Lower American River Task Force

December 12, 2023

1:00-3:00

https://www.waterforum.org/the-river/lar-task-force/

Checklist for Virtual Participation

- ✓ **If you have less than optimal internet connection, join through both a phone (for audio) and your computer (for video).** You may do so by joining the online meeting via the Zoom link and opting to join via phone audio. When you are dialing in, please be sure to enter your participant ID.
- ✓ **Please mute yourself when you are not speaking.** This helps cut down on background noise.
- ✓ **We encourage you to join via video.** Seeing each other's faces makes for a more engaging experience.

Introduction to Zoom Controls

Phone Users:
Press *9
to “Raise Hand”

When we call on you,
Press *6
to unmute/mute

Orient yourself to Zoom meeting controls:

Unmute/Mute **Start Video** **Zoom Chat** **Raise Hand**

How you can participate today:

- **Verbal:** Get into the queue w/ Raise Hand function
- **Written:** Submit questions in Chat Box

Lower American River Task Force Welcome

Jessica Law, Water Forum & Melanie Saucier, SAFCA

Introductions and Agenda Review

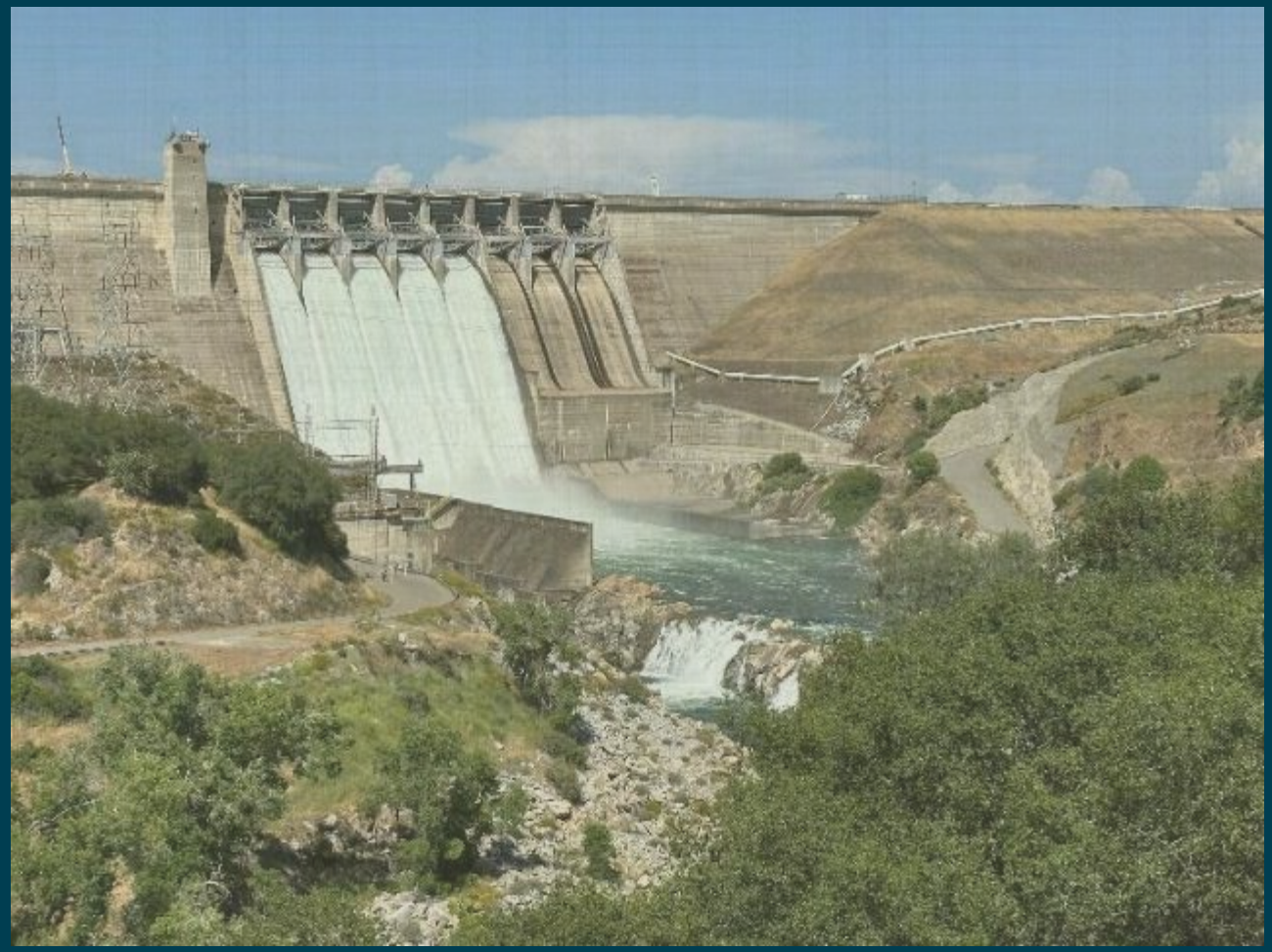
Sophie Carrillo-Mandel, CBI

Lower American River Conditions

Levi Johnson, Bureau of Reclamation

BUREAU OF RECLAMATION

WY 2024 Ops Update

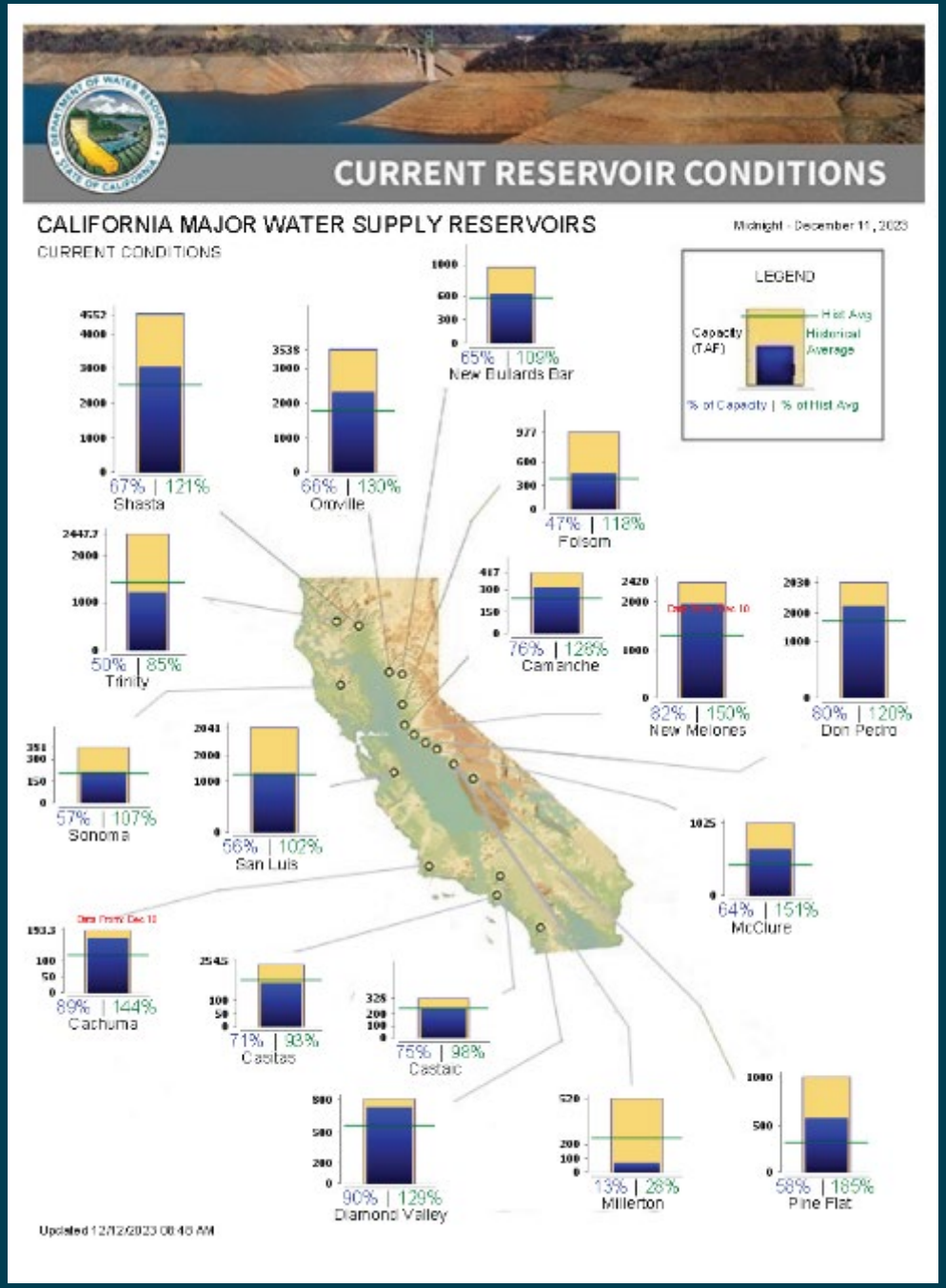


Lower American River Task Force

December 12, 2023

Central Valley Operations Office

- Shasta – 3.0 MAF
- Trinity – 1.2 MAF
- Folsom – 463 TAF
- San Luis – 1.2 MAF
- New Melones – 1.9 MAF

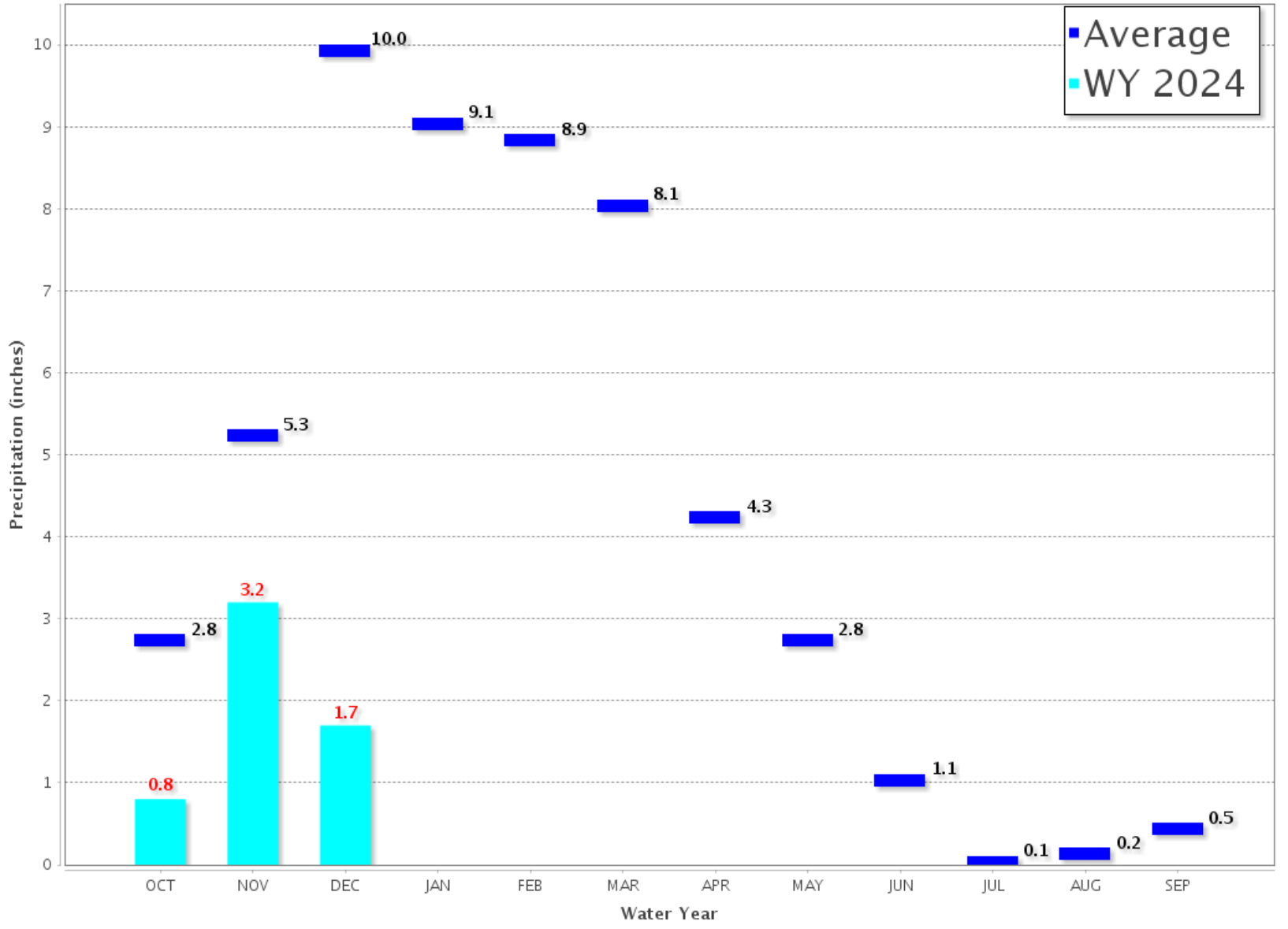


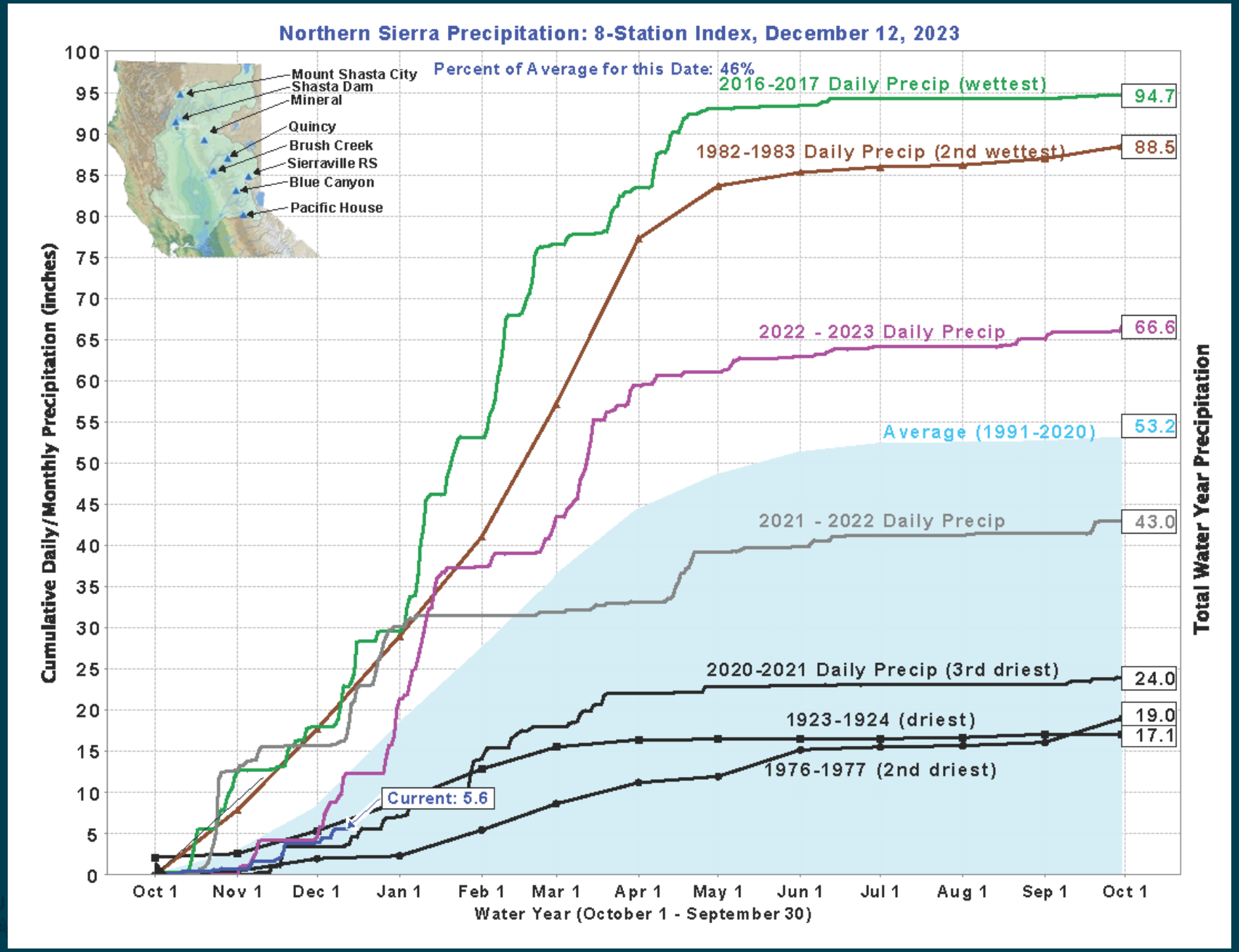
Northern Sierra 8-Station

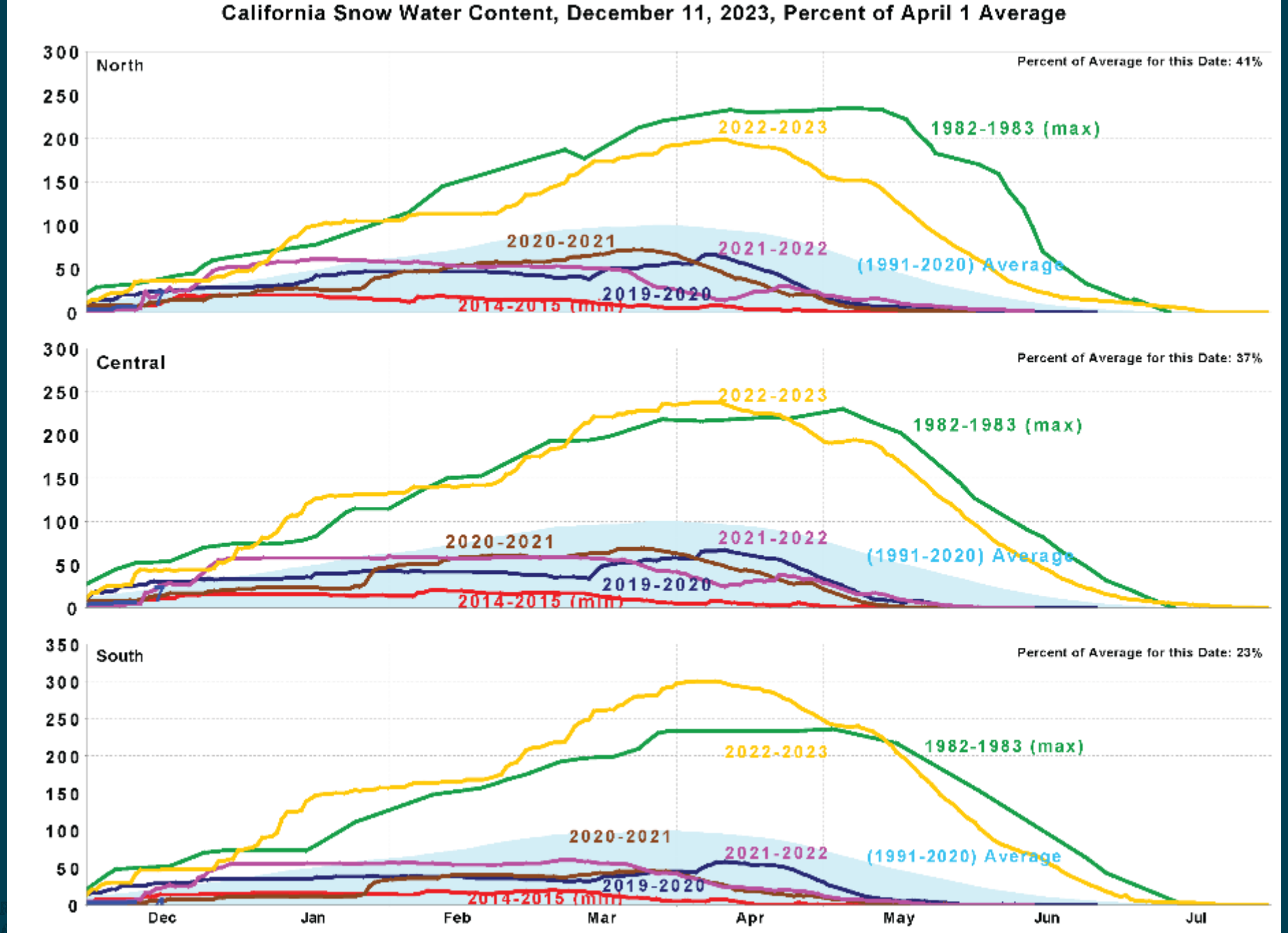
Precipitation Index for Water Year 2024 - Updated on December 12, 2023 08:48 AM

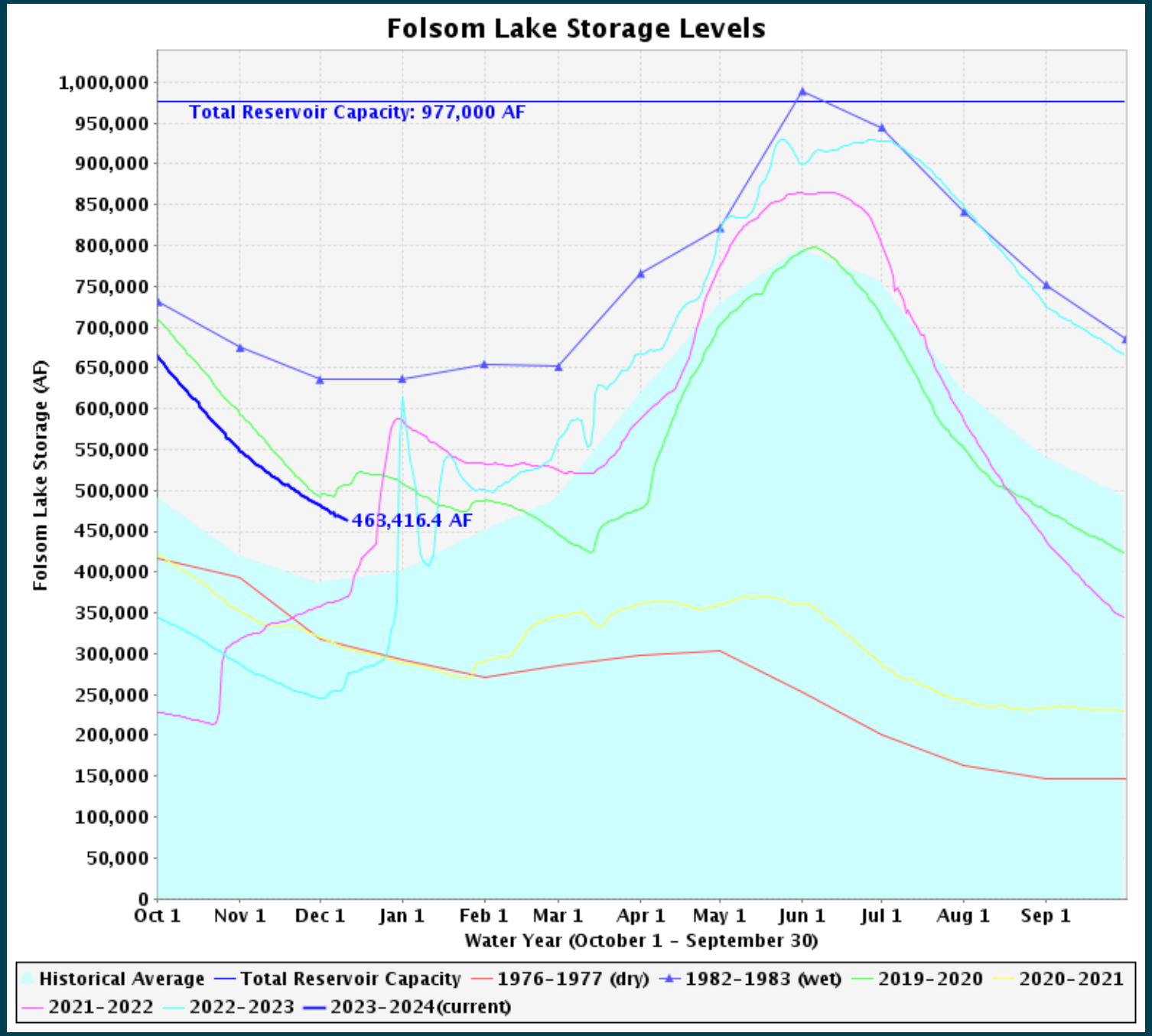
Note: Monthly totals may not add up to seasonal total because of rounding

Water Year Monthly totals are calculated based on Daily precipitation data from 12am to 12am PST




Northern Sierra Precipitation: 8-Station Index, December 12, 2023
Percent of Average for this Date: 46%
Mount Shasta City
Shasta Dam
Mineral
Quincy
Brush Creek
Sierraville RS
Blue Canyon
Pacific House
2016-2017 Daily Precip (wettest)
94.7
1982-1983 Daily Precip (2nd wettest)
88.5
2022 - 2023 Daily Precip
66.6
Average (1991-2020)
53.2
2021 - 2022 Daily Precip
43.0
2020-2021 Daily Precip (3rd driest)
24.0
1923-1924 (driest)
19.0
1976-1977 (2nd driest)
17.1
Current: 5.6
Cumulative Daily/Monthly Precipitation (inches)
Total Water Year Precipitation
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Water Year (October 1 - September 30)

