

## **Stapleton Brothers Ditch Water Acquisition**

### **CWCB Staff Hearing Presentation**



CWCB Meeting      November 16-18, 2009

Today, Staff will ask the Board to:

- Find that the proposed acquisition (by donation) of 119.25 ac-ft HCU (4.3 cfs diversion) of the SBD right to preserve and improve the NE to a RD on Maroon Creek and the Roaring Fork River is appropriate
- Determine that the best way to utilize the acquired water is to use it to
  - preserve the NE to a RD when the existing ISFs are not fully met; and
  - improve the NE to a RD when the existing ISFs are fully met.
- Accept the terms and conditions of the Trust Agreement and authorize its execution

## **CWCB STAFF PRESENTATION AND WITNESSES**

- **Time allotment:**
  - 58 minutes direct + 15 minutes rebuttal
  - Includes questions from the Board
- **Speakers:**
  - Linda Bassi: background and general information
  - Susan Schneider: legal issues
  - Mark Uppendahl: biological aspects (preserve and improve)
  - Alan Martellaro: water rights administration



## **PROPOSED ACQUISITION**

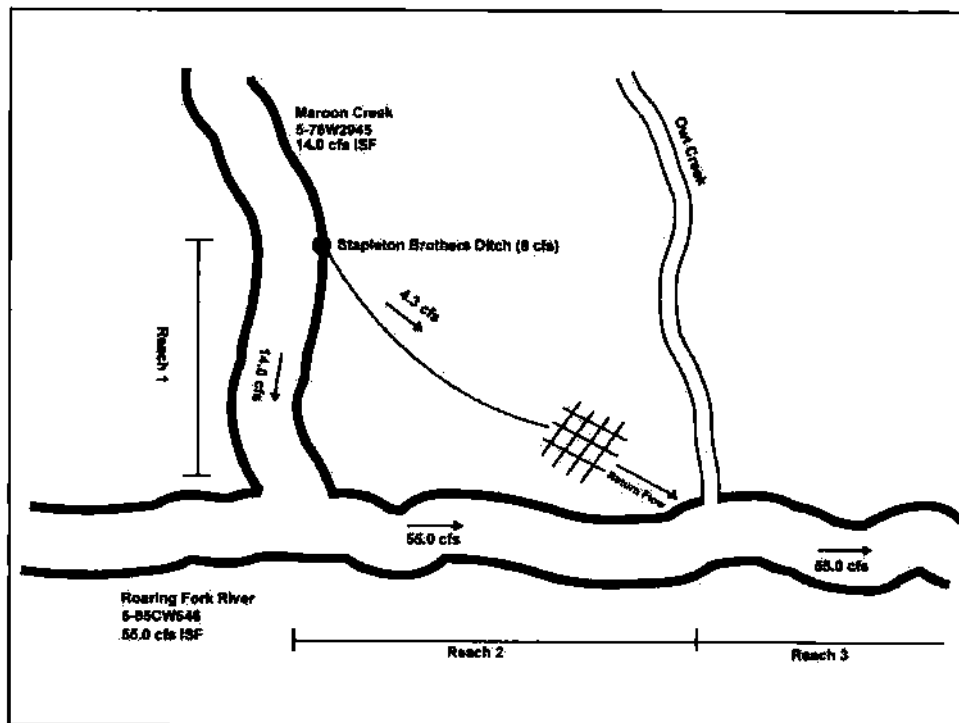
- Long-term donation of right to use water offered to CWCB by Pitkin County Board of County Commissioners
- Conveyed by a Trust Agreement
  - Revocable trust for a perpetual term
  - Trust used due to restrictions on Pitkin County's water rights
- Two Components:
  1. Stapleton Brothers Ditch on Maroon Creek
  2. Other water rights in the Roaring Fork Basin
- Today considering entering into Trust Agreement and accepting SBD water right

## **PROPOSED USE OF SBD RIGHT**

- Preserve and improve the natural environments of Maroon Creek and Roaring Fork River to a reasonable degree
- Change water right to add ISF use
  - Maroon Creek: claim 4.3 cfs diversion amount from historical point of diversion d/s to confluence with Roaring Fork River
  - Roaring Fork River: claim 4.3 cfs to the point of historical return flows, and HCU amount from that point d/s to the confluence with Fryingpan River (maximum 0.52 cfs during irrigation season)

## **ISF WATER RIGHTS CURRENTLY HELD BY CWCB THAT WOULD BENEFIT FROM THIS ACQUISITION**

<u>Case No.</u>	<u>Stream</u>	<u>Reach</u>	<u>Amount (cfs)</u>	<u>Approp. Date</u>
76W2945	Maroon Creek	East & West Maroon Creek to Roaring Fork River	14 cfs (Jan 1 – Dec 31)	1-14-1976
85CW646	Roaring Fork River	Maroon Creek to Frying Pan River	55 cfs (Apr 1 – Sept 30) 30 cfs (Oct 1 – Mar 31)	11-8-1985



