U.S. Army Corps of Engineers
Los Angeles District

Los Angeles River FY 16 Flood Risk Management Update

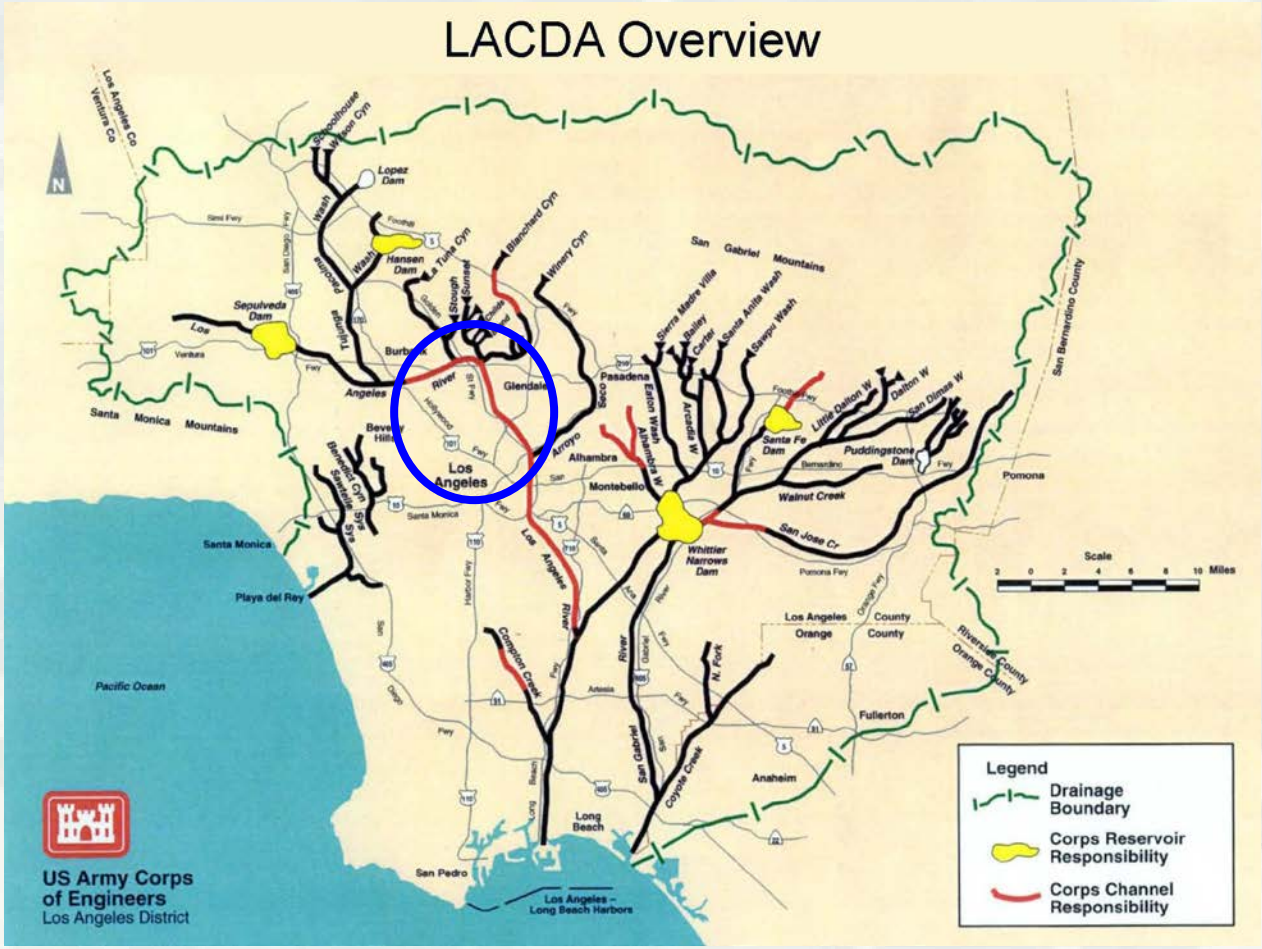
US Army Corps of Engineers
BUILDING STRONG®

Agenda

1. Opening Comments;
2. Los Angeles County Drainage Area Project – As-Built Condition, Current Condition, and Risks;
3. Planned Operations Activities – FY 16 and FY 17;
4. Balancing the Public Interest; and
5. Open Forum.

