

Balancing Protection and Use:

The importance of flowing rivers for recreation

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SWCD Water Seminar 2022



75 YEARS

DEERLODGE



AMERICAN
WHITEWATER



ANGLER ALERT!

Read Before Fishing



Due to high water temperatures, low flows, and reduced oxygen in the water, fish in the river are under extreme stress. Fishing, catching, handling, releasing, and wading causes additional stress contributing to the onset of disease and/or fish mortality.

Colorado Parks and Wildlife is seeking your cooperation in a voluntary

AFTER-NOON FISHING CLOSURE

(12pm-12am) on the

EAGLE RIVER

from **Wolcott** (Hwy 131 Bridge) to the **Colorado River**

Wildlife officials ask anglers not to fish the Dolores River for the first time ever as rain fails to dent Western Slope drought

Fish and wildlife leaders say they have their eye on potential closures of the Animas and San Juan rivers as well.

  **Michael Booth** 3:14 AM MDT on Jun 29, 2021



PC: Cody Perry

Diminished Streamflow Affects Recreation

Recreational water use is integral to Colorado's lifestyle and economy, yet increased development and climate change are diminishing flows. Current law allows for the protection of flows via qualifying structures, but there is not ability to protect existing recreation in. This threatens community health and wellbeing, river dependent businesses, tax revenue, and opportunities for grow the outdoor recreation economy.

Colorado closes popular stretch of Yampa River to fishing as Western Slope drought hits summer plans early

State Parks and Wildlife shuts down a key stretch below Stagecoach Reservoir far earlier than in recent years, prompting climate change warnings from river advocates and concern for local rec industry.

