**BEFORE THE COLORADO WATER CONSERVATION BOARD**

**STATE OF COLORADO**

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IN THE MATTER OF PROPOSED INSTREAM FLOW APPROPRIATION
DIVISION 4: SAN MIGUEL RIVER

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**PREHEARING REBUTTAL STATEMENT OF THE BOARD OF COUNTY COMMISSIONERS OF MONTROSE COUNTY, COLORADO**

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Pursuant to Rule 5n of the Rules Concerning the Colorado Instream Flow and Natural Lake Level, 2 CCR 408-2 ("ISF Rules") and the Hearing Officer's Notice of Prehearing Conference & Deadlines for Submissions, dated June 1, 2011, the Board of County Commissioners of Montrose County ("Montrose County") hereby submits its prehearing rebuttal statement contesting the Colorado Water Conservation Board's ("CWCB") intent to appropriate an instream flow ("ISF") on the subject reach of the San Miguel River ("Subject Reach") in the amounts set forth in the CWCB staff recommendation.

## A. FACTUAL & LEGAL CLAIMS

Montrose County's factual and legal claims are set forth in the exhibits described in Section B, below, in addition to those factual and legal claims set forth in Montrose County's previously-submitted prehearing statement.

## B. EXHIBITS TO BE INTRODUCED AT HEARING

The following list of exhibits that Montrose County may provide at the hearing supplements and is in addition to the prior list of exhibits included in Montrose County's prehearing statement:

1. August 17, 2011 rebuttal memo/report from Mr. Don Conklin, GEI Consultants, Inc., attached hereto as Exhibit L.

2. August 17, 2011 rebuttal memo/report by Deere & Ault Consultants, Inc., attached hereto as Exhibit M.

3. December 8, 2006 email correspondence from Mike Japhet re: Recreational fishing for wild and scenic analysis, attached hereto as Exhibit N.

4. July 15, 2009 Fish Sampling Report (Dolores River below San Miguel), attached hereto as Exhibit O.

## C. WITNESSES

Montrose County's list of witnesses remains the same as set forth in Montrose County's prehearing statement.

## D. ALTERNATIVE PROPOSAL

Montrose County's proposed alternative instream flow rates and terms and conditions remain the same as set forth in Montrose County's prehearing statement.

## E. WRITTEN TESTIMONY

Montrose County does not submit any written testimony with this rebuttal statement, but reserves the right to submit the reports by GEI and Deere & Ault as written testimony in the event the witnesses from these entities are unavailable to testify in person at the hearing.

## F. LEGAL MEMORANDA

Montrose County does not submit any legal memoranda with this rebuttal statement.

Dated this 17th day of August, 2011.

PETROS & WHITE, LLC

By: _____
Charles B. White, No. 9241
David S. Hayes, No. 28661

ATTORNEYS FOR THE BOARD OF COUNTY
COMMISSIONERS OF MONTROSE COUNTY

## CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of August, 2011, I have duly served 25 copies of the foregoing **PREHEARING REBUTTAL STATEMENT** via courier, addressed as follows:

Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

In addition, I hereby certify that I have duly served the foregoing **PREHEARING REBUTTAL STATEMENT** upon the following parties herein by e-mail or by depositing copies of the same in the United States mail, postage prepaid, addressed as follows:

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Southwestern Water Conservation District
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San Miguel Water Conservancy District
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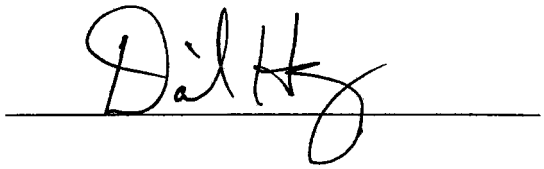

Geotechnical
Environmental
Water Resources
Ecological

GEI Consultants

# Memo

**To:** Colorado Water Conservation Board

**From:** Don Conklin, GEI Consultants, Inc.

**Date:** August 17, 2011

**Re:** Evaluation and Rebuttal of San Miguel River Prehearing Statements

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I submitted a memo to the Colorado Water Conservation Board on July 8, 2011 concerning the instream flow recommendations for the lower San Miguel River segment from Calamity Draw downstream to its mouth at the Dolores River. Since then, I have received and reviewed the Prehearing Statements filed by the CDOW, BLM and other groups in July 2011 concerning this instream flow recommendation. Many of the issues discussed in the Prehearing Statements were evaluated in my previous memo. The purpose of this memo is to discuss and rebut a few specific issues raised in the Prehearing Statement of the Sheep Mountain Alliance and the Prehearing Statement of the Western Resource Advocates and the Wilderness Society.

The Prehearing Statement of the Sheep Mountain Alliance simply supported the instream flow recommendations of the CDOW and BLM (the agencies). They did not present any new information concerning the availability of the recommended flows, which was one important issue discussed in my earlier memo. Therefore, the Prehearing Statement of the Sheep Mountain Alliance does not change my opinion or the alternative recommended flows presented in my memo.

Sampling by the agencies indicates the presence of bluehead and flannelmouth suckers and two other native species, speckled dace and roundtail chub, in the lower San Miguel River. The CDOW sampling information includes the conclusion that the lower San Miguel River contains an excellent native fish community. Therefore, the historical flows that have occurred over the recent past were sufficient to maintain the current healthy fishery.

The fish data presented by CDOW to demonstrate the health of the current fishery spans a period from 2001 through July 2008. This spans a severe drought period in the area. Flows in the period prior to 2008 that maintained the fishery through this period serve as a basis for judging the adequacy of the agencies minimum flow recommendations. The agencies based their position of flow availability on geometric mean flows calculated from synthetic hydrology developed for the lower terminus of the segment. This synthetic hydrology has no biological relevance as the current fish community did not experience synthetic hydrology but survived, and thrived on actual historic hydrology. I used daily historic flow data from January 2001 through July 2008 at the Uravan gage and calculated median flows for each day of the year for this period. I then compared the historic median flows to the recommended minimum flows of the agencies and the flows recommended in my previous memo (Figure 1).

The agencies' recommended minimum flows would have been greater than the median flows in this period, flows that have been demonstrated to maintain the current fishery, approximately 30% of the days in the year (Figure 1). On many days in the winter, early spring, and through the mid-to late-summer, the median flows that actually occurred in the San Miguel were lower than the agencies recommendations. By definition, half the time flows were lower than the median, and substantially lower than the agencies' recommendations. This analysis further supports my earlier conclusion that

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the agencies' recommendations are higher than necessary for "reasonable preservation of the natural environment."

