Upper Colorado River Wild & Scenic Stakeholders Alternative Management Plan

2013

Annual Monitoring Report

CONTENTS

INTRODUCTION

BACKGROUND & PURPOSE

The Kremmling and Colorado River Valley Field Offices of the Bureau of Land Management (BLM) and the Forest Service (White River National Forest) (USFS) are in the process of revising Resource Management Plans (RMPs) for a combined Planning Area that includes a large segment of the Upper Colorado River within Colorado[1]. As a part of the plan revision process, the federal agencies are required to inventory waterways within the Planning Area pursuant to requirements under the Wild and Scenic Rivers Act (Act) to determine if those waterways meet the Act's free-flowing standard and also possess Outstandingly Remarkable Values (ORVs) that may be suitable for agency protection under the Act.

A Stakeholder Group (SG) has formed to bring state and local government, water users, and other interested entities together to develop a plan that balances protection of the ORVs with Colorado's other competing needs through cooperative and voluntary efforts. An alternative management plan developed by the SG (SG Plan) has been proposed to BLM and USFS as a Wild and Scenic management alternative for the resource management plan revision process 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. A complete listing of entities that have endorsed (endorsing entities) the SG Plan is included as Attachment B.

The SG Plan developed by the SG over the past six years has been included as one of the four management alternatives in the agencies' Draft RMPs and Draft Environmental Impact Statements. The SG Plan will become effective (i.e. effective date) upon issuance of records of decision by BLM and the USFS approving the Plan without material change as the Wild and Scenic Rivers management alternative for these segments.

[1] See Attachment A: Project Area Map

GOALS

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.

- The primary streamflow-influenced ORVs are:
    - Recreational Fishing
    - Recreational Floatboating
- Other streamflow-influenced ORVs include:
    - Wildlife
    - Botanical
    - Scenic
- Additional ORVs:
    - Geological
    - Historical
    - Paleontological

STAKEHOLDER PARTICIPATION

The SG Plan stipulates that no formal funding assessments are to be levied during the Pre-Provisional Period (i.e. period after submittal of the SG plan to the federal agencies and before the effective date). To date, funding for the SG effort has been provided by the stakeholders and by the CWCB through its Wild and Scenic Alternatives Fund and other sources. During 2013, stakeholders voluntarily contributed $20,250 and provided in-kind work that raises the stakeholders' contributions to more than $100,000. During the same time period, the CWCB contributed $105,827 to the SG. Additionally, in late 2013, the CWCB allocated $98,940 for spending in 2014.

2013 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") [2].

During the Period Prior to Submittal of Endorsed SG Plan

Section 1 of Attachment C 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 C 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. Action taken during this period are approved by unanimous consensus of all endorsing entities. As of December 2013, the SG completed 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 include a floatboating survey piloted in 2012 and continued during the 2013 boating 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 was a long-term protection measure (e.g., a "milestone") in the SG Plan. That milestone was achieved two years ahead of the final deadline contemplated in the SG Plan, with the entry of final

[2] See Attachment C: Timeline & Task List from the SG Plan.

decrees for the following ISF water rights in March 2013 with a July 12, 2011 appropriation date

- Discussed commitments by Windy Gap Firming Enterprise, Northern Water and its Subdistrict and Denver Water pursuant to Section III.C.2.C of the SG Plan (Poison Pill).
- Held eleven full SG meetings, multiple committee and work group meetings, completed the 2012 Annual Monitoring Report and began preparation of the 2013 Annual Monitoring Report.
- Reached consensus on a final Stakeholder MOU for execution by SG members for the Provisional Period of the SG Plan.
- Continued discussions to determine the extent to which channel maintenance flows may be incorporated into the SG Plan. The Channel Maintenance Work Group made significant progress on establishing working definitions of channel maintenance and other flows, facilitating discussion within the SG.

2013 Cooperative Measures

The SG Plan provides for a process to implement voluntary strategies (Cooperative Measures) that complement the Long-Term Protection Measures, taking into account various factors, including: prediction of the type of hydrologic year, the opportunities available, and respect for the priority system and water users' operations. Consequently, the SG must collaborate with other non-SG entities and water users through other processes to achieve benefits to the ORV's.

2013 was the second consecutive year of limited water availability in the basin, which brought challenges to water operations within the basin. The value of collaborative processes was evident during the year and the SG was able to integrate into discussions to bring attention to the Wild and Scenic values in the Upper Colorado River between Kremmling and Glenwood Springs.

The month of June saw the operation of the Shoshone Outage Protocol, whereby the Colorado River District, Denver Water, and the Bureau of Reclamation cooperatively added around 450 cubic feet per second (cfs) of flows to the Colorado River while the Shoshone Hydro Plant in Glenwood canyon had to operate at half capacity and exercise only about one-half of their senior water right to bring water to the plant. This cooperative effort was very helpful in maintaining flows in all of the Wild and Scenic Segments during that time.

In late July the SG became directly involved in the weekly HUP calls following a period of low flow in Segments 4 thru 6. During this period, flows fell below 600 cfs at times, which made floatboating difficult and contributed to elevating stream temperatures to levels that are stressful to fish. By becoming involved in the weekly calls, the SG was able to more closely follow river conditions and operations while keeping the water operators informed about water-related Wild and Scenic values. The SG's participation in this process, which touches upon all of the interests in the river, is integral to the development of the SG's Cooperative Measures strategy.

The month of August saw the inaugural release of 5412.5 acre-feet of water from Granby Reservoir to the 15-mile reach in the Grand Valley. On their way to Grand Junction, those releases help boost flows in the Colorado River through the Wild and Scenic Segments. Of note, during the release period, flows in the Colorado River increased due to storms and the Colorado River District and Northern Water were able to exchange some of the 5412.5 water into Wolford Reservoir for later release when the Colorado River flows receded and the 5412.5 water could be more effective.

Lastly, the SG began development of a matrix to characterize and track potential flow-related issues that can impact the Wild and Scenic values throughout the year. The W&S Monitoring Work Group plans to use this matrix to identify potential processes and Cooperative Measures that might be available to assist in addressing those issues.

2013 MONITORING ACTIVITIES

OVERVIEW

During 2013, the SG conducted the following efforts contemplated for the Period Following Submittal of an Endorsed Plan until Effective Date (see SG Plan, Attachment B, section 2.C.).

- Gathered data collected by others: USGS water quality and quantity, Colorado Parks and Wildlife (CPW) biosurveys, BLM water temperature
- SG conducted temperature monitoring and floatboating surveys at three sites
- Evaluated available monitoring data and, where appropriate, compared data to relevant provisional ORV Indicators and Resource Guides
- Began preparation of the 2013 Annual Report

Table 1 summarizes monitoring and evaluation efforts undertaken by the SG and other agencies during 2013.