## HISTORICAL USE OF SBD RIGHT

- Original Decree (CA-3000): 8.0 cfs to irrigate 400 acres.
- Change Decree (99CW306): added augmentation use
- HCU quantified and decreed *res judicata* for period 1904-2004
- Proposed acquisition of 119.25 af of HCU for use from May through October (4.3 cfs diversion)
- Historical return flows on Roaring Fork approx 1 mile d/s of confluence with Maroon Creek, near Aspen airport
- Diversion 100% consumptive to Maroon Creek and 1 mile of Roaring Fork River

### **FIRST ACQUISITION UNDER HB 08-1280**

- HCU protection provided by HB 1280 (2008) enabled Pitkin to consider donating use of its water to CWCB
- This is the type of arrangement contemplated by HB 1280
- Opportunity for a long-term partnership with Pitkin County to protect stream flows
- Protects a valuable pre-1922 water right
- Will support County's recreation / tourism economy

### **TRUST AGREEMENT**

- Trust estate = SBD right and other water rights added to Trust
- Term of Trust is perpetual unless terminated by Pitkin County; only may be terminated after initial ten (10) year period after Trust Agreement signed.
- Pitkin and CWCB will apply to water court to add ISF use to SBD right within 6 months of execution of Trust Agreement.
- Any water right added to Trust must be evaluated and accepted by CWCB under ISF Rule 6.
- CWCB commits to
  - use water rights under Trust to preserve or improve the natural environment
  - take all reasonable steps to enforce ISF rights and protect them from injury
  - responsibility for administration, monitoring and measuring

### **TRUST AGREEMENT**

Changes since January 2009:

- # III.C: changed deadline to bring add'l water rights to CWCB to 12 months after SBD change decree entered (instead of 12 months after Trust Agreement executed)
- #s III.C and IV.D: Rights / responsibilities previously applicable to only one party made applicable to both parties
- # V.C: added "subject to availability of funds" regarding CWCB's responsibility for gage installation

### **TRUST AGREEMENT**

Changes since January 2009:

- XIV.B: changed Initial Period during which Trust Agreement can be terminated from 5 years to 10 years
- XIV.C (incorrectly labeled as "B"):
  - changed notice requirement for termination from 2 months to 6 months
  - extended period during which terminating party must consult with other party from 15 to 30 working days prior to providing notice of termination

## **PROPOSED CHANGES TO TRUST AGREEMENT**

- Add to # V.C):
  - The Trustee shall be responsible for:
    - (1) maintaining records of how much water it uses under the Trust Agreement each year it is in effect; and (2) recording the actual amount of water legally available and capable of being diverted under the Trust Estate during the term of the Trust Agreement, and for providing such records to the Division of Water Resources for review and publication.
- Correct numbering in # XIV (change 2<sup>nd</sup> B to C)

## **ISF RULE 6 FACTORS**

- Have been addressed in Staff's and Pitkin's Prehearing and Rebuttal Statements
- Will be addressed by Staff's and Pitkin's witnesses today

## **HB 1280 REQUIREMENTS**

- Required language included in Trust Agreement
- CWCB can install measuring device necessary for administration of changed SBD right



### **NO INJURY TO EXISTING WATER RIGHTS**

- Water court decreed quantification of HCU of SBD Right in 2005 in Case No. 99CW306.
- No injury occurred at that time or will occur by putting the SBD Right to ISF use.
- Change of SBD Right did not enlarge the right or injure other users.
- Pitkin County has a legal right to change its water right to put the water to any beneficial use it chooses.
- Other water users have no legal right to
  - use this water or
  - rely on its presence in the stream for exchanges or any other purpose.



**THIS ACQUISITION WILL PREVENT DELIVERY OF  
MORE WATER THAN REQUIRED UNDER  
COMPACT**

- SBD Right is a pre-1922 water right.
- CWCB's acquisition of a pre-1922 right is important to preventing delivery of more water than required under the Colorado River Compact.
- Without this acquisition and use by CWCB, SBD Right may be subject to
  - abandonment under Colorado law or
  - reduction of its historical consumptive use under Colorado law.

**THIS ACQUISITION WILL PROMOTE MAXIMUM  
UTILIZATION OF WATER**

By acquiring the SBD Right, the CWCB will

- Increase ISF protection on Maroon Creek and the Roaring Fork River;
- Enable subsequent consumptive beneficial use downstream, thereby increasing pre-1922 water utilization; and
- Prevent over-delivery of Compact water.

## **STACKING**

- “Stacking” occurs when the Board
    - Holds more than one water right on the same stream
    - Exercises the rights independently according to their decrees
    - Combines or stacks the acquired water right with any other ISF appropriation or acquisition, based upon the extent to which the acquired water will provide flows to preserve or improve the natural environment to a reasonable degree.
- (ISF Rules 4o. and 6c.)

## **SENIORS FIRST POLICY**

- Requires the use of a senior water right prior to a junior water right when both water rights decreed for same use at same structure.
- Does not prevent
  - the use of a senior water right simultaneously with a junior water right or
  - the use of a senior water right for one use (improve) while also using the junior right for a different beneficial use (preserve).