UNDERSTANDING FLOOD RISK

Los Angeles County Drainage Area



- The Corps has a portion of O&M responsibility for the Los Angeles County Drainage Area (LACDA) Project.
- Corps' O&M responsibility includes 5 dams, one debris basin and 45 miles of channel.
- The upper Los Angeles River area depicted in the blue circle is referred to locally as "Glendale Narrows."

Why should I be concerned about flooding?

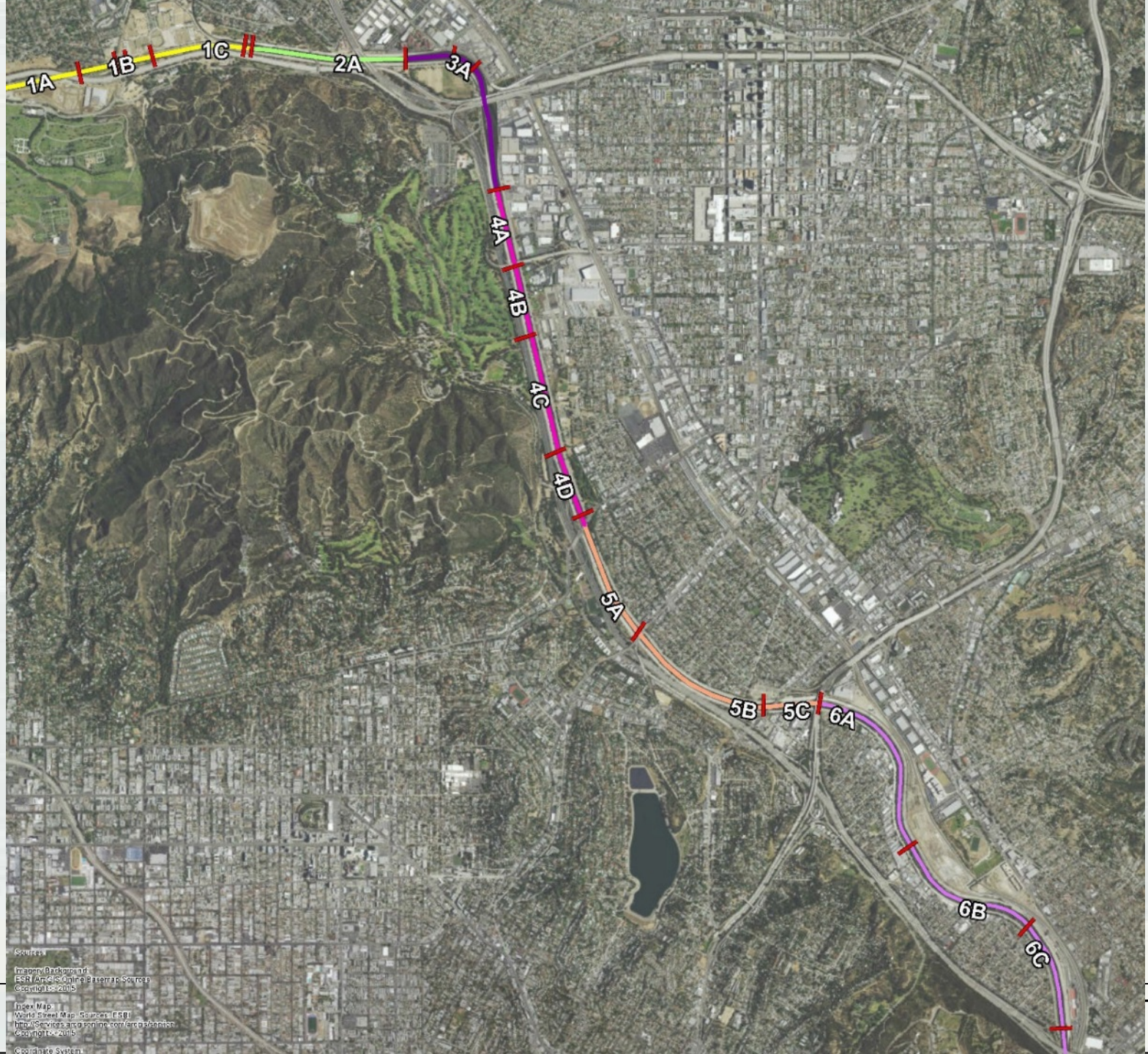
View upstream from above Victory Boulevard showing breaches in paved levees. River mile 32.0- Post-March 1938 Storm

What are the risks of flooding in Glendale Narrows?

