to refine survey methods that can be used to better understand the resource and improve future survey efforts. In addition, the SG is continuing work with RRC Associates to obtain the best possible counts of all people using the resource (e.g., user days and private vs commercial use). Efforts to identify and evaluate important factors that influence the overall boating experience will continue in 2016.

¹³ Provisional ORV Indicators for Recreational Floatboating apply to the Upper Colorado River from Gore Canyon to No Name in Glenwood Canyon.

¹⁴ The intent of the SG is to develop and incorporate objective criteria into the final ORV Indicators for Recreational Floatboating.

Provisional Resource Guides

Recreational Fishing

The Provisional Resource Guides shown in Table 7 represent the seasonal ranges of flow for the Recreational Fishing ORV in Segments 4, 5 and 6. Following the effective date of the Plan, the SG has agreed to use the mid-point value as a reference flow and compare it to the 5-year rolling average each season for purposes of discussion under the Plan.¹⁵ While the highly variable flow conditions in these segments could be addressed through the use of criteria addressing a specified frequency of meeting these guides, such implementation criteria have not been established for purposes of the Plan. The SG may develop such criteria in the future, but the Plan is designed to operate in the absence of frequency criteria for these seasonal flow ranges.

¹⁵ During the provisional period, the 5-year rolling average will include data from the previous 4 years.

| Season | Number of Days in Season | Month | Seasonal Fish Flow Range and Midpoint (cfs) |
|---------------|-------------------------------------|--------------|--|
| 1 | 91 | April | 800-1000 900 midpoint |
| | | May | |
| | | June | |
| 2 | 92 | July | 600-1000 800 midpoint |
| | | August | |
| | | September | |
| 3 | 61 | October | 400-800 600 midpoint |
| | | November | |
| 4 | 122 | December | 400-600 500 midpoint |
| | | January | |
| | | February | |
| | | March | |

Table 7: Provisional Resource Guides for Recreational Fishing.

In order to calculate the seasonal average flow and rolling 5-year average flows, the Kremmling gage (USGS gage 09058000 Colorado River NEAR KREMMLING, CO) was accessed for the Daily Mean Discharge data from April 1, 2008 to March 31, 2015.

Figure 5 provides a comparison of 5-year average flows at the Kremmling Gage to the W&S Provisional Resource Guides between 2012 and 2015. In all but one case, the 5-year average streamflows exceeded the mid-point value of the seasonal flow ranges for each season. The single exception is the 2012 average flow of 434 cfs during Season 4, which falls within the target flow range, but below the midpoint of 500 cfs.