### **NO "DOUBLE-COUNTING"**

- Use of acquired water in Roaring Fork is not "double-counting" even if SBD water was in stream when existing RFR ISF appropriated.
- CWCB never could rely on that water nor can any other water user.
- Pitkin County can legally put the SBD historical consumptive use to beneficial use by giving it to the CWCB for ISF use.
- Return flow portion of SBD water right must go to next senior water right that relied on that water, regardless of whether CWCB benefits.

### **CWCB CAN USE THIS ACQUIRED WATER TO PRESERVE AND IMPROVE THE NATURAL ENVIRONMENT**

- CWCB has statutory authority to acquire water to preserve *or improve* the natural environment to a reasonable degree.
- This can include using the acquired water rights in amounts above the amount decreed to preserve the natural environment.
- CWCB has used acquired water to improve the natural environment to a reasonable degree.

### **MEANING OF "IMPROVE"**

- In the statute, the word "improve"
  - Applies to the term "natural environment" so the environment can be improved.
  - Objectors wrongly argue that only the existing ISF water right can be improved.
- In authorizing CWCB to use acquired water to improve the NE, the legislature
  - intended "improve" to mean a higher degree of protection than "preserve" ("minimum" struck); and
  - contemplated that an acquired water right could be used in combination with an existing ISF that preserves the natural environment to a reasonable degree to add more water to "improve" the natural environment to a reasonable degree.

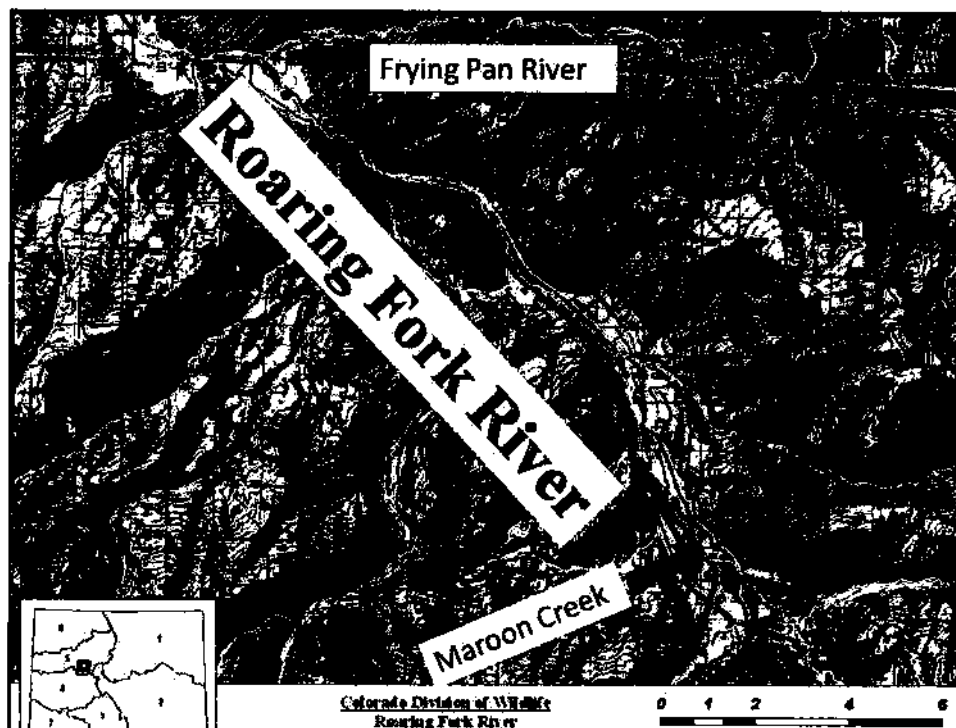
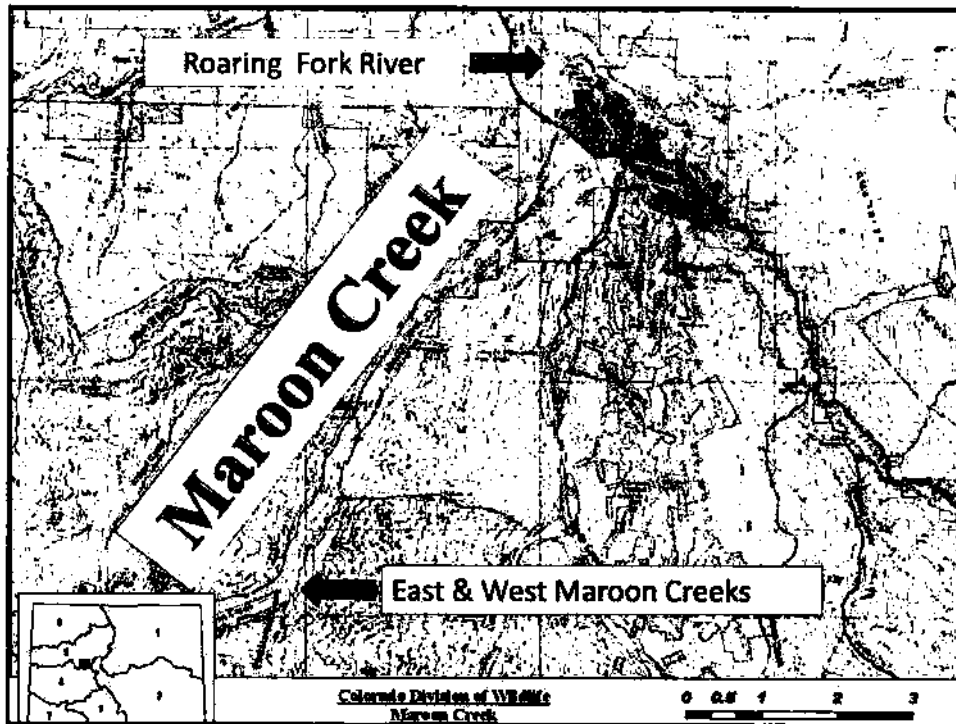
### **THE SBD RIGHT IS NEEDED TO PRESERVE AND IMPROVE THE NATURAL ENVIRONMENT**

