Fire Impacts on Los Angeles County Watersheds

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

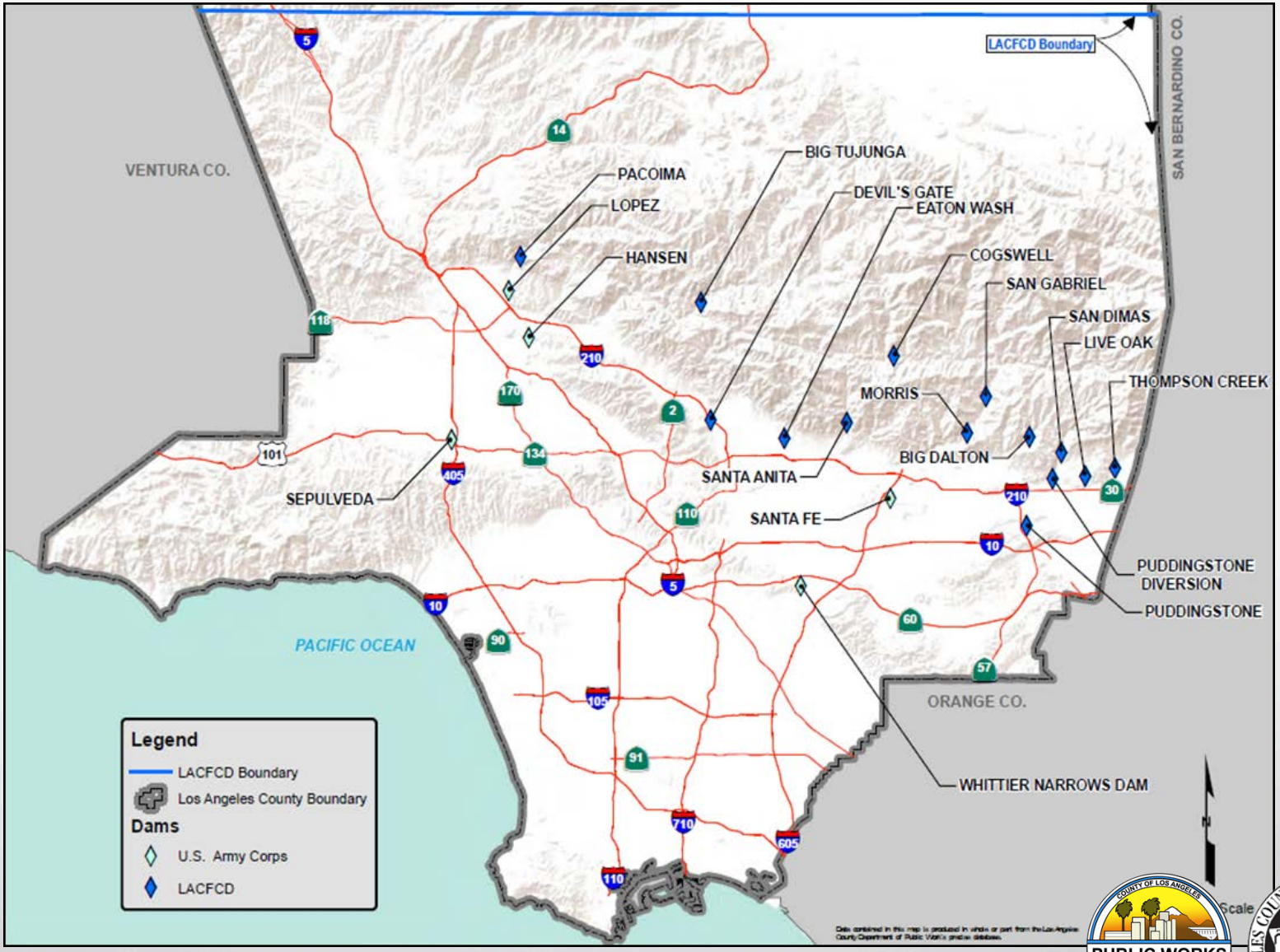
Presented by: Eric Batman, PE

Los Angeles County Flood Control District

Owns and operates a complex flood protection and water conservation system that includes:

- 14 major dams
- 172 debris basins
- 500 miles of open channels
- 20 sediment placement sites
- 27 spreading grounds