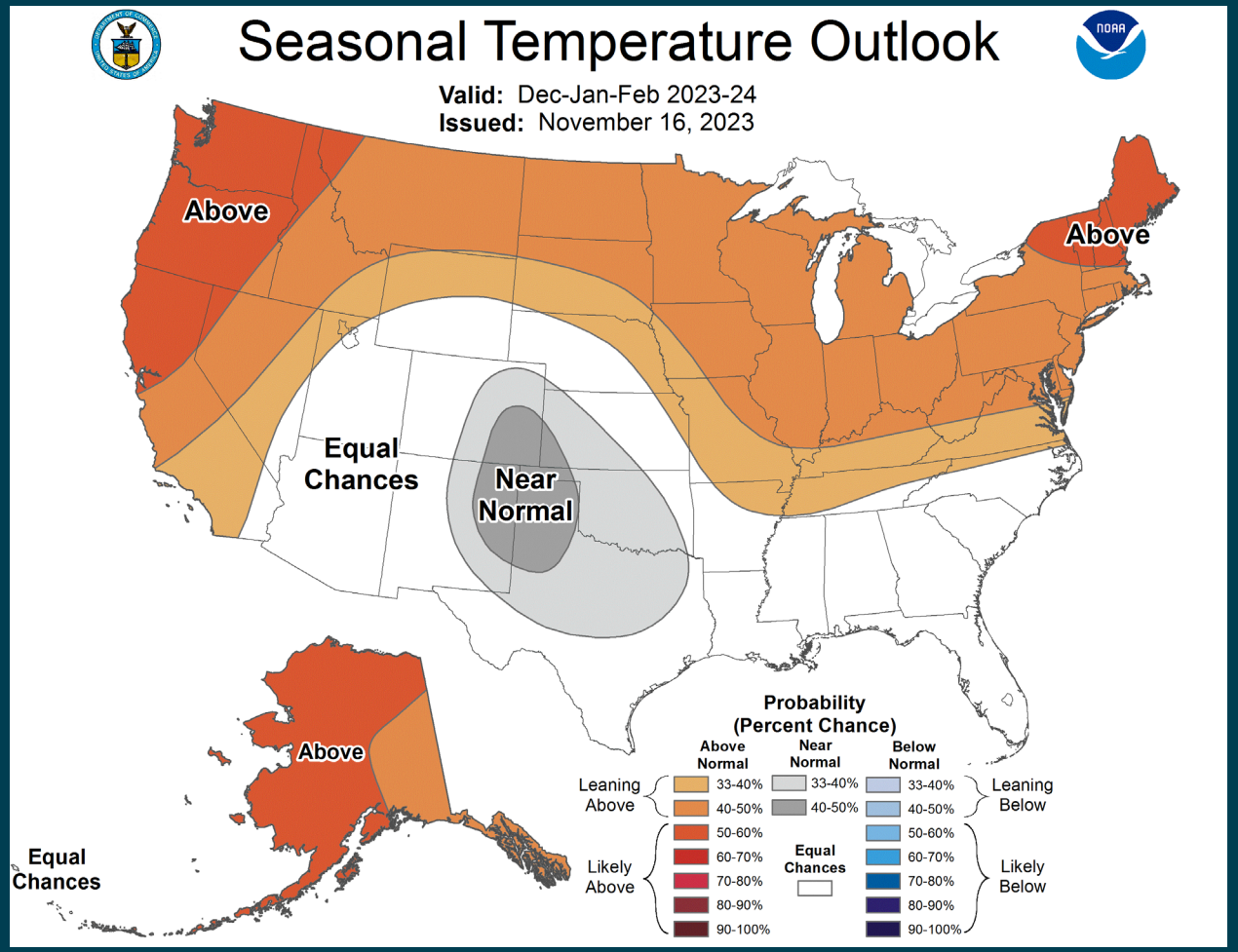

California Snow Water Content, December 11, 2023, Percent of April 1 Average
North
Percent of Average for this Date: 41%
2022-2023
1982-1983 (max)
2020-2021
2021-2022
(1991-2020) Average
2019-2020
2014-2015 (min)
Central
Percent of Average for this Date: 37%
South
Percent of Average for this Date: 23%
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Statewide Percent of April 1: 6%
Statewide Percent of Average for Date: 34%

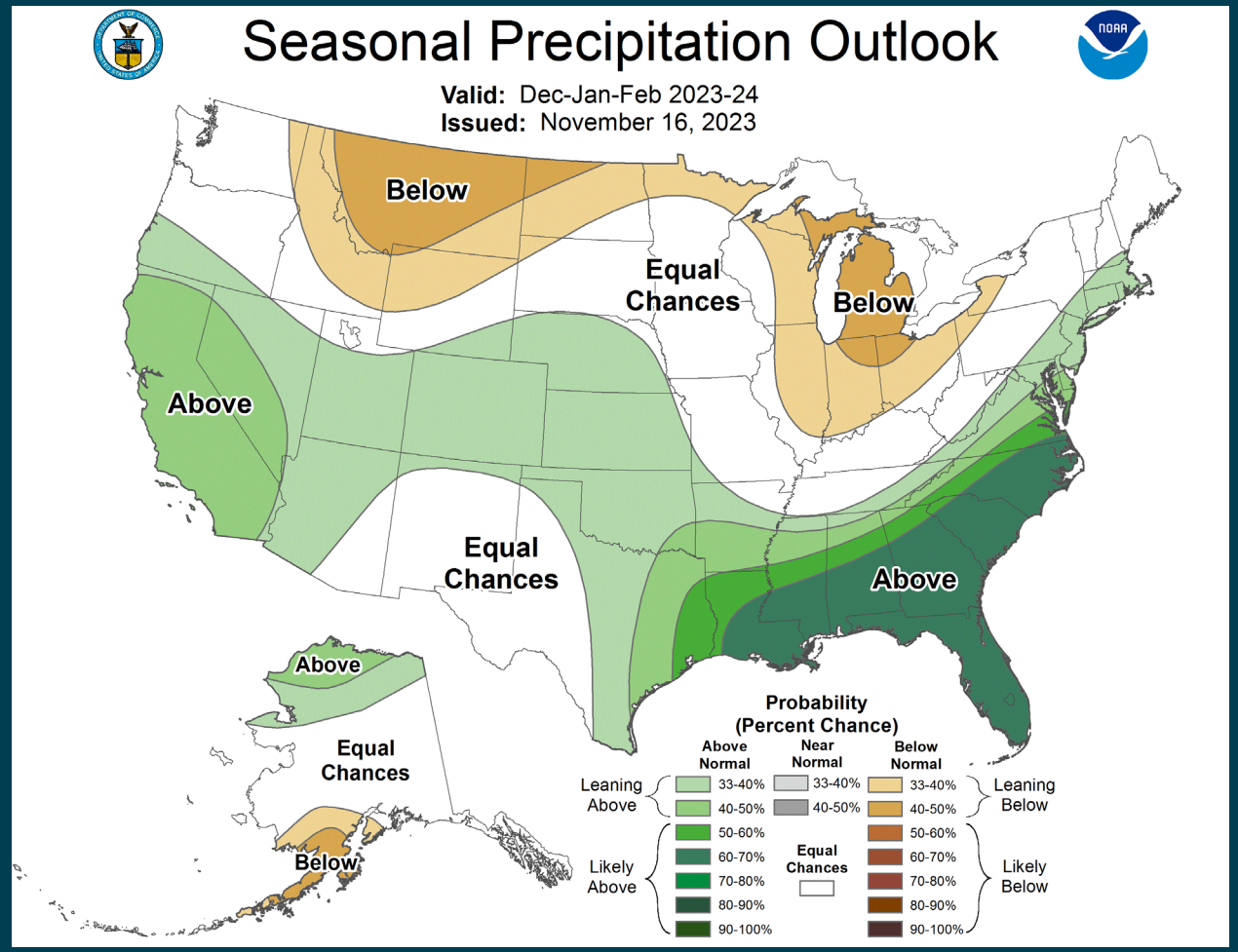


BUREAU OF RECLAMATION

2023 CVP Winter/Spring Ops

- Upstream Reservoirs
  - Continuing with reduced releases at Shasta, Folsom, and New Melones
  - Temperature operations coming to an end
  - Storage management releases if needed
- Delta
  - San Luis storage remains above average
  - Managing exports for Water quality (X2) and outflow





BUREAU OF RECLAMATION

Levi Johnson
lejohnson@usbr.gov

Water Forum 2.0

Jessica Law, Water Forum

Q&A: River Conditions, Planning, and Management Updates

Opportunity for Task Force questions

Upper River Bend Phase 1 Habitat Project

Erica Bishop, Water Forum

WATER FORUM

2023 Habitat Update - Upper River Bend, Ph 1

Lower American River Task Force Meeting

December 12, 2023

Project Status: In-river Work

HABITAT ENHANCEMENT

Site work completed October 30th

- 5 acres spawning habitat
- 6 acres rearing habitat (perennial side channel and seasonal channel margin)
- 42 woody habitat structures

Project Status: Vegetation

HABITAT ENHANCEMENT

Planting and Seeding Completed November 15th

- 6,400 willow stakes
  - Sandbar, shining, arroyo, and red willows
  - Harvested from 5 locations

Project Status: Vegetation, cont.

HABITAT ENHANCEMENT

Planting and Seeding

- Native plant seeding
  - ~5 acres
  - Focus on inclusion of culturally significant species
  - Experimenting with techniques and timing
  - 1,600 plugs Carex barbarae

Riparian Mix

Scientific Name	Common Name
Agrostis exarata	Spike Bentgrass
Carex barbarae	Santa Barbara Sedge/ white root
Elymus glaucus	Blue Wildrye
Elymus triticoides	Creeping Wildrye
Hordeum brachyantherum	Meadow Barley
Achillea millefolium	Common yarrow
Grindelia camporum	Great Valley Gumweed
Euthamia occidentalis	Western Goldentop
Trifolium willdenovii	Tomcat Clover

Upland Mix

Scientific Name	Common Name
Festuca microstachys	Small Fescue
Hordeum californicum	California Barley
Elymus glaucus	Blue Wildrye
Poa secunda	Pine Bluegrass
Stipa pulchra	Purple Needlegrass
Achillea millefolium	Common Yarrow
Clarkia purpurea	Purple Clarkia
Croton setigerus	Turkey Mullein
Eschscholzia californica	California Poppy
Heterotheca grandiflora	Telegraph Weed
Lupinus microcarpus	Chick Lupine
Lupinus bicolor	Miniature Lupine

Post-Project Monitoring

Redd Surveys

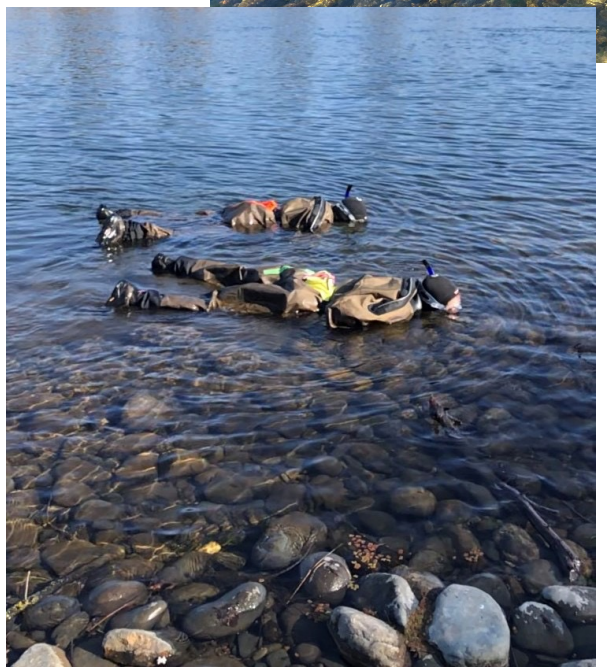
- On-the-ground: every 3 weeks, end of October through March
- Aerial: 3-4 flights November-January, weather dependent

Snorkel/Seine Juvenile Surveys

- 2x per month, February through May

Vegetation/Physical Monitoring

- Photo points and willow/seed/plug survival
- ~5-year LiDAR/topo/bathy/2D Model update underway



SCIENCE AND MONITORING

Contact: ebishop@waterforum.org

Kassis Property Update

Dalia Fadl, City of Rancho Cordova

Q&A: Upper/Middle Reach Updates

Opportunity for Task Force questions

State & Federal Regulatory Update

Michelle Banonis, Regional Water Authority

Q&A: Management Updates

Opportunity for Task Force questions

Bank Protection Contract Updates

Amanda Barlow, US Army Corps of Engineers

AMERICAN RIVER WATERSHED COMMON FEATURES, WRDA16

Contract 1 (Site 2-1)
Contract 2 (Site 2-3, 2-2)
Contract 3A (Site 1-1)
Contract 3B (Site 3-1, 4-1, 4-2)
Contract 4A (Seg 1-17b)

Presented by Amanda Barlow
Project Manager

12 December 2023

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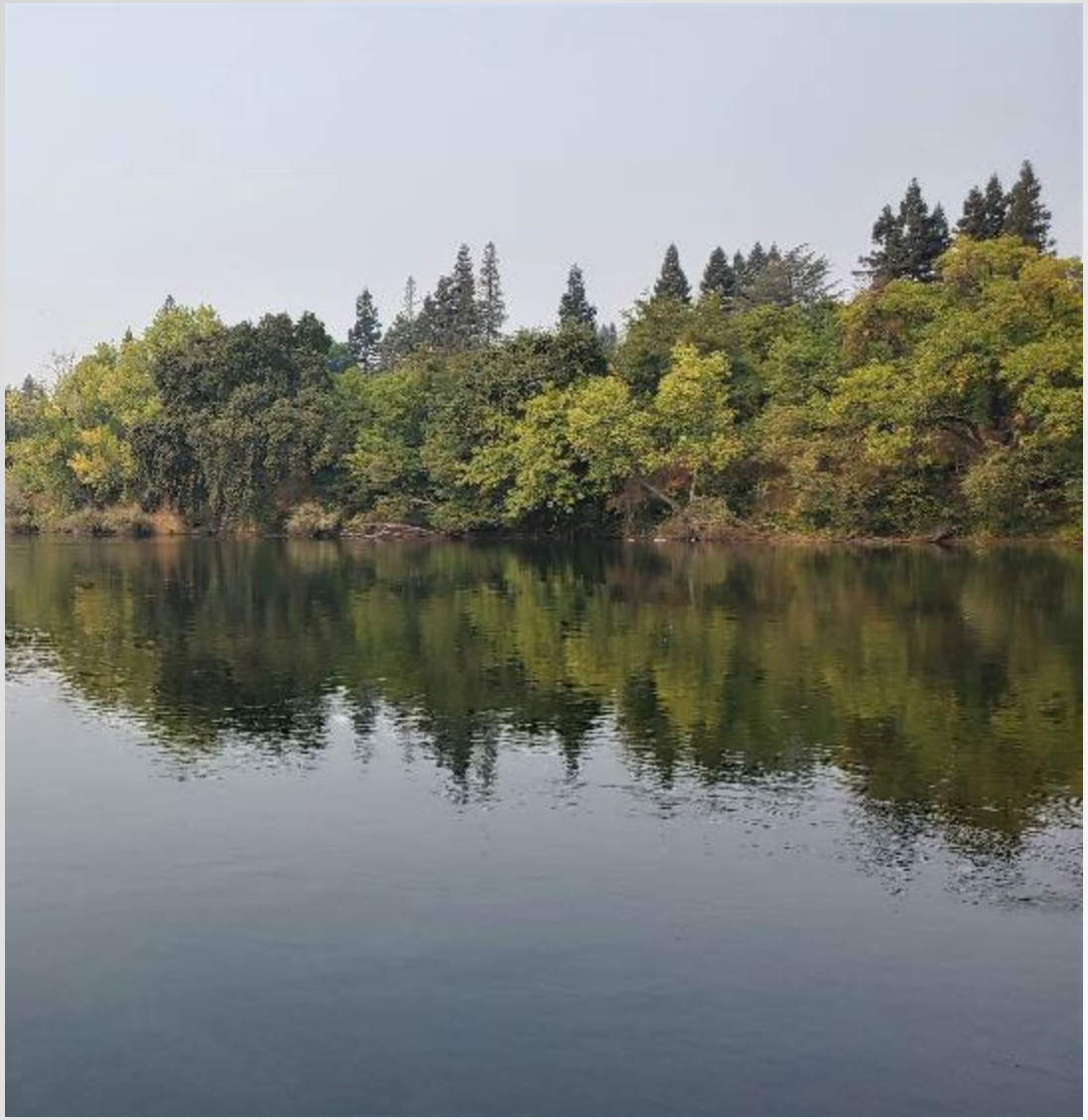
US Army Corps of Engineers®

AGENDA

- Project Partners
- Status of Designs
- Contract C1
- Contract C2, Season 2
- Contract C3A
- Contract 3B N/S
- Contract C4A



PROJECT PARTNERS

Federal Government

US Army Corps of Engineers®

Local Government

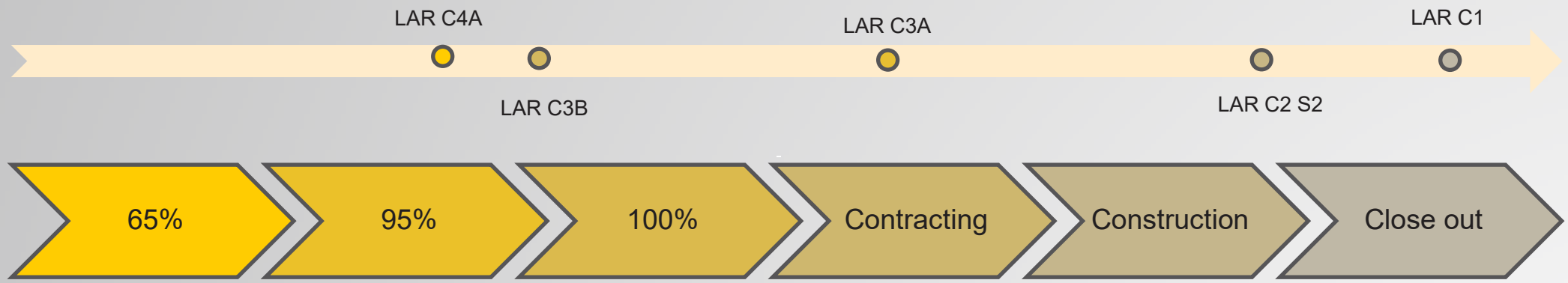
SAFCA
Sacramento Area Flood Control Agency

State Government

Central Valley Flood Protection Board

Department of Water Resources

STATUS OF DESIGNS
LAR EROSION PROTECTION CONTRACTS



CONTRACT 1 & 2 PROJECT AREA

- Extends between Paradise Bend and Howe Ave Bridge.
- Contains 2 contracts, 3 sites
  - C1, Site 2-1 - Complete
  - C2S1, Site 2-3 - Complete
  - C2S2 Site 2-3, 2-2 - Complete
- Banks generally consist of sandy deposits from late 1800's upstream gold mining.
- Velocities >10 ft/s through most of subreach during design level event

CONTRACT 1 (SITE 2-1)

- Construction and Greening is Complete
- Willow and Cotton woods are establishing well in planting benches
- All planting is complete

PARADISE BEND MITIGATION (E1A)

- Elderberries transplanted from C3A are growing nicely
- Irrigation installed and plantings will be complete in December

CONTRACT 2 (SITE 2-3, SEASON 1)

- Construction was Complete in 2022
- Surficial damage from high water has been repaired.
- Greening (Re-Vegetation) contract began Nov23
- Golf course restoration planned for Spring 2024

CONTRACT 2 (SITE 2-3, SEASON 2)

Site 2-3 Complete
- tie-backs & launch rock spurs (see inset)
- 1’ topsoil
- In-Stream Woody Material

CONTRACT 2 (SITE 2-2)

Site 2-2 Complete
- Launchable rock toe
- Rock tie backs
- Planting benches
- 1’ topsoil
- In-Stream Woody Material

CONTRACT 2 (SITE 2-2)

SCHEDULE CONTRACT 2 (SEASON 2)

Pre-construction (Dec 2022 - May 2023)
- Site prep, elderberry shrub transplant, cut and trim trees

Site Construction (May 2023 - Fall 2023)
- Excavate excess material, Install erosion protection, backfill and preliminary revegetation

Post-Construction Planting (Spring+ 2024)
- Install mixture of native vegetation (grasses, shrubs, trees) on-site

As of 19-Dec-23

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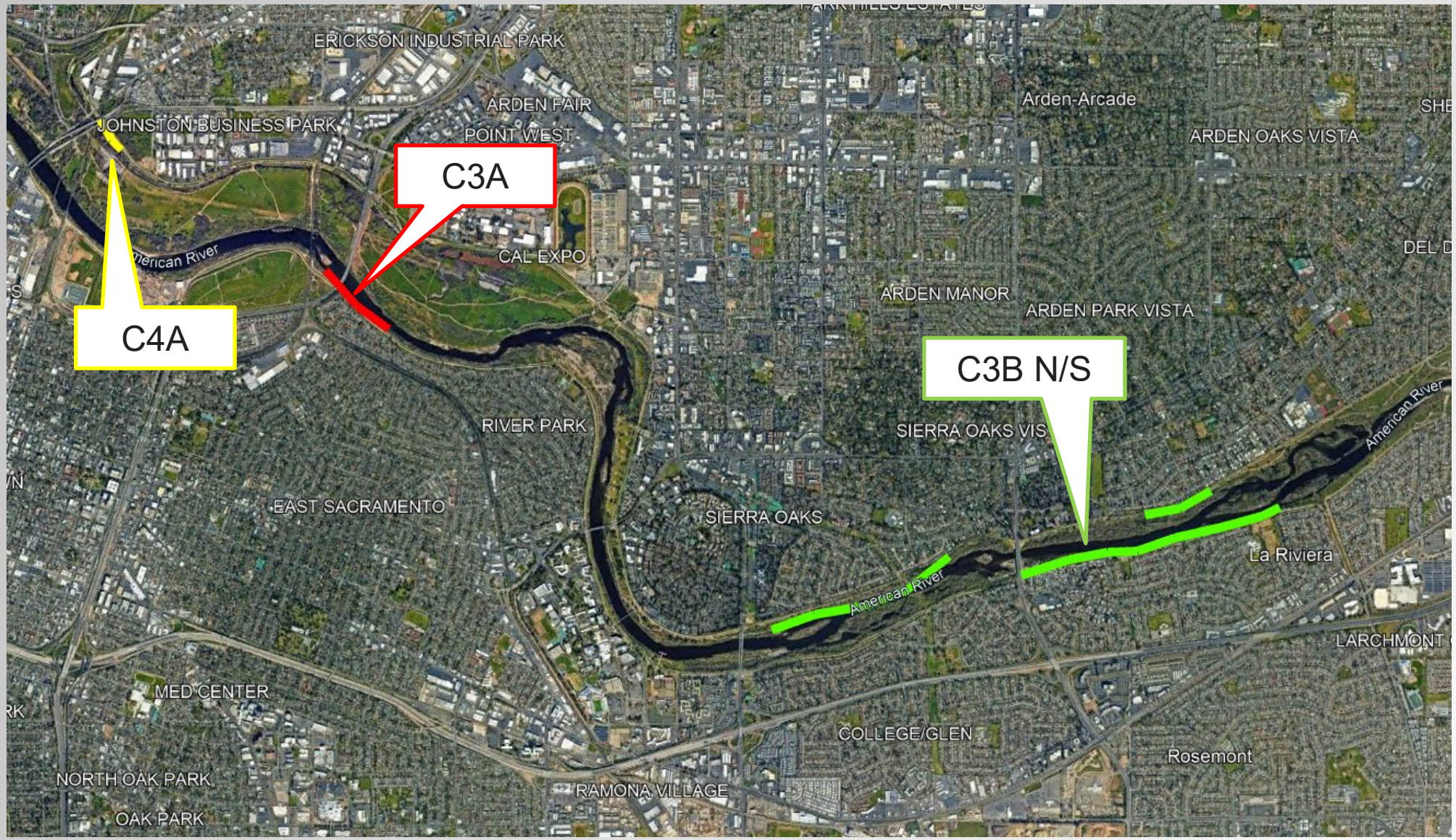
FUTURE WORK – C3A



CONTRACT 3A (SITE 1-1)

- Left Bank @ I-80 Bridge
- Approximately 2,400 linear feet of bank protection measures will be constructed
- Construction Scheduled for Summer 2024
  - Pending real estate