- CWCB's acquisition of the SBD right will help ensure ISF protection in dry years.
- CDOW will
  - show that the SBD water right will be used to both preserve and improve the natural environments of Maroon Creek and the Roaring Fork River to a reasonable degree; and
  - explain how the additional water will improve the natural environment on those reaches.



## **GENERAL INFORMATION**

The CWCB requested the CDOW to evaluate the benefits and possible impacts to the fisheries in Maroon Creek and the Roaring Fork River associated with accepting the proposed donation of 4.3 cfs and 0.52 cfs of the Stapleton Brothers' Ditch Water Right.

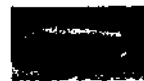


## **EXISTING FIELD AND BIOLOGICAL SURVEY DATA**

The CDOW has conducted field surveys of the fishery resources on these streams and has found natural environments that can be preserved and improved.

Maroon Creek supports self-sustaining populations of:

brook trout



speckled dace



mottled sculpin



**The Roaring Fork River supports self-sustaining populations of:**

**brown trout**



**mountain whitefish**



**mottled sculpin**



**white sucker**



**In addition to the self-sustaining populations mentioned above, the CDOW stocks the Roaring Fork River and Maroon Creek with rainbow and cutthroat trout.**



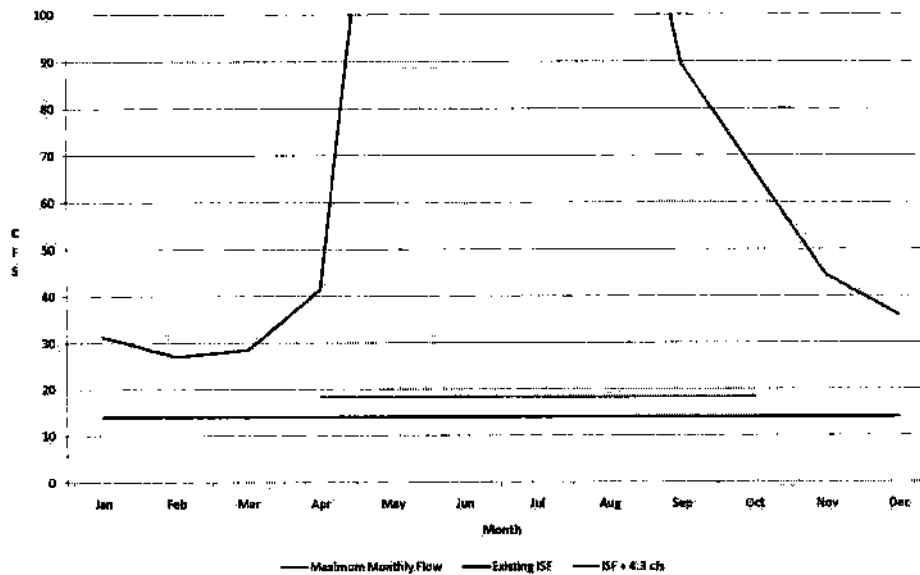
**Flannelmouth and bluehead suckers  
(state-designated species of special concern)  
have also historically used these reaches for seasonal  
refuge habitat.**





