

Department of Fish and Wildlife 2014-2015 Drought Response



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California Department of Fish and Wildlife

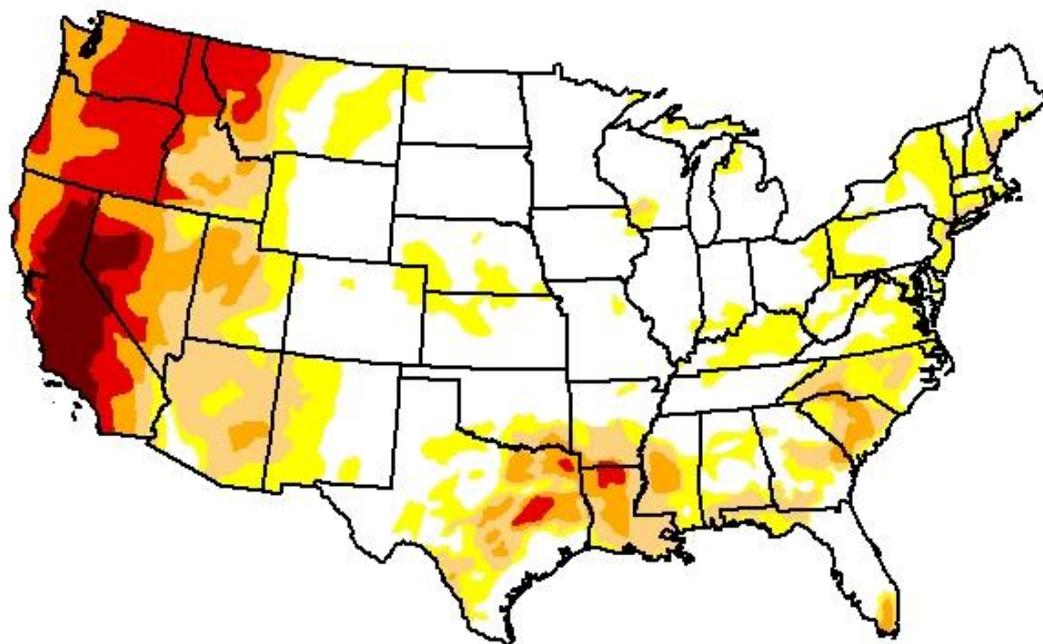
U.S. Drought Monitor

CONUS

September 8, 2015
 (Released Thursday, Sep. 10, 2015)
 Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	49.63	50.37	31.67	19.62	10.92	3.00
Last Week <i>8/1/2015</i>	54.21	45.79	30.43	18.72	10.71	3.00
3 Months Ago <i>6/9/2015</i>	59.93	40.07	23.29	13.71	6.91	3.07
Start of Calendar Year <i>12/31/2014</i>	53.20	46.80	28.68	16.93	8.96	2.54
Start of Water Year <i>9/30/2014</i>	52.22	47.78	30.57	18.66	9.41	3.85
One Year Ago <i>9/8/2014</i>	53.90	46.10	31.27	20.31	9.47	3.70



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author(s):

