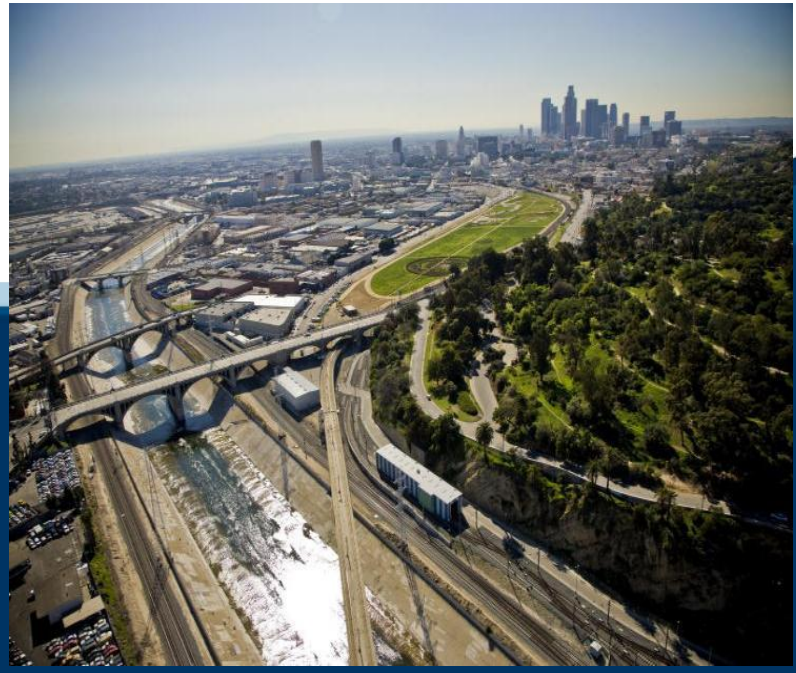
TETRA TECH

The Los Angeles River and Large-Scale Urban Ecosystem Restoration

Los Angeles River Ecosystem Restoration Feasibility Study

NCER 2013



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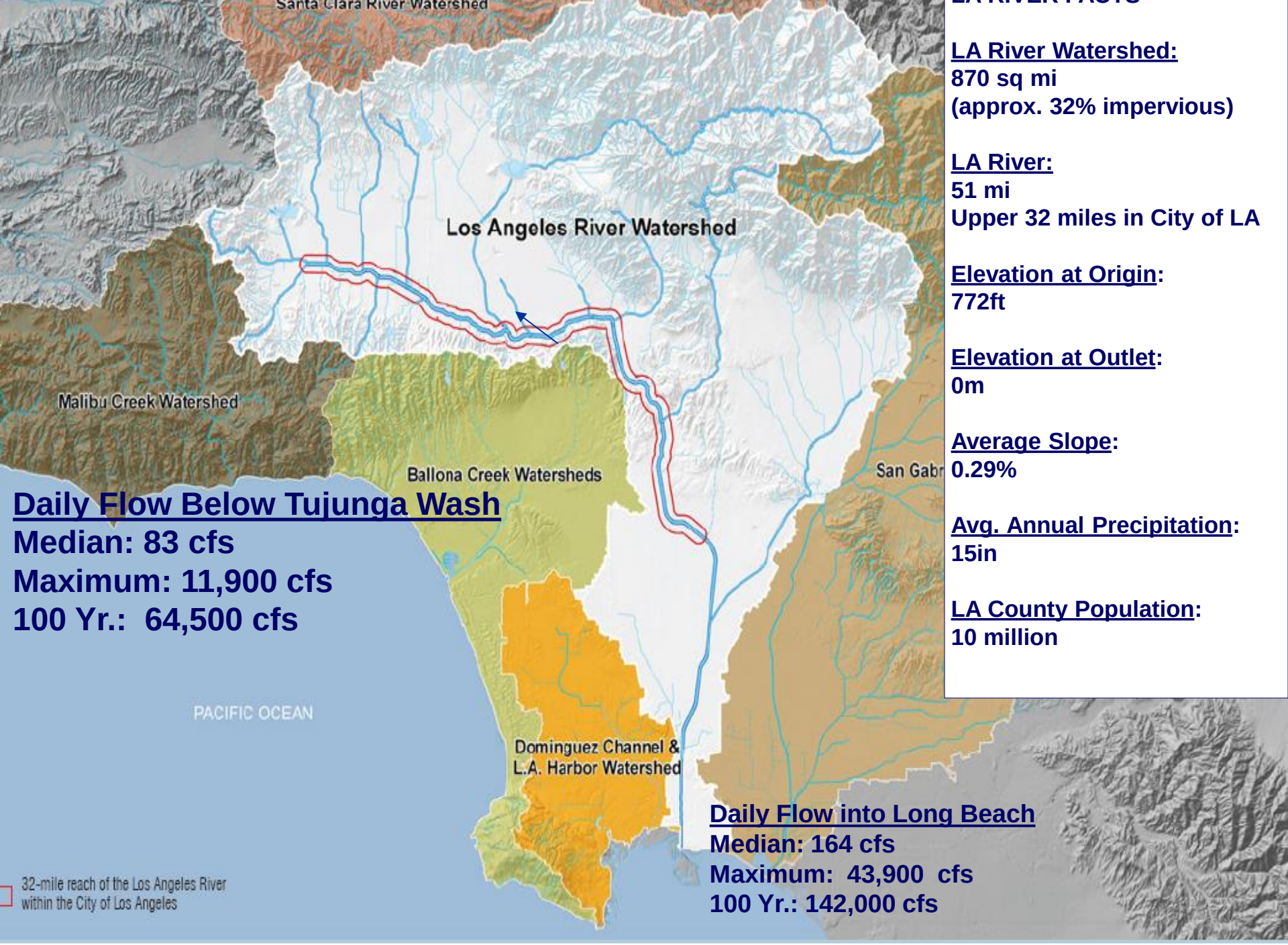


