

Incident Status Summary (ICS-209)

Incident: **Spillway - DWR Assist**

1. Incident Name: Spillway - DWR Assist		2. Incident Number: CA-CDF-000114	
3. Report Version (check one box): Initial <input checked="" type="checkbox"/> Update Final	4. Incident Commander(s) & Agency or Organization: Lawson/Whitlock/Honea	5. Incident Management Organization: Type 1 Team <input checked="" type="checkbox"/> Unified Command	6. Incident Start Date/Time: Date: 02/07/2017 Time: 1400 PST
7. Current Incident Size or Area Involved (use unit label – e.g., "Acres", "Square Miles"): 4002 Acres	8a. Percent (%) Contained or Completed: 0 %	9. Incident Type: Other B. Incident Description: Oroville Dam compromised spillway C. Cause: Unknown D. Fire Suppression Strategy:	10. Incident Complexity Level: <input checked="" type="checkbox"/> Single <input type="checkbox"/> Complex CALFIRE Incident Management Team 3 assigned in Unified Command with Department of Water Resources and Butte County Sheriffs Office.
	8b. Total Percentage (%) of Perimeter that will be Contained or Completed: 0 %		
12. Prepared By: Print Name: Josh Black Date/Time Prepared: 02/14/2017 0500 PST		13. Approved By: Print Name: Berry Biermann Signature: _____	
14. Date/Time Submitted: 02/14/2017 0557 PST		15. Primary Location, Organization, or Agency Sent To: California Department of Forestry/CAL FIRE	
16. State: CA	17. County / Parish / Borough: Butte	18. City: Oroville	
19. Unit or Other: Oroville Field Division	20. Incident Jurisdiction: DWR	21. Incident Location Ownership (if different than jurisdiction):	
22. Latitude/Longitude: Latitude: 39° 32' 22" Longitude: 121° 29' 49"	23. US National Grid Reference: Grid Zone: x-Coordinate: y-Coordinate:	24. Legal Description: Principal Meridian: Mt. Diablo Township: 19N Range: 4E Section: 2 1/4 Sec: of 1/4 Sec: NW	
25. Short Location or Area Description (list all affected areas or a reference point): Oroville Dam Spillway, Feather River, and Thermalito diversion pool.		26. UTM Coordinates: Zone: 10 Easting: 629160 Northing: 4377732	
27. Note any geospatial data available (indicate data format, content, and collection time information and labels):			

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28. Observed Fire Behavior or Significant Events for the Time Period Reported (describe fire behavior using accepted terminology. For non-fire incidents, describe significant events related to the materials or other causal agents):

Narrative:

29. Primary Fuel Model, Materials, or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc):

Narrative:

Water, concrete, soil/dirt, trees, debris are the main hazards to the spillways and downstream infrastructure.

30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc):

A spillway located at the Oroville Dam was compromised during heavy rains. Flowing water was diverted toward the adjoining hillsides, effectively eroding and undermining the spillway causing a section to collapse. Lake levels reached the emergency spillway, creating significant erosion which has since ceased. Work is being done to reinforce the emergency spillway in an effort to mitigate the potential of a breach if water were to overtop in the future. The Feather River Fish Hatchery moved most aquatic assets to safe areas. California State Parks has closed trails around the spillways and portions of the lake where necessary.

A. Structural Summary	B. # Threatened (up to 72 hrs)	C. # Damaged	D. # Destroyed
E. Single Residences	0	0	0
F. Multiple Residences	0	0	0
G. Mixed Commercial / Residential	0	0	0
H. Nonresidential Commercial Property	0	0	0
I. Other Minor Structures	0	0	0

31. Public Status Summary:

C. Indicate the Number of Civilians (Public) Below:

	Previous Report Total	A. # this Reporting Period
D. Fatalities	0	
E. With Injuries/Illness	0	
F. Trapped/In Need of Rescue	0	
G. Missing	0	
H. Evacuated	35,000	0
I. Sheltering in Place	0	
J. In Temporary Shelters	0	
K. Have Received Mass Immunizations	0	
L. Require Immunizations	0	
M. In Quarantine	0	

32. Responder Status Summary:

C. Indicate the Number of Responders Below:

	Previous Report Total	A. # this Reporting Period	B. Total # to-date
D. Fatalities	0		0
E. With Injuries/Illness	0		0
F. Trapped/In Need of Rescue	0		0
G. Missing	0		0
H. Evacuated	0		0
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A spillway located at the Oroville Dam was compromised during heavy rains. Flowing water was diverted toward the adjoining hillsides, effectively eroding and undermining the spillway causing a section to collapse. Lake levels reached the emergency spillway, creating significant erosion which has since ceased. Work is being done to reinforce the emergency spillway in an effort to mitigate the potential of a breach if water were to overtop in the future. The Feather River Fish Hatchery moved most aquatic assets to safe areas. California State Parks has closed trails around the spillways and portions of the lake where necessary.

