One Water LA

Information Stakeholder Meeting #3

Los Angeles River Studies

October 16, 2017
LA River Stakeholder Workshop

Agenda

- Intro/Welcome
- Presentation – One Water LA
- Presentation – UCLA
- Presentation – The Nature Conservancy
- Discussion
- Closing Remarks

Recent LA River Studies

- Recent LA River studies conducted by:
  - **One Water LA** – Low Flows & Storage Potential from water supply perspective
  - **UCLA** – LAR Watershed integrated water management
  - **The Nature Conservancy** – Ecological baseline and flow scenarios
- Data may differ due to different study areas and time periods
- All studies have a flow component

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LA River Low Flow Study & Storage Potential

October 16, 2017

One Water LA Vision

Collaborative approach to develop an integrated framework for managing the City's watersheds, water resources, and water facilities in an **environmentally**, **economically**, and **socially** beneficial manner.

Rain/Stormwater
Groundwater
Wastewater
Recycled Water
Drinking Water

One Water LA 2040 Plan

- Expected Completion in Nov 2017
- Outlook to 2040
- Multiple tasks/initiatives
- PEIR to immediately follow

Today's Agenda: One Water's LA River Flow Study

- Overview of One Water LA
- LA River Flow Study Purpose and Objectives
- LA River Tasks, Assumptions, Criteria
- LA River Flow Study findings, including gaps and additional studies needed
- Next Steps

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Purpose

To identify considerations, assumptions, and areas of future study necessary to determine optimal flow conditions in the LA River.

These conditions would **balance** the City's water supply needs with the River's water-dependent uses and regulatory requirements.

One Water Flow Study Areas

Existing LA River Ecological Studies Review

Existing low flow conditions and potential future range of low flow conditions in the LA River

Gain understanding of the **water budget** assumptions in the USACE's ARBOR study.

Develop conceptual **adaptive water management** alternatives

Process For LA River Tasks

1

Review of historical LA river Ecological surveys

CDM Smith

ch2m

2

Low Flow Analysis

Geosyntec consultants

3

ARBOR Project Flow Evaluation

TETRA TECH

4

LA River Water Storage Potential

SEITec

Reviews, Study evaluations,

Modeling Results, & Outcomes

carollo

One Water LA 2040 Plan

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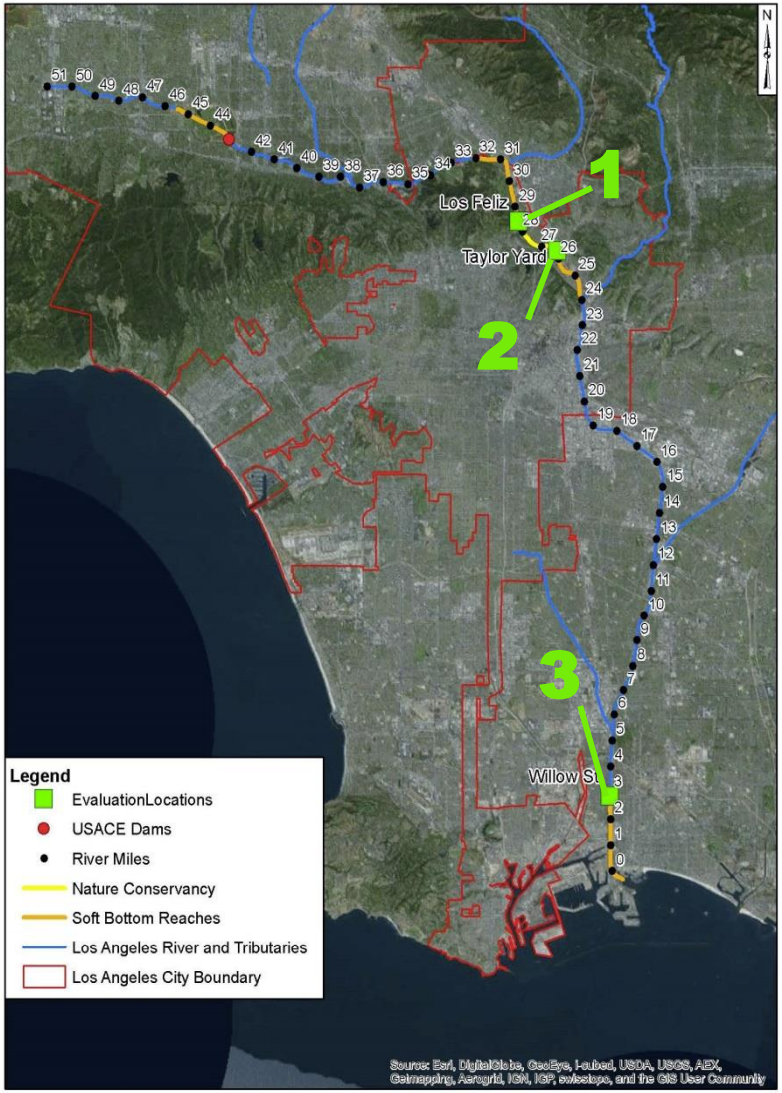
LA River Historical Ecological Surveys

- City of Los Angeles Water Integrated Resources Plan (2006)
- Bureau of Reclamation (USBR) evaluation (2004)

