

Linking Ecological and
Economic Values to River
Systems:
Fryingpan River Management

Heather Lewin, Director of Science and Policy
Roaring Fork Conservancy



Image: Douglas McMillin

The Roaring Fork and Fryingpan Watersheds

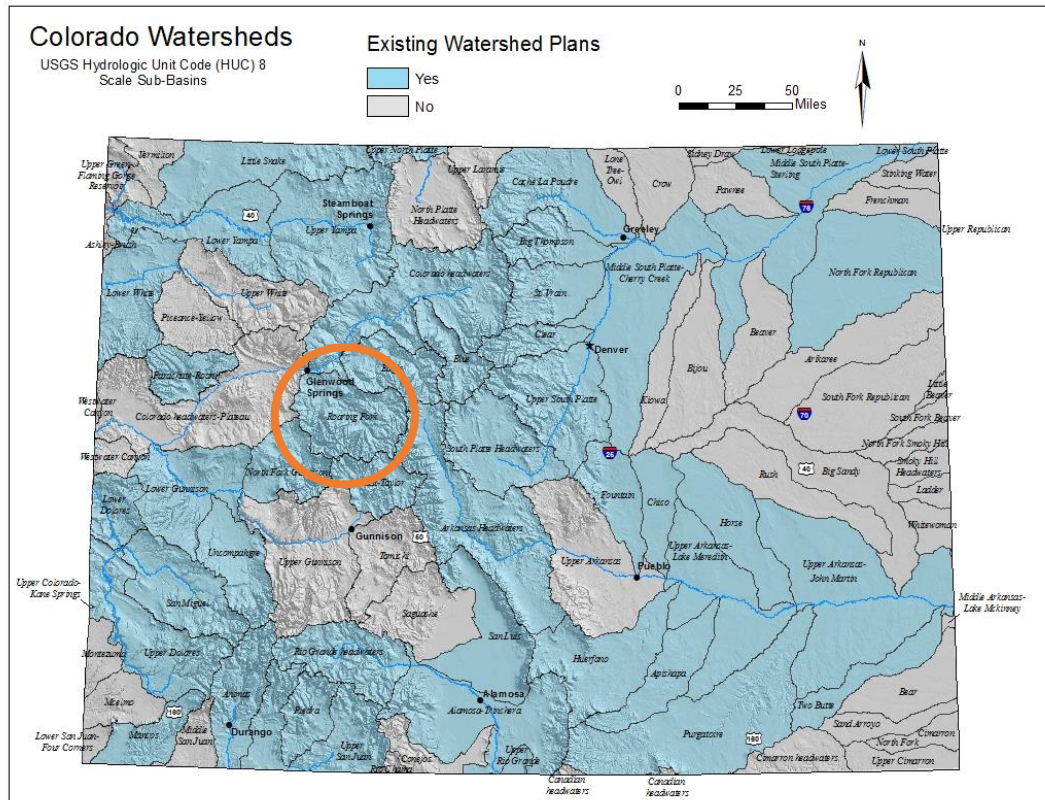
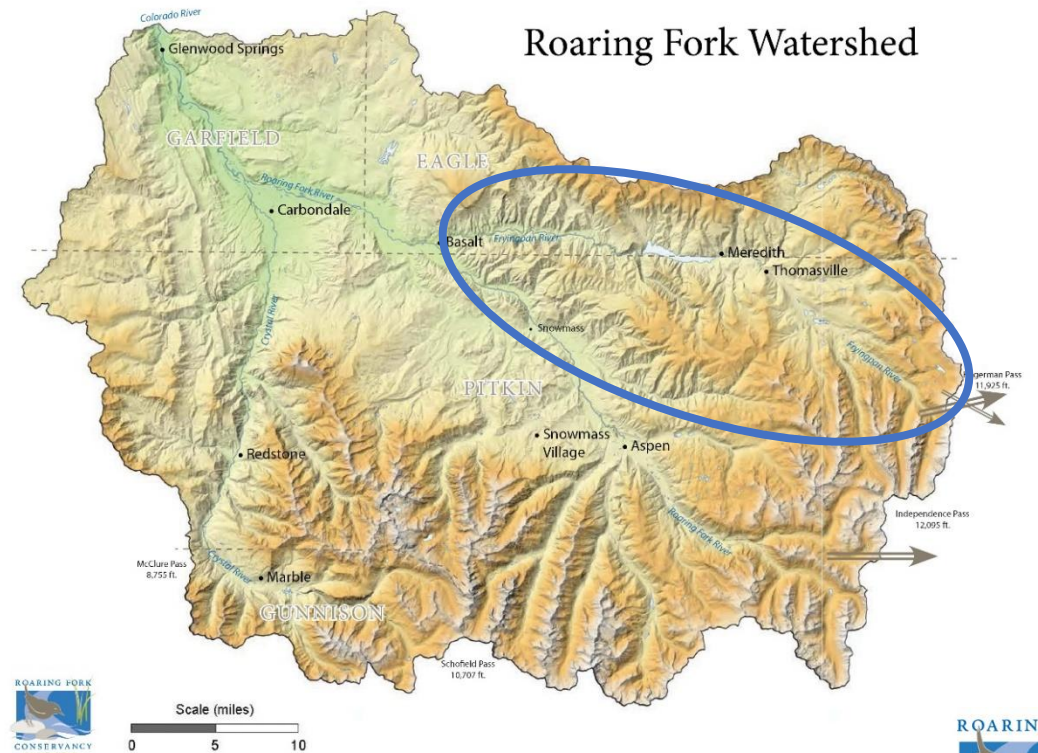
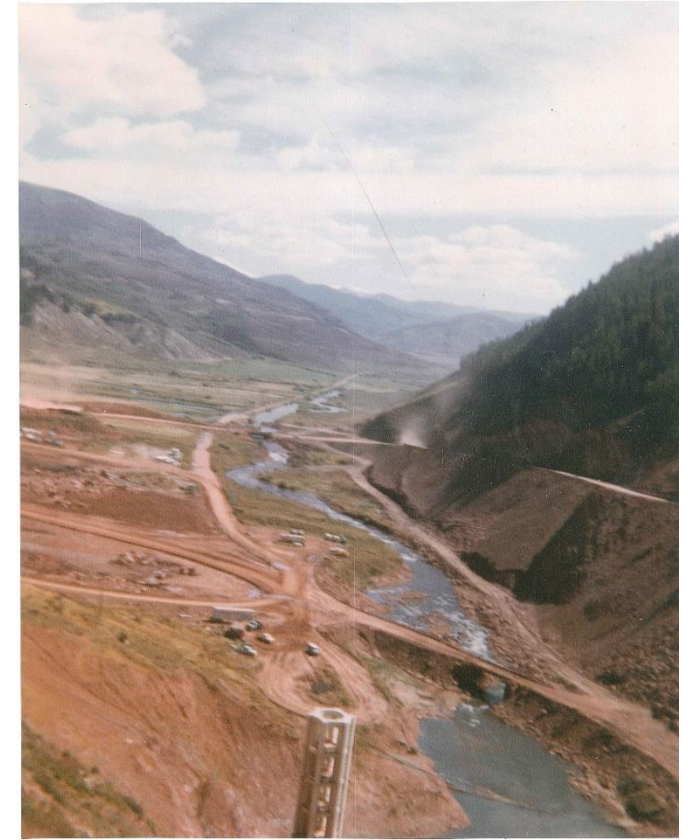