LA River Watershed:
870 sq mi
(approx. 32% impervious)

LA River:
51 mi
Upper 32 miles in City of LA

Elevation at Origin:
772ft

Elevation at Outlet:
0m

Average Slope:
0.29%

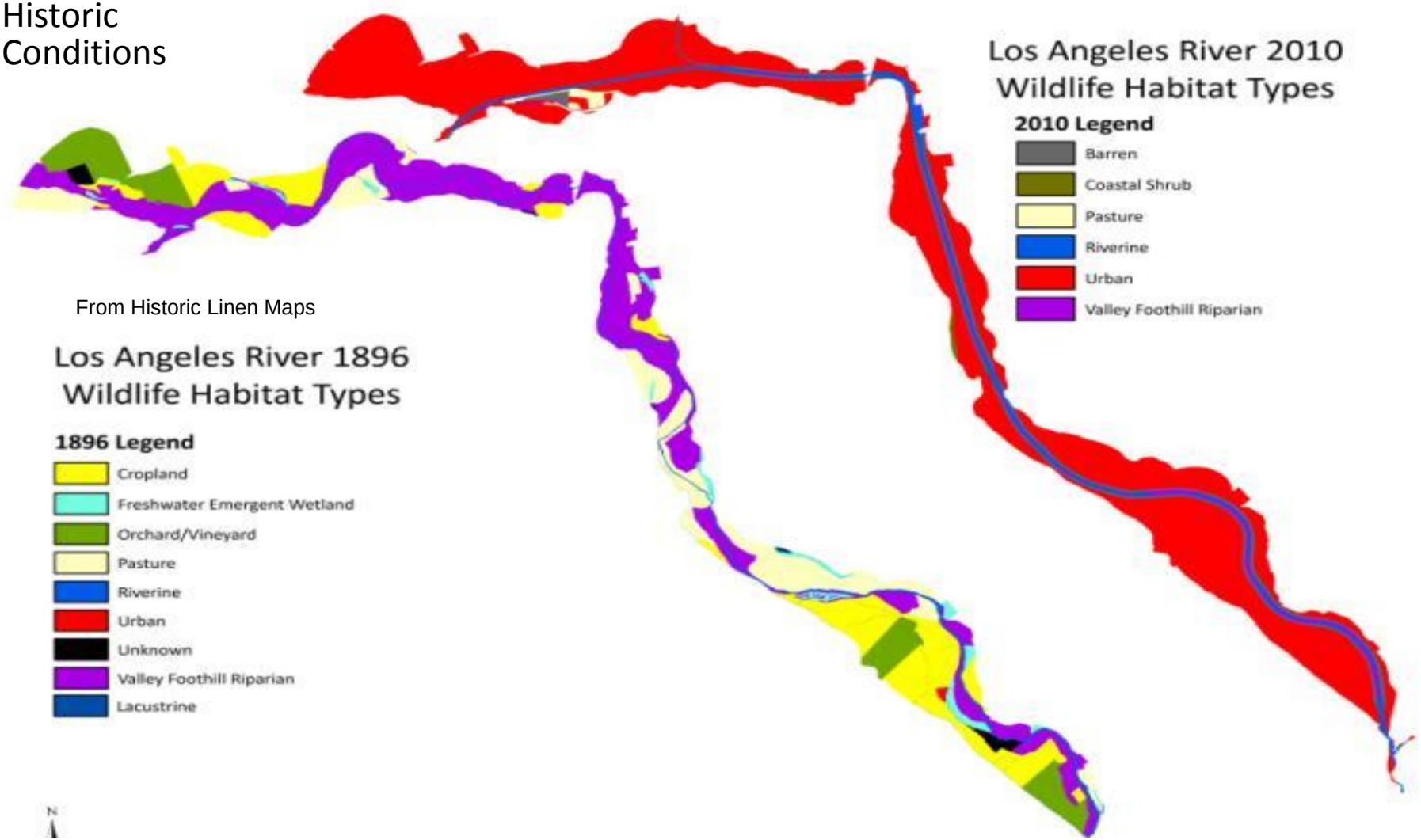
Avg. Annual Precipitation:
15in

LA County Population:
10 million

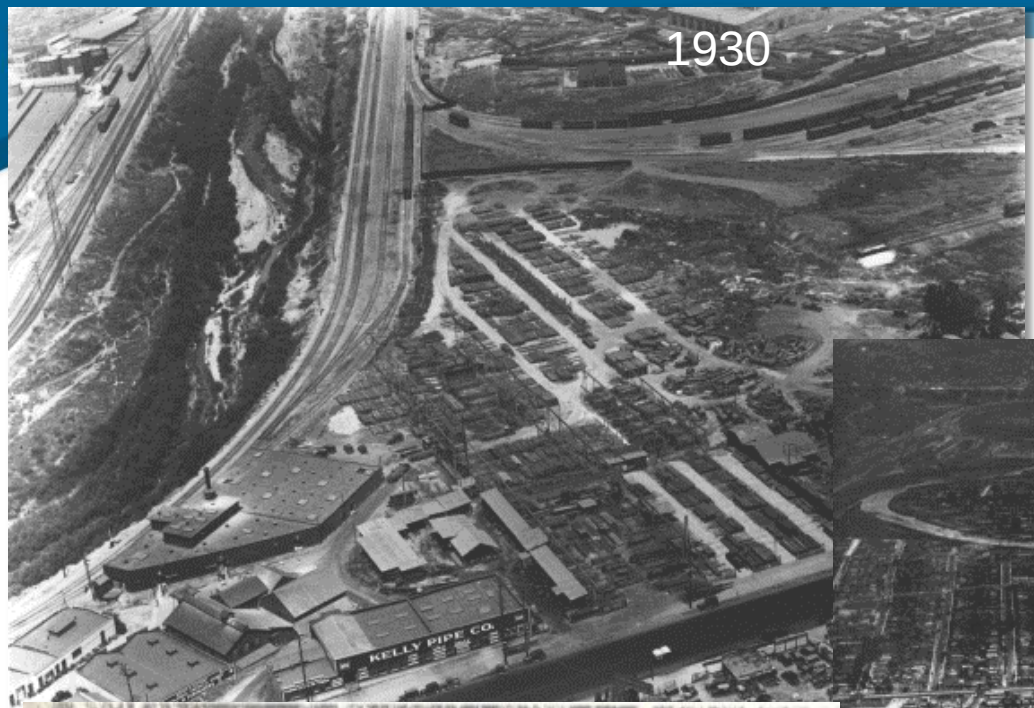
Daily Flow Below Tujunga Wash
Median: 83 cfs
Maximum: 11,900 cfs
100 Yr.: 64,500 cfs