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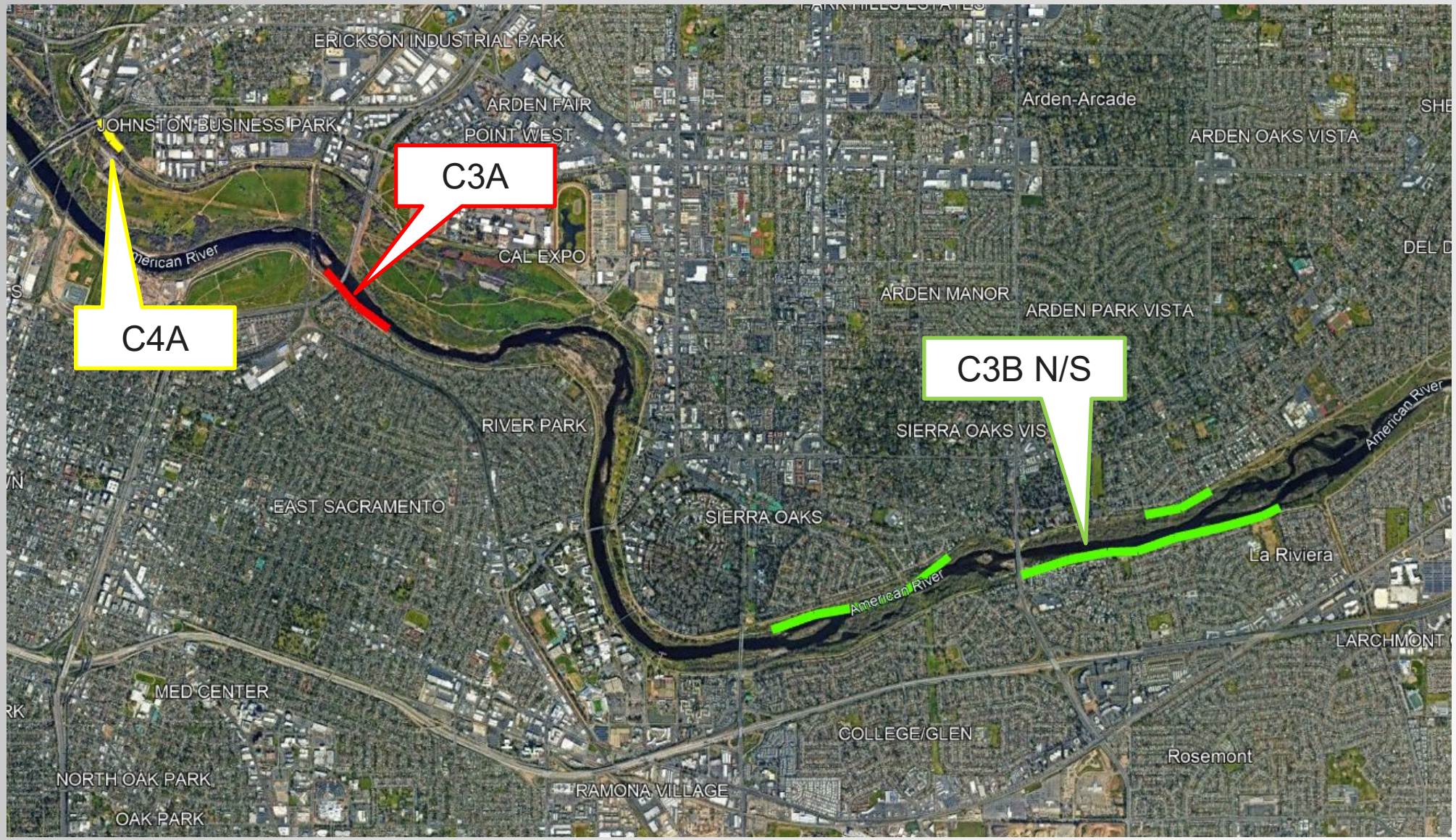
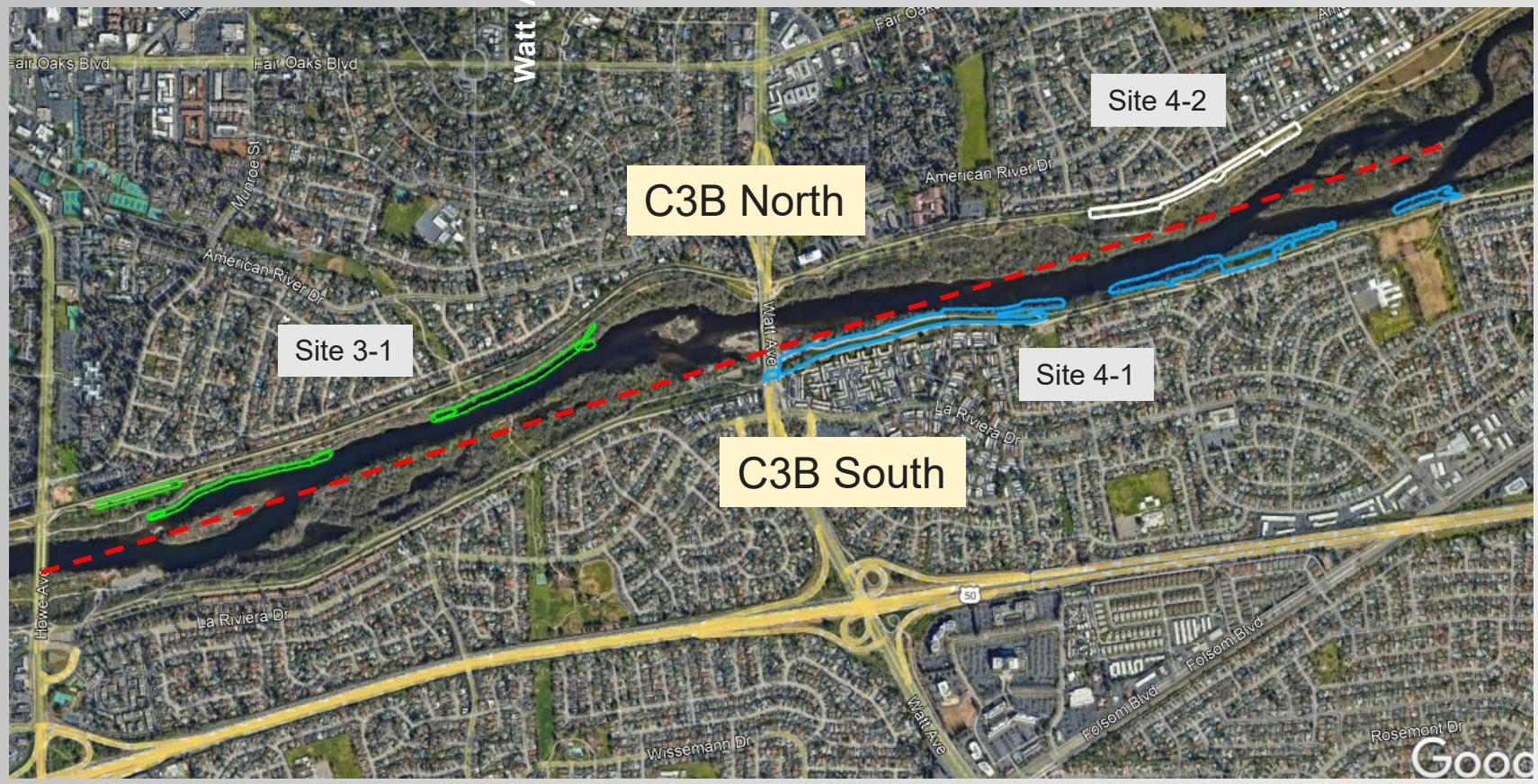
FUTURE WORK – C3B NORTH & SOUTH



C3B 95% UPDATE - NORTH & SOUTH



- C3B has been separated into 2 Contracts
  - C3B-North (Site 3-1 and 4-2)
  - C3B-South (Site 4-1)
- Construction Sequencing over 2 Seasons
  - Season 1 – Summer 2025
  - Season 2 – Summer 2026

DESIGN HISTORY OF LAR C3B: 10% DESIGNS

10% designs

- Site 3-1 - island grading and grading on opposite bank
  - Heavy benthic, fish, and elderberry habitat impacts
  - Removal of a unique island feature and associated habitat

- Site 4-1 - in-water placement of erosion protection
  - Heavy benthic, fish, and elderberry habitat impacts

Site 3-1

Site 4-1

DESIGN HISTORY OF LAR C3B: 35% DESIGNS

35% designs (Moved for less in-water impacts)

- Site 3-1 - still had island grading and grading on opposite bank
  - –Heavy benthic, fish, and elderberry habitat impacts
  - –Removal of a unique island feature and associated habitat

- Site 4-1 - continuous launchable rock trench high on the bench
  - –Riparian forest and higher elderberry impacts
  - –Significant aesthetic and recreational impacts (removal of heritage oaks)

Site 3-1

Site 4-1

DESIGN HISTORY OF LAR C3B: 65% DESIGNS

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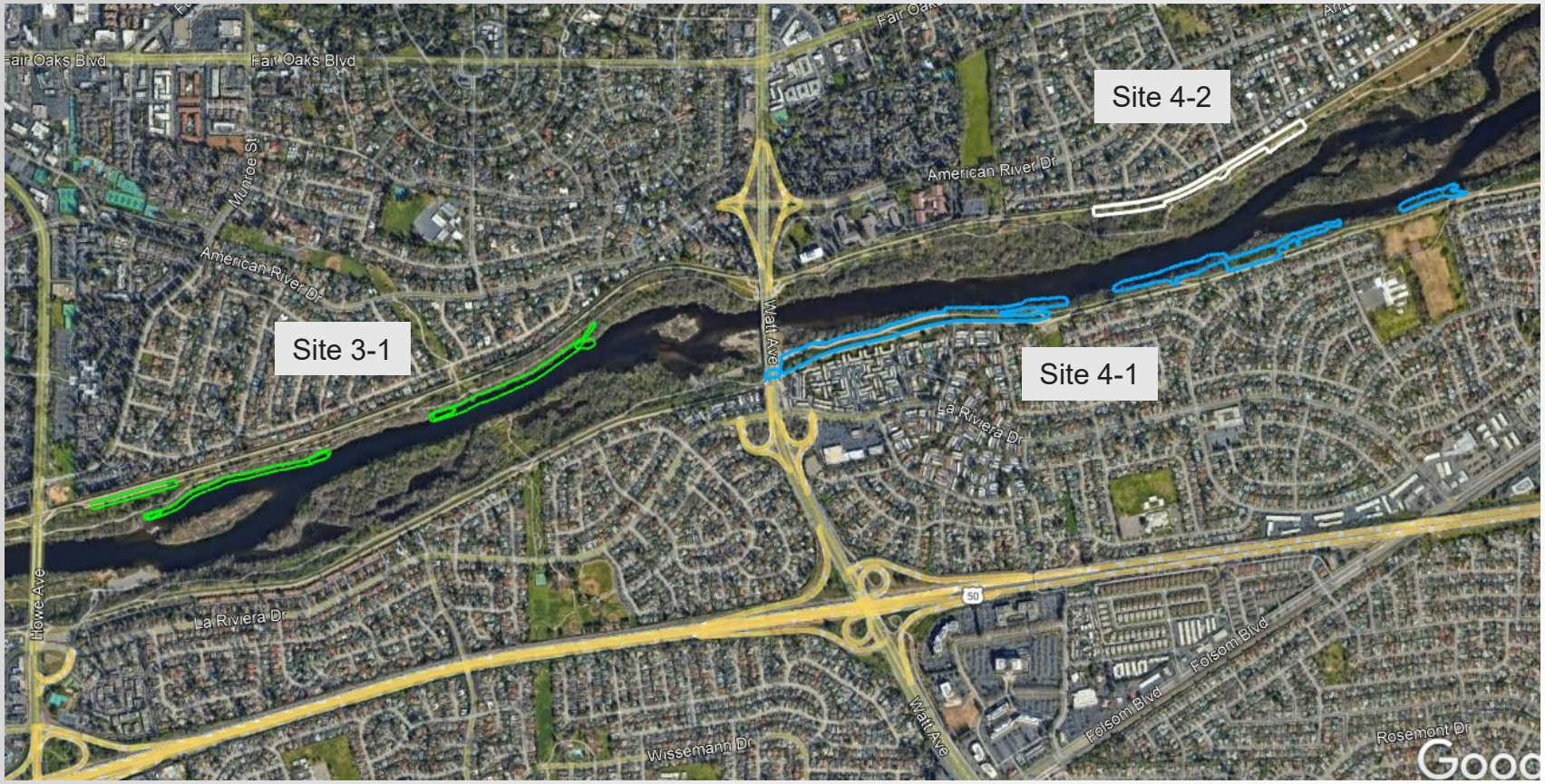
65% designs (Reduced and balanced impacts)

- Site 3-1 - launchable rock toe and planting benches
  - Reduced benthic, fish, and elderberry impacts (Saved island!)
- Site 4-2 (added) - extend existing levee revetment
  - Minimal veg impact
- Site 4-1 - retained some launchable rock trench high on the bench, Moved Some launchable rock down to water's edge
  - balanced fish and forest impacts
  - Avoids most large trees
  - Reduces aesthetic and recreational impacts



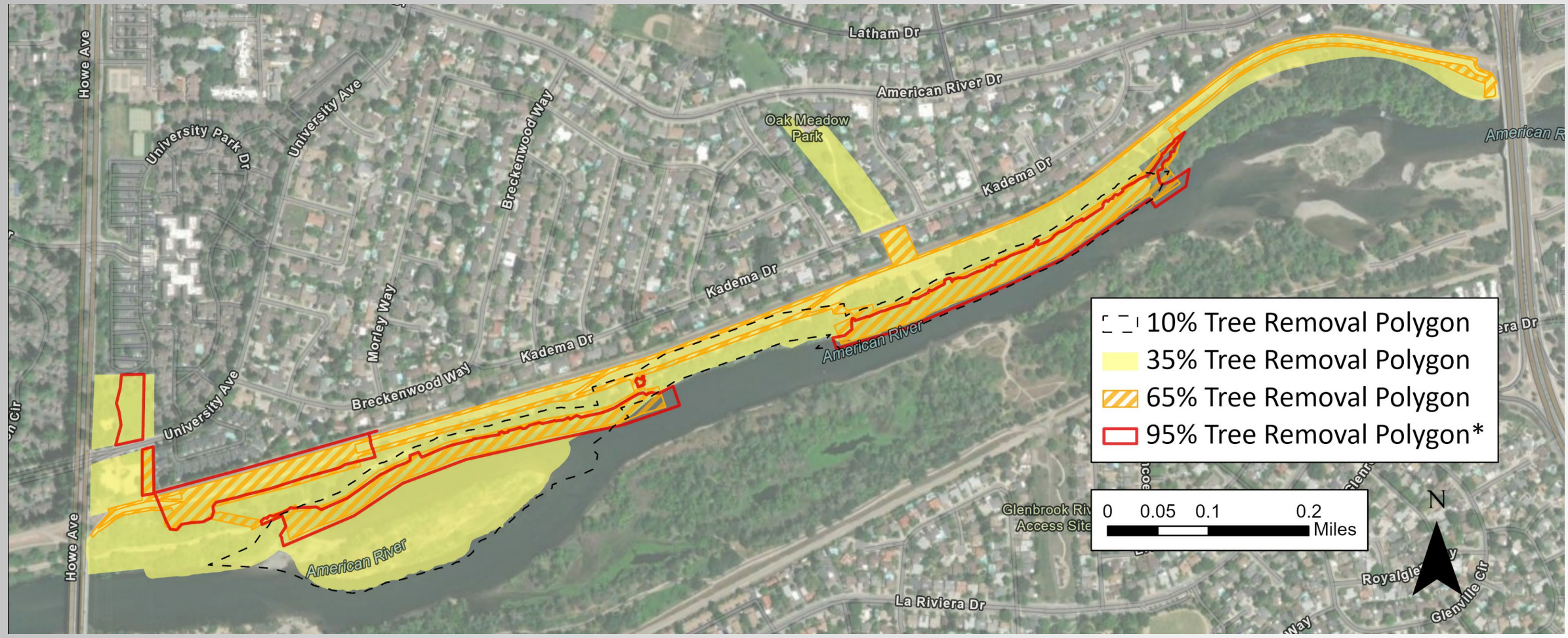
DESIGN HISTORY OF LAR C3B: 95% DESIGNS

95% designs (No major changes)

- Refine design performance
- Refine veg clearing plans to reduce veg and tree impacts

Source: Bailey Hunter 2021

LAR C3B NORTH, SITE 3-1
HABITAT IMPACT FOOTPRINT CHANGES



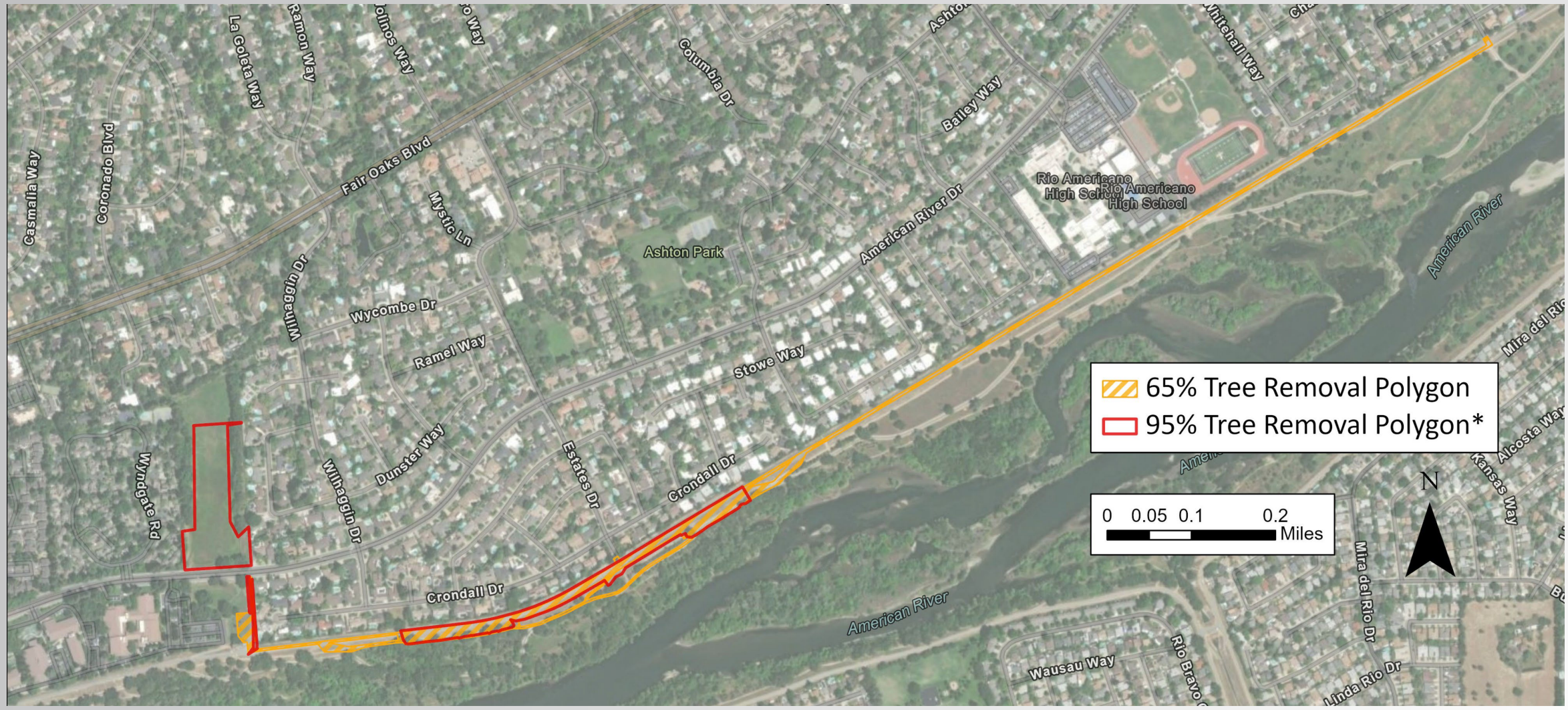
*95% Designs are from the Project Delivery Team review. The 95% footprints in these maps were created from the construction limits and tree demo plans from September 2023. These footprints do not represent the most up to date project footprints.

LAR C3B NORTH, SITE 3-1
HABITAT IMPACT FOOTPRINT CHANGES

Site 3-1	VELB		YBCU (Riparian)			NMFS (Salmonid)			Tree
Species	**Impact (acres)**	**Mitigation Offsite (3:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Mitigation Offsite (2:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Additional Mitigation Needed (2:1)**	**Number of Trees Removed**
35% Designs	17.99	53.97	22.18	12.15	32.21	27.19	19.87	34.51	Not calculated
65% Designs	2.55	7.65	3.61	4.2	0	9.09	1.4	16.78	354
95%* Designs	0.92	2.76	2.89	4.17	5.78	10.89	TBD	TBD	149

*Impacts for the 95% designs were calculated using construction limits and tree demo footprints from the PDT review design set in September 2023. These impact calculations do not reflect the most up to date designs.

LAR C3B NORTH, SITE 4-2
HABITAT IMPACT FOOTPRINT CHANGES



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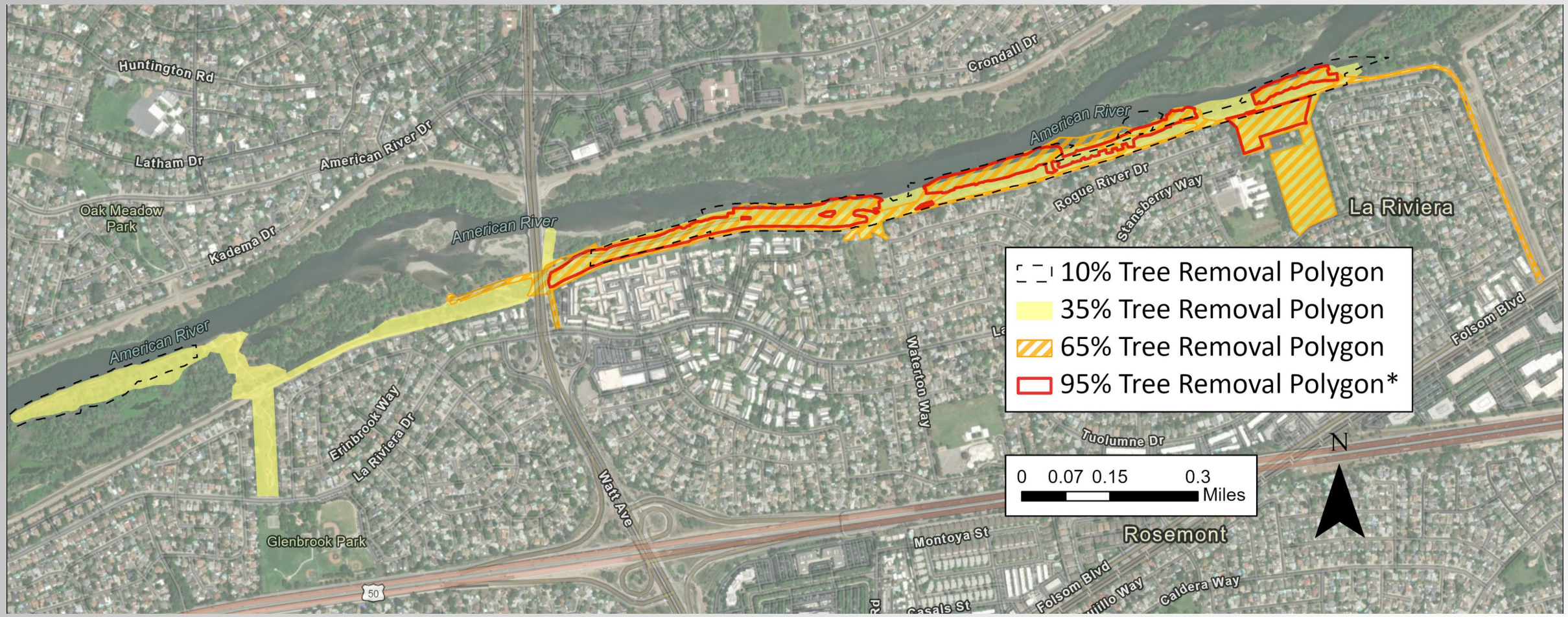
LAR C3B NORTH, SITE 4-2
HABITAT IMPACT FOOTPRINT CHANGES

Site 4-2	VELB		YBCU (Riparian)			NMFS (Salmonid)			Tree
Species	**Impact (acres)**	**Mitigation Offsite (3:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Mitigation Offsite (2:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Additional Mitigation Needed (2:1)**	**Number of Trees Removed**
65% Designs	0.42	1.26	0.45	0	0.6	0	0	0	18
95%* Designs	0.27	0.81	0.29	0	0.58	0	0	0	14

*Impacts for the 95% designs were calculated using construction limits and tree demo footprints from the PDT review design set in September 2023. These impact calculations do not reflect the most up to date designs.

LAR C3B SOUTH, SITE 4-1
HABITAT IMPACT FOOTPRINT CHANGES



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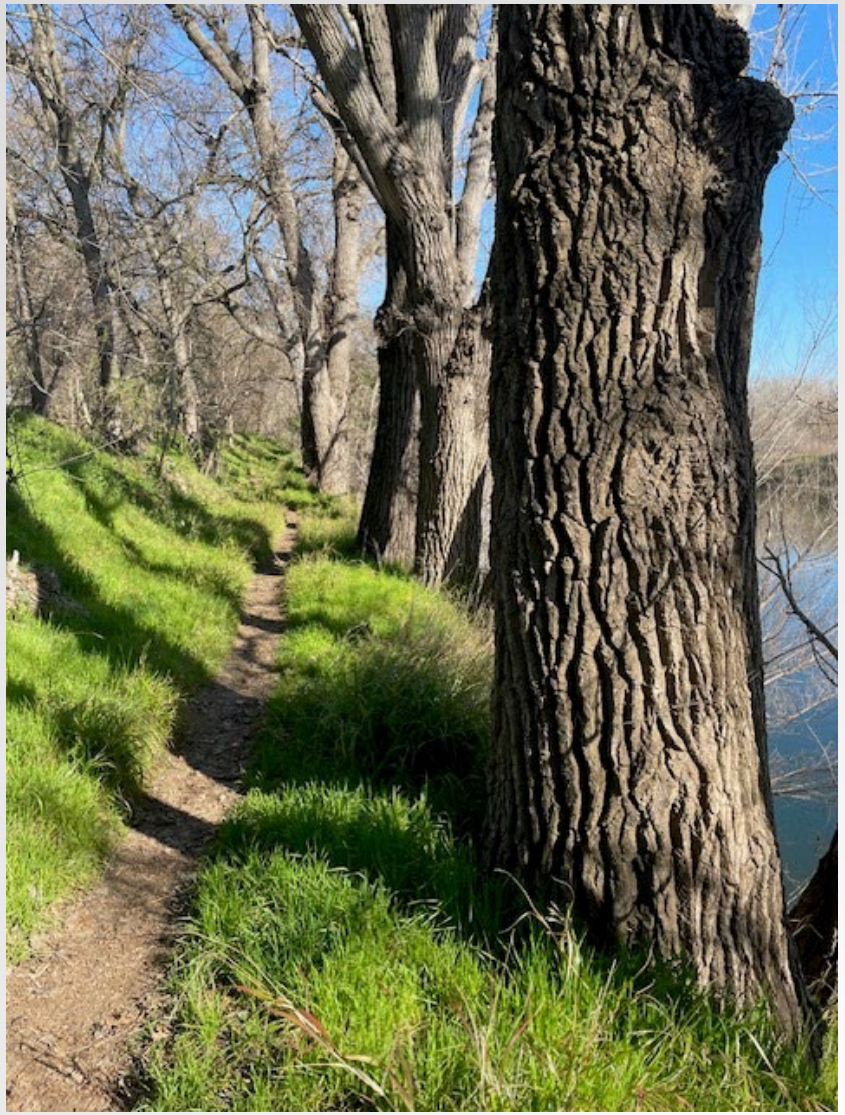
LAR C3B SOUTH, SITE 4-1
HABITAT IMPACT FOOTPRINT CHANGES

Site 4-1	VELB		YBCU (Riparian)			NMFS (Salmonid)			Tree
Species	**Impact (acres)**	**Mitigation Offsite (3:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Mitigation Offsite (2:1)**	**Impact (acres)**	**Mitigation Onsite (acres)**	**Additional Mitigation Needed (2:1)**	**Number of Trees Removed**
35% Designs	13.58	40.74	6.48	14.13	(1.17)	7.55	3.1	12	Not calculated
65% Designs	7.29	21.87	5.61	11.2	0	9.96	4.3	15.17	719
95%* Designs	6.44	19.32	3.97	15.31	7.94	8.21	TBD	TBD	522

*Impacts for the 95% designs were calculated using construction limits and tree demo footprints from the PDT review design set in September 2023. These impact calculations do not reflect the most up to date designs.

SEIS/SEIR STATUS

- NEPA and CEQA documents which include LAR C3B will be released for public comment **December 22, 2023**
  - It will be available at:
    - https://sacleveeupgrades.com/ (under ARCF SEIS/SEIR links)
    - https://ceqanet.opr.ca.gov/
  - Public Meetings are scheduled for:
    - **January 10 and 16, 2024**
    - Go to https://sacleveeupgrades.com/ (under ARCF SEIS/SEIR links) for more details and for any updates.



