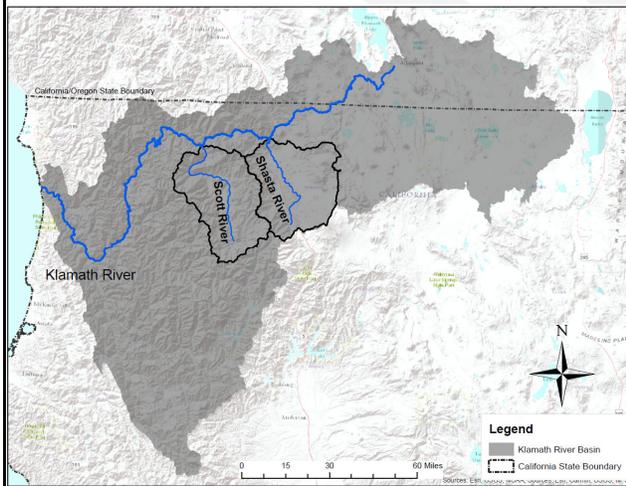


Proposed Amendments and Readoption of Drought Emergency Regulation for Klamath River Watershed

Agenda Item 5
June 21, 2022



Klamath River Watershed



Presentation Outline

- Regulation Implementation
- Status of Fisheries
- CDFW Flow Recommendation
- Readoption Process
- Comments
- Proposed Amendments, including fiscal overview
- Change Sheet

Implementation Update

- Adoption of Drought Emergency Regulation: August 2021
- Major Actions
 - Curtailment Orders Issued September 2021
 - Information Orders Issued in October 2021 (Willow, Julian, Yreka Creeks); January 2022 (Livestock Diversion)
 - 11 Local Cooperative Solutions approved
 - Contracts with Scott Valley and Shasta Valley Watermaster District & University of California at Davis
 - Staff have installed six gages in watersheds (four Shasta; two Scott)
- Ongoing outreach and Engagement
- Adaptive Implementation of Flows & Prohibition

Implementation Outreach Efforts

- Meetings regarding development of local cooperative solutions and guidance document
- Biweekly meetings with Siskiyou County representative
- Region 1's biweekly Scott and Shasta Flow Subgroup meetings
- Weekly meetings with Scott and Shasta Valley Watermaster staff
- Meetings with various organizations and landowners
- Ongoing email and telephone support and feedback

Adaptive Implementation of Flows and Prohibition

- Adaptive recommendations from CDFW in consultation with NMFS
 - **December 17, 2021** – Lowered Shasta River flow requirement from 150 cfs to 135 cfs for remainder of December
 - **January 20, 2022** – Early lifting of inefficient livestock watering prohibition in Shasta River watershed
 - **March 15, 2022** – Ramp down flow in Shasta River watershed from 135cfs to 105 cfs for last seven days of March
 - **June 3, 2022** – Ramp down flow in Scott River watershed from 125 cfs to 90 cfs during last seven days of June
- CDFW recommendation to readopt regulation included modifications to flows based on best available information

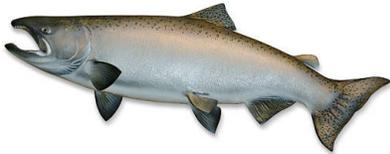




Re-adoption of the Drought
Emergency Regulation for the Scott
River and Shasta River watersheds