Provisional Monitoring Parameters	2013 Monitoring	Responsible Party
ORV INDICATORS		
Recreational Fishing:		
Quality Trout	Completed	CPW
Biomass	Completed	CPW
Species Diversity	Completed	CPW
Total Fishing Effort	Ongoing	SG
Catch/Unit Effort	Ongoing	SG
Recreational Boating:		
Narrative during Provisional Period	Not applicable	SG
ORV RESOURCE GUIDES		
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: 2013 Upper Colorado River Wild and Scenic Monitoring and Evaluation Summary

MONITORING BY OTHER ENTITIES

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)[3].

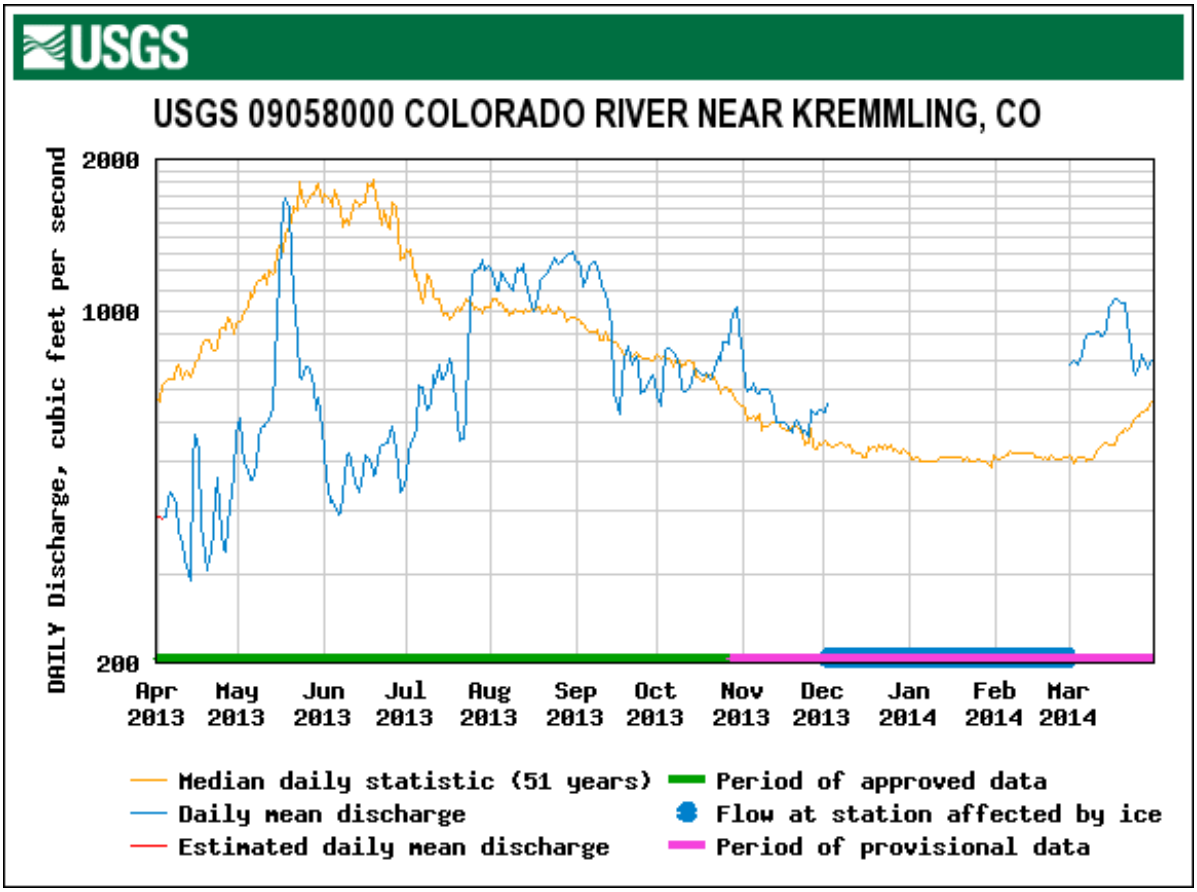

Figure 1. Daily average streamflow during 2013 at USGS gage **09058000 Colorado River NEAR KREMMLING, CO**

[3] 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.