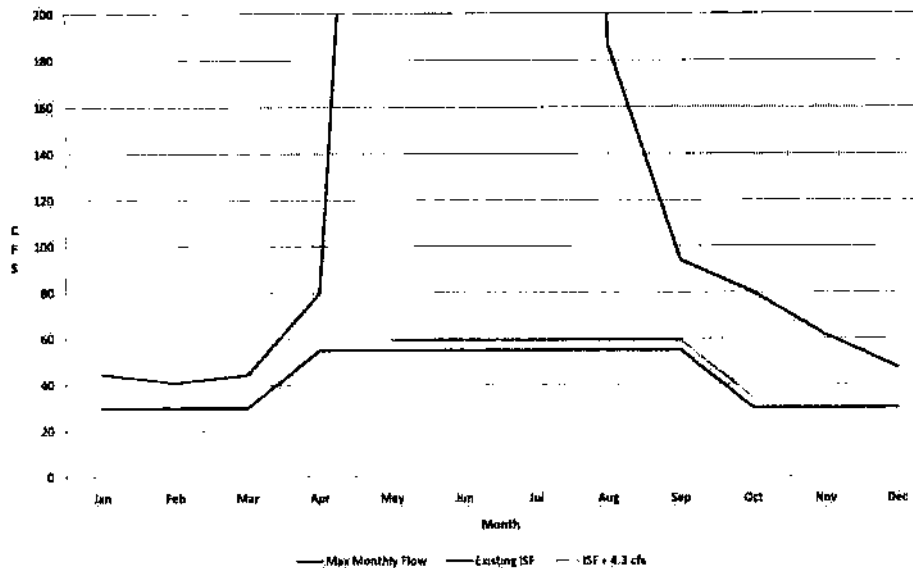
## Natural Maroon Creek Hydrograph

Maroon Creek above Aspen (1969 - 1994)



## Natural Roaring Fork River Hydrograph

Roaring Fork River near Aspen (1964 - 2005)



## Hydraulic Habitat

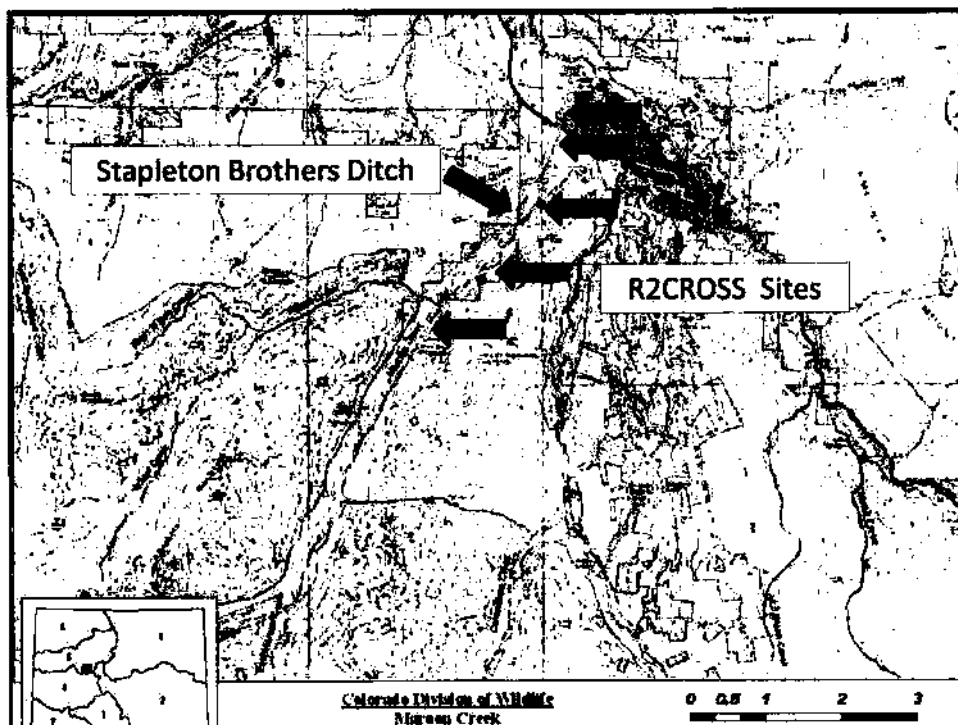
- Providing suitable habitat is the basis for the state's instream flow recommendations.
- These determinations are made based on hydraulic data collected in a riffle section of a reach of river.
- CDOW determines which riffle section to use for data collection after reviewing the general geomorphic characteristics of the proposed segment. In general, the riffle selected for instream flow data collection is representative of the entire reach of the proposed segment.