June 21, 2022



Summary and Outline



Migration Monitoring



Shasta River Winter Flows



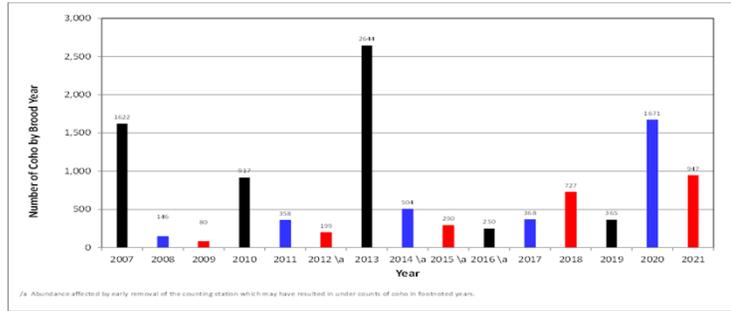
Minimum Summer Flows



Resource Benefits

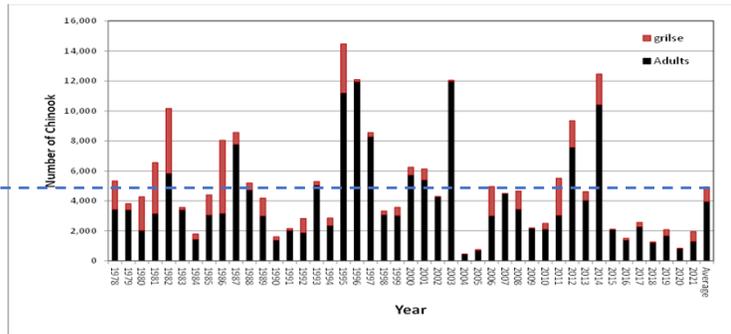
Scott River Adult Salmon

Coho Salmon



Average = ~5,000

Chinook Salmon



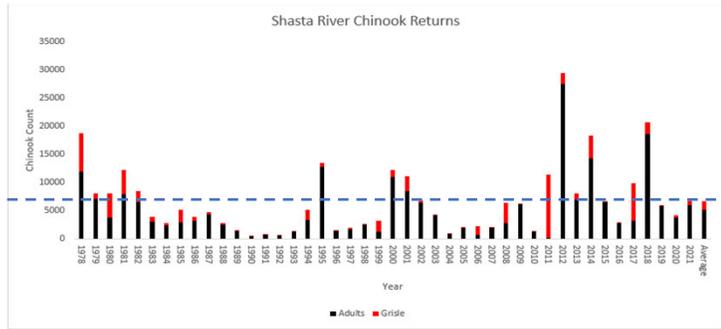
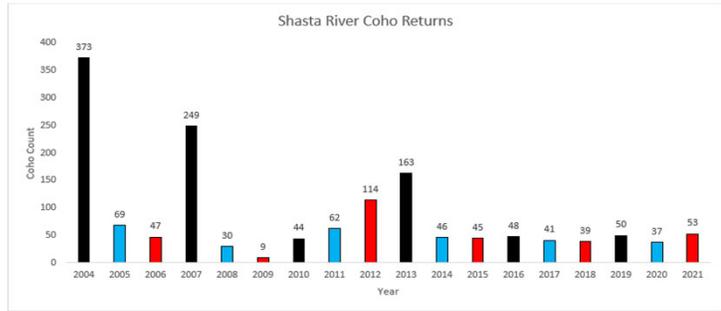


Coho Salmon

Shasta River Adult Salmon

Average = ~6,700

Chinook Salmon



Shasta River Winter Flows

Flow-habitat results from the three sites in McBain and Trush Shasta River Canyon Instream Flow Needs Assessment (2014) were composited to calculate spawning habitat availability during a critically dry water year winter-flow scenario on the Shasta River.

The overall flow-habitat relationships display a relative peak of spawning habitat at 125 cfs in a critically dry water year.

Redd dewatering/water quality is influenced by changes in redd and tailspill depths.