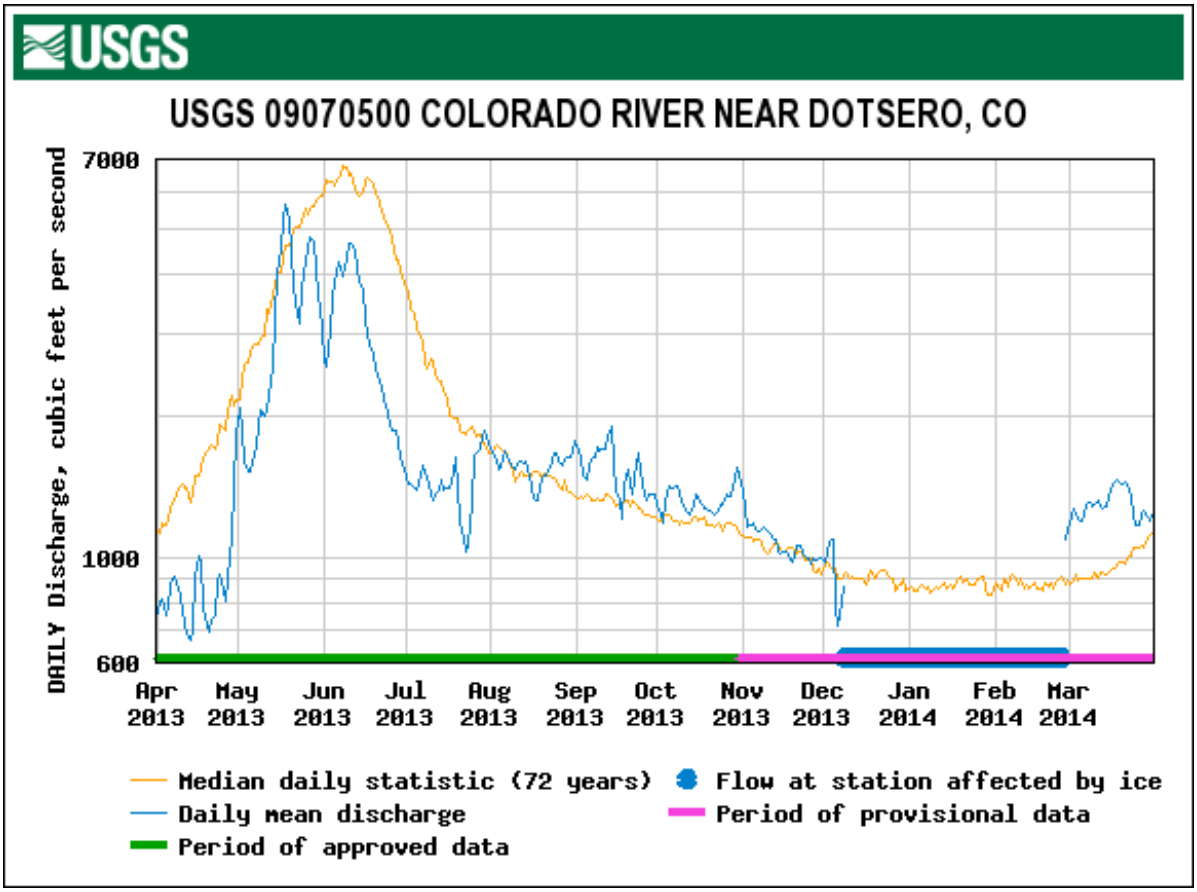

Figure 2. Daily average streamflow during 2013 at USGS gage **09070500 Colorado River NEAR DOTSERO, CO**

As of April 1, 2013 the snowpack in the Colorado River basin was 77 percent of the median, which is 143 percent of 2012's snowpack at this time of year. As of April 1, forecasts were predicting well below normal runoff from April – July. According to SNOTEL data, statewide snowpack totals reached the seasonal maximum on April 21st, nearly two weeks later than normal. As of June 1, the Colorado River basin's snowpack was 108 percent of median. Numerous late season storms bolstered the snow pack and many streams in the Colorado River basin are now expected to see above average volumes for the April through July runoff period. In some areas delayed snowmelt has contributed to even higher forecast percentages for the June through July period[4].

[4] United States Department of Agriculture, Natural Resource Conservation Service Colorado Basin Outlook Report April & June 2013.

Colorado Parks and Wildlife

Biosurveys conducted by CPW provide data that can be used in assessing the provisional ORV Indicators and Resource Guides for Recreational Fishing. CPW conducts fish population surveys at the sites shown in Figure 3 on an annual to bi-annual basis. With the exception of the Parshall site, all of these CPW sites are located within the Wild & Scenic segments.

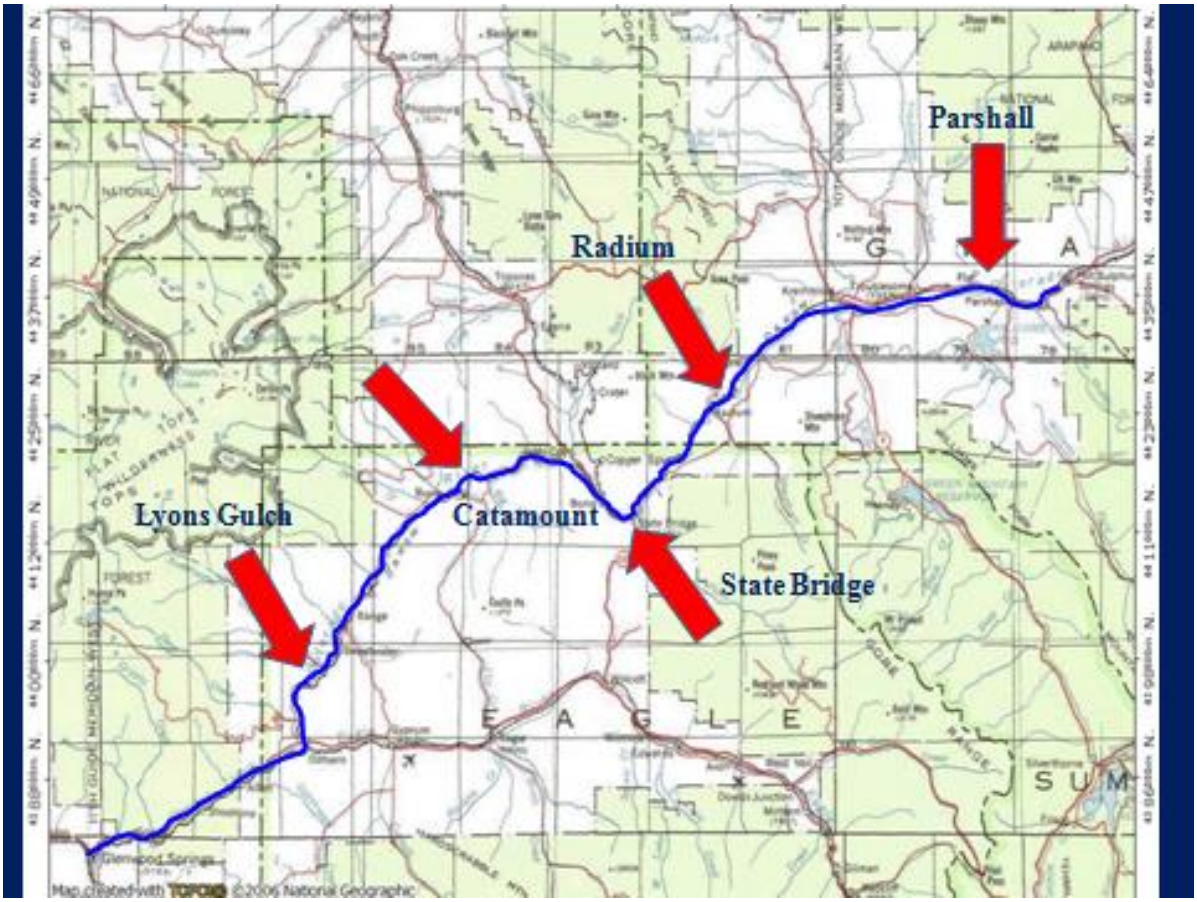

Figure 3. Colorado Parks and Wildlife Biosurvey Sample Sites

Table 2 shows the results of CPW's spring biosurveys at the Radium site over a four year period[5].

[5] Ewert, Jon. Colorado Parks & Wildlife, Fish Survey and Management Information, Colorado River Pumphouse-Radium. 2012.

Radium	Year of Biosurvey			
	2010	2011	2012	2013
Brown Trout				
Quality (# > 6"/mile)	1,721	1,823	2,524	2,767
Quality (# > 14"/acre)	36	44	46	50
Biomass (lbs/acre)	103	110	143	162

Table 2. Colorado Parks and Wildlife Summary Statistics, 2010-2013

In addition to Quality Fish[6] and Biomass data, CPW maintains an up-to-date 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[7]. The following list includes 14 fish species and three hybrids captured by CPW at the Radium sample site, as of 2013.