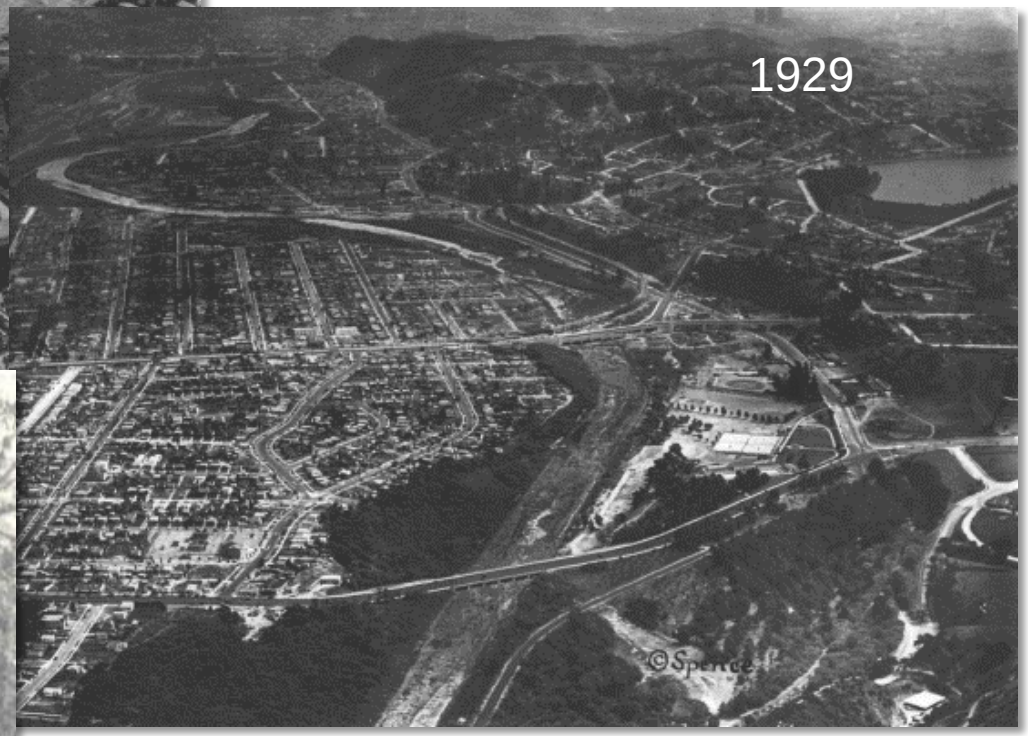
Daily Flow into Long Beach
Median: 164 cfs
Maximum: 43,900 cfs
100 Yr.: 142,000 cfs

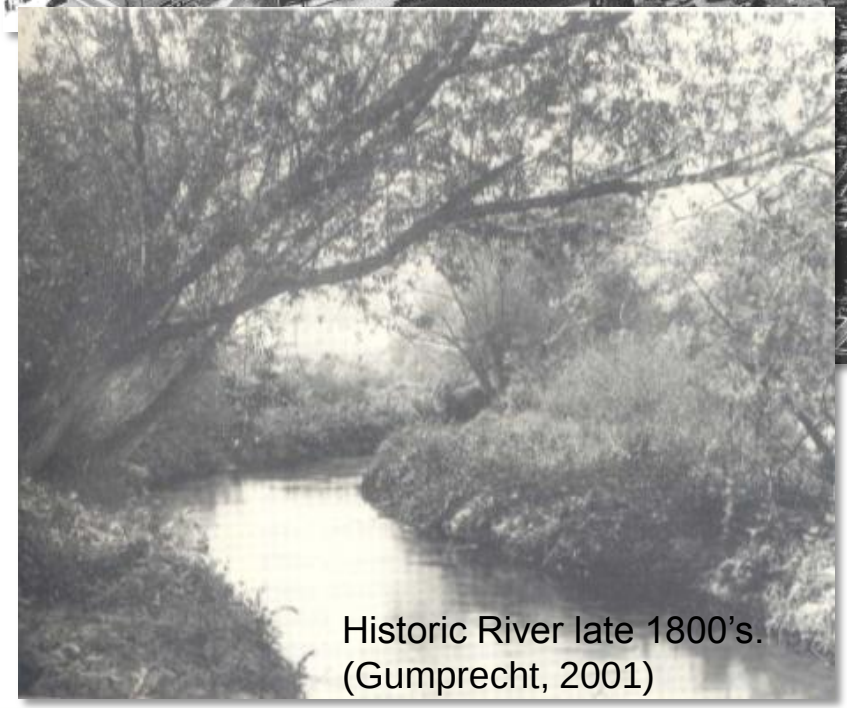
Historic Conditions



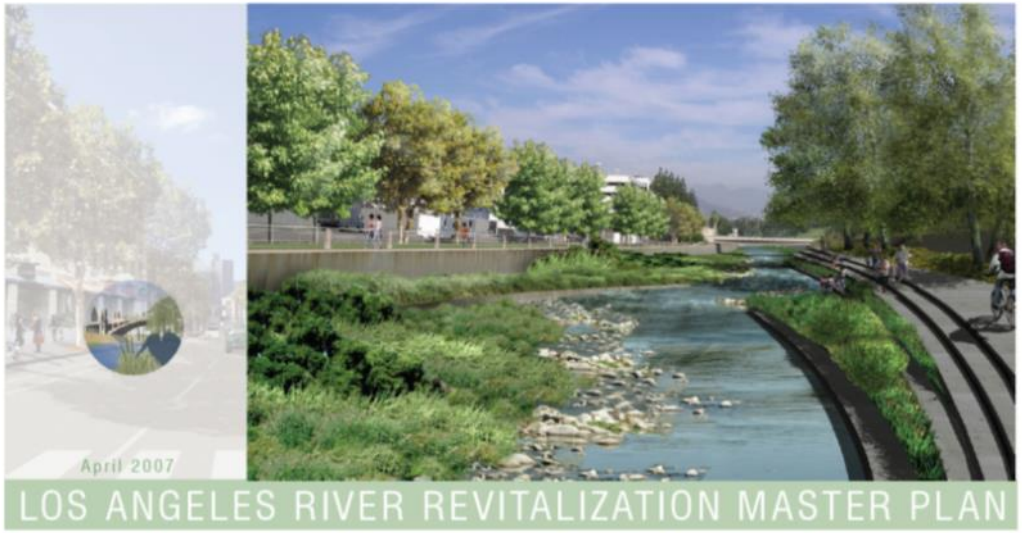
- A floodplain forest once existed
- Cottonwoods willows were thick along the stream courses
- The floodplain forest formed one of the most biologically rich habitats in Southern California
- Cattails, bulrushes, and other marsh vegetation thrived where the stream's course was more indefinite