“It doesn’t rain in Southern California.”

-The Average Resident

- The Los Angeles County Drainage Area Project was constructed in the 1930s and 1940s. Urbanization has significantly changed the amount of runoff and water flow into the Los Angeles River.
- The as-built capacity of the reaches in Glendale Narrows vary between 40,000-90,000 cfs, which equates roughly to the 7 year-60 year storm event.
- Congestion from sediment and vegetation has significantly impacted conveyance capacity in the LA River.



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TOGETHER

Los Angeles River Conveyance Capacity

Reach	Design	Existing/Pre Improvement	With Barriers	Non-native vegetation[1]	All vegetation and sediment removal
1C	40,000 (12-yr)	43,000 (15-yr)	43,000 (15-yr)	43,000 (15-yr)	43,000 (15-yr)
2A	40,000 (7-yr)	25,800 (3-yr)	40,000 (7-yr)	40,000 (7-yr)	40,000 (7-yr)
3A	40,000 (7-yr)	49,400 (20-yr)	49,400 (20-yr)	49,400 (20-yr)	49,400 (20-yr)
4A	78,000 (51-yr)	34,700 (4-yr)	59,900 (20-yr)	40,500 (7-yr)	78,000 (51-yr)
4B	78,000 (51-yr)	34,700 (4-yr)	59,900 (20-yr)	48,200 (10-yr)	78,000 (51-yr)
4C	78,000 (51-yr)	40,500 (5-yr)	59,900 (20-yr)	43,500 (7-yr)	78,000 (51-yr)
4D	78,000 (51-yr)	43,500 (7-yr)	65,800 (25-yr)	44,500 (8-yr)	78,000 (51-yr)
5A	78,000 (51-yr)	43,500 (7-yr)	65,800 (25-yr)	46,000 (9-yr)	78,000 (51-yr)
5B	78,000 (51-yr)	43,500 (7-yr)	59,900 (20-yr)	48,200 (10-yr)	78,000 (51-yr)
5C	78,000 (51-yr)	43,500 (7-yr)	43,500 (7-yr)	43,500 (7-yr)	78,000 (51-yr)
6A	83,700 (57-yr)	51,500 (12-yr)	51,500 (12-yr)	63,000 (20-yr)	83,700 (57-yr)
6B	83,700 (57-yr)	44,400 (7-yr)	44,400 (7-yr)	56,000 (15-yr)	83,700 (57-yr)
6C	83,700 (57-yr)	44,400 (7-yr)	44,400 (7-yr)	56,000 (15-yr)	83,700 (57-yr)

[1]Non-native vegetation removal including debris and underbrush (No HESCO barriers)