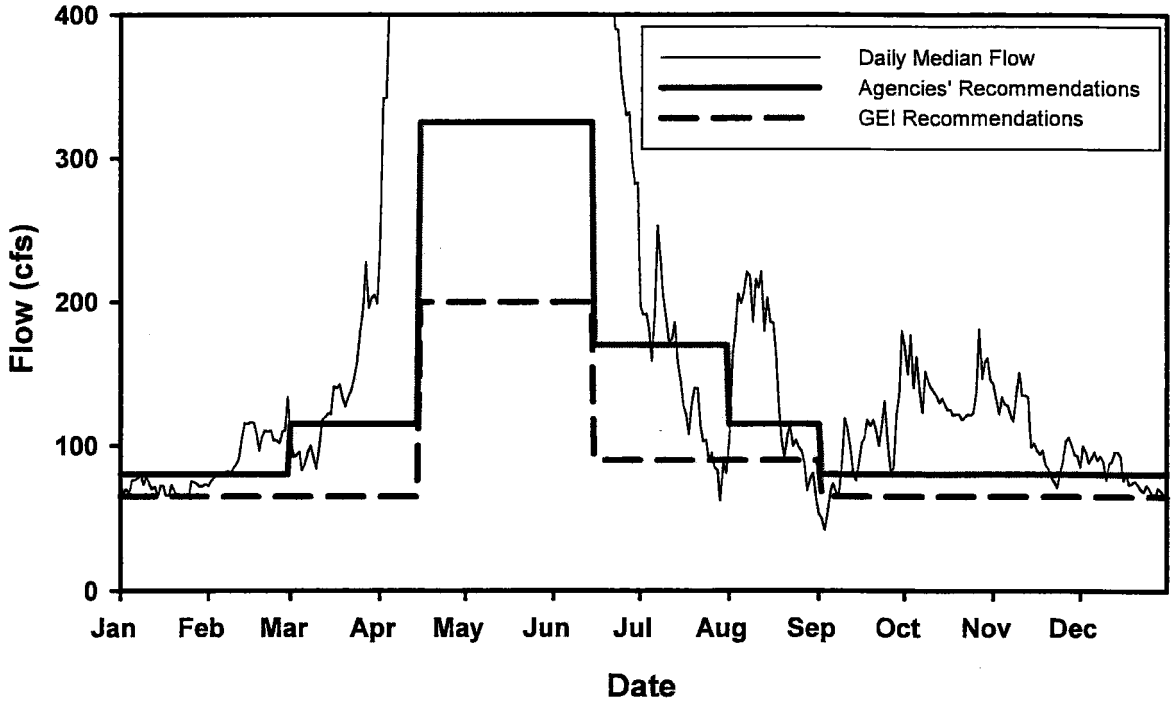


**Figure 1 Median daily flow from January, 2001 through July 2008 at the Uravan gage on the San Miguel River compared to minimum flow recommendations by the agencies and GEI.**

In contrast, the recommended minimum flows in my previous memo would have been met over 94% of the days by median flows in this period (Figure 1). The recommendations in my memo more closely align with minimum flows that maintained the current healthy fishery through one of the most severe drought periods in Colorado history.

The Prehearing Statement of the Western Resource Advocates and the Wilderness Society bases their position in large part on the memo by John Woodling dated July 13, 2011. Woodling's memo recommends minimum flows that would be higher on many days than those recommended by the agencies. Obviously, his recommended flows would be met even less frequently than the agencies recommended flows. Therefore, the Woodling memo does not change my opinion or the alternative recommended flows presented in my memo.

Both the Prehearing Statement of the Sheep Mountain Alliance and the memo by Woodling discuss the phenomenon that higher flows would result in higher habitat availability for adult bluehead and flannelmouth suckers. This is not in question and simply restates the PHABSIM relationships that have been developed and evaluated for these species. However, the available sampling data and the historic hydrology demonstrate that the healthy fishery has been maintained by flows less than those recommended by the agencies and by Woodling. I continue to conclude that **minimum flows** needed to preserve the natural environment to a reasonable degree presented in my previous memo of 200 cfs from April 15 through June 14, 90 cfs from June 15 through August 31, and 65 cfs from September 1 through April 14 are appropriate for this segment of the San Miguel River.

DEERE & AULT
CONSULTANTS, INC.

# MEMORANDUM

**TO:** **Colorado Water Conservation Board**

**FROM:** **Branden B. Effland, P.E., and Daniel V. Ault, P.E.**

**DATE:** **August 17, 2011**

**RE:** **Review of the Laura Belanger, P.E. July 12, 2011 Memorandum**

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## BACKGROUND

On behalf of the Montrose County Board of County Commissioners, Deere & Ault Consultants, Inc. (D&A) has reviewed the Western Resource Advocates' July 12, 2011 memorandum authored by Laura Belanger, P.E., herein referred to as the Belanger Memo. The Belanger Memo appears as Exhibit 2 to the Prehearing Statement of the Western Resource Advocates and The Wilderness Society in the matter of the CWCB's proposed instream flow appropriation in Water Division 4: San Miguel River (confluence Calamity Draw to confluence Dolores River). The Belanger Memo evaluates the hydrologic analyses completed by Bikis Water Consultants, LLC, documented in a November 2009 Preliminary Report titled: *Evaluation of Technical Basis for Lower San Miguel River CWCB Instream Flow Recommendations*.

The purpose of this memorandum is to demonstrate that analyses set forth in Page 3 of the Belanger Memo which use annual volumes of flow as an estimate of the availability of water for existing and potential water users provide a poor indication of the amount of water available for diversion using conventional means (i.e., ditch diversion and/ or well pumping). While the Belanger Memo does not make any conclusions regarding the availability of flow in excess of the ISF recommendations for the purpose of future use and appropriation, we believe it is necessary to place Ms. Belanger's analysis in the proper context so as to not invite incorrect interpretations and conclusions regarding the annual availability of flow in excess of the recommended ISF recommendations.

## REVIEW OF BELANGER MEMO

As documented in her memo, Ms. Belanger believes several of the methodologies and draft findings made in the Bikis Report are incomplete or inaccurate. In an effort to evaluate conclusions of the Bikis Report regarding the potential impacts the proposed instream flow (ISF) appropriation will have on the water availability for other water users within the San Miguel River basin, Ms. Belanger computed the annual volume of flow at the San Miguel at Uravan, CO gage (USGS gage #0917700) in excess of the proposed ISF recommendations for a 43 year study

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period[1]. The results of Ms. Belanger's computations indicate that for the 43 year study period, flows at the Uravan Gage in excess of the recommended ISF averaged 167,183 acre-feet per year. D&A confirmed Ms. Belanger's computations of excess annual flows (see **Table 1**). Ms. Belanger also performed a probability of exceedance analysis using the annual volume of flows in excess of the ISF. Figure 1 of the Belanger Memo presents the results of a probability analysis in the form of an exceedance curve that graphically illustrates the probability of annual flows in excess of the ISF recommendation meeting or exceeding a given volume. D&A performed the same analysis and confirmed the results presented in Figure 1 of the Belanger Memo (see **Table 2**). However, results of the exceedance analysis indicate that the annual average of excess flow, 167,183 acre-feet, is influenced by wet years, in that the annual volume of excess flow that is met or exceeded 50 percent of the time (i.e., the median) is approximately 123,469 acre-feet (see **Table 2**). Therefore, the median volume of 123,469 acre-feet, which is approximately 26 percent less than the average, provides a better representation of the excess flows that will be equaled or exceeded in about half of the water years.