Retain Minimum Summer Flow



Based on best available information to support salmon and steelhead



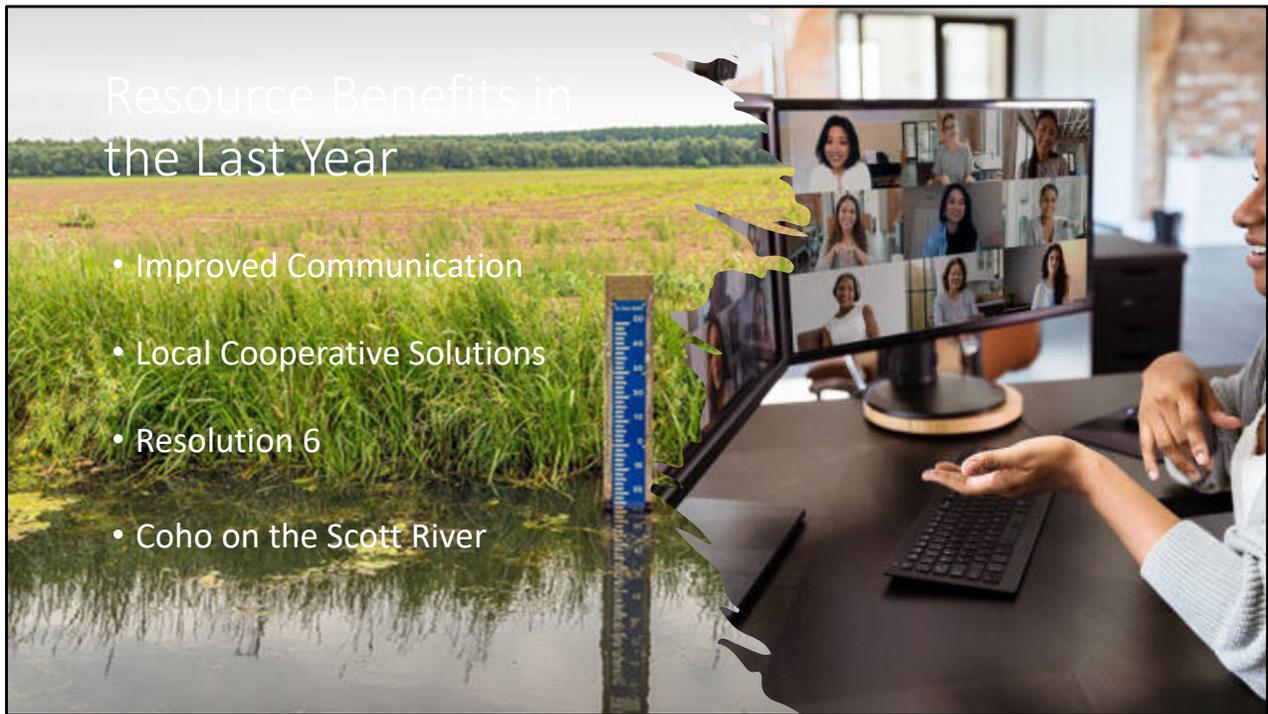
Need dry season flows to support stream function and fall migration



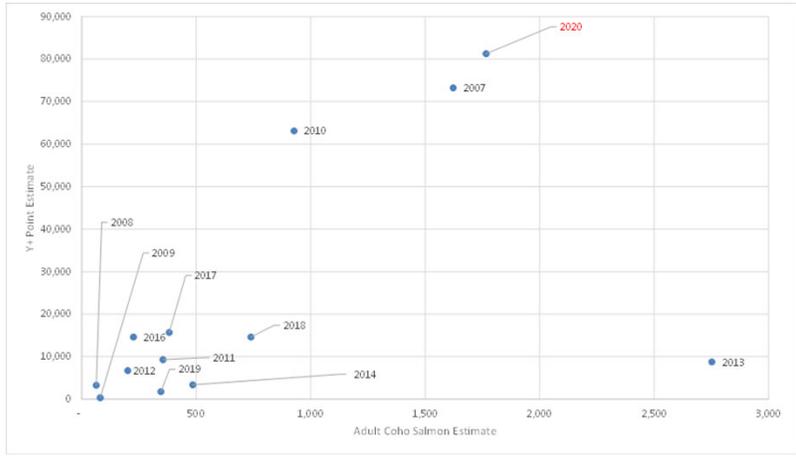
Flow values are intended to minimize lethal water quality conditions

