

Scott River and Shasta River Watershed Drought Response Meeting

Thursday, July 1, 2021
2:00 pm – 4:00 pm

Speakers

State Water
Board

Erik Ekdahl
Ann Marie Ore
Daniel Worth

California Department
of Fish and Wildlife

Tina Bartlett
Joe Croteau



Agenda Overview

- Welcome and Meeting Overview
- Staff Presentations
- Public Comment
- Next Steps and Closing
- Adjourn at 4:00PM

Meeting Logistics

- This meeting is being recorded
- Make sure your screen name reflects your actual name
- Public chat is not available – Chat feature to be used to indicate request to make oral comment

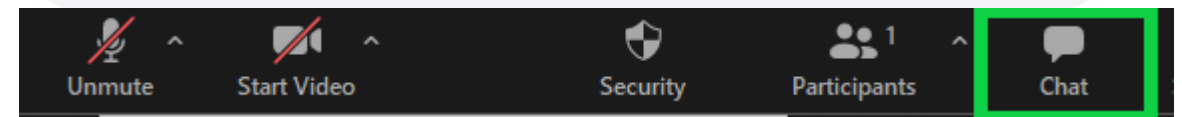
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Ways to Participate

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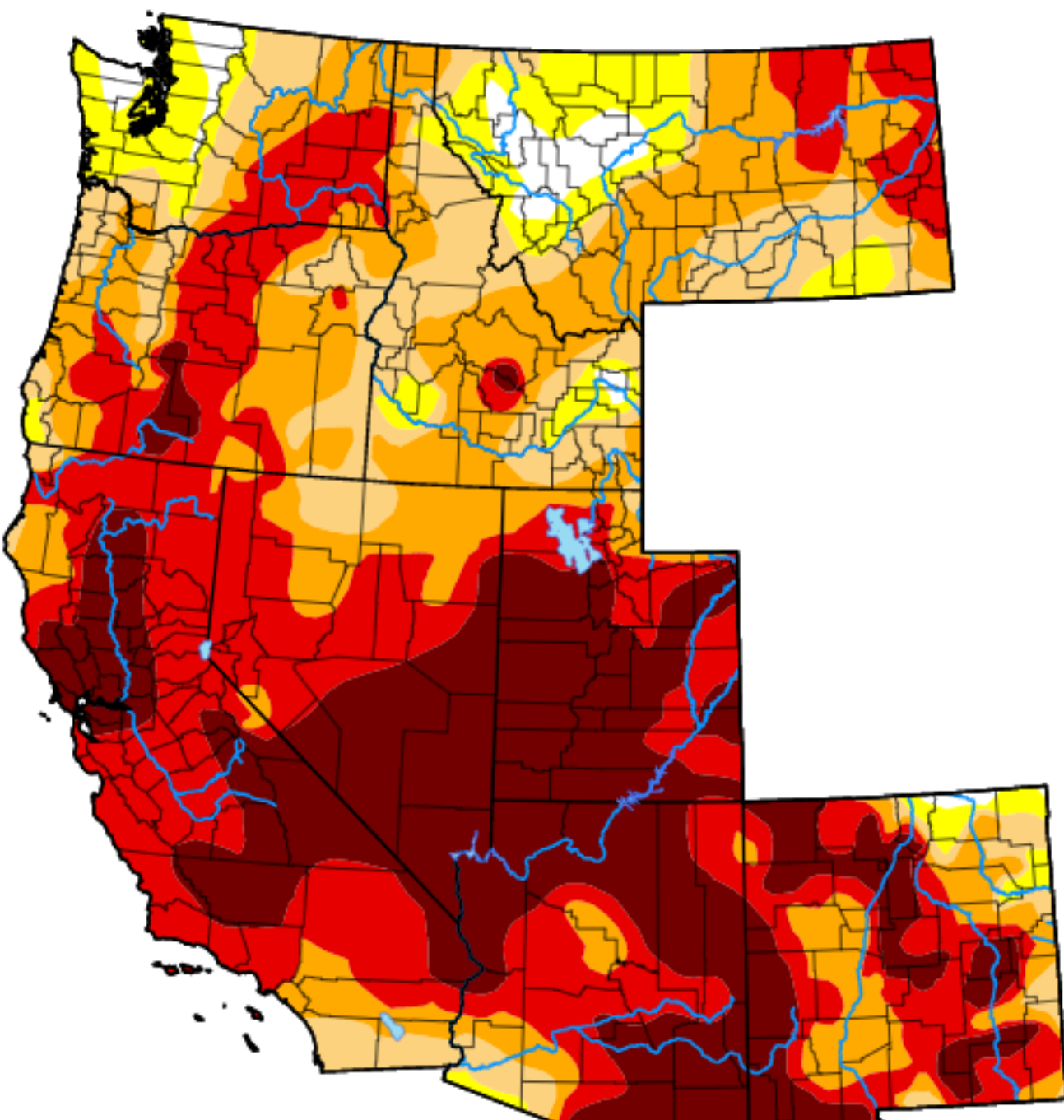
2. Email a written comment to: ScottShastaDrought@Waterboards.ca.gov

