



JRWC Drought Management Plan

Background

The purpose of the Drought Management Plan is to reduce resource damage and to aid in the equitable distribution of water resources during water critical periods. The plan is a voluntary effort involving local interests including agriculture, conservation groups, anglers, municipalities, businesses, and government agencies.

The first Drought Management Plan was prepared and approved by the Jefferson River Watershed Council on 25 July, 2000. The plan was implemented for five years (2000 through 2004) and increased flow at the target location (Waterloo Gage below Fish Creek Canal) was documented by monitoring river and irrigation canal flows during the period. The drought management plan goal of maintaining at least 50 cfs at Waterloo was not always met during these years, but cooperation by water users helped improve flows at this critical location. Prior to developing the drought plan, the Jefferson River was severely dewatered at this location during dry years, and in 1988, only 5 cfs was measured at the Waterloo Gage location.

Drought Management Plan Triggers

The 2000 version of the Drought Management Plan established flow triggers for directing actions of anglers, water users, and government agencies. The triggers were revised in February 2005 based on observations of the previous 5 years of plan implementation. As of 2007, the current drought plan triggers are listed below.

The following prescribed actions are to occur when the river flow drops below the following levels or when maximum daily water temperature exceeds 73 degrees F for three consecutive days at the Twin Bridges Gaging Station (06026500):

- **600 cfs:** The 600 cfs trigger flow at the Twin Bridges Gage serves to alert water users and anglers of declining flow conditions and requests voluntary water conservation measures and angler awareness of stress caused by fishing during periods of low flow and high water temperature. A press release will be issued to inform the public of low flow conditions on the Jefferson River.
- **280 cfs:** Montana Dept. of Fish, Wildlife & Parks will evaluate the need for a mandatory fishing closure throughout the Jefferson River at this flow level at the Twin Bridges Gage. Voluntary reduction of irrigation and municipal water use is also initiated when the river drops below 280 cfs, and weekly meetings with water users will be coordinated by JRWC. The meetings will update water users on inflows to the river, ditch withdrawals, and status of the flow at the Waterloo Gage to attempt to maintain a minimum flow of 50 cfs at Waterloo. The angling closure will remain in effect until flows reach or exceed 300 cfs for seven consecutive days at the Twin Bridges Gage.
- **73 Degrees F:** Independent of stream flow levels, Montana Department of Fish, Wildlife & Parks can implement a mandatory time of day closure to prohibit angling throughout the Jefferson River between the hours of 2:00 PM to 12:00 AM (midnight) when maximum daily water temperature equals or exceeds 73 degrees F (23 degrees C) for three consecutive days. Lifting of summer temperature restrictions will be conducted on September 15 unless an earlier/later date is designated by the FWP Commission.

Objective: Continue implementation of the Drought Management Plan in cooperation with FW&P's, Trout Unlimited, and local irrigators.

Responsibility: JRWC Board of Directors, JRWC Coordinator, and FW&P

Appendix A: Addendum - 2025 Identified Projects

This addendum to the Jefferson River Drought Management Plan (revised 2013) identifies four priority projects. It does not alter flow targets, drought triggers, or protocols in the existing plan. Upon adoption by the Jefferson River Watershed Council Board, it will be filed with the plan appendices.

Projects

Parsons Slough and Willow Spring Creek

Parsons Slough and Willow Spring Creek, located near Waterloo, are spring-fed tributaries that provide critical cold-water inputs to the Jefferson River and sustain late-season baseflow during drought conditions. These help stabilize flows and reduce thermal stress in the mainstem, which directly supports brown and rainbow trout populations. During periods of low flow and high water temperature, the slough and spring creek become key cold-water sources that maintain instream habitat and water quality. This project will focus on reconnecting the slough and Spring Creek to the Jefferson River, restoring hydrologic function, improving drought resilience, and allowing cold water to enter the system. Achieving this will involve modifications to irrigation infrastructure and water rights to allow additional flow to remain instream, while redesigning the Parsons Slough channel to reestablish consistent streamflow and enhance habitat connectivity for native fish.

Shaw Dam Removal

The project area is north of I-90 near Cardwell, MT. On the Candlestick Ranch, the Shaw Diversion Dam and two smaller diversions deliver water to 233 acres of cropland. An inadequate fish ladder exists on Shaw Dam and frequently clogs with debris, making it inaccessible to migrating trout. In addition, the aging infrastructure is getting more difficult to operate and regulate irrigation withdrawal. This project will alleviate infrastructure concerns by removing the diversion and providing an ecological uplift to the Boulder and Jefferson Rivers through stream restoration, up to an 8 cfs savings of much colder Boulder River water, and more than three acres of wetland development, while maintaining agricultural benefits.

Fish Creek

Fish Creek is largely disconnected from the Jefferson River, with much of the flow diverted into irrigation canals. The lower reaches of Fish Creek eventually enter Slaughterhouse Slough, but flows, groundwater contributions and fish use in this system are not well understood. Restoring hydrologic connectivity in this reach will improve baseflow conditions, reduce surface water loss, and strengthen drought resilience within the upper Jefferson system. Diversions and flow alterations also create challenges for fish passage, water quality, and local landowners. This project will focus on evaluating the Fish Creek/ Slaughterhouse Slough complex to identify opportunities for improvement.

Low-Tech Process-Based Restoration

JRCW plans to pursue low-tech process-based restoration (LTPBR) projects within the Upper Jefferson watershed to enhance groundwater retention, baseflow and riparian health. The projects will focus on designing and permitting a medium-to-large-scale LTPBR site in a tributary or groundwater-influenced reach where restoration potential and landowner interest are high. Candidate areas are the Tobacco Root Bench, Highlands Bench, Hells Canyon Creek watershed and the Lower Boulder Benches. These areas have been identified as having hydrologic connectivity and cold-water inputs that can be improved to increase drought resilience.

Adopted by the Jefferson River Watershed Council Board on October 2, 2025.