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

MONITORING BY STAKEHOLDER GROUP

Water Temperature

Since 2005, Grand County has monitored water temperature at 32 active monitoring sites, all of which are upstream of the W&S segments. Since 2012 the W&S Monitoring Work Group (MonWG) has been collecting water temperature data at three sites within the W&S segments. These sites are located on the Colorado River just below the confluence with Piney Creek, below the confluence with Red Dirt Creek and at Dotsero.

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

[7] CPW is also conducting preliminary studies of *Pteronarcys californica* (e.g., Giant Stonefly) exuviae as possible indicators of population density. The SG is monitoring progress on these efforts and may include these and other studies in future reports.

In addition to the MonWG 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.

Temperature site locations within the W&S segments remain the same as 2012, as shown in Figure 4 below. Members of the W&S MonWG placed Tidbit temperature data loggers in the specified locations in early April 2013, using protocols approved by the SG. Once in place, inspections were conducted from July through October to download data and to ensure the data loggers had not been lost or removed. The data loggers were pulled from the river in late October 2013 to prevent damage from freezing temperatures.

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

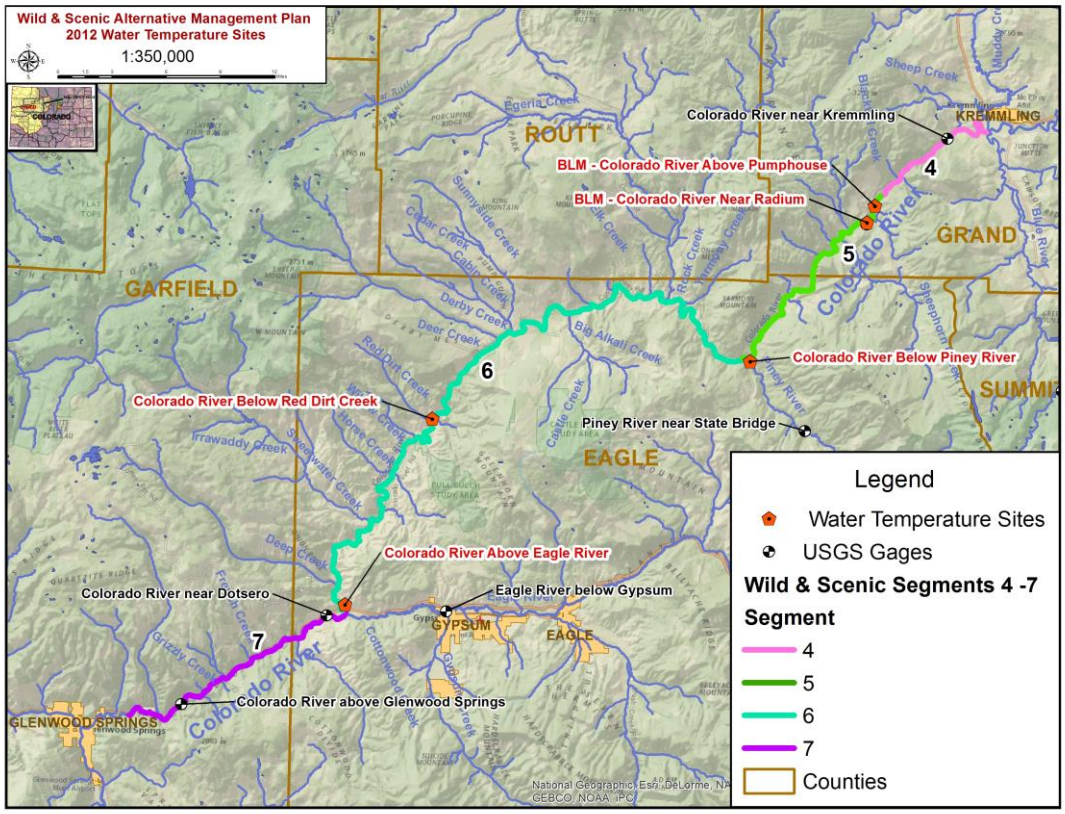

Figure 4. Site locations for temperature monitoring conducted by SG and USGS.

Recreational Floatboating User Survey

Following the user survey efforts[8] conducted in 2012, the W&S Recreational Boating Survey Sub-Committee (Floatboating Group) recognized the benefits of working with an expert in recreation opinion surveys to educate the SG on professional survey design and to assist with developing appropriate survey questions for future survey efforts. The Floatboating Group selected Mr. Chris Cares (RRC Associates), who subsequently reviewed the 2012 survey results and provided an overview of ways to assess recreational experiences through user counts, intercept surveys and survey panels. The SG subsequently contracted with RRC Associates to conduct a pilot study in 2013, with the understanding that the data collected from the 2012 and 2013 user surveys would be used to 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 2013 Pilot Study during the January 2014 SG meeting. The complete report can be downloaded from www.upcowildandscenic.com.

EVALUATION OF MONITORING RESULTS

The SG Plan aims at monitoring and protecting the ORVs using two distinct tools:

ORV Indicators: Indicators to be used to gauge whether the ORVs are being 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.

[8] 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.

Provisional ORV Indicators

Recreational Fishing

The SG Plan includes the numeric standards shown in Table 3 as the Provisional ORV Indicators for Recreational Fishing[9].

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 3. Provisional ORV Indicators for Recreational Fishing

The following evaluations of the Provisional ORV Indicators for Recreational Fishing are compared to CPW's biosurvey results shown in Table 2.

Quality Trout Evaluation

CPW's 2013 biosurvey results at the Radium site indicate a quality Brown Trout value of 833 fish over 14" per acre. This number is almost 35 times greater than the SG's Provisional ORV Indicator of 24 fish over 14" per acre.

Biomass Evaluation

CPW's 2013 biosurvey results at the Radium site indicate a Brown Trout biomass of 162 pounds per acre. This biomass, of Brown Trout alone, is 80% greater than the SG's Provisional ORV Indicator of 90 pounds per acre.

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

Evaluation of Species Diversity

As of 2013, CPW has captured 17 different species of fish at the Radium Site, which is 21% greater 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 Floatboating[10]:

> "Protect the existing range and quality of the outstanding floatboating opportunities. This narrative standard does not imply mirroring any specific hydrology." [11]

The SG's 2012 and 2013 user surveys helped to identify survey methods that will be used to better understand 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). Efforts to identify and evaluate important factors that influence the overall boating experience will continue in 2014.

Provisional Resource Guides

Recreational Fishing

The Provisional Resource Guides shown in Table 4 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[12]. 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 such criteria.