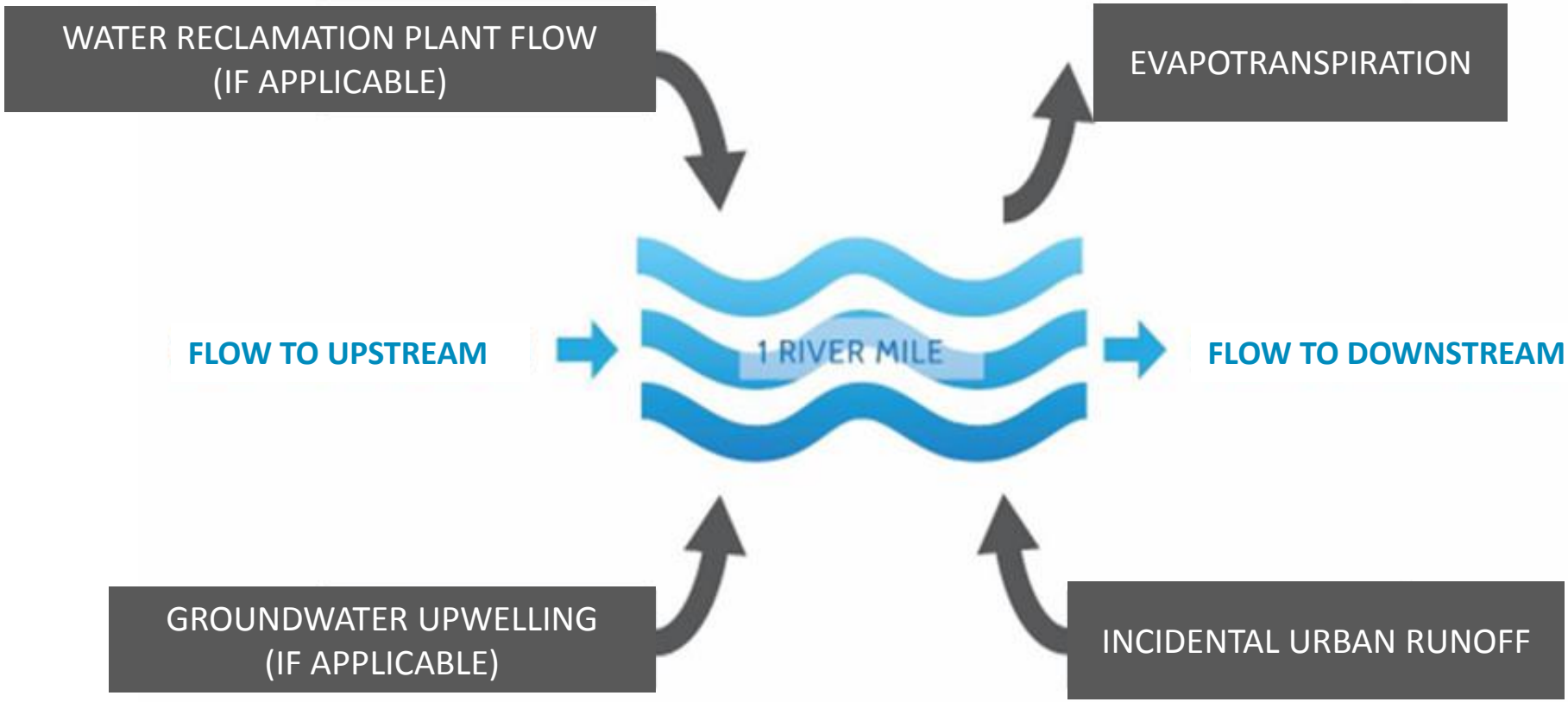
- **70%** current vegetation invasive and/or non-native
- Water demands **impacted** by current vegetation
- **Invasive removal program started**: Mapping, Survey, & Analysis for extent of vegetative intrusion

Dry Weather Flow Analysis

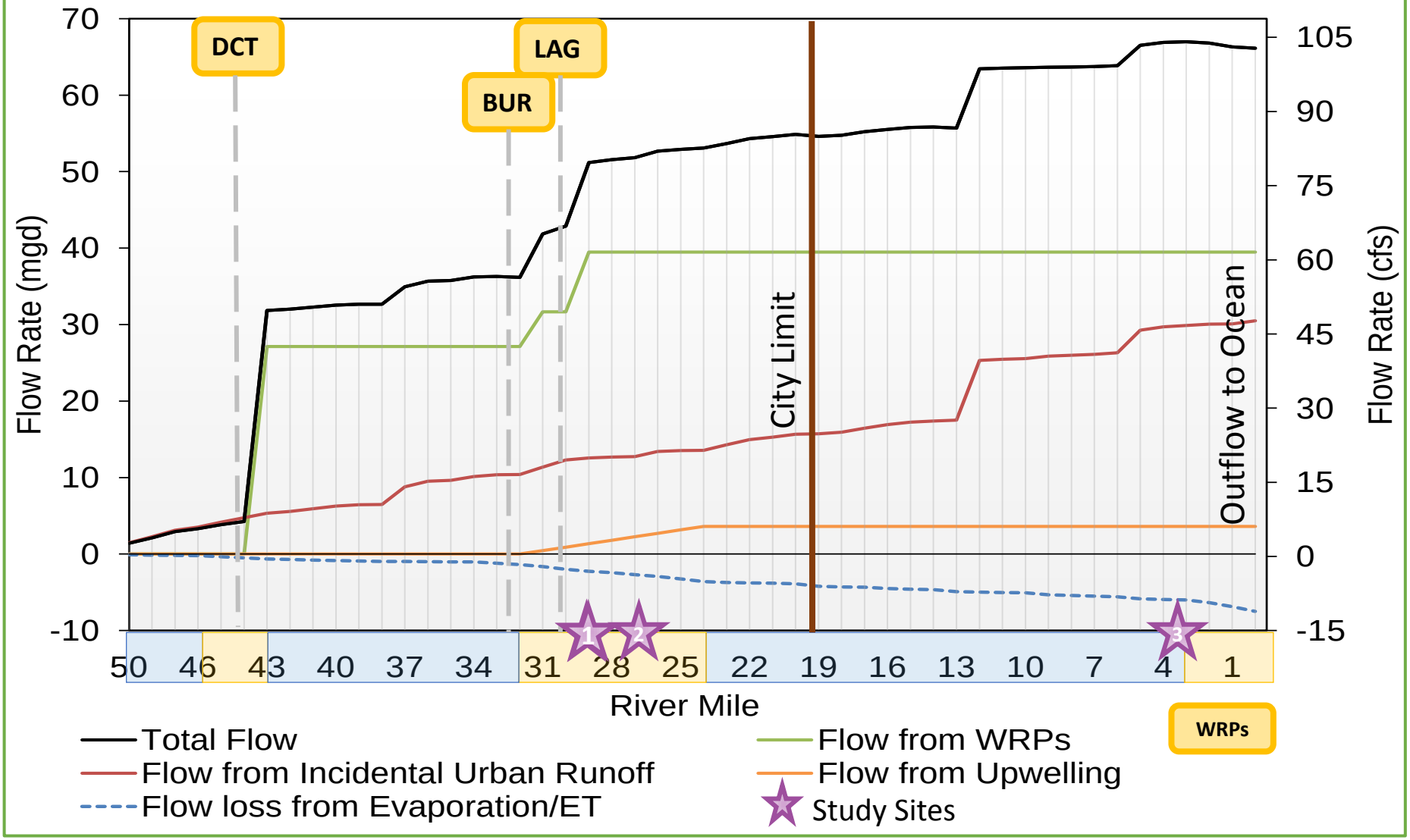
- Hydrologic mile-by-mile modeling along entire LA River
- Three sites modeled in more detail due to **channel complexity**, sufficient **bathymetric data**, and other available data:
  1. Los Feliz
  2. Taylor Yard
  3. Willow St.