Image: CWCB

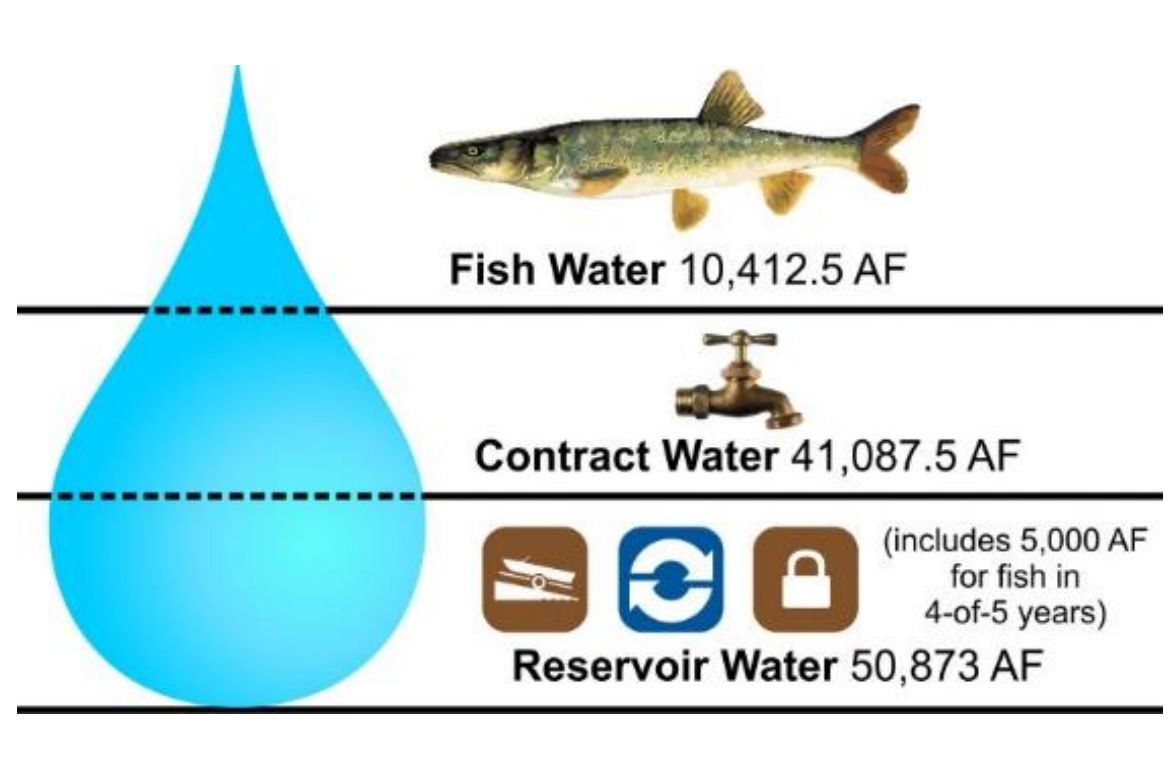


Copyright 2013, S.K.Mason Environmental, LLC





Ruedi Reservoir: History



Ruedi Reservoir: Present

Ownership of Ruedi Reservoir Water

Contract Water

12,000 AF Ute Water Conservancy District
11,413.5 AF Colorado River District (500, 530, 700, 4,683.5, 5,000)
6,000 AF Exxon Mobil Corp.
2,000 AF Colorado River District (tied to fish water)
1,790 AF Basalt Water Conservancy District (300, 490, 500, 500)
1,250 AF Battlement Mesa Metropolitan District
600 AF West Divide Water Conservancy District (100, 500)
550 AF City of Rifle (200, 350)
500 AF Town of Basalt (200, 300)
500 AF City of Glenwood Springs
500 AF Snowmass Water and Sanitation District
500 AF Town of Carbondale (250, 250)
400 AF Mid-Valley Metropolitan District (100, 300)
400 AF City of Aspen
400 AF Town of New Castle
400 AF Garfield County
330 AF Summit County
300 AF Town of Silt (83, 217)
200 AF Town of Palisade
185 AF Ruedi Water and Power Authority