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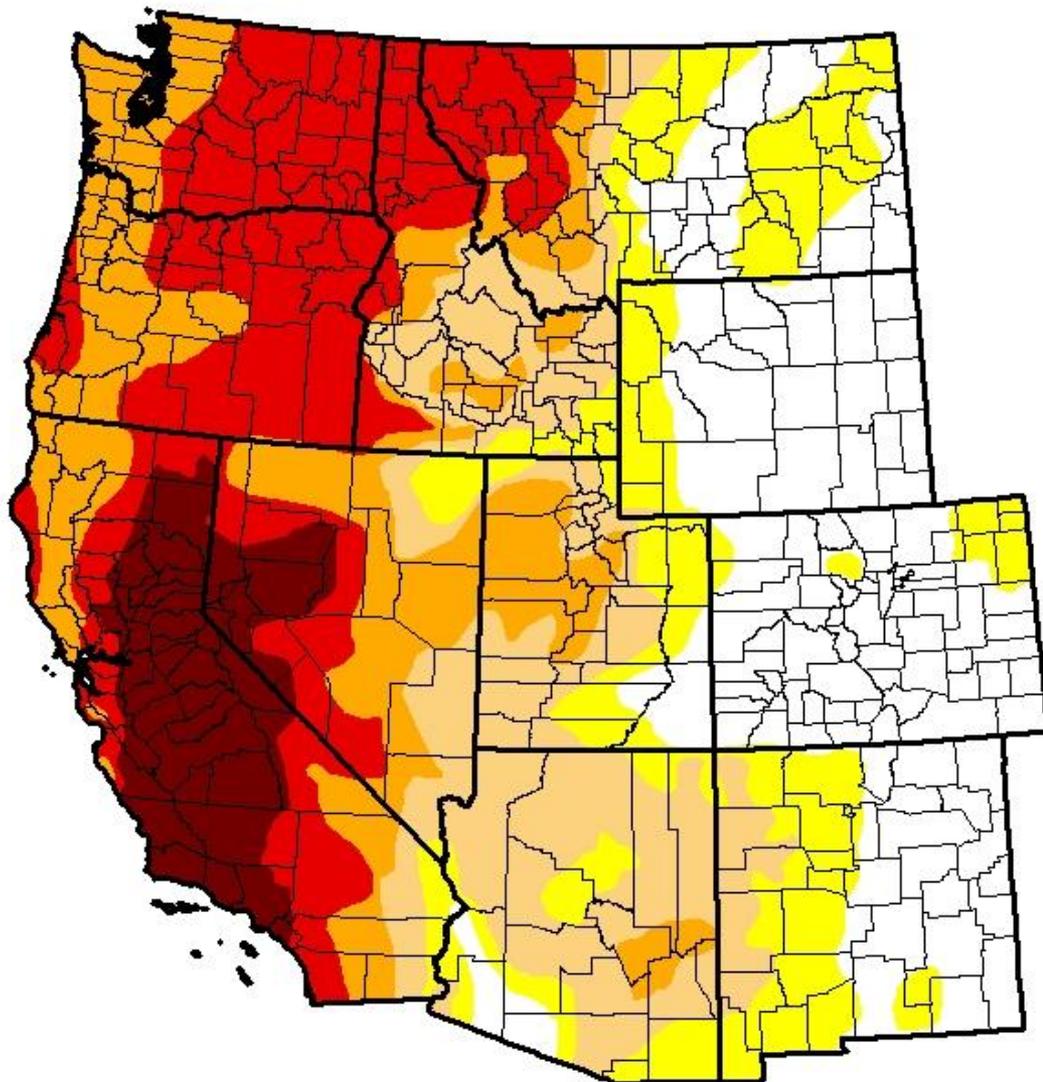
<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor West

September 8, 2015
(Released Thursday, Sep. 10, 2015)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	24.68	75.32	59.67	42.69	26.73	7.62
Last Week 8/1/2015	25.33	74.67	59.67	42.69	26.73	7.62
3 Months Ago 6/9/2015	26.12	73.88	55.26	34.69	17.52	7.78
Start of Calendar Year 12/30/2014	34.76	65.24	54.48	33.50	18.68	5.40
Start of Water Year 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
One Year Ago 9/8/2014	28.38	71.62	57.36	39.26	19.83	8.90



Intensity:



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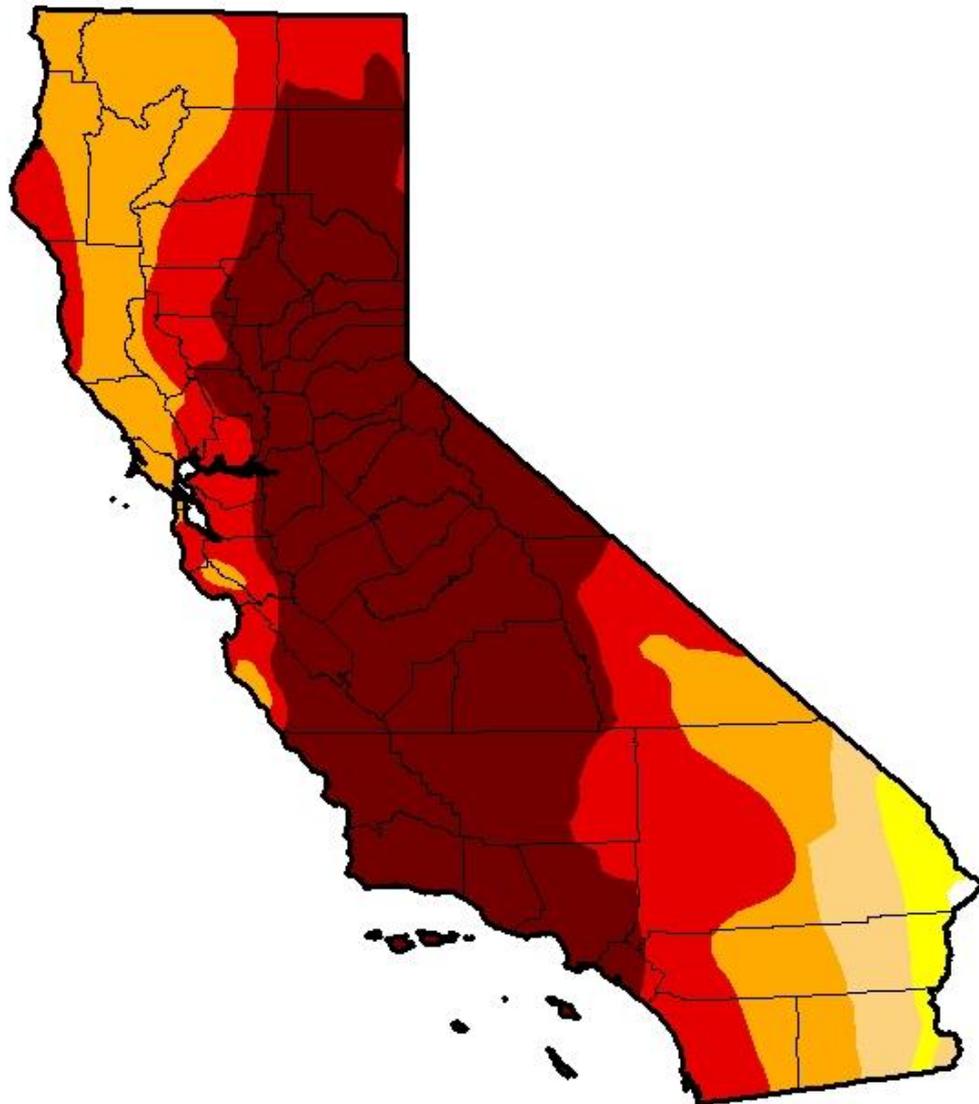
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U.S. Drought Monitor California