Resource Benefits in the Last Year

- Improved Communication
- Local Cooperative Solutions
- Resolution 6
- Coho on the Scott River



- Something different about what happened this year (2020) compared to 2013 and 2019



Number of Returning Adults and Corresponding Y+ Coho Salmon Produced By Brood Year in the Scott River (blue dots show how many estimated juveniles out-migrated)

- Another way of comparing most important metric (i.e., smolts per adult female to measure success)
- 2013, 2014, 2019, and 2020 associated with dry conditions

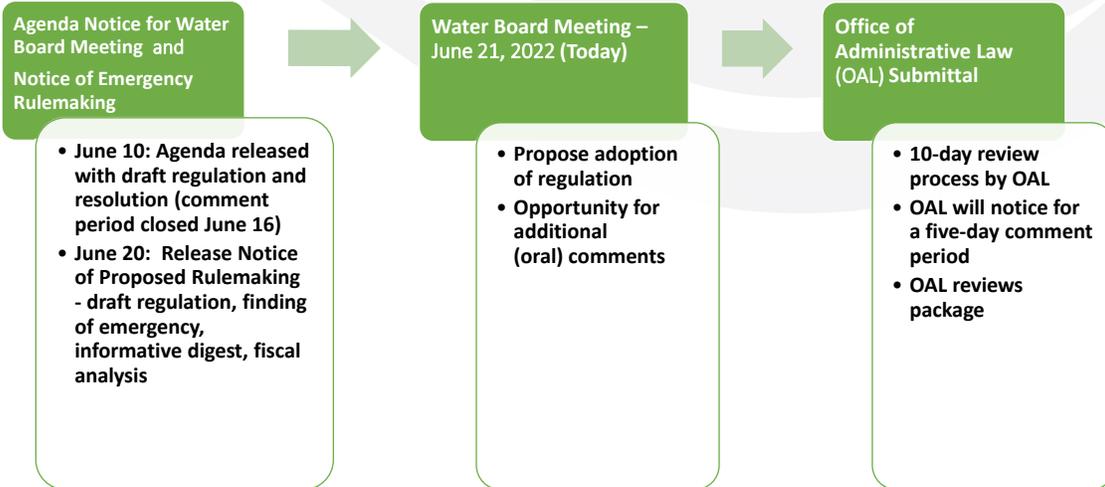
Adult Year Brood Year	Adult Estimate	Adult Female Estimate	Smolt Year	Smolt point Estimate	Smolts produced per Female
2007	1,622	860	2009	73,232	85.15
2008	63	32	2010	3,257	101.78
2009	81	41	2011	353	8.61
2010	927	640	2012	63,135	98.65
2011	355	170	2013	9,283	54.61
2012	201	86	2014	6,734	78.30
2013	2,752	1514	2015	8,758	5.78
2014	485	179	2016	3,372	18.84
2015	212	170	2017	N/D	N/D
2016	226	175	2018	14,628	83.59
2017	382	174	2019	15,707	90.27
2018	739	422	2020	14,628	34.66
2019	346	195	2021	1,762	9.04
2020	1,766	883	2022	81,303	92.08
			Average		58.57

Scott River
Smolts
Produced per
Female Coho
Salmon

Amendments and Readoption

- Emergency regulations are in place for up to one year following adoption; August 2021 emergency regulation will expire unless readopted by Board
- Proposing several updates
 - CDFW recommendation to modify flow targets
 - Livestock prohibition
 - Local cooperative solutions

Overview of Emergency Regulation Process



2022 Update: Public Input and Outreach

- April 22, 2022: In-person tour of Shasta watershed with landowners and representatives
- May 4, 2022: Public meeting to solicit early input on readoption
- May 18, 2022: Draft revisions released for public comment
- May 25, 2022: Public meeting to solicit input on preliminary draft proposed changes
- June 1, 2022: In-person tour of Scott watershed with landowners and representatives
- June 10, 2022: Board agenda and updated draft regulations released
- June 20, 2022: Change sheet released in response to comments