The Belanger Memo does not provide monthly volumes of excess flow. It is the absence of the monthly data that will likely lead to incorrect interpretation of the actual availability of water for future water use and appropriation. For example, as shown in **Table 3**, 75 percent of the average annual excess flow occurs in only 3 months (i.e., April, May, & June). The San Miguel River experiences high flows during these months due to snow melt occurring in the upper reaches of the basin. According to Uravan Gage records, average monthly flows for April, May, and June are 812 cfs, 1,110 cfs, and 923 cfs, respectively. Average monthly flows in excess of the ISF recommendation are approximately 597 cfs, 804 cfs, and 687 cfs, respectively (see **Table 3**). Flow rates and volumes of this magnitude are difficult for most water users to divert, store or use due to practical infrastructure constraints (i.e., total ditch capacity, ditch capacity in excess of existing water rights being diverted, well capacity and available storage capacity). Without large diversion capacities and storage reservoirs, a large portion of peak runoff flows, such as those experienced in the months of April, May and June, cannot be put to beneficial use.

While peak flows are maintained steadily during April, May and June of an average hydrologic year (see **Figure 1**), the recommended ISF will largely appropriate much of the flow in excess of existing decreed water uses in dry years, even in the peak months (see **Figure 2** and **Figure 3**). Dry year flows in excess of ISF will be of short duration (i.e., peaks) which, as aforementioned, are difficult for water users to divert and use. It should also be noted that during dry years, the flows within the San Miguel River are rarely adequate to fully satisfy the CWCB's recommended ISF flow rates (see **Figure 2** and **Figure 3**). Only those periods of short duration that are the result of storms and/or rapid snowmelt provide adequate flow rates to satisfy the ISF recommendations.

[1] The USGS Gage #0917700 was installed in 1954 however no data is available from 10/1/1962 through 9/30/1973 and 10/1/1995 through 8/29/1995. Due to incomplete data, the water years 1954, 1963 – 1973, 1996 and 2011 were not included in calculations.

## CONCLUSION

Due to practical infrastructure constraints of irrigation and municipal water users, peak flows experienced in the runoff months, which contribute to 75 percent of the average annual volume in excess of the recommended ISF, are largely unusable. The average annual excess volume and probability of exceedance analyses documented in the Belanger Memo do not provide a good indication of the availability of water for future appropriations due to the annual time step. Daily and/or monthly analyses which reflect the peaking nature of the San Miguel River hydrology, provide a better representation of the amount of water in excess of the ISF recommendations that could be appropriated and put to beneficial use.

Although there may be water available in excess of the proposed ISF appropriations in average runoff years, there is very little excess water available in dry years. The ability of future water uses to have a reliable supply in drought years is of critical importance to Montrose County. Analyses which rely on average annual volumes of water in excess of the proposed ISF are misleading.

## TABLE 1

SAN MIGUEL RIVER AT URAVAN,CO (USGS GAGE # 09177000)
FLOW IN EXCESS OF RECOMMENDED INSTREAM FLOW

(Acre-Feet)