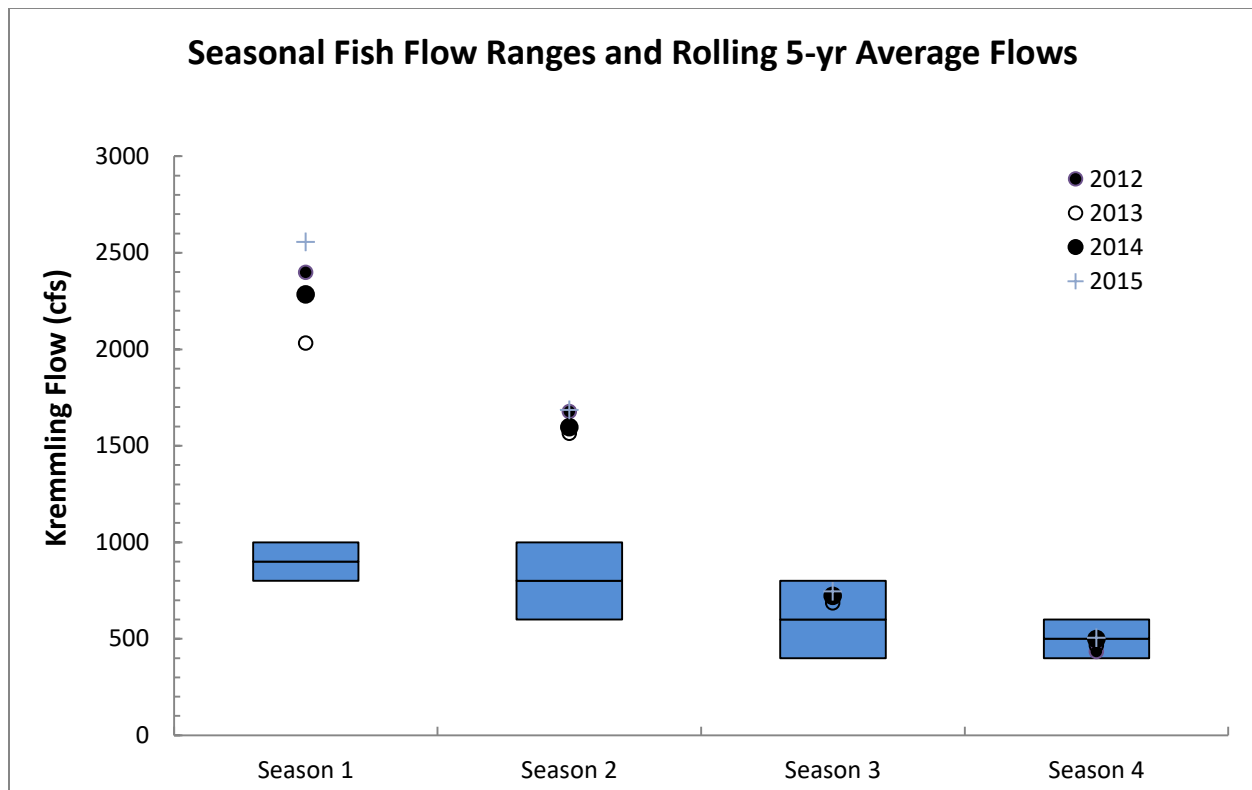


Figure 5. Seasonally averaged daily streamflow for years 2012 through 2015. Blue box plots indicate the upper and lower extent of the Recreational Fishing Provisional Resource Guides in the SG Plan, the black line indicates the midpoint of Resource Guide.

Recreational Floatboating

Year-Type Determination

Segments 4 – 6: The 2015 total annual volume measured at the Kremmling gage was 1,074,065 acre-feet, which is greater than 769,500 acre feet; therefore within the Wettest 25% Year type category.

Segment 7: The 2015 total annual volume measured at the Dotsero gage was 1,760,600 acre feet, which is greater than 1,519,500 acre feet; therefore within the Wettest 25% Year type category.

Usable Days Evaluation

Segments 4 – 6: Provisional flow guides for all Year Types and 2015 are illustrated in Table 5. 2015 was categorized as a Wettest 25%. There were 179 total usable days in these segments during the 2015 boating season (April 1 - September 30), including 95 days in the “Green Opportunities” category and 58 usable days in the “Blue Opportunities” category. There were 26 days in the “Black Opportunities” category during the 2015 season. Figure 6 illustrates mean

daily streamflow and the provisional range of floatboating opportunities in these segments during the 2015 boating season.

| | Total Usable Days | Green Opportunities (700-1,300 cfs) | Blue Opportunities (1,300 - 4,000 cfs) | Black Opportunities (4,000 - 7,400 cfs) |
|-----------------------|-------------------|--|---|--|
| Wettest 25% Years | 115 (161) 180 | 38 (74) 121 | 39 (72) 79 | 4 (22) 28 |
| Wet Typical 25% Years | 120 (153) 169 | 68 (108) 119 | 19 (57) 79 | 0 (0) 5 |
| Dry Typical 25% Years | 74 (115) 141 | 69 (106) 127 | 0 (14) 33 | 0 (0) 0 |
| Driest 25% Years | 62 (80) 96 | 53 (73) 87 | 0 (1) 25 | 0 (0)) |
| 2015 | 179 | 95 | 58 | 26 |

Table 8. Provisional Number of Usable Days in Segments 4 - 6 [min (med) max] compared to actual 2015 conditions