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	Previous Report Total	A. # this Reporting Period		Previous Report Total	A. # this Reporting Period	B. Total # to-date
N. Total # Civilians (Public) Affected:	35,000	0	N. Total # Responders Affected:	0		0

<p>33. Life, Safety, and Health Status/Threat Remarks: All work on the emergency spillway has resumed due to Oroville Lake receding the emergency spillover height. DWR staff continues to discharge water through the main spillway, causing erosion to the hillside as expected. Lake elevation levels trending downward from maximum recorded height, however the emergency spillway has experienced degradation with a possibility of breach. Evacuation orders have been issued for numerous downstream communities.</p> <p>35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern): Dry weather and warming temperatures expected through Wednesday as high pressure builds in. Wet pattern returns late Wednesday and at least through Tuesday Feb 21st. Although...current models do not show any storms as strong as last week, the pattern is a wet one and the forecast could change heading forward.</p> <p>02/13/17 1800-0600 Mostly clear, 43 to 48 degrees with no chance of precipitation. Humidity will be at 86 to 91% with Northeast winds from 5 to 11 mph.</p> <p>Today Predicted...</p>	<p>34. Life, Safety, and Health Threat Management:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 20%;">Active?</th> </tr> </thead> <tbody> <tr><td>A. No Likely Threat</td><td></td></tr> <tr><td>B. Potential Future Threat</td><td style="text-align: center;">X</td></tr> <tr><td>C. Mass Notifications in Progress</td><td style="text-align: center;">X</td></tr> <tr><td>D. Mass Notifications Completed</td><td></td></tr> <tr><td>E. No Evacuation(s) Imminent</td><td></td></tr> <tr><td>F. Planning for Evacuation</td><td></td></tr> <tr><td>G. Planning for Shelter-in-Place</td><td></td></tr> <tr><td>H. Evacuation(s) in Progress</td><td style="text-align: center;">X</td></tr> <tr><td>I. Shelter-in-Place in Progress</td><td></td></tr> <tr><td>J. Repopulation in Progress</td><td></td></tr> <tr><td>K. Mass Immunization in Progress</td><td></td></tr> <tr><td>L. Mass Immunization Complete</td><td></td></tr> <tr><td>M. Quarantine in Progress</td><td></td></tr> <tr><td>N. Area Restriction in Effect</td><td style="text-align: center;">X</td></tr> <tr><td>O. Road Closure</td><td style="text-align: center;">X</td></tr> <tr><td>P. Trail Closure</td><td style="text-align: center;">X</td></tr> <tr><td>Q. Area Closure</td><td style="text-align: center;">X</td></tr> </tbody> </table>		Active?	A. No Likely Threat		B. Potential Future Threat	X	C. Mass Notifications in Progress	X	D. Mass Notifications Completed		E. No Evacuation(s) Imminent		F. Planning for Evacuation		G. Planning for Shelter-in-Place		H. Evacuation(s) in Progress	X	I. Shelter-in-Place in Progress		J. Repopulation in Progress		K. Mass Immunization in Progress		L. Mass Immunization Complete		M. Quarantine in Progress		N. Area Restriction in Effect	X	O. Road Closure	X	P. Trail Closure	X	Q. Area Closure	X
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<p>36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour time frames:</p>
<p>12 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Further mitigation measures are being taken to protect Hyatt Power Plant.</p>
<p>24 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Further mitigation measures are being taken to protect Hyatt Power Plant.</p>
<p>48 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Further mitigation measures are being taken to protect Hyatt Power Plant.</p>
<p>72 hours: Flow from spillway to be at 100,000 cfs to avoid flow over emergency spillway. Crews will be back filling emergency spillway to mitigate impacts from erosion. Further mitigation measures are being taken to protect Hyatt Power Plant.</p>
<p>Anticipated after 72 hours: TBD</p>

<p>37. Strategic Objectives (define planned end-state for incident): Continue work on the roadway on left side of diversion pool to provide access for debris removal in tailrace. Use barges and boat to survey and remove debris blockages. Build rock protection for right side</p>
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35,000	

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of spillway. Remove debris and logs out of diversion pool and chip. Utilization of main spillway to avoid use of emergency spillway. Evacuations ordered for numerous communities. Crews continue ongoing assessment of water levels and Oroville Dam conditions.