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1955 | 5,586 | 690 | 300 | 248 | 1,087 | 6,200 | 17,441 | 23,140 | 22,368 | 2,368 | 2,823 | 14 | 82,264 |
| 1956 | 0 | 8 | 153 | 77 | 0 | 1,440 | 10,340 | 16,421 | 18,823 | 432 | 863 | 0 | 48,558 |
| 1957 | 50 | 159 | 0 | 920 | 2,152 | 0 | 23,126 | 70,900 | 126,071 | 69,877 | 29,310 | 11,282 | 333,847 |
| 1958 | 7,807 | 6,565 | 3,957 | 1,507 | 8,081 | 5,385 | 92,233 | 136,594 | 81,482 | 8,295 | 958 | 1,301 | 354,166 |
| 1959 | 1,127 | 1,474 | 637 | 1,020 | 1,085 | 349 | 4,606 | 1,926 | 14,960 | 424 | 2,745 | 0 | 30,352 |
| 1960 | 2,872 | 1,343 | 296 | 436 | 214 | 21,402 | 51,748 | 23,848 | 38,188 | 8,571 | 559 | 34 | 149,510 |
| 1961 | 456 | 1,515 | 218 | 0 | 26 | 1,260 | 23,098 | 44,323 | 30,530 | 2,616 | 3,197 | 10,201 | 117,441 |
| 1962 | 8,259 | 3,600 | 1,006 | 462 | 5,389 | 2,210 | 56,440 | 31,179 | 24,504 | 14,539 | 1,158 | 2,263 | 151,010 |
| 1963 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1964 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1965 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1966 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1967 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1968 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1969 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1970 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1971 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1972 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1973 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1974 | 2,569 | 1,591 | 2,099 | 682 | 440 | 8,950 | 32,214 | 35,846 | 14,210 | 3,118 | 151 | 0 | 101,869 |
| 1975 | 294 | 393 | 111 | 20 | 244 | 296 | 13,541 | 69,224 | 59,580 | 50,484 | 7,704 | 1,700 | 203,590 |
| 1976 | 1,527 | 541 | 99 | 0 | 1,305 | 71 | 5,968 | 17,972 | 21,180 | 4,889 | 857 | 2,515 | 56,926 |
| 1977 | 1,964 | 81 | 0 | 0 | 0 | 10 | 1,773 | 0 | 262 | 1,863 | 4,268 | 282 | 10,503 |
| 1978 | 1,543 | 333 | 67 | 103 | 30 | 1,089 | 44,895 | 49,707 | 54,350 | 15,172 | 129 | 0 | 167,417 |
| 1979 | 184 | 569 | 1,456 | 2,222 | 1,884 | 3,358 | 69,589 | 86,252 | 78,630 | 29,088 | 5,042 | 91 | 278,366 |
| 1980 | 645 | 474 | 109 | 1,759 | 2,838 | 0 | 32,571 | 86,193 | 74,242 | 21,832 | 2,348 | 1,313 | 224,326 |
| 1981 | 1,154 | 855 | 639 | 63 | 12 | 0 | 2,846 | 1,146 | 13,295 | 7,817 | 958 | 4,758 | 33,545 |
| 1982 | 4,524 | 2,370 | 992 | 20 | 337 | 797 | 35,213 | 51,022 | 46,676 | 27,452 | 21,422 | 20,012 | 210,836 |
| 1983 | 10,263 | 5,302 | 3,164 | 2,985 | 3,979 | 4,310 | 49,578 | 134,154 | 124,980 | 69,863 | 30,034 | 6,052 | 444,663 |
| 1984 | 6,730 | 3,997 | 4,058 | 2,704 | 2,989 | 6,276 | 76,091 | 190,307 | 90,190 | 38,849 | 19,742 | 7,273 | 449,205 |
| 1985 | 11,732 | 6,752 | 4,983 | 3,654 | 4,090 | 17,153 | 114,658 | 106,663 | 76,117 | 28,142 | 5,421 | 8,031 | 387,395 |
| 1986 | 10,263 | 5,310 | 2,799 | 1,416 | 3,031 | 20,135 | 42,580 | 66,973 | 65,087 | 35,282 | 7,147 | 14,321 | 274,342 |
| 1987 | 15,576 | 18,137 | 6,617 | 3,312 | 5,851 | 11,004 | 108,428 | 99,066 | 62,837 | 25,488 | 12,145 | 2,965 | 371,428 |
| 1988 | 3,489 | 4,915 | 1,924 | 744 | 4,431 | 5,407 | 13,625 | 9,485 | 26,809 | 6,522 | 2,269 | 5,353 | 84,973 |
| 1989 | 2,406 | 924 | 0 | 0 | 678 | 12,819 | 14,359 | 3,656 | 4,911 | 916 | 974 | 0 | 41,644 |
| 1990 | 307 | 36 | 0 | 0 | 0 | 0 | 538 | 4,659 | 16,642 | 2,733 | 26 | 581 | 25,522 |
| 1991 | 4,665 | 460 | 0 | 89 | 575 | 83 | 32,061 | 29,443 | 28,205 | 4,518 | 1,367 | 2,610 | 104,078 |
| 1992 | 409 | 817 | 0 | 0 | 0 | 1,351 | 42,608 | 36,504 | 29,429 | 11,102 | 1,190 | 60 | 123,469 |
| 1993 | 1,285 | 1,283 | 0 | 1,684 | 2,174 | 9,400 | 60,001 | 104,241 | 72,189 | 21,902 | 3,451 | 2,916 | 280,526 |
| 1994 | 1,087 | 460 | 0 | 0 | 0 | 3,888 | 21,797 | 31,206 | 31,770 | 1,319 | 0 | 1,496 | 93,022 |
| 1995 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1996 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1997 | 9,904 | 4,346 | 3,273 | 2,523 | 2,233 | 30,570 | 73,596 | 90,239 | 77,926 | 25,143 | 17,941 | 11,897 | 349,590 |
| 1998 | 10,132 | 5,367 | 4,001 | 3,124 | 2,717 | 14,991 | 51,460 | 75,740 | 36,346 | 18,316 | 2,148 | 1,162 | 225,504 |
| 1999 | 3,790 | 4,919 | 2,727 | 1,109 | 968 | 4,961 | 14,081 | 49,826 | 48,015 | 28,418 | 32,670 | 16,106 | 207,589 |
| 2000 | 5,556 | 1,851 | 1,736 | 2,079 | 1,910 | 1,950 | 39,735 | 34,168 | 11,717 | 0 | 222 | 373 | 101,295 |
| 2001 | 2,303 | 1,202 | 377 | 0 | 530 | 1,287 | 15,723 | 29,844 | 17,221 | 5,092 | 4,265 | 0 | 77,842 |
| 2002 | 904 | 129 | 175 | 0 | 587 | 204 | 3,882 | 0 | 0 | 0 | 0 | 2,763 | 8,644 |
| 2003 | 1,519 | 720 | 10 | 4 | 331 | 1,434 | 13,896 | 18,413 | 15,654 | 127 | 551 | 6,978 | 59,638 |
| 2004 | 1,533 | 936 | 228 | 0 | 1,396 | 12,911 | 21,727 | 22,846 | 13,335 | 240 | 0 | 3,898 | 79,050 |
| 2005 | 3,842 | 2,702 | 1,980 | 3,184 | 2,279 | 3,884 | 42,560 | 68,268 | 44,845 | 14,053 | 3,836 | 2,041 | 193,473 |
| 2006 | 7,373 | 2,350 | 1,684 | 440 | 708 | 1,057 | 18,673 | 11,072 | 6,516 | 2,440 | 5,488 | 3,580 | 61,381 |
| 2007 | 25,609 | 4,798 | 405 | 123 | 2,567 | 30,663 | 27,378 | 31,726 | 29,386 | 5,008 | 7,779 | 4,774 | 170,216 |
| 2008 | 6,192 | 2,378 | 3,003 | 645 | 1,890 | 5,000 | 45,214 | 44,559 | 55,613 | 17,310 | 4,645 | 415 | 186,866 |
| 2009 | 2,299 | 1,305 | 1,480 | 1,250 | 1,551 | 3,767 | 25,764 | 56,105 | 21,182 | 5,806 | 8 | 323 | 120,839 |
| 2010 | 670 | 668 | 0 | 73 | 514 | 115 | 40,380 | 29,633 | 30,294 | 1,908 | 7,853 | 18 | 112,127 |
| Average | 4,428 | 2,433 | 1,320 | 946 | 1,700 | 5,987 | 35,536 | 49,407 | 40,850 | 14,868 | 5,946 | 3,762 | 167,183 |
| Minimum | 0 | 8 | 0 | 0 | 0 | 0 | 538 | 0 | 0 | 0 | 0 | 0 | 8,644 |
| Maximum | 25,609 | 18,137 | 6,617 | 3,654 | 8,081 | 30,663 | 114,658 | 190,307 | 126,071 | 69,877 | 32,670 | 20,012 | 449,205 |

[1] ND = No gage data available. Not used in determining long-term average.

**TABLE 2**

**Probability of Exceedance**
**Total Annual Flows in Excess of ISF Recommendation**

| Year | Total Annual Volume in Excess of ISF Recommendation (acre-feet) | Probability of Exceedance |
|---|---|---|
| 2002 | 8,644 | 97.7% |
| 1977 | 10,503 | 95.5% |
| 1990 | 25,522 | 93.2% |
| 1959 | 30,352 | 90.9% |
| 1981 | 33,545 | 88.6% |
| 1989 | 41,644 | 86.4% |
| 1956 | 48,558 | 84.1% |
| 1976 | 56,926 | 81.8% |
| 2003 | 59,638 | 79.5% |
| 2006 | 61,381 | 77.3% |
| 2001 | 77,842 | 75.0% |
| 2004 | 79,050 | 72.7% |
| 1955 | 82,264 | 70.5% |
| 1988 | 84,973 | 68.2% |
| 1994 | 93,022 | 65.9% |
| 2000 | 101,295 | 63.6% |
| 1974 | 101,869 | 61.4% |
| 1991 | 104,078 | 59.1% |
| 2010 | 112,127 | 56.8% |
| 1961 | 117,441 | 54.5% |
| 2009 | 120,839 | 52.3% |
| 1992 | 123,469 | 50.0% |
| 1960 | 149,510 | 47.7% |
| 1962 | 151,010 | 45.5% |
| 1978 | 167,417 | 43.2% |
| 2007 | 170,216 | 40.9% |
| 2008 | 186,866 | 38.6% |
| 2005 | 193,473 | 36.4% |
| 1975 | 203,590 | 34.1% |
| 1999 | 207,589 | 31.8% |
| 1982 | 210,836 | 29.5% |
| 1980 | 224,326 | 27.3% |
| 1998 | 225,504 | 25.0% |
| 1986 | 274,342 | 22.7% |
| 1979 | 278,366 | 20.5% |
| 1993 | 280,526 | 18.2% |
| 1957 | 333,847 | 15.9% |
| 1997 | 349,590 | 13.6% |
| 1958 | 354,166 | 11.4% |
| 1987 | 371,428 | 9.1% |
| 1985 | 387,395 | 6.8% |
| 1983 | 444,663 | 4.5% |
| 1984 | 449,205 | 2.3% |