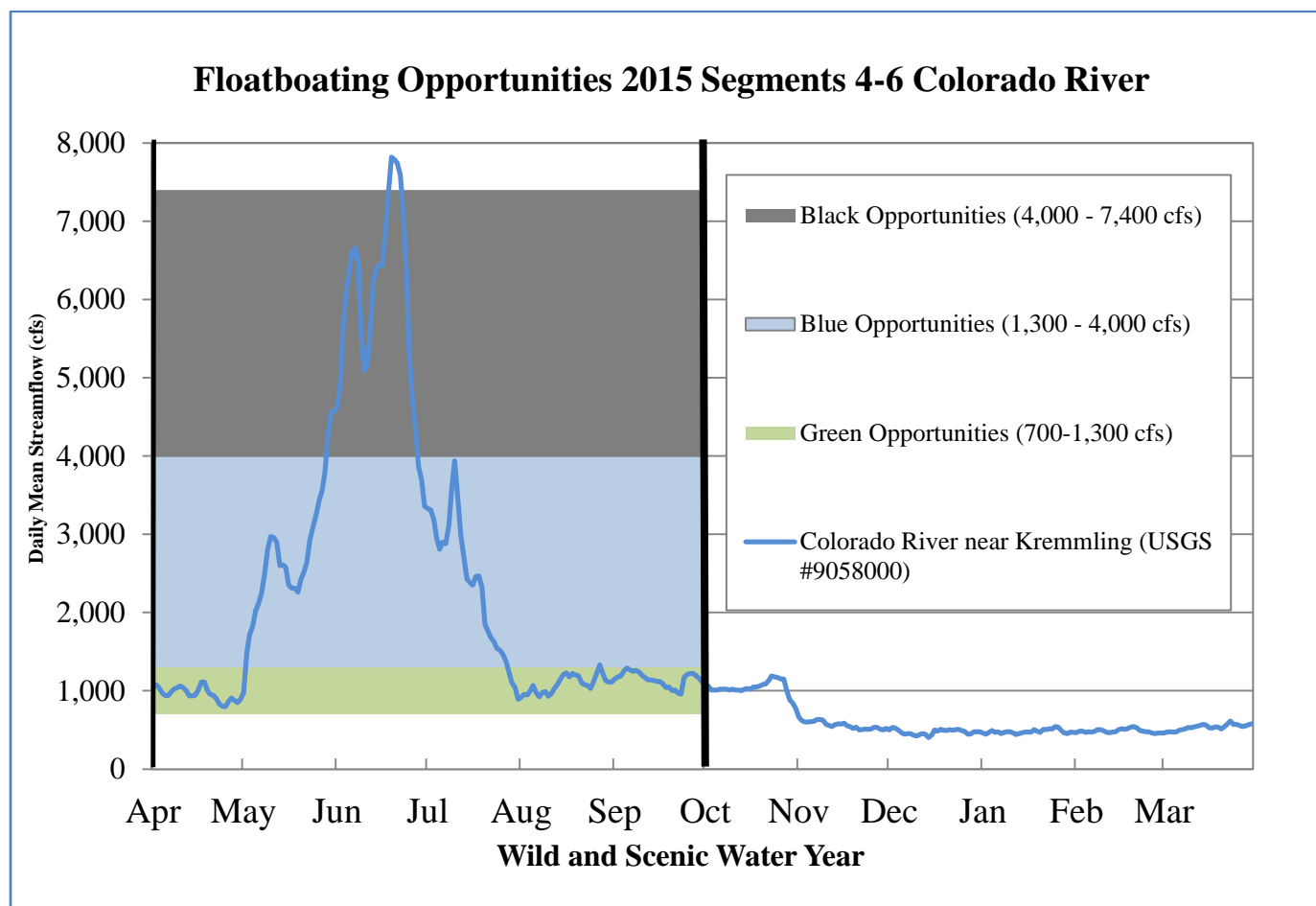


Figure 6. 2015 Floatboating Opportunities in Wild & Scenic Segments 4 -6.

Segment 7: Provisional flow guides for all Year Types and 2015 are illustrated in Table 9. 2015 was categorized as a Wettest 25%. There were 159 total usable days in this segment during the 2015 boating season (April 1 - September 30). The number of usable days in the “Green Opportunities” category was 69 (lower than the median), and the number of usable days in the “Blue Opportunities” category was 79 (higher than the median). There were 11 usable days in the “Black Opportunities” category during the 2015 season (higher than the median). Figure 7 illustrates mean daily streamflow and the provisional range of floatboating opportunities in this segment during the 2015 boating season.

Segment 7 Colorado River near Dotsero

| | Total Usable Days | Green Opportunities (1200/1250 - 1800 cfs) | Blue Opportunities (1,800 - 5,500 cfs) | Black Opportunities (5,500 - 8,600 cfs) |
|-----------------------|-------------------|---|---|--|
| Wettest 25% Years | 120 (156) 169 | 33 (57) 83 | 49 (68) 77 | 21 (29) 42 |
| Wet Typical 25% Years | 126 (164) 172 | 44 (68) 102 | 39 (75) 110 | 1 (13) 33 |
| Dry Typical 25% Years | 138 (161) 178 | 75 (86) 121 | 40 (61) 91 | 0 (2) 11 |
| Driest 25% Years | 136 (159) 177 | 88 (126) 137 | 10 (32) 63 | 0 (0) 6 |
| 2015 | 159 | 69 | 79 | 11 |

Table 9. 2015 Provisional Number of Usable Days in Segment 7 [min (med) max]