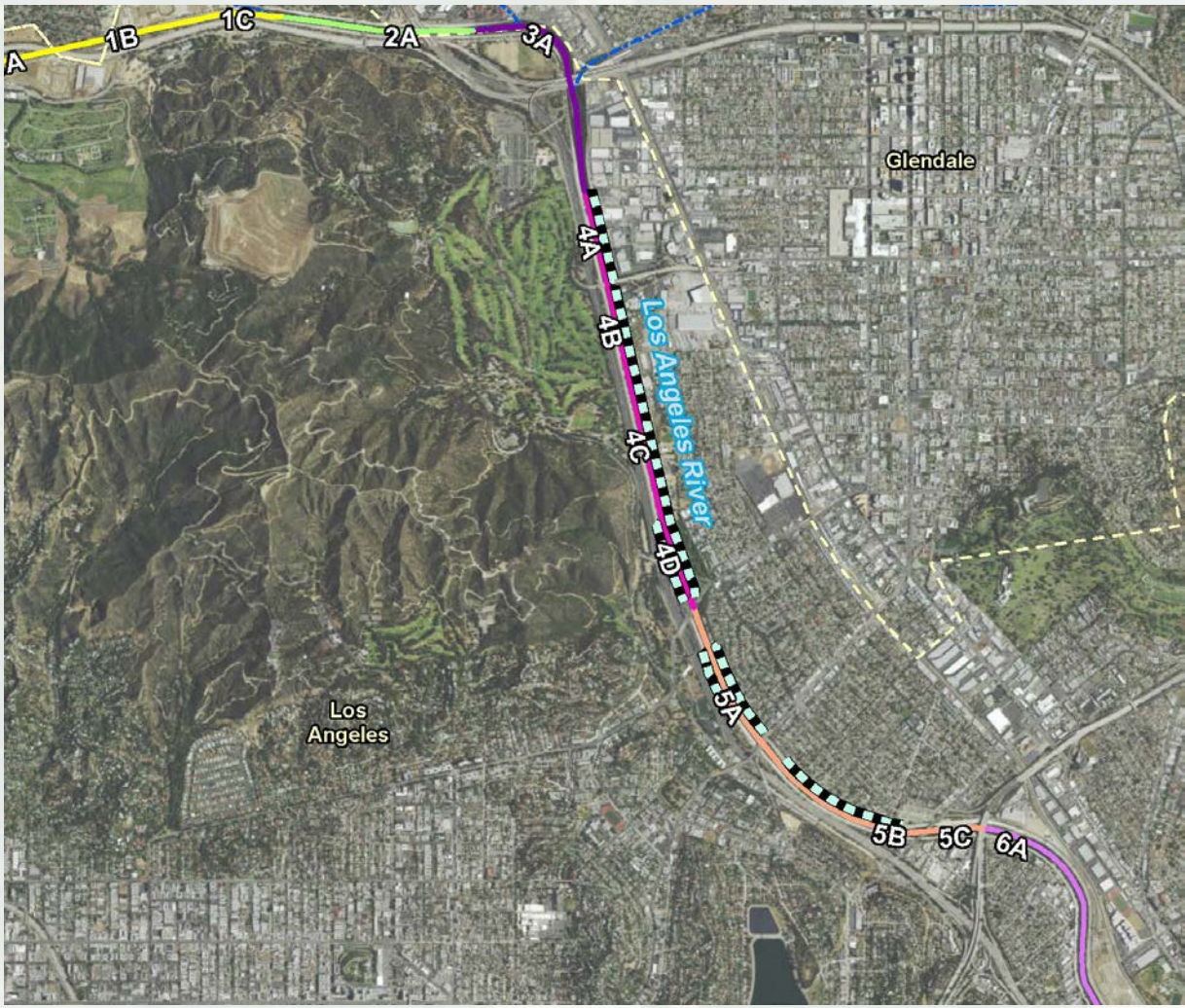
Downstream View of the Upper Los Angeles River Storm Water Overflow- 1938

Current Conditions

- Restoration of conveyance capacity is critical to reducing flood risk for 2,200 residents and approximately 641 structures valued at an estimated $241 million.
- While an El Nino condition increases the likelihood of successive rain events, the risk of flooding and potential for breakout is the same from year to year. A single large storm event or a few days of significant rain could cause sufficient flow to exceed channel capacity.

How are we reducing flood risk?

- Barriers remain on the west bank in strategic locations.
- Removal of nearly 3.7 acres of vegetation in the vicinity of Riverside Drive – 1.2 native; 2.5 non-native. Vegetation removed is the minimum necessary to relieve potential risk to bridge and surrounding communities.
- Repair flap gate covers.