Source: Bailey Hunter 2022

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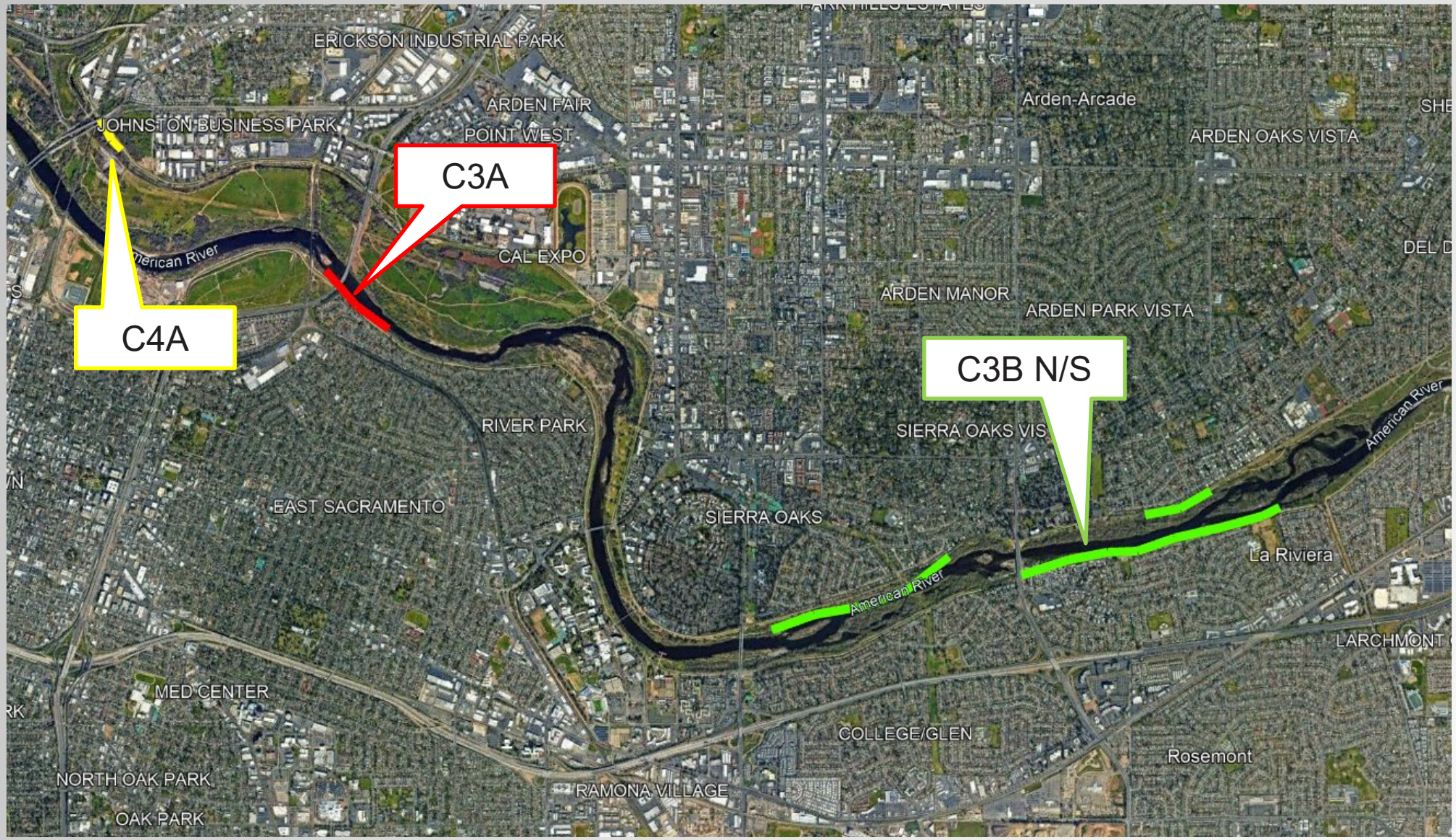
FUTURE WORK – C4A



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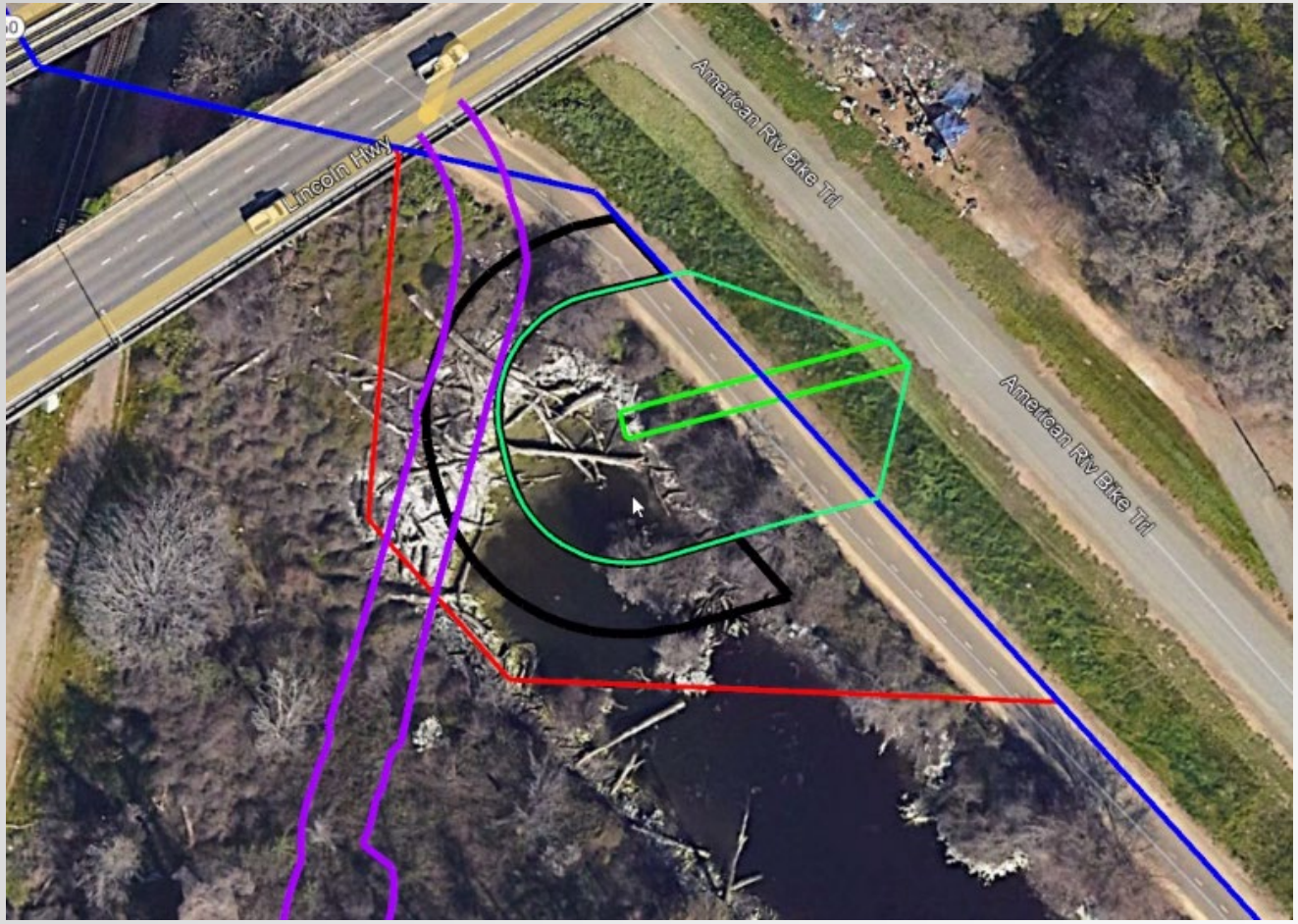
C4A STATUS UPDATE

29

- Right bank at the Highway 160 bridge
- Complex site with highway bridge piers, RR bridge, & multiple utilities
- Design – Berm to reduce velocities against levee, beneath and around bridges
- 65% Designs complete
- Advancing 95% designs



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C4A STATUS UPDATE – BIKE PATH

30

- Preferred path by stakeholders
- Old Bike Path will be returned to gravel for maintenance purposes
- 100% Design JUL24
- Real Estate Cert FEB26
- Construction APR27

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HOW TO STAY INFORMED

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Twitter: www.twitter.com/USACESacramento

Questions? Comments? Concerns?

Sacramento District Public Affairs Office
Phone: 916-557-5100
E-mail: spk-pao@usace.army.mil

U.S. ARMY

QUESTIONS

Bank Protection Habitat Mitigation Updates

Sean McNeil, US Army Corps of Engineers

PROJECT PARTNERS

Federal Government

US Army Corps of Engineers®

Local Government

SAFCA
Sacramento Area Flood Control Agency

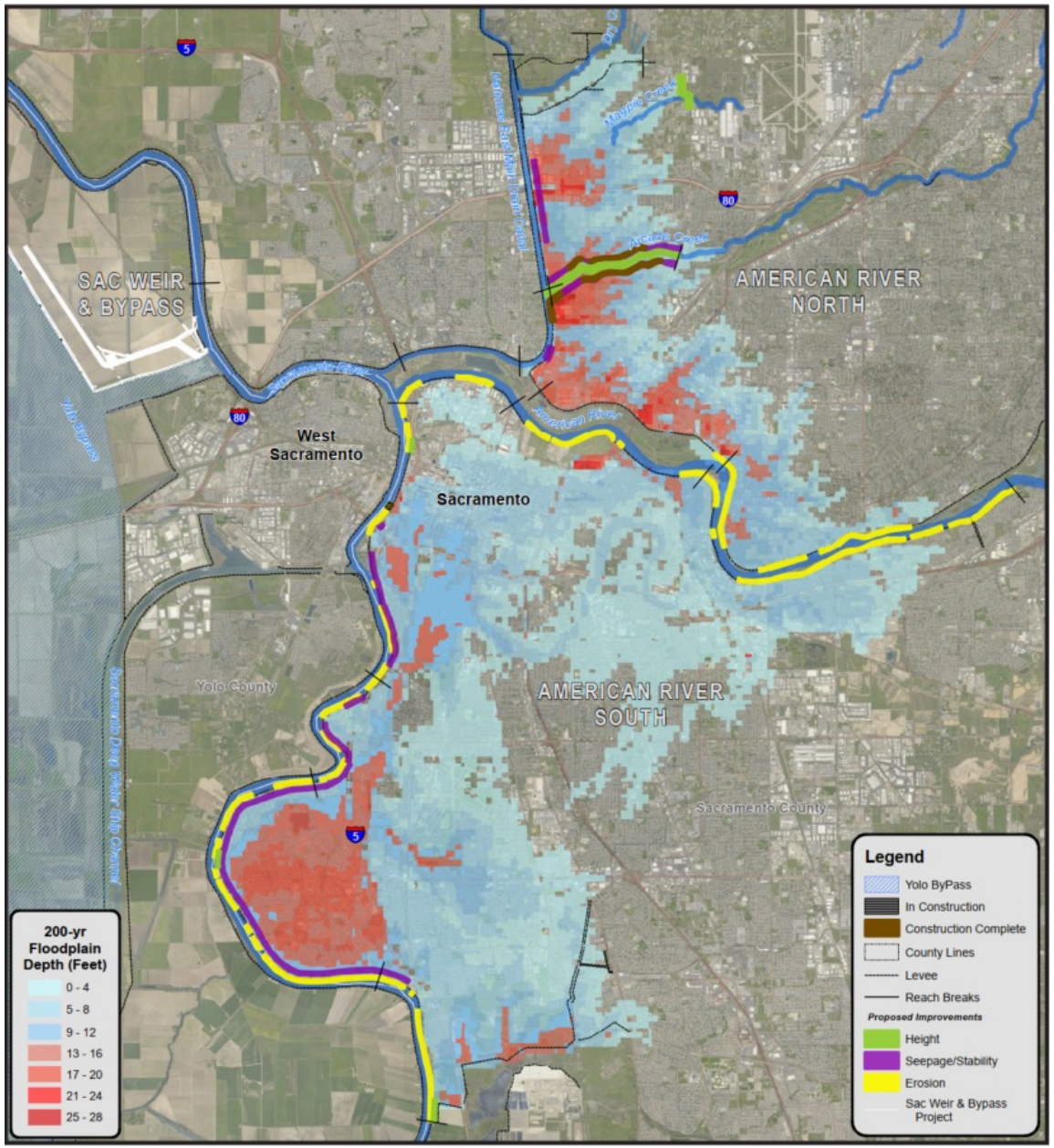
State Government

Central Valley Flood Protection Board

Department of Water Resources

STUDY AREA

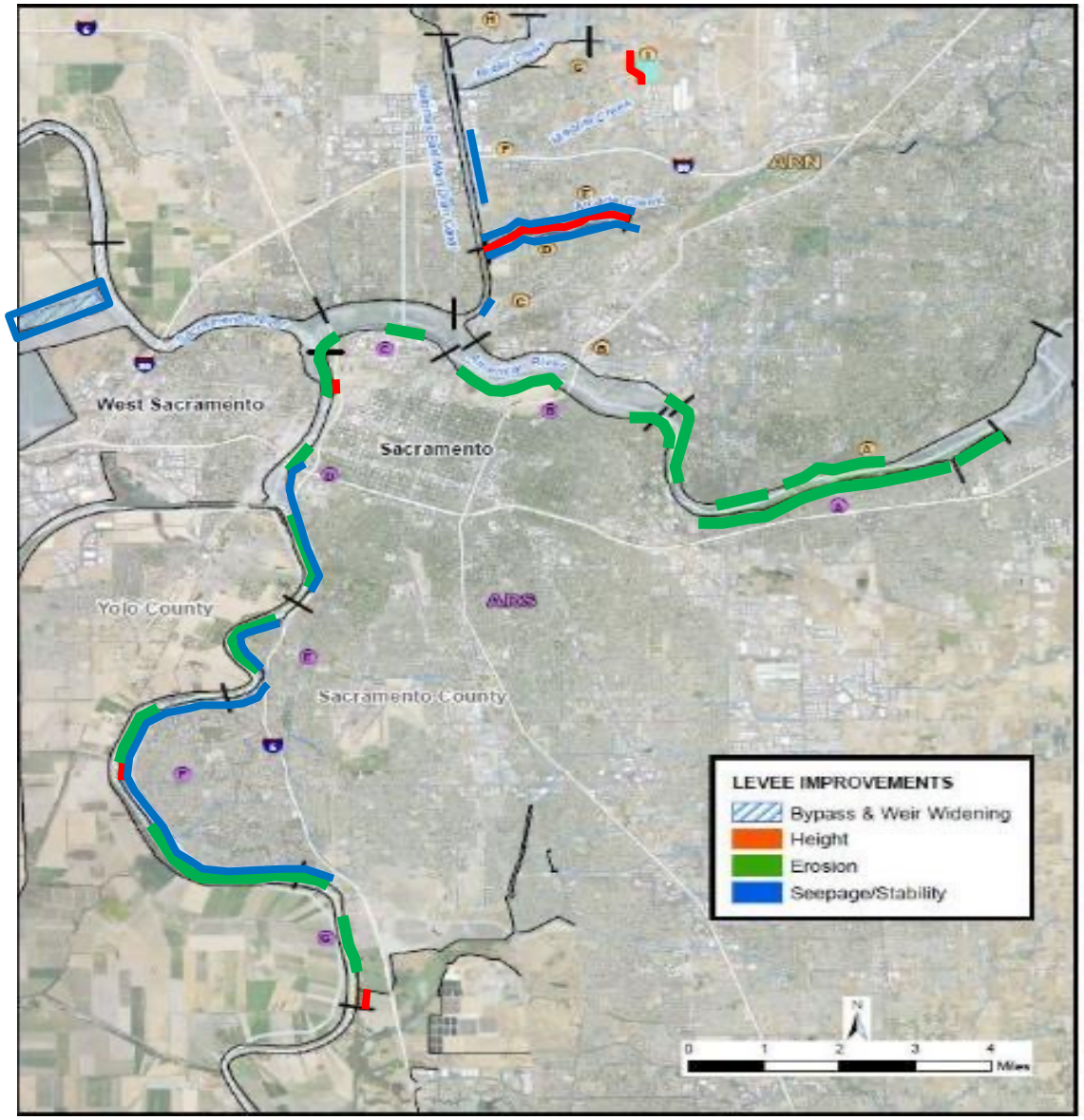
The study area is located within the Sacramento and Lower American River, with the focus being on the vicinity of the confluence of these two rivers where they meet within the City of Sacramento



NEED FOR SEIS/SEIR

- Analyze project components that could result in potentially significant environmental effects.
- Project components requiring further consideration are:
  - American River Erosion Contract 3B, 4A, and 4B
  - Sacramento River Erosion Contract 3
  - Magpie Creek Project
  - American River Mitigation Site
  - Sacramento River Mitigation Site
  - Piezometer Network
- SEIS/SEIR Schedule: Record of Decision – Anticipated in June 2024

Overview of Refinements



Key features of the Report:

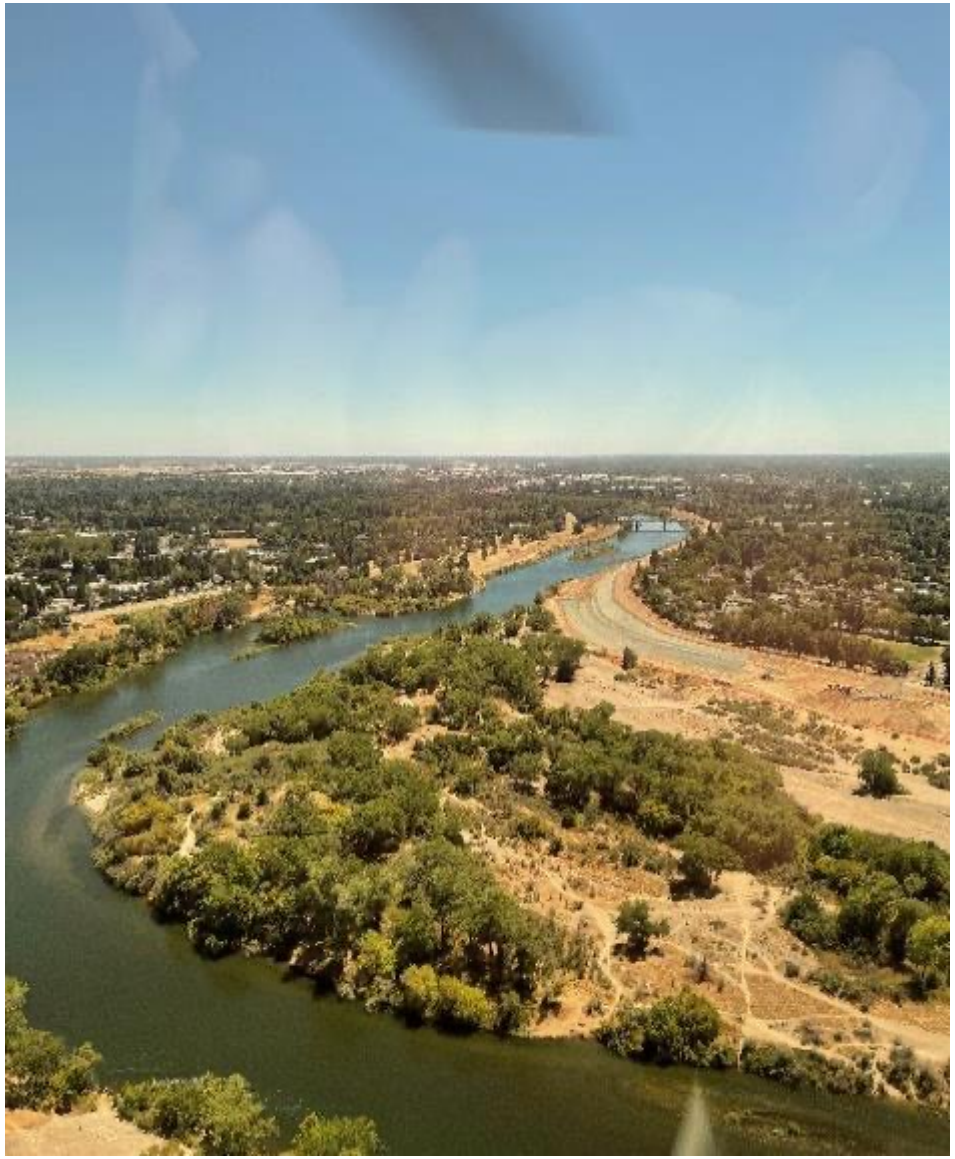
- Refinements identified over the past six years require changes to the analysis in the 2016 ARCF GRR EIS (the original NEPA document)
- Plan to include SR C3, LAR C3B, LAR C4A, LAR C4B, Magpie Creek Project, Mitigation Sites, Piezometer Network
- Written as Joint Document with CEQA and NEPA

SEIS/SEIR SCHEDULE

AMERICAN RIVER COMMON FEATURES
Draft Supplemental Environmental Impact Statement / Subsequent Environmental Impact Report

Schedule:

Public review: 21 Dec 23 to 5 Feb 24
Public meetings: *10 & 16 January 2024*
ROD completion: June 2024



Q&A: Middle & Lower Reach Updates

Opportunity for Task Force questions and discussion

American River Mitigation Site Update

Nicky Schleeter, USACE; Kevin Fellows, HDR; Summer Pardo, GEI & Melanie Saucier, SAFCA

American River Mitigation Site

LARTF Meeting
December 12, 2023

Agenda

In this presentation we will:

- Review the project objective
- Outline key project milestones & activities
- Describe the site disturbance history
- Summarize site investigation findings
- Review the design goal & progression
- Characterize habitat zones, hydrology, & species benefits
- Discuss next steps

Project Objective

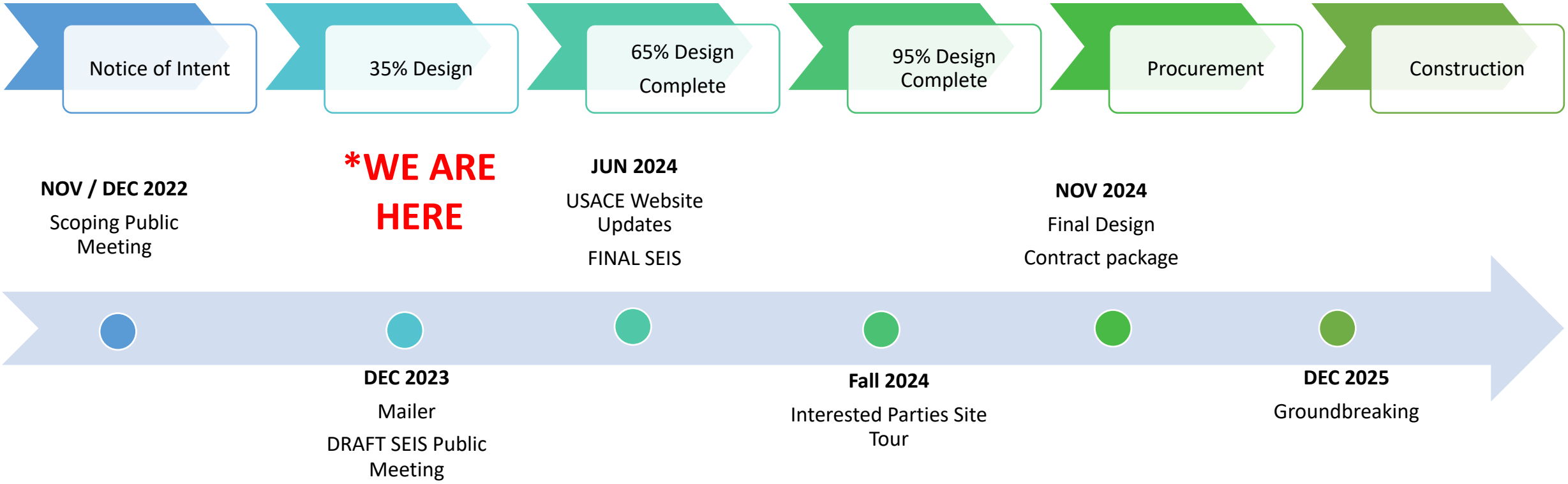
Generate compensatory mitigation, required for critical flood control infrastructure improvements, that will offset impacts on salmonids, western yellow billed cuckoo (YBCU), and valley elderberry longhorn beetle (VELB) habitats associated with the ARCF project.