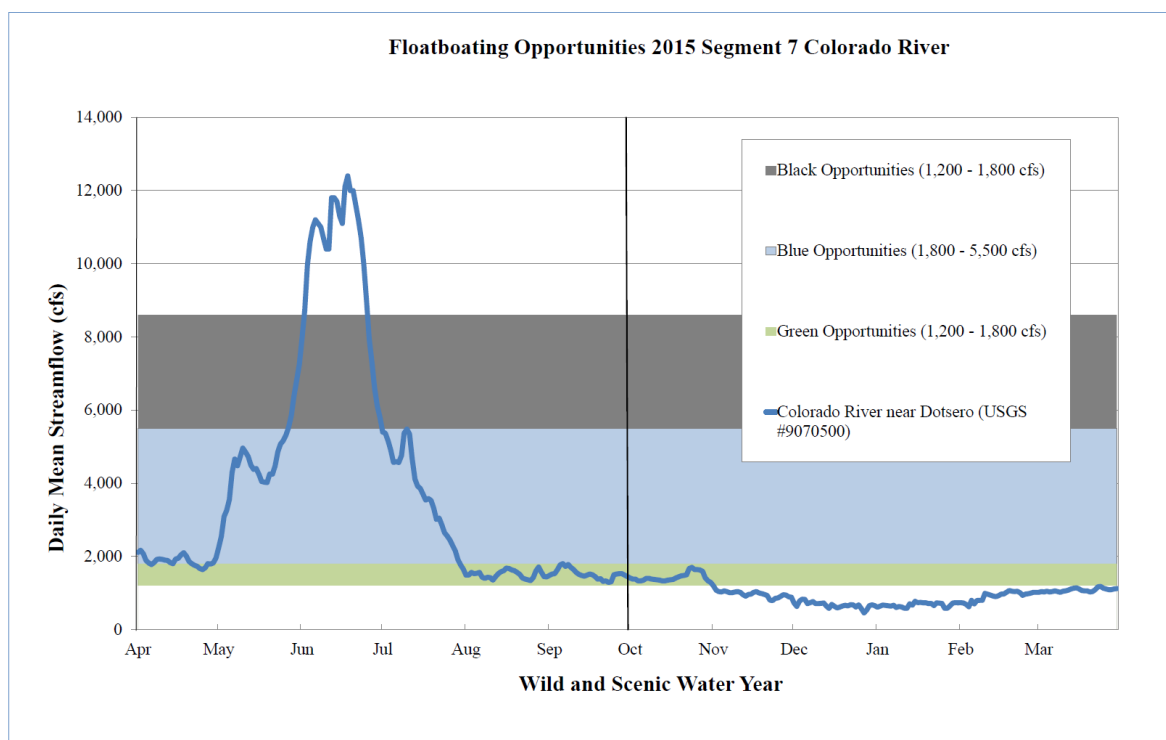


Figure 7: 2015 Floatboating Opportunities in Segment 7.

Water Quality

As stated in the SG plan, “The [Provisional] Resource Guides for water quality are the Colorado Department of Public Health and Environment (CDPHE) water quality standards for cold water aquatic life and recreation uses for the portion of the stream segment that CDPHE has designated COUCUC03 (Mainstem of the Colorado River from the outlet of Granby Reservoir to the confluence with the Roaring Fork River) that is within the Wild & Scenic segments 4 - 7.” These standards are reported in CDPHE’s *Regulation #33 - Classifications and Numeric Standards for Upper Colorado River Basin and North Platte River*.

Colorado’s Section 303(D) List of Impaired Waters and Monitoring and Evaluation List (Regulation #93 – 5 CCR 1002-93), effective March 1, 2016, lists Segment COUCUC03 as impaired for Arsenic, Temperature, and Aquatic Life. While Segment COUCUC03 encompasses all of the Wild and Scenic Segments 4, 5, 6, and 7, it also includes reaches of the Colorado River above and below the Wild and Scenic segments. The current listings are for specific stream reaches located upstream of Kremmling, and are outside of the Wild and Scenic segments. The next Administrative Action Hearing for Regulation # 93 is scheduled to occur in December 2017.

Temperature

Temperature Evaluation

All of the SG’s 2015 temperature data were evaluated against the current water quality standards for segment COUCUC03. According to current regulations, temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to resident aquatic life.¹⁶

Temperature data collected by the SG, USGS and the BLM were analyzed utilizing the temperature macro4.5v application developed by CDPHE. Assessment of temperature data against numerical standards are evaluated against “chronic” and “acute” seasonal high temperatures.

¹⁶ Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-33, January 1, 2012.

Attainment of chronic temperature standards is based on a “Maximum Weekly Average Temperature (MWAT)”, which is defined as a simple moving average. Attainment of the acute temperature standard is based on a “Daily Maximum (DM)”, which is defined as the highest 2-hour average water temperature in a given 24-hr period. Two W&S temperature sites in 2015 show an MWAT temperature excursion in mid-August as compared to the stream temperature standard (18.3°C). The “Colorado River at No Name” and “Red Dirt Creek” temperature sites reported the only MWAT temperature (23.9°C) excursions. No Daily Max or winter time excursions were reported at any sites in the Wild & Scenic stream reaches.

The 2015 temperature data shows a downstream warming trend through W&S segments 4 – 7, a tendency which is consistent with the elevational change in this stream reach. Table 7 shows the numeric temperature standards for the Upper Colorado River Basin. Figures 8 and 9 depict the MWAT and DM for all temperature sites monitored within Wild and Scenic Segments 4-7 during 2015.

| Temperature Tier | Tier Code | Species Expected to be Present | Applicable Months | Temperature Standard (°C) | |
|---------------------|-----------|--------------------------------|-------------------|---------------------------|------|
| | | | | MWAT | DM |
| Cold Stream Tier II | CS-II | Brown Trout, Rainbow Trout | April - October | 18.3 | 23.9 |
| | | | November - March | 9.0 | 13.0 |