Comments Overview – Major Themes

- Flows
- Local Cooperative Solutions
- Livestock Watering Provisions
- Groundwater Recharge
- Not the Right Balance – Hardship on the Community
- Enforcement
- Legal Authority
- Financial Compensation
- Ongoing Coordination

Overview of Comments: Flows are too high

- Flows are too high, not achievable in summer
- Flow targets should include a buffer (10% or 10 cfs)

Response to comments that flows are too high:

- Flows based on best available scientific information
- Provisions in regulation (Section 875 (c)(1)(B) and (c)(2)(B)) allow CDFW, in coordination with NMFS, to propose lower flows or location-specific flows

Response to comments that flow requirement is not achievable during the summer and fall:

- If natural flows (unimpaired flows) drop below critical levels needed for fish habitat becomes important to reduce water use to minimum human health and safety, livestock, and local cooperative solution levels; this helps ensure remaining fish habitat is protected during most critical time periods and dire conditions
- Establishment of a flow threshold that is less than the lowest unimpaired flow that ever happened, or could happen, is not expected to be protective
- Regulation does NOT require reservoir storage releases to make up for flows that do not exist naturally
- Maintaining higher groundwater levels throughout summer and fall will help fall flows rebound sooner when adult salmon return

Response to comment that flows should have buffer of 10 percent or 10 cfs:

- Recognize there has been variability in flow being met at compliance gage due to variety of factors (e.g., difficulty to coordinate diversions among different types of adjudicated and non-adjudicated rights in watershed); staff working with Watermaster to better understand how to implement curtailments most effectively
- Deliberate actions to circumvent attainment of flow requirements are actions that should be flagged for follow up by enforcement staff

Overview of Comments: Not the Right Balance – Hardship on Community

- Drought handled with little balance for Scott water uses with 99% consideration given to fish over farmers
- Treated differently from Russian River – never given option of voluntary action plan
- Approach is not sustainable and concern that future looming regulation will not allow generations-long farming and ranching to continue

California Water Boards

Response to comment that drought handled with little balance for Scott water uses with 99% consideration given to fish over farmers:

- Regulation sets bare minimum flows for fisheries protection, including flows that were routinely met in the driest years for decades.
- Regulation provides a suite of local cooperative solution options that many farmers and ranchers have found helpful.

Response to treated differently from Russian River – never given option of voluntary action plan:

- Russian River regulation based on curtailments to protect senior water rights, not to implement flow requirements
- Scott-Shasta regulation includes local cooperative solutions options at watershed-wide, tributary, or individual scale
 - Recognize watershed-level solution would require immense commitment by parties and would need to address fisheries needs
 - Thus far, most local cooperative solution proposals focused on groundwater option

Response to approach is not sustainable and concern that future looming regulation will not allow generations-long farming and ranching to continue:

- Only decision before Board today is about drought
- Severity of hardship during drought is likely more than it would be when more water is available
- That said, many of the water efficiency actions that farmers and ranchers have undertaken in light of this drought, such as improvements to irrigation and livestock watering systems, have the potential to result in long-term demand reduction

Overview of Comments: Groundwater Recharge & Winter Livestock Watering (use of ditches)

- Aquifer recharge benefits of ditches must be recognized
- Use of ditches for inefficient livestock watering should be prohibited year-round



California Water Boards

Response to comment that aquifer recharge benefits of ditches must be recognized and use of ditches for inefficient livestock watering should be prohibited year-round:

- Leaky ditches not “always good” and not “always bad”
- Staff are working with UC Davis to further understand and explore recharge strategies
- Local cooperative solution options provide pathways for use of livestock diversions that would otherwise be prohibited (section 875.7)
- Deputy Director flexibility to suspend inefficient livestock watering provisions, with findings