Historic River late 1800's.
(Gumprecht, 2001)

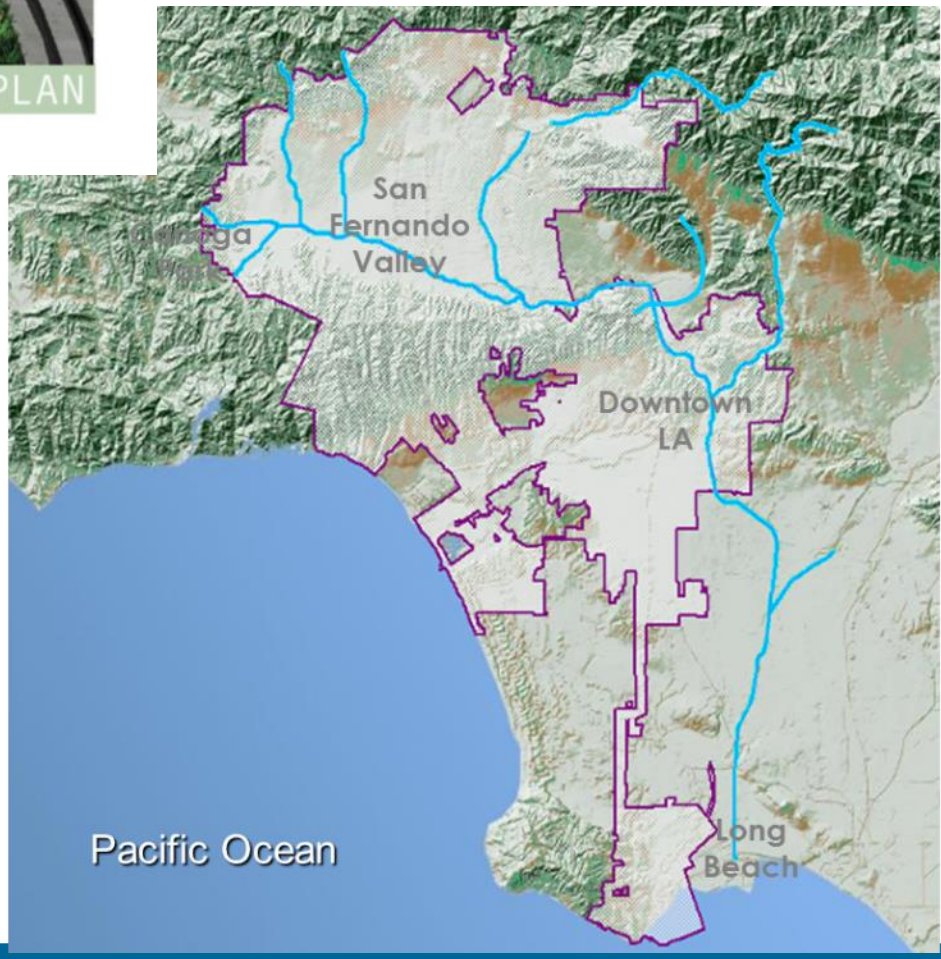
Historic Aerials: The Benjamin and Gladys Thomas Air Photo Archives, Spence and Fairchild Collections. University of California, Los Angeles. Department of Geography.



