The Boatable Days Web Tool: Assessing River Recreation Opportunities on the Taylor and Upper Gunnison Rivers

The Boatable Days Web Tool was built for the Upper Gunnison River Water Conservancy District by Lotic Hydrological and American Whitewater. The intent of the Web Tool is to provide a user-friendly tool for water managers, water rights holders, commercial outfitters, public recreationists, and other interested stakeholders to assess how historic, current, and future river flows impact river recreation opportunities on the Taylor and upper Gunnison Rivers. The river segments included in the Web Tool include the Taylor River between New Generation and Almont put-ins and the Gunnison River between Almont and McCabes Lane, including the Gunnison Whitewater Park.

American Whitewater's assessment of river recreation flow preferences and opportunities provided the basis for the Boatable Days Web Tool. Click here to read the full report. Through a web-survey and interview approach, the study defined navigable, acceptable and optimal flow preferences for public users, commercial rafting, and commercial angling. These flow preferences were then compared to historical river flows to create a baseline understanding of how often river recreation opportunities (number of 'Boatable Days') exist in different years and hydrological flow conditions. Because hydrological conditions can vary greatly year to year, the study divided the historical hydrological record into four year types: dry, dry-typical, wet-typical, and wet (see Table 1). The year-type hydrology was determined by ordering the 43-year period of record by total annual flow and then computing the average daily streamflows across all years in the ordered list below the 25th percentile (dry), 25th to 50th percentile (dry typical), 50th to 75th percentile (wet typical), and 75th to 100th percentile (wet).

Table 1. Historical years between 1975 and 2018 categorized by hydrological year type.

Dry	Dry Typical	Wet Typical	Wet
1977	1975	1979	1980
1978	1976	1982	1984
1981	1989	1983	1985
1990	1992	1991	1986
2002	1994	1993	1987
2003	2000	1998	1995
2004	2001	1999	1996
2012	2005	2007	1997
2013	2006	2009	2008
2018	2010	2014	2011
	2016	2015	2017

The Web Tool allows you to compare two different water scenarios, including pre-defined year types and custom time series identified by the user. For example, projected flows on the Taylor River can be compared to a year type or to a second custom input. The output will display the streamflow time series and will produce the number of Boatable Days that exist in each scenario with monthly and annual totals. In the future, additional work may be done to identify climate change and other modeled scenarios for use with the Boatable Days Web Tool.

A step-by-step instruction guide for how to use the tool can be found here. If you have any questions about the Web Tool please contact Beverly Richards at beverly@ugrwcd.org.