## Site Selection

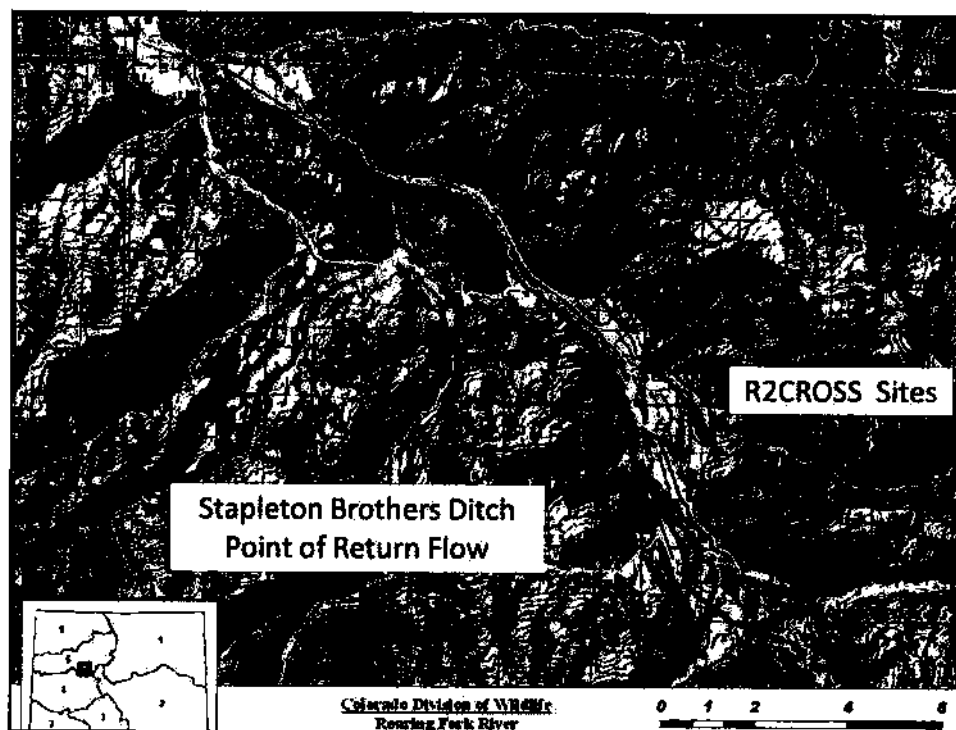


- R2CROSS METHOD requires that stream discharge and channel profile data be collected in a riffle stream habitat type.
- Riffle: a stream segment that is controlled by channel geometry rather than a downstream flow control.
- Riffles are most easily visualized as the stream reaches that would dry up most quickly should stream flow cease.

Riffles are essential to the production of benthic invertebrates and the passage, spawning, feeding and protective cover of fish.



Date	Location	Top Width	Summer Flow*	Winter Flow*	Measured Q
	<b>Maroon Creek</b>				
8/12/06	At Highway 82 Bridge	77 feet	47	21	105
6/5/85	300' ups of Highway 82	55 feet	38	34	175
8/12/06	Below Stapleton Bros D	42 feet	28	15	104
9/17/75	T Lazy 7 Ranch	34 feet	9.3	7.8	53
10/3/85	1000' ups of Willow Ck	31 feet	8.5	5	81
			26 Average	17 Average	
<p>(*) = Recommended summer and winter flows based on R2CROSS runs.</p>					



Date	Location	Top Width	Summer Flow*	Winter Flow*	Measured Q
	<b>Roaring Fork River</b>				
4/14/77	1/3 mile u/s of Basalt	62 feet	50	28	129
4/14/77	¼ mile u/s of Woody Creek	71 feet	78	70	88
8/13/09	Below confluence w/ Maroon Ck	106 feet	140	80	241
			89 Average	59 Average	
<p>(*) = Recommended summer and winter flows based on R2CROSS runs.</p>					

### **Data Analysis**

From the Stapleton Brothers Ditch to the historic point of return flow (Reaches 1 and 2) - The collected data indicates:

- Adding an additional 4.3 cfs of instream flow protection to Maroon Creek would increase protection of approximately an additional 1.6 feet of wetted width, 0.1 feet of depth, 2.0 square feet of cross sectional area, add 3% of wetted perimeter and 0.2 ft/s in velocity in critical riffle areas.
- Adding an additional 4.3 cfs of instream flow protection to the Roaring Fork River would increase protection of approximately an additional 1.3 feet of wetted width, 2.2 square feet of cross sectional area and add 1% of wetted perimeter in critical riffle areas.

The above information only reflects the improvement directly measured across the measured riffle transects, additional improvement would occur throughout the entire length of the reach in all habitat types (riffles, pools and runs) from the SBD Diversion to the historic point of return flow a distance of approximately 21,850 feet (4.1 miles). Assuming uniform benefits across all habitat types, the Total Estimated Amount of Improvement would be:

Maroon Creek Improvement  
 $11,500 \text{ feet} * 2.0 \text{ square feet} =$   
23,000 cubic feet of additional area

Roaring Fork River Improvement  
 $10,350 \text{ feet} * 2.2 \text{ square feet} =$   
22,770 cubic feet of additional area

Total Improvement  
 $23,000 + 22,770 = 45,770$   
cubic feet of additional useable area

### **Water Quality Benefits**

The amount of flow is one of the several factors that affect water quality, including the physical, chemical and biological attributes of water. Adding an additional 4.3 cfs to the Maroon Creek and Roaring Fork River will increase protection from harmful water quality parameters by increasing the volume of water significantly:

$$\begin{aligned}4.3 \text{ cfs/day} &= 8.5 \text{ acre-feet/day} \\8.5 \text{ acre-feet/day} &= 2,770,150 \text{ gallons/day}\end{aligned}$$

This additional 2.77 million gallons of water will provide an additional level of safety insurance against lethal temperatures or water quality contaminants.