Overview of Comments: Local Cooperative Solutions

- Appreciate flexibility and creativity
- Do not consider “voluntary” and do not like the term “inefficient”
- Add option for mainstem reaches (**incorporated**)
- Should be terminated if minimum flows are not being met

Response to comment that should be terminated if minimum flows are not being met:

- Staff support local cooperative solution agreements that have been made and do not recommend this approach
- Scott groundwater agreements provide reductions in overall groundwater use and in advance of when curtailments would go into effect, proactively assisting with flows (curtailing groundwater once flows are not being met will help protect groundwater levels, but do not provide same immediate increase in flows associated with surface water curtailments – better to be proactive with groundwater)
- Board has opportunity to address if minimum flows are not met

Overview of Comments: Enforcement

- Penalties for violating regulation, including accidental misreporting, are severe; no language for flexibility based on circumstances
- Need to address extensive unregulated water use for illegal activities through regulation, including curtailment orders

Response to penalties for violating regulation, including accidental misreporting, are severe; no language for flexibility based on circumstances:

- Enforcement is consistent with Board's existing enforcement authority and process, which provides for enforcement discretion
- Recommend parties with specific concerns related to an enforcement action (or potential action) contact and work with Enforcement staff to resolve

Response to need to address extensive unregulated water use for illegal activities through regulation, including curtailment orders:

- Curtailments have been applied to all water rights in order of priority; this included sending curtailment orders to appropriative groundwater rights that sell or distribute water

We also received comments about the need for enforcement of the regulation. Enforcement staff are active in the region and often resolve issues without a formal proceeding, but that also there are several enforcement proceedings underway.

Overview of Comments: Legal Authority/Groundwater

- Resolution should cite Board's public trust authority
- Proposed emergency regulation usurps Sustainable Groundwater Management Act
- Proposed emergency regulation re-describes priorities in Scott River Adjudication – unclear how Board has authority to do so

Response to resolution should cite Board's public trust authority:

- Regulation relies on authorities listed in statute authorizing drought emergency regulations, Water Code section 1058.5

Response to proposed emergency regulation usurps Sustainable Groundwater Management Act (SGMA):

- Emergency regulation is short-term and non-precedential
- May help inform future water management in these watersheds
- SGMA does not change water rights law or Board's authority
- Board retains reasonable use authority

Response to proposed emergency regulation re-describes priorities in Scott River Adjudication – unclear how Board has authority to do so

- Integrating rights in various adjudications in Scott and Shasta watersheds is necessary to allocate responsibility for meeting flow requirements
- Does not amend Scott River Adjudication

Overview of Comments:

Financial Compensation

- Landowners have not been offered compensation for private property and production losses
- No direct aid is being offered and farmers and ranchers are not equipped to chase grant dollars

- CDFW and Board staff have worked to provide information related to available funding, and will continue to do so as new opportunities become available
- Staff recognize challenges that individual farmers and ranchers face in obtaining grant funding and support broader efforts and strategies to solicit funds through local agencies or nongovernmental organizations in the community

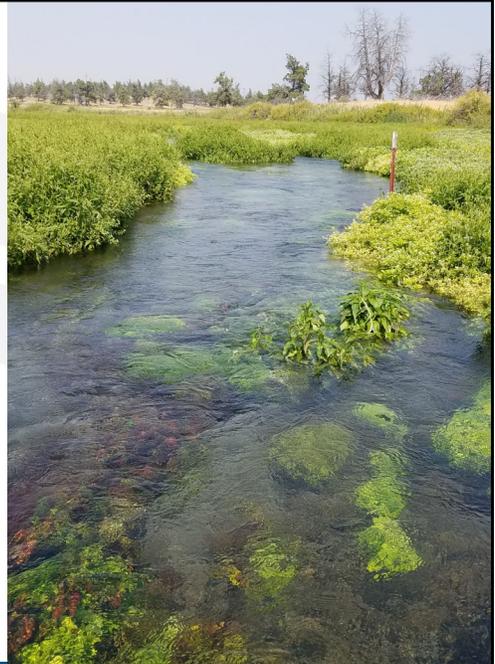
Overview of Comments: Ongoing Coordination