Target habitat acreages are:

- Salmonids = 66-76 acres
- YBCU = 55-62 acres
- VELB = 10-15 acres

Project Schedule + Milestones

- SAFCA Closed on Property May 2023
- Additional Coordination at 65% and 95% milestones

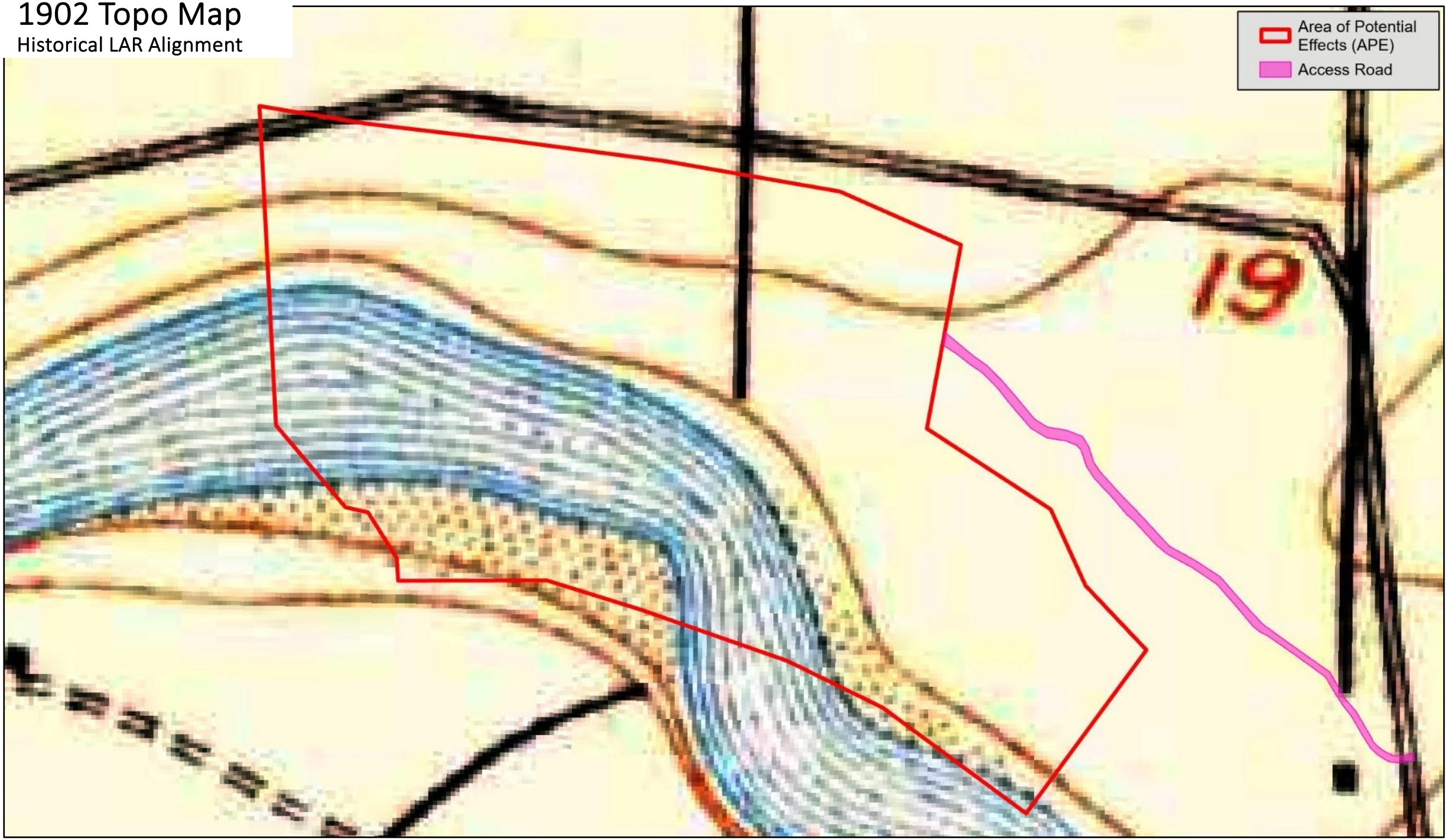


Site Disturbance History

- Early 1900s
  - Lower American River Realigned
- 1920s
  - Grading and alterations evident
- 1930s – 1960s
  - Completely graded
  - Historical aquatic resources + riparian habitats removed
- 1970s – 1980s
  - Extraction begins
  - Marina evident
- 1990s – present
  - Current configuration

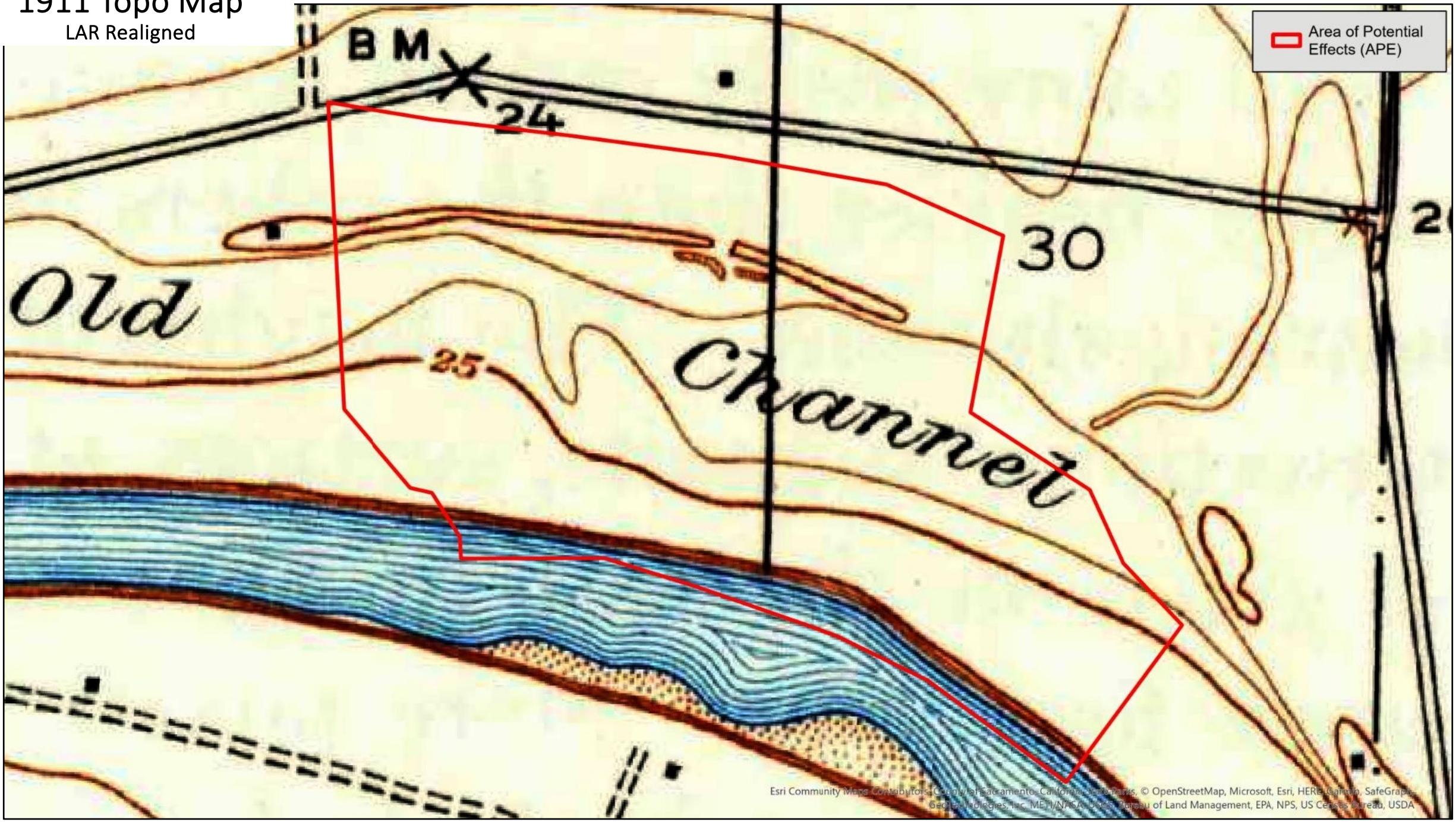
1902 Topo Map

Historical LAR Alignment



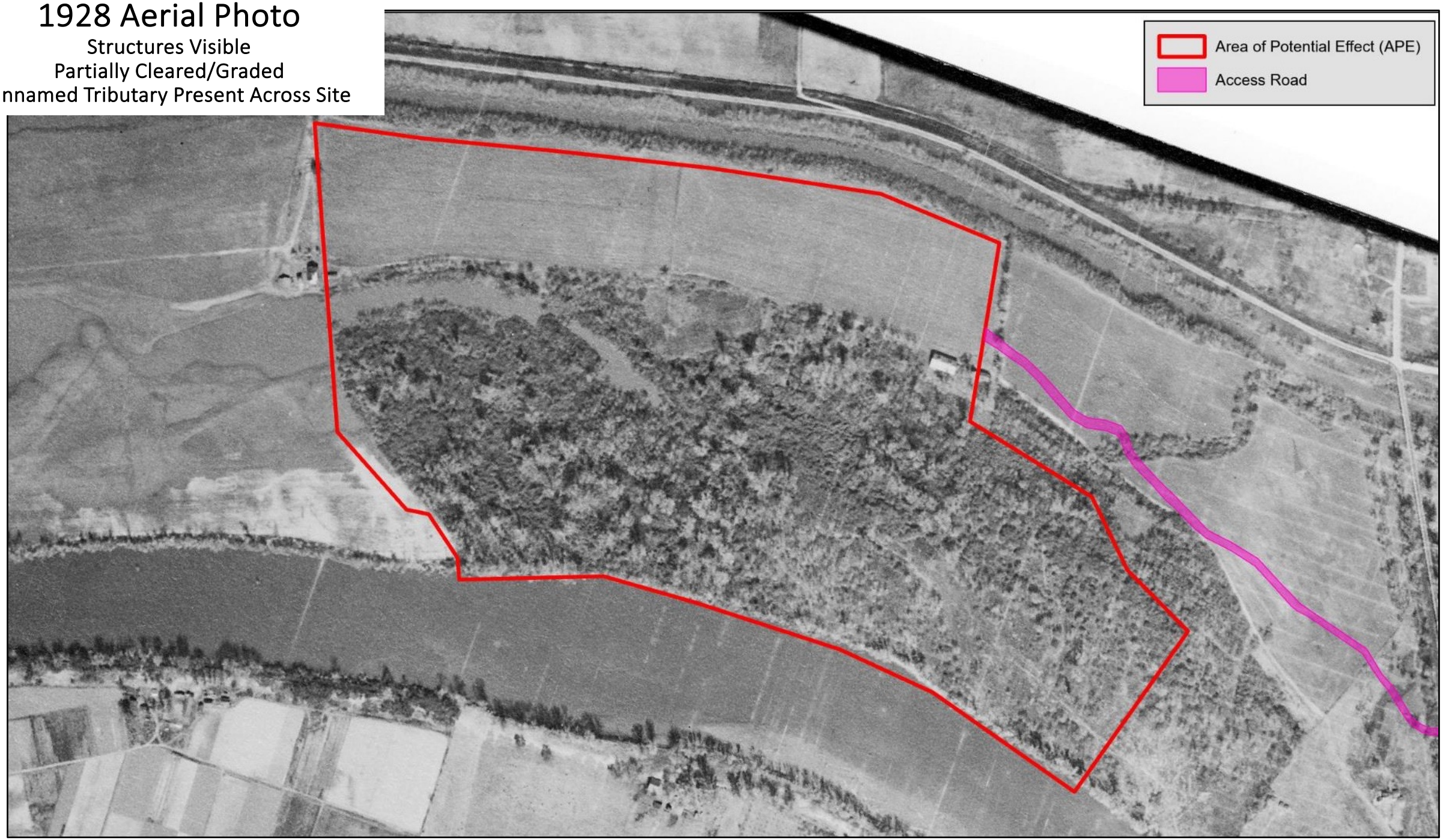
1911 Topo Map

LAR Realigned



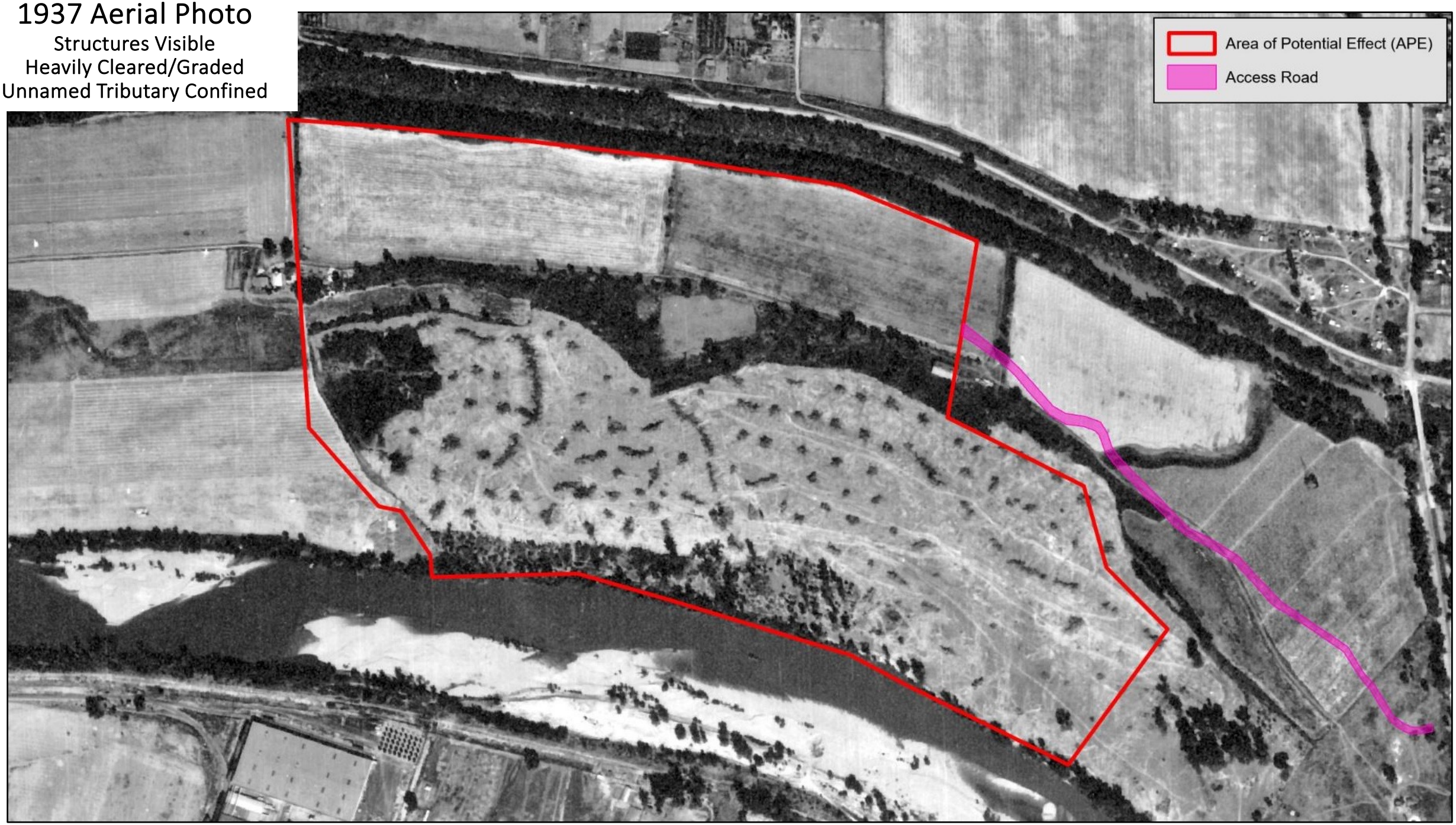
1928 Aerial Photo

Structures Visible
Partially Cleared/Graded
Unnamed Tributary Present Across Site



1937 Aerial Photo

Structures Visible
Heavily Cleared/Graded
Unnamed Tributary Confined



1952 Aerial Photo

Eastern Structures Removed
Largely Cleared/Graded
Unnamed Tributary Partially Filled

1966 Aerial Photo

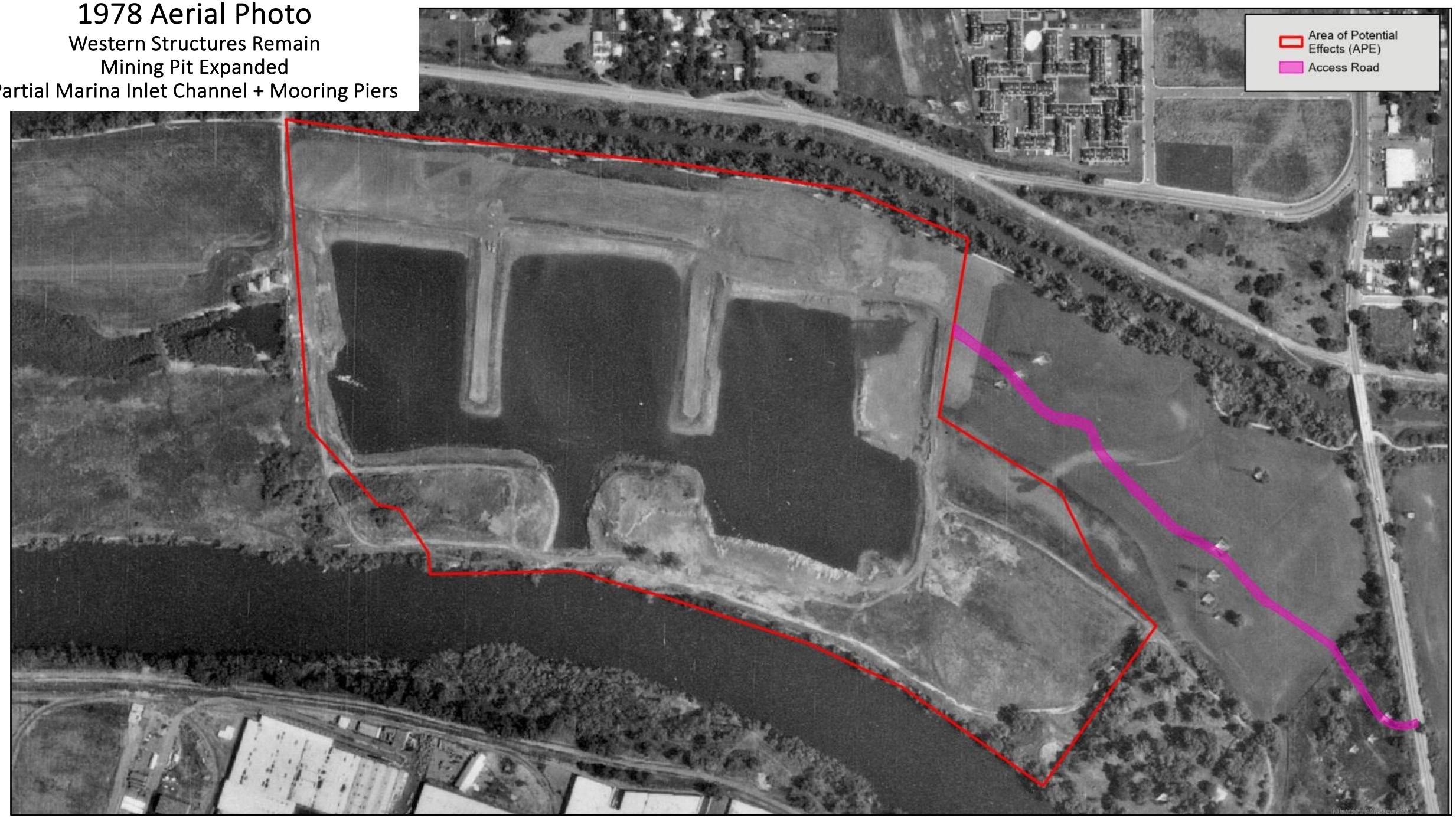
Western Structures Remain
Completely Cleared/Graded
Aquatic + Riparian Habitat Removed

1971 Aerial Photo

Western Structures Remain
Impacts from Extraction

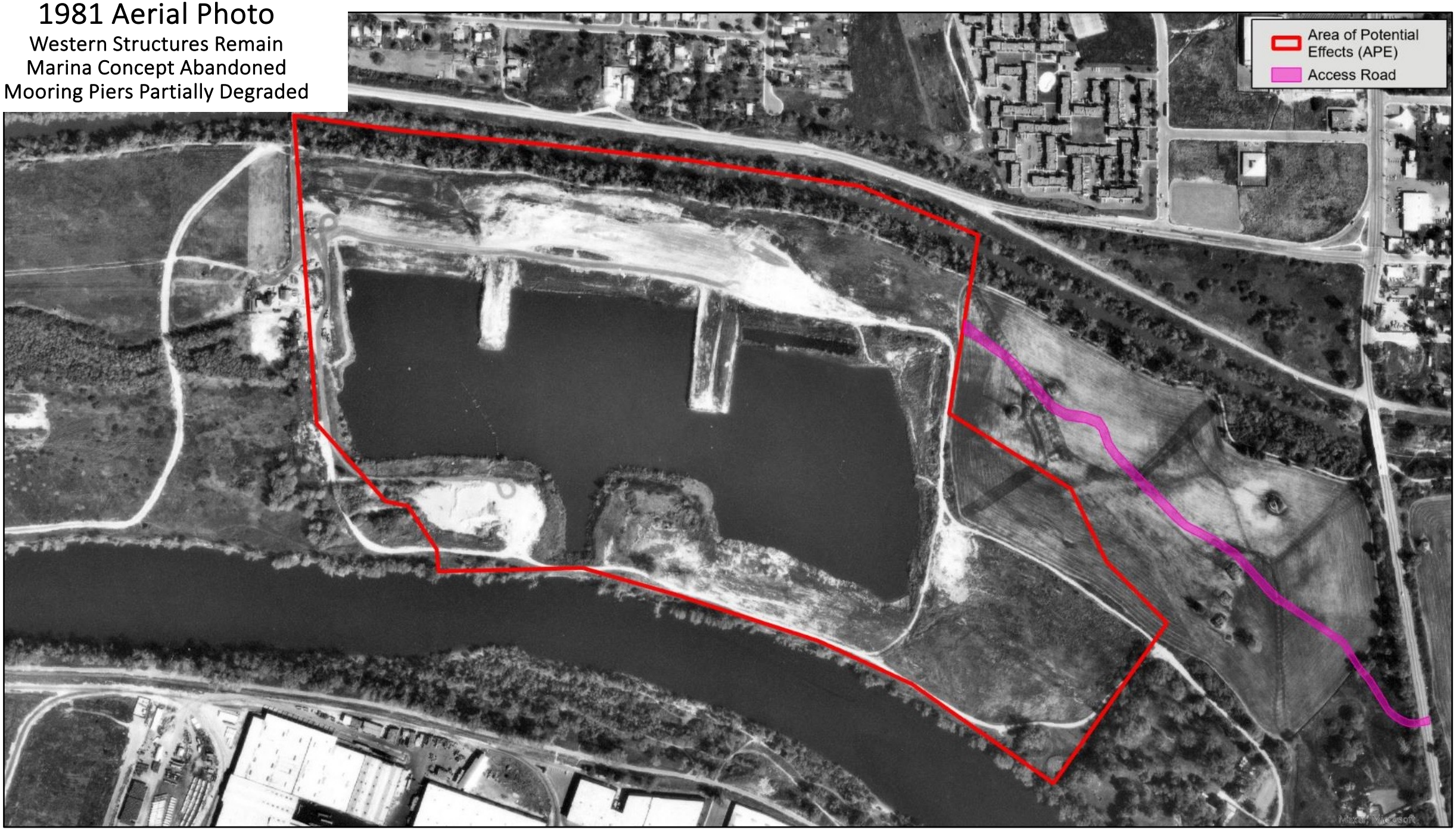
1978 Aerial Photo

Western Structures Remain
Mining Pit Expanded
Partial Marina Inlet Channel + Mooring Piers



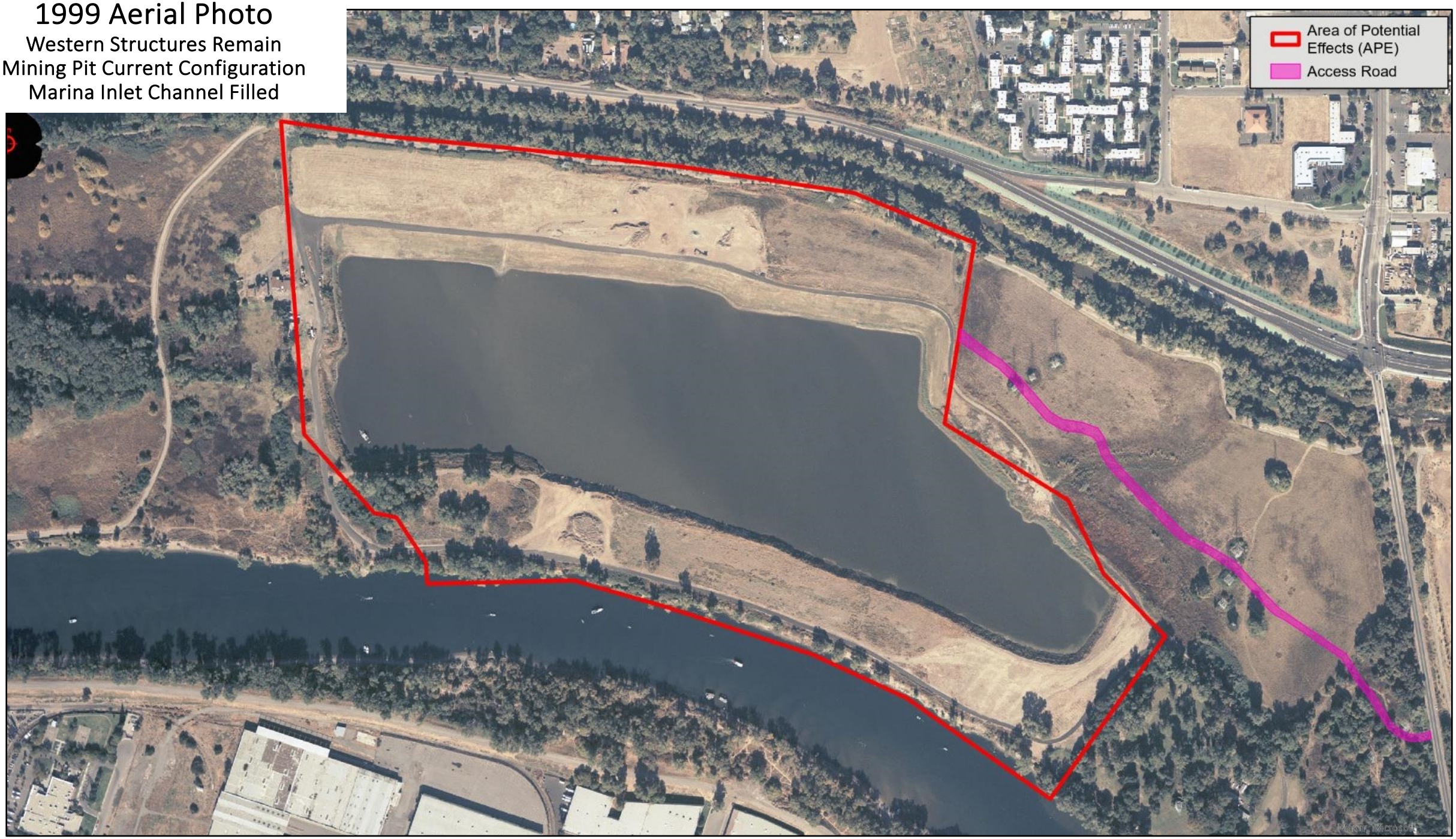
1981 Aerial Photo

Western Structures Remain
Marina Concept Abandoned
Mooring Piers Partially Degraded



1999 Aerial Photo

Western Structures Remain
Mining Pit Current Configuration
Marina Inlet Channel Filled