Mass Balance for Each River Mile



LA River Dry Weather Flow Analysis



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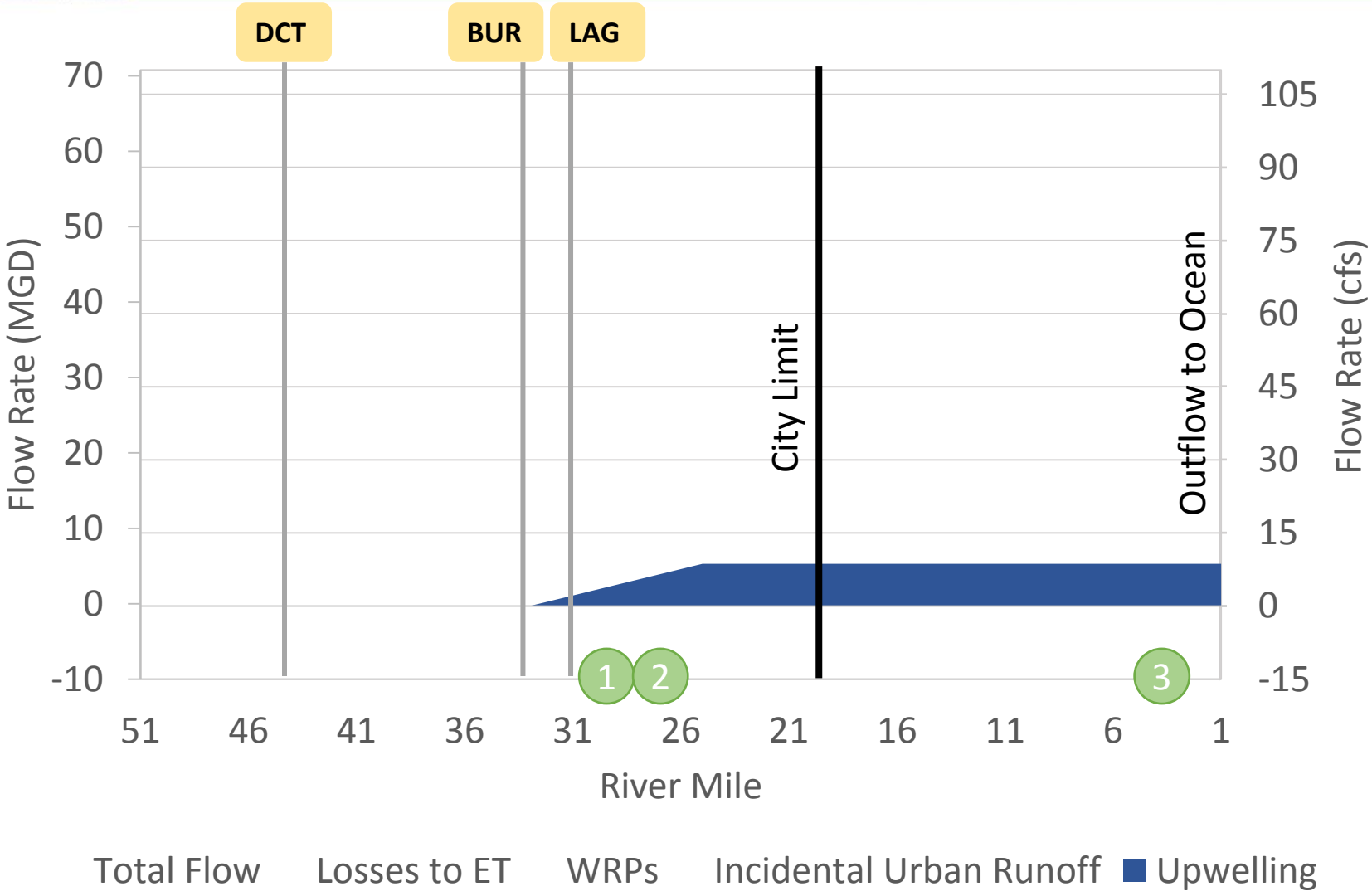

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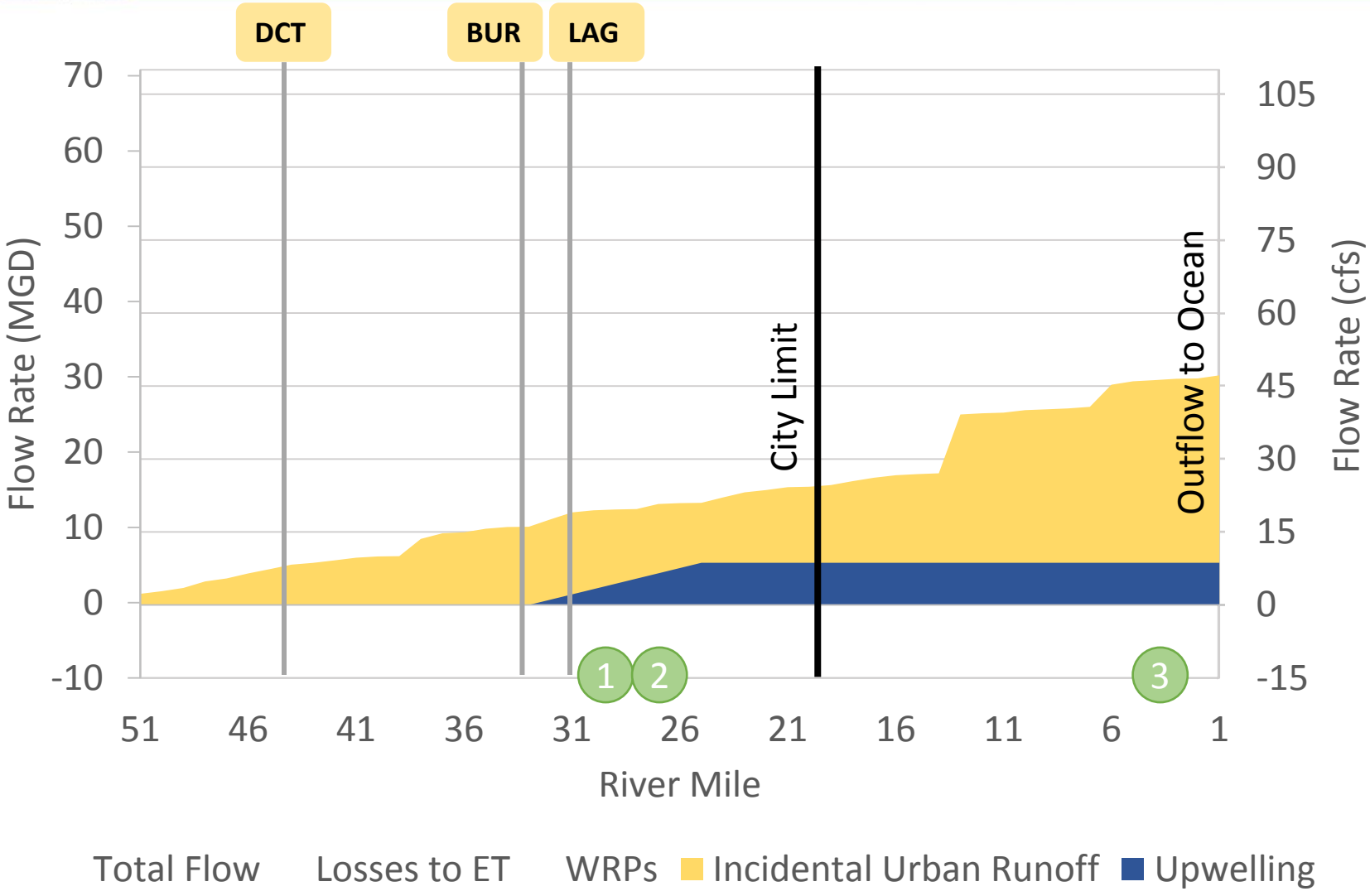