Overview

- Drought Conditions
- Drought Proclamation
- Risk to Fisheries
- Potential Drought Responses
- Funding Opportunities
- Emergency Regulation
- How To Keep Informed









Scott River, 12/1/2020
Photo Credit Alex Sweat

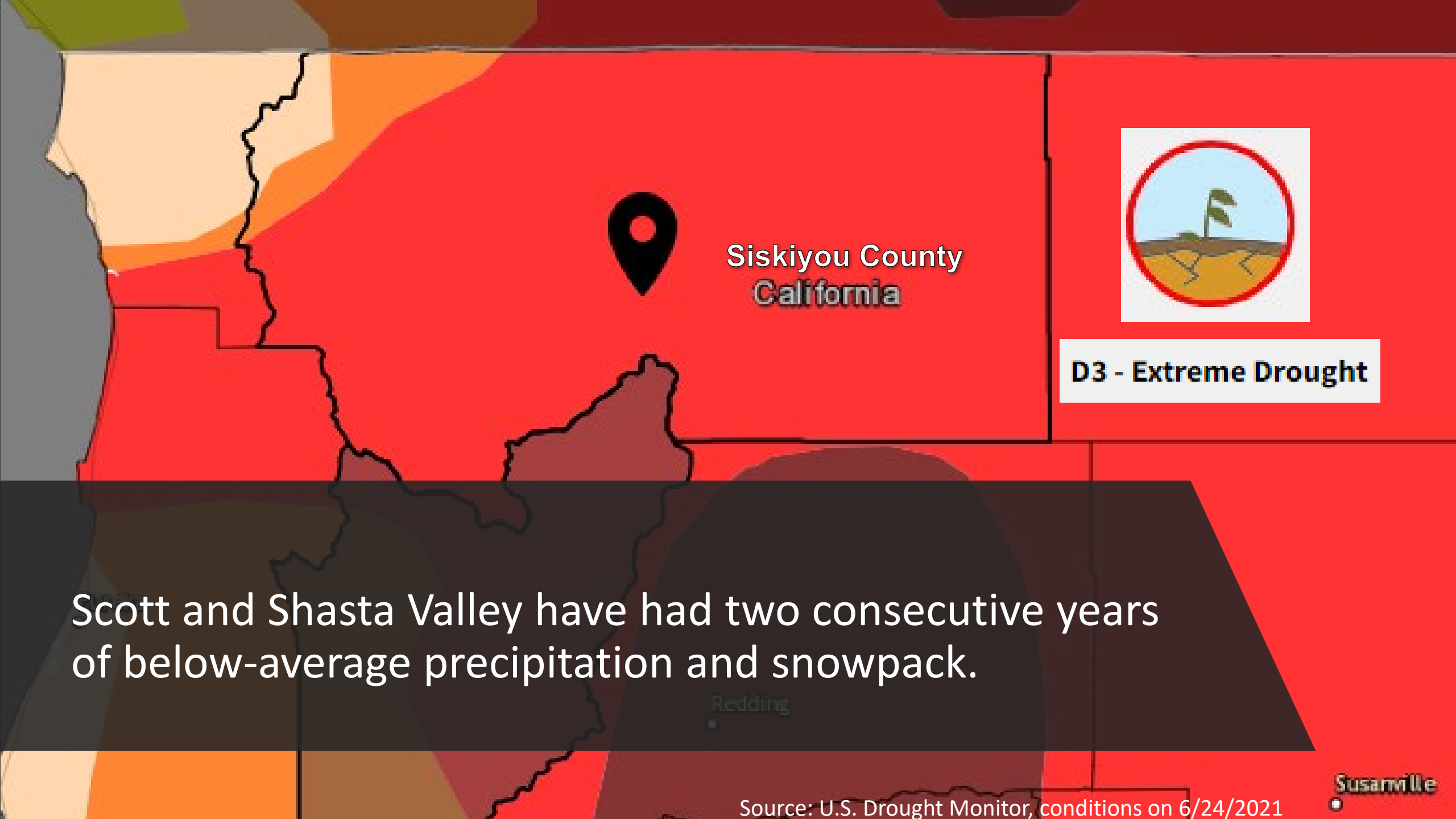


Map released: Thurs. June 24, 2021

Data valid: June 22, 2021 at 8 a.m. EDT

Intensity

-  None
-  D0 (Abnormally Dry)
-  D1 (Moderate Drought)
-  D2 (Severe Drought)
-  D3 (Extreme Drought)
-  D4 (Exceptional Drought)



Siskiyou County
California



D3 - Extreme Drought

Scott and Shasta Valley have had two consecutive years of below-average precipitation and snowpack.

Redding

Susarville

Source: U.S. Drought Monitor, conditions on 6/24/2021

EXECUTIVE DEPARTMENT STATE OF CALIFORNIA

PROCLAMATION OF A STATE OF EMERGENCY

- May 10, 2021, Governor Declared a Drought State of Emergency throughout California.
- Proclamation Priorities Include:
 - Human Health and Safety
 - Minimum Flows for Salmon, Steelhead, and Other Native Fish

PROCLAMATION OF A STATE OF EMERGENCY

Advised State agencies to take actions, including:

- Recommend Minimum Flows for Native Fisheries
- Work with Water Users on Voluntary Measures to Achieve Minimum Flows
- Consider Emergency Regulations if Voluntary Actions Not Sufficient

Drought Conditions in the Scott and Shasta River Watersheds





Risk to the Scott River Fishery

- October to mid-November 2020: Low flow conditions delayed Chinook salmon from accessing spawning habitat in Scott River tributaries
- November to mid-December 2020: ~1,700 Coho salmon were also delayed from accessing spawning habitat by low flow conditions
- Recent Scott River Chinook salmon population declines are outpacing overall declines in the Klamath Basin