  **Michael Booth** 3:20 AM MDT on May 25, 2021

Commercial & Voluntary River Closure Enacted

07/08/2021 12:37PM ● By City of Steamboat Springs

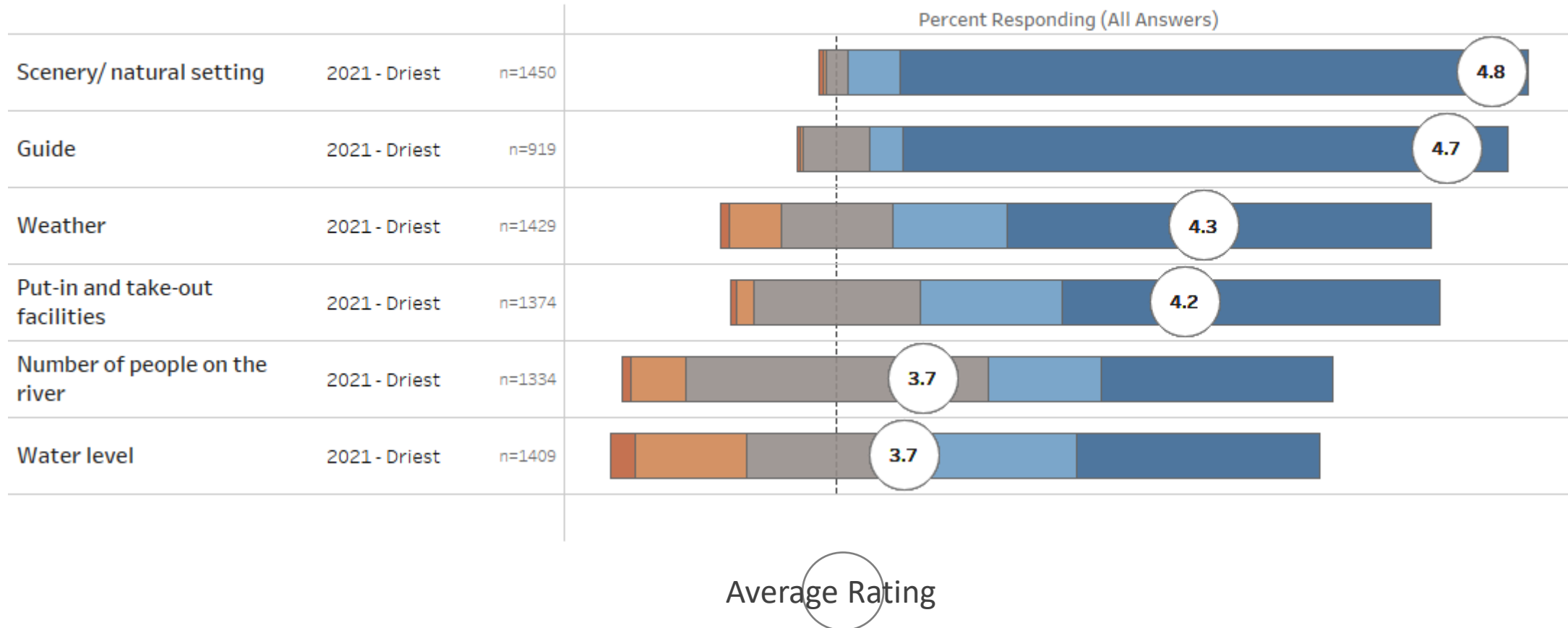
Impacts to Rec Experience

2021 Upper Colorado River Boater Survey

Response

- 1 - Greatly reduced my experience today
- 2 - Slightly reduced
- 3 - Neither reduced or enhanced
- 4 - Somewhat enhanced
- 5 - Greatly enhanced my experience today

How did the following affect your experience today?



Economic Contributions of Water Related Recreation in Colorado

The river basin estimates reflect the contribution that outdoor recreation in those locales has on the statewide economy.

	Participants (thousands)	Output (millions)	GDP (millions)	Jobs	Wages (millions)	Tax Revenues (millions)
Arkansas	1,583.8	\$2,628.8	\$1,436.9	18,400	\$876.3	\$381.3
Colorado	2,722.0	\$3,827.6	\$2,092.2	26,800	\$1,275.9	\$555.2
Gunnison	974.3	\$879.4	\$480.7	6,200	\$293.1	\$127.6
Metro	1,948.9	\$5,190.7	\$2,837.3	36,300	\$1,730.2	\$752.9
North Platte	905.2	\$968.3	\$529.3	6,800	\$322.8	\$140.4
Rio Grande	623.5	\$476.5	\$260.4	3,300	\$158.8	\$69.1
San Juan Dolores San Miguel	544.0	\$711.2	\$388.7	5,000	\$237.1	\$103.1
South Platte	2,371.6	\$3,721.6	\$2,034.3	26,000	\$1,240.5	\$539.8
Yampa White Green	508.2	\$424.7	\$232.1	3,000	\$141.6	\$61.6



Defining Flow Preference and Boatable Days

- Flow-recreation studies focus on whitewater boating and float fishing as flow often determines whether people have the opportunity to successfully complete a trip. Flow level often contributes to the risk, challenge, and aesthetic attributes of river-based recreation
- AW's studies identify important boating reaches and quantify minimum, optimum, and maximum flows in those reaches to support whitewater recreation or flow preferences.
- Boatable Days are the number of days in a given year that fall within certain defined flow ranges