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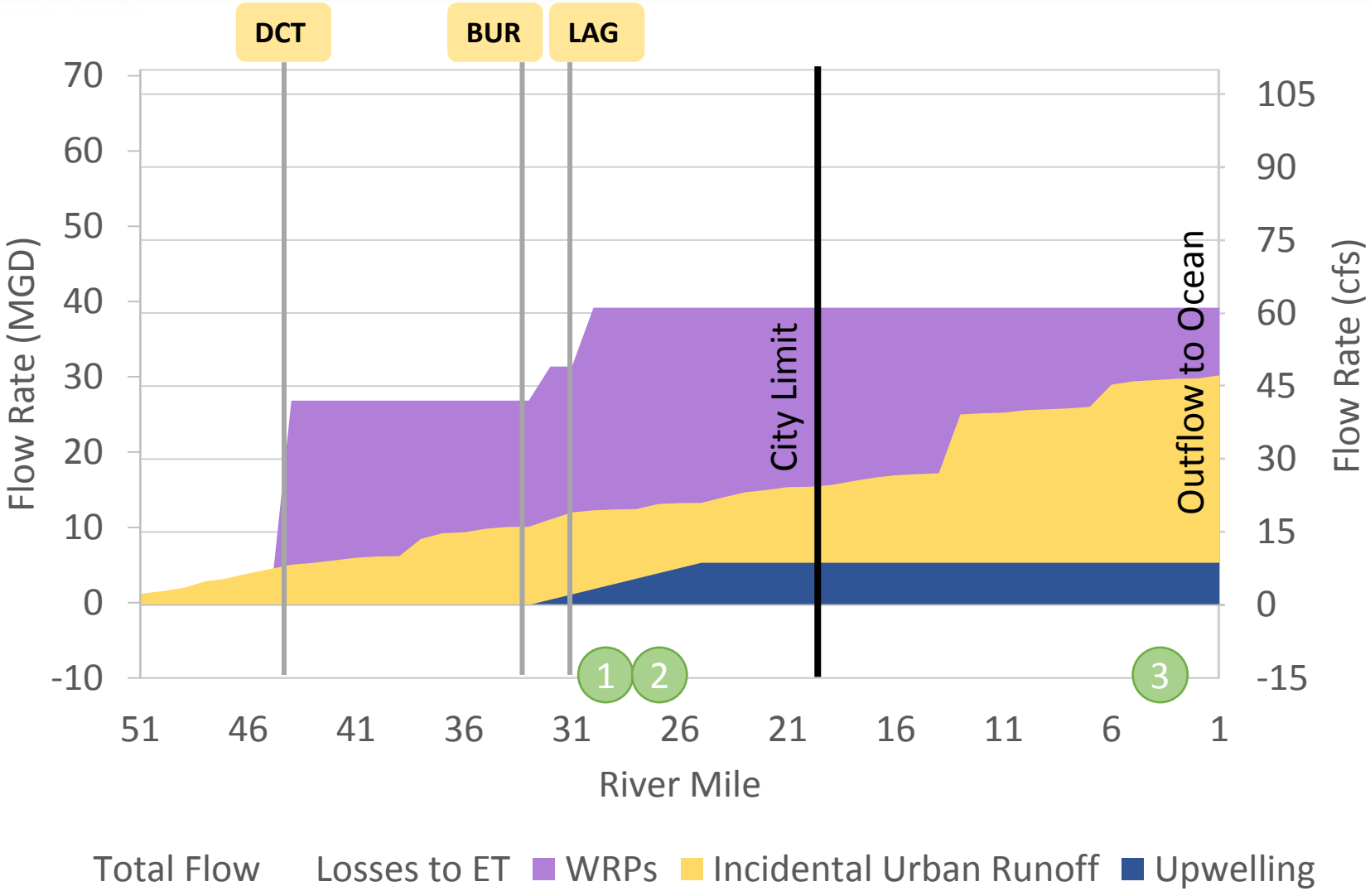