Risk to the Shasta River Fishery



Shasta River, August 2016
Photo by Dan Worth

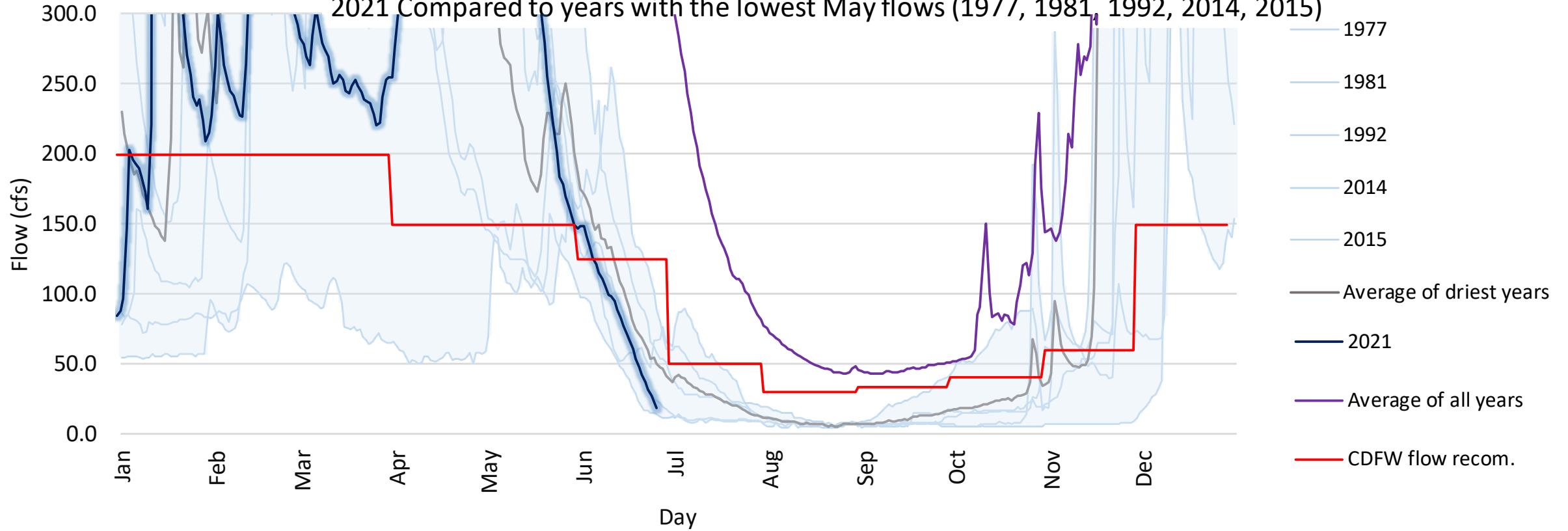


Little Springs Creek, August 2016
Photo by Dan Worth

- In the last two years, outmigration conditions for Chinook and Coho salmon in the Shasta River have been critically impaired