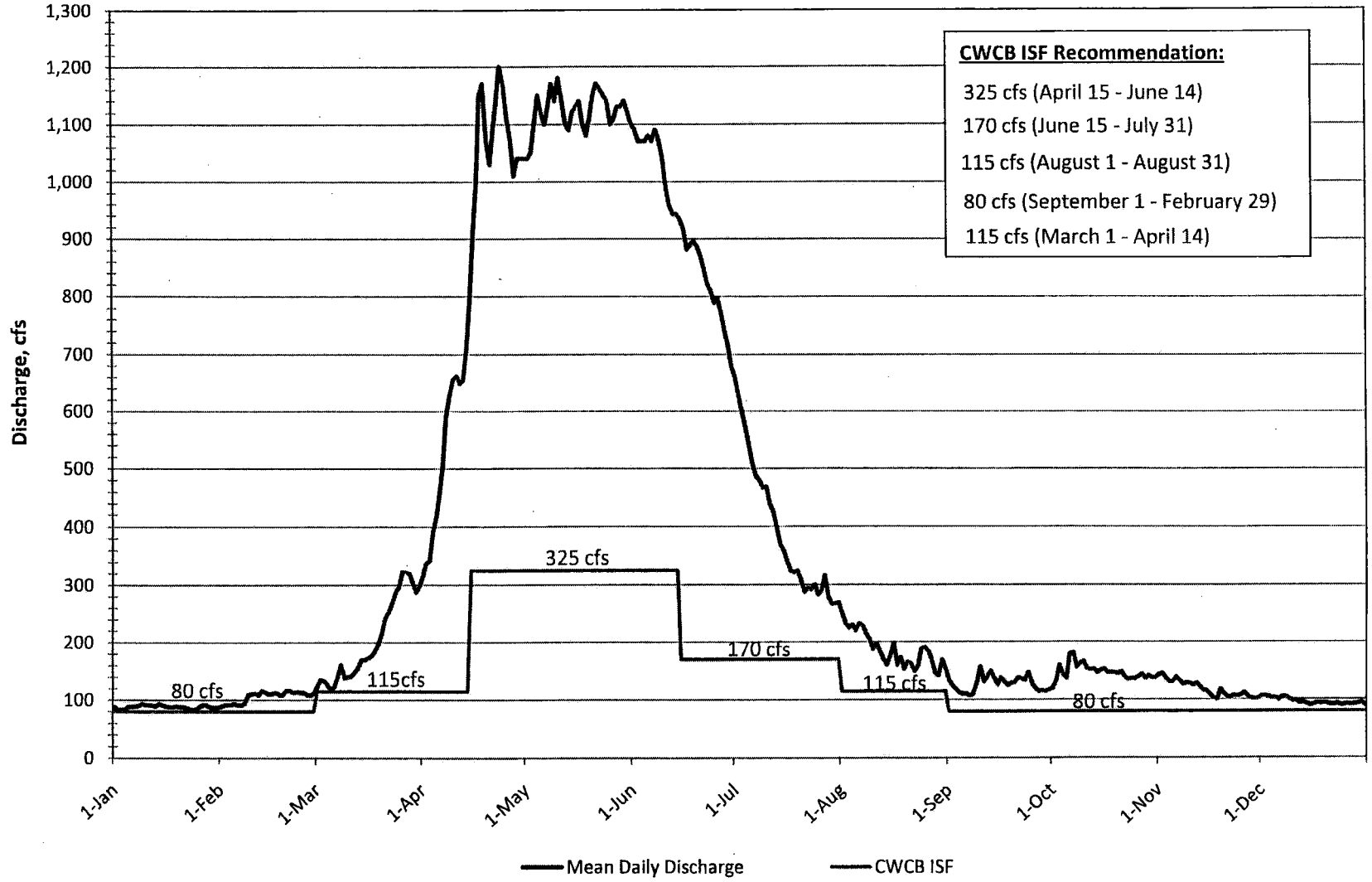
**TABLE 3**

**Average Monthly Flows at Uravan Gage in Excess of Recommended ISF**

| Month | Average Daily Flow at Uravan Gage in Excess of ISF (cfs) | Average Monthly Flow at Uravan Gage in Excess of ISF (AF) | Monthly Percentage of Annual Flow |
|---|---|---|---|
| **Oct** | 71 | 4,428 | 2.6% |
| **Nov** | 40 | 2,433 | 1.5% |
| **Dec** | 22 | 1,320 | 0.8% |
| **Jan** | 15 | 946 | 0.6% |
| **Feb** | 31 | 1,700 | 1.0% |
| **Mar** | 97 | 5,987 | 3.6% |
| **Apr** | 597 | 35,536 | 21.3% |
| **May** | 807 | 49,407 | 29.6% |
| **Jun** | 687 | 40,850 | 24.4% |
| **Jul** | 242 | 14,868 | 8.9% |
| **Aug** | 97 | 5,946 | 3.6% |
| **Sep** | 63 | 3,762 | 2.3% |
| ***Total*** | | ***167,183*** | |

**Figure 1 - San Miguel River at Uravan, CO**

Average Year Mean Daily Discharge (1954 - 2010)