150 AF Wildcat Ranch Association (50, 100)
140 AF Wildcat Reservoir Company
125 AF Town of DeBeque (25, 100)
100 AF Crown Mountain Park and Recreation District
100 AF W/J Metropolitan District
75 AF Town of Parachute
43 AF Starwood Water District
35 AF Thomas Bailey
30 AF Elk Wallow Ranch LLC
21 AF Owl Creek Meadows
20 AF Westbank Ranch Homeowners Association
15 AF Owl Creek Ranch Homeowners Association
15 AF Ted and Hilda Vaughan

Subtotal: 41,087.5 AF

Fish Water

5,000 AF Colorado Water Conservation Board, for 15-mile reach
5,412.5 AF Colorado River District, for 15-mile reach

Subtotal: 10,412.5 AF

Reservoir Water

28,000 AF replacement pool
21,778 AF recreation and remaining regulatory pool
1,032 AF inactive pool
63 AF dead pool

Subtotal: 50,873 AF

**Total Water:
102,373 AF**

Fryingpan River

- Gold Medal Fishery
- Significant Economic Impact
 - \$3.8 million locally
- Community Values and aesthetics



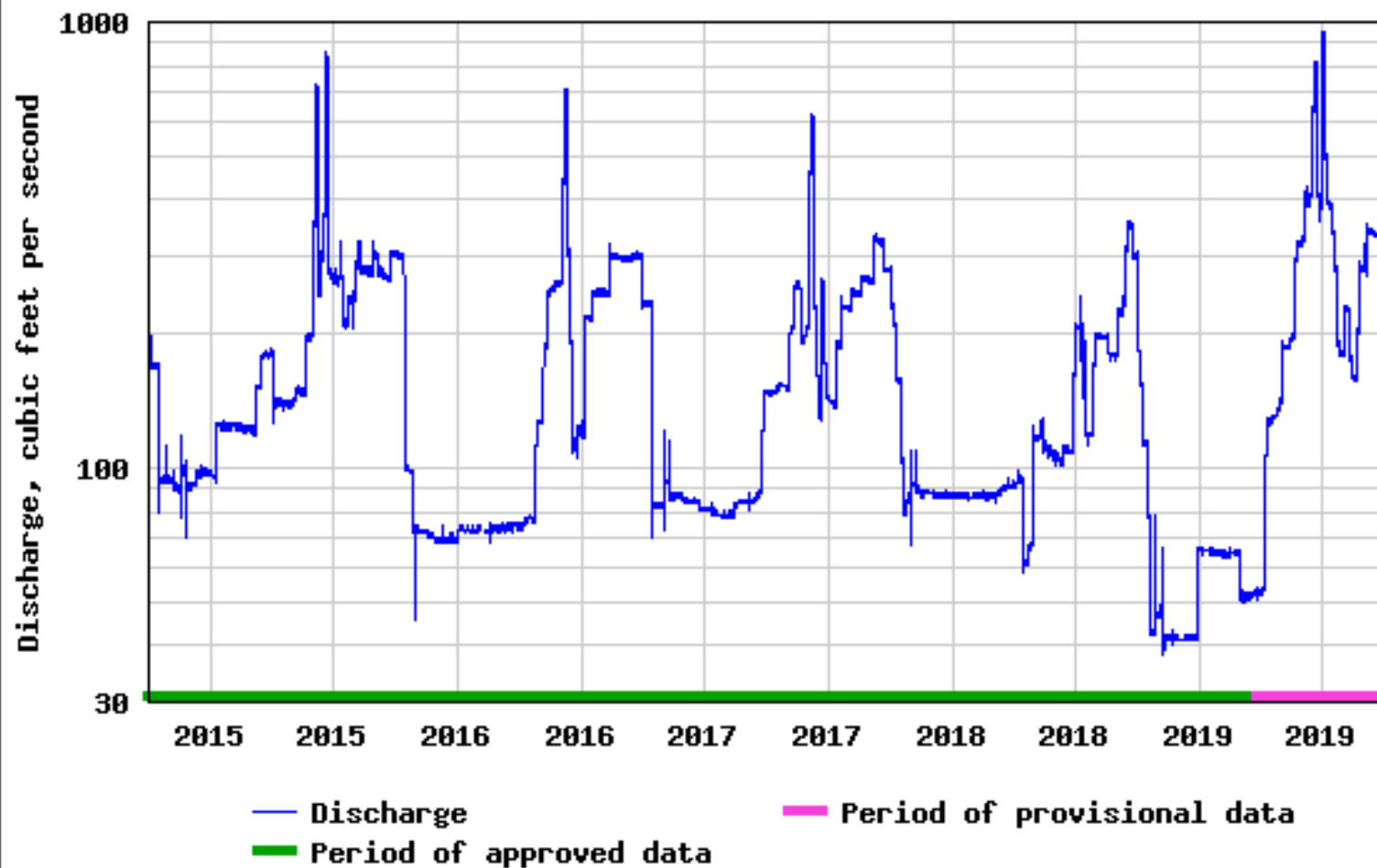
Managing Fryingpan Flows for Local and West Slope Needs