- May-June 2021 - Lowest flow conditions on record
- Recent low flow conditions have resulted in lethal water temperatures for salmonids in the Shasta River

Scott River near Fort Jones: USGS Gage 11519500 (1941-present)

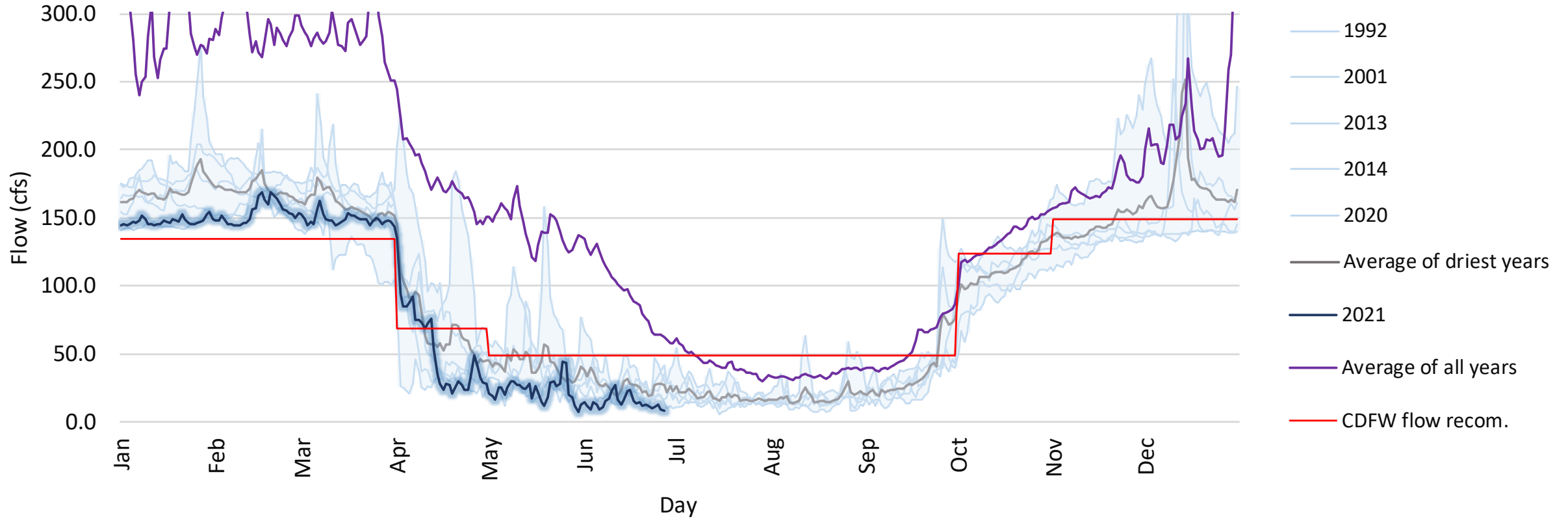
2021 Compared to years with the lowest May flows (1977, 1981, 1992, 2014, 2015)



