

Tilden Nature Area: Jewel Lake Study
Restoration and Public Access Feasibility for Wildcat Creek's Jewel Lake Reach

Public Workshop October 20, 2021

www.ebparks.org/JewelLakeStudy



Si usted tiene alguna pregunta en español, por favor contacte John Holder / jholder@ebparks.org

AGENDA

- Introduction and Welcome
- Watershed History and Processes
- Project Concepts
- Question/Answer
- Next Steps

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Photo Credit: Nancy Rubin



STUDY TIMELINE

Fall 2020/
Summer
2021

Feasibility Analysis

- Inventory & Analysis, Conditions Assessment
- Staff to Staff Agency Stakeholder Outreach

Summer/
Fall 2021

Concept Evaluation

- Staff to Staff Agency Stakeholder Outreach
- Board Executive Committee Review
- Public Workshop #1

Fall/Winter
2021, 22

Study Findings

- Staff to Staff Agency Stakeholder Outreach
- Board Exec Review - consider preferred design concept
- Public Meeting #2

Winter/
Spring 2022

Board Consideration

- Board Review and Consideration
- Proceed with developing Preferred Concept

PURPOSE OF STUDY

ENHANCE NATURAL PROCESSES & HABITAT

- Enhance Native Species Habitat
- Provide Fish/Salmonid Passage
- Prevent Sediment Accumulation

MAINTAIN PUBLIC DESTINATION

- Maintain Level of Public Access
- Maintain / Provide a “destination”
- Maintain lake as open water

JEWEL LAKE HISTORY

- Drinking Water Reservoir Constructed in 1922
- Tilden/Wildcat Acquired in 1936
- Periodic Dredging to Maintain Open Water in 1967 & 1991



WATERSHED STUDIES

- 2001 Wildcat Creek Watershed Study
- 2010 Wildcat Creek Watershed Restoration Action Plan (WRAP)
- 2016 Watershed Sediment & Erosion Control Study
- Current Jewel Lake Study




Watershed Management

- Site vs. Situation
- Incorporate Dynamic Systems
- Holistic & Inclusive
- More than just water