John P. Newbury Image: John Newbury





USGS 09080400 FRYINGPAN RIVER NEAR RUEDI, CO.





Fryingpan Flows: Winter



- Environmental Concern:
Anchor Ice

- Impact to Aquatic Life
- Economic Impact \$1.8 million

- Other Concerns:
Hydropower

- Low flows could damage infrastructure



Winter Management Opportunities

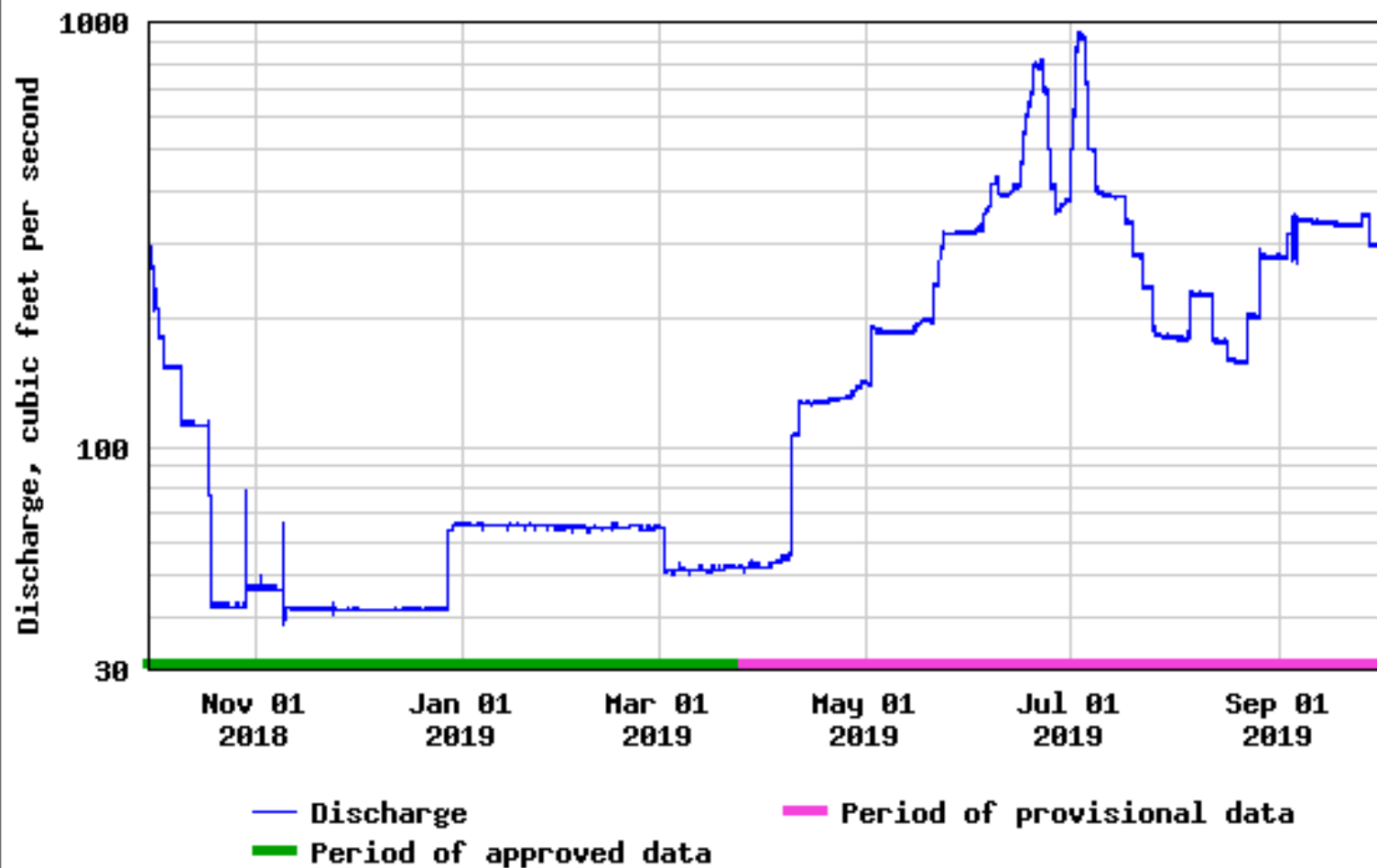
- Environmental Flows
 - Flows Managed at 39cfs (ISF) or Inflow, whichever is lower
 - 2005 and 2006 Studies show 65 cfs is necessary for to mitigate anchor ice and help aquatic communities recover
- Lease of Contract with River District