51 miles Total:
The First 32 miles in the City of LA

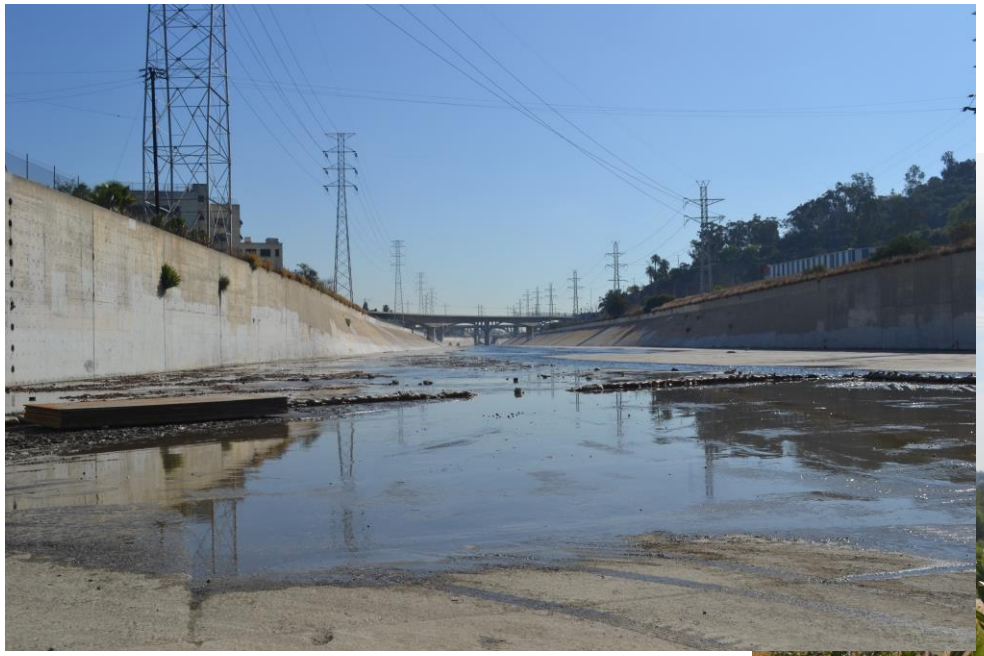
Adopted May 2007
32 miles
50 year horizon
More than 240 potential projects
20 areas of targeted focus
3 new management entities
A bikeway/greenway that,
- **when combined with the County's efforts, creates a 51-mile River trail (102 mi both sides)**