Los Angeles County Flood Control District

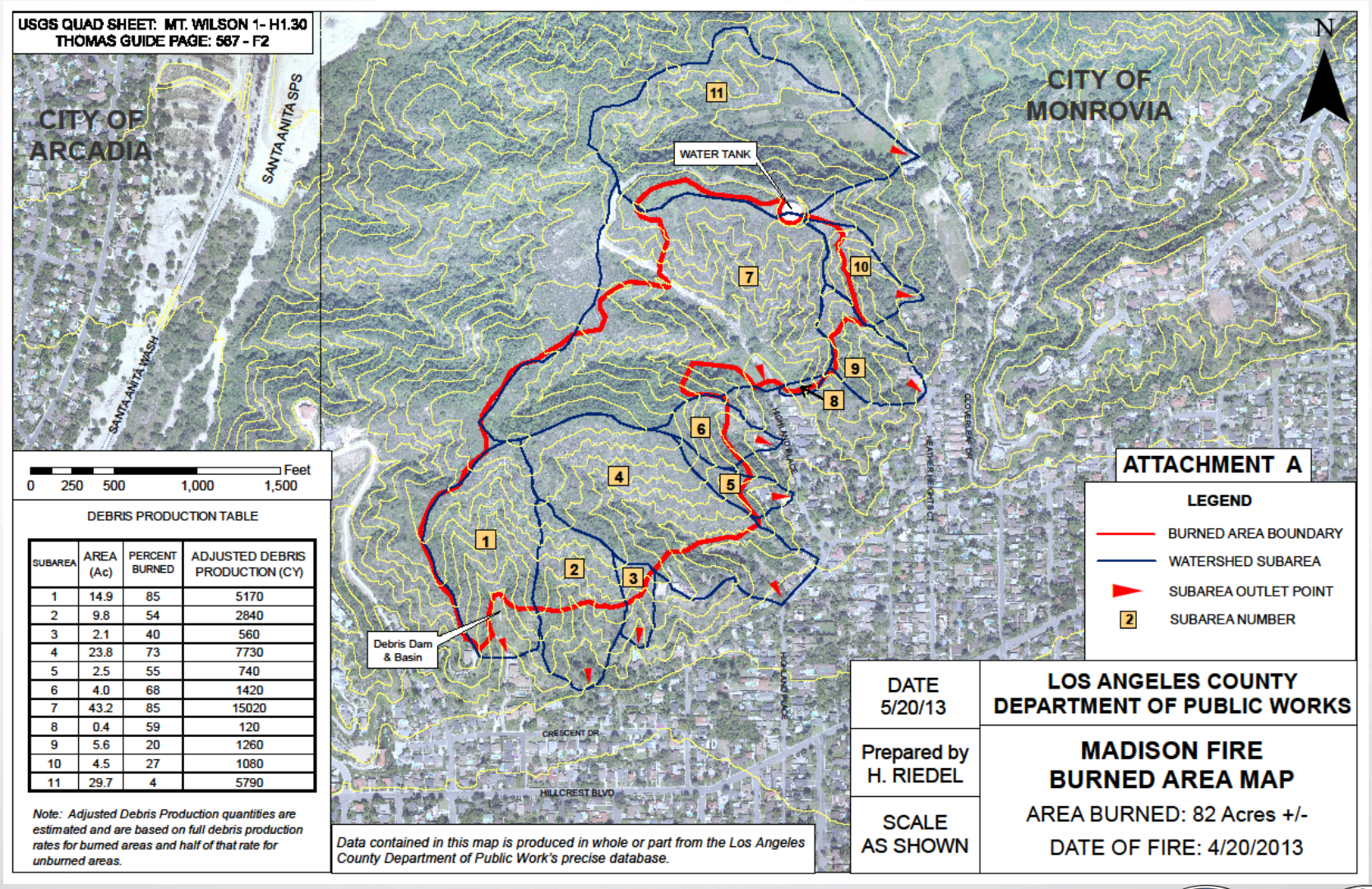


Fires in Los Angeles County

Recent Fires in Los Angeles County

	Name of Fire	Date of Fire	Burned Area (Acres)	Evacuation Properties - Safety	Evacuation Properties - Access	Watershed
1	CREEK	Dec-17	15,619	186	576	Los Angeles River
2	SKIRBALL	Dec-17	422	12	22	Ballona Creek
3	LA TUNA	Sep-17	7,194	347	1,393	Los Angeles River
4	BROOK	May-17	12	0	9	Malibu Creek
5	SAND	Aug-16	41,432	275	68	Santa Clara and LA River
6	FISH	Jun-16	5,302	9	13	San Gabriel River
7	OLD	Jun-16	671	0	5	Calabasas/Los Angeles River
8	WHEATLAND	May-16	156	11	2	Los Angeles River
9	CALGROVE	Jun-15	415	8	19	Santa Clara River
10	COLBY	Jan-14	1,952	63	477	San Gabriel River
11	WILSON TERRACE	May-13	36	37	34	Los Angeles River
12	MADISON	Apr-13	82	26	29	San Gabriel River
			73,293	974	2,647	
13	STATION	Aug-09	160,577	63	837	LA River and San Gabriel River