Repairs and Vegetation Removal

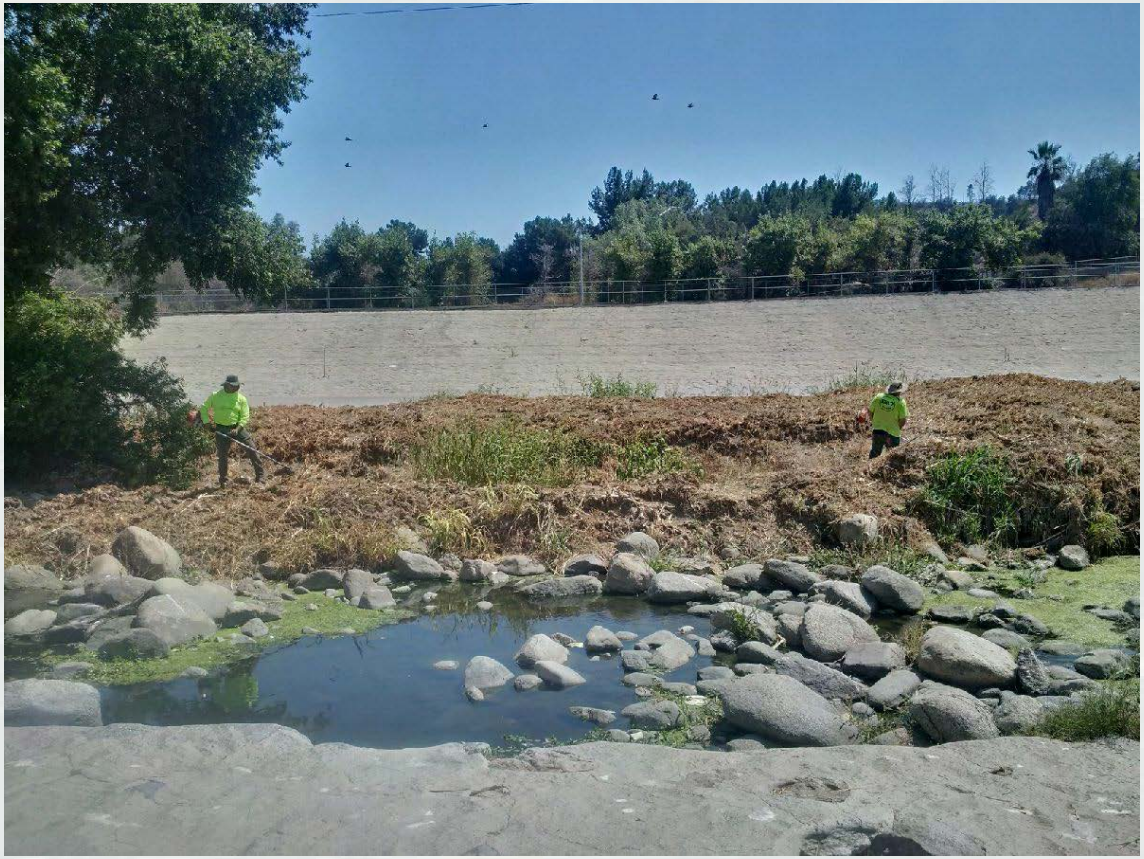
- Repair of the concrete toe in Reach 4D (upstream of Los Feliz on both banks).
- Non-native/invasive species vegetation removal will occur in the areas downstream of Fletcher Drive to the Metrolink train yard. This effort will restore conveyance capacity in the channel.
- Cost

  Initial Removal: $28,000 per acre

  Monthly Maintenance: $4,000 per acre

Methodology

Non-native vegetation removal is likely to occur by hand with spraying of herbicide to manage regrowth. Mechanized removal may occur ONLY to the extent that native habitat will not be disturbed.



Flood Prep FY 17

- Develop and analyze a 2-dimensional hydraulic model to determine if reinstallation of temporary barrier closures is necessary and the conditions upon which closures would be needed.
- Undertake repairs in the highest priority areas.
- Develop plans for sediment removal.
- Continue vegetation management to restore/maintain conveyance capacity.
- Coordination with local governments and first responders to synchronize monitoring and other flood watch activities.

BALANCING THE PUBLIC INTEREST

Strategic Removal of Temporary Barriers Complete

Corps staff worked 10-12 hour days 6 days a week beginning in May to remove all barriers on the bike path (west bank) and restore access on the east bank. Barriers were removed by June 15th

Why isn't the Corps removing the remaining barriers?

- Complete removal of all barriers and replacement of the barriers upon short notice is not feasible due to financial and resource constraints.
- Strategic removal occurred in order to enableRemoval of all temporary barriers will expose the entire east bank to flood risk.
- If needed, the Corps is prepared to implement closures on the east bank with sufficient notice. Materials are currently stockpiled for this effort.

How is the Corps helping to address homeless encampment issues?

- The Corps works closely with local entities: police, fire, local governments, non-profit organizations and community groups, to address health and safety concerns arising from the presence of homeless encampments in the Los Angeles River.
- Subject to the availability of resources, the Corps assists in debris and removal after law enforcement entities ensure adequate notice and relocation of individuals.

What are the day-to-day risks that the public should be aware of?

- The channel was designed without measures for public access/use; no exit structures and no warning system.
- High flows in channel can occur suddenly and without warning even during the summer, or “dry season.”
- The river area is generally closed to public use due to operational issues and safety concerns except where we have a coordinated program for permitted recreation.