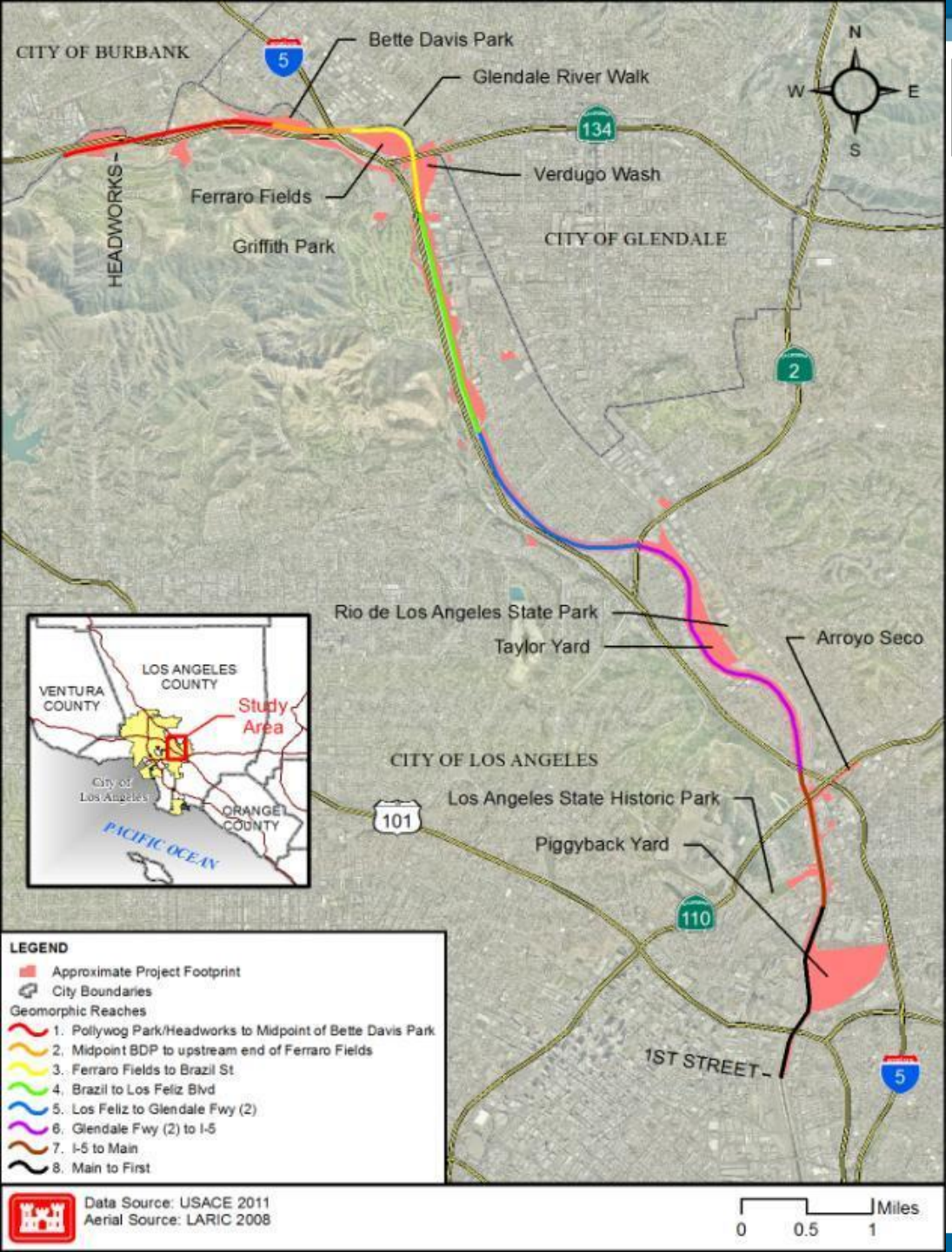
<u>Launchpad for USACE Study</u>



Study Purpose

Restore aquatic and riparian habitat connectivity for wildlife throughout the project reaches of the LA River and **restore opportunities for connectivity** between the LA River and surrounding dedicated open space areas, foothill, and mountain habitats within the period of analysis.





Study Area

Key Sites:

1. Headworks
2. River Glen-Verdugo Wash
3. Bowtie
4. Taylor-Yard-Rio de LA State Park
5. Arroyo Seco Confluence
6. Cornfields-LA Historic Park
7. Piggyback/Mission Yard

Problems

1. Loss of aquatic habitat
2. Lack of ecological processes necessary to support ecosystem
3. Lack of substrate
