

Los Angeles River – Progress and Opportunities

California Legislature
Senate Committee on
Natural Resources and Water

Woodland Hills, California

13 December 2013

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Los Angeles District



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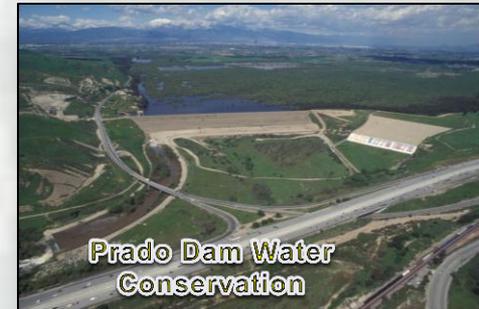
US Army Corps of Engineers
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Los Angeles District CIVIL WORKS PROGRAM MISSIONS



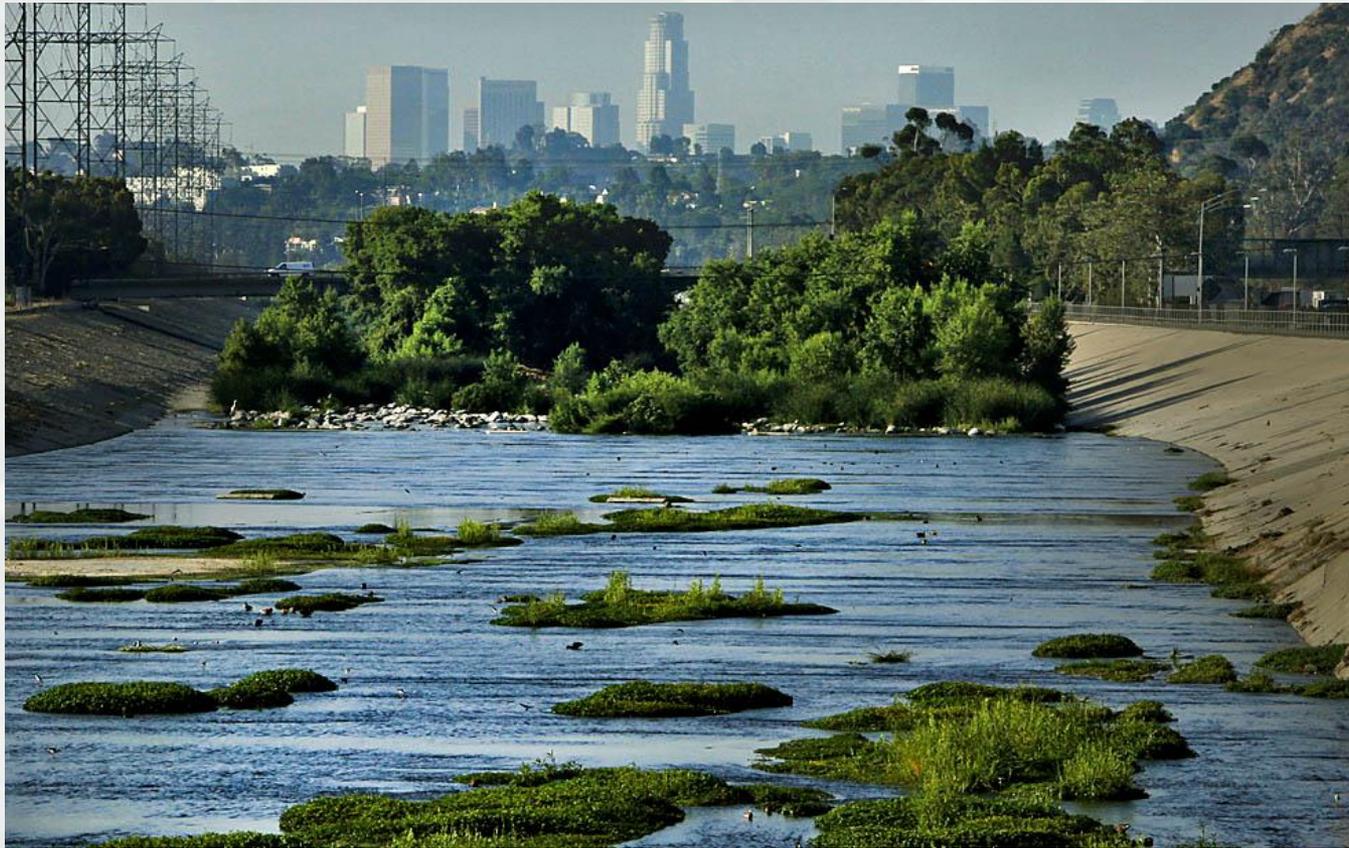
- Navigation
- Flood Risk Management
- Ecosystem Restoration
- Water Supply
- Recreation
- Disaster Preparedness & Response
- Regulatory (Wetlands / US Waters)





- LA River Ecosystem Restoration (ARBOR)
- LA River Ecosystem Restoration (Headworks)
- Arroyo Seco Ecosystem Restoration
- Sepulveda Basin Ecosystem Restoration
 - Main River Channel
 - Encino Channel
 - Woodley Channel

LOS ANGELES RIVER ECOSYSTEM RESTORATION FEASIBILITY STUDY (ARBOR)



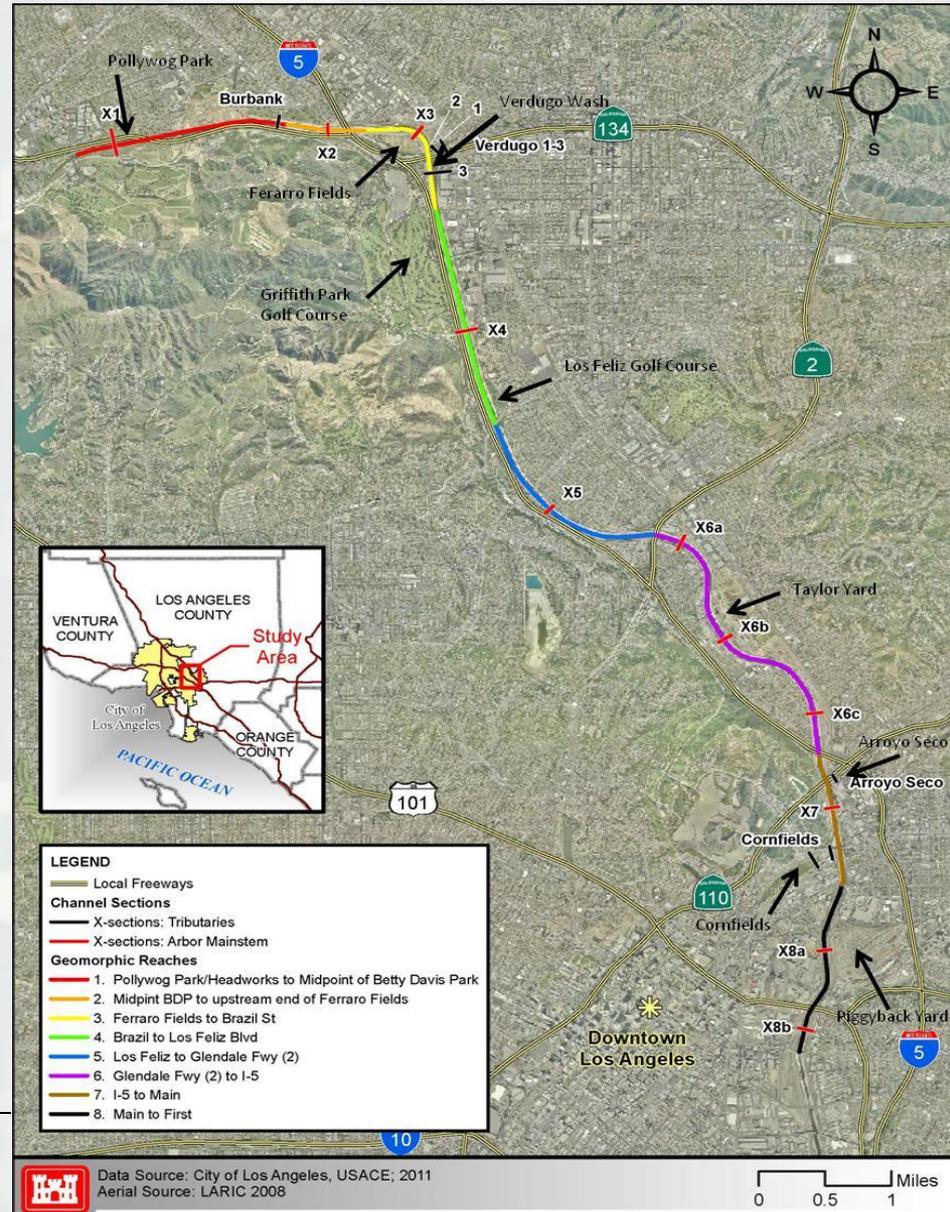
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Study Area