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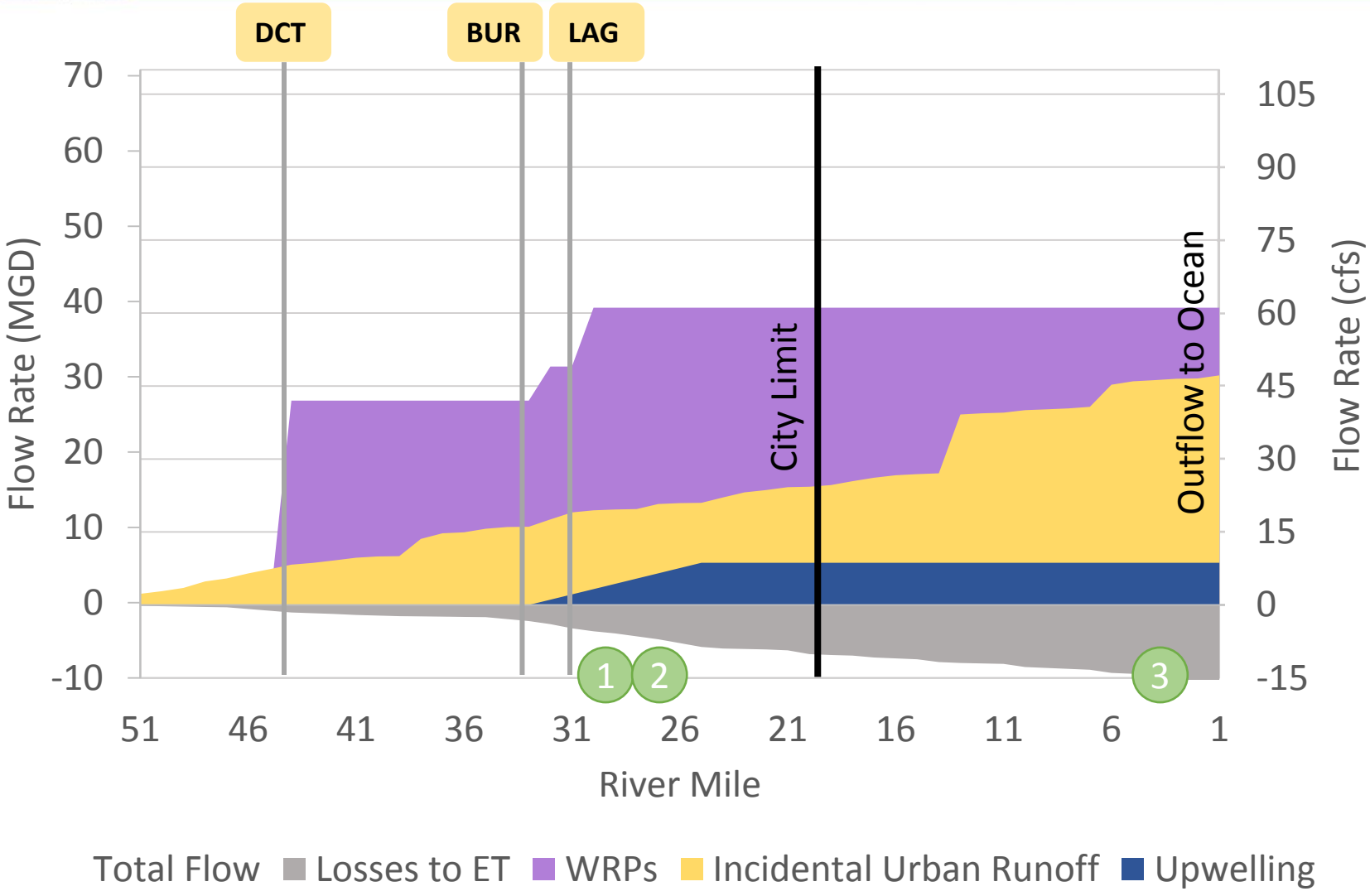