4. Lack of connectivity to floodplains and functioning ecological zones
5. Highly altered hydrologic regime
6. High velocity flows
7. Disruption of natural sedimentation processes
8. Impervious surfaces in the drainage area preventing infiltration and recharge
9. Poor water quality caused by urban runoff and pollution
10. Presence of non-native vegetation/ exotics and trash accumulation in the river
11. Lack of recreation and opportunities to interact with the natural environment

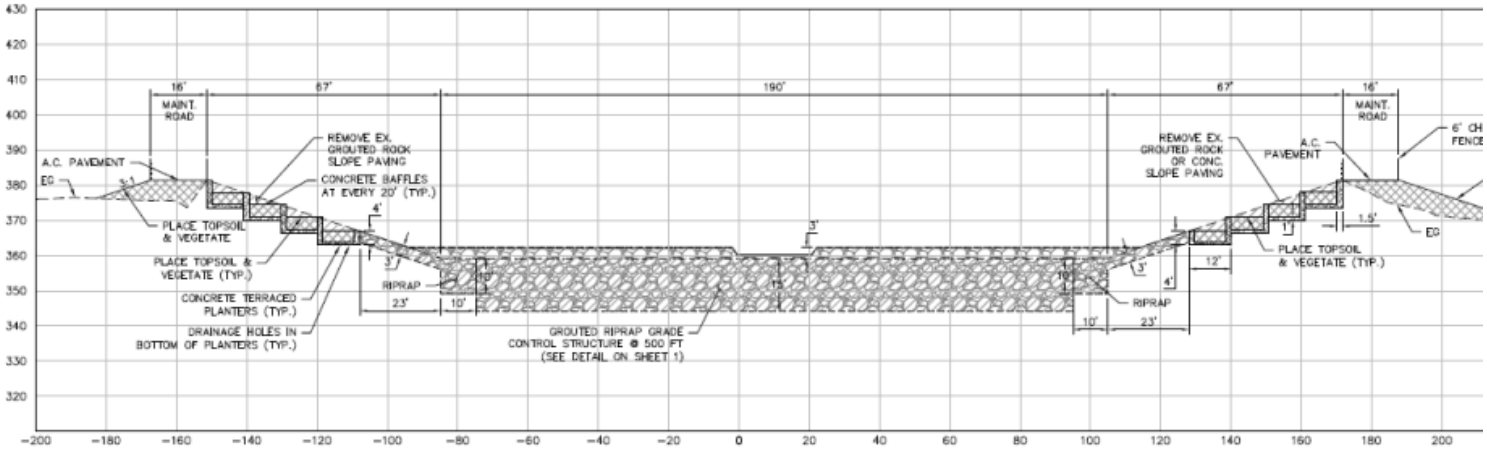
Constraints

1. Hazardous waste sites
2. Potentially contaminated groundwater
3. Surrounding urbanization and infrastructure
4. Land availability in dense urban area
5. Maintain existing levels of flood protection