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

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

[12] During the provisional period, the 5-year rolling average will include the 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 4: 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, 2014. This time period provided a sufficient number of years to calculate a rolling average for the W&S 2012 water year because, at the time of this report, the USGS records for the W&S 2013 water year contained missing and provisional data.

Figure 5 provides a comparison of 5-year average flows at the Kremmling Gage to the W&S Provisional Resource Guides for 2012 and 2013. In all but one case, the 5-year average streamflows exceed 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.

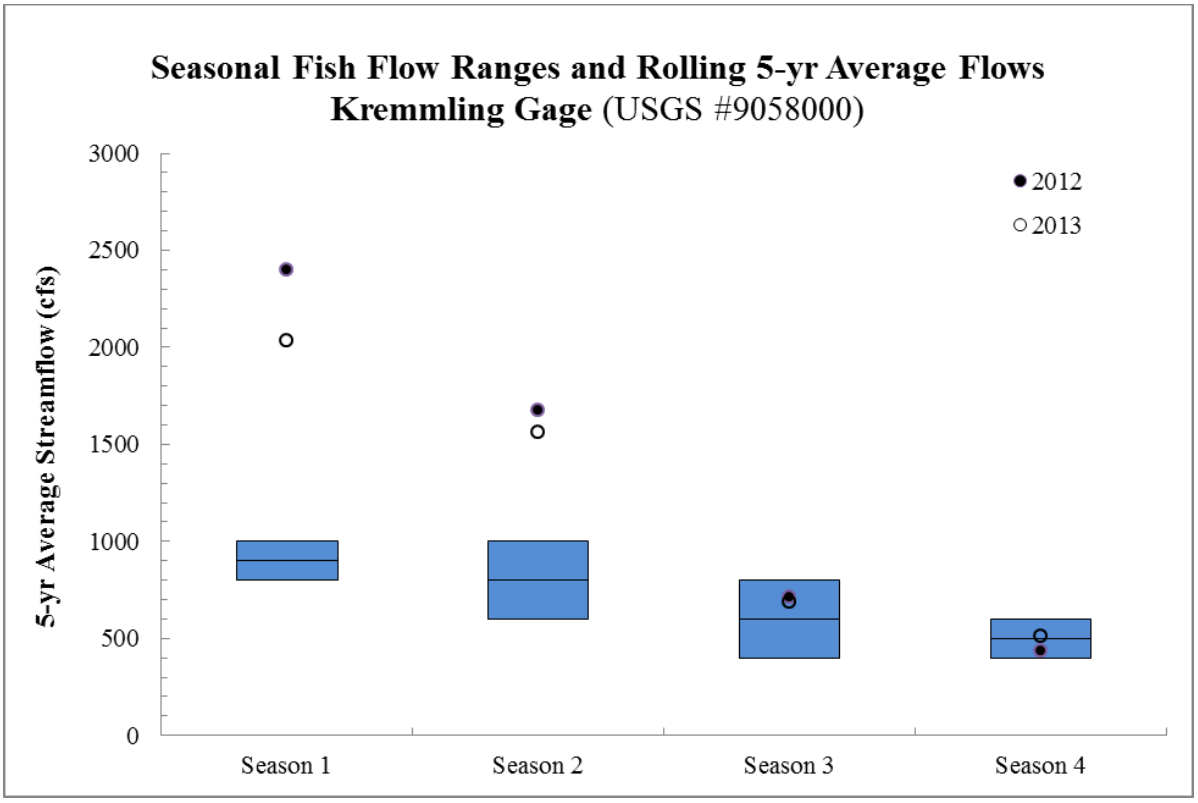


Figure 5. 5-year average streamflows for 2012 and 2013 compared to W&S Provisional Resource Guides for Recreational Fishing.

Recreational Floatboating

Year-Type Determination

Segments 4 – 6: The 2013 total annual flow measured at the Kremmling gage was 513,113 acre-feet, which is within the range of 454,500 – 525,500 acre feet; therefore within the Dry Typical Year type category.

Segment 7: The 2013 total annual flow measured at the Dotsero gage was 1,097,784 acre feet, which is within the range of 1,029,500 – 1,234,000 acre feet; therefore within the Dry Typical Year type category.

Usable Days Evaluation

Segments 4 – 6: Provisional flow guides for the Dry Typical Years are illustrated in Table 5. There were 89 total usable days in these segments during the 2013 boating season (April 1 - September 30), including 83 "Green" usable days and six "Blue" usable days (both lower than the medians). There were no "Black" usable days during the 2013 season. Figure 6 illustrates mean daily streamflow and the provisional range of floatboating opportunities in these segments during the 2013 boating season.

Segment 7: Provisional flow guides for the Dry Typical Years are illustrated in Table 6. There were 152 total usable days in this segment during the 2013 boating season (April 1 - September 30). The number of "Green" usable days was 94 (higher than the median), and the number of "Blue" usable days was 57 (lower than the median). There was one "Black" usable day during the 2013 season (lower than the median). Figure 7 illustrates mean daily streamflow and the provisional range of floatboating opportunities in this segment during the 2013 boating season.

	Total Usable Days	Green Opportunities 700 - 1300 cfs	Blue Opportunities 1300 - 4000 cfs	Black Opportunities 4000 - 7400 cfs
Dry Typical 25% Years	74 (115) 141	69 (106) 127	0 (14) 33	0 (0) 0
2013	89	83	6	0

Table 5. Provisional Number of Usable Days in Segments 4 - 6 [min (med) max]