Initial study area - 32 mile reach of the river City of Los Angeles

Public input focused the study on an 11-mile stretch of the river

- with a number of opportunities for connections to other ecological areas
- with the most potential for restoration of habitat values

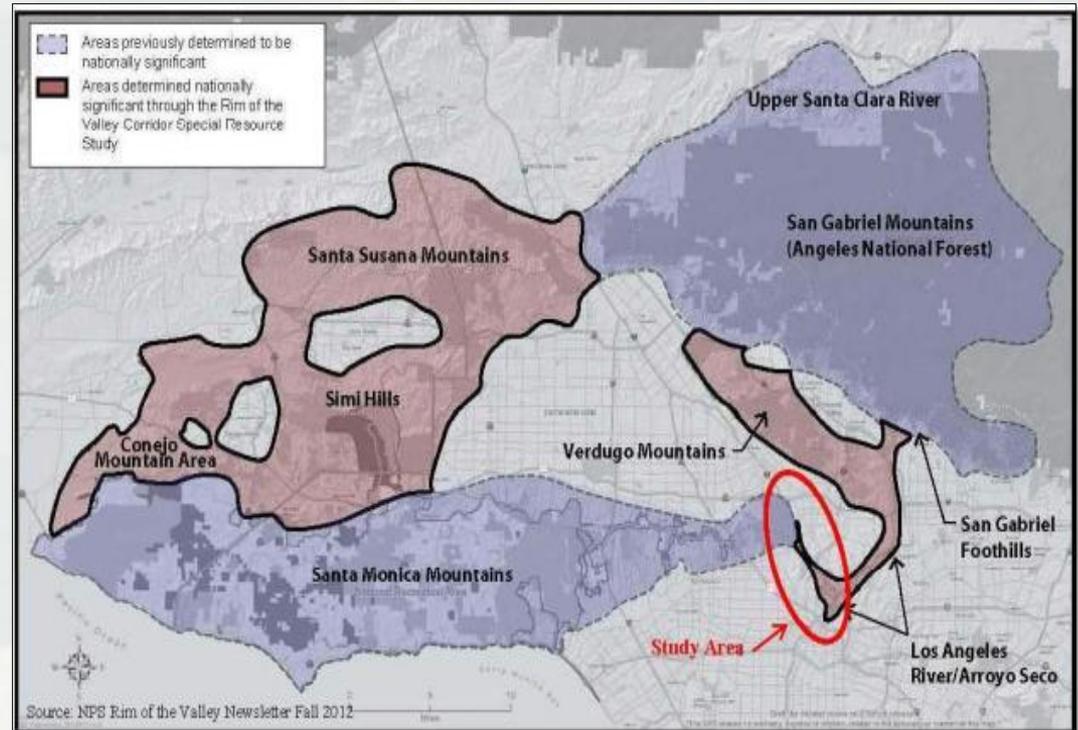


Planning Objectives

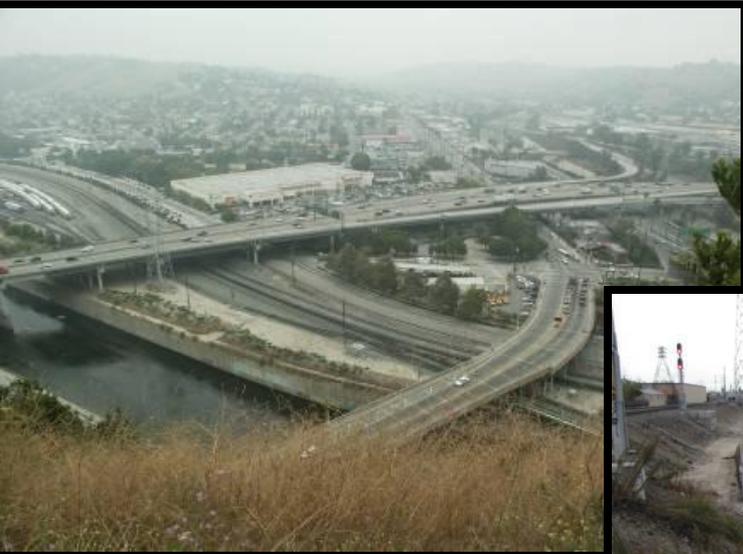
RESTORE VALLEY
FOOTHILL RIPARIAN
AND FRESHWATER
MARSH HABITAT

INCREASE HABITAT
CONNECTIVITY

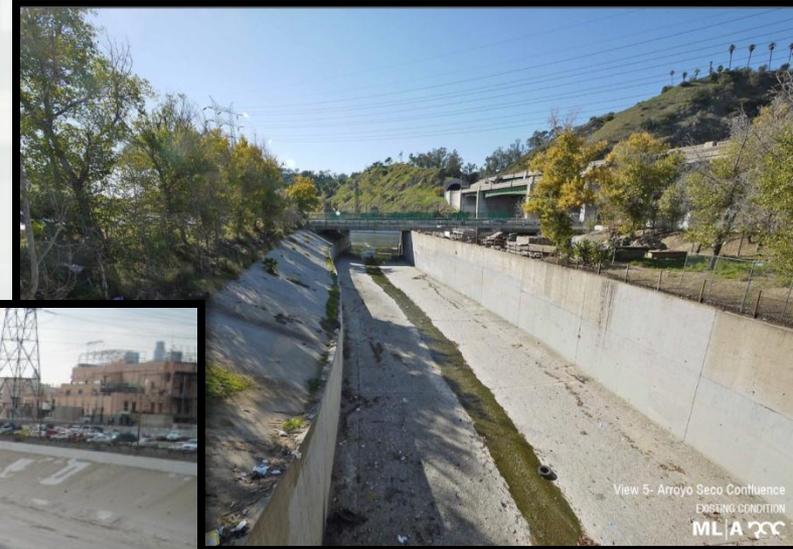
PROVIDE PASSIVE
RECREATION



Problems & Needs



Loss of aquatic habitat
Lack of river processes
Lack of connectivity



Highly altered hydrology
High velocity flows

Impervious surfaces
Urban runoff and pollution



Lack of substrate & natural sedimentation
Invasive vegetation & trash



Lack recreation opportunity

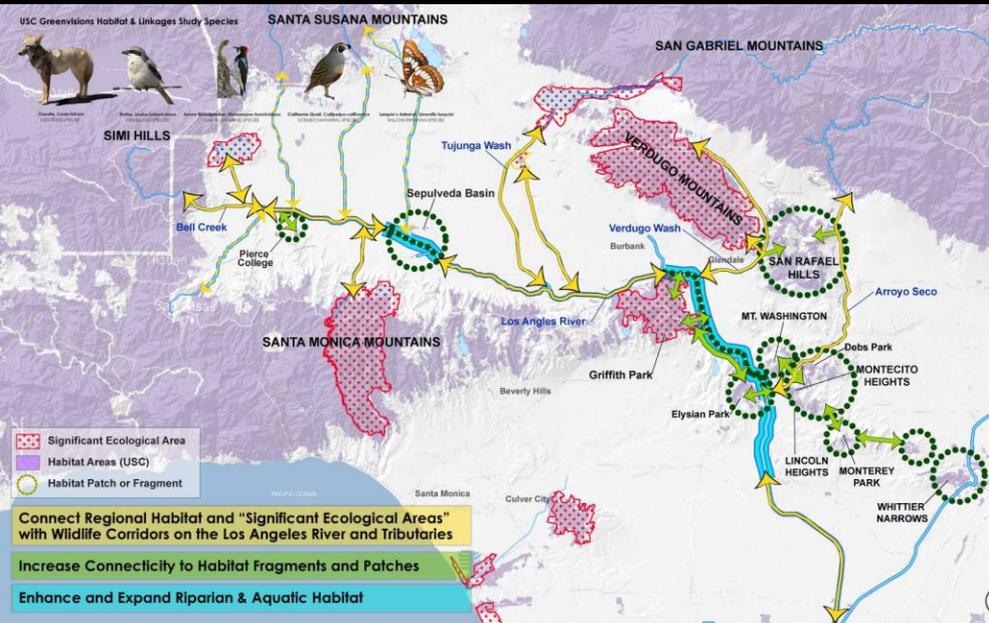


Opportunities

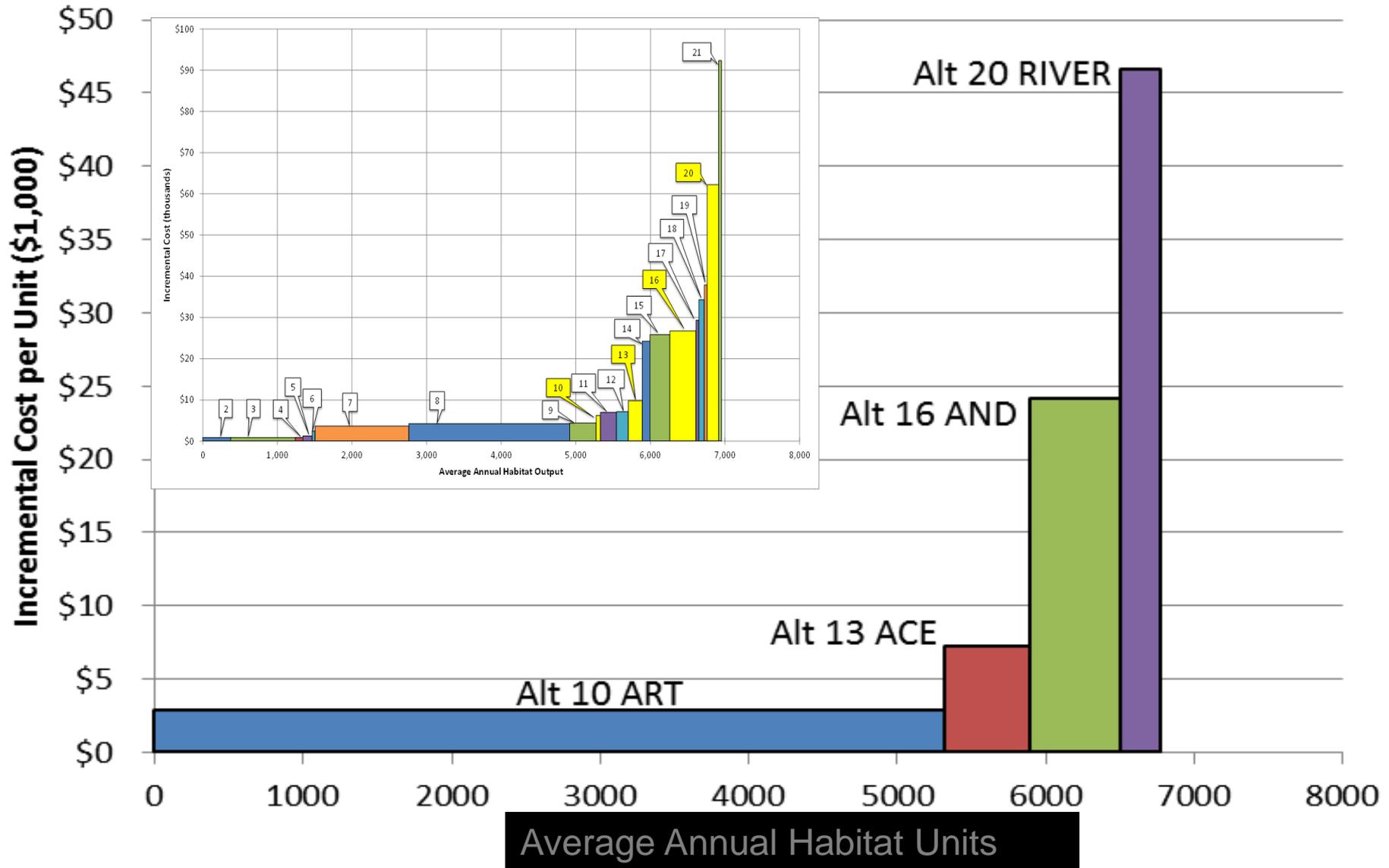


Restore Southwestern Valley Foothill Riparian & Freshwater Marsh Ecosystems

- Connects Habitat Areas
- Wildlife Corridors
- Linear Habitat
- Flow Dependent
- Sharp Contrast
- Diverse Structure