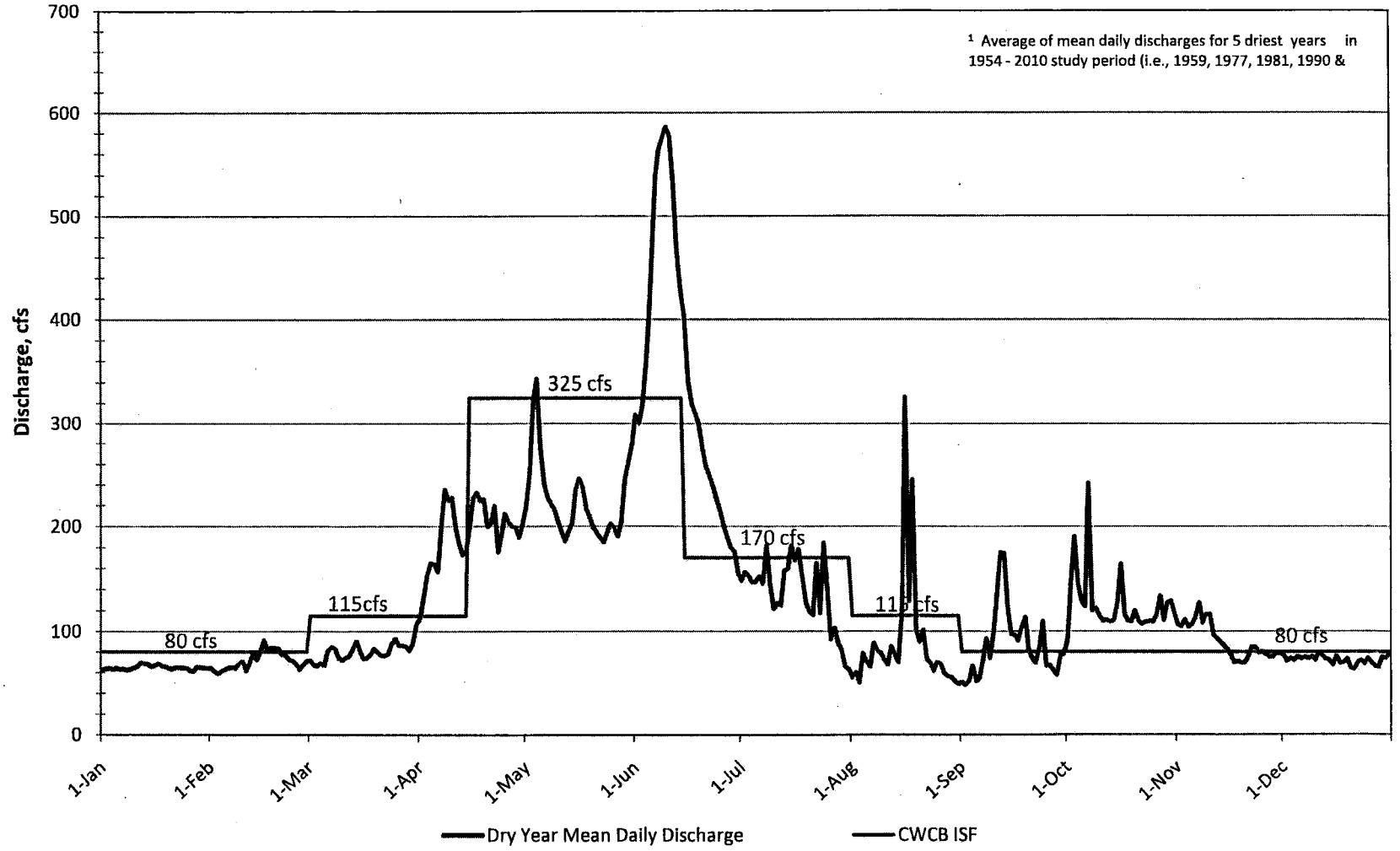



Source: U.S. Geological Survey Gage No. 09177000 (Uravan)

Deere & Ault Consultants, Inc.

**Figure 2 - San Miguel River at Uravan, CO**

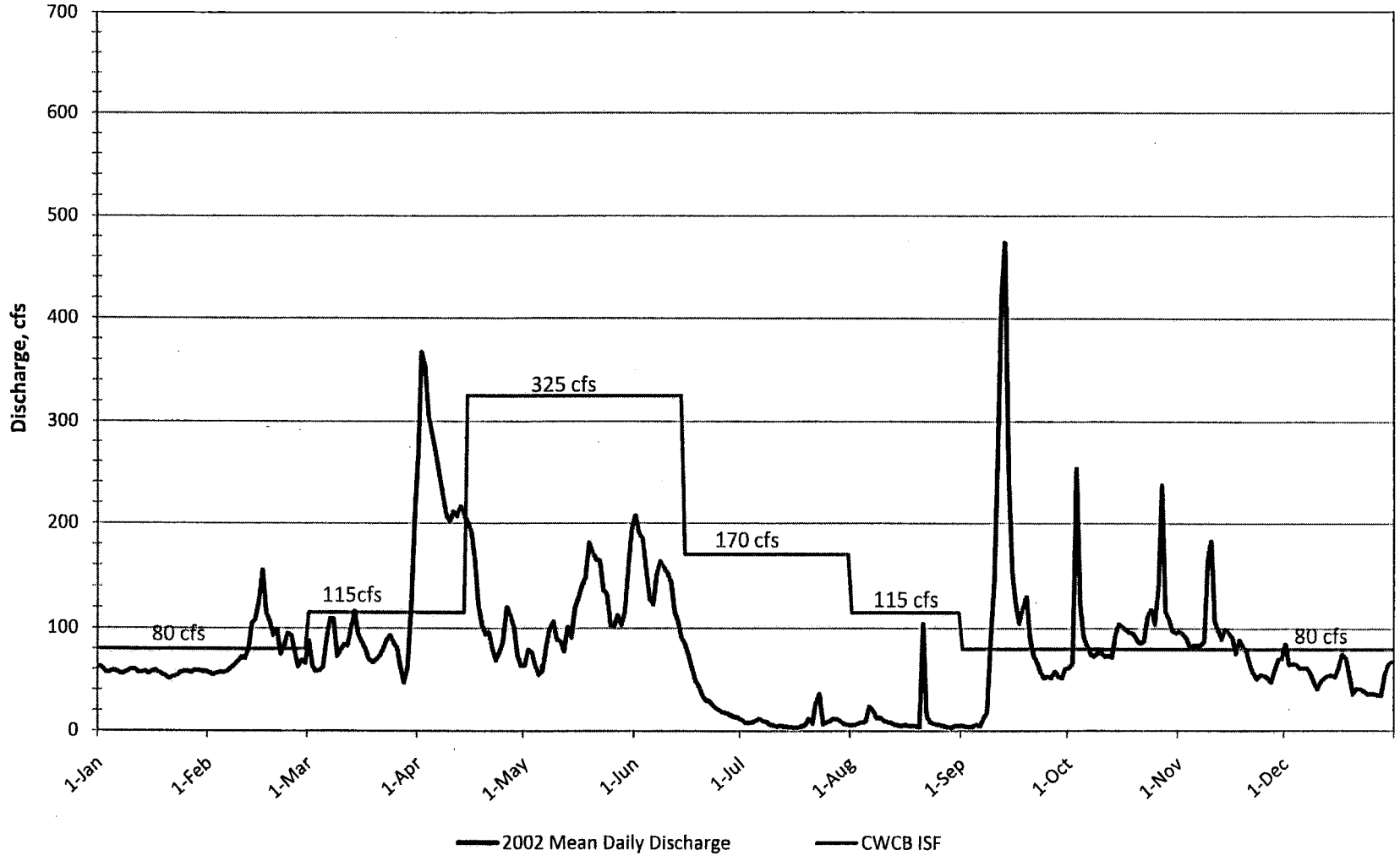
Dry Year[1] Mean Daily Discharge




Source: U.S. Geological Survey Gage No. 09177000 (Uravan)

Deere & Ault Consultants, Inc.