Table 7. CDPHE Numeric Temperature Standards for Cold Stream Tier II

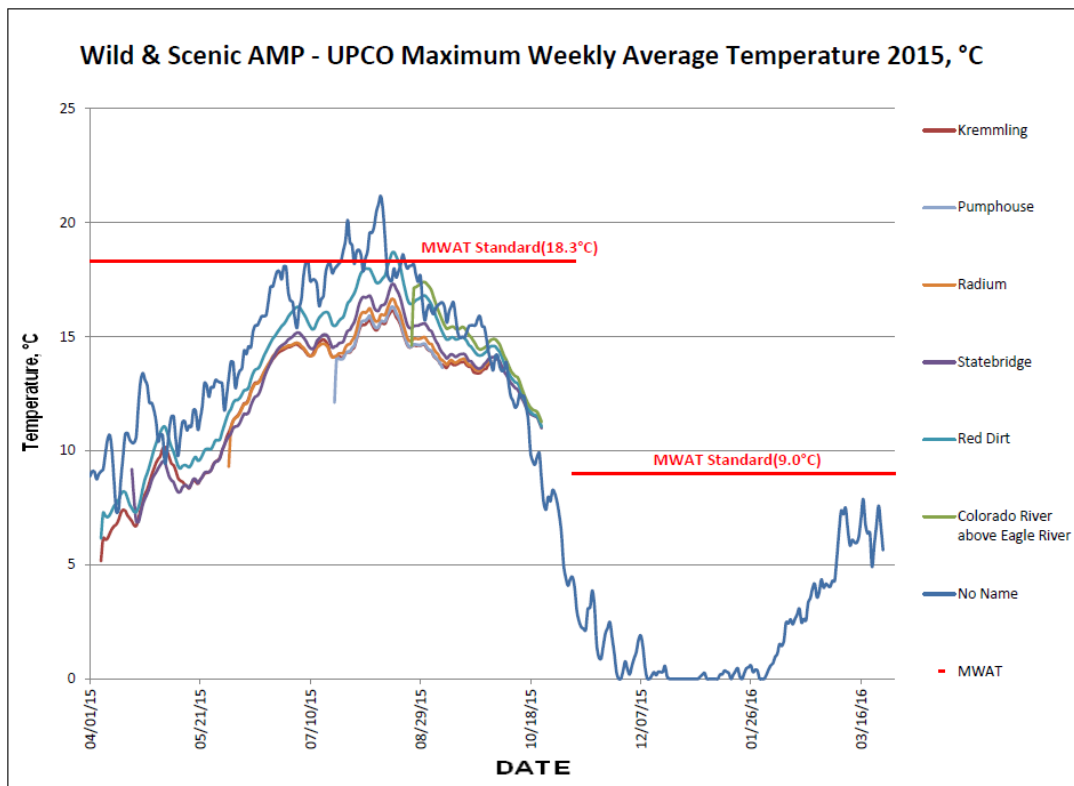


Figure 8. 2015 Measured Maximum Weekly Average Temperatures (MWAT) vs CDPHE Standard