September 8, 2015
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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.14	99.86	97.35	92.36	71.08	46.00
Last Week <i>8/1/2015</i>	0.14	99.86	97.35	92.36	71.08	46.00
3 Months Ago <i>6/9/2015</i>	0.14	99.86	98.71	93.91	71.08	46.73
Start of Calendar Year <i>12/31/2014</i>	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year <i>9/30/2014</i>	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago <i>8/8/2014</i>	0.00	100.00	100.00	95.42	81.92	58.41

Intensity:



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California Drought

- Declaration of Emergency - January 2014
- Drought Task Force
 - Activation of Emergency Operations Center
- Emergency Budget Act(s)
 - \$3.7B – statewide
 - \$65.5M – CDFW
 - \$2.6M – continuous to CDFW

Fires - 2015

- Statewide: 6,255 incidents = 525,766 acres

CalFire

- 4,549 Incidents
 - 43% increase from 2014
 - 50% increase from 5-year average
- 144,263 Acres
 - 63% increase from 2014
 - 135% increase from 5-year average



Water Operations

- Real-Time Drought Operations Team
 - Temperature Issues
 - Water Quality Mandates
- Water Rights and FERC Licenses
- Agency/Stakeholder collaboration
- Innovation

Example Drought Impacts Associated with Fish and Wildlife

- Stream flow changes
- Temperature impacts
- Water quality
- Fish stranding/captures
- Disease outbreaks
- Wildlife encounters
- Mortality

CDFW Led Drought Activities

- Fish and wildlife rescue and relocation
 - Fish rescues
 - Wildlife relocation
- Fishery closures
- Hatchery management
- Enforcement
 - Illegal diversions (marijuana)
 - Water quality impacts
 - Wildlife encounters
- Drought contingency planning for CDFW lands
 - Water supply impacts
 - Habitat acreage
- Voluntary Drought Initiative
 - CA Endangered Species Act/ Federal ESA
 - Small Domestic Diversions