Restoration Measures

- Adjacent or off channel modifications
- Attenuation
- Wildlife Access
- Planting
- Remove Concrete
- Reshape Channel

Atwater Park during construction



Widened and Greened Channel Walls

LA RIVER ECOSYSTEM RESTORATION

Verdugo Wash Confluence

LA RIVER ECOSYSTEM
RESTORATION

Verdugo Wash Confluence

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Taylor Yard

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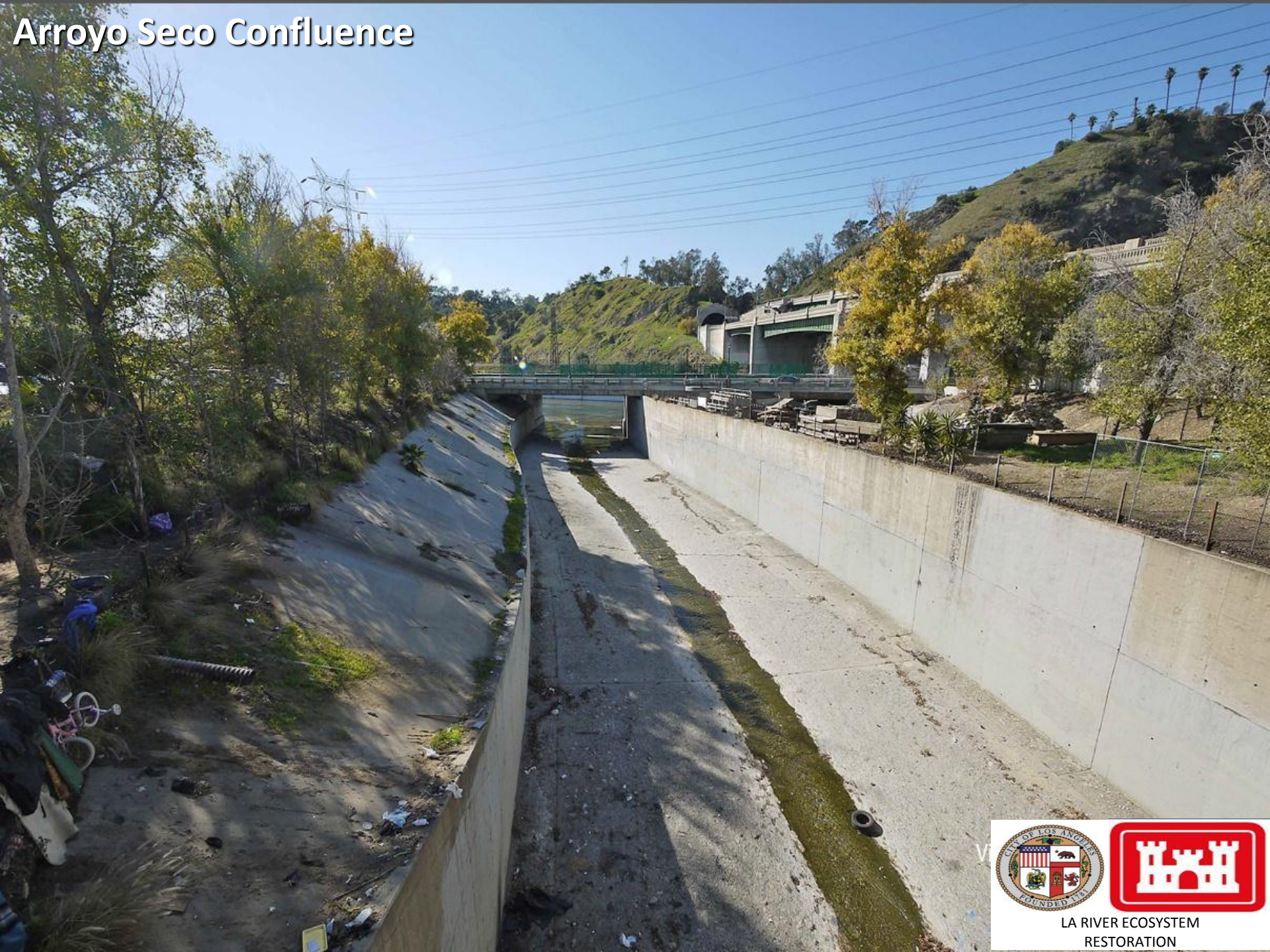
Arroyo Seco Confluence



LA RIVER ECOSYSTEM
RESTORATION

Arroyo Seco Confluence

LA RIVER ECOSYSTEM
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LA State Historic Park

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LA State Historic Park

LA RIVER ECOSYSTEM RESTORATION

Piggyback Yard

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