

State of Lake Elsinore



February 21, 2019

Recent Events for Lake Elsinore



- **August 2018** – Holy Fire burns over 22,000 acres in five canyons of Cleveland National Forest.
- **October** – Agencies begin planning for rainfall and related debris flows.
- **November 29** – First major rain storm, limited debris flows
- **December 6** – Larger storm, significant rainfall, intensity, and debris flows.
- **December 20** – Fish Die Off Begins
- **January 16** – Canyon Lake began to spillover, continues through Feb. 21
- **Approx. Jan. 24** – Fish Die Off Ends, 5 Weeks
- **February 14** – Largest storm, significant rainfall, intensity and debris flows
- **February 15** – Lake closed due to debris, reopens on Feb 21

Fish Die Offs



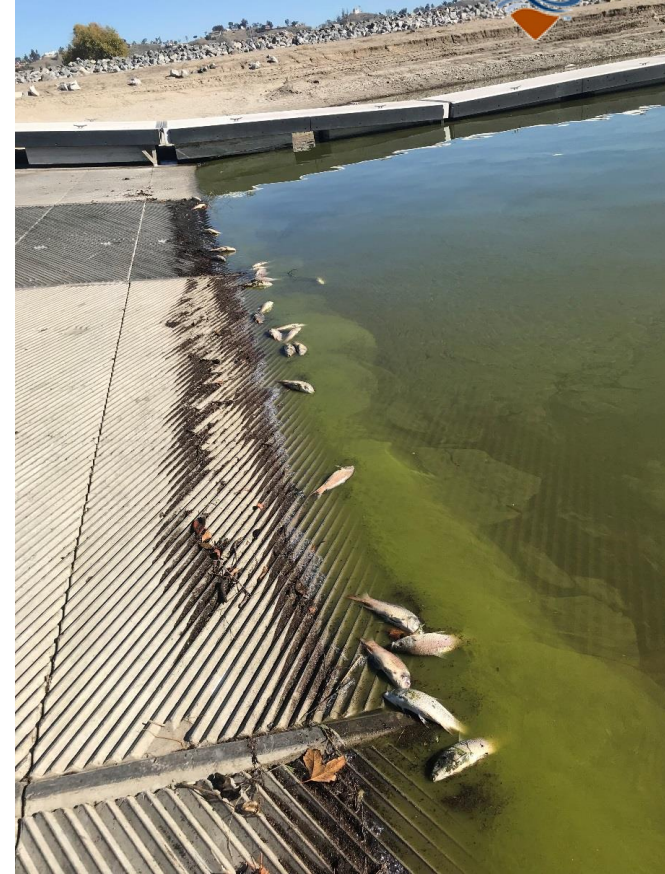
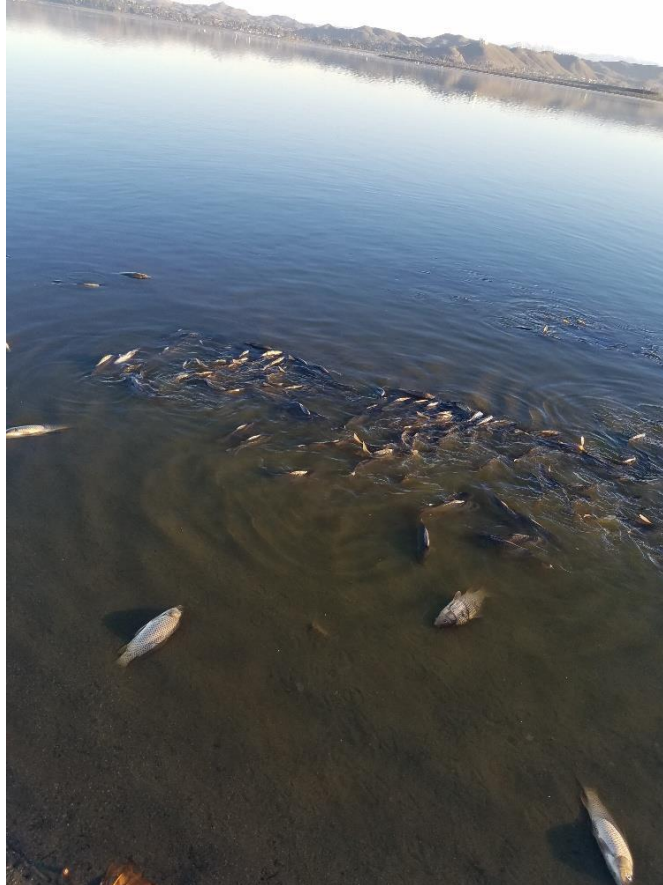
- **2015**
 - August 5 - 8: 11 tons
 - August 10 – 11: 5 tons
 - August 19: 7 tons
- **2017**
 - August 3 – 5: 2 tons
- **2018**
 - May 26 – June 1: 41 tons
- **2019**
 - Dec. – Jan 2019: 150 tons