The above analysis indicates that the natural environment of Reaches 1 and 2 will be improved significantly by adding an additional 4.3 cfs of protection to the existing instream flow water rights. The greatest improvement would be by increasing the amount of useable area and providing an additional level of safety insurance against lethal temperatures or water quality contaminants

**CDOW recommends acquiring this water to preserve and improve the natural environment.**

### **Data Analysis**

From the historic point of return flow to the confluence with the Frying Pan River (Reach 3) - The collected data indicates:

- Adding an additional 0.52 cfs of instream flow protection to the Roaring Fork River would increase protection of approximately an additional 0.2 feet of wetted width, 0.2 square feet of cross sectional area and add 0.25% of wetted perimeter in critical riffle areas.

The above information only reflects the improvement directly measured across the measured riffle transects. Additional improvement would occur throughout the entire length of the reach in all habitat types (riffles, pools and runs) from the historic point of return flow to the confluence with the Frying Pan River a distance of approximately 73,500 feet (13.9 miles).

Assuming uniform benefits across all habitat types, the Total Estimated Amount of Improvement would be:

**Roaring Fork River Improvement**  
**73,500 feet \* 0.2 square feet =**  
**14,700 cubic feet of additional area**



### **Water Quality Benefits**

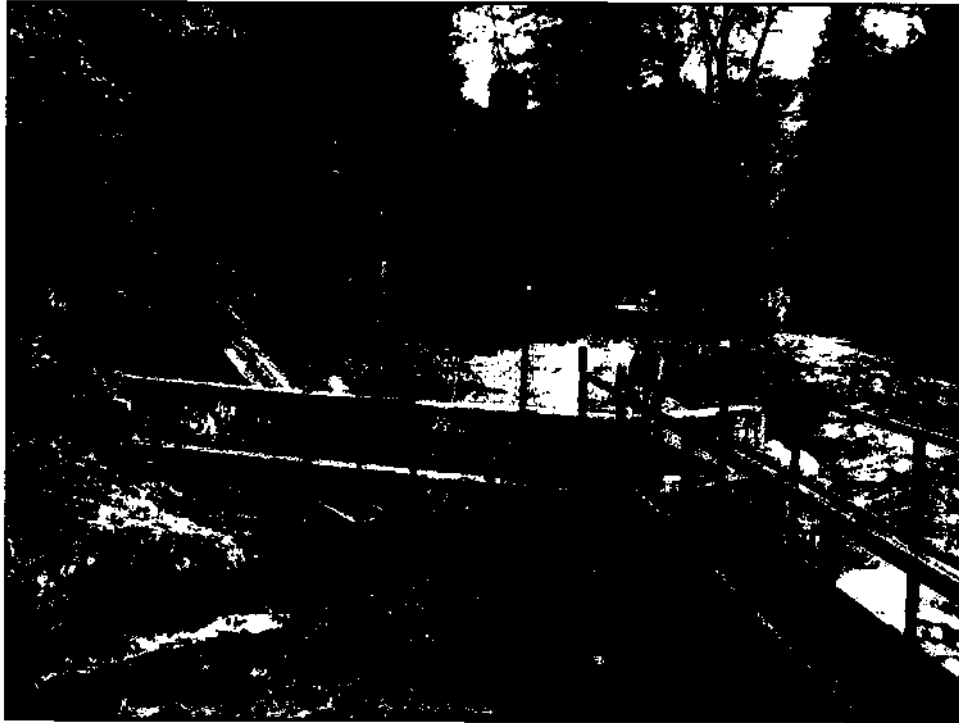
The amount of flow is one of the several factors that affect water quality, including the physical, chemical and biological attributes of water. Adding an additional 0.52 cfs to the Roaring Fork River will increase protection from harmful water quality parameters by increasing the volume of water:

$$\begin{aligned}0.52 \text{ cfs/day} &= 1.03 \text{ acre-feet/day} \\1.03 \text{ acre-feet/day} &= 335,500 \text{ gallons/day}\end{aligned}$$