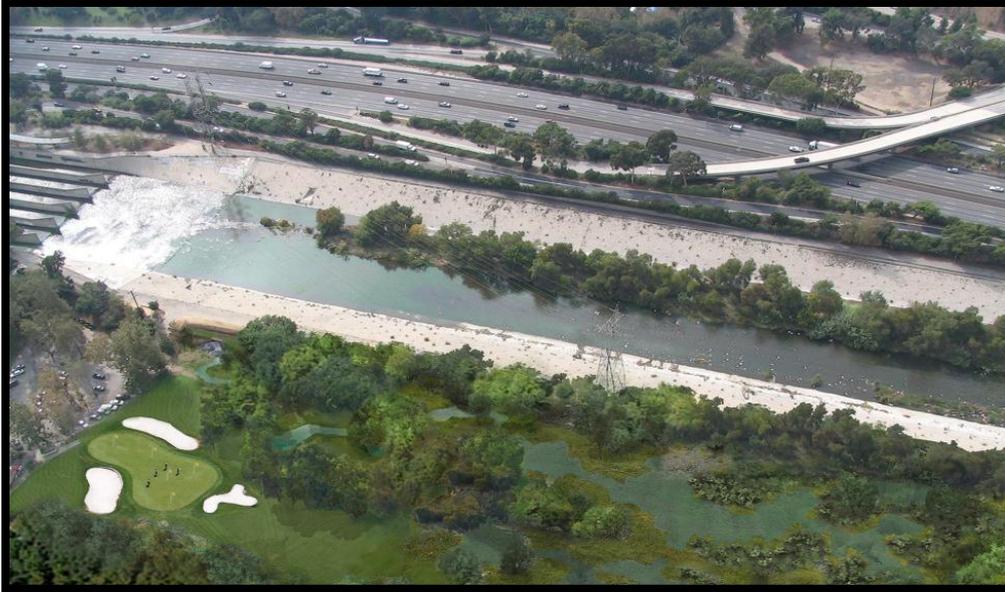


Final Array – Selected from Best Buy Plans

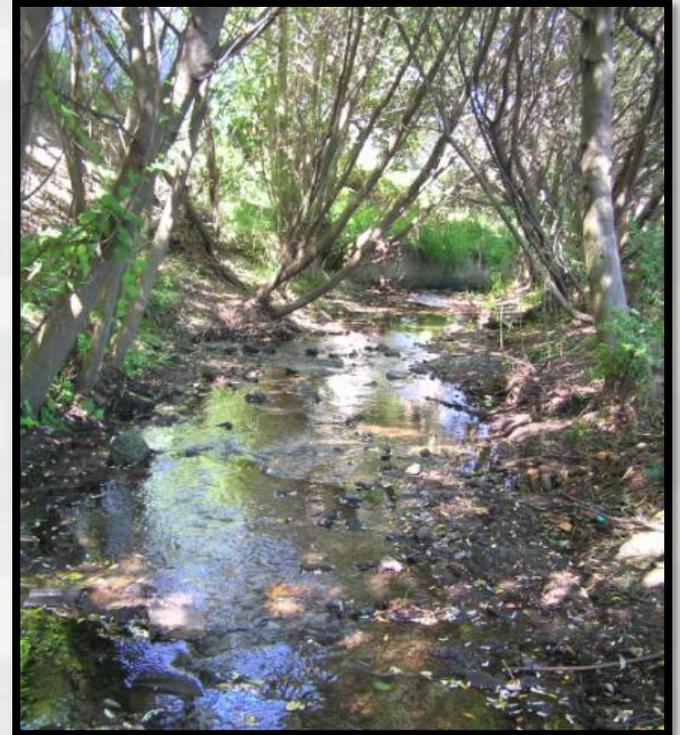


Alternative 10 ART

Features



**Los Feliz
Golf Course
Side Channel**



**Side Channel at
Griffith Park**

**Riparian
Corridors**

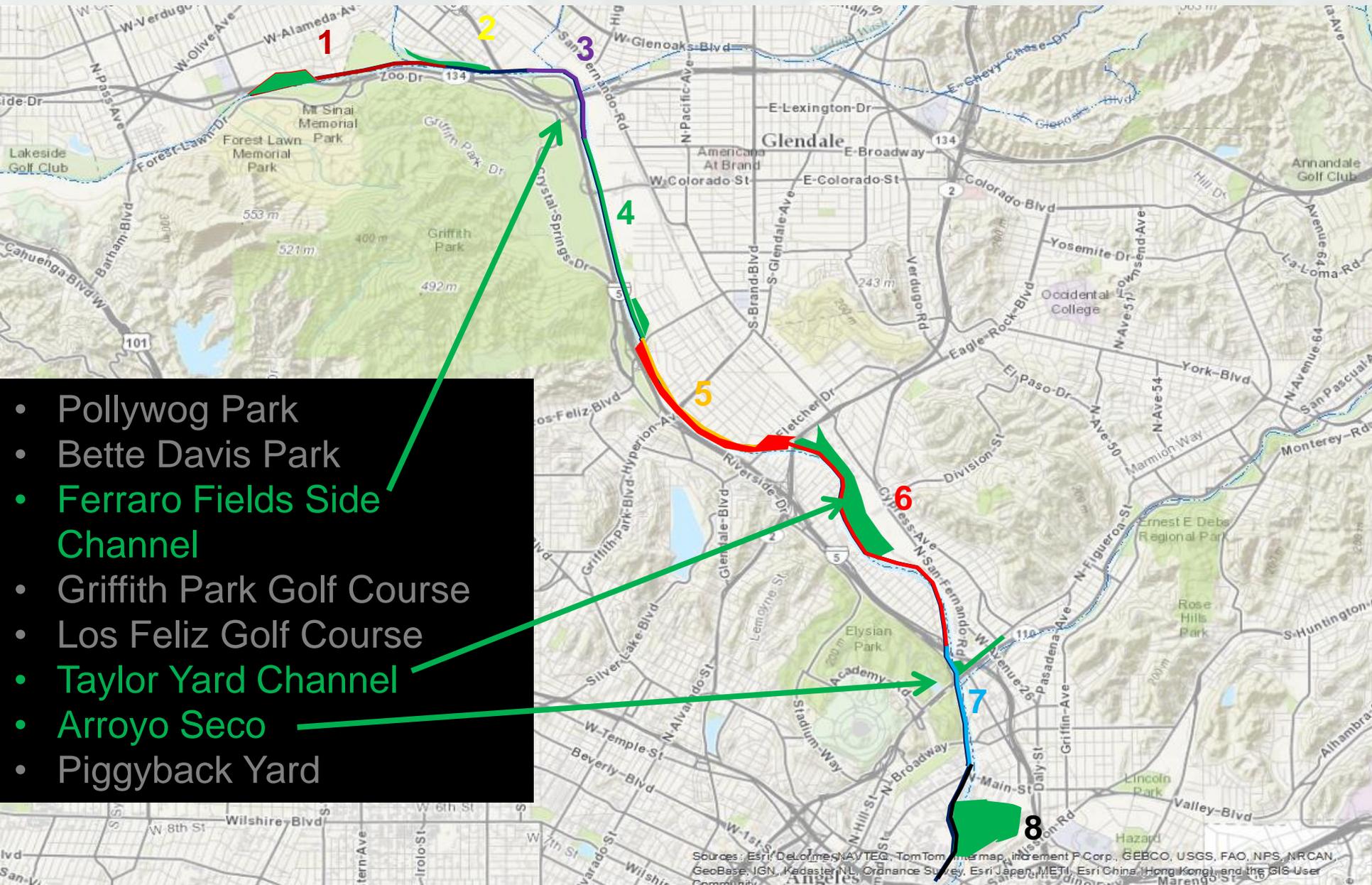


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And Taking Care Of People!

Alternative 13

ARBOR CORRIDOR EXTENSIONS (ACE)



- Pollywog Park
- Bette Davis Park