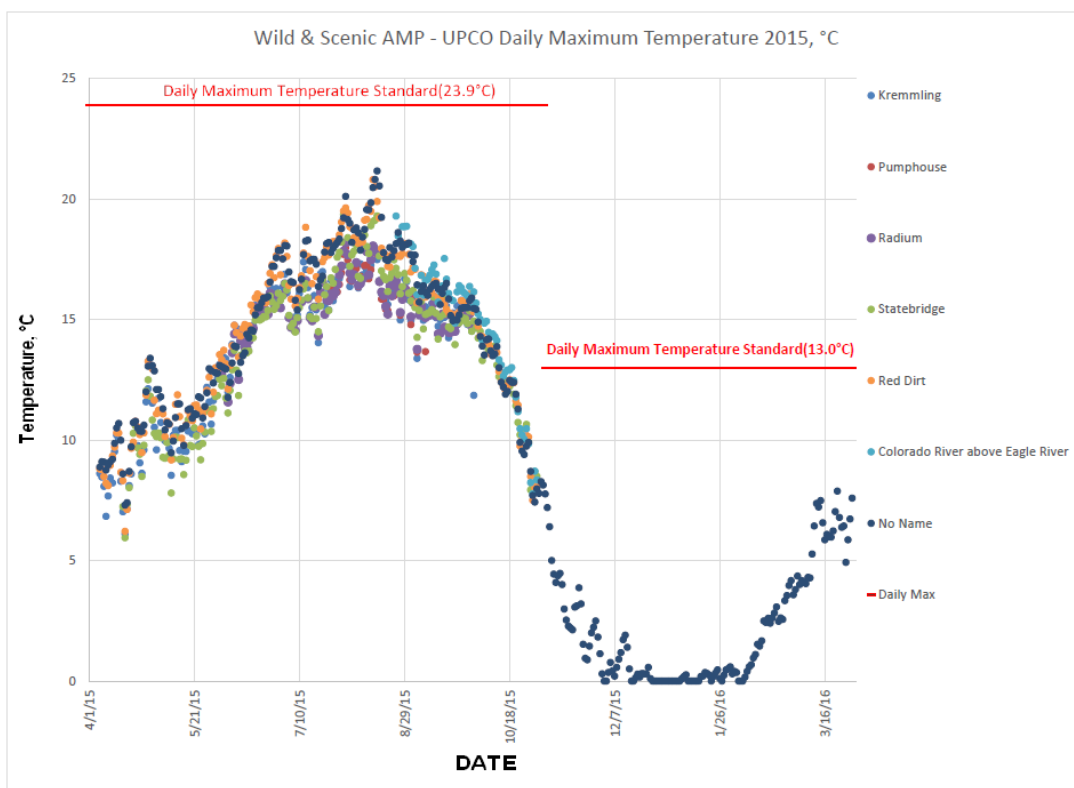


Figure 9. 2015 Measured Daily Maximum (DM) Temperatures vs CDPHE Standard

LOOKING AHEAD...

Following the issuance of the BLM and USFS RODs in June 2015, the SG will continue to implement the tasks described in Attachment B, Paragraph 2 of the SG Plan. The following monitoring activities are anticipated for 2016:

Water Temperature Monitoring. The SG's Monitoring Work Group will continue to monitor water temperature at three sites on the Colorado River from April 1 – September 30.

Fish Surveys. CPW plans to continue biosurveys in the Wild and Scenic stream segments and will continue to explore methods for monitoring macroinvertebrate populations, particularly research relating *Pteronarcys* exuviae counts to conventional methods of estimating *Pteronarcys* populations. The SG will evaluate CPW's 2015 biosurvey data in accordance with the SG Plan and include the results in the 2016 Monitoring Report.

Floatboating Surveys and Creel Census. The SG contracted with RRC Associates to continue a comprehensive Floatboating survey effort in 2015 that builds upon and incorporates lessons learned from previous user surveys. The 2015 Floatboating survey will include accurate user counts, intercept surveys of Recreational Floatboaters and Anglers, and a user panel survey that will provide opportunities for more in-depth surveys of interested individuals who participate in the intercept survey.

Macroinvertebrate Sampling. The SG has contracted with GEI consultants to collect quantitative macroinvertebrate samples at four sites located within Wild & Scenic Segments 5 and 6 during 2016. Site locations were selected to align macroinvertebrate data with CPW's biosurvey sites.

In addition, during 2016, the SG will meet on at least a quarterly basis, will continue its good faith effort toward reaching agreement on final Resource Guides and ORV Indicators, explore voluntary Cooperative Measures and implement when appropriate, continue discussion and data gathering to determine the extent to which channel maintenance flows may be incorporated in the SG Plan, and perform other activities described in Attachment B, Paragraph 2 of the SG Plan.

Until the effective date of the SG Plan, funding will be procured through the SG's established practice of voluntary stakeholder contributions leveraged with funds from CWCB's Wild and Scenic Rivers Alternatives Fund and other sources.

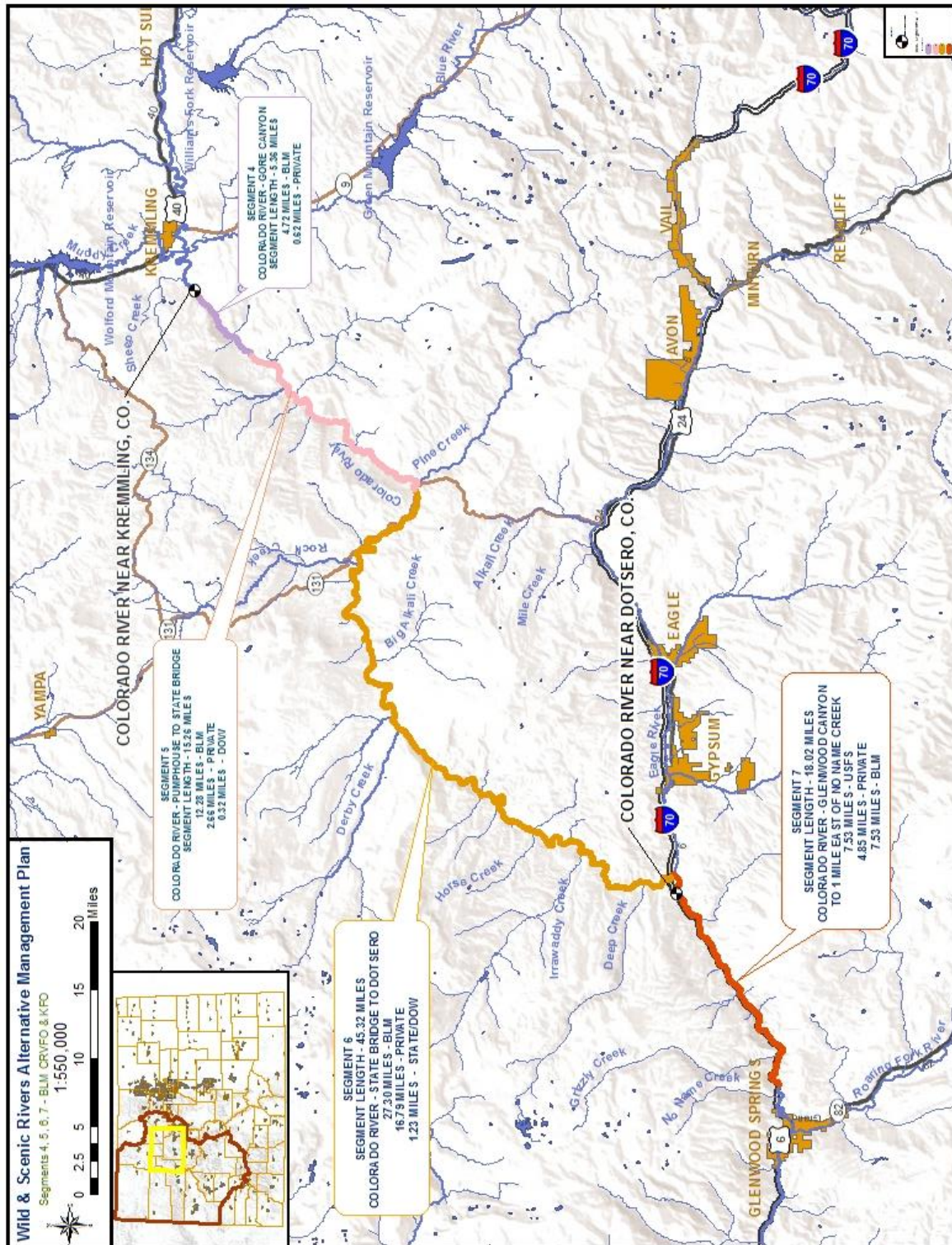
LIST OF ATTACHMENTS:

Attachment A: Project Area Map

Attachment B: Endorsing Entities

Attachment C: Timeline and Task List from the SG Plan

ATTACHMENT A: PROJECT AREA MAP



ATTACHMENT B: ENDORSING ENTITIES

The Upper Colorado River Wild & Scenic Stakeholder Group includes a broad range of East Slope and West Slope interests including water providers, landowners, local governmental agencies, conservation sportsmen and recreation groups in consultation with the Colorado Water Conservation Board (CWCB), Colorado Parks and Wildlife (CPW), the Bureau of Land Management (BLM) and the Forest Service (USFS). The following stakeholder entities endorsed the final SG Plan submitted to BLM and USFS in January 2012:

American Whitewater
Aurora Water
Blue Valley Ranch
Colorado River Outfitters Association
Colorado River Water Conservation District
Colorado Springs Utilities
Denver Water
Eagle County
Eagle Park Reservoir Company
Eagle River Water and Sanitation District
Grand County
Northern CO Water Conservancy District (NCWCD)
Northwest CO Council of Governments (NWCCOG)
NWCCOG/Quality Quantity Committee
Middle Park Water Conservancy District
Municipal Subdistrict, NCWCD
Summit County
Trout Unlimited
Upper Eagle Regional Water Authority
Vail Resorts, Inc
The Wilderness Society

ATTACHMENT C: TIMELINE AND TASK LIST FROM THE SG PLAN

1. Period Prior to Submittal of an Endorsed Plan.
 - A. SG to come to resolution on amount of recommended ISF by April 15, 2011 or come to alternative resolution on how the CWCB process will proceed prior to endorsement of Plan.
 - B. SG to finalize language for definition of year-types for inclusion in Plan based on conceptual agreement to use Colorado Basin River Forecast Center forecasts of undepleted flow to predict the year type prior to the recreation season for informing the upcoming year's discussion about Cooperative Measures, and to use measured/depleted flows at the end of the wild and scenic year for evaluation of post-recreation season comparison to the boating Resource Guides.
 - C. SG to consider whether to include more detailed description of simulated future flows.
 - D. Prior to endorsement on April 30, 2011, the SG intends that any contact with press about this Plan should be handled through Rob Buirgy, Project Manager; or the BLM/USFS.
2. Period Following Submittal of an Endorsed Plan until Effective Date (i.e., before BLM/USFS approve the Plan as the alternative in the ROD).
 - A. Decisions made in this period are all by unanimous consensus of all stakeholders, continuing the current process of negotiation and compromise.
 - B. Provide formal SG Endorsement of Plan to BLM/USFS no later than April 30, 2011.
 - C. Begin monitoring:
 - (1) Gather data collected by others (e.g., CPW fish biomass).
 - (2) SG fund and gather data (e.g., conduct creel surveys, recreation surveys) if SG unanimously agrees to funding of such efforts.
 - (3) Evaluate monitoring data compared to provisional Resource Guides and provisional ORV Indicators.
 - (4) Prepare Annual Monitoring Report.