Drought Conditions: Scott River

Shasta River near Yreka: USGS Gage 11517500 (1988- present)

2021 Compared to years with the lowest May flows (1992, 2001, 2013, 2014, 2020)



Drought Conditions: Shasta River

2021 Drought Emergency Regulations for the Shasta and Scott Rivers

Brief overview of CDFW
Recommendations

SWB Workshop
July 1, 2021



Things to keep in Mind

- The focus today is on drought emergency regulations.
- We aim to provide recommendations that benefit the aquatic resources in these systems, specifically three salmonids that have ecological, commercial, and cultural value.
- We believe there are different core values at stake, that some voluntary efforts have already made contributions, and more needs to be done especially in a year like this to sustain our fisheries.



Scott River

Mean September Flows

Water year types

- Mean September flow (cfs) at USGS Fort Jones gage (11519500) for five water year types separated into two time periods 1942-1979 and 1980-2020.

Water Year Type	1942-1979 Period	1980-2020 Period
	Mean September flow cfs	Mean September flow cfs
Extremely Wet	81.8	76.9
Wet	77.2	46.5
Normal	55.9	22.4
Dry	44.4	14.9
Critically Dry	33.1	9.7

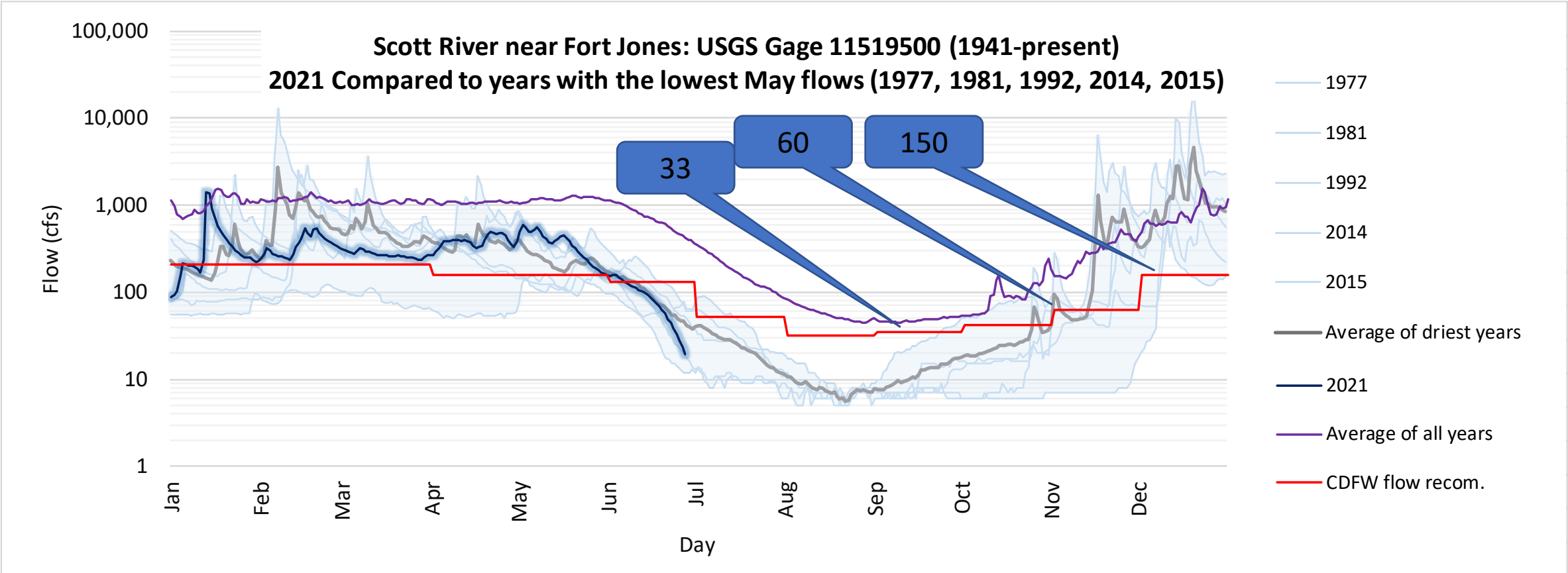
Chinook Migration Response

- Percent of Chinook Salmon migration estimated upstream of SRFCF and average daily flows (cfs) at USGS Fort Jones gage (11519500) for half month periods from September 1 - November 30 annually from 2008-2020.