Flow Acceptability Agreement Index

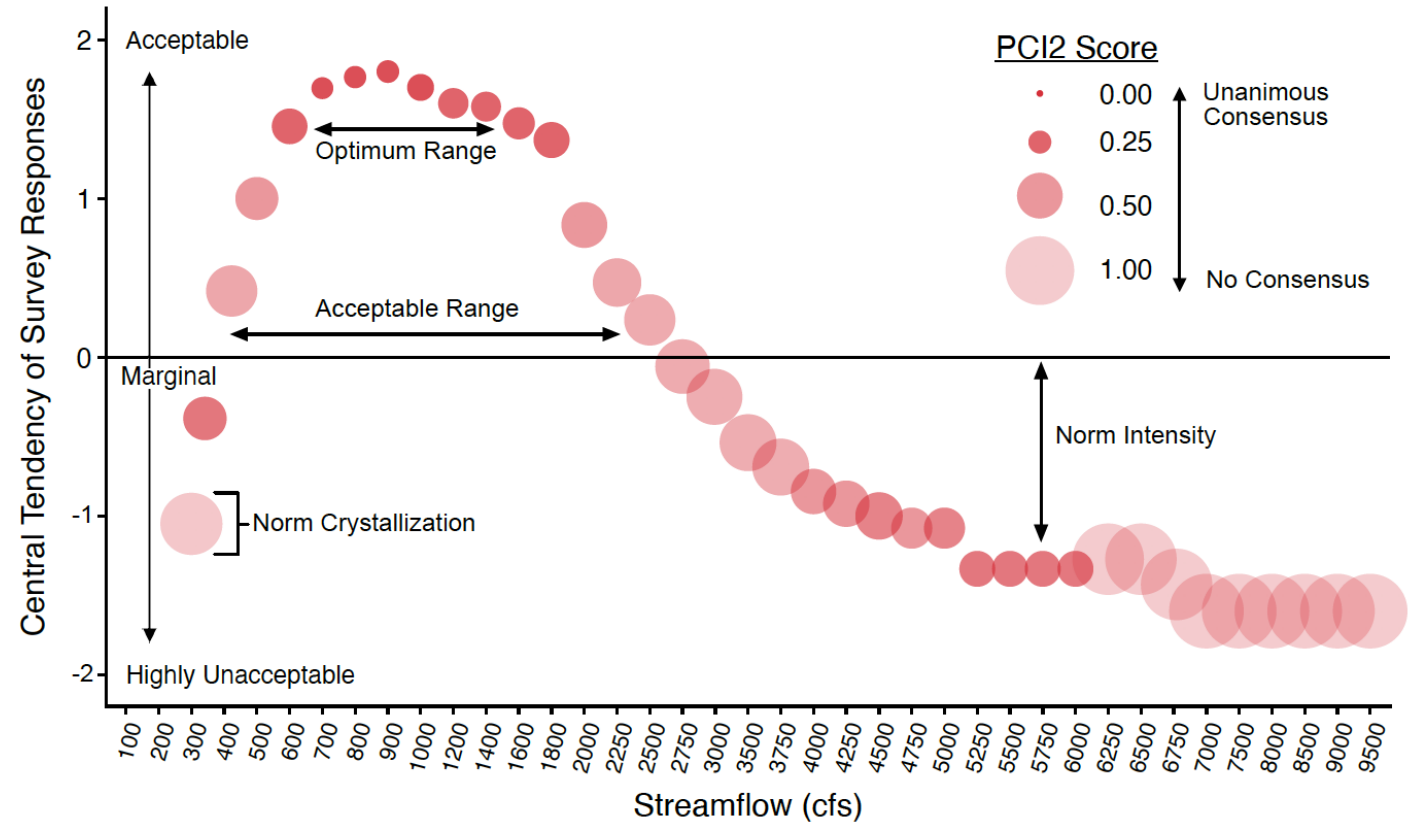