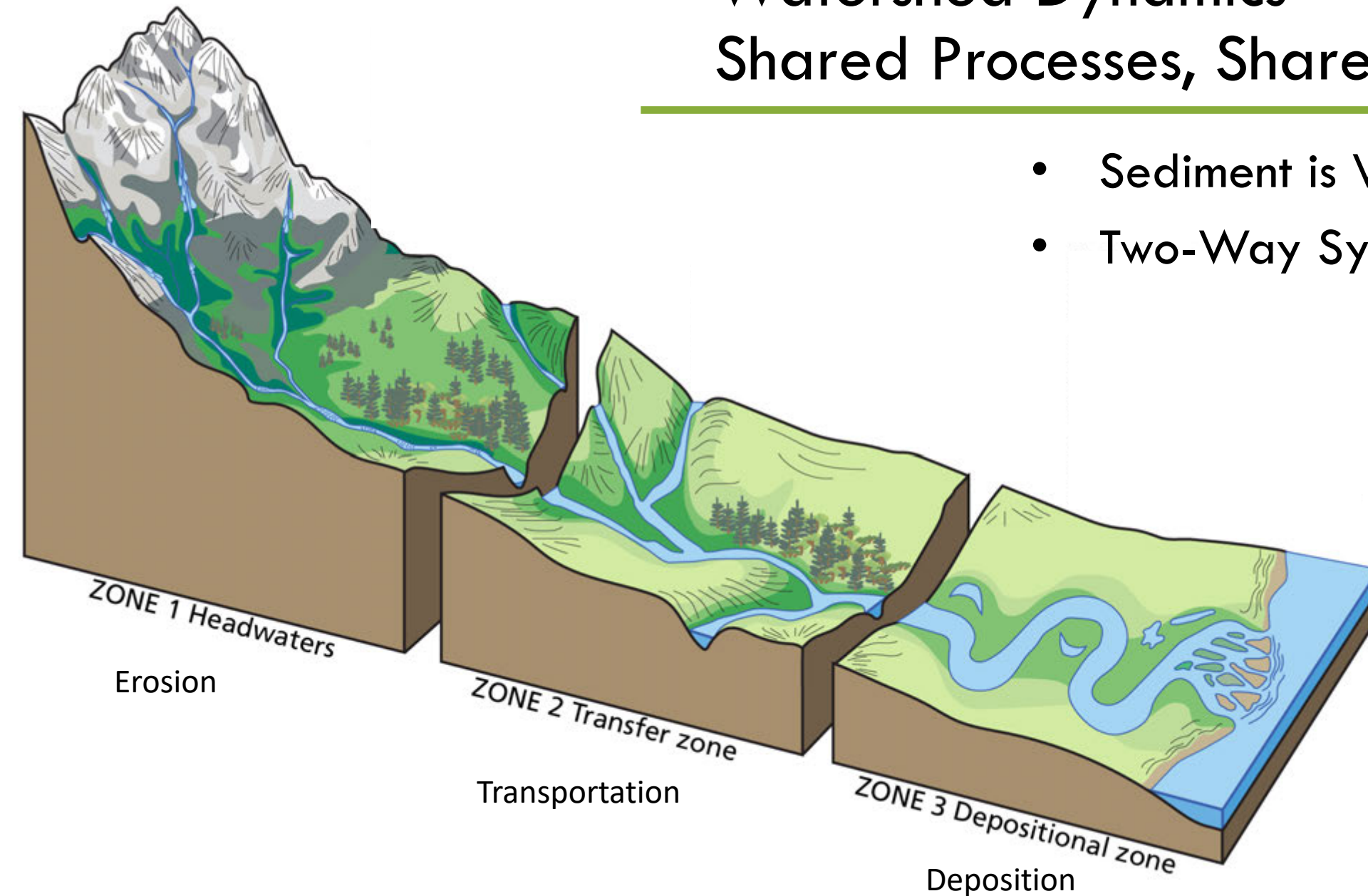
Hydrology: Above Ground vs Below Ground

East Bay 
Regional Park District
Healthy Parks Healthy People

- Wildcat Creek (Above Ground)
- Creek (Above Ground)
- Culvert or storm drain (Below Ground)
- Coastline

Watershed Dynamics- Shared Processes, Shared Wealth

- Sediment is Watershed Wealth
- Two-Way System



Interrupting Natural Processes



Opportunity to Restore Natural Processes

Artificial Zone of Deposition



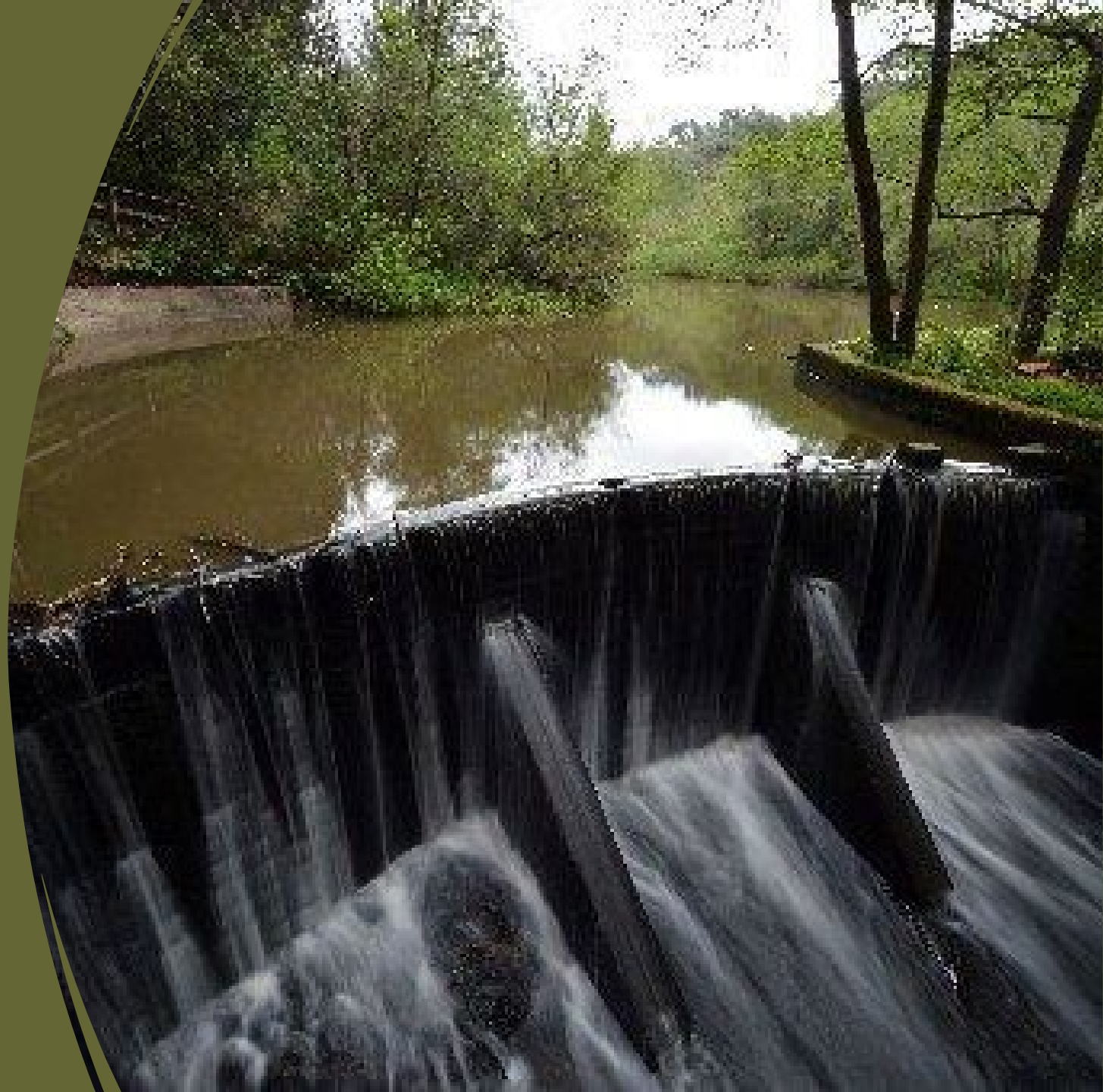
Artificial Zone of Erosion



Photo Credit: Balance Hydrologics

Opportunity to Restore Natural Processes

- Artificial zone of deposition
- Artificial zone of erosion



Putting Sustainable Processes in Place

- Ecological
- Recreational
- Interpretive
- Accessible
- Inclusive
- Personal Connection