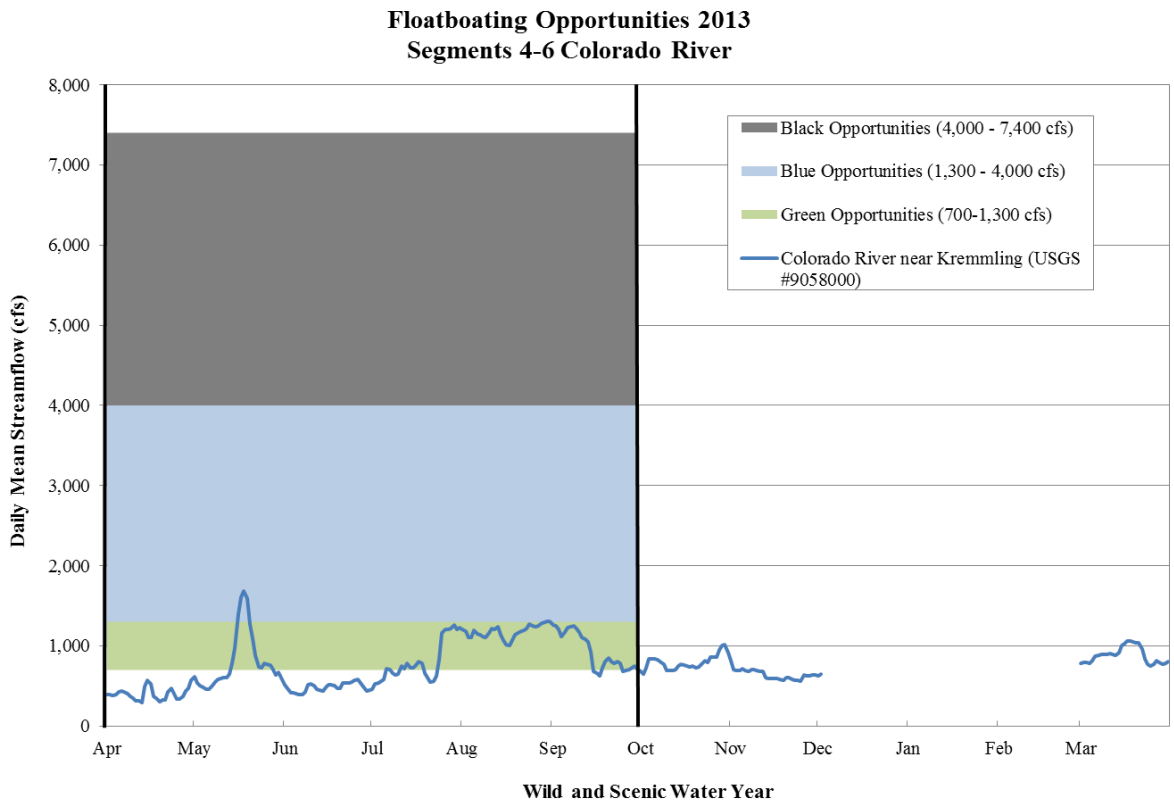


Figure 6: 2013 Floatboating Opportunities in Segments 4-6. (Note: Streamflow data from 10/28/2013 through 3/31/2014 is provisional. No streamflow data is available from 12/3/2013 through 2/28/2014 due to ice affected gage.)

	Total Usable Days	Green Opportunities 1200/1250[13] - 1800 cfs	Blue Opportunities 1800 - 5500 cfs	Black Opportunities 5500 - 8600 cfs
Dry Typical 25% Years	138 (161) 178	75 (86) 121	40 (61) 91	0 (2) 11
2013	152	94	57	1

Table 6. Provisional Number of Usable Days in Segment 7 [min (med) max]

[13] The stakeholders do not agree on the specific flow rate for the Green floatboating category in Segment 7; however, during the Provisional Period, the number of usable days in the Green floatboating category will be based on a flow rate of 1200 – 1800 cfs.

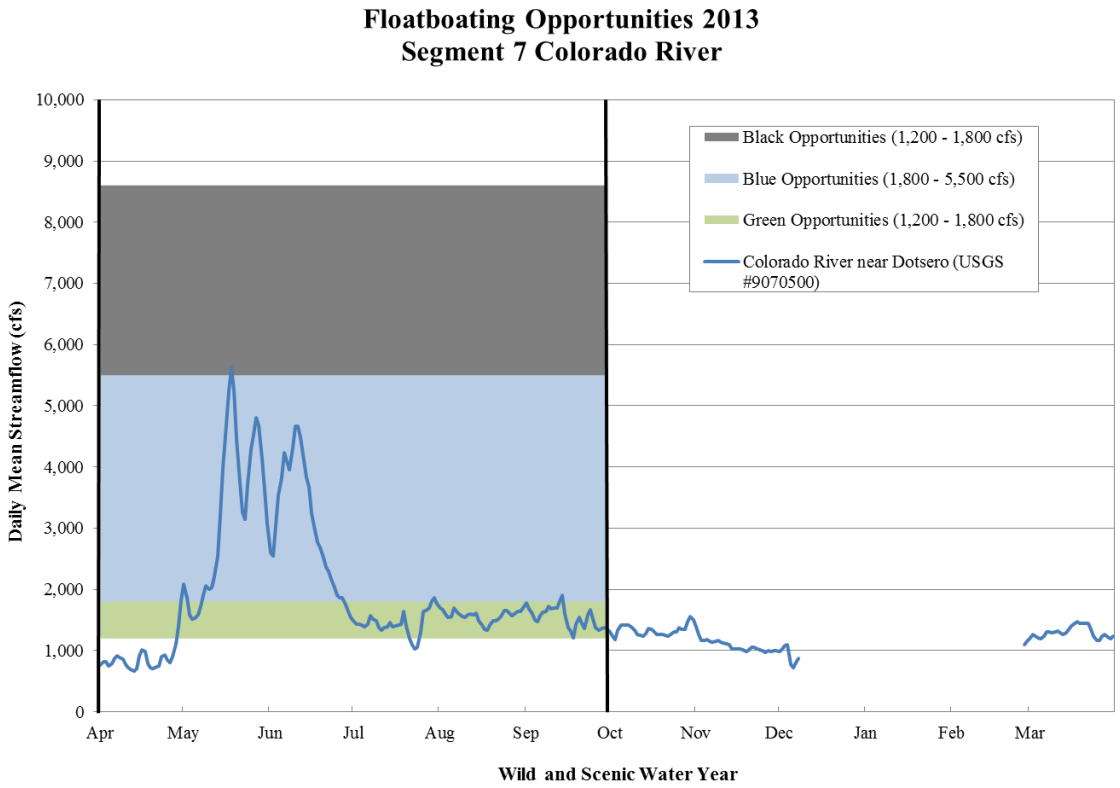


Figure 7: 2013 Floatboating Opportunities in Segment 7. (Note: Streamflow data from 10/31/2013 through 3/31/2014 is provisional. No streamflow data is available from 12/9/2013 through 2/26/2014 due to ice affected gage.)

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 30, 2012, lists Segment COUCCUC03 for temperature and Manganese. While Segment COUCCUC03 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 listing for temperature is for a specific stream reach which is located upstream of Kremmling, outside the Wild and Scenic segments. The next Administrative Action Hearing for Regulation # 93 is scheduled to occur in March 2015.

Temperature

Temperature Evaluation

All of the SG's 2013 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.[14] Temperature is an important water quality indicator and influences both physical and chemical properties. Increased water temperature has a direct effect on metabolic rates for aquatic organisms and increases solubility of toxic compounds like heavy metals.

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 maxima.