2020 Aerial Photo
Current Configuration

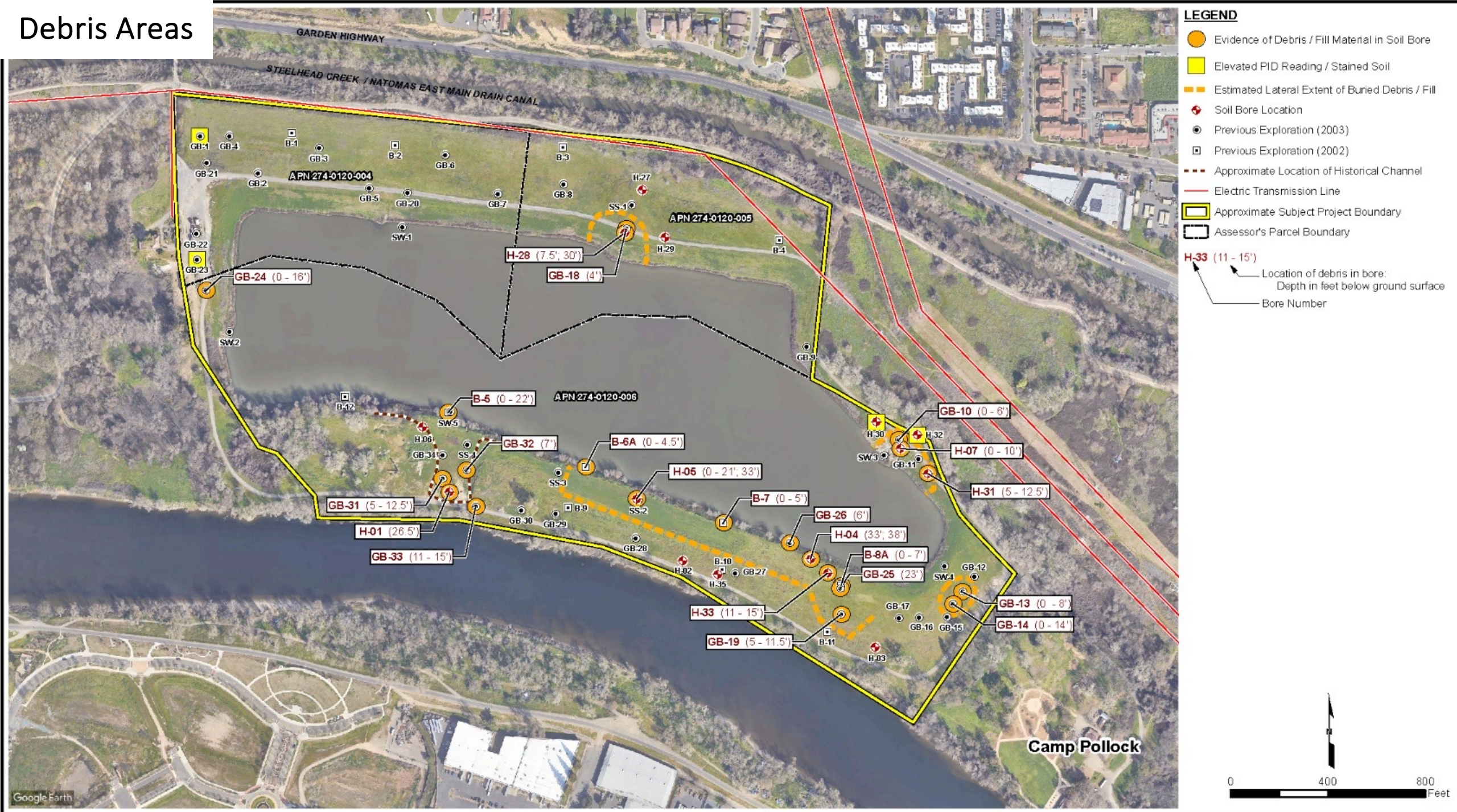
Site Investigations
September 2022 - Ongoing

- Biological Resources
  - Identified less than 5 elderberry
  - New eagle nest documented January 2023

- Cultural Investigations
  - Canine, Pedestrian, + Geoarch Surveys
  - October 2023 Supplemental Geoarch Surveys

- Phase I + Phase II Environmental Site Assessments
  - Geophysics
  - Bathymetry
  - Water Sampling
  - Geotechnical and Environmental Borings
  - Groundwater & Soil Sampling
  - December 2023 Water Board Work Plan

Debris Areas



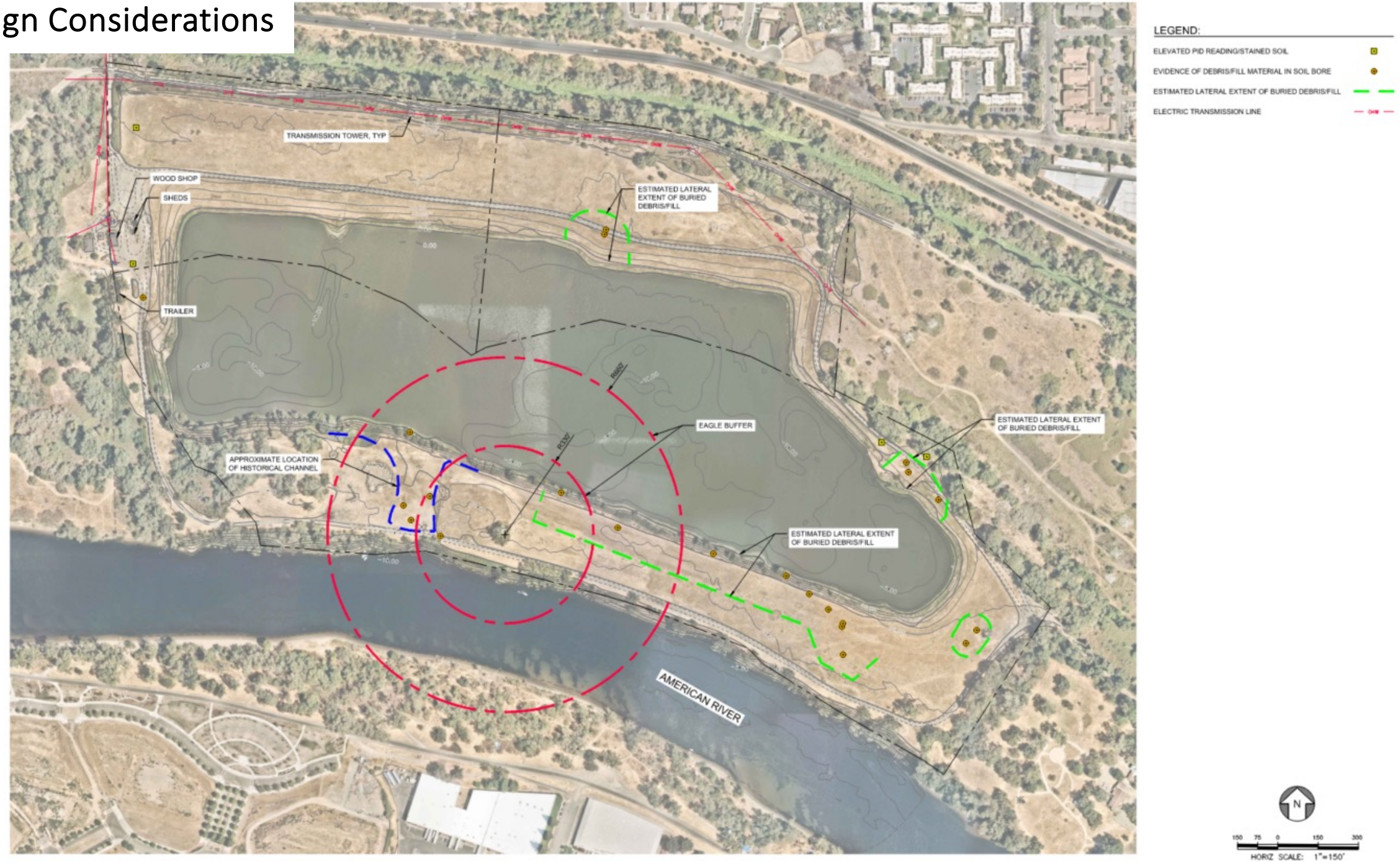
LEGEND

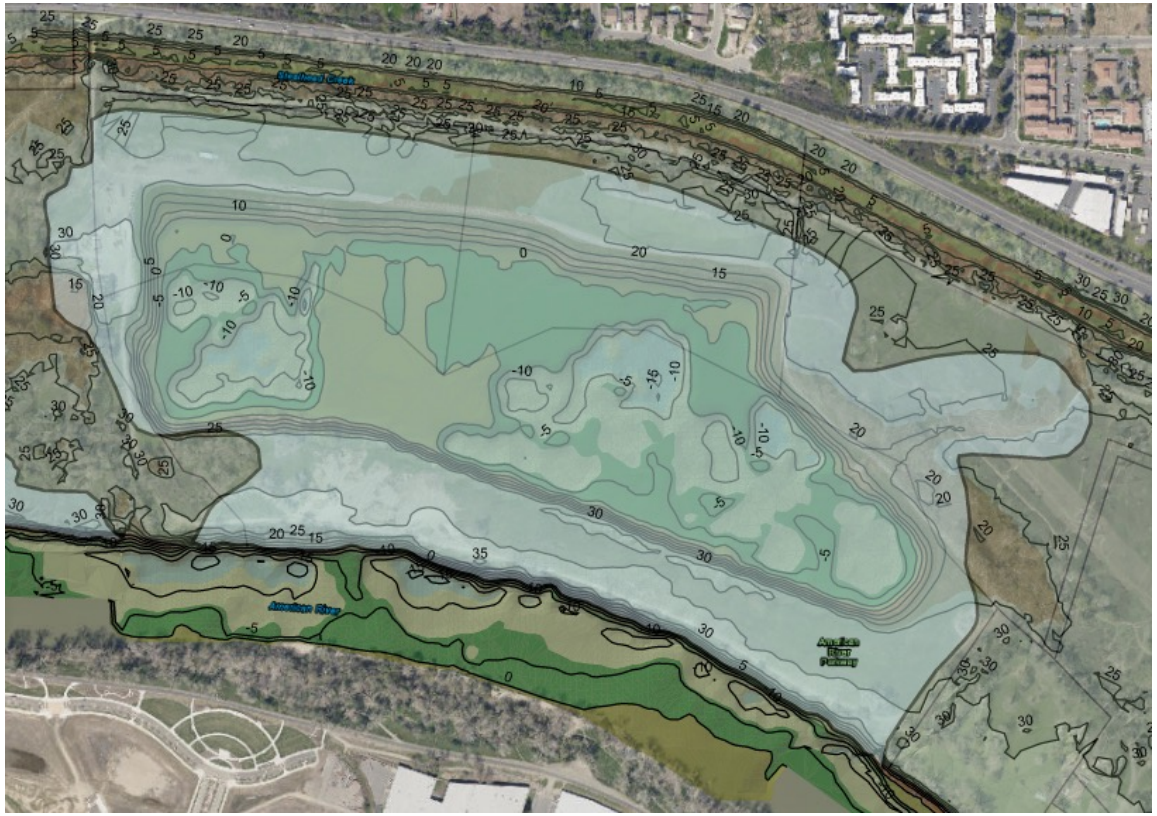
- Evidence of Debris / Fill Material in Soil Bore
- Elevated PID Reading / Stained Soil
- Estimated Lateral Extent of Buried Debris / Fill
- Soil Bore Location
- Previous Exploration (2003)
- Previous Exploration (2002)
- Approximate Location of Historical Channel
- Electric Transmission Line
- Approximate Subject Project Boundary
- Assessor's Parcel Boundary

H-33 (11 - 15')
- Location of debris in bore: Depth in feet below ground surface
- Bore Number

0 400 800 Feet

Design Considerations





Design Progression

- Fall 2021 – August 2022
  - USACE + Non-federal Sponsors began exploring Urrutia for mitigation based on ARCF Contract 2 SEIS/SEIR public comments
  - Initial concept development and feasibility evaluation
- September 2022 SAFCA Due Diligence Period Begun
  - Site investigations and Regional Water Quality Control Board coordination
    - September 2022 – Present
- July 2023
  - Design refined based on site investigation data
  - Presented to USFWS, NMFS, and National Parks Service
- 65% Design Spring 2024
- 95% Design Fall 2024

Design Considerations

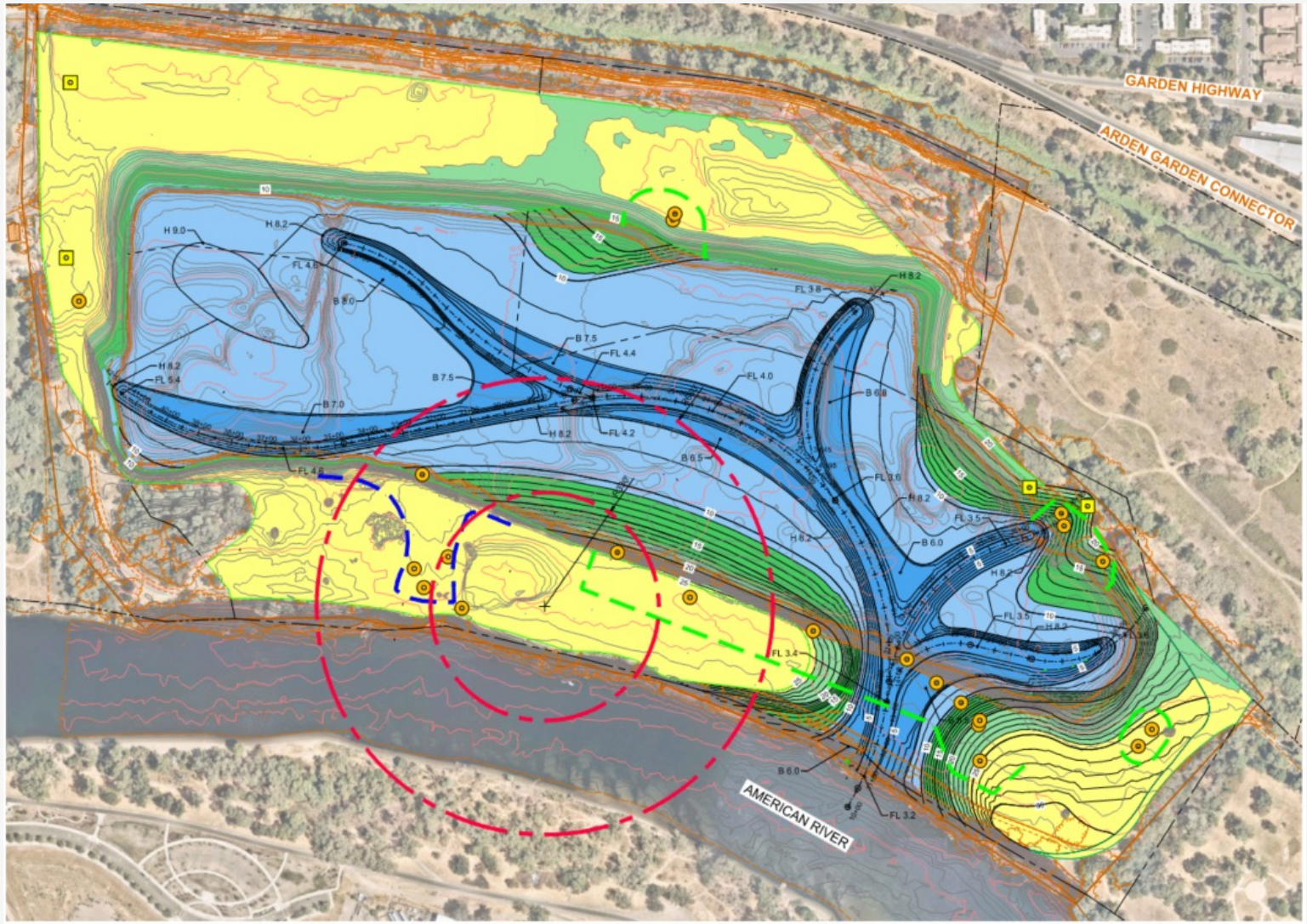
Achieves compensatory mitigation acreages

Provides access for public safety and longterm O&M (no islands)

Minimizes stranding risk

Avoids impacts on sensitive cultural resources (uplands) and eagle nest

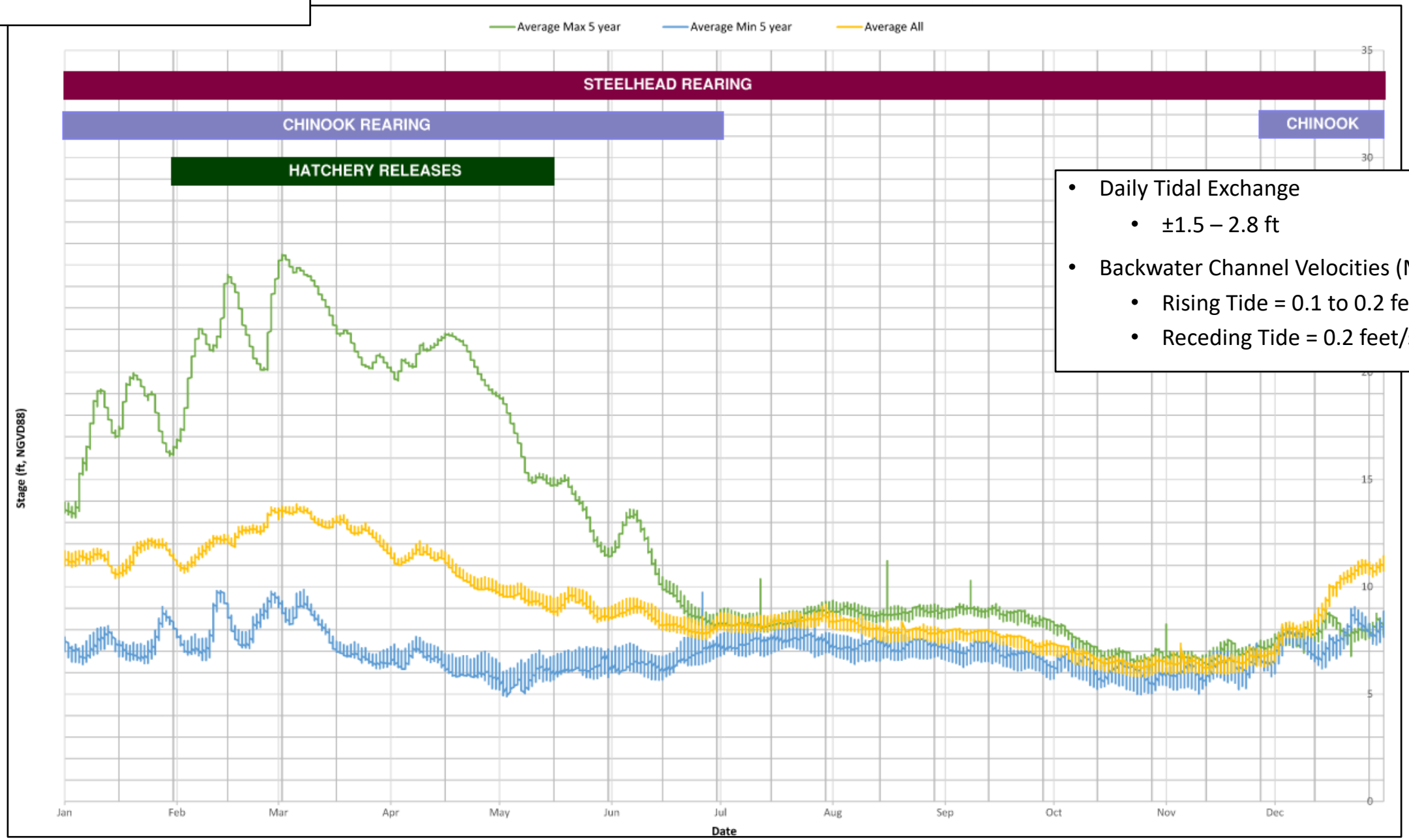
Manages conflicts with buried debris and hotspots



35% Design

- Mitigation acreages generated:
  - Salmonids: 72 acres
  - YBCU: 55 acres
  - VELB: 10-15 acres
- Longterm O&M + Public Safety
  - Minimal accessibility challenges
- Stranding minimization
- Design minimizes impacts on:
  - Buried debris and hotspots
  - Sensitive cultural resources
  - Eagle nest tree
- Preferred design to be carried forward to 65% design

HYDROLOGY



- Daily Tidal Exchange
  - ±1.5 – 2.8 ft
- Backwater Channel Velocities (May)
  - Rising Tide = 0.1 to 0.2 feet/second
  - Receding Tide = 0.2 feet/second

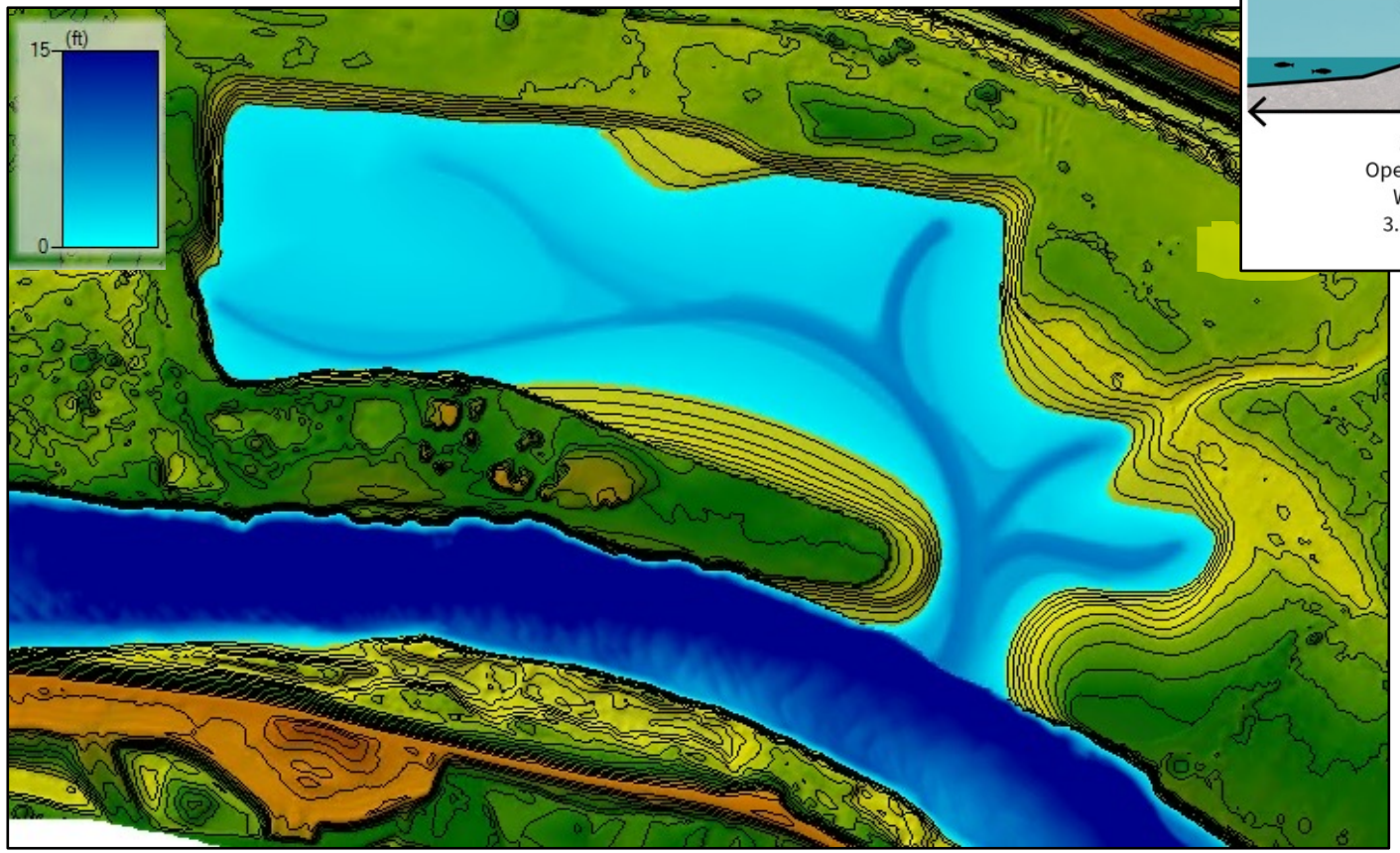
HABITAT ZONES

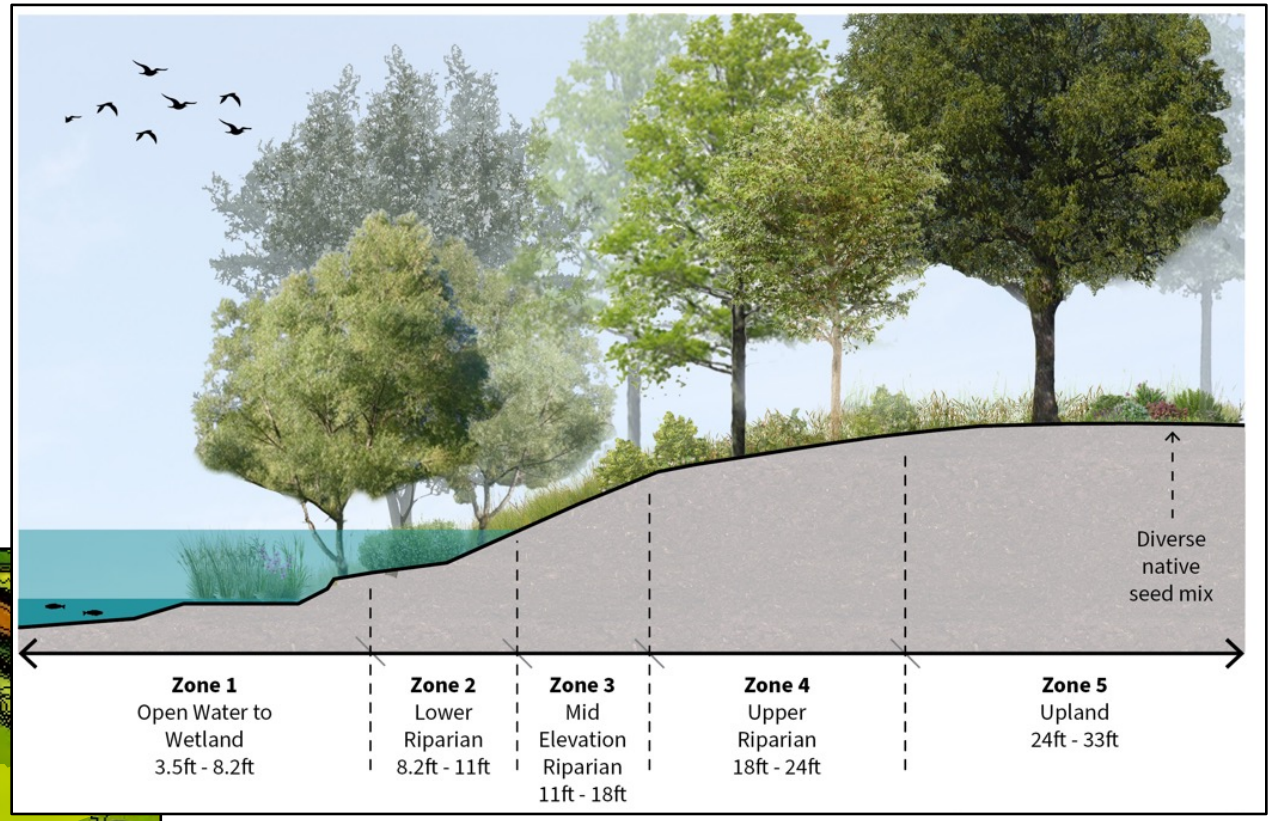
- Zonation defined based on hydrology
  - Open Water/Wetland Transition
    - Annual herbaceous wetland species
  - Lower + Mid-elevation Riparian
    - Scrubby riparian species transitioning to forested riparian
  - Upper Riparian + Upland
    - Forested riparian transitioning to uplands
    - Pollinator-friendly seed mix herbaceous layer