Run Year	Chinook Upstream of Counting Station	Average Daily Flow (cfs)					
		Sep 1- Sep 15	Sep 16-Sep 30	Oct 1- Oct 15	Oct 16 - Oct 31	Nov 1 - Nov 15	Nov 16 - Nov 30
2008	69%	15	19	33	41	159	122
2009	54%	7	7	10	25	37	59
2010	89%	28	45	49	199	409	287
2011	82%	58	66	88	94	95	111
2012	87%	10	15	23	37	56	223
2013	73%	7	17	44	46	47	54
2014	76%	7	7	7	51	72	222
2015	18%	7	7	6	6	7	8
2016	76%	11	9	22	554	534	495
2017	88%	45	59	62	69	94	541
2018	32%	8	8	10	15	22	53
2019	74%	15	34	45	52	56	56
2020	31%	6	7	7	7	9	16

2021 Drought Emergency Recommendations, Scott River, Fort Jones Gage

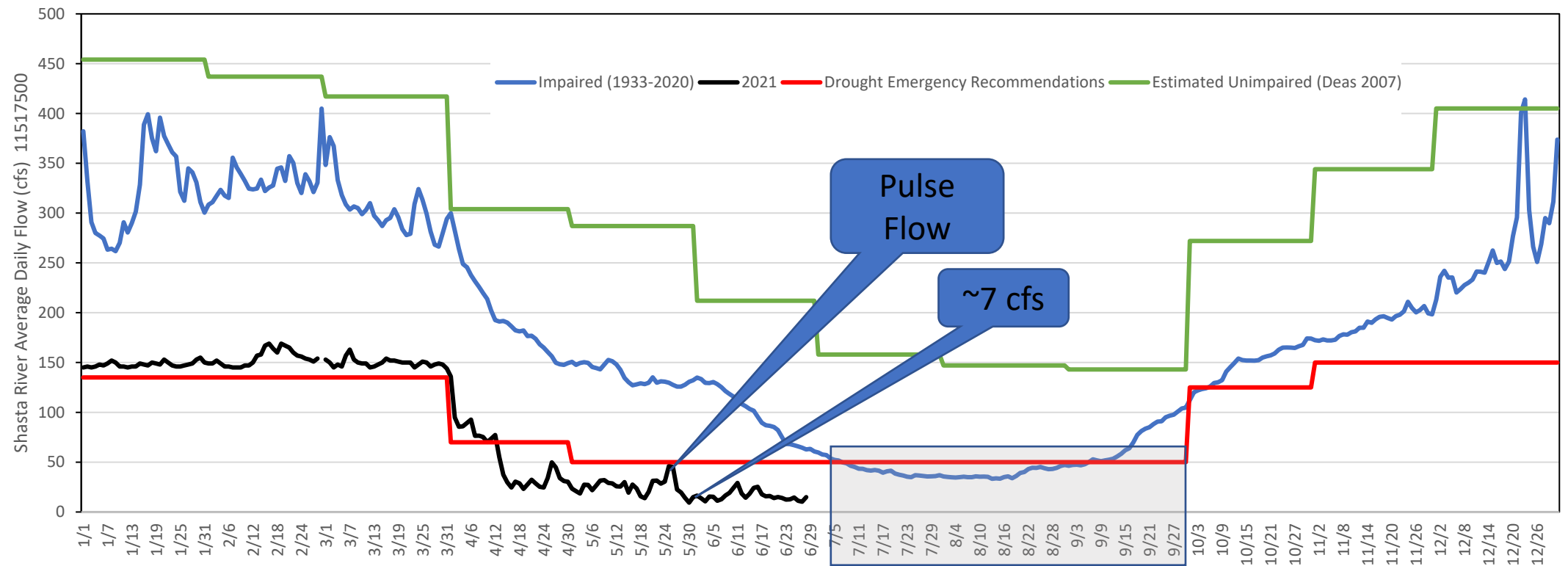
- Comparison of recommended flows vs:
 - Average of driest years
 - Average of all years
 - 2021 flows



Shasta River

2021 Drought Emergency Recommendations, Shasta River, Yreka Gage (11517500)

- Comparison of recommended flows vs:
 - Average impaired flows
 - Estimated unimpaired flows
 - 2021 flows



A landscape photograph showing a wide, dry riverbed filled with grey gravel and small stones. In the foreground, a small, shallow pool of clear water reflects the sky. The background features a range of low, hazy mountains under a pale, overcast sky. The scene is framed by dark, silhouetted tree branches in the foreground, some with sparse green leaves. The overall atmosphere is one of a dry, arid environment.