- D. No SG Plan funding assessments (Section VIII.B.2.) to be levied during this period.¹⁷
- E. Stakeholders will engage in a good faith effort toward reaching agreement on final Resource Guides and ORV Indicators; outline studies and data collection to be done in the provisional period. By unanimous consensus among all stakeholders, ORV Indicators and Resource Guides could be finalized during this period and would become effective upon the effective date of the Plan.
- F. Explore Cooperative Measures in accordance with the process set forth in the Plan.
- G. Conduct discussions and make written recommendation to CWCB for the base flow in-stream flow pursuant to C.R.S. §37-92-102 in accordance with Section IV.A.1. of the Plan.

If final decrees for the CWCB instream flow applications are not entered by the date anticipated in Attachment A, and the Plan has not become effective, the stakeholders will discuss the cause of the delay. The stakeholders will determine whether the delay causes any material adverse impact to the purpose of the Long-Term Protection Measures. If it is determined by unanimous consent of all stakeholders that a material adverse impact exists, the stakeholders may decide to implement management activities to reasonably mitigate the material adverse impact.

- H. Continue discussions on commitments to the Plan on behalf of the Windy Gap Firing Enterprise, Northern Water and Denver Water pursuant to Section III.C.2.c. of the Plan (Poison Pill).
- I. Hold full SG meetings (quarterly or semiannually) and prepare annual report/update; make any changes/refinements to the Plan agreed upon by all stakeholders.
- J. Develop MOU among SG members for provisional period of Plan. A long-term MOU or legal entity would be entered into subsequent to sunset of the Poison Pill.
- K. Begin discussions and review relevant data to determine the extent to which channel maintenance flows may be incorporated into the Plan.

¹⁷ Prior to expiration of the period for exercise of the Poison Pill, members of the SG would continue to contribute annual funding to the SG Plan, but shall not be required to contribute endowment funding under the Plan. The Homestake Partners will also only contribute annual (not endowment) funding to the SG Plan unless or until the ERMOU Project is “opted in” as a new project.

- L. By unanimous consensus of all stakeholders, other tasks can be performed as needed.

3. BLM/USFS Adoption of Plan without Material Changes – Plan becomes Effective

A. Provisional Period: First 3-to-5 years of Plan Implementation

- (1) Within 3 years or sooner, develop final Resource Guides and ORV Indicators by unanimous consent (6/6) of Interest Groups.
- (2) Execute MOU among SG members for provisional period of Plan. A long-term MOU or legal entity would be entered into subsequent to sunset of the Poison Pill. Develop long-term MOU.
- (3) Interest Groups develop protocol for selection of representatives and procedure for inclusion, and designate alternates and appoint members.
- (4) GC appoints Chair, Vice Chair and Secretary.
- (5) Within 3 years after Plan is effective, create an endowment fund and appoint trustee (per Section VIII.A. of the Plan).
- (6) Begin Provisional Period Monitoring Plan (per Section V and Attachment D of Plan):
 - a. Gather data collected by others (e.g., CPW fish biomass).
 - b. SG fund and gather data (e.g., conduct creel surveys, recreation surveys).
 - c. Evaluate monitoring data compared to provisional Resource Guides and provisional ORV Indicators.
 - d. Prepare Annual Monitoring Report.
- (7) Study the extent to which channel maintenance flows may be incorporated into the Plan.
- (8) Resolve Project permit issues; notify BLM/USFS if Plan is withdrawn or has continued support, and modify Plan to confirm that Projects fall under Reopener Clause of Plan (Section IV.D.2.).
- (9) Implement Tier 1 Long-Term Protection Measures (per Section IV.A. and Attachment A of the Plan).
- (10) Implement voluntary Tier 2 Cooperative Measures process (per Section IV.B. of the Plan) and hold quarterly meetings (or more frequently, as determined necessary) to assess need for, focus of, and availability of Cooperative Measures (per Section IV.B.3.).

- (11) Hold SG meetings (annual, regular, and special) (per Section VI.E.).
- (12) Perform other tasks determined by unanimous consensus of the SG.

B. At End of Provisional Period

Implement SG Plan, including, but not limited to:

- (1) Revise Plan for final Resource Guides (potentially including implementation criteria) and ORV Indicators.
- (2) Go through Mediation protocol if final Resource Guides, Indicators and potential implementation criteria are not unanimously agreed upon.
- (3) Revisit recommendation to defer a determination of suitability per the Guiding Principle.
- (4) Using results from the provisional period monitoring, develop and implement Long-Term Monitoring Plan (per Section V.A.2.).
- (5) Execute long-term MOU among stakeholders or legal entity.
- (6) Continue Tier 1 Long-Term Protection Measures.
- (7) Continue with voluntary Tier 2 Cooperative Measures process.
- (8) Continue holding SG meetings (annual, regular, and special).
- (9) Perform other tasks determined by unanimous consensus of the SG.