38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts:

12 hours: **Lake levels fell to 889.84' and the emergency spillway, which sits at 901', is no longer being utilized. While flow has ceased, drones flew the emergency spillway for a visual assessment of the area, and to find a safe access for DWR Inspection Teams. Data from Engineering and imagery from the flight were used to create an Emergency Spillway Erosion Plan. The Plan has been implemented and depicts predetermined repair priorities identified by need. Every effort is being made to have repairs completed if the emergency spillway were to overtop again. The top of the main spillway is at 817' with current lake level sitting at 889.84'. The flow was increased to 100,000 cfs today from 100,000. The 2 downhill roads from the emergency spillway have been significantly eroded with one being washed out. Additional uprooted trees were found lodged in the Thermalito Diversion Dam, located 4 miles downstream. Contractors are assessing how to remove blockage, which has been difficult due to weight limitations of dam crossing. Due to the continued threat of erosion to the main spillway, monitoring continues by DWR geology/engineering departments. Continued erosion threatens DWR power lines. The Hyatt Power Plant is flooding with the tailrace elevation at 254' exceeding the 252' threshold. Barges and cranes are being mobilized to remove debris in the tailrace. Power plant flooding is being mitigated by sandbagging and pumps placed around stoplog slots. The Feather River Hatchery staff and Fish and Wildlife Wardens made access today to access the fishery. Reports show that turbidity levels are down and fish are healthy and feeding. The Hatchery has lost power and is running on a standalone generator. 1 million Endangered Steelhead trout eggs, still in hatchery pools, are being supplemented with de-chlorinated hydrant water in a closed loop system since they can't be moved safely. 2 million endangered spring run Chinook Salmon along with 3 million fall run Chinook salmon have been moved to the Thermalito Annex facility located away from the river. 3 million out of 6 million fall run Chinook Salmon remain at the main hatchery facility due to the Thermalito Annex being at capacity. If conditions worsen or turbidity levels rise, a decision will be made to release the 3 million remaining Chinook salmon into the river to increase chances for survival. California State Parks made positive contact to all local cultural groups that potentially were effected by use of the emergency spillway and updated them on current conditions. There were several cultural impacts identified that could be effected, consultation is being done and plans are designed to minimize impacts and mitigate potential damage. Representatives from the cultural groups were escorted into the emergency spillway area and were given the opportunity to observe the damage in the area, from a distance, prior to the evacuation. The trail system directly affected by the damaged spillway include the Brad Freeman and Dan Beebe Trails and have been closed, along with a portion of Oroville Lake directly above the spillways. Ranger staff are providing roving patrols and responding to calls within the affected area by vessel, vehicle, and UTV due to a large number of contacts in the closed area. Impacts to the park include Soil erosion, water turbidity downstream, and tree and vegetation removal.**

24 hours: **Same as above.**

48 hours: **Same as above.**

72 hours: **Same as above.**

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Anticipated after 72 hours: Predicted rainfall for the end of next week, Wednesday 2/15/17.			
39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:			
12 hours: N/A			
24 hours: N/A			
48 hours: N/A			
72 hours: N/A			
Anticipated after 72 hours: N/A			
40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to: <ol style="list-style-type: none"> 1) critical resource needs identified above, 2) the Incident Action Plan and management objectives and targets, 3) anticipated results. Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts. Due to significant flow through the emergency spillway, numerous communities were evacuated. Based on initial threat of emergency spillway breach, the ICP was also evacuated as a precaution, but has since returned to DWR Oroville Field Division Headquarters. DWR crews continue to reinforce the dam components to repair damage and prepare for upcoming precipitation. Flows of 100,000 cfs are lowering levels in the Oroville Reservoir to create capacity for upcoming storms. Engineers and construction crews have assessed damage, developed repair plans and began work to bolster the emergency spillway.			
41. Planned Actions for Next Operational Period: Spillway operations to continue at 100,000 cfs depending on amount of erosion observed.			
42. Projected Final Incident Size/Area (use unit label – e.g., "Acres", "Square Miles"):			
43. Anticipated Incident Containment or Completion Date: 02/28/2017			
44. Projected Significant Resource Demobilization Start Date:			
45. Estimated Incident Costs to Date: \$5,300,000.00			
46. Projected Final Incident Cost Estimate:			
47. Remarks (or continuation of any blocks above – list block number in notation):			
49. Resources (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box):			
48. Agency or Org		50. Ovhd	51. Tot Pers
C&L	Rsrc		
	Pers	20	20
CA	Rsrc		
	Pers	139	139
CA-CDF	Rsrc		
	Pers	39	39
52. Total Resources			198
53. Additional Cooperating and Assisting Organizations Not Listed Above: Butte County OES, Caltrans, Yuba Fire Department, Marysville Police Department, Calfire, PG&E, CHP, Cal State Parks, Butte County Sheriff, Oroville Police Department, Oroville Fire Dept, Butte County Public Works, Marysville Hospital, Yuba City Fire Department			