Photo: Dale Armstrong





USGS 09080400 FRYINGPAN RIVER NEAR RUEDI, CO.

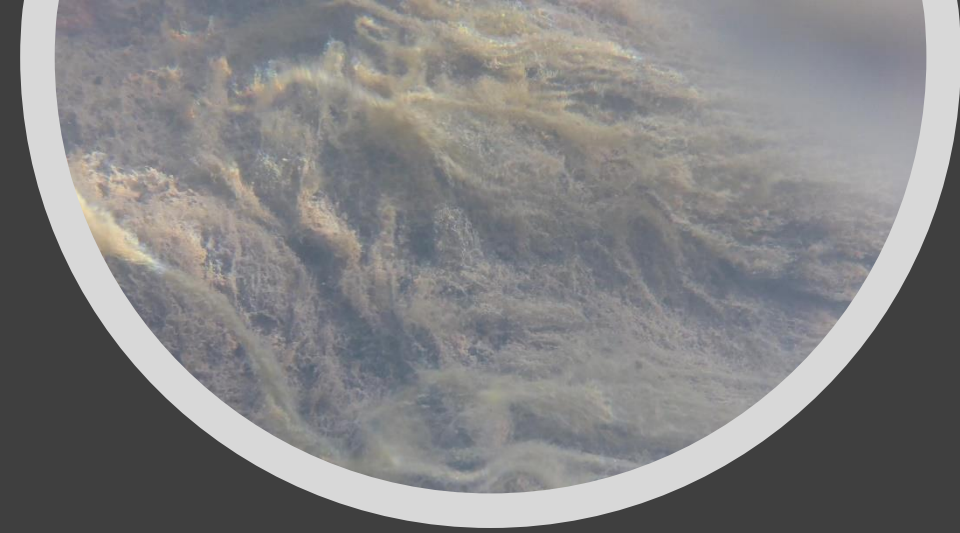