Potential Drought Response Actions

Scott River at mouth of Shackleford Creek, Mar25, 2021
Photo by Alex Sweat

Potential Drought Response Actions

- Voluntary actions including instream flow dedications and forbearance agreements
- Funding for water conservation or efficiency projects
- Temporary urgency changes to water rights for drinking water and instream benefits
- Drought emergency regulation for minimum instream flows
 - Pathways for voluntary actions
- Enforcement against illegal diversions

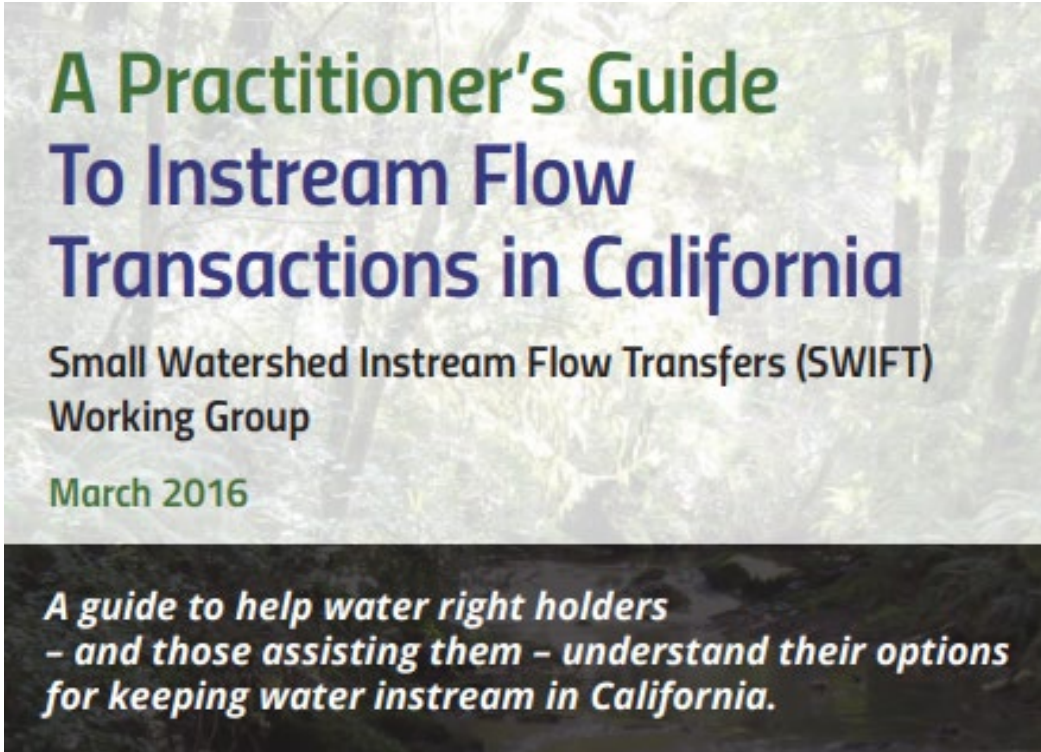


Voluntary Actions Have Helped in the Past

- Voluntary actions in the Scott River watershed have included temporary and long-term water leasing through CalTrout and the Scott River Water Trust
- The Shasta Safe Harbor group is working on flow and habitat improvement efforts
- Many other landowners have worked on water efficiency and habitat improvement projects

Instream Flow Dedications

(Water Code Section 1707)



A Practitioner's Guide To Instream Flow Transactions in California

Small Watershed Instream Flow Transfers (SWIFT)
Working Group

March 2016

*A guide to help water right holders
- and those assisting them - understand their options
for keeping water instream in California.*