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. All W&S temperature sites in 2013 show some MWAT temperature excursions in July as compared to the currently adopted stream temperature standard (18.3°C). The "Colorado River above the Eagle confluence" temperature site reported the only Daily Maximum temperature (23.9°C) excursions on six days in early July. No winter temperature excursions were reported, although only one site (USGS #09071750) currently measures temperature year round.

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

The 2013 temperature data shows a general downstream warming trend through W&S segments 4 – 7. Table 7 shows the currently adopted 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 2013. Any temperatures above the red lines in figures 8 and 9 represent exceedances of the numeric temperature standards. If temperature standards are exceeded more than once in three years, the segment can be considered for impairment on Colorado's Section 303(D) List of Impaired Waters and Monitoring and Evaluation List. Currently this portion of segment COUCUC03 is not listed for temperature exceedances. The exceedances shown in figures 8 and 9 may cause a revision to the impaired portion of COUCUC03. Once a segment is listed as impaired, determination of cause for impairment will be made. There are numerous factors that can have a direct effect on water temperature such as sunlight/solar radiation, turbidity, anthropogenic sources, and groundwater/surface water interactions that could include geothermal inputs. Determination for cause of impairment is made through the development of the Total Maximum Daily Load (TMDL) process.[15]

Temperature Tier	**Tier Code**	**Species Expected to be Present**	**Applicable Months**	**Temperature Standard (^{o}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

[15] CDPHE Water Quality Control Division. Section 303(d) Listing Methodology. March 2011.