Map Fire and Determine Potential Debris Production

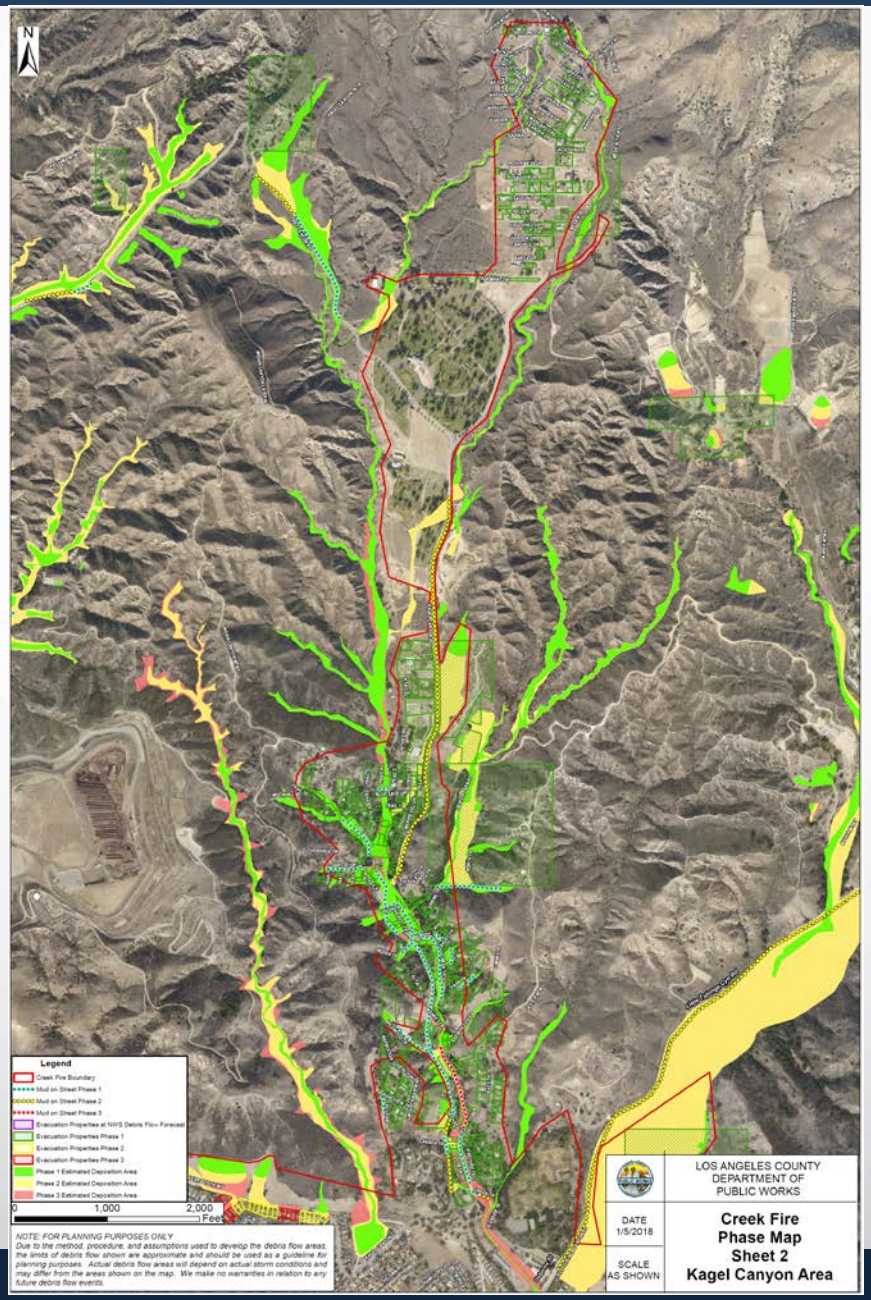


DEBRIS PRODUCTION TABLE

SUBAREA	AREA (Ac)	PERCENT BURNED	ADJUSTED DEBRIS PRODUCTION (CY)
1	14.9	85	5170
2	9.8	54	2840
3	2.1	40	560
4	23.8	73	7730
5	2.5	55	740
6	4.0	68	1420
7	43.2	85	15020
8	0.4	59	120
9	5.6	20	1260
10	4.5	27	1080
11	29.7	4	5790

Note: Adjusted Debris Production quantities are estimated and are based on full debris production rates for burned areas and half of that rate for unburned areas.

Develop Debris Phase Maps



Evaluate Potential Impacts to Residences

Community Outreach

Construct Temporary Debris Retention Structures

Issue Debris/Mudflow Forecasts for Burned Areas

POST FIRE SEDIMENT MANAGEMENT AT FLOOD CONTROL DAMS

Sediment Concerns at Flood Control Dams

- Fires accelerate sediment accumulation
- Reduced reservoir capacity
- Potential to block outlet works
- Increased flood risk to facilities/communities downstream
- Creates increased risk for dam safety

Devil's Gate Dam and Reservoir

Watershed Size: 31.9 sq. mi.

Percent Burned: 68% (100% undev.)

Original Capacity: 7.4 MCY

Remaining Capacity: 1.3 MCY