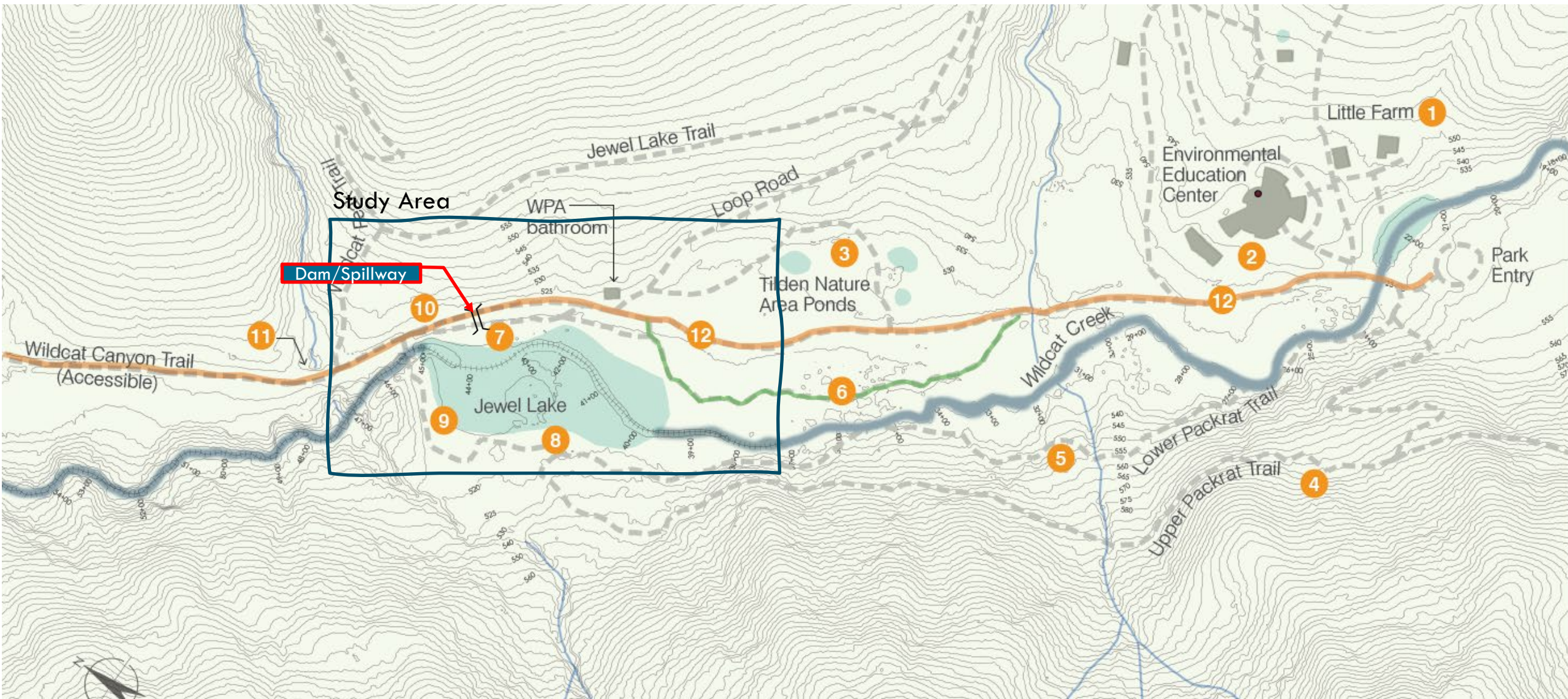


Jewel Lake Study Overview

- Four Conceptual Designs
- Goals Matrix
- Concept-Level Cost Estimate



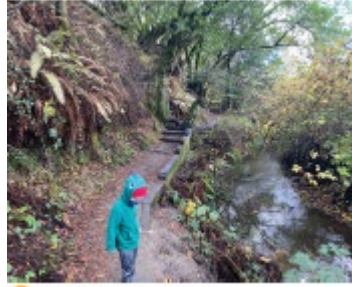
EXISTING CONDITIONS



EXISTING CONDITIONS



6 Boardwalk Trail



5 Lower Packrat Trail



4 Upper Packrat Trail



3 Tilden Nature Ponds



2 Environmental Education Center



1 Little Farm



10 Bridge & Dam



9 Dam Trail

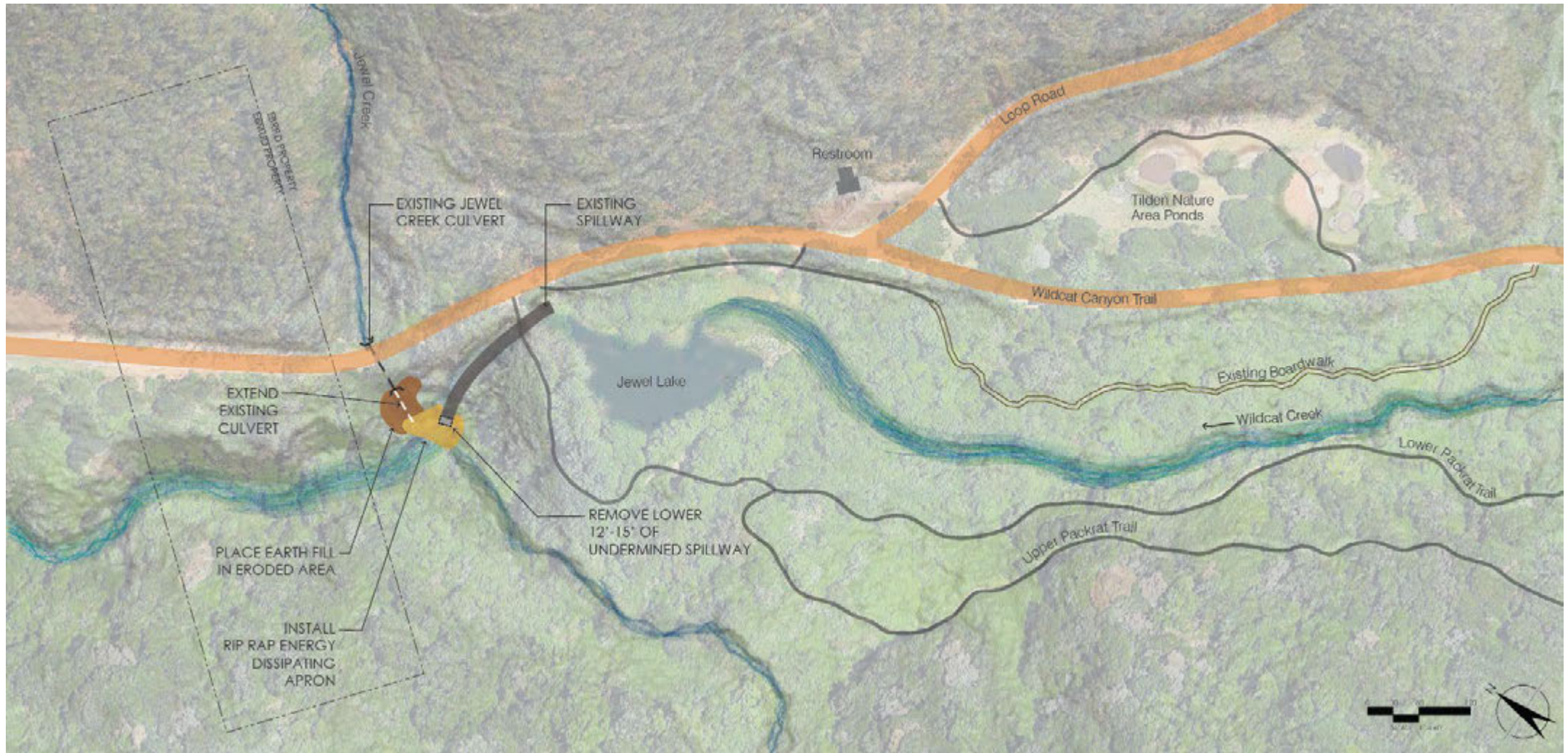


8 Jewel Lake (West side)



7 Jewel Lake Viewing Area (East side)

CONCEPT 1 – LAKE TRANSITIONS TO MEADOW



CONCEPT SUMMARY:

- The lake will continue to fill with sediment, transforming it to wet meadow, riparian, and other high value habitat types.
- No Changes to public access.