- Ferraro Fields Side Channel
- Griffith Park Golf Course
- Los Feliz Golf Course
- Taylor Yard Channel
- Arroyo Seco
- Piggyback Yard

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPCorp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

Alternative 13 ACE adds



**Ferraro Fields
Side Channel**

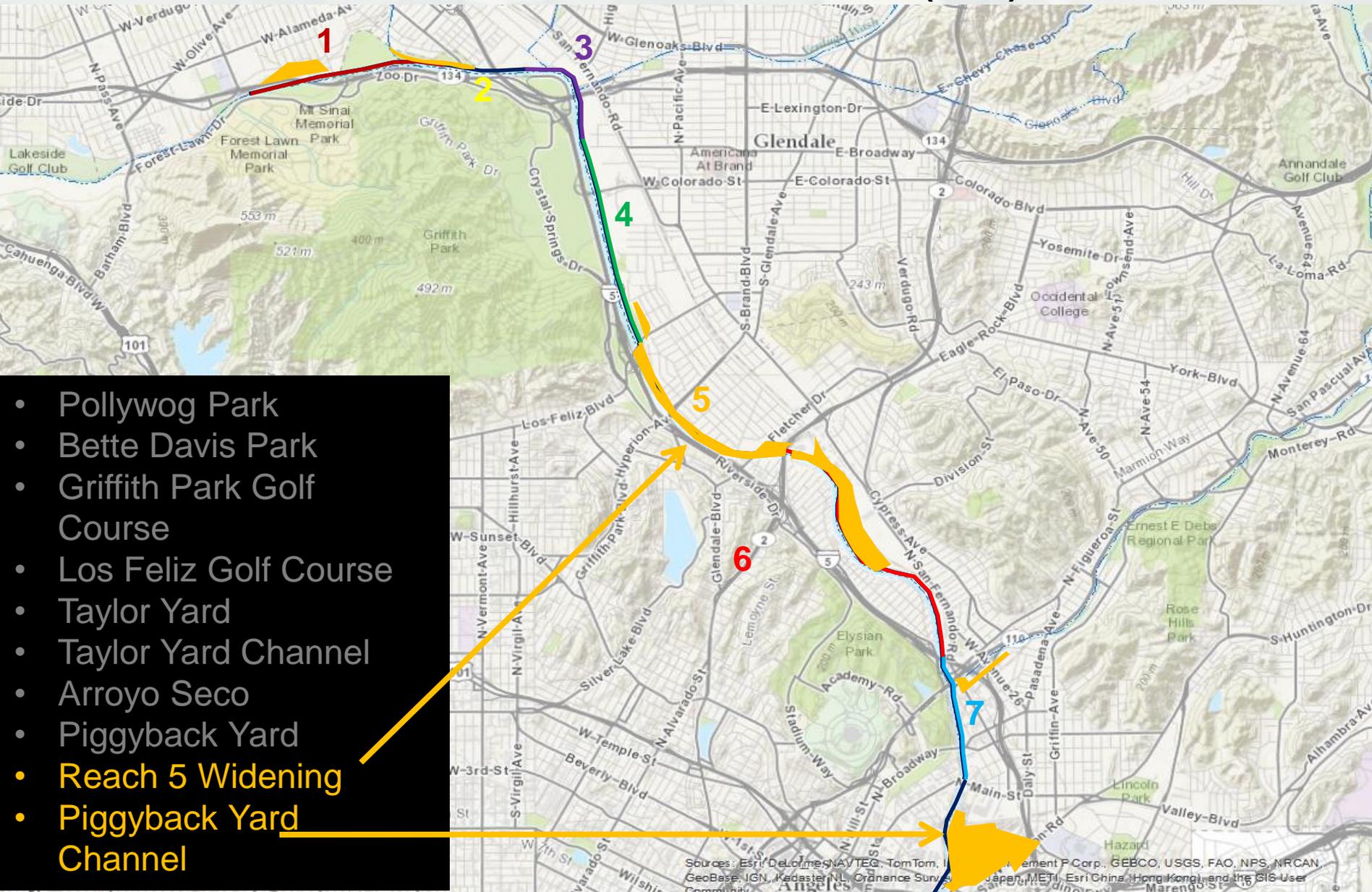
**Arroyo Seco
Confluence**

**Taylor Yard
Widening**

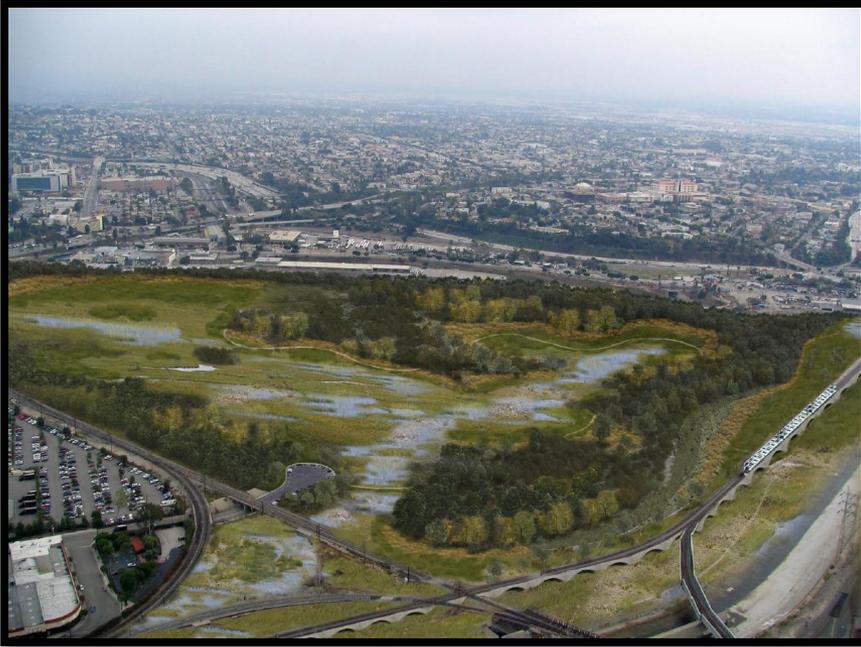


Alternative 16

ARBOR NARROWS TO DOWNTOWN (AND)