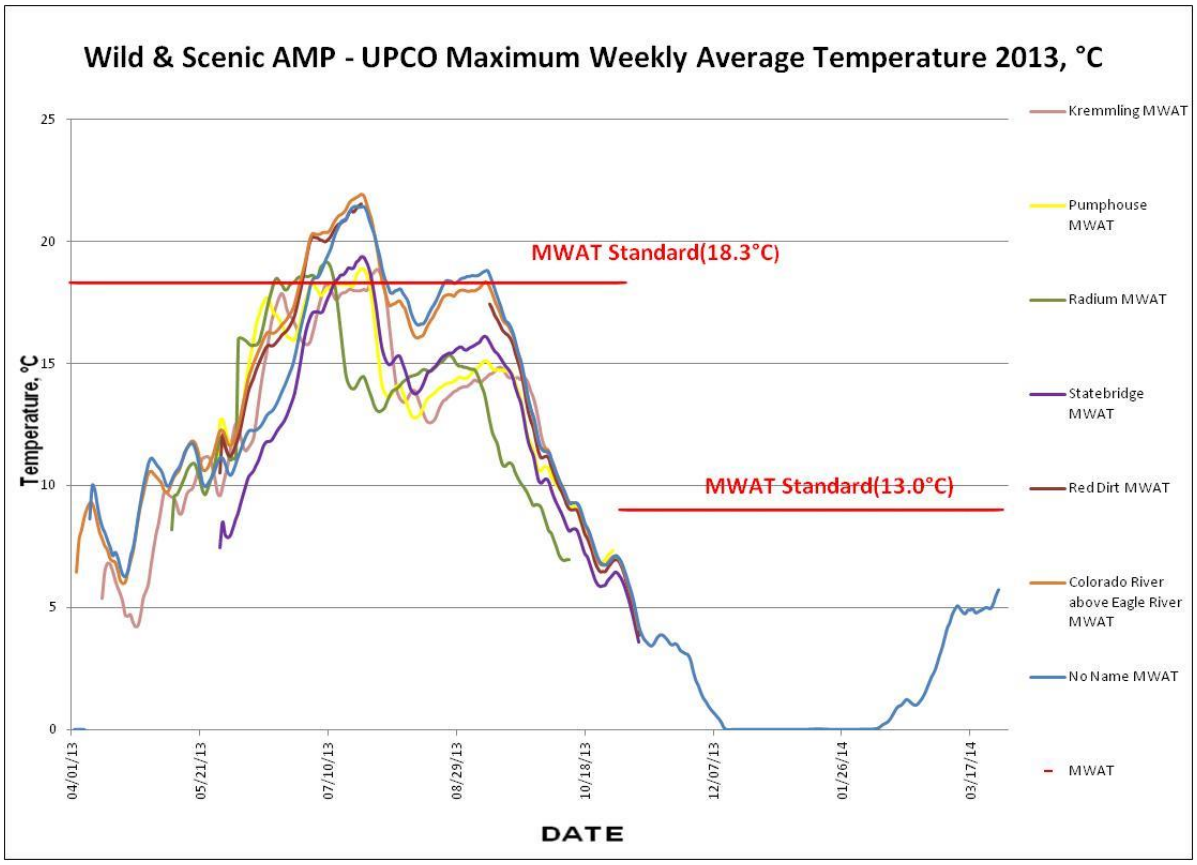


Figure 8. 2013 Measured Maximum Weekly Average Temperatures vs CDPHE Standard

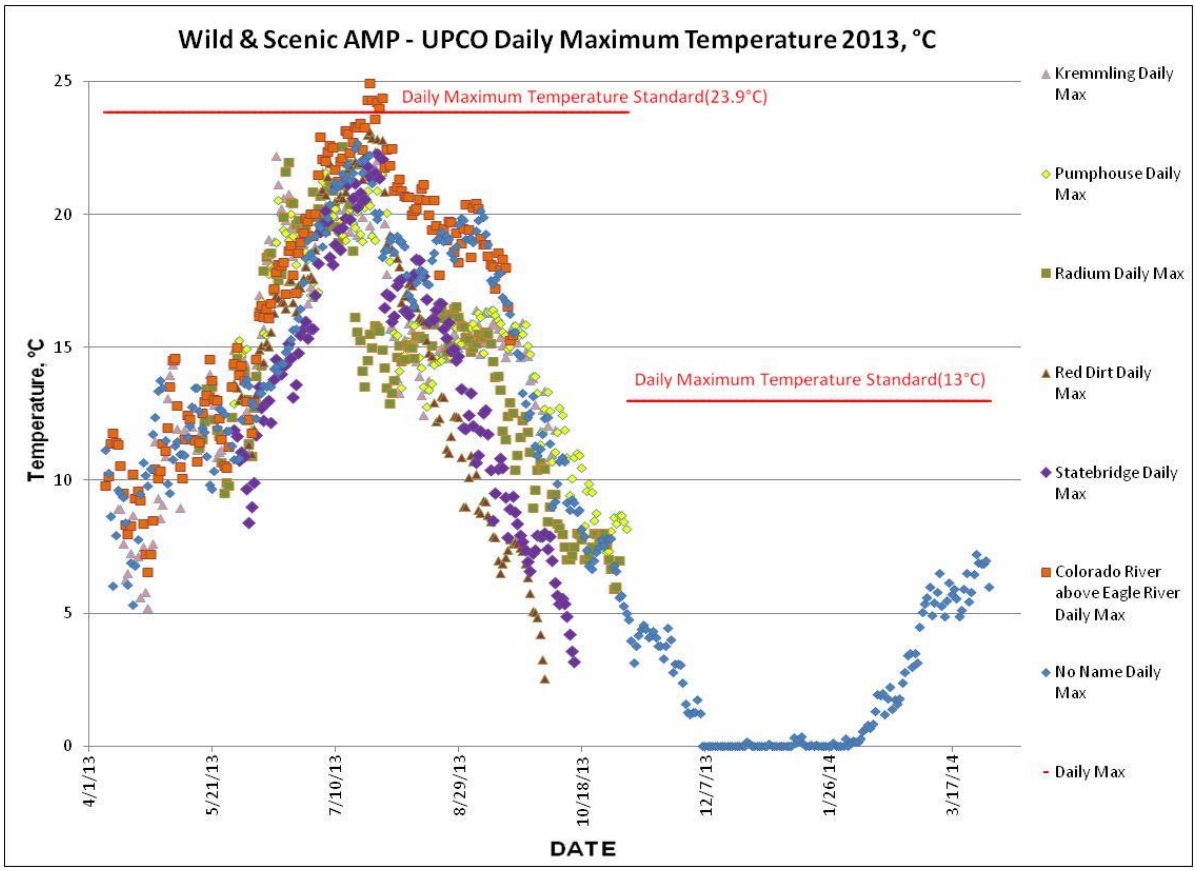


Figure 9. 2013 Measured Daily Maximum Temperatures vs CDPHE Standard

LOOKING AHEAD...

Until such time as the BLM and USFS issue their final Records of Decision (RODs), 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 2014:

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. The SG will evaluate CPW's 2014 biosurvey data in accordance with the SG Plan and include the results in the 2014 Annual Monitoring Report.

Floatboating Surveys and Creel Census. The SG contracted with RRC Associates to continue a comprehensive Floatboating survey effort in 2014 that builds upon and incorporates lessons learned from the 2012 and 2013 user surveys. The 2014 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.

In addition, during 2014, 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.

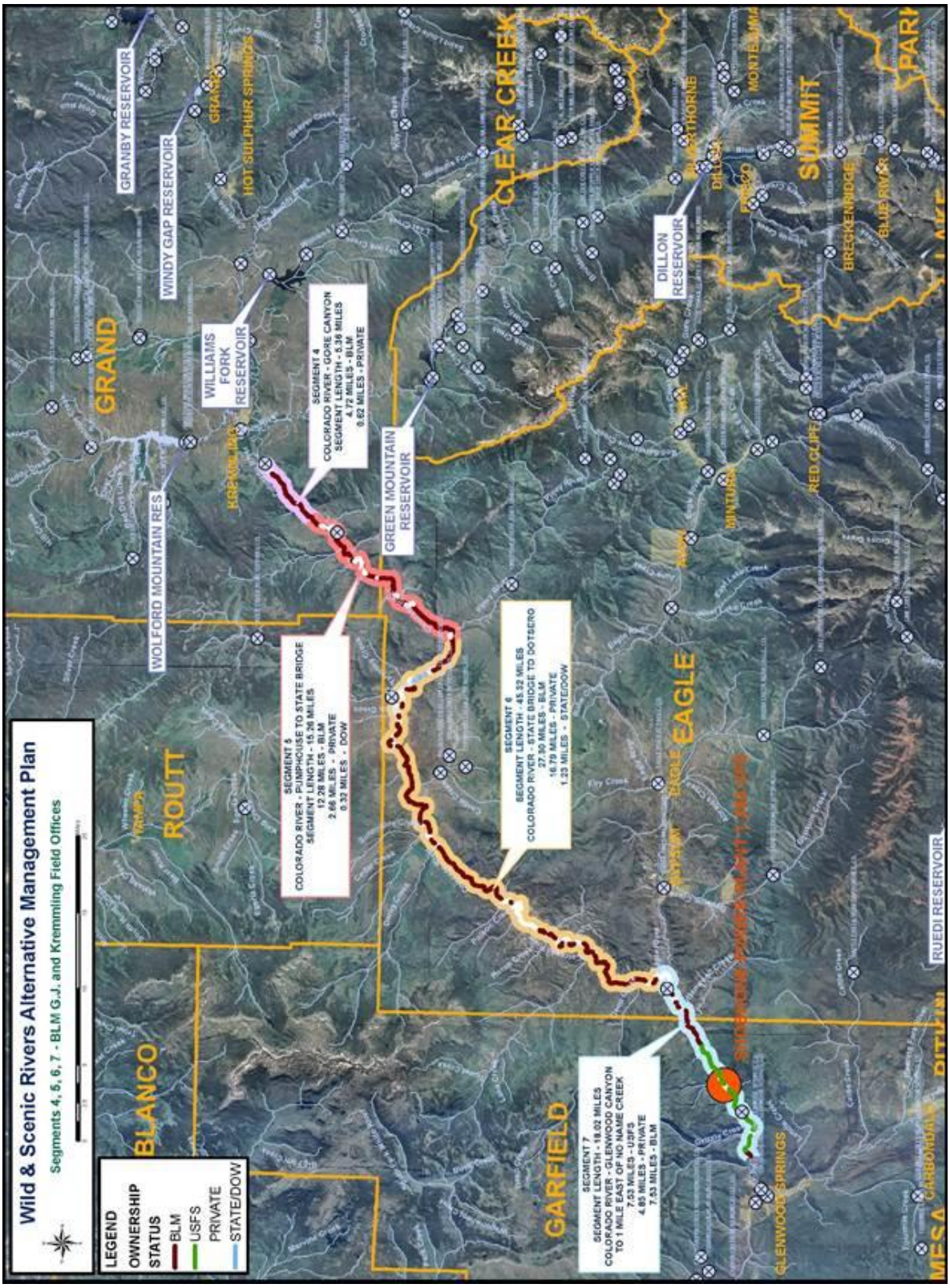
LIST OF ATTACHMENTS:

Attachment A: Map of Project Area

Attachment B: Endorsing Entities

Attachment C: Timeline and Task List

ATTACHMENT A: PROJECT AREA MAP



ATTACHMENT B: ENDORSING ENTITIES

The SG 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), and the Bureau of Reclamation. The SG Plan submitted to BLM and USFS in January 2012 was endorsed by the governing boards of the following stakeholder entities:

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.[16]

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 Firming 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.

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[16] 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.