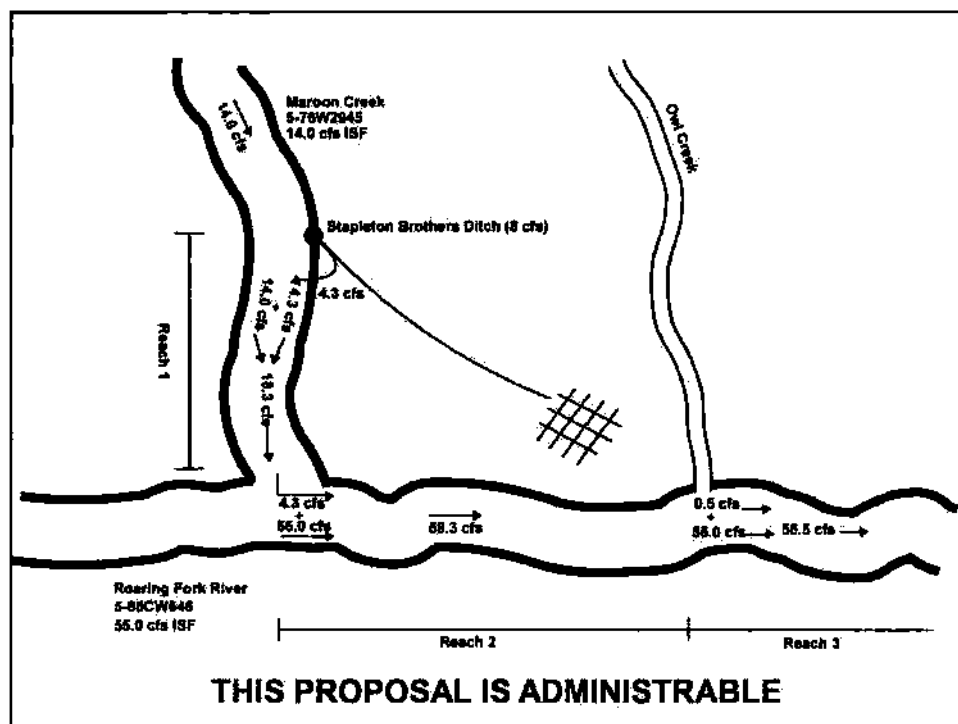
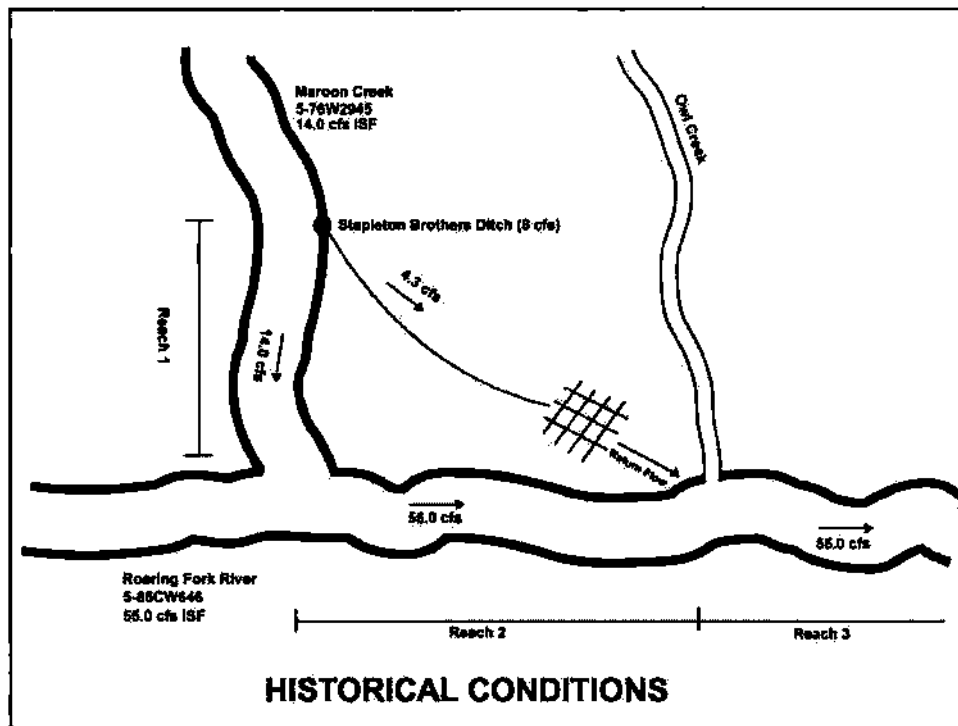
This additional water will provide an additional level of safety insurance against lethal temperatures or water quality contaminants.

The above analysis indicates that the natural environment of Reach 3 will be slightly improved by adding an additional 0.52 cfs of protection to the existing 55 & 30 cfs instream flow water right. In addition, this water could be combined with other acquired water in the future:

**CDOW recommends acquiring this water to preserve and improve the natural environment.**



**THIS PROPOSAL IS  
ADMINISTRABLE**



**OPPOSERS WILL NOT BE  
INJURED BY PITKIN COUNTY'S  
DONATION OF SBD RIGHT TO  
CWCB FOR ISF USE**

**NO ADDITIONAL HISTORICAL  
CONSUMPTIVE USE ANALYSIS  
NECESSARY TO ADD ISF USE TO  
SBD WATER RIGHT**

**“SENIORS FIRST” POLICY  
DOES NOT APPLY TO  
STACKING OF ACQUIRED  
WATER WITH EXISTING ISF  
WATER RIGHTS**

**WATER COM’R CAN ADMINISTER  
STACKED WATER RIGHTS**

**CHANGING PRE-1922 SBD RIGHT  
TO ISF USE WILL PROTECT ITS  
PRE-1922 STATUS**

**SBD RIGHT WILL NOT LOSE HUP  
PROTECTION IF HCU PUT TO  
A PREFERRED USE**