Fish Die Off



Dec. 20th





What Happened: Golden Algae



- First time documented in LE
- January 9th Water Samples
 - Golden Algae at HIGH concentrations
 - 10 to 12 times highest algae
- First time documented in LE
- Signs of Golden Algae
 - Blooms in Winter Months
 - Prevalant in Urban Runoff Waters
 - Toxic to Fishery
- Toxicity Testing with Minnows – 100% Mortality



Historic Lake Elsinore Rainfall



Historic Rainfall 1993 - 2004

1993	25.20
1994	10.14
1995	18.92
1996	7.31
1997	8.35
1998	24.41
1999	5.79
2000	6.20
2001	9.10
<i>2002</i>	<i>2.90</i>
2003	13.52
2004	6.70
2005	28.80
2006	8.62

Historic Rainfall 2005 - 2019

2006	8.62
<i>2007</i>	<i>1.60</i>
2008	9.34
2009	8.81
2010	11.39
2011	14.97
2012	5.78
2013	4.42
2014	4.59
2015	7.01
2016	6.62
2017	14.61
<i>2018</i>	<i>3.38</i>
2019	11.87

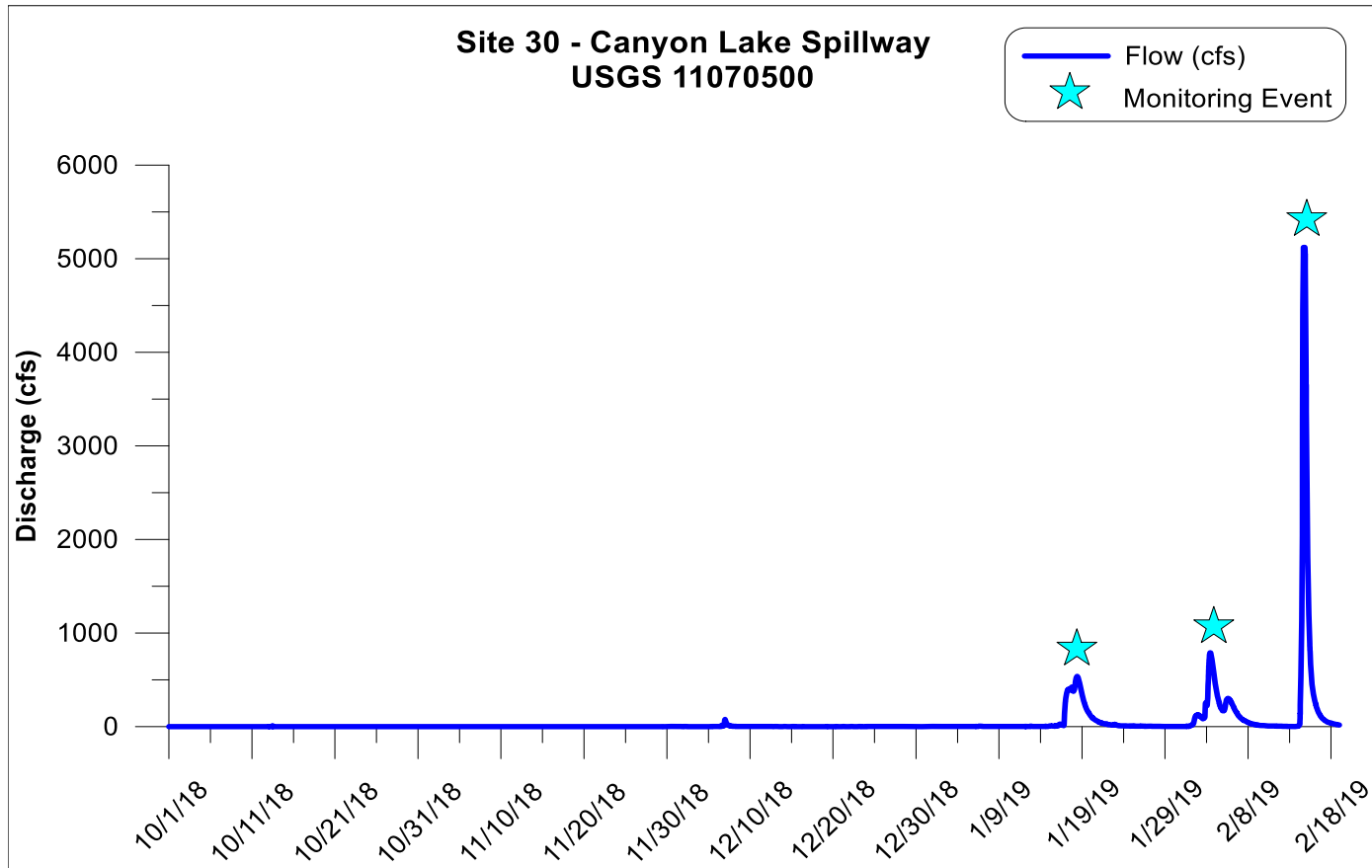
NWS Est.: 14"