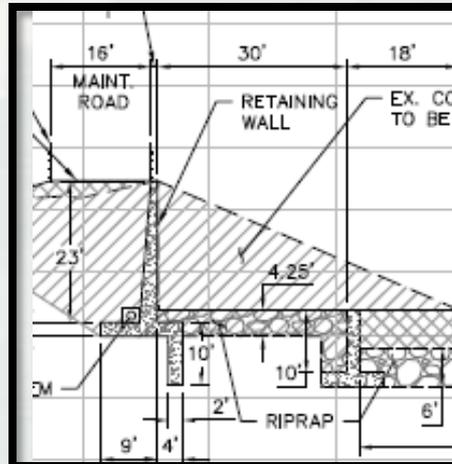


Alternative 16 - AND

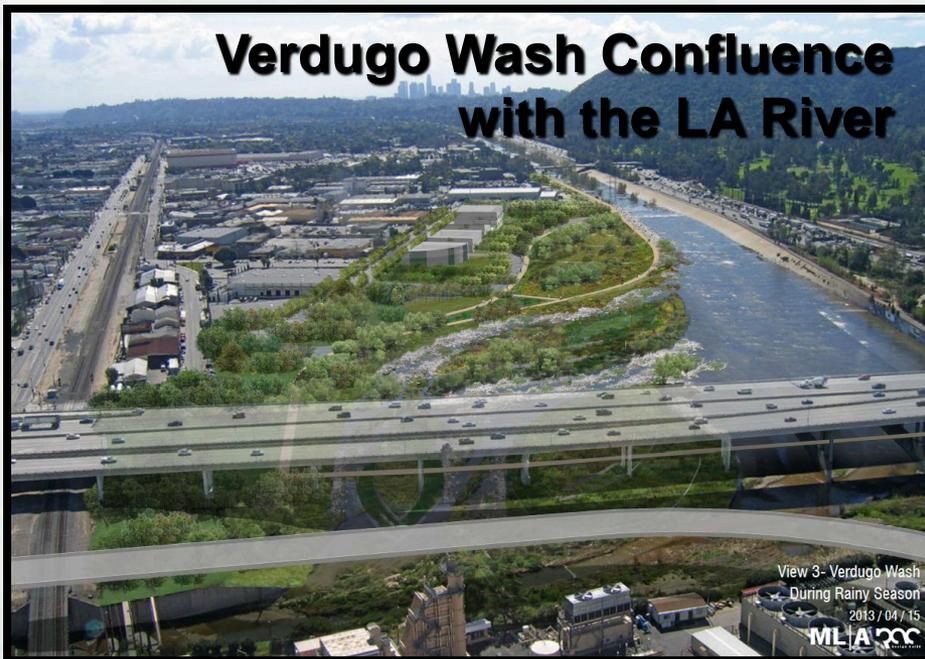


**Piggyback Yard
and channel
naturalization**

**Riverside Drive Widening by
modifying channel banks**



Alternative 20 RIVER adds



FINAL ARRAY OF ALTERNATIVES

ALTERNATIVE	TOTAL FIRST COST	COST SHARE (Fed/Local %)	RESTORED ACRES	HABITAT UNIT VALUE INCREASE	KEY FEATURES ADDED
Alt 10 ART	\$ 375 M	17/83	528	5,321	Day lighted tributaries, side channel in Griffith Park, widening at Taylor Yard, historic wash restoration at Piggyback Yard
Alt 13 ACE	\$453 M	31/69	588	5,902	Includes 10, adds substantial widening at Taylor Yard, restoration at Arroyo Seco Confluence
Alt 16 AND	\$ 804 M	53/47	646	6,509	Includes 13, adds expansion of soft bottom in Reach 5, removal of concrete in Downtown and marsh restoration at Piggyback Yard
Alt 20 RIVER	\$ 1.08 B	54/46	671	6,782	Includes 16, adds Restoration of Verdugo Wash Confluence, Reach 2 widening, connection of river & wetlands in historic wash in LA River State Historic Park

National Ecosystem Restoration and Tentatively Selected Plan

All plans in the final array are both cost effective and best buy plans meeting all of the Principles and Guidelines for Federal participation as effective, efficient, complete and acceptable plans to different degrees

- **Alternative 10**

 - is the most efficient plan and minimally meets objectives

 - is the first plan that includes features in all reaches

- **Alternative 13**

 - reasonably meets the objectives

 - provides the greatest increase in net benefits within the final

 - array for the least increase in cost between alternatives



National Ecosystem Restoration and Tentatively Selected Plan

- **Alternative 16**

 - meets the planning objectives

 - provides contiguous restoration within and across reaches, and more restoration of side channel/floodplain areas which contribute to key connections regionally

- **Alternative 20**

 - maximizes contributions to the planning objectives

 - creates meaningful habitat links to Verdugo Hills and to Elysian Hills

However, the added benefits of Alternatives 16 and 20 also come at a higher relative increase in costs.

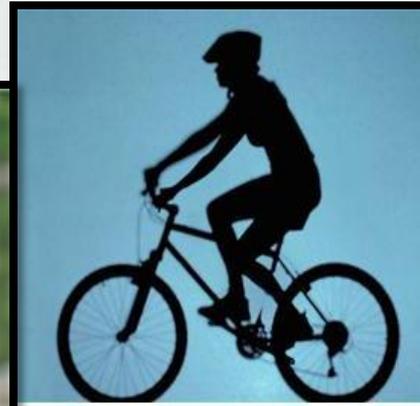
- **The Corps process identified Alternative 13 as the National Ecosystem Restoration Plan, as it reasonably maximizes net benefits and is the Tentatively Selected Plan**



Recreation Plan

Proposed passive recreation and related facilities:

- Non-motorized multi-use trail
- Bridge spanning Arroyo Seco
- Bridges/crossings within Taylor Yard and Piggyback Yard
- Parking lots at Taylor Yard and Piggyback Yard
- Restrooms, at Bette Davis Park, Taylor Yard, and at Piggyback Yard
- A pedestrian tunnel on the east side of Taylor Yard
- Trail access and wildlife viewing points

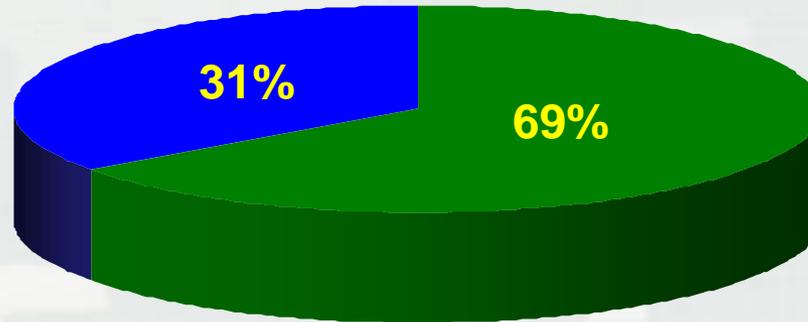


Cost Sharing for Alternative 13 Tentatively Selected Plan

Ecosystem Restoration Cost

\$ 453,407,000

Federal Costs
(Construction)
\$139,677,000



Non-Federal Costs
(Real Estate &
Relocations)
\$ 313,730,000

Recreation Cost (50/50)

\$ 6,134,000



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ARBOR - Next Steps

- Complete Public Comments Assessment Dec 2013
- Independent External Peer Review Final Report Jan 2014
- Final Integrated Feasibility Report Apr 2014
- Civil Works Review Board May 2014
- State and Agency Review Jul 2014
- Final Chief of Engineers' Report Sep 2014
- Water Resources Development Act 2014 ?