- Siskiyou County noted a desire to coordinate with Board on gaging efforts, groundwater recharge projects, and curtailment orders

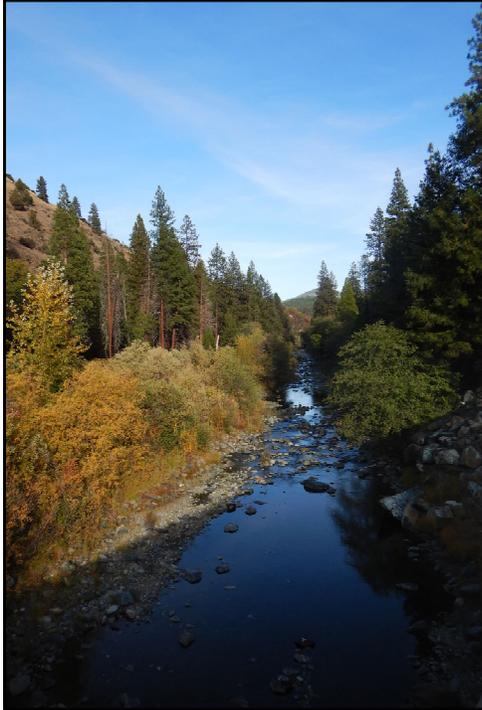
State Water Board staff will continue to regularly meet with County staff.

Overview of Significant Proposed Changes

- Section 875: Emergency Curtailments where Insufficient Flows are Available to Protect Fish in Certain Watersheds
- 875.2: Minimum Human Health and Safety
- 875.3: Minimum Diversions for Livestock Watering
- 875.5: Priority for Curtailments in the Scott River and Shasta River Watersheds
- 875.7: Inefficient Livestock Watering



California²⁷ Water Boards



No Changes or Minor Clarifications:

- 875.1: Non-consumptive Uses
- 875.4: Emergency Curtailments due to Lack of Water Availability in the Klamath River Watershed
- 875.6: Curtailment Order Reporting
- 875.8: Information Orders
- 875.9: Penalties

Proposed Updates to Flow Requirements

Proposed Changes to Scott River Flow Requirement - 875(c)(1)(A)

(As measured at the Fort Jones USGS Gage)

Month	Jan	Feb	Mar	Apr	May	June <u>1-23</u>	June <u>24-30</u>	July	Aug	Sept	Oct	Nov	Dec
CFS	200	200	200	150	150	125	<u>90</u>	50	30	33	40	60	150

Proposed Changes to Shasta River Flow Requirement - 875(c)(2)(A)

(As measured at the Yreka USGS Gage)

Month	Jan	Feb	Mar <u>1-24</u>	Mar <u>25-31</u>	Apr	May	June	July	Aug	Sept <u>1-15</u>	Sept <u>16-30</u>	Oct	Nov	Dec
CFS	135 <u>125</u>	135 <u>125</u>	135 <u>125</u>	<u>105</u>	70	50	50	50	50	50	<u>75</u>	125 <u>105</u>	150 <u>125</u>	150 <u>125</u>

California Water Boards

Proposed Changes – Previous Curtailment Actions Remain in Effect

- Curtailment Orders and subsequent addenda issued under the 2021 Emergency Regulation remain in effect;
- **Approved petitions, certifications, or exceptions to curtailment remain in effect, as do Local Cooperative Solutions**
- Updated drought emergency minimum flows automatically apply to existing curtailment orders





Proposed Local Cooperative Solution Updates – 875 (f)

- Groundwater:
 - Watershed-wide acreage minimum rather than individual 400-acre minimum
 - Compare percent reduction to water use in 2020, 2021, or 2022 irrigation season
 - Added flexibility for monthly reduction amounts
- Coordinating Entity:
 - Added Siskiyou and Shasta Valley Resource Conservation Districts
 - Public Entity

