

# Asset Management Division Operations Branch

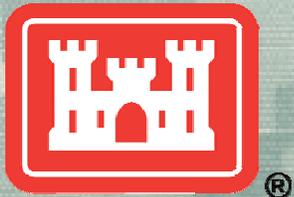
## LACDPW Sediment Management Workshop

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Los Angeles District

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US Army Corps of Engineers  
**BUILDING STRONG**



Pine & Matthews Canyon Dams (NV): \$ 321,100  
Inspection of Completed Works (ICW) - (NV): \$ 54,500

## Nevada

### Los Angeles County Drainage Area (LACDA): \$ 4,329,800

Santa Ana River Basin (SARB): \$ 2,924,600

Mojave Dam(CA): \$ 271,300

Scheduling Reservoir Ops (CA): \$ 260,600

Inspection of Completed Works (ICW) - (CA): \$ 1,207,900

## California

Alamo Dam (AZ): \$ 1,450,400

Painted Rock Dam (AZ): \$ 1,241,500

Whitlow Ranch Dam (AZ): \$ 282,200

Scheduling Reservoir Ops (AZ): \$ 31,500

Inspection of Completed Works (ICW) - (AZ): \$ 187,200

## Arizona

### O&M (FRM) Program

- 3 States
- 17 Flood Risk Management (FRM) Projects (  )
- 54 miles of FRM channels

**FY 2010 O&M (FRM) Program Budget: \$ 14,914,600**

# Los Angeles County Drainage Area, CA



## Project Description

Project consists of six Corps owned and operated flood control structures and 38 miles of flood control channels which are located throughout Los Angeles County.

### **Dams:**

Sepulveda Dam, Lopez Dam, Hansen Dam, Santa Fe Dam, Whittier Narrows Dam, Haines, Debris Basin

### **Channels:**

Los Angeles River, San Gabriel River, Rio Hondo River, Ballona Creek, Haines Canyon, Alhambra Wash, San Jose Creek, Verdugo Wash, Burbank Western Channel, Compton Creek