Winter and Spring Run Chinook Actions

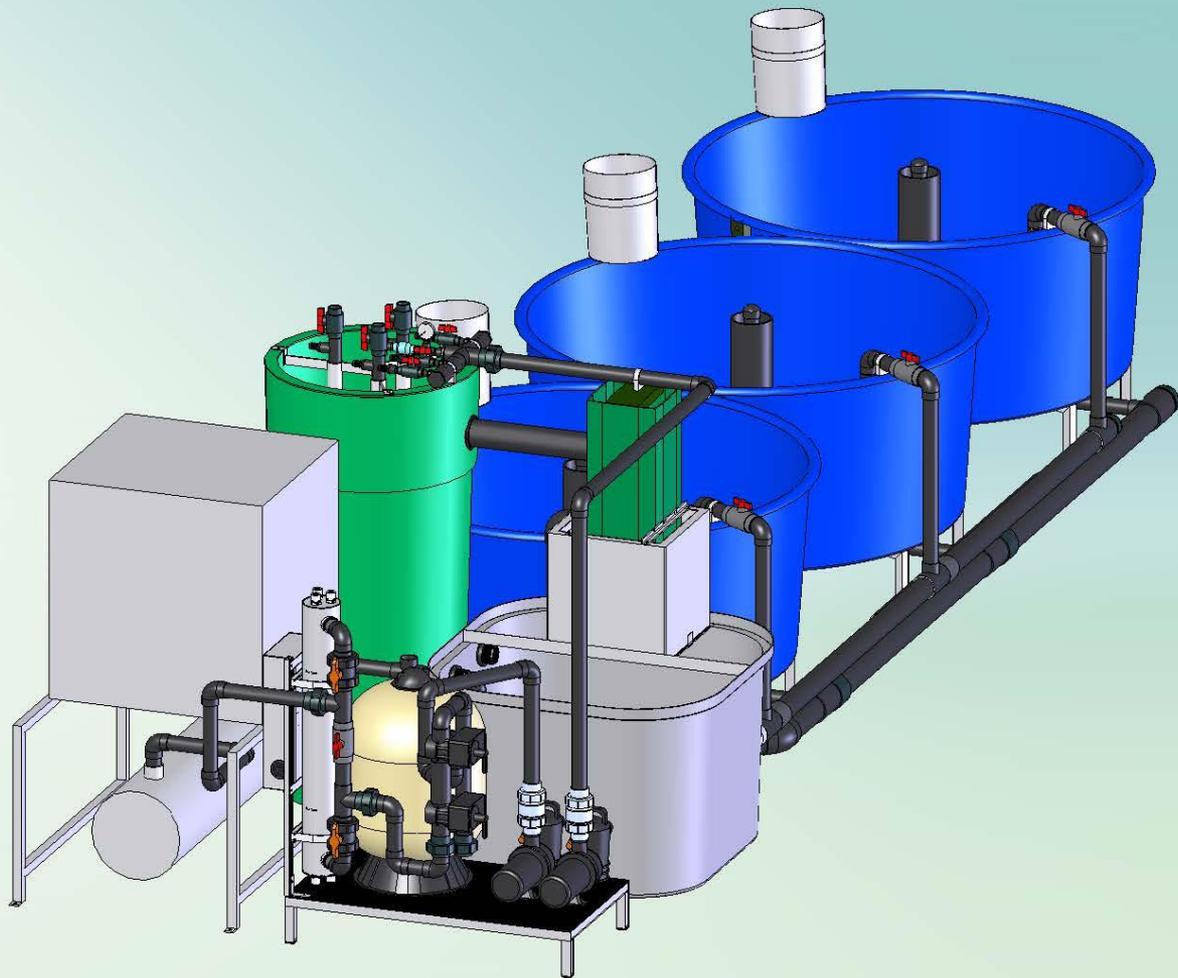
- Increased smolt production
- Increased temperature monitoring
- Introduction plan development – Battle Creek
- Barrier remediation – Deer and Battle Creeks

Klamath River Response

- Klamath Fish Health Assessment Team (KFHAT)
- Tribal and State Incident Command Structure
- Joint monitoring with Tribes (Yurok and Hoopa)
- Flow augmentation
 - 3 events (2 in Trinity, 1 from Iron Gate)

Fish Rescues

- 812 rescues in 52 different watersheds
- 51 species
- >270,000 fish









Fishery Closures or Restrictions

2014

- American River
- Russian River
- Selected central coast streams
- Merced River

2015

- Sacramento River (Redding)
- PFMC - Winter run Chinook constraints
- Merced River

Salmon and Trout Hatcheries

- Trucked ~ 50+ million smolts to acclimation pens – 2014 and 2015
- Evacuated 4 hatcheries (3 in 2014, 4 in 2015)
- Installed chillers and filtration – 1 facility
- Plans for 3 anadromous facilities – chillers and filtration
- Whirling disease in 3 facilities (~6 million trout)





American River







Law Enforcement

- Illegal water diversions
 - Marijuana Enforcement
- Fishing in closure areas
- Human wildlife/conflicts





Wildlife Drought Response

- Captive breeding programs
- Increase human wildlife encounters
- Building resilience and durability for refuges
 - 37 water infra-structure projects
 - Coordinated water operations



Human – Wildlife Conflict

- Geographic prioritization
- Pre-positioning of resources
- 24-hour response network
- Improve support facilities





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Successful Tools

- Partnerships with private landowners and NGO's
- Building resiliency into hatcheries and state lands
- Preparing for disease and increased human wildlife encounters
- Law Enforcement response
- Conservation facility