- EXISTING FIRE ROAD
- EXISTING BOARDWALK
- EXISTING FOOT TRAIL

CONCEPT 1 – LAKE TRANSITIONS TO MEADOW

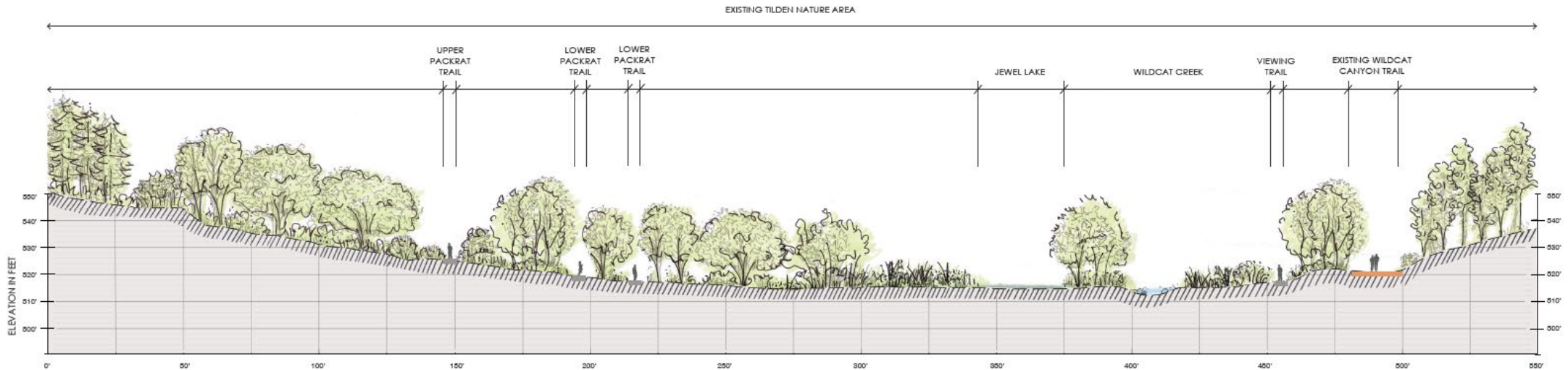