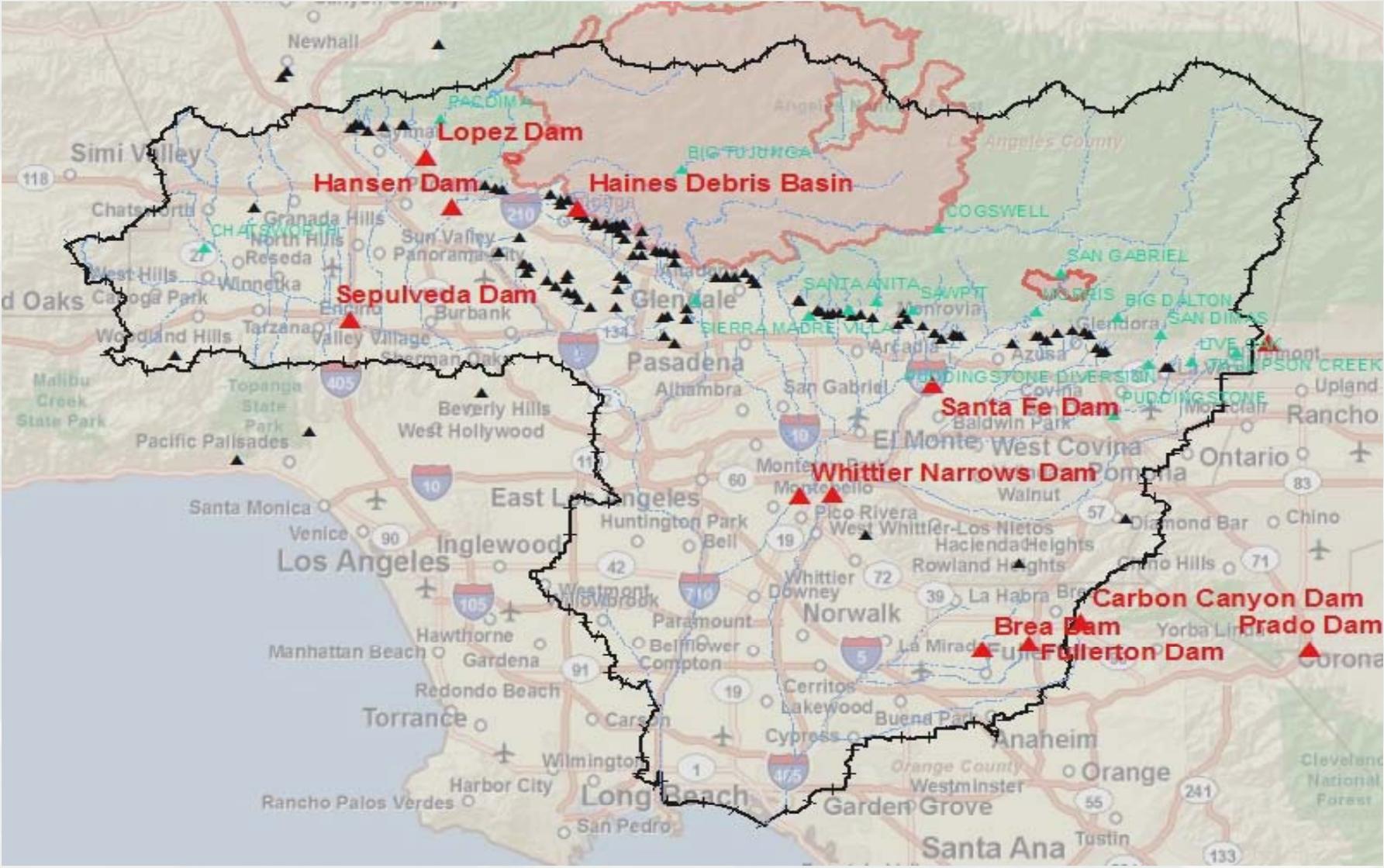


**FY2010 LACDA (O&M) project funding: \$4.3M**

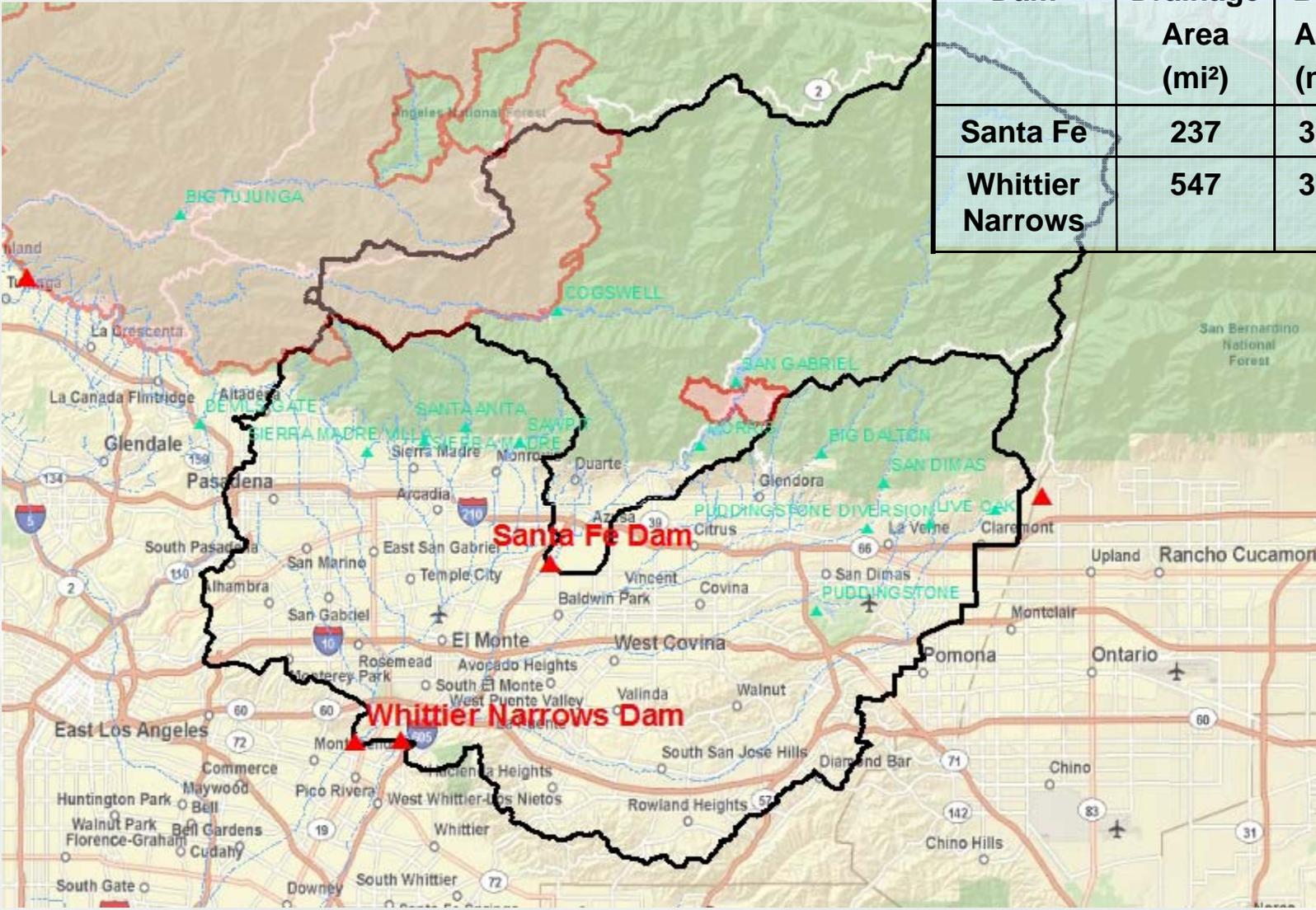
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# Station Fire Burn Area in relation to USACE projects