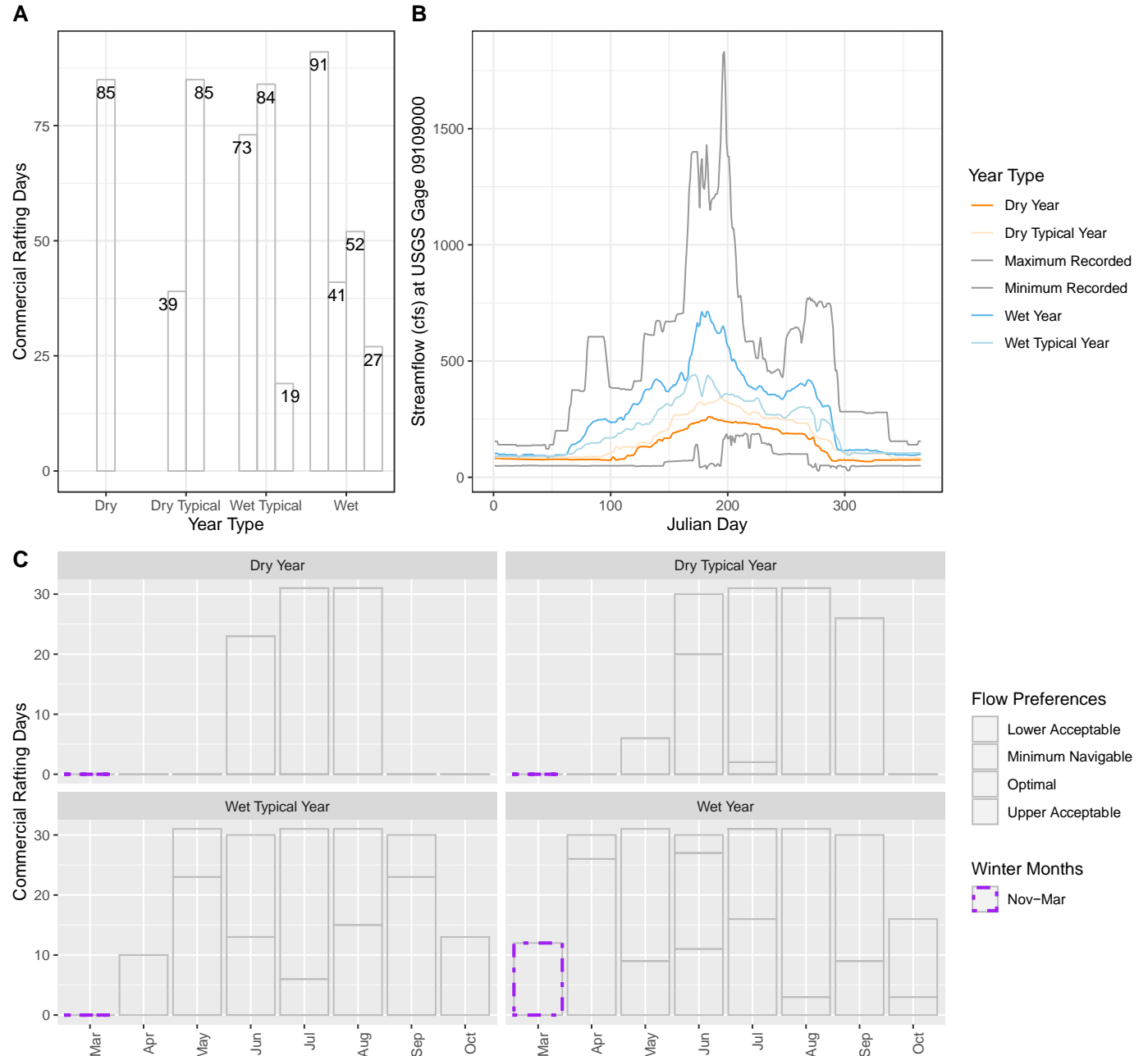