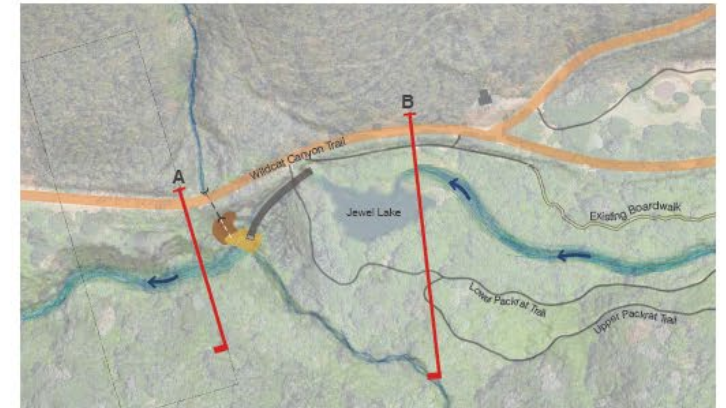
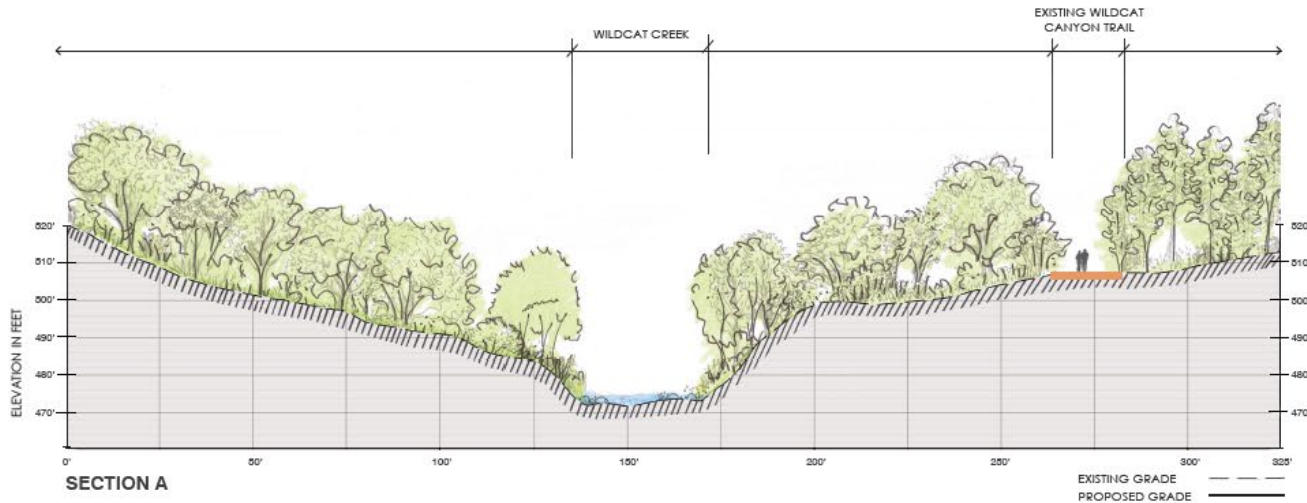
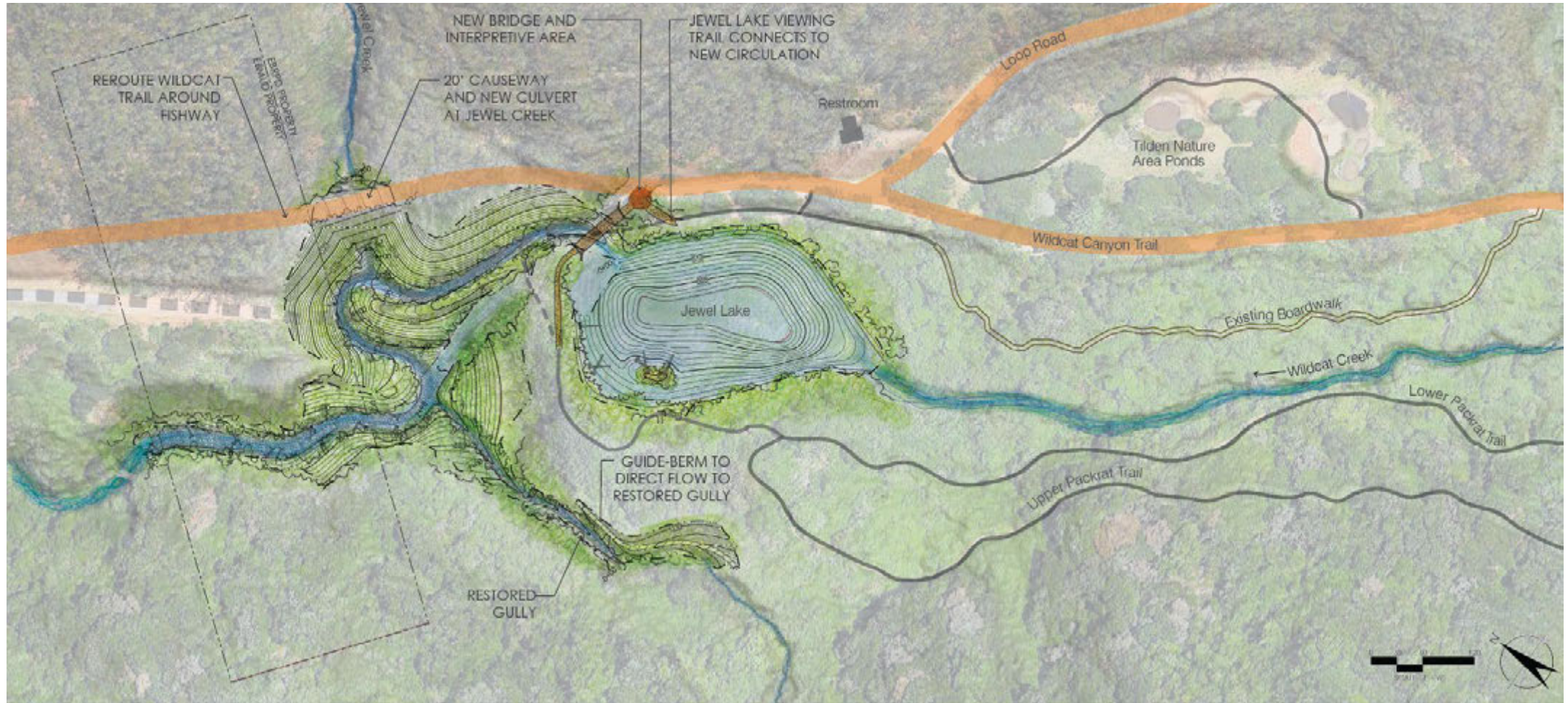