Los Angeles River Headworks Ecosystem Restoration



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Planning Objectives

- Restore aquatic and associated terrestrial habitat
- Increase regional and aquatic habitat connectivity
- Increase passive recreation opportunities



Connectivity



Regional Connectivity:

Land bridges and tunnels could be created to provide safe passage for wildlife from the Griffith Park/Santa Monica Mountains area to site

Based on the proximity to Griffith Park, a bridge or tunnel across Forest Lawn Drive would provide passage for wildlife to the site

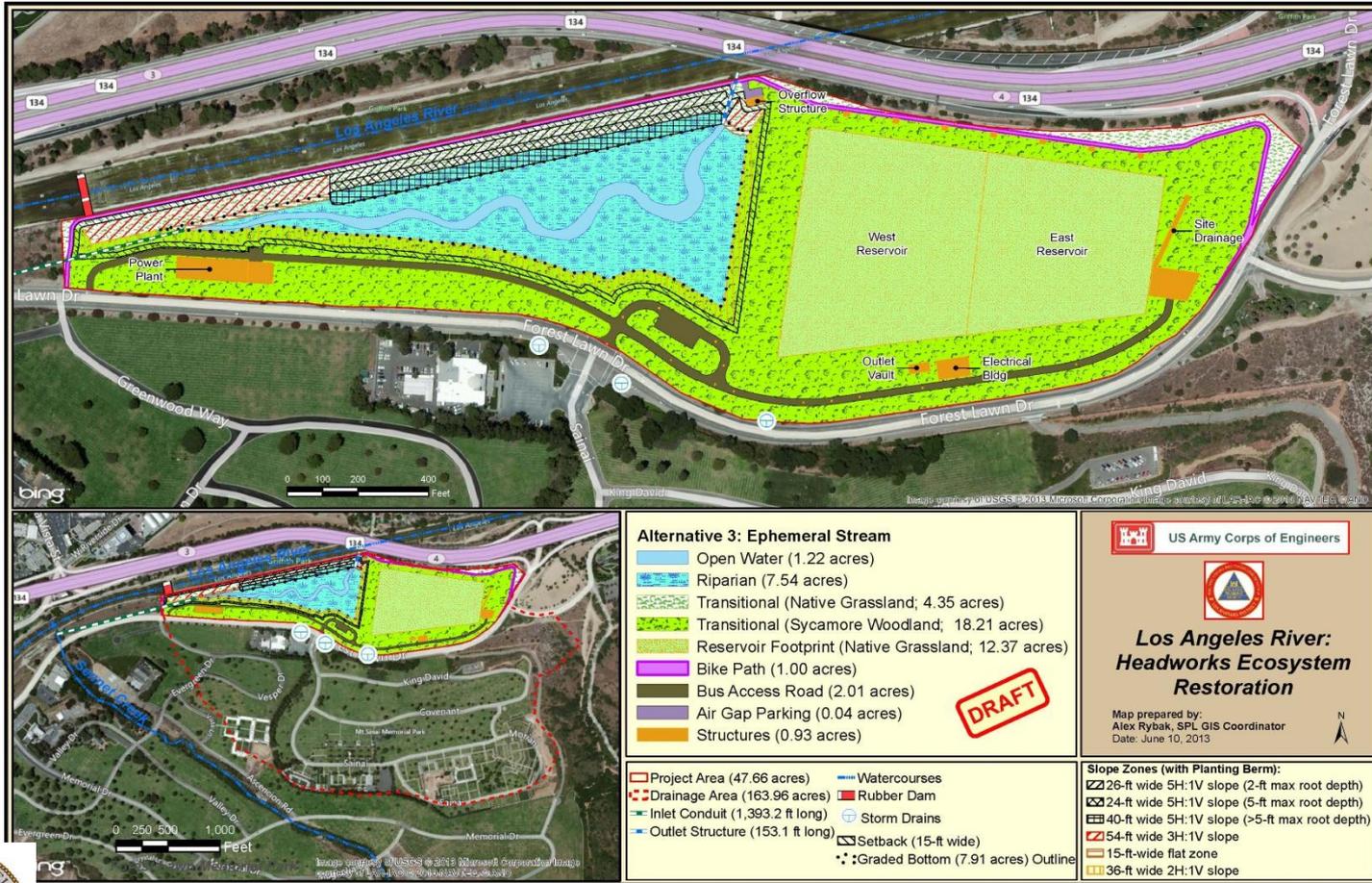
Wildlife would have access to the aquatic restoration features for source of water, shelter, and foraging opportunities

Array of Alternatives

- Alternative 1 – No Action
- Alternative 2 – Seasonal Wetland(s)/Vernal Pool complex
- Alternative 3 – Riparian Corridor with Perennial Stream
- Alternative 4 – Riparian Corridor with Ephemeral Stream
- Alternative 5 – Perennial Wetland(s)