Habitat Zone	Elevation Range (NAVD88)	Characteristic Vegetation
Zone 1 - Open Water/Wetland Transition	up to 8.2 ft	Annual and perennial herbaceous seasonal wetland species, including sedges, rushes, knotweed, willowherb, etc.
Zone 2 - Lower Riparian	8.2 to 11 ft	Sandbar willow and other willow species, buttonbush, white alder
Zone 3 - Mid-elevation Riparian	11 to 18 ft	Diverse willow assemblage, white alder, Fremont's cottonwood, boxelder, western sycamore, Oregon ash, mulefat, California wild rose, California blackberry
Zone 4 – Upper Riparian	18 to 24 ft	Valley oak, western sycamore, coast live oak, Oregon ash, black walnut, boxelder, redbud, mulefat, Fremont's cottonwood, California wild grape, blue elderberry, milkweed, diverse native seed mix supporting pollinator habitat
Zone 5 - Upland	Above 24 ft	Valley oak, blue elderberry, western sycamore, coast live oak, Fremont's cottonwood, redbud, mugwort, California wild grape, milkweed, diverse native seed mix supporting pollinator habitat

Mid-December – February

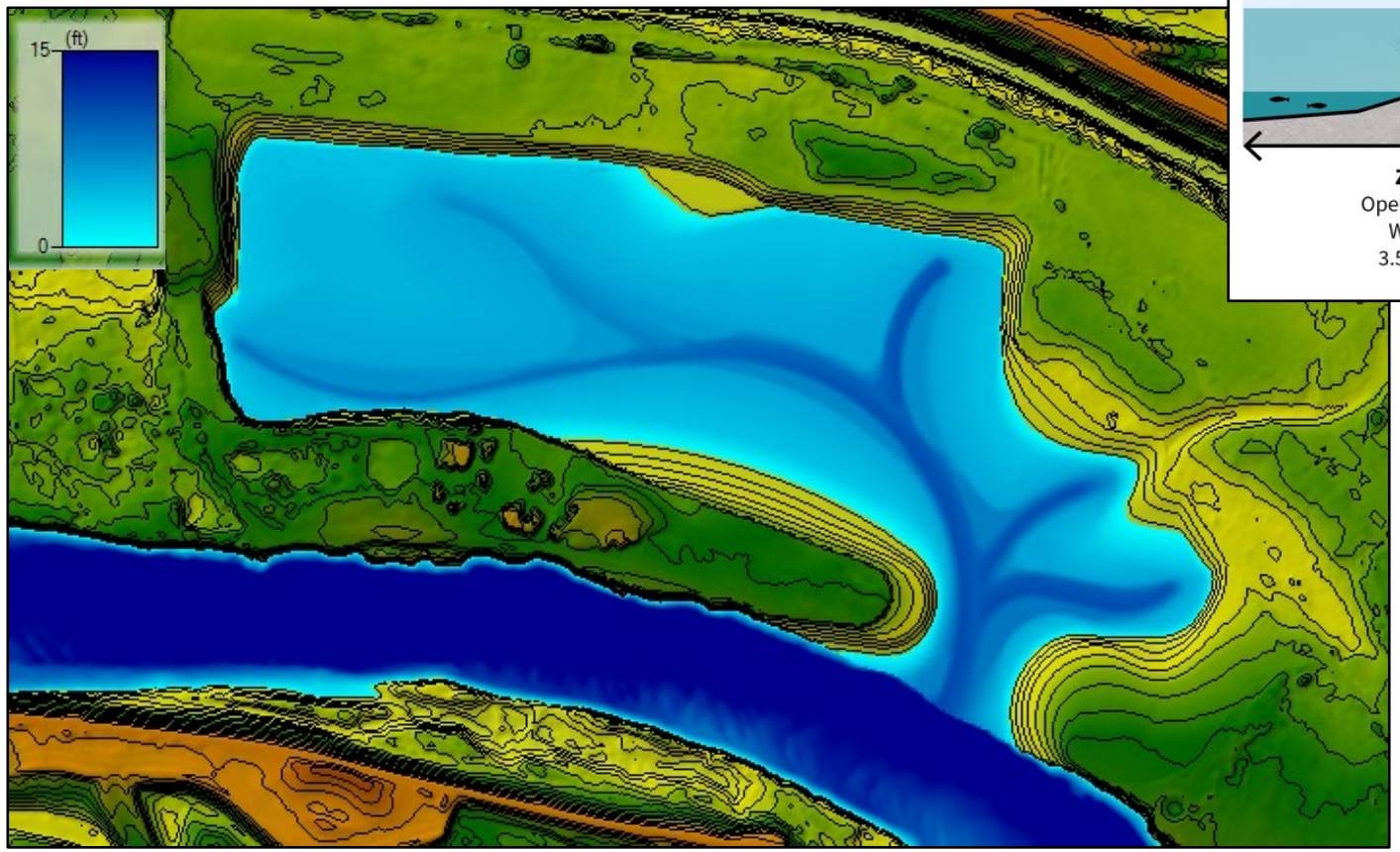
- 11 ft Stage
- **±50 acres** wetted habitat
- Lower end of mid-elevation riparian zone inundated
- Depth range: 2 – 7 ft

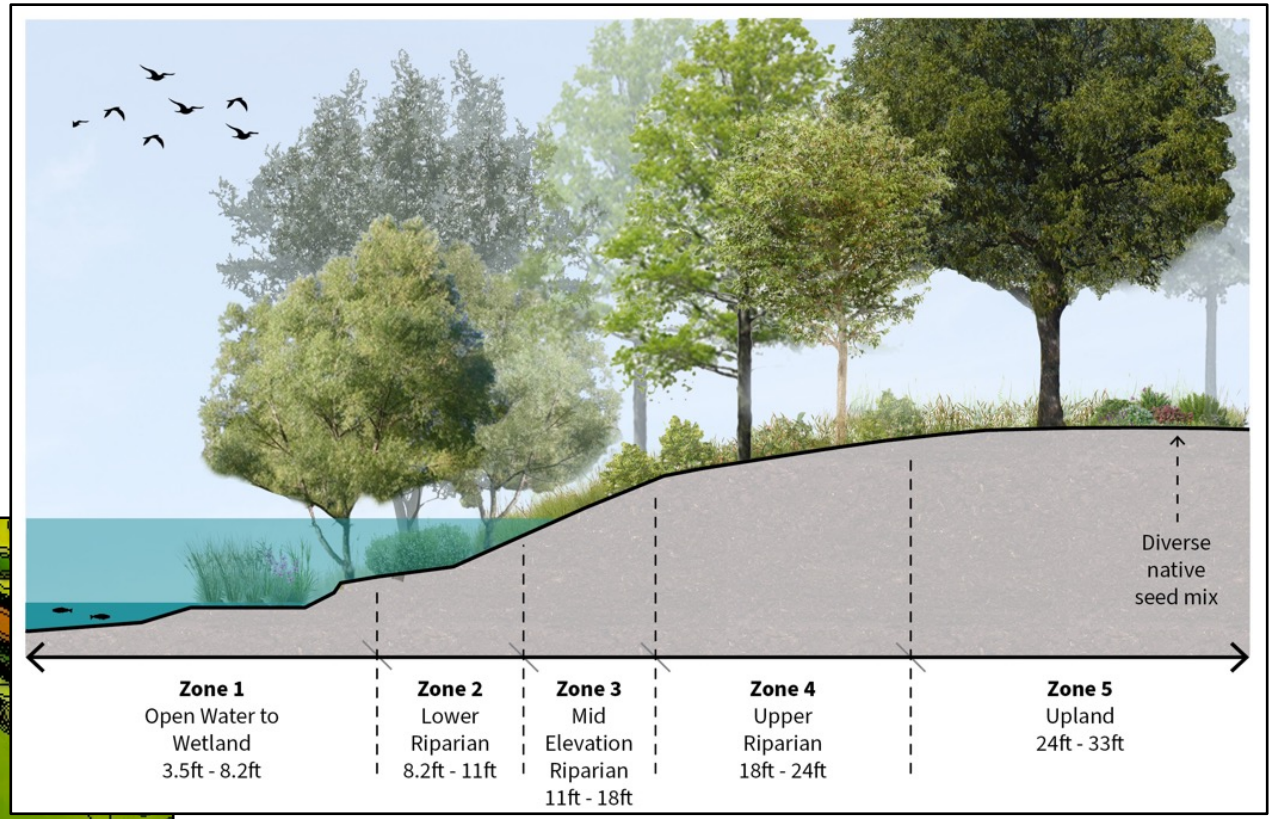




March

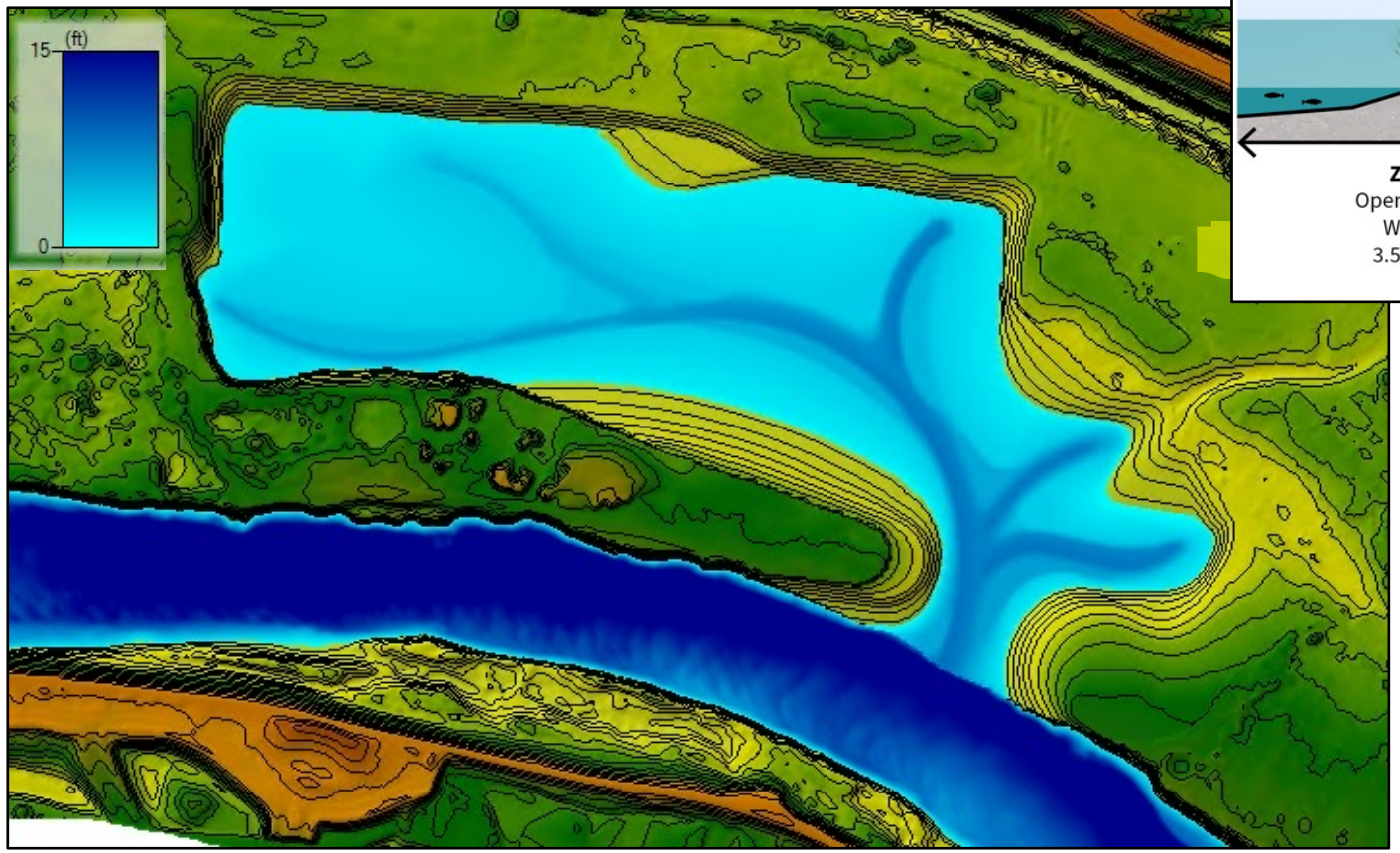
- 13.5 ft Stage
- **±55 acres** wetted habitat
- Half of mid-elevation riparian zone inundated
- Depth range: 3 – 9 ft

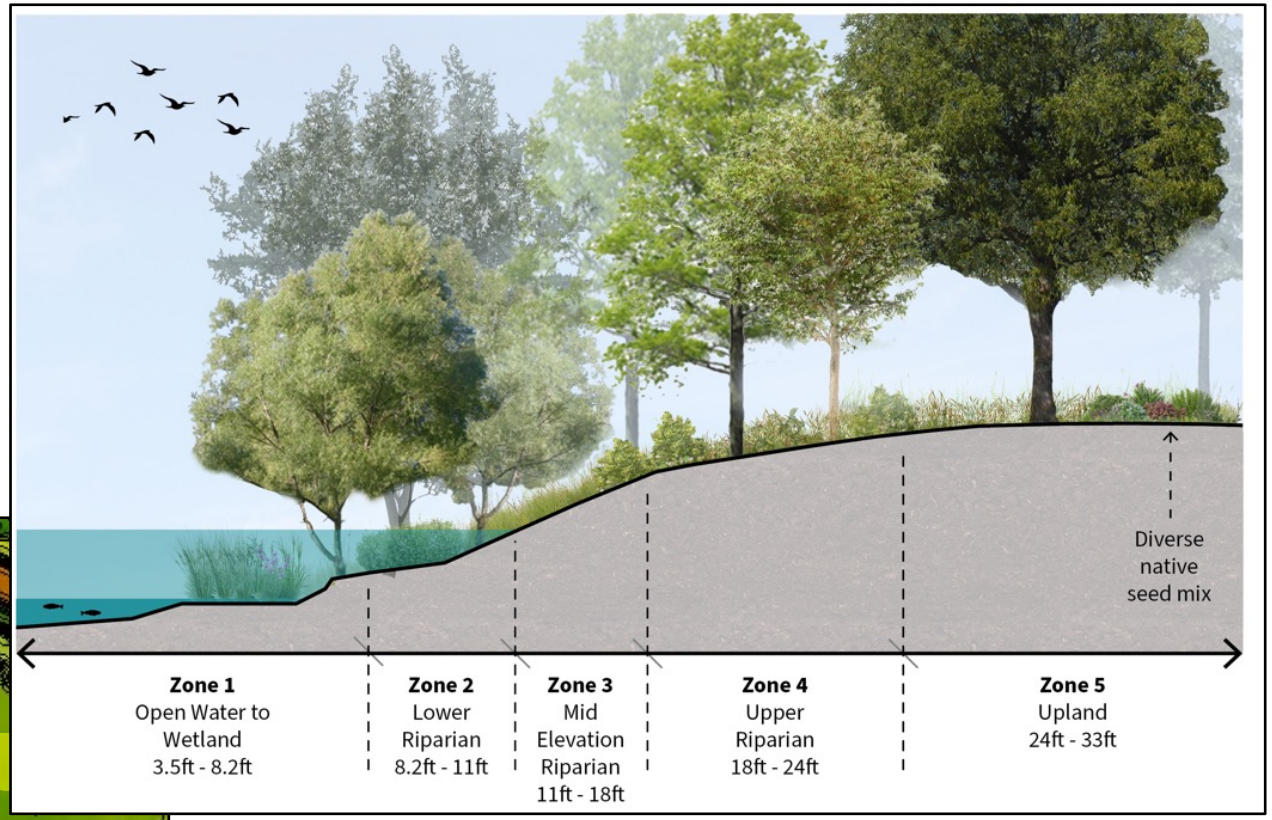




April

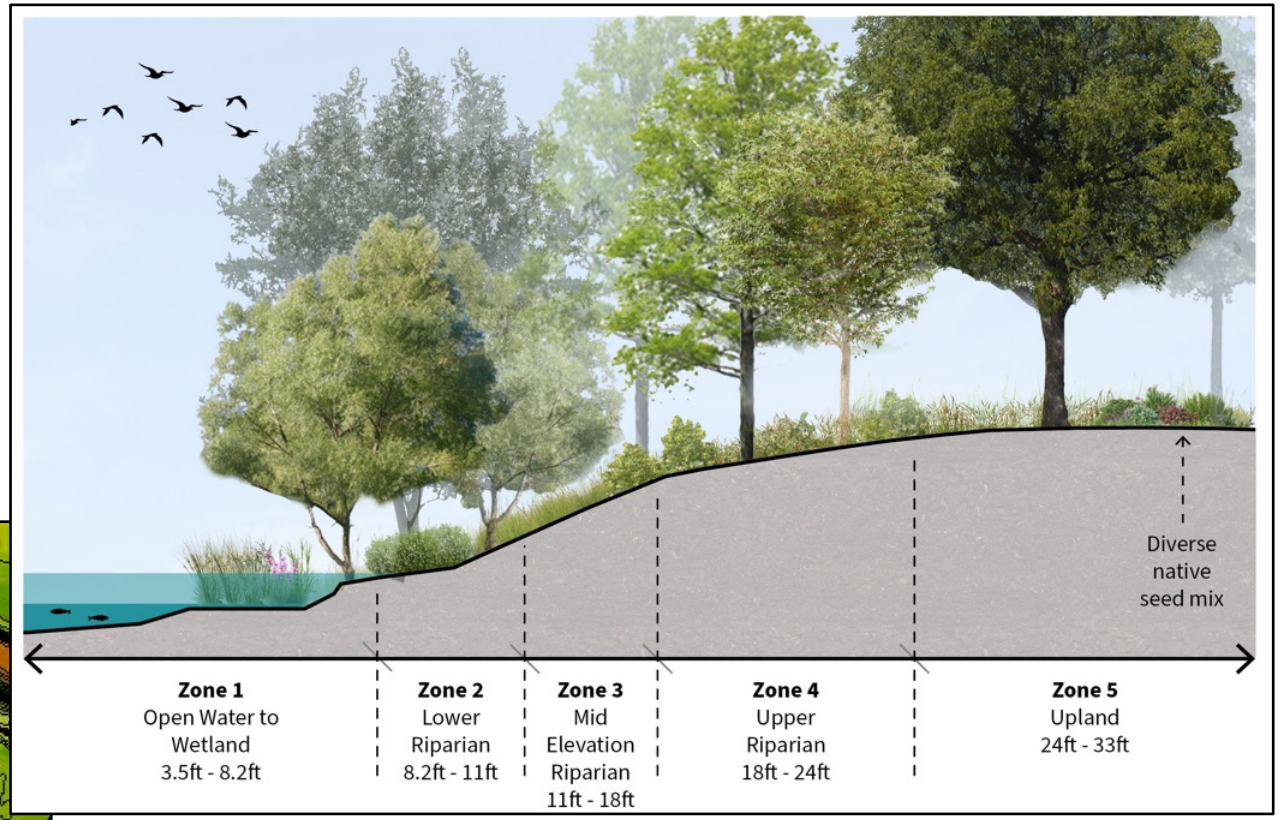
- 11 ft Stage
- **±50 acres** wetted habitat
- Lower end of mid-elevation riparian zone inundated
- Depth range: 2 – 7 ft





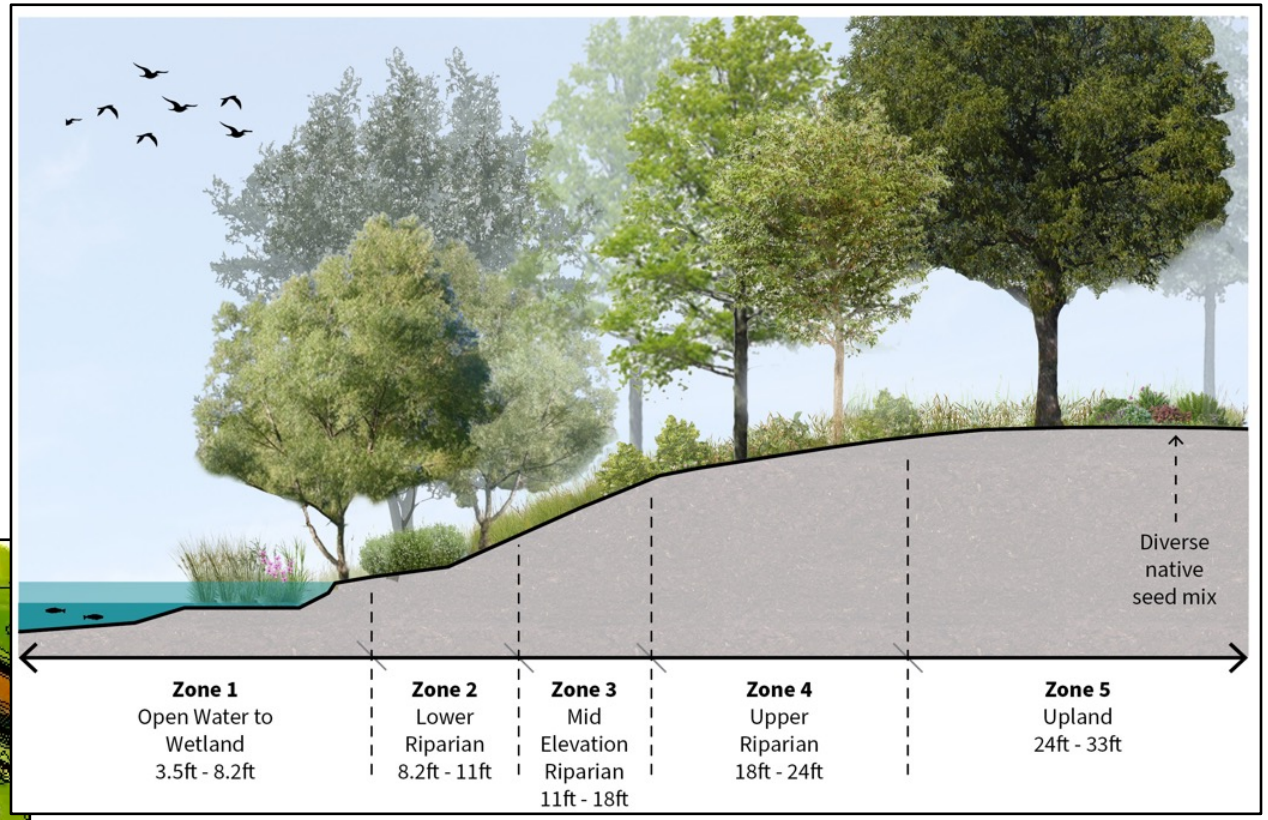
May - June

- 9.2 ft Stage
- **±36 acres** wetted habitat
- Lower riparian zone inundated
- Depth range: 1 – 5 ft



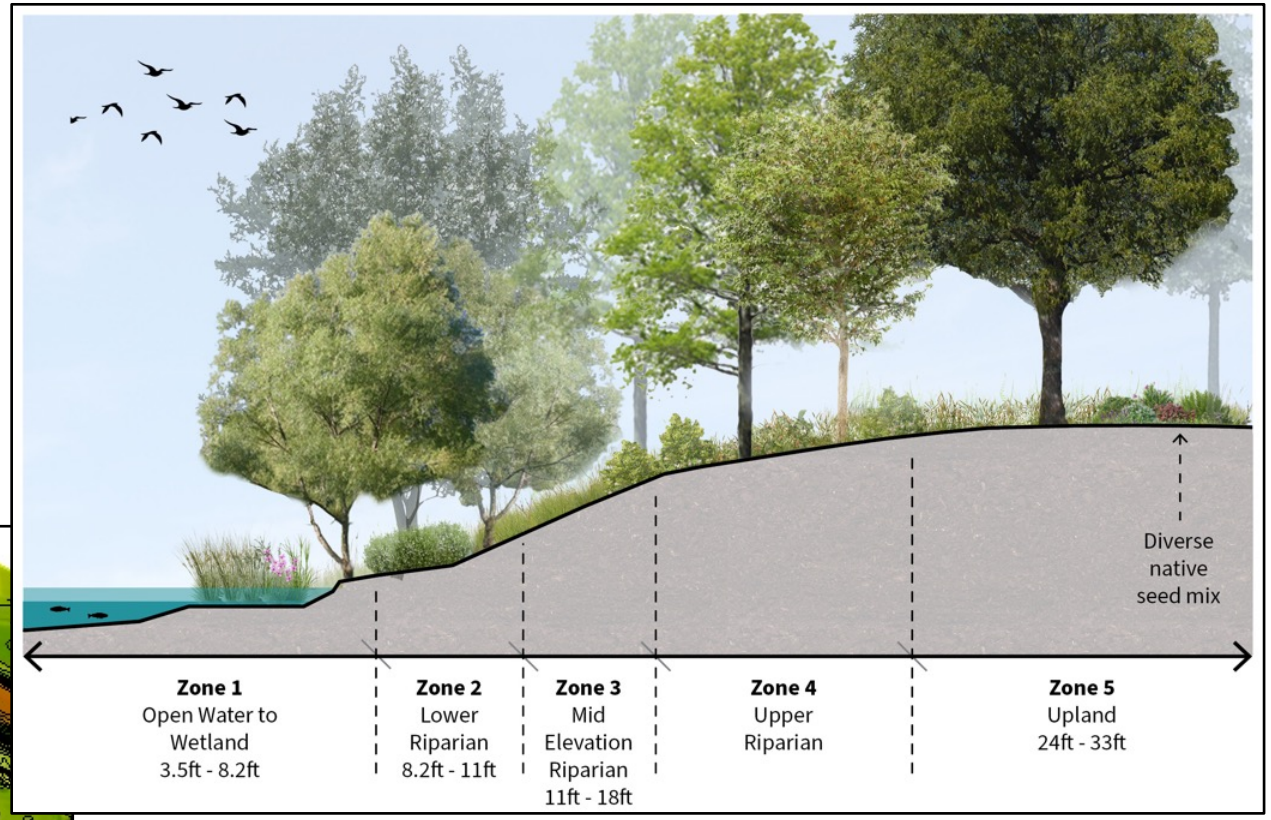
July - September

- 8.2 ft Stage
- **±25 acres** wetted habitat
- Open water/wetland zone inundated
- Depth range: 1 – 4 ft