Photo Credit: Wendy Wheeler

CONCEPT 2 – MAINTAIN LAKE + FISHWAY



CONCEPT SUMMARY:

- Periodically dredge Jewel Lake to maintain open water.
- Construct a fishway to enable fish passage.
- Reroute Wildcat Creek Trail around fishway.
- Reconstruct bridge at dam.

	PROPOSED BOARDWALK		EXISTING FIRE ROAD
	PROPOSED FOOT TRAILS		EXISTING BOARDWALK
	PROPOSED BRIDGES		EXISTING FOOT TRAIL
	PROPOSED TRAIL PULLOUTS		DECOMMISSIONED FOOT TRAIL
	GRADING LIMIT		DECOMMISSIONED FIRE TRAIL

CONCEPT 2 – MAINTAIN LAKE + FISHWAY

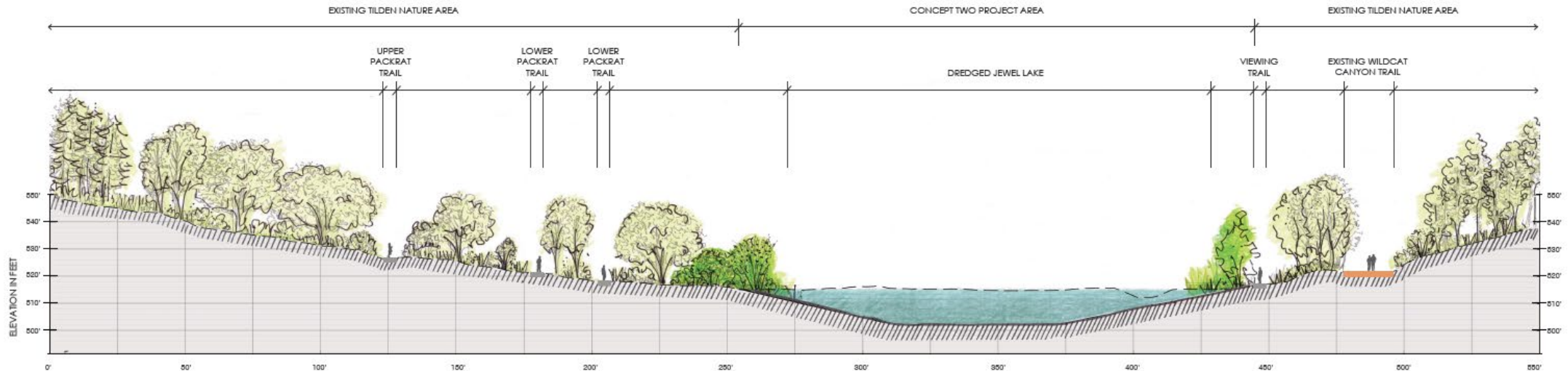
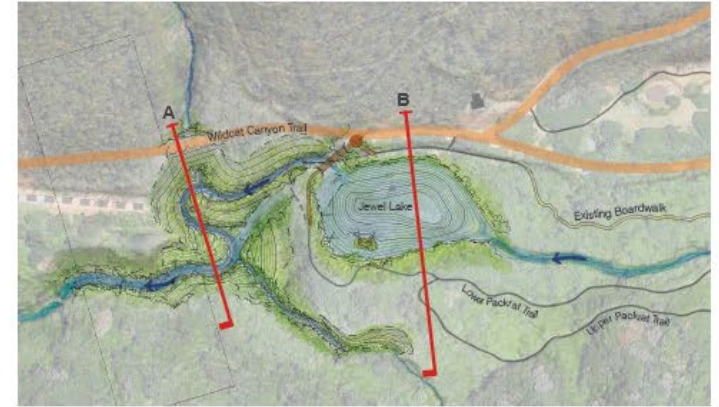
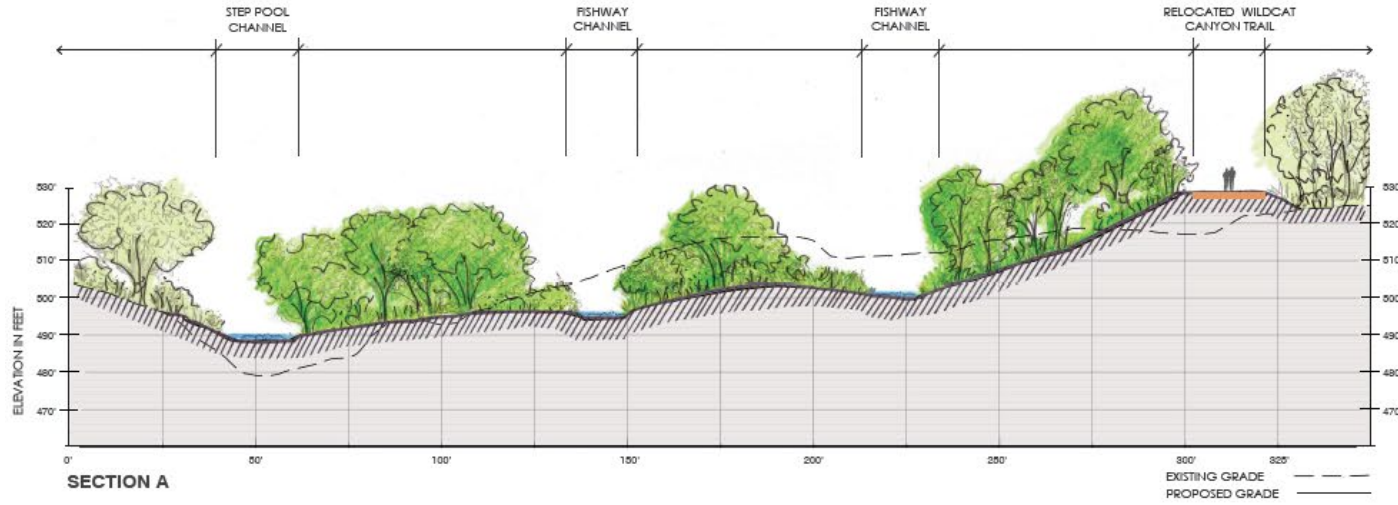
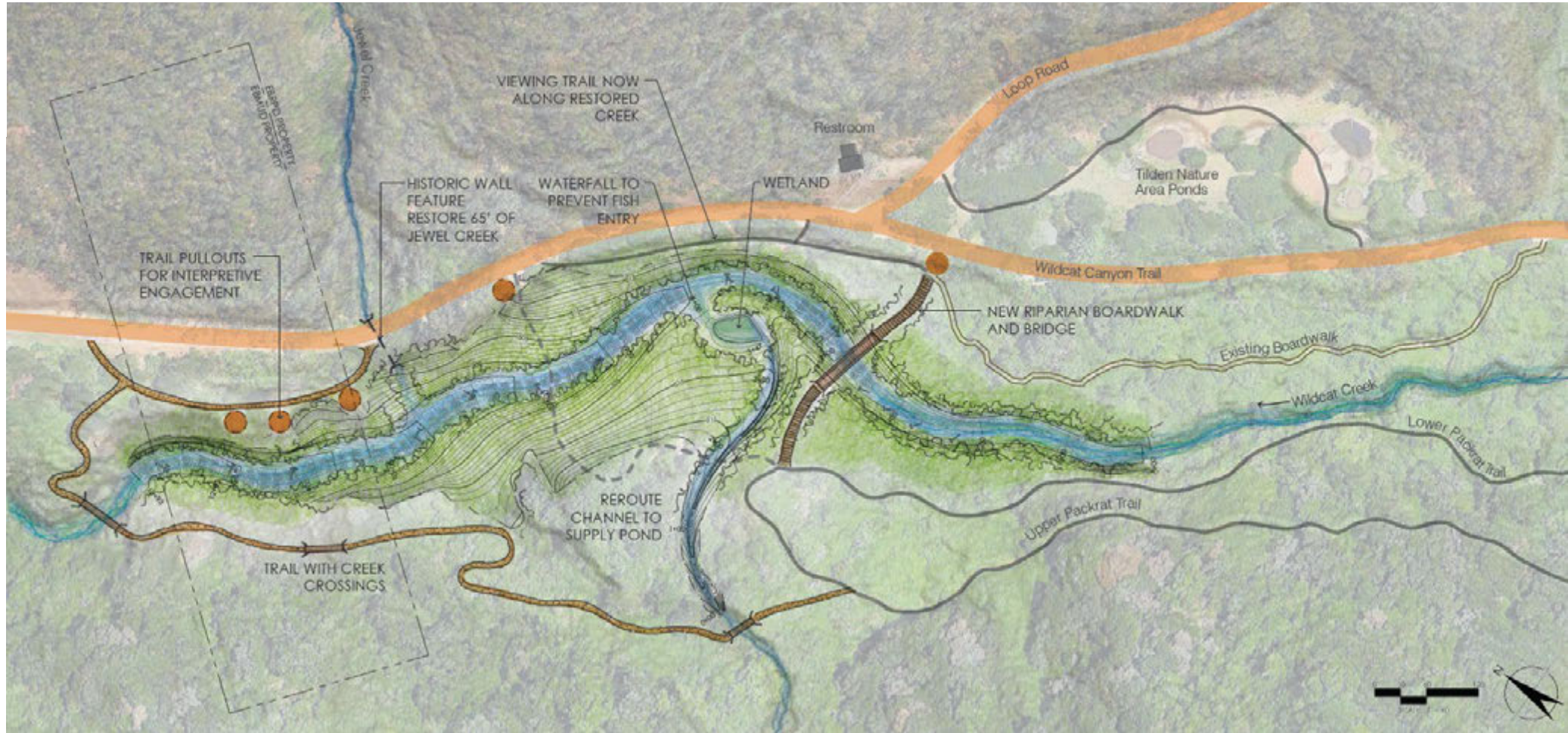