Alternative 4 – Riparian Corridor with Ephemeral Stream

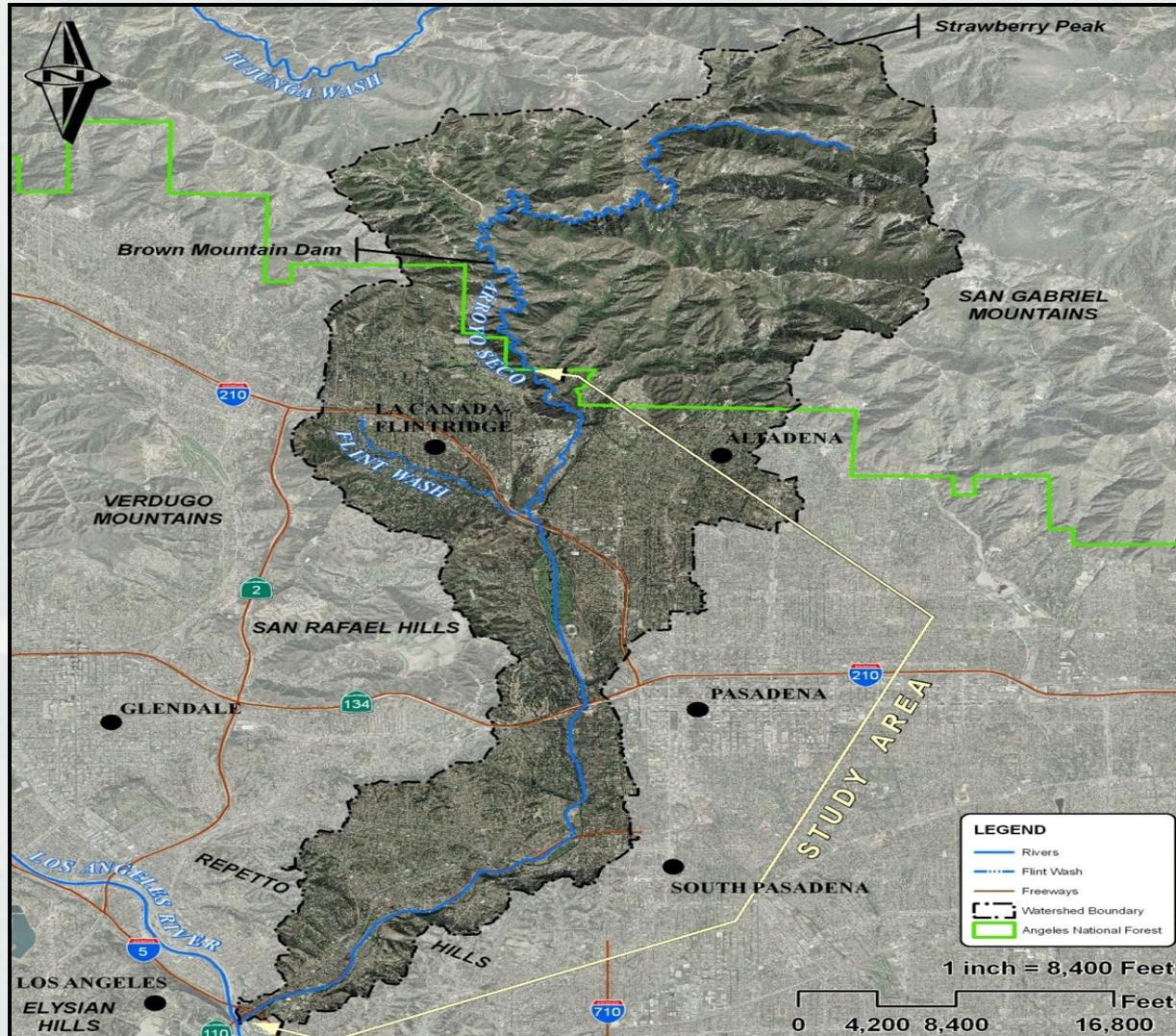


Headworks Next Steps

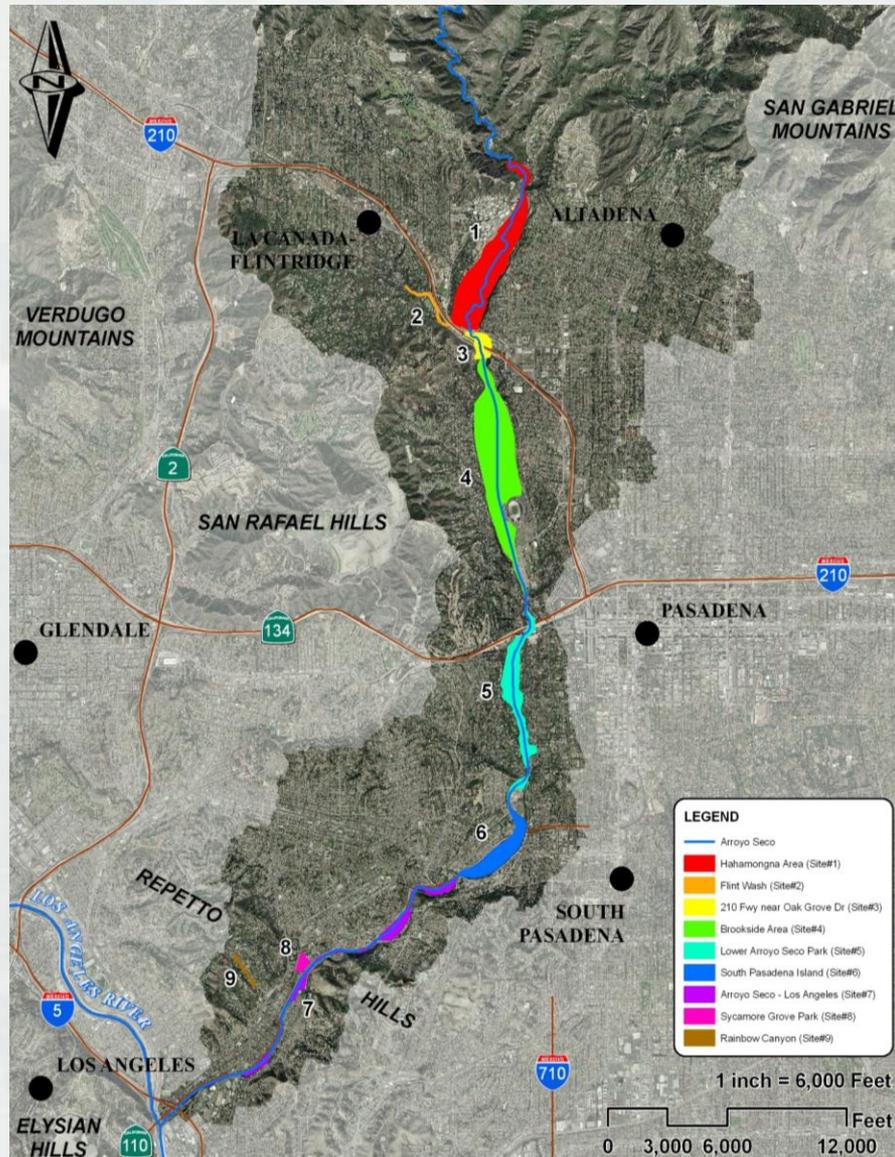
- Complete cost estimates March 2014
- Complete habitat output analysis May 2014
- Cost effective and best buy plans July 2014
- Detailed plan development Jan 2015
- Selection of recommended plan ??



Arroyo Seco Ecosystem Restoration



Arroyo Seco Ecosystem Restoration



Project Description

Nine candidate areas for ecosystem restoration

These areas have been selected in consultation with the sponsor and supporting agencies.



Arroyo Seco Watershed Project and Problems



- Arroyo Seco feasibility study initiated in 2005
- Coordinate concerns and priorities of LACDPW and supporting agencies
- Engineered channels have been constructed for flood control and bank stabilization
- Stream habitats have been reduced and isolated
- Urbanization has increased runoff and impacted water quality



Arroyo Seco Next Steps

- Complete Scoping Charette Nov 2013
- Develop initial array of plans Aug 2014
- Cost effective and best buy plans Aug 2014
- Detailed plan development Jan 2015
- Selection of recommended plan Mar 2015
- Public review of feasibility report May 2015

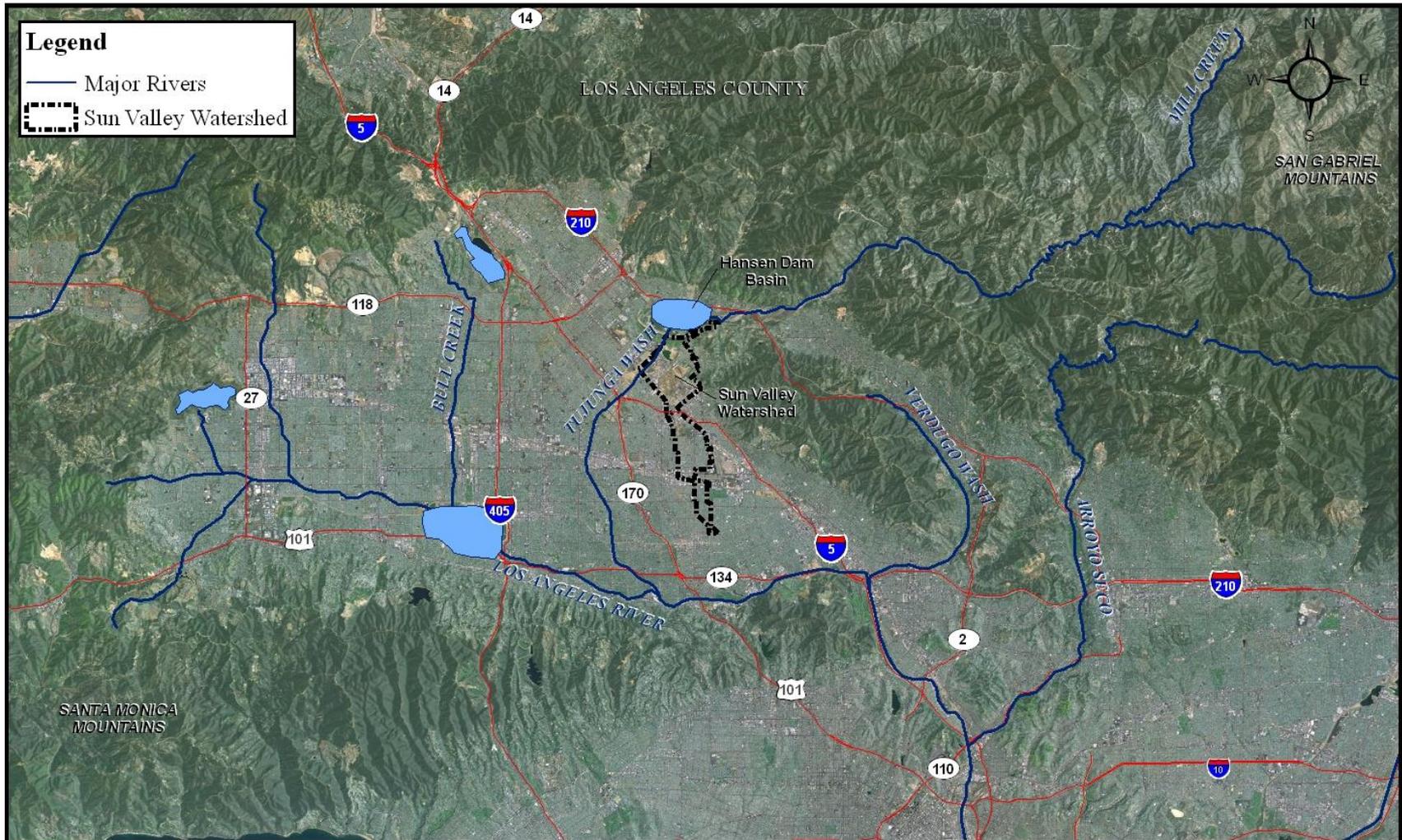


Sun Valley Watershed Management Study



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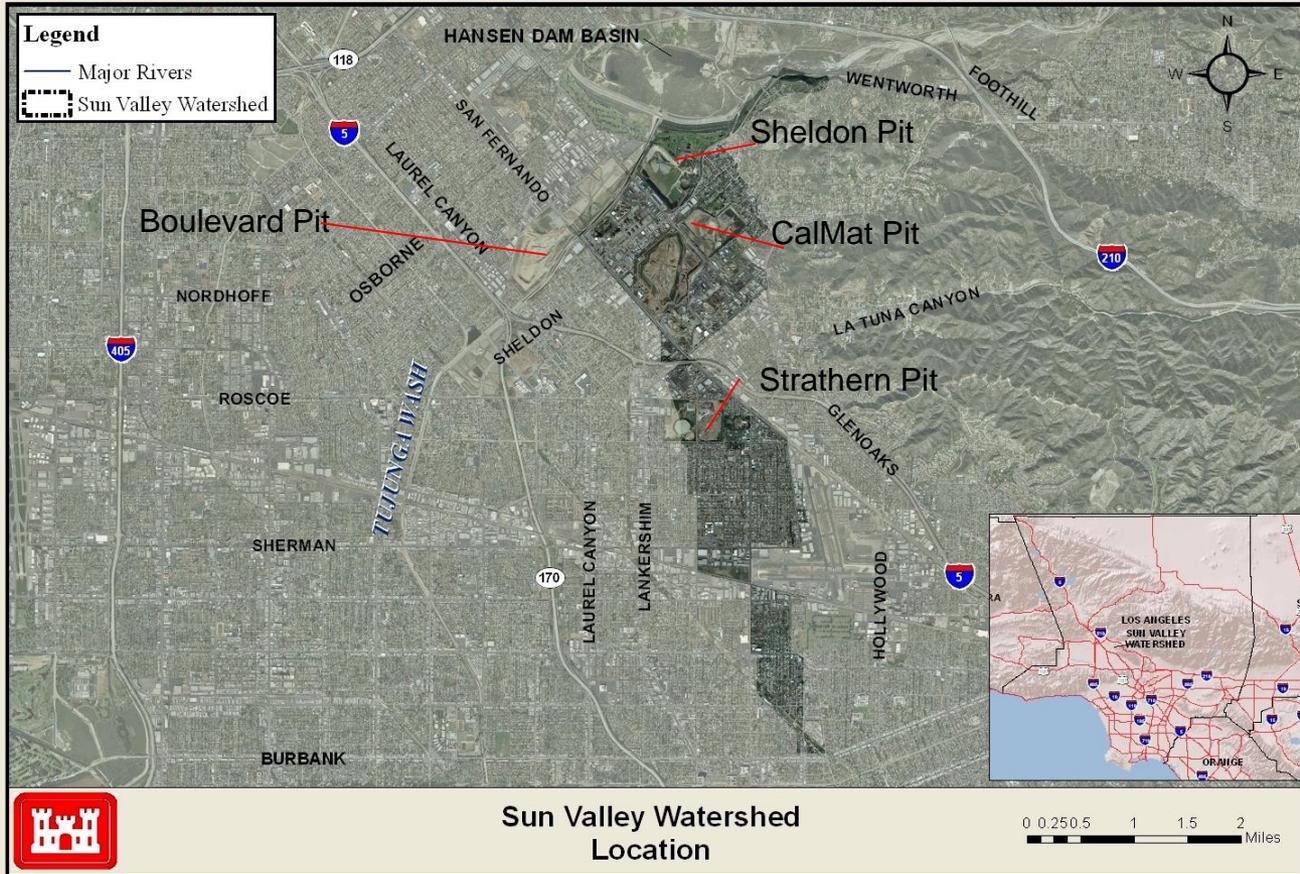
Vicinity Map



Sun Valley Watershed
Vicinity



The Gravel Pits



Objectives

- Ecosystem restoration
- Flood risk management
- Groundwater recharge
- Water conservation
- Low intensity recreation



Problems

- Loss of habitat due to urbanization
- Extensive prior human disturbance
- Highly limited open space for recreation
- High flood risk in the watershed
- Water source and quantity
- Water quality
- Invasive species
- Groundwater contamination
- Environmental justice issues
- Poor air quality
- Depletion of groundwater basin
- Industrialized area (auto dismantling, landfills etc)
- Connectivity
 - Between different project sites within the Watershed
 - Regional connectivity



Sepulveda Dam Basin Ecosystem Restoration



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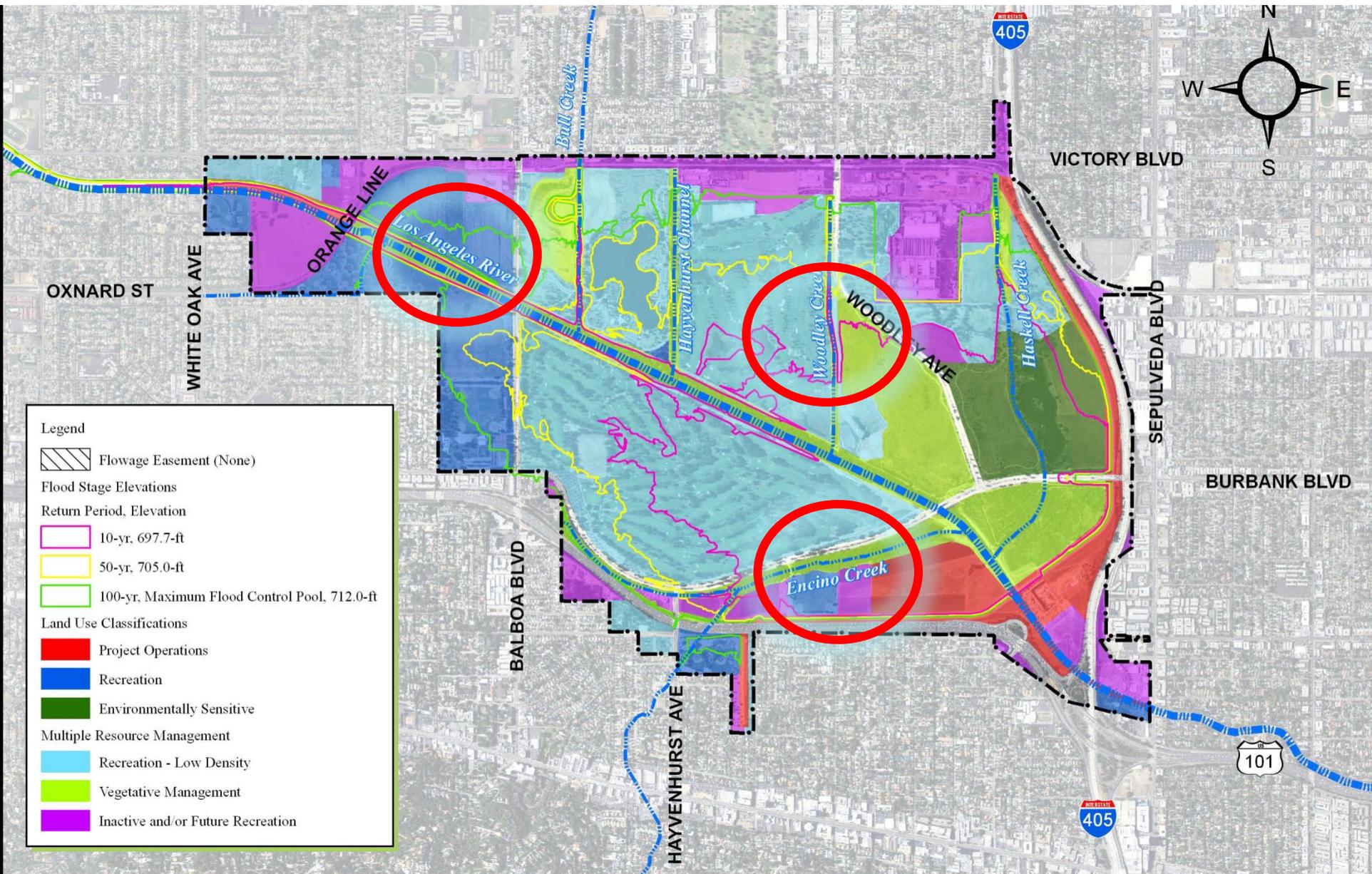
Section 1135

Ecosystem Restoration Program

- Three Section 1135 studies within the Sepulveda Dam Basin received funding in FY 14
 - Encino channel
 - Woodley channel
 - LA River channel
- All studies in partnership with City of Los Angeles Department of Recreation and Parks
- Section 1135 provides for the review and modification of structures and operations of water resources projects constructed by the Corps for the purpose of improving the quality of the environment when it is determined that such modifications are feasible, consistent with the authorized project purposes, and will improve the quality of the environment in the public interest.

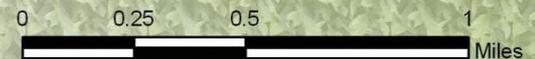


Section 1135 Studies



Data Source: Corps 2010
Aerial Source: NAIP 2009

Sepulveda Dam Basin
Proposed Land Use Classification





- LA River Ecosystem Restoration (ARBOR)
- LA River Ecosystem Restoration (Headworks)
- Arroyo Seco Ecosystem Restoration
- Sepulveda Basin Ecosystem Restoration
 - Main River Channel
 - Encino Channel
 - Woodley Channel

Thank you!
Questions?



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