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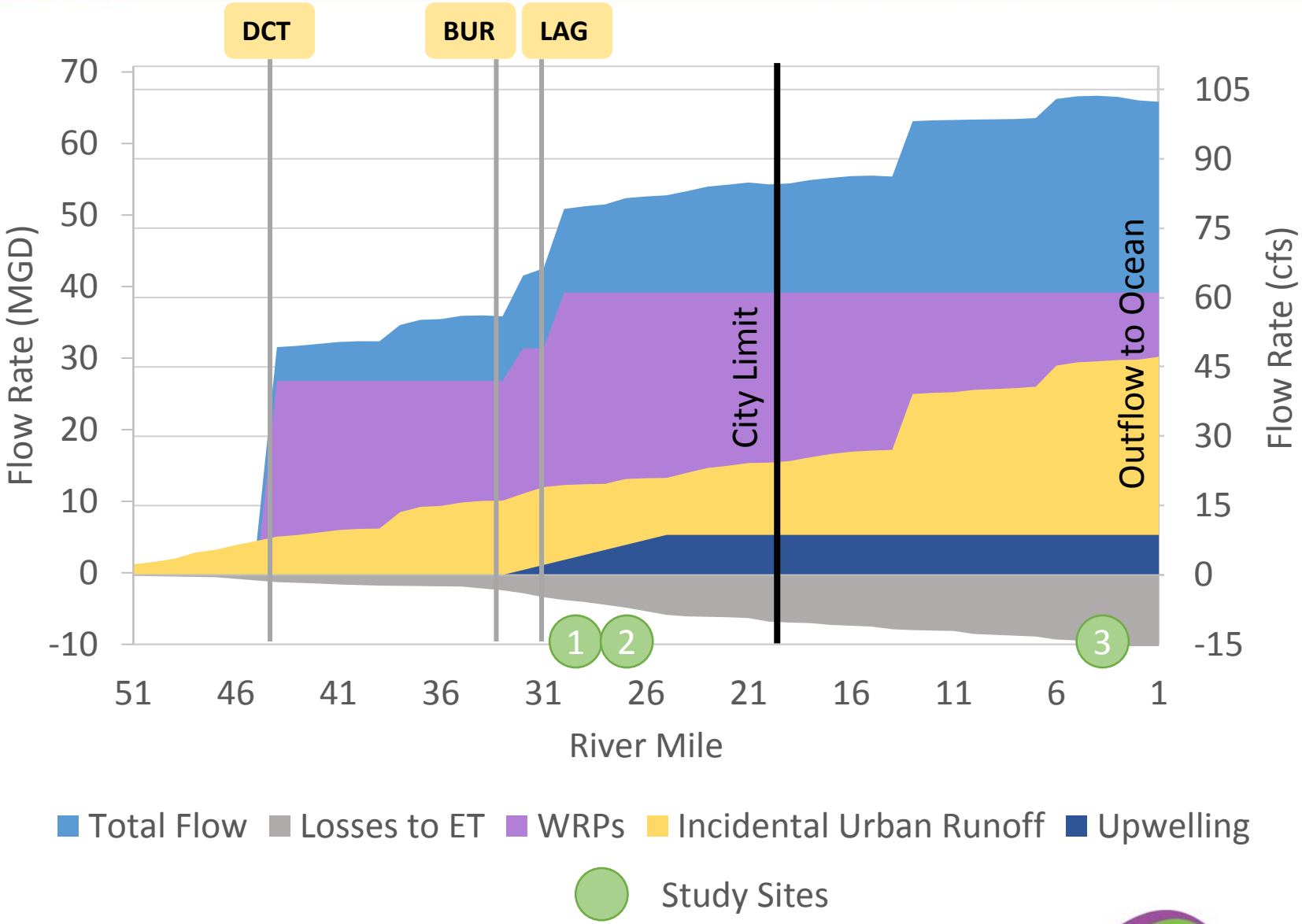