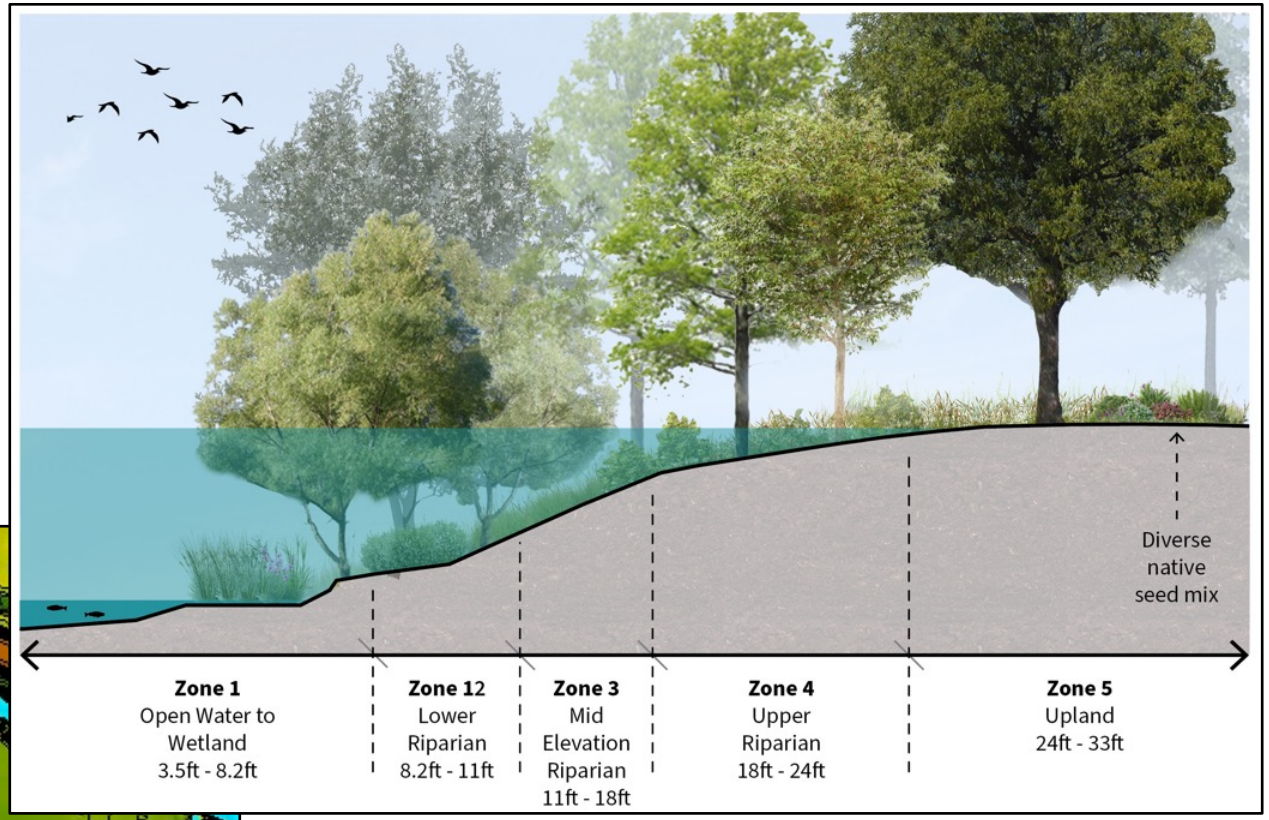
October – Mid-December

- 7.0 ft Stage
- **±12 acres** wetted habitat
- Majority open water/wetland zone inundated
- Depth range: 1 – 3 ft



Ordinary High-Water Mark

- 24 ft Stage
- 2-year recurrence interval
- **±64 acres** wetted habitat
- Upper riparian zone inundated
- Depth range: 15 – 20 ft



creates 300+ acre contiguous riparian block

72 acres of ...

- Habitat now available for 10 special-status fishes, including salmonids
- Expands critical steelhead rearing habitat
- Minimizes fish stranding and predatory pressure

55 acres of ...

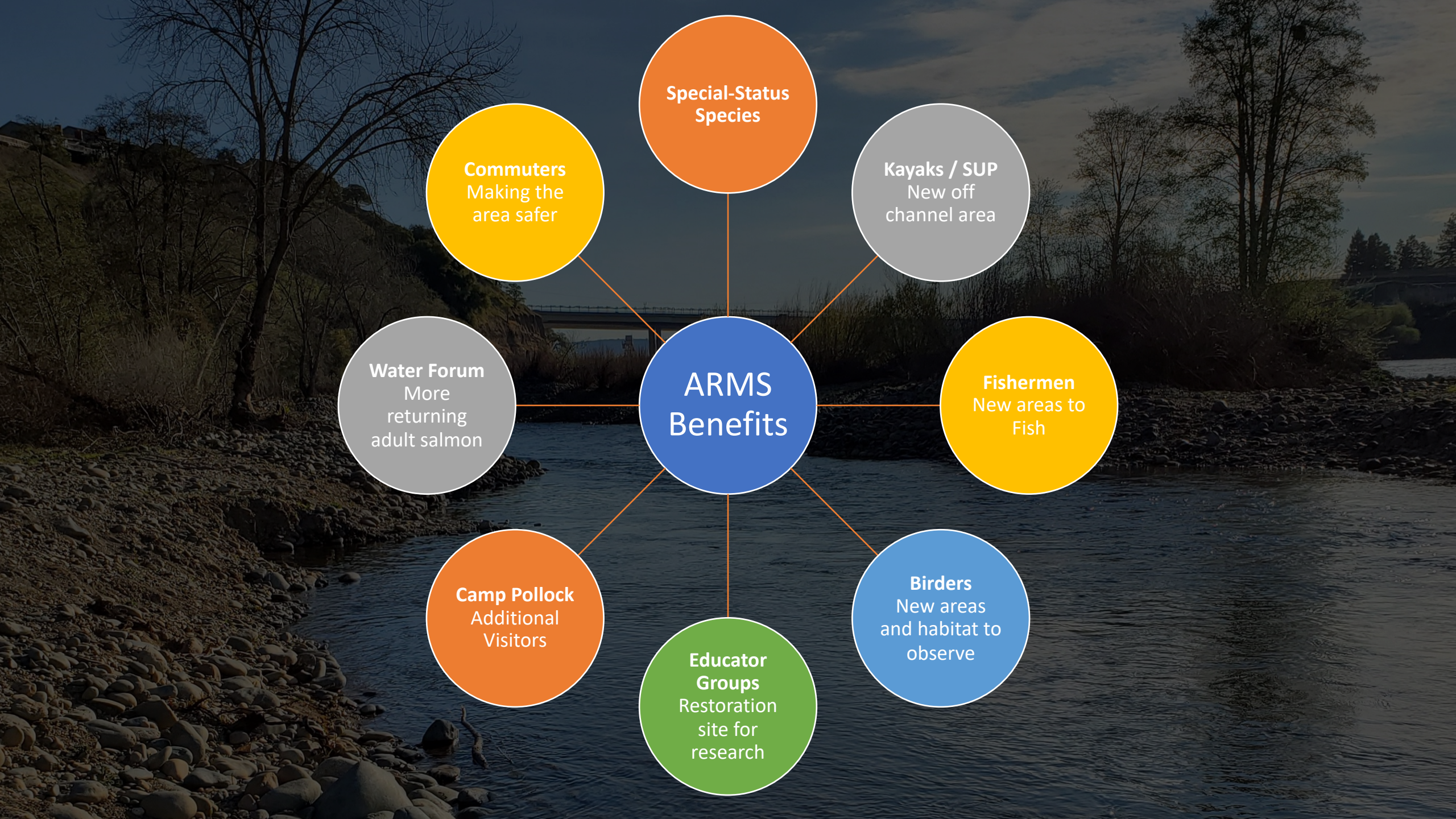
- Structurally complex riparian habitats supporting 13 special-status species, including: 1 plant, 1 reptile, 8 birds and 3 mammals
- Riparian habitat block connection
- Improved migratory habitat conditions

20+ acres of ...

- Upland enhancement to benefit 18 special- status species, including: VELB, monarch, bumblebees, 1 reptile, 12 birds, 1 mammal and 1 plant
- Replacement w/ pollinator-friendly, elderberry savanna, grassland mosaic
- Invasive vegetation removal & management

16 acres of ...

- Seasonal wetland transition zone supporting 16 special-status species, including: 8 plants, 1 reptile and 7 birds
- Tidal, floodplain habitats provide high-value foraging for special-status birds, including eagles
- IWM integrations increases basking & perching opportunities


ARMS Benefits
Special-Status Species
Commuters Making the area safer
Kayaks / SUP New off channel area
Water Forum More returning adult salmon
Fishermen New areas to Fish
Camp Pollock Additional Visitors
Educator Groups Restoration site for research
Birders New areas and habitat to observe

NEXT STEPS & CONTINUED CONVERSATIONS

- Public Draft SEIS/SEIR December 2023
- 65% Design Spring 2024
- Final SEIS/SEIR June 2024
- 95% Design Fall 2024

Q&A: Middle & Lower Reach Updates

Opportunity for Task Force questions and discussion

Community Spotlight: UC Davis Phoebe Research

Sage Madden, Ian Haliburton, Jacob Johnson of UC Davis

Project Phoebe

Avian Urban Ecology

Patricelli and Hahn Labs, UC Davis

Investigating how wild birds respond to novel and rapidly changing environmental conditions.

Lower American River Task Force Meeting

12/12/2023

Who We Are

Sage Madden, 3rd year Ecology PhD Candidate

Ian Haliburton, 2nd year Animal Behavior PhD Student

Jacob Johnson, 4th year Animal Behavior PhD Candidate

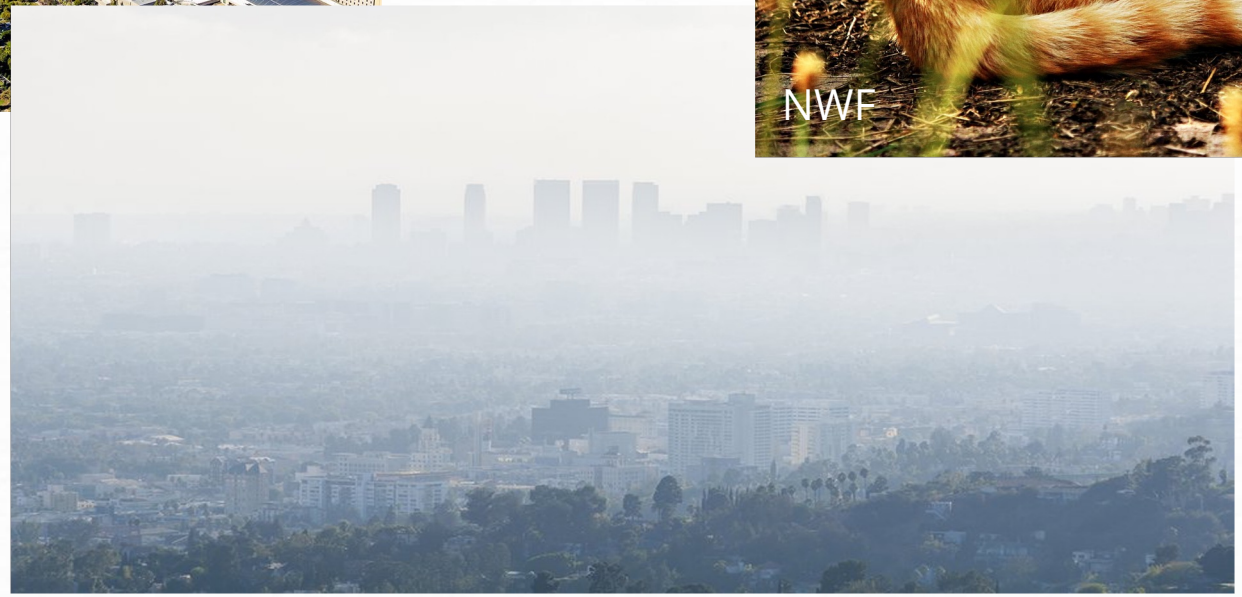
Project Objectives

We aim to **understand what features of urban green spaces, including the ARP, challenge birds or help them thrive**, using the Black Phoebe, a small, insect-eating songbird, as a model system.


Gail Patricelli


Alan Vernoni

Cities can be challenging places to live



Some species persist and even thrive in cities - how?

The Star: the Black Phoebe

The Black Phoebe is a small black-and-white flycatcher that lives near rivers, streams, and increasingly, human-dominated habitats.

- Aerial insectivore
- Builds mud cup nests
  - Historically nest in tree cavities, river banks, rock faces
  - Now nest primarily on human-made structures

Are Black Phoebes thriving in urban green spaces?

What habitat features are promoting or preventing Phoebe success?

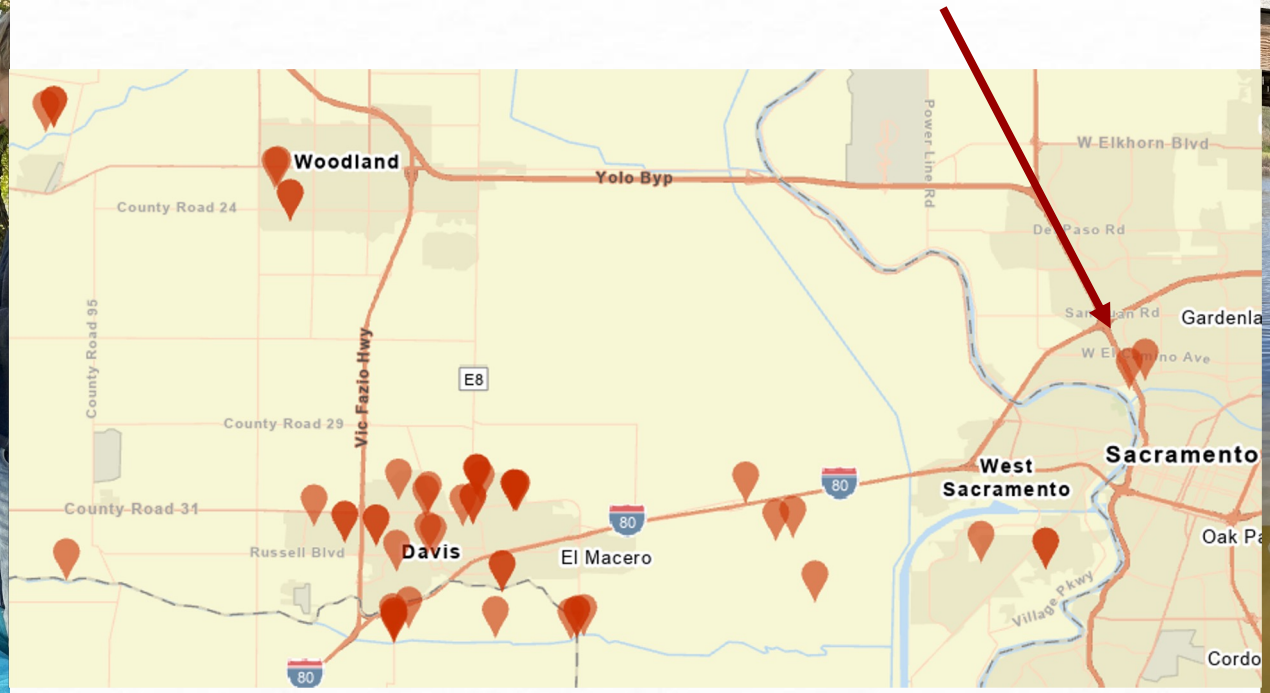
Are there actions we can take to improve their success?

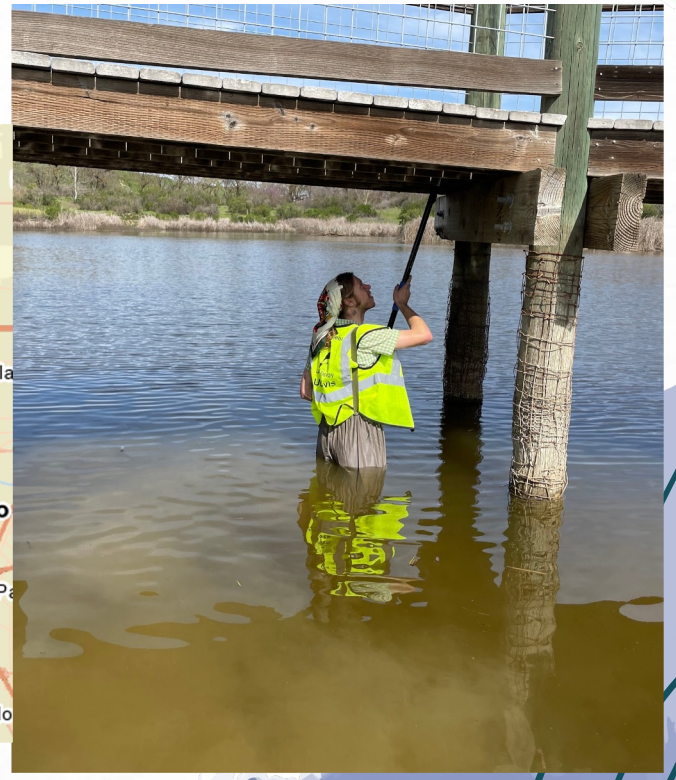
What We Do

(this is the really fun part!)

The Setting: the Urban Gradient

- "Urban" ecology means urban, natural and everything in between!





The Work: Avian Ecology

Mist netting

Banding

Nest Monitoring

The Context: Measuring the Environment

Habitat measures

Nest conditions

Pollutant exposure

Our Specialty: Behavior

Foraging follows

Nest cameras

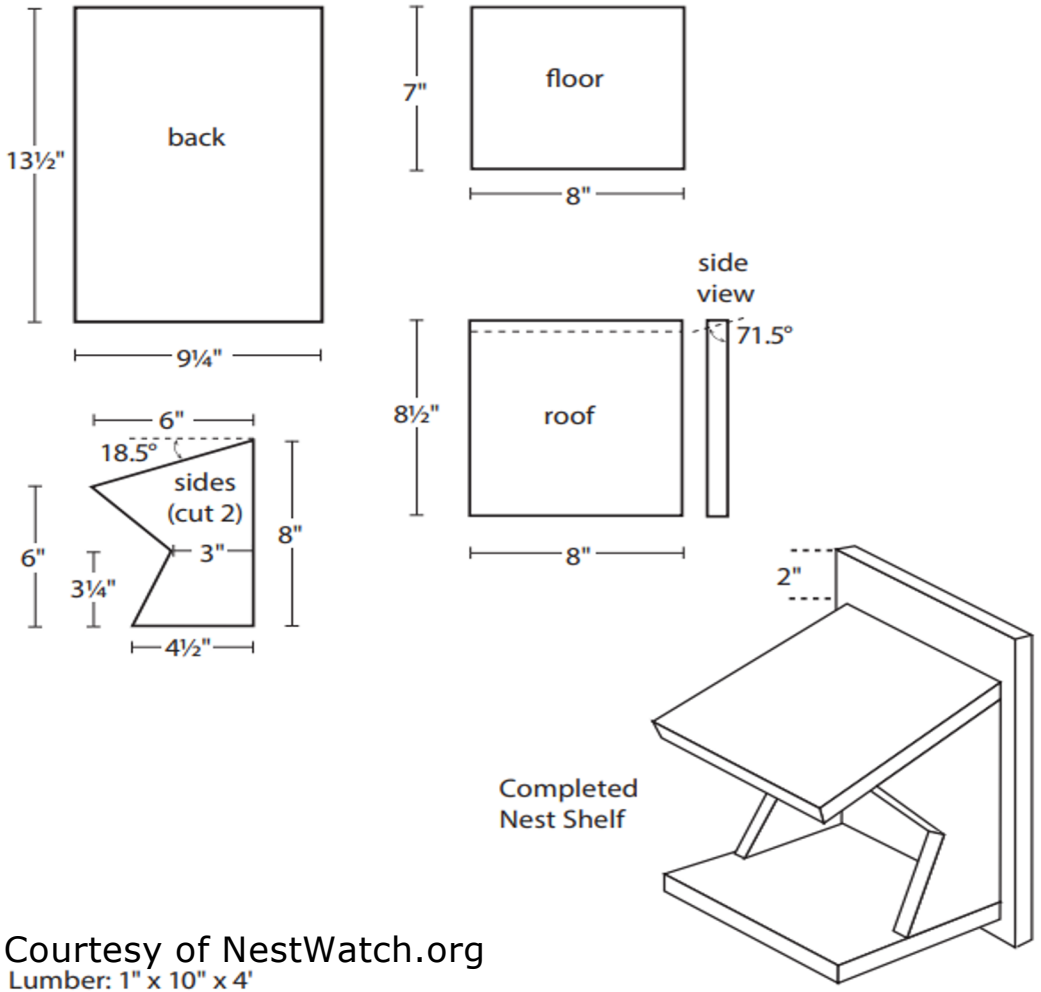
Song playbacks

Nest Outcomes

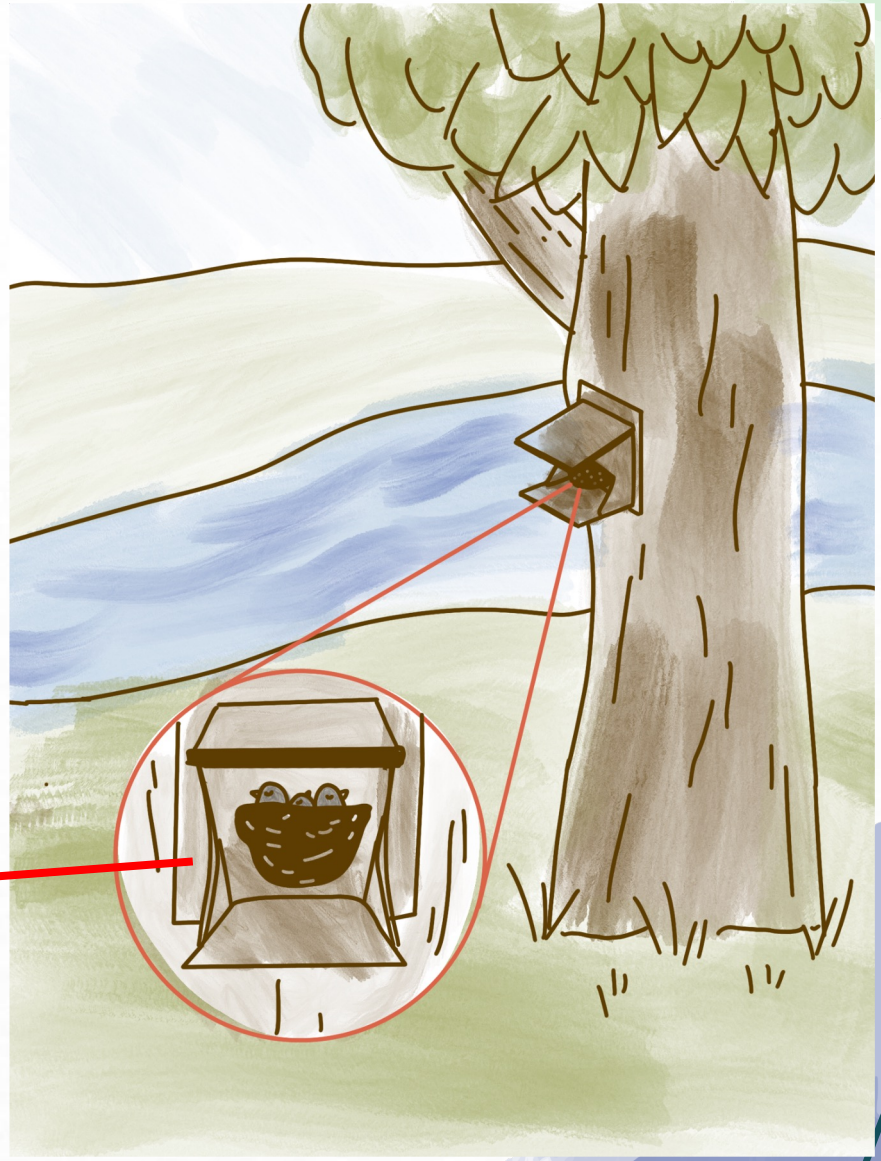
During our 2023 field season…

- We monitored **49 nesting attempts**
- **28** of these attempts successfully fledged adorable chicks (yay!), while **21** failed completely at some stage
- At Discovery Park, we monitored 3 nests
  - One fledged 3 chicks
  - Other two failed due to heat
  - Good nest sites may be limited

American River Nest Shelf Program



Courtesy of NestWatch.org
Lumber: 1" x 10" x 4'



Community Science Workshops at Effie Yeaw

Mobile Naturalist Workshop
(Feb 2024)
Training to use iNat, eBird, and Merlin discuss how these apps support research

Nesting Bird Workshop
(March 2024)
Training to locate, identify and monitor nesting birds, including Black Phoebes!

Homeowner Nest Monitoring

- In 2023, we worked with homeowners to monitor nests on homes
- Many urban Phoebes seem to nest on homes, so we're looking to connect with even more homeowners with nests this coming Spring!
- **Do you have ideas about how to spread the word to homeowners? Please let us know!**

Why it Matters

- Having these birds around benefits us - pest control!
- Birds may rely on urban spaces - opportunities for conservation

Thank you!

Funding:

- University of California Davis Academic Senate & Graduate Group in Ecology & Center for Citizen and Community Science
- Lloyd W. Swift Endowment

Visit our website, **projectphoebe.com**, for research updates and more!
Questions or ideas? Contact saamadden@ucdavis.edu

Q&A: Community Spotlight

Opportunity for Task Force questions and discussion

LARTF Member Updates

- Announcements & Disclosures

Wrap Up & Next Steps

- LARTF Survey for 2024 Agenda items
- Next Member/Community Spotlight
- Next meeting: March 12

Thank you!

https://waterforum.org/lartf