Access and Use

- Seasonal recreation in the Los Angeles River adjacent to Elysian Valley is authorized as part of a coordinated effort between the Corps, MRCA, City, County to provide:

Recreational Season 2016: Memorial Day to September 25

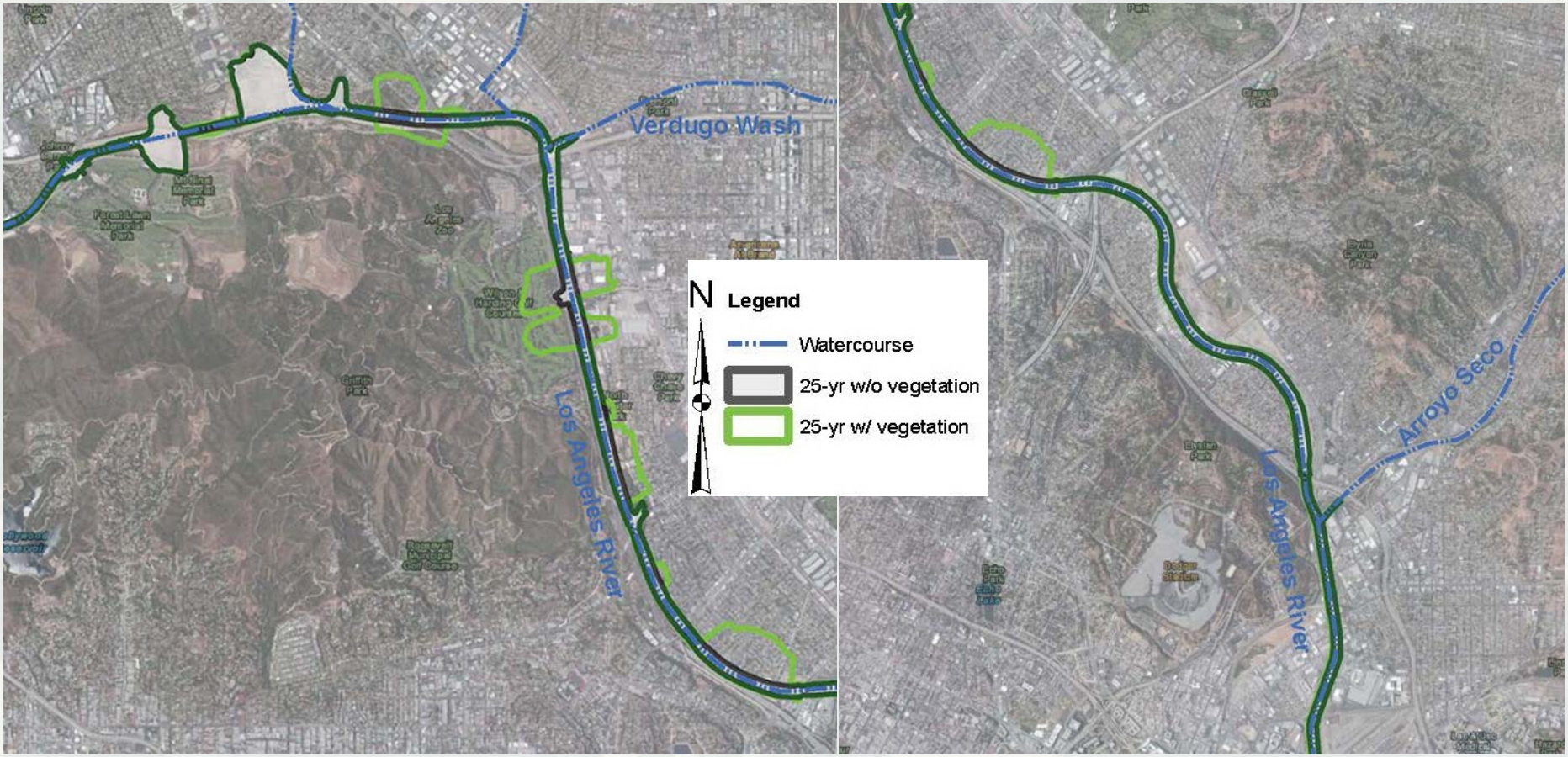
- Although recreation is permitted, the Corps encourages the public to be cognizant of the safety risks. Please be aware of your surroundings.

We discourage playing Pokemon Go on or near the channel.

Questions or Comments?

INFORMATION IS AVAILABLE ON OUR WEBSITE AT:
http://www.spl.usace.army.mil/

QUESTIONS MAY BE DIRECTED TO:
publicaffairs.spl@usace.army.mil



The Corps relied upon floodplain mapping that was developed for the LA River Eco Study. For the purposes of developing interim risk reduction measures, the Corps analyzed the potential effects of the 4% annual chance of exceedance floodplain map.