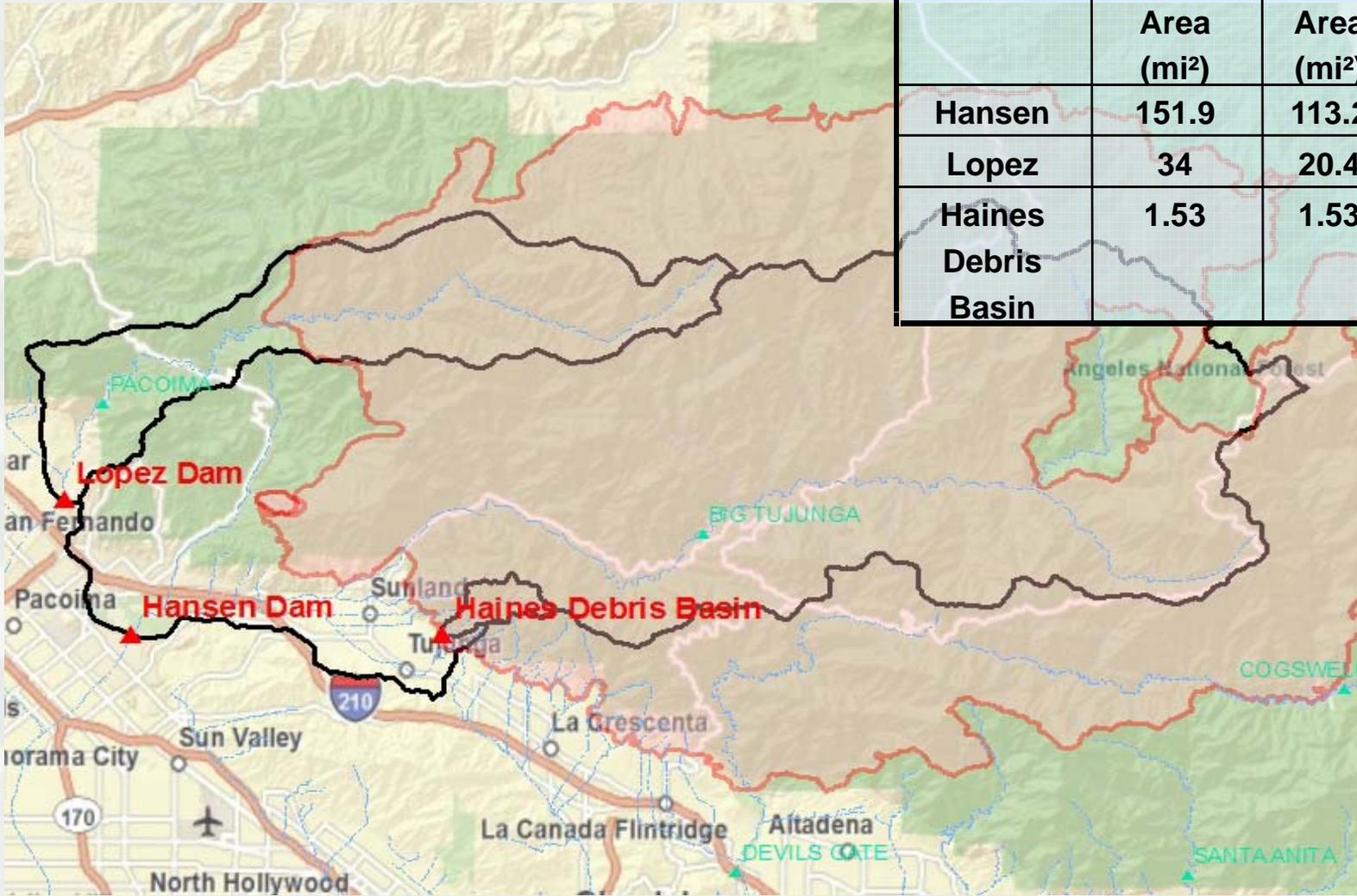
# Santa Fe and Whittier Narrows Dams



Dam	Drainage Area (mi <sup>2</sup> )	Burn Area (mi <sup>2</sup> )	Burn Area (%)
Santa Fe	237	36.4	15
Whittier Narrows	547	37.4	3