Figure 2. An example impact acceptability curve where the position of each dot corresponds to the central tendency of survey responses and the relative size of the dot corresponds to the PCI2 score. Smaller dots indicate a higher degree of agreement or crystallization among survey respondents. The distance of each dot from the neutral line (0) indicates norms of higher or lower intensity. Generally, the plateau of the curve reflects optimum streamflow conditions and points that lie above the neutral line (0) reflect the range of acceptable resource conditions.

Quantifying Recreational Opportunities

- Counting boatable days based on historic streamflow
- Ability to see trends in available recreation opportunities
- Provides baseline of existing/historic experience

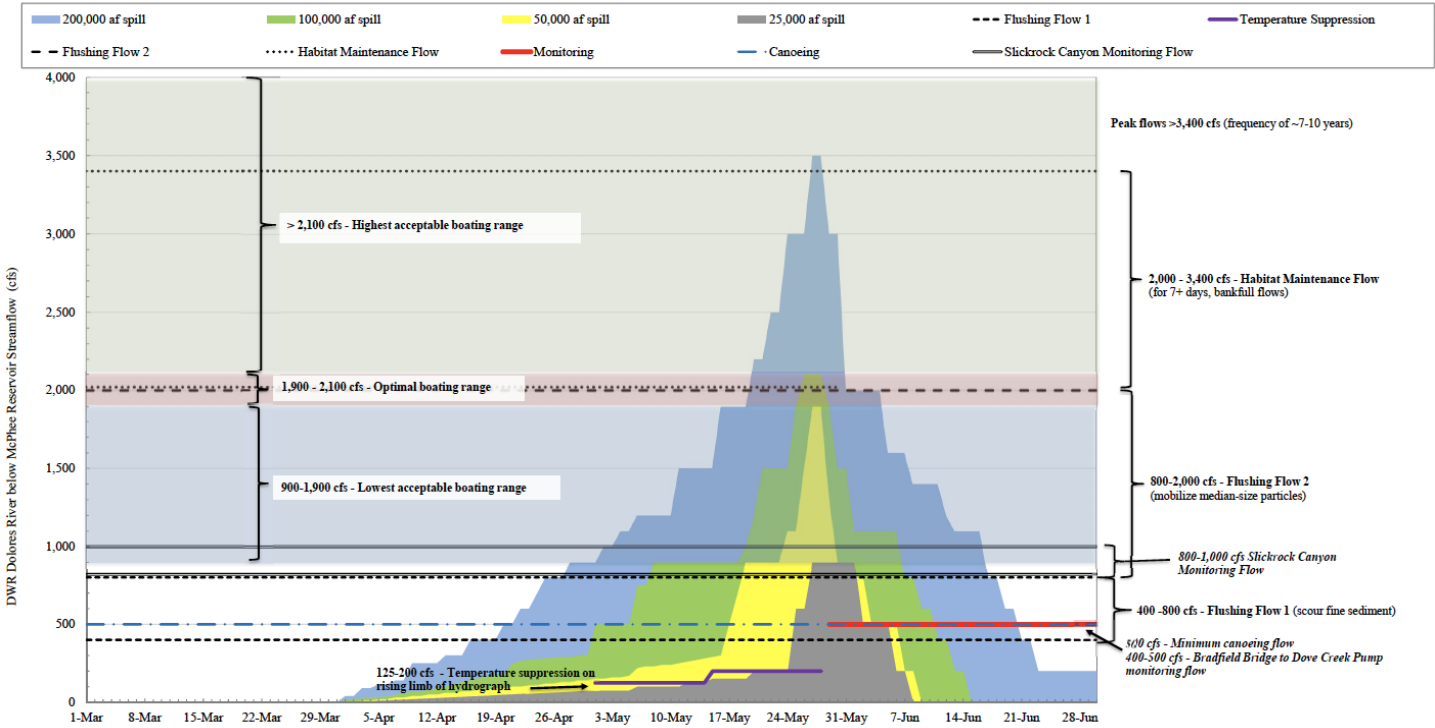


Aligning Instream Flow Targets



PC: Cody Perry

Figure 1
Dolores River Summary of McPhee Reservoir Spill Targets, Ecological Targets, and Preferred Floatboating Flow Ranges