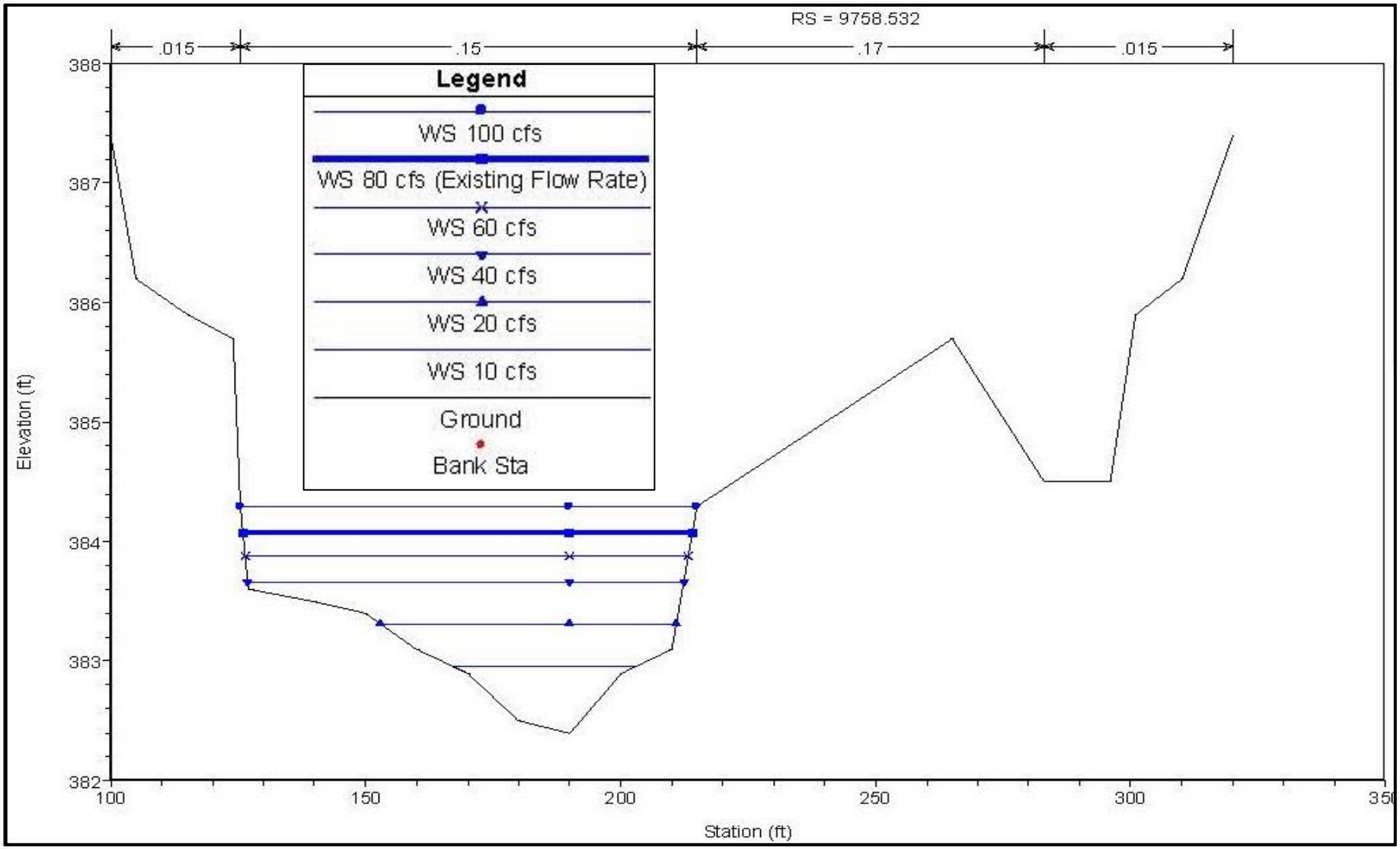
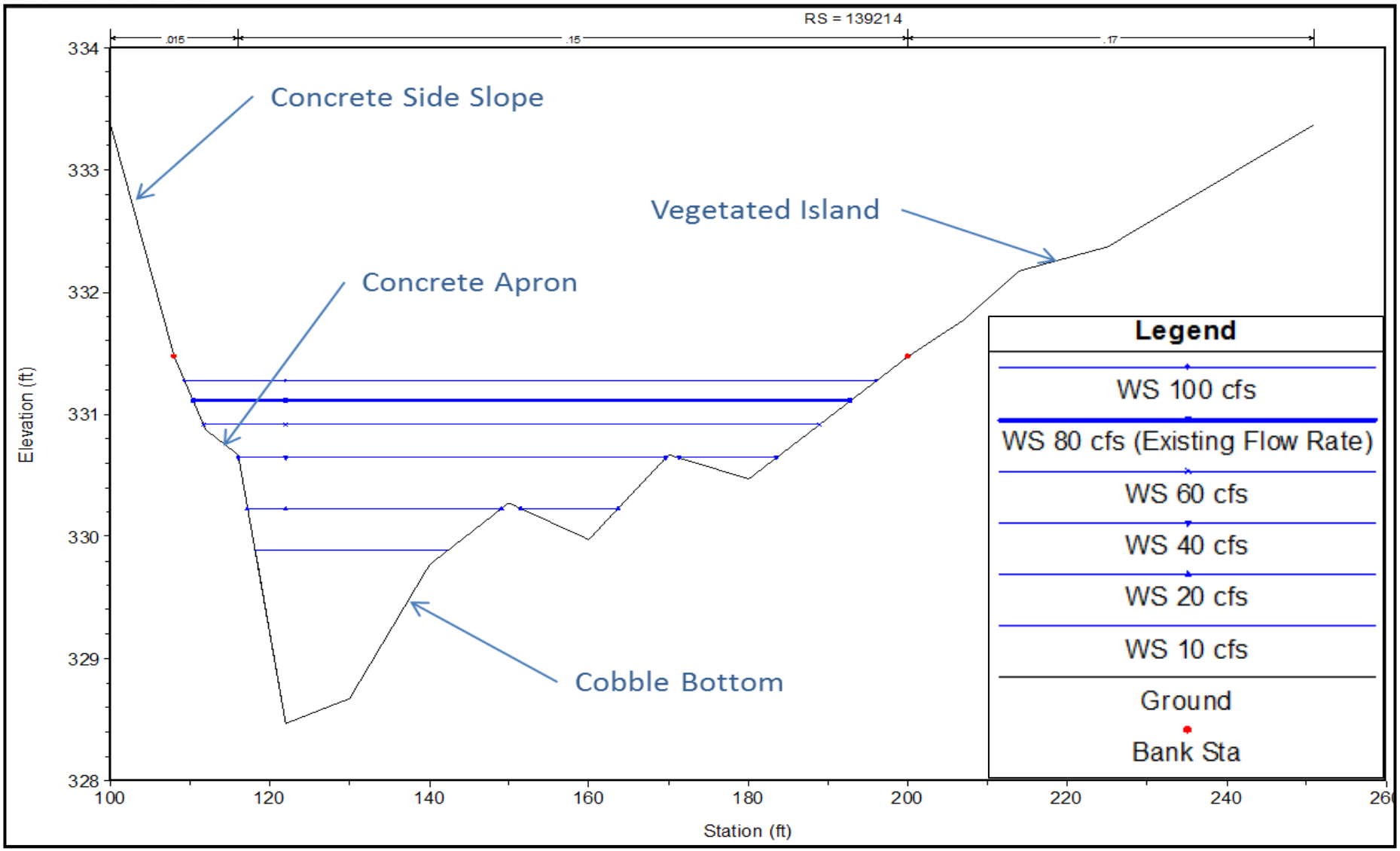