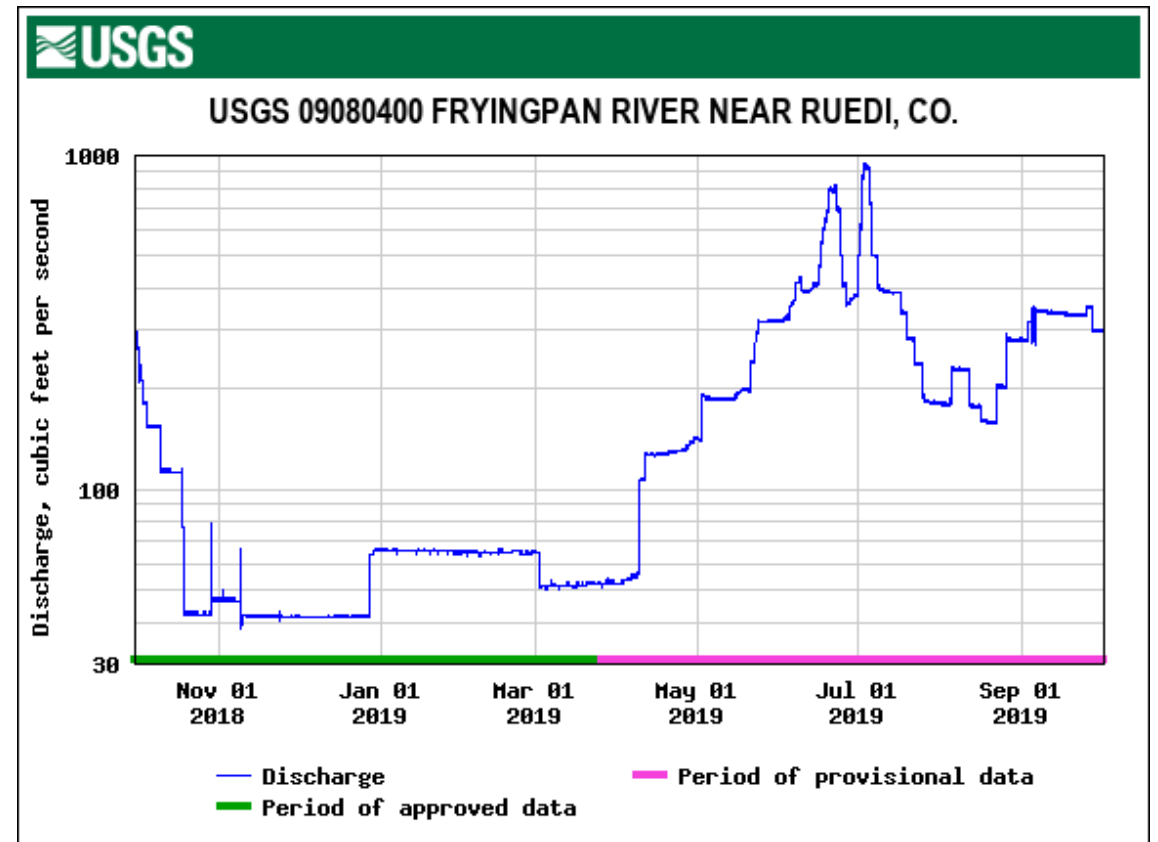
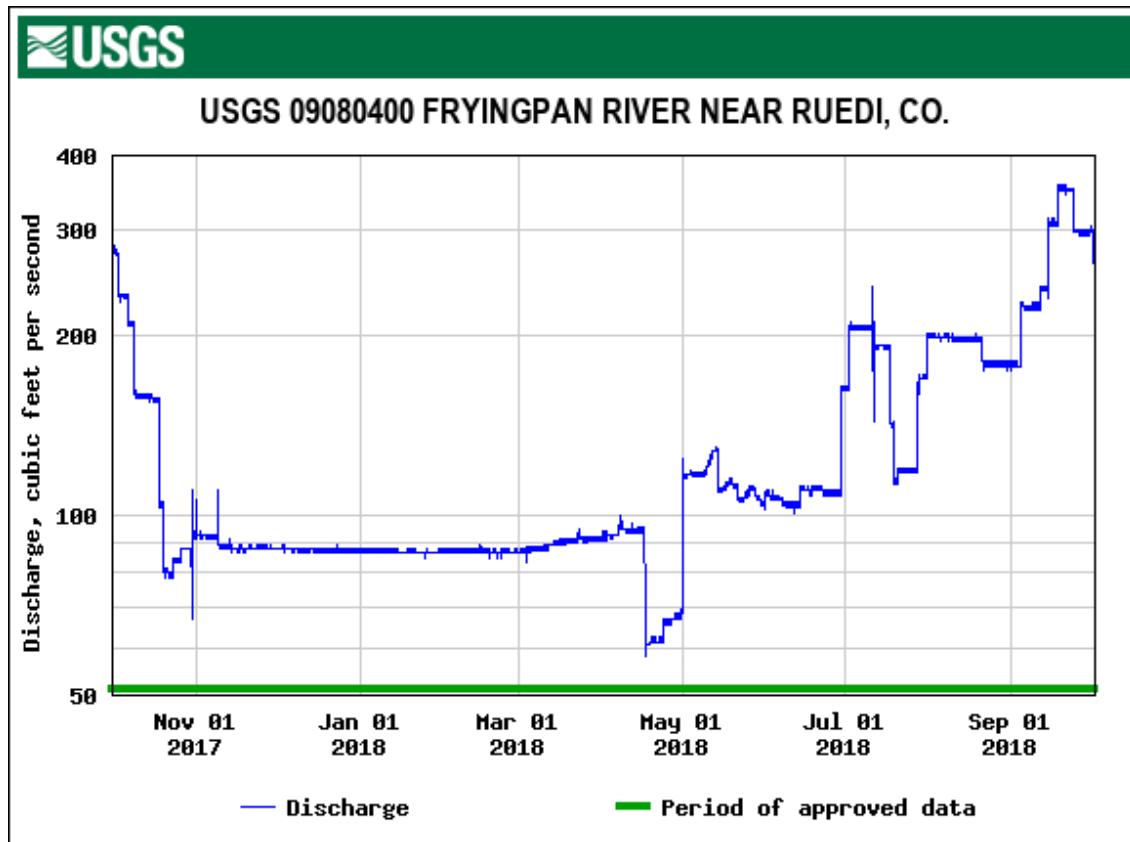
December 18, 2018