**Figure 3 - San Miguel River at Uravan, CO**
2002 Mean Daily Discharge




Source: U.S. Geological Survey Gage No. 09177000 (Uravan)

Deere & Ault Consultants, Inc.

"Japhet, Mike"
<Mike.Japhet@state.co.us>

12/08/2006 09:20 AM

To <czillich@fs.fed.us>

cc "White, Jim" <J.White@state.co.us>, "Graf, David" <David.Graf@state.co.us>, "Dave Gerhardt" <dgerhardt@fs.fed.us>

bcc

Subject FW: Recreational fishing for wild and scenic analysis

Hello Kay,
From the cursory review I made of the attached document it seems reasonable to me that the highest priority waters for wild and scenic consideration would be the Dolores River canyon from McPhee dam to Bedrock and the Piedra box canyons. While flows are limited in the lower Dolores, this reach is still an outstanding natural resource area. Trout and native fish species are declining in this reach due to water management practices, but there is still some hope that a more flexible flow management plan could be adopted that benefits native fishes with minimal impact to agricultural water interests. I do not object to including the Hermosa watershed as long as this does not hinder our ability to reclaim the headwaters (from Hotel Draw to Bolam Pass) with rotenone and construct a manmade waterfall at Hotel Draw confluence so the headwaters reach can be managed for Colorado River cutthroat trout (CRCT). This project is a high priority for both CDOW and USFS and is part of the larger effort to restore CRCT populations across their range and preclude listing as T & E. A couple of minor comments: roundtail chub is misspelled in this document. Regarding the question about what additional protection could be afforded to Rio Lado, I think some restriction should be placed on recreational horseback trail rides in that drainage. A bridge should be built across the creek so the horses don't continue to beat out an ever wider crossing, which is in the heart of CRCT habitat. I am forwarding this to Jim White, the new aquatic biologist in the Durango office so he can review and become familiar with this issue. If you need information about fish inventories or distribution, feel free to contact Jim. Please realize, however, that David Graf is still the primary CDOW contact in this process. Thanks, Mike

-----Original Message-----
From: Cathleen Zillich [mailto:czillich@fs.fed.us]
Sent: Wednesday, December 06, 2006 3:54 PM
To: Japhet, Mike
Cc: Cathleen Zillich
Subject: Re: Recreational fishing for wild and scenic analysis

Mike, I never thanked you for this information. We incorporated it into our Wild and Scenic eligibility analysis, and ended up decreasing the number of streams that we thought had outstanding recreational fishing. Thanks for your input.

We are now at the beginnings of the next step - "suitability". David Graf has been attending the Government-to-Government Water Roundtable on behalf of DOW, and I sent him a draft of the write-up we have for suitability. The group also wanted me to send the document to you, for fishery input. The document is attached below. Where there is yellow highlight, we are hoping the State can add information and/or make sure we have it right. Some of the yellow highlight relates to fish. Maps are available on the web (I will send you the location in a separate e-mail). If its easier, I can bring a map over to your office. Comments should be

e-mailed to me.

In the next few months, we will be having meetings to grapple with the questions of "should the river be protected as a free-flowing river, and is Wild and Scenic the best way to protect it". It should continue to be an "interesting" discussion.

(See attached file: SUITABILITY_APPENDIX_river_12_4_06.doc)

Call me if you have questions, or want to talk.

==========
Kay Zillich
(only the computer knows me as Cathleen)
Abandoned Mine Reclamation and Fire Rehab
15 Burnett Court, Durango, CO 81301
970-385-1239
==========

"Japhet, Mike" <Mike.Japhet@state.co.us>
09/01/2006 05:23 PM

To: <czillich@fs.fed.us>
cc: "Gerlich, Greg" <Greg.Gerlich@state.co.us>
Subject: Recreational fishing for wild and scenic analysis

Kay,
Greg Gerlich forwarded your inquiry to me for response. The Division of Wildlife used to publish a brochure listing "Gold Medal Trout Waters" found in Colorado, but that brochure is out of print. There are only about 13 waters in Colorado that qualify as Gold Medal trout waters. Within SW Colorado, the Gunnison River gorge trout fishery is a Gold Medal Trout Water found in a scenic river canyon that probably meets the criteria of being an "Outstandingly Remarkable" recreational fishing opportunity. The Colorado Wildlife Commission established the following minimum biological criteria for designation as a Gold Medal Trout Water: 12 trout per acre over 14 inches length, and 60 lb/acre trout biomass. The Gunnison River gorge is managed by BLM and they might have some information about the Gunnison gorge that would be useful in your present inquiry. You can find more information about Gold Medal Waters by clicking on this link to the Division of Wildlife web page: http://wildlife.state.co.us/Fishing/WhereToGo/HotSpots/WestHotSpots.htm. I hope this information is of some help. --Mike

Mike Japhet
Senior Aquatic Biologist

# Fish Sampling Report

Dan Kowalski
Aquatic Biologist
Southwest Region

**Water:** Dolores River Below San Miguel
**Date:** 7/15/2009
**Gear:** 14 ft. electrofishing raft with Smith Root 2.5GPP
**Drainage:** Dolores
**Water Codes:** 39760

## OBJECTIVE

The Dolores River below the San Miguel was sampled with one pass CPUE electrofishing to monitor native fish populations. The station began at the San Miguel confluence and ended at the County Rd R13 bridge and was 4.9 miles long.

## RESULTS

The results of the survey are summarized in Table 1 and length frequency histograms of the native fish are presented in Figures 1-3. Eighty-nine percent of the fish sampled were native species. This reach of the Dolores contains excellent populations of flannelmouth suckers, bluehead suckers, and roundtail chubs represented by multiple age classes including many large adults. This reach appears to support some the best populations of the three species in the Dolores River basin and has much more robust and healthy native fish populations than sites on the Dolores upstream of the San Miguel.

| Species | # Caught | % Catch | Mean Length (in.) | Length Range (in.) | CPUE (fish/mile) |
|---|---|---|---|---|---|
| Bluehead Suckers | 129 | 33 | 8.5 | 4.0-14.2 | 26.3 |
| Flannelmouth Suckers | 128 | 33 | 14.6 | 4.6-22.1 | 26.1 |
| Roundtail Chubs | 56 | 14 | 7.1 | 2.7-14.4 | 11.4 |
| Speckled Dace | 37 | 9 | 3.4 | 2.7-4.4 | 7.6 |
| Channel Catfish | 31 | 8 | 11.1 | 7.2-21.8 | 6.3 |
| Common Carp | 8 | 2 | 21.3 | 19.9-22.0 | 1.6 |
| Red Shiner | 2 | 1 | 3.0 | 2.9-3.1 | 0.4 |
| Sand Shiner | 1 | 0 | 2.8 | 2.8 | 0.2 |

**Table 1.** Summary of fish sampled in 2009 in the Dolores River below the San Miguel.

## CONCLUSIONS AND MANAGEMENT RECOMMENDATIONS

The Dolores River below the San Miguel contains a good native fish community and should continue to managed as a category 100 native fish conservation water. Many of the habitat and flow problems associated with the river below McPhee (low base flows, altered peak flows, altered temperature regime, and reduced nutrient and sediment inputs) are improved by the influence of the San Miguel. The San Miguel River has a relatively natural spring peak hydrograph but base flows are impacted by irrigation withdrawals. However, unlike the trans-basin diversions associated with McPhee, irrigation return flows in the San Miguel basin come back to the river and reduce the impacts of base flow diversions. Efforts should be taken to protect the flow regime of this reach of river including spring peak flows and especially base flows. Major tributaries like Mesa Creek, Roc Creek, and Blue Creek that could be used seasonally for spawning should also be protected both for native fish habitat and the beneficial flows inputs to the main stem.