# Hansen Dam, Lopez Dam, and Haines Canyon Debris Basin



Dam	Drainage Area (mi <sup>2</sup> )	Burn Area (mi <sup>2</sup> )	Burn Area (%)
Hansen	151.9	113.2	75
Lopez	34	20.4	60
Haines Debris Basin	1.53	1.53	100



# Sediment Amounts within LACDA Reservoirs

Project	Age of Project (years)	Latest Survey		Top of Flood Control Pool ( <b>Spillway Crest</b> )							Notes
		Date	Age (years)	Original Storage (ac-ft)	Per latest Survey (ac-ft)	Loss (ac-ft)	Loss (%)	50-yr Sediment Allowance (ac-ft)	100-yr Sediment Allowance (ac-ft)	% 50-yr Sediment Allowance Loss (ac-ft)	
Lopez Dam	49	2010	0	305	168	137	45%	794	--		The debris allowance at Lopez is based on a 1% slope u/s from the spillway. The original/latest storage shown is based on level pool. Lopez is not designed to reduce inflow but rather capture debris.
Hansen Dam	70	2004	6	33,100	33,348	-248	-1%	10,500	21,000		Probably lost some capacity in 2005
Sepulveda Dam	69	2004	6	17,437	18,129	-692	-4%	0	0		Used Elev 710' for top of FC Pool. Used 1944 survey as reference
Santa Fe Dam	62	1995	15	34,296	30,887	3,409	10%	8,000	16,000		<b>Does not</b> account for loss of storage from sluicing by LACDPW in 1998
Whittier Narrows Dam	53	1995	15	34,863	33,465	1,398	4%	0	0		Elev 228.5', top of spillway gates, is the reference elevation

# Haines Canyon Debris Basin



# USACE Dams in relation to LACDPW SPS Locations



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- The FY2009 Station Fire left the areas above Haines Canyon Debris Basin (LACDA) completely denuded of vegetation resulting in an extremely high probability of debris flows filling the basins and exceeding the design capacity (148,000 yd<sup>3</sup>) with sediment over **the next four years**.
- District O&M (Operations & Maintenance) LACDA funds in the amount of \$1M and FCCE (Flood Control and Coastal Emergency) funds in the amount of \$3M were used in FY10 to remove sediment from Haines Canyon Debris Basin prior to, and following, the large storm events which occurred during the FY10 rain season.
- The Station Fire has also resulted in large amounts of sediment entering Pacoima Dam (LACDPW) which is upstream of Lopez Dam. LACDPW is in the process of trying to coordinate a sluice operation from Pacoima Dam to Lopez Dam during the FY2011 rain season. Based on an aerial survey conducted in June 2010, Lopez Dam has a 45% loss of storage capacity within the basin which will need to be restored prior to any sluicing occurring in order to maintain flood control capacity.
- LACDPW is also trying to coordinate the sluicing of material from Morris Dam (LACDPW) to Santa Fe Dam (similar to sluicing operation which occurred in 1998). In 1995 the basin was surveyed as having a 10% loss of storage capacity. Since then the basin received additional sediment from the 1998 sluicing and 1995 to 2010 rain seasons. LACDPW is coordinating a survey of the basin to identify capacity. Additionally the Corps is currently executing a contract to repair the drop structures between Morris Dam and Santa Fe Dam.
- Supplemental funding requests have already been sent through HQ South Pacific Division to HQUSACE for LACDA (\$3M - Haines Canyon Debris Basin, \$9M Lopez Dam) for sediment removal.
- Currently the LACDA O&M project funding for FY11 is projected to be ~\$4.4M. However there are discussions that the O&M program across the Corps of Engineers will receive a 10% reduction in funding over the next several years.



## **Ongoing Sediment Management Coordination**

- LACDPW:
  - May SPS sediment placement (Haines Canyon Debris Basin) – emergency clean out during WY2010
  - Pacoima Dam sediment removal planning (sluice to and remove sediment from Lopez Dam)
  - Morris Dam sediment removal planning (sluice to and remove sediment from Santa Fe Dam)
- RWQCB:
  - Haines Canyon Debris Basin – 401b coordination (ongoing)

## **Sediment Management Opportunities**

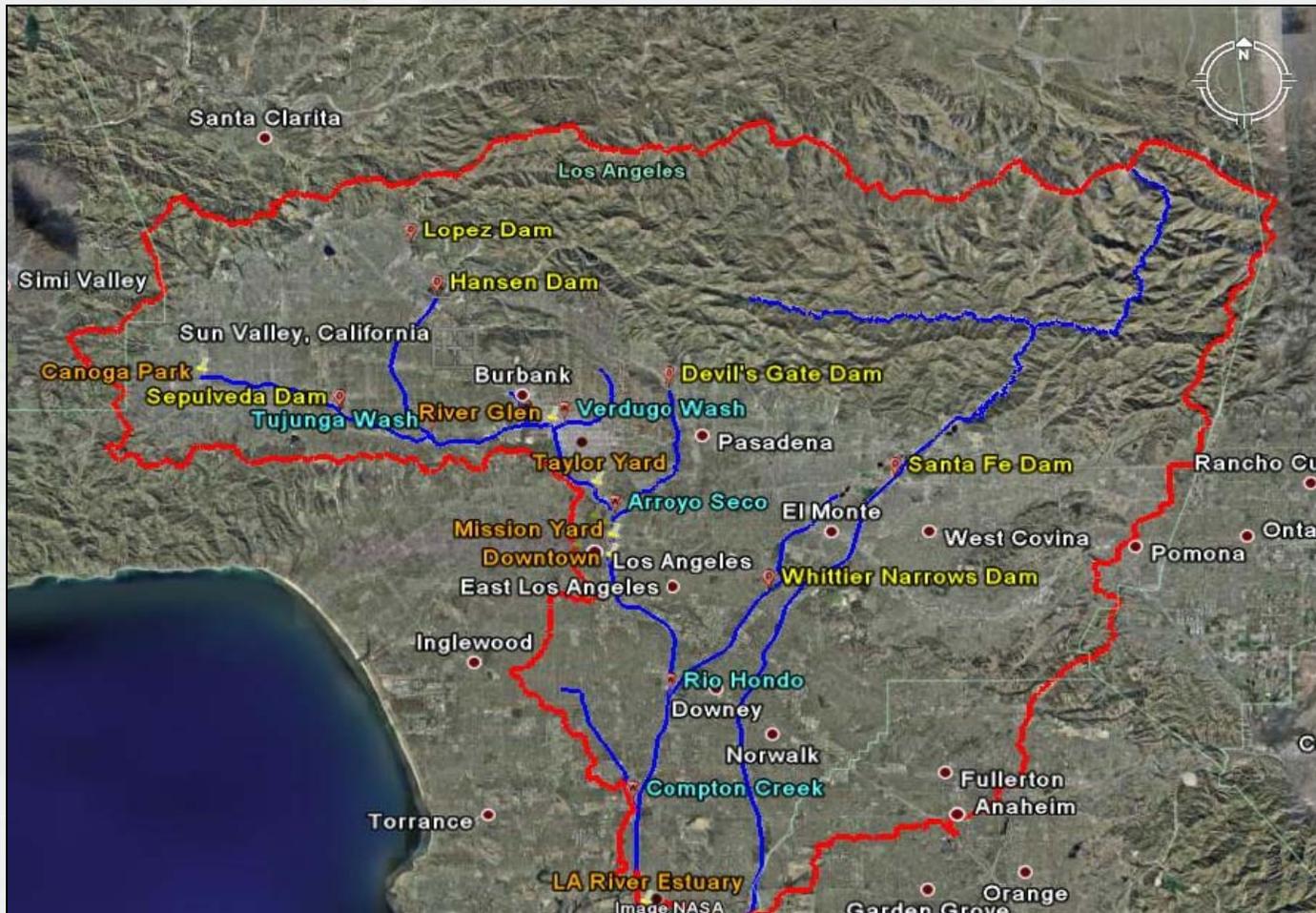
- Potential expanded use of sediment placement sites and coordination with LACDPW and USFS to identify additional sites to be used throughout the system
- Sediment Management partnership for LACDA system
- Potential 401 coordination for LACDA system instead of individual projects
- Potential 404 coordination for LACDA system instead of individual projects
- Regional Sediment Management Planning

## **Immediate Sediment Management Issues**

- The Corps of Engineers only owns land within flood control basins; thus do not have a permanent sediment disposal or placement site which material can be stored.
- The LACDA (O&M) project is projected to receive \$4.4M in FY2011 and the overall program may face reductions in FY2012-2014. The sediment removal costs for Haines Canyon Debris Basin alone were over \$4M during FY2010.
- Regional sediment removal planning and coordination will need to be accelerated in order to respond to the exponential amount of sediment entering our basins as a result of the Station Fire.



# Los Angeles County Drainage Area



## LACDPW Sediment Management Workshop