- Helps fish and wildlife
- Can help protect a water right from forfeiture
- Can be permanent, temporary, or flexible, depending on water right holder's request

Webpage

https://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/instream_flow_dedication/

Wildlife Conservation Board (WCB)

Stream Flow Enhancement Program (Proposition 1)



<https://wcb.ca.gov/Programs/Stream-Flow-Enhancement>

WCB Contact

Adam Ballard

wcbstreamflow@wildlife.ca.gov

(916) 324-7487

SWRCB Contact for water right components of WCB Projects

Rae Vander Werf

Rae.VanderWerf@Waterboards.ca.gov



Wildlife Conservation Board Proposition 1 Project Examples

- Water Transactions (refer to California Water Code section 79709)
 - Purchase or long-term transfer of water from a willing seller
 - Water rights instream dedication pursuant to CWC section 1707
 - Forbearance agreements
 - Conservation easements
- Water conservation projects
 - Off-channel water storage
 - Changes in the timing or rate of diversion or source water supply
 - Irrigation ditch lining or piping
 - Stock-water systems
 - Agricultural tailwater recovery/management systems
- Changing points of diversion
- Groundwater storage and conjunctive use
- Habitat restoration projects that enhance stream flow
 - Wet meadow restoration
 - Forest management practices (e.g., thinning)
 - Reconnecting flood flows with restored flood plains
- Acquisition of land
- Stream flow gauging
- Scientific studies that assess or inform projects



Fisheries Restoration Grant Program (FRGP) Project Types

- Fish Passage
 - At stream crossings
 - Barrier modification
- Instream Habitat Restoration
- Riparian Restoration
- Bank Stabilization
- Project Design
- Upslope watershed restoration
- Fish Screening of Diversions
- Water Conservation Measures
- Monitoring
- Water Measuring Devices
 - Instream
 - Diversions



Proposition 68 Grant Program



River and Streams Restoration

Restoration of rivers and streams for fisheries and wildlife



Fish and Wildlife Habitat Restoration

Restoration

Improvement of conditions for wildlife refuges, wetland habitat areas, and estuaries



CDFW Watershed Restoration Grants Branch

WatershedGrants@wildlife.ca.gov

Drought Flow Recommendations



Scott River
Photo Credit Alex Sweat

- CDFW Submitted Drought Flow Recommendations For Scott River and Shasta River
- Governors Proclamation Directs State Water Board and CDFW To Consider Emergency Regulations



Potential Elements of an Emergency Regulation

- Information Order
- Flow Requirements
- Curtailment Not Necessary If Flows Met Through Voluntary Drought Initiative
- Curtailments may extend to all water users in order of priority, if necessary, including:
 - Post 1914 water rights
 - Pre 1914 water rights
 - Riparian water rights
 - Groundwater pumping

Potential Emergency Regulation Allowances

- Human Health and Safety
- Non-Consumptive Uses (eg hydropower)
- Substitutions of Stored Water Releases
- Water Necessary to Maintain Grid Reliability, Fire-fighting, Fire Prevention, Air Quality, Public Health, and Critical Infrastructure
- Efficient Livestock Watering

Keep Informed

- **Visit:** Scott and Shasta River Drought webpage:
https://www.waterboards.ca.gov/drought/scott_shasta_rivers/
- **Visit:** State Water Board's Drought webpage:
www.waterboards.ca.gov/drought
- **Subscribe:** State Water Board Email Subscription list titled "Scott-Shasta Drought"
https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/
- **Contact:** Email ScottShastaDrought@Waterboards.ca.gov

Comments?

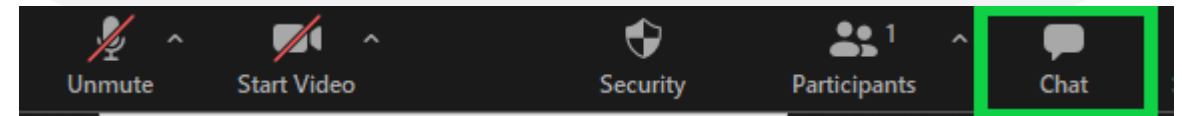


Shasta River, Nov 14, 2018
Photo by Rajaa Hassan

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