Canyons Est.: 25"

Average Rainfall:
11 inches

Year Starts July 1

Canyon Lake Spillway



Today:
1381.75'

Spillway:
1381.76'

Canyon Lake Spillway



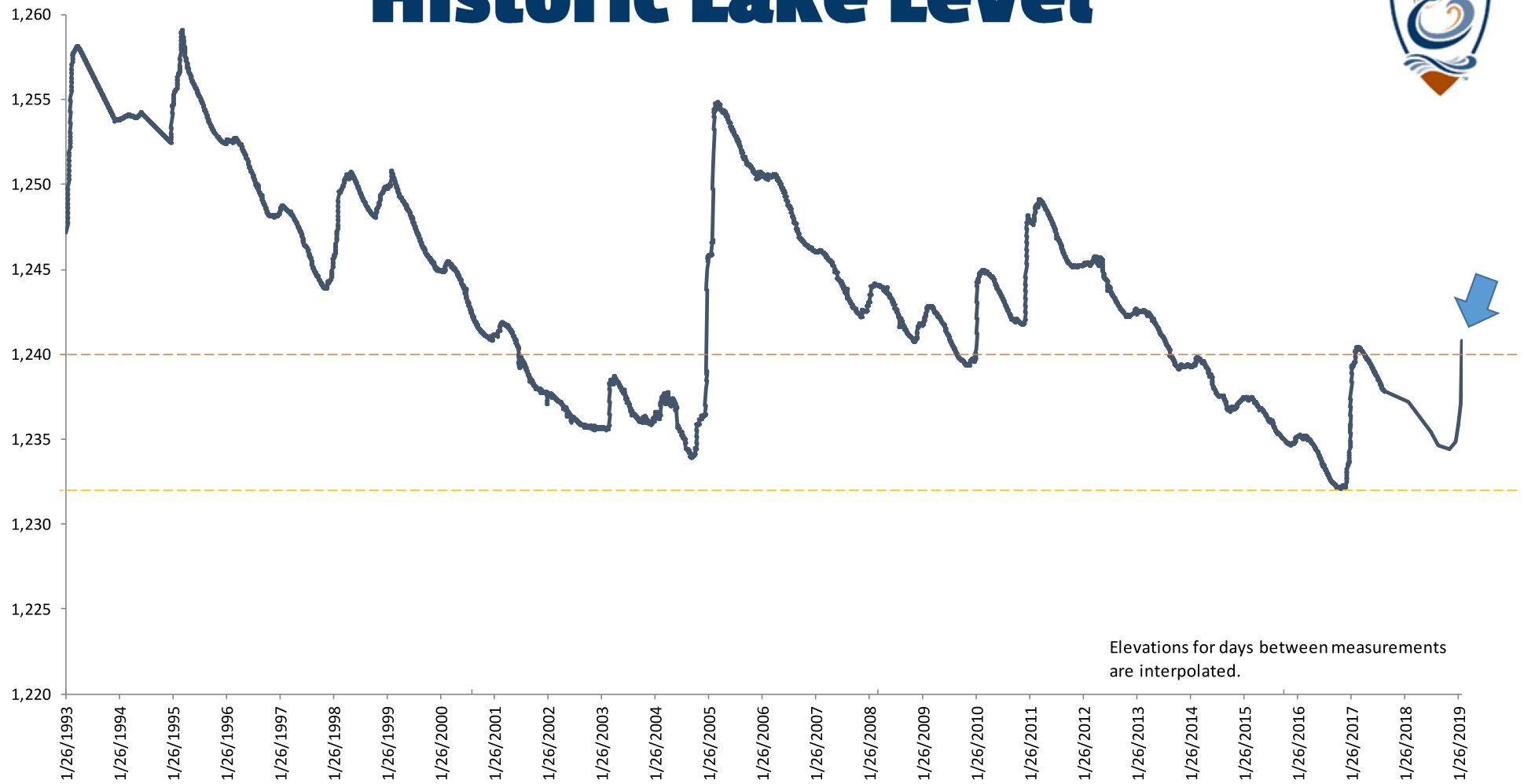
January 16th



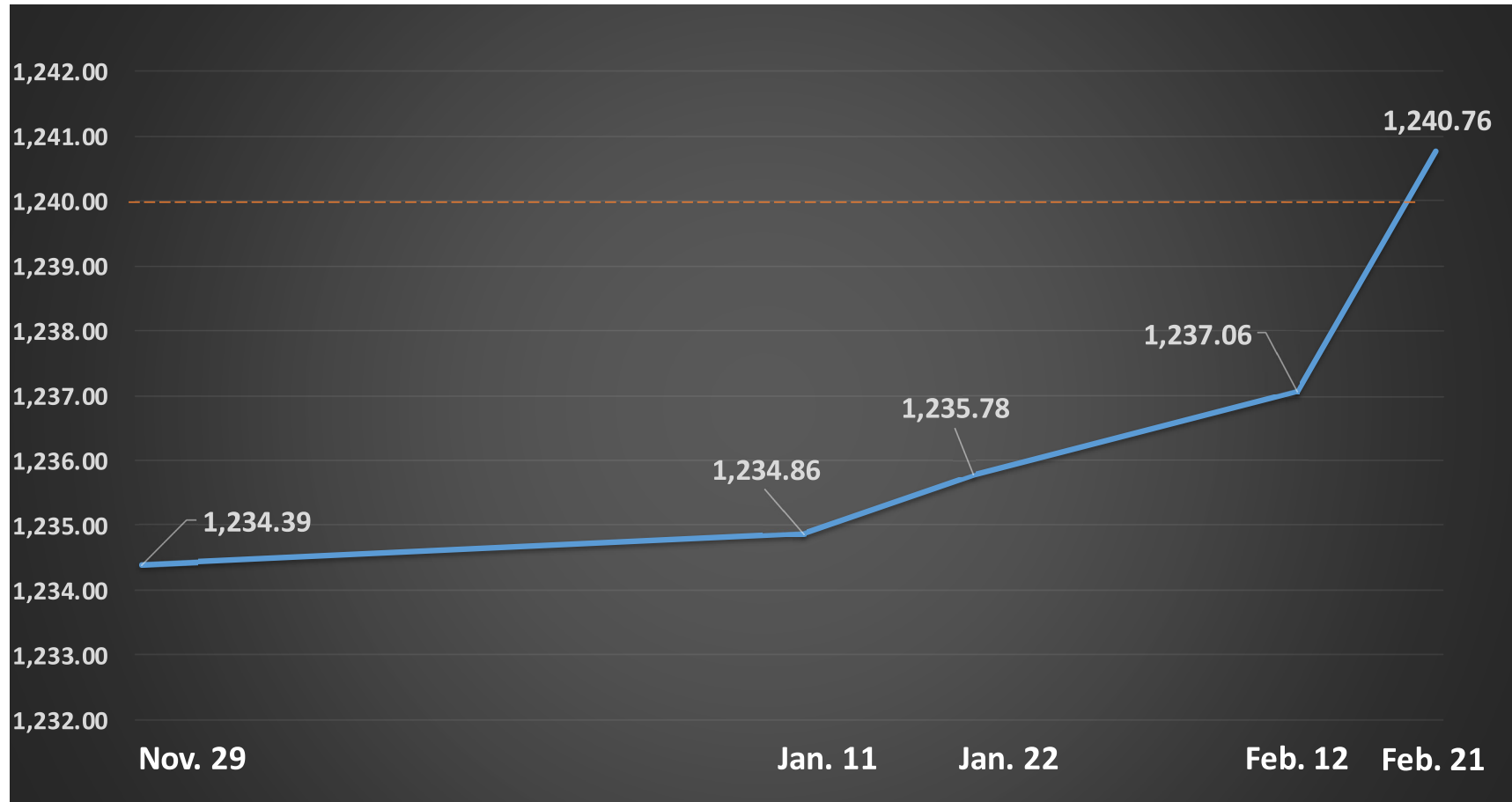
February 14th



Historic Lake Level



Recent Lake Levels



Satellite Imagery of Lake Elsinore



Document Path: \\Sdg1-fs1\gis\3151_AquaticResources\Lake_Elsinore\MXD\ReportFigures\Lake_Elsinore_CHL_TUR_2016-01-13.mxd, Date: 2/20/2019

wood.

Satellite Imagery
Lake Elsinore
February 19, 2019 Satellite Flyover Event

0 500 1,000
Meters



Holy Flood Sediment Plume



What's Next for Lake Elsinore

- **Goal:** Dredge out sediment plumen
- Awaiting Sediment Chemistry Results
- Cleanup and Abatement Application Submitted Feb. 20
 - Comprehensive spatial analysis
 - Breadth and depth of plume
- Organizing Conference Call with Army Corps of Engineers
- City & County Continue State of Emergency