Target Capacity: 3.0 MCY

Cogswell Dam and Reservoir

Watershed Size: 39.2 sq. mi.

Percent Burned: 90%

Original Capacity: 19.8 MCY

Remaining Capacity: 16.8 MCY

Planned Sediment Removal: 2.6 MCY

Construction Period: 2018 – 2020

Big Tujunga Dam and Reservoir

Watershed Size: 82.3 sq. mi.

Percent Burned: 87%

Original Capacity: 10.1 MCY

Remaining Capacity: 8.0 MCY

Planned Sediment Removal: 2.0 - 4.4 MCY

Construction Period: 2019 – 2023

Pacoima Dam and Reservoir

Watershed Size: 28.2 sq. mi.

Percent Burned: 96%

Original Capacity: 9.8 MCY

Remaining Capacity: 4.3 MCY

Planned Sediment Removal: 3.0 - 5.2 MCY

Construction Period: 2020 – 2024

San Gabriel Dam and Reservoir

Watershed Size: 202.7 sq. mi.

Percent Burned: N/A

Original Capacity: 86 MCY

Remaining Capacity: 71 MCY

Planned Sediment Removal: 5 MCY

Construction Period: 2019 – 2024

Excavate Sediment

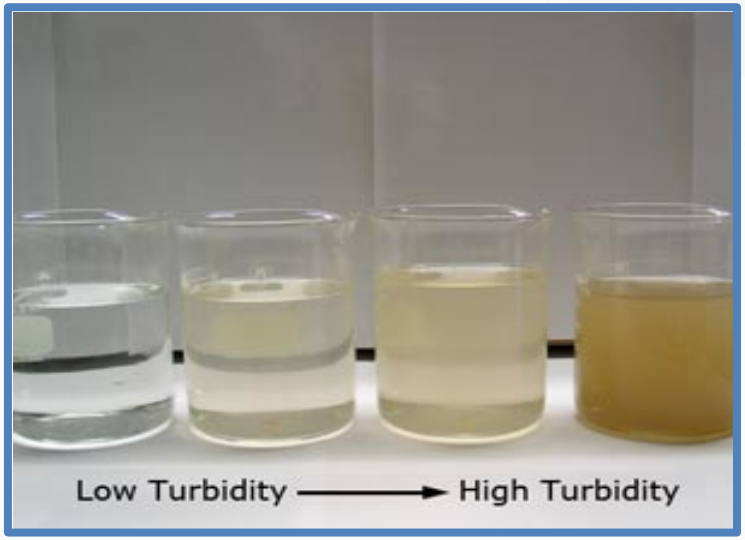
Sediment Placement Sites

PUBLIC WORKS

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Spreading Grounds

Spreading Grounds



Thank You

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Stormwater Engineering Division