Fryingpan Flows: Spring

- Environmental Concern: Lack of Peak Flows
 - Didymo
 - Sediment



High and Low Flow Variability



Spring Management Opportunities

- Environmental Flows
 - Coordinated Reservoir Releases

Photo: Jillian Cameron





Photo: Jordan Curet

Summer Flows

Environmental Concern:
Temperature on the Roaring
Fork

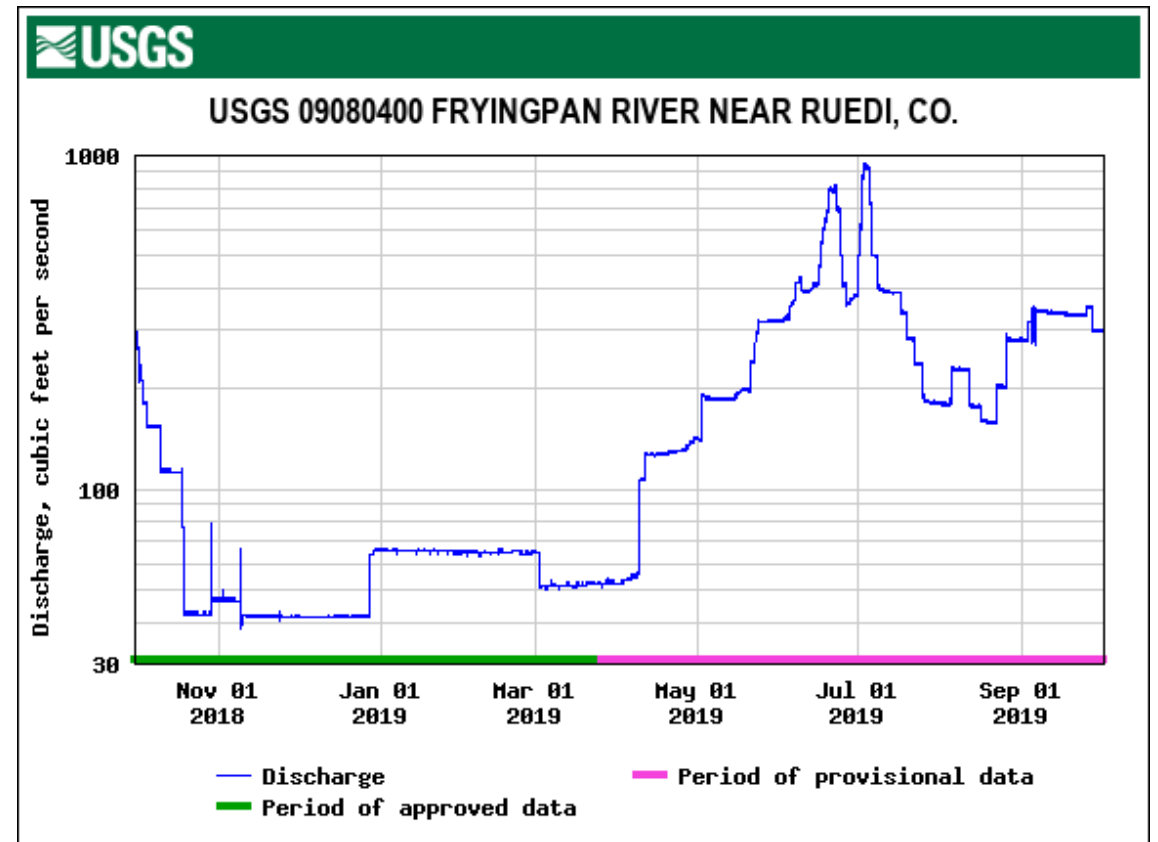
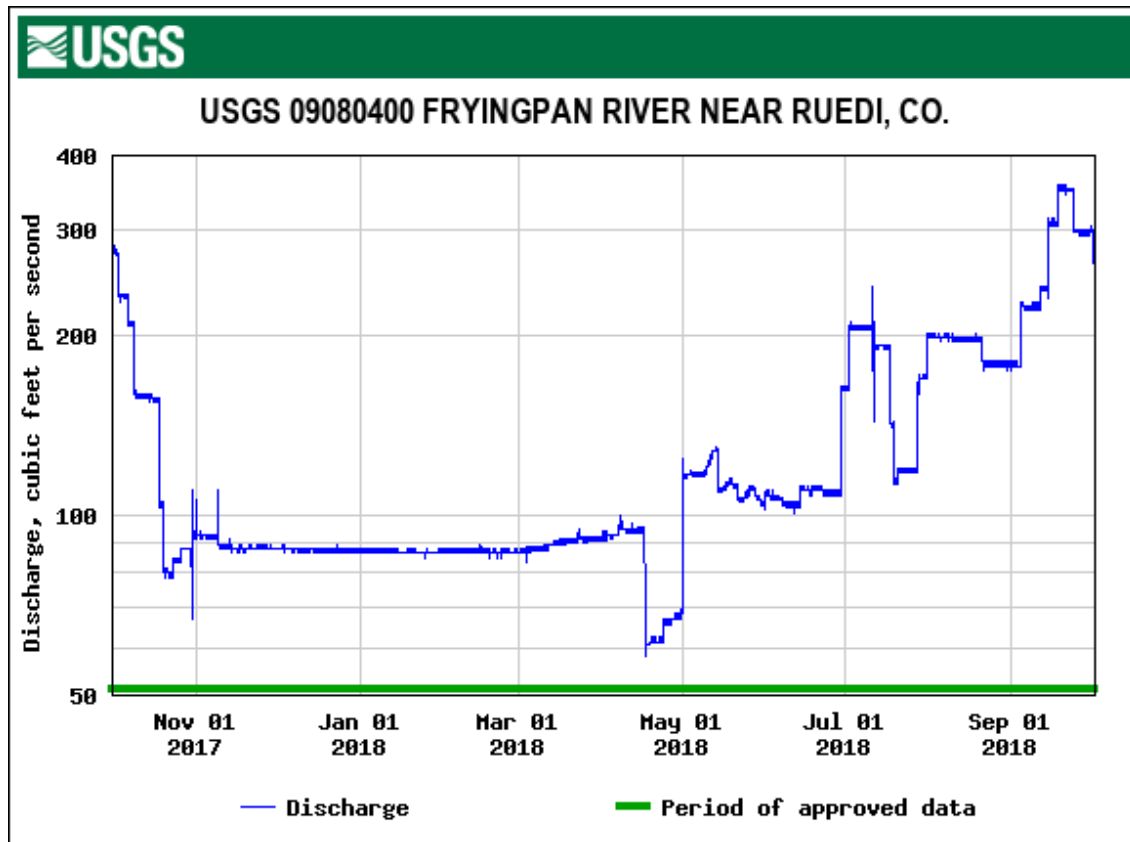
Economic Concern: Angling