Photo Credit: Chick Markley

CONCEPT 3 – RESTORE WILDCAT CREEK



CONCEPT SUMMARY:

- Restore fish passage in Wildcat Creek by removing Jewel Dam & restoring the riparian corridor.
- Remove small dam at upstream sedimentation basin.
- Remove portion of Lower Packrat Trail.
- Add a new boardwalk & Trail with creek crossings.



PROPOSED BOARDWALK
 PROPOSED FOOT TRAILS
 PROPOSED BRIDGES
 PROPOSED TRAIL PULLOUTS
 GRADING LIMIT



EXISTING FIRE ROAD



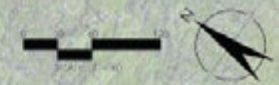
EXISTING BOARDWALK



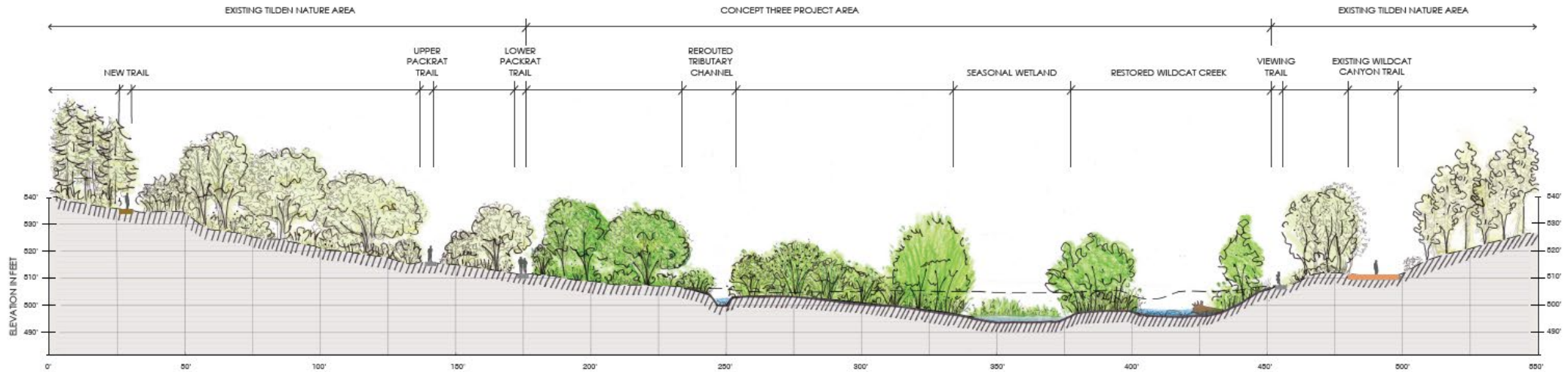
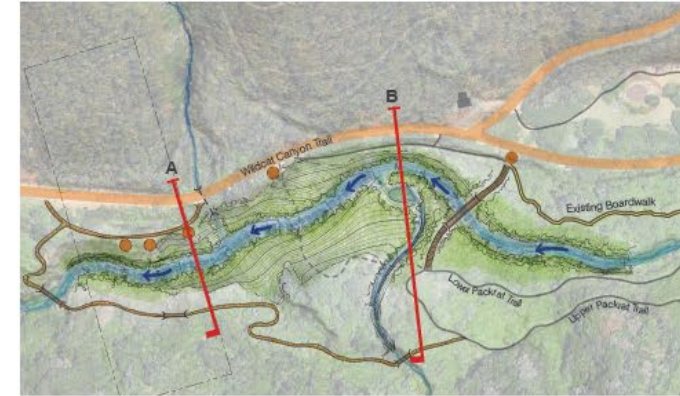