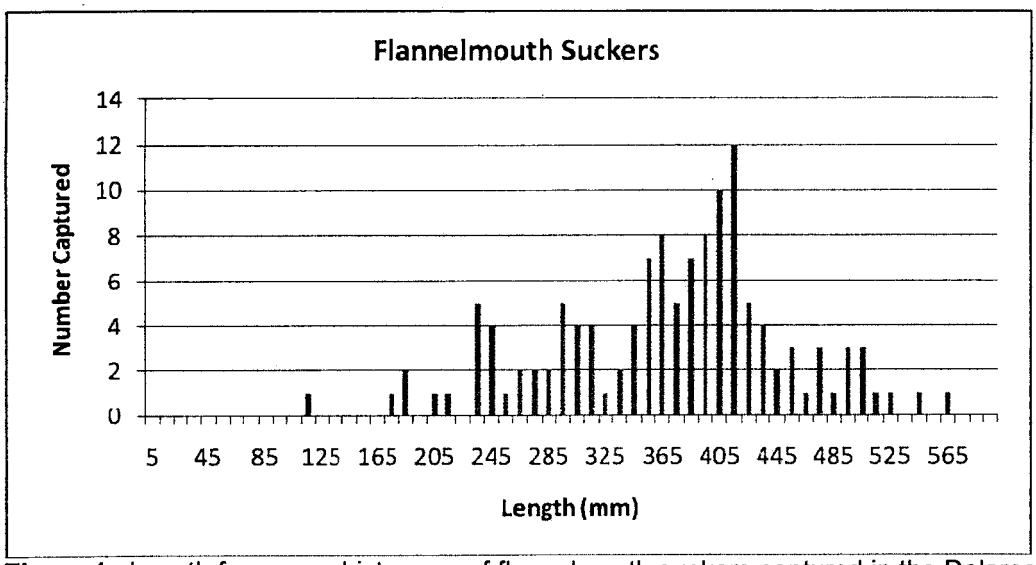



**Figure 1.** Length frequency histogram of flannelmouth suckers captured in the Dolores River in 2009.

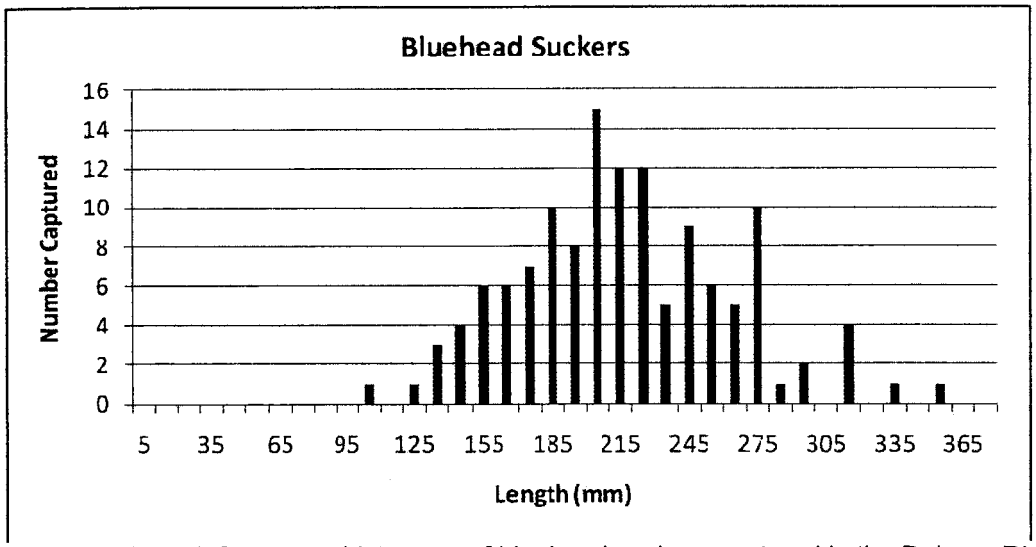



**Figure 2.** Length frequency histogram of bluehead suckers captured in the Dolores River in 2009.

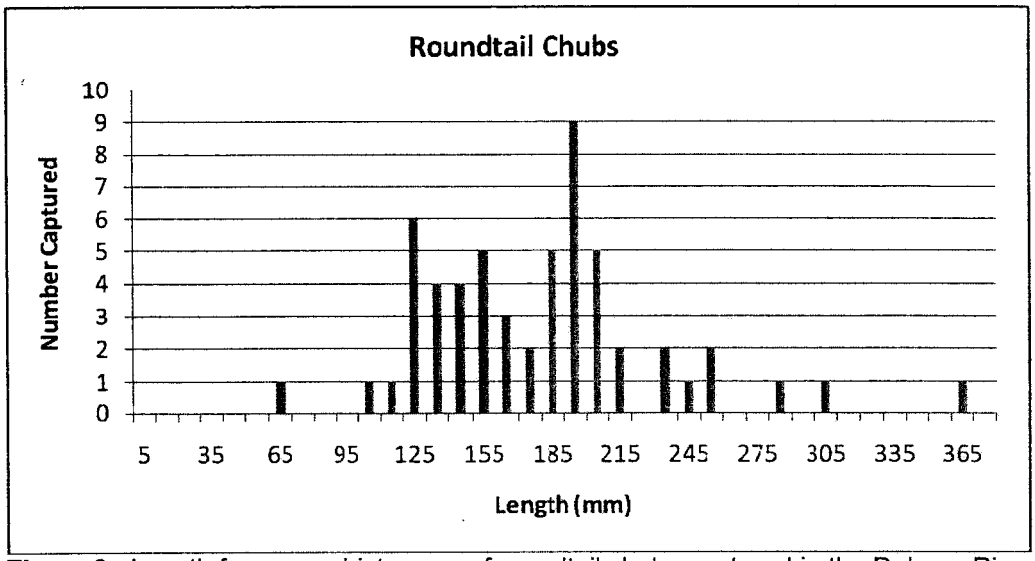



**Figure 3.** Length frequency histogram of roundtail chubs captured in the Dolores River in 2009.