- \$3.8 Million Annually
- Ideal flow: 250cfs

Other Concerns: Hydropower

- Ideal flow: 300cfs

High and Low Flow Variability



Fall Flows

Environmental Concern:
Artificially high flows

Economic Concern: Angling



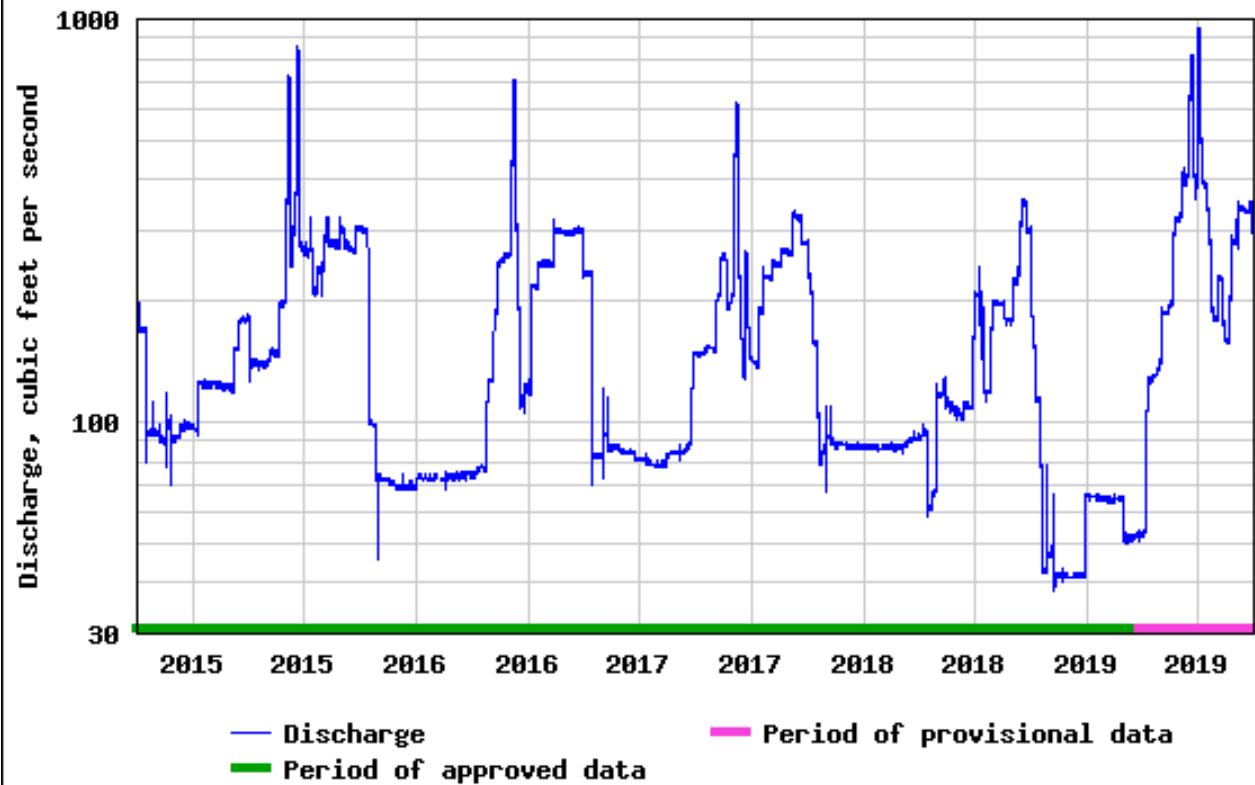
Fall Management Opportunities

- Retiming of fish water releases
- Delay high flows past Labor Day

Photo: Ed Perregaux



USGS 09080400 FRYINGPAN RIVER NEAR RUEDI, CO.





Other Management: Lake Christine Fire



Other Management: Temperature



Other Management: Irrigation Leases





Creative Management at Ruedi

- Releases from Ruedi have the potential to benefit 3 rivers simultaneously
- We need to better understand the environmental impacts of both low and high flows on the Fryingpan



Thanks for thinking about it.

Heather Lewin, heather@roaringfork.org

