

Inundation Mapping

“We Lay the Groundwork for Success”

INUNDATION MAPPING AND EMERGENCY ACTION PLANNING

Condor Earth (Condor) provides inundation mapping and Emergency Action Plan (EAP) preparation services to dam owners to ensure that inundation maps adhere to Federal guidelines and State regulations. Recent legislative changes to dam safety were adopted by California through the passing of Senate Bill 92 (SB 92). SB 92 requires EAPs and inundation maps to be updated every 10 years or when significant changes occur at the dam or downstream of the dam. SB 92 brings inundation maps under jurisdiction of the Department of Water Resources (DWR), Division of Safety of Dams (DSOD). Owners of dams in hazard classifications of ‘significant’, ‘high’, and ‘extremely high’ are now required to submit inundation maps for DSOD approval, and to prepare an EAP for approval by the California Office of Emergency Services (Cal OES).

The primary purpose of an inundation map is to show areas that would be flooded and travel times for wave front and flood peaks at critical locations if a dam failure occurs or if there are operational releases during flood conditions. Inundation maps are a necessary component of the EAP and are used by the dam owner and emergency management authorities to facilitate timely notification and evacuation of areas potentially affected by a dam failure or flood conditions.



Condor utilizes the best available topographic information and HEC-RAS 1D/2D unsteady-flow hydraulic modeling to simulate downstream hydraulic routing and timing to determine inundation areas. Model output is then used by Condor’s GIS staff to create inundation maps that are consistent with “FEMA P-946 Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures” and applicable State regulations.

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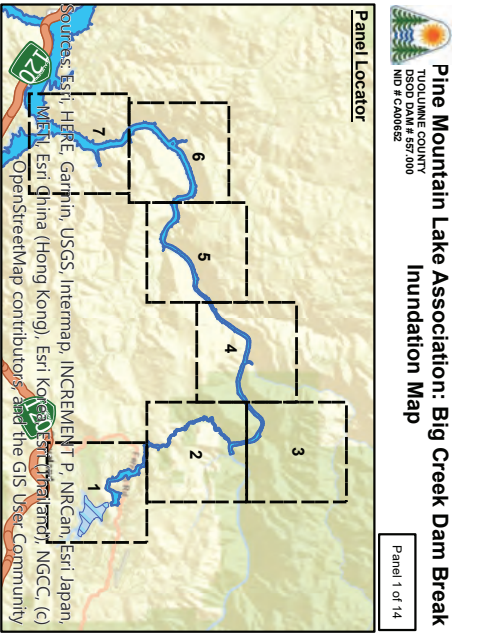
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Pine Mountain Lake Association: Big Creek Dam Break Inundation Map
 PINE MOUNTAIN LAKE ASSOCIATION
 1300 W. WILSON AVENUE
 MOUNTAIN VIEW, CA 94038

Legend

- X Distance Downstream (Miles)
- Highway
- Major Road
- Minor Road
- Ramp
- Map_Grid
- Big Creek Dam
- Stream Center Line
- Pine Mountain Lake
- Inundated Structure Locations
- Sunny Day Breach Inundation (> 1ft. Depth)



DATA SOURCES:
 PRELIMINARY INUNDATION AREAS WERE PREPARED BY CONDOR EARTH, JULY 2018. LIDAR SCENES WERE PROCESSED INTO A DEM, AS THE PRIMARY ELEVATION DATA PRODUCT PRODUCED AND DISTRIBUTED BY THE USGS. HORIZONTAL DATUM NAME: NORTH AMERICAN DATUM OF 1983. ALTITUDE DATUM NAME: NORTH AMERICAN VERTICAL DATUM OF 1988. MAP COMPILED IN GEOGRAPHIC COORDINATES, NAD 1983. PROJECTION: LAMBERT CONFORMAL CONIC - CALIFORNIA STATE PLANE ZONE 3 (FEET).

NOTE:
 BECAUSE OF THE METHOD, PROCEDURES, AND ASSUMPTIONS USED TO DEVELOP THE INUNDATION AREA, THE LIMITS OF FLOODING SHOWN AND FLOOD WAVE ARRIVAL TIMES ARE APPROXIMATE AND SHOULD BE USED ONLY AS A GUIDELINE FOR ESTABLISHING EVACUATION ZONES. ACTUAL AREAS INUNDATED WILL DEPEND ON CONDITIONS DURING ACTUAL FAILURE AND MAY DIFFER FROM AREAS SHOWN ON THE MAP.

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