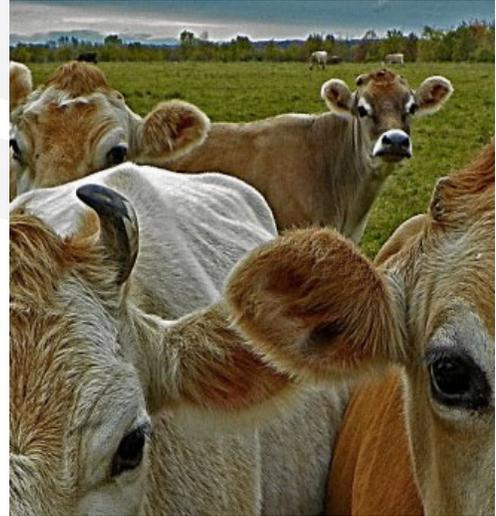
Proposed Updates to Minimum Livestock (875.3) and Curtailments (875.5)

- Would allow for double the amount for livestock when temperatures exceed 90°F, without certification
- Allows exclusion of small domestic groundwater diversions of less than two acre-feet per year



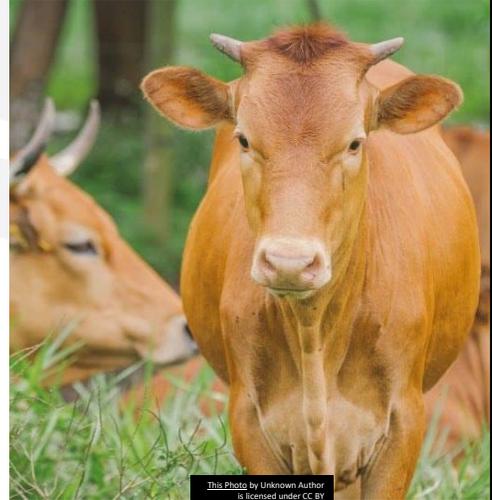
Local Cooperative Solution: **Proposed** Option for Inefficient Livestock Watering - 875(f)(4)(D)(iii)

- Would allow diversions for livestock during prohibition under specific circumstances
- CDFW must find proposal will adequately protect fishery resources
- Board must find sufficient water available for competing uses:
 - Storage for human health and safety and environmental needs
 - Will not result in additional curtailments
 - Minimum flows will be met



Proposed updates to Inefficient Livestock Watering – 875.7(a)

- Extend until March 31 (rather than January 31)
- Allows for lifting at tributary or mainstem reach
- Emergency authorization if an alternative livestock system fails
- Maintain ability to lift prohibition early with findings will not:
 - Unreasonably inhibit adult or juvenile salmonid migration, incubation, or rearing (CDFW);
 - Result in decrease in flows that would require curtailment; and
 - Unreasonably impact competing uses



Minimum Human Health and Safety – 875.2(a)(1)&(2)

- **Proposed** updates minimum human health and safety to:
 - Include minimum domestic uses, like subsistence gardens and domestic animals
 - Urban water suppliers must follow the strictest stage of their Water Shortage Contingency Plan



Fiscal Impacts to Local Agencies and Governments

- **Conservative** estimate of cost to state and local agencies and governments: \$3,790,370 – primarily for water supply agencies
- **Conservative** costs are for:
 - Revenue losses for municipal water supply agencies (\$2,846,682)
 - Revenue losses for non-municipal water supply agencies (\$531,905)
 - County and state agricultural tax revenue losses (\$403,710)
 - Based on approximately \$5.2 million loss in crop sales
 - Reporting costs (\$8,073)
 - Complete and submit initial compliance certification forms
 - Ongoing diversion reporting for curtailment order
 - Complete and submit information required by an information order

Change Sheet

- Resolution
- Proposed Regulation

Questions