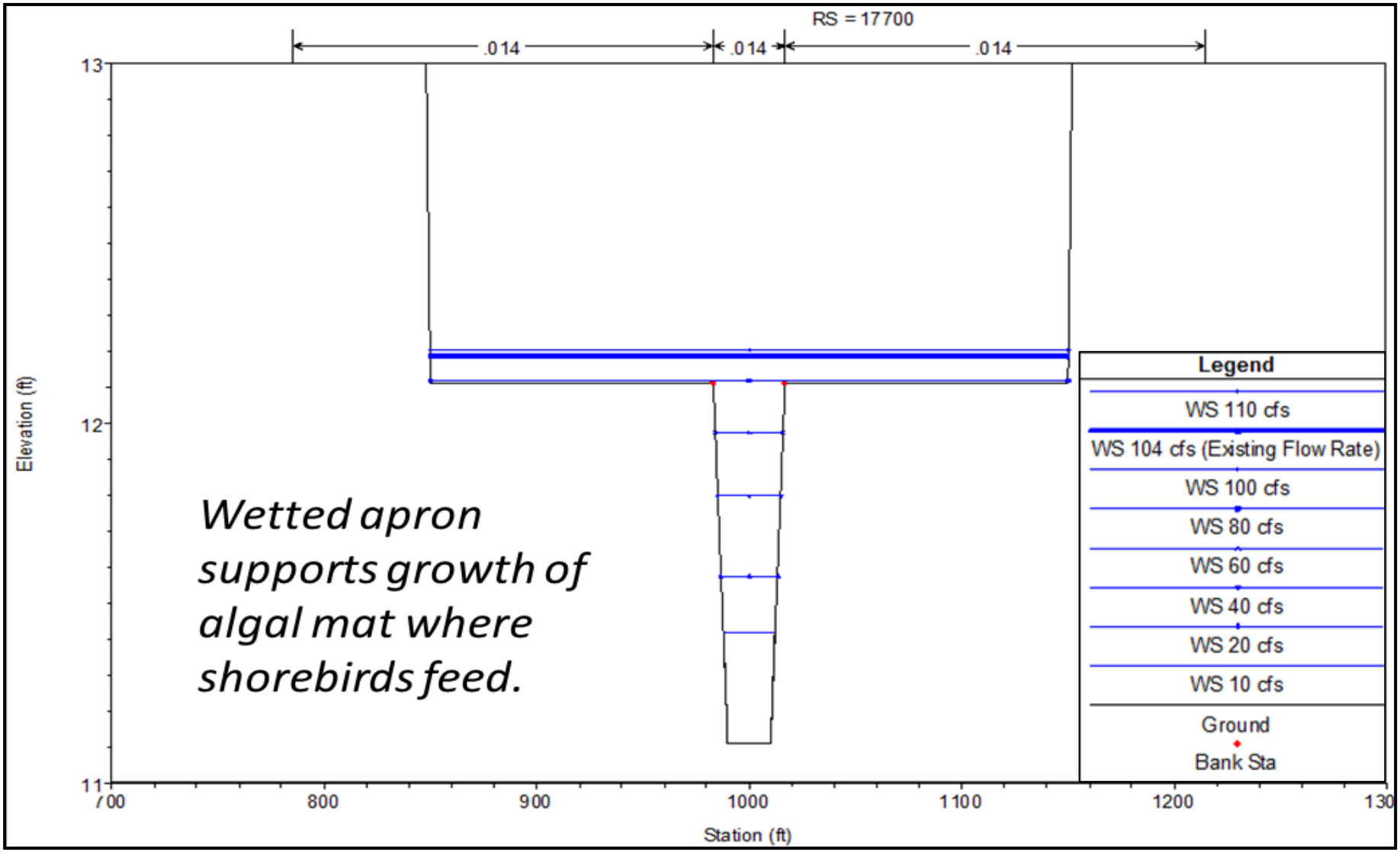
Los Feliz Low Flow Hydraulic Modeling



Taylor Yard Low Flow Hydraulic Modeling

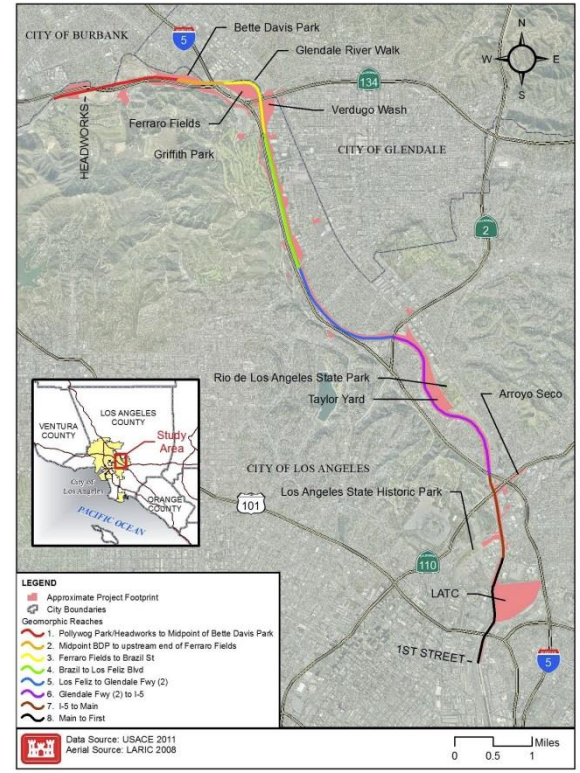


Willow Street Low Flow Hydraulic Modeling



One Water LA -ARBOR Evaluation

- Los Angeles River Ecosystem Restoration Feasibility Report (USACE 2015)
- Assumptions needing re-evaluation:
  - **Future water demand**
  - **Infiltration rates**
  - **Types of habitat**
  - **Invasive species**
  - **Plant palettes**



Storage Potential Evaluation Focus

- Reviewed Balboa study site (USBR 2004)
- Analyzed LA River reaches and flows
  - Dry
  - Wet
- Explored **storage techniques**
  - Rubber dams
  - Small water level devices/check dams

1. Upstream of Sepulveda Dam
2. Sepulveda Dam
3. Upstream of Glendale Narrows (to Sepulveda Dam)
4. ARBOR
5. Upstream of City Limits (to ARBOR Reach)

Benefit Up to **11,000 MG/year (34,000 AFY)** as potential supply

Potential LA River Storage: Wet Weather

- Potential In-channel storage: Use of rubber dams in river
  - Four locations evaluated
  - Volume of stormwater –up to **1,200 million gallons (MG) (3,700 AF)**
  - Stormwater stored behind rubber dams could be conveyed to DCT and LAG for treatment and beneficial use.
  - Controlled releases - SW to provide a continuous flow in to the LA River

- Rubber dam height max - **18 ft**
- Bank height varies and are adjustable
- Dam location based on **slope** and **depth** of impoundment
- Overflow and/or outlet components assumptions

Potential Off-Channel Storage: Wet Weather

- Potential Off-channel storage: Dams plus piping, pumps, and facility modifications
  - Two locations: Silver Lake & Sepulveda Dam Recreational Area
  - SW volume estimated to be **1,500 MG (4,600 AF)** per event

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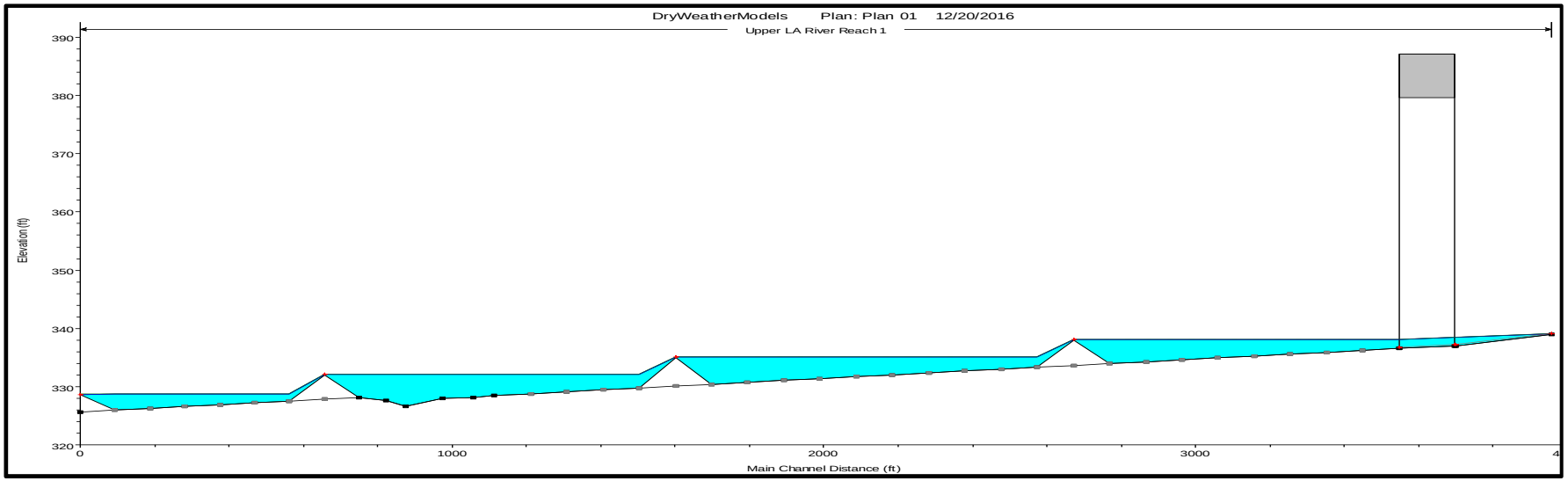
Water Level Control: Dry Weather

- Potential water level control: Check dams/water leveling devices
  - 3 ft high
  - 1 foot water depth behind dam
  - Ranges of Water Reclamation Plant reductions and/or use of water leveling devices



Recommended Future Studies and Evaluations

- Establishing realistic water budgets under existing and revised habitat conditions
  - infiltration
  - groundwater upwelling
  - evapotranspiration rates
- Flows required to support habitat:
  - Determine habitat– type and quantity
  - Arundo and invasive removal
- Future available flows vs. flows for existing conditions and uses for the entire LA River
- Creation of a predictive, dynamic modeling tool. Includes the spatial and temporal variability of flow

Next Steps

- Integrating City Departments re: LAR studies
- Collaborative regional environmental study of cumulative impacts
- Balancing water supply needs with water-dependent activities and habitat
- Planned and/or potential projects
- The future ‘look’ of the river

Thank you

Questions?

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UCLA
LA Sustainable Water Project: Los Angeles River Watershed Report

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Thank you

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The Nature Conservancy LA River Habitat Enhancement and Opportunities Assessment Study

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Thank you

Questions?

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Closing Remarks

One Water LA Plan Presentation

Early December