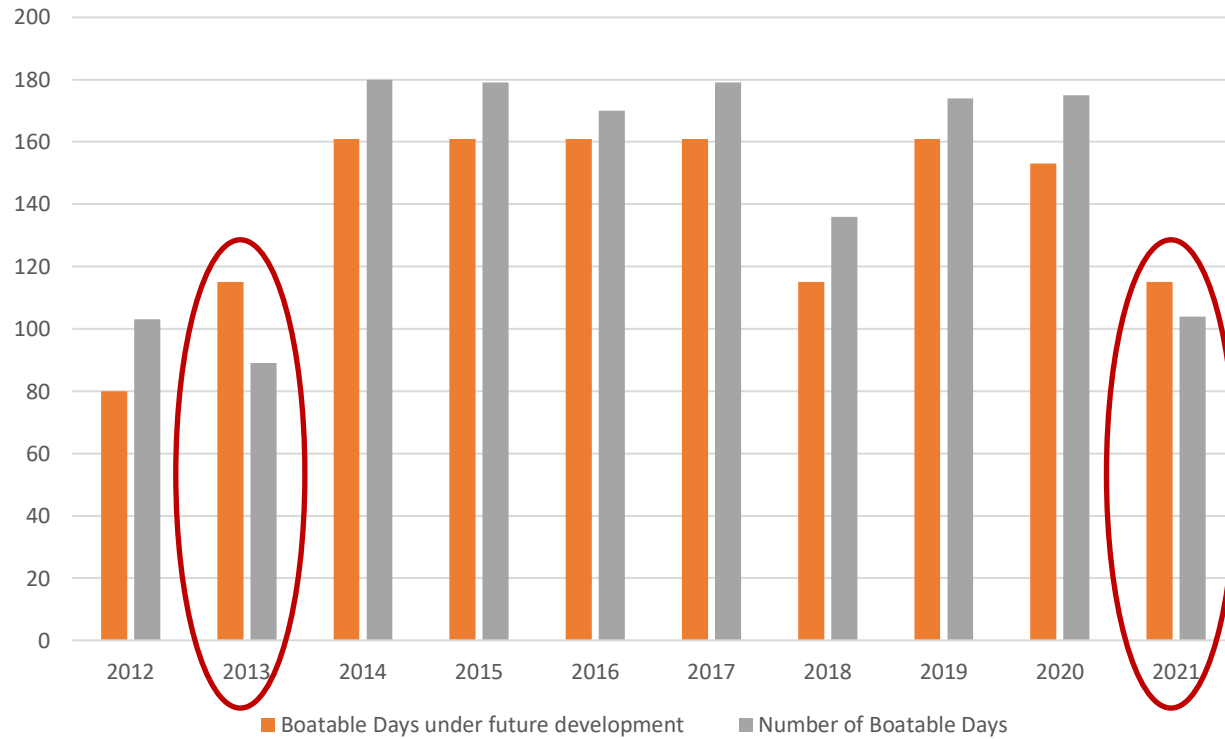
Notes:

- Spill target hydrographs developed cooperatively between American Whitewater (AW), Colorado Parks and Wildlife (CPW), Bureau of Reclamation (BOR), Dolores Water Conservancy District (DWCD), and The Nature Conservancy (TNC).
- Minimum canoeing and lowest acceptable, optimal, and highest acceptable whitewater boating flow ranges are based upon a 2010 American Whitewater survey and are applicable for Segment 1 below McPhee Reservoir (Bradfield to Dove Creek).
- Ecological flow ranges (Flushing Flows 1 & 2, Habitat Maintenance Flow, and Peak Flow) based upon Table 4 of the *Lower Dolores River Implementation, Monitoring and Evaluation Plan* for Native Fish, June 2014.
- CPW Monitoring flows of 400-500 cfs preferred in Bradfield Bridge to Dove Creek Pump reach and 'Pyramid to Slickrock' reach, 800-1,000 cfs flows preferred for monitoring Slickrock Canyon reach (Big Gypsum Valley to Bedrock).

Planning for a Drier Future



Upper Colorado Recreation Opportunities



What does that future to look like?

- The impacts are felt by everyone, we are a reflection of our rivers.
- How can we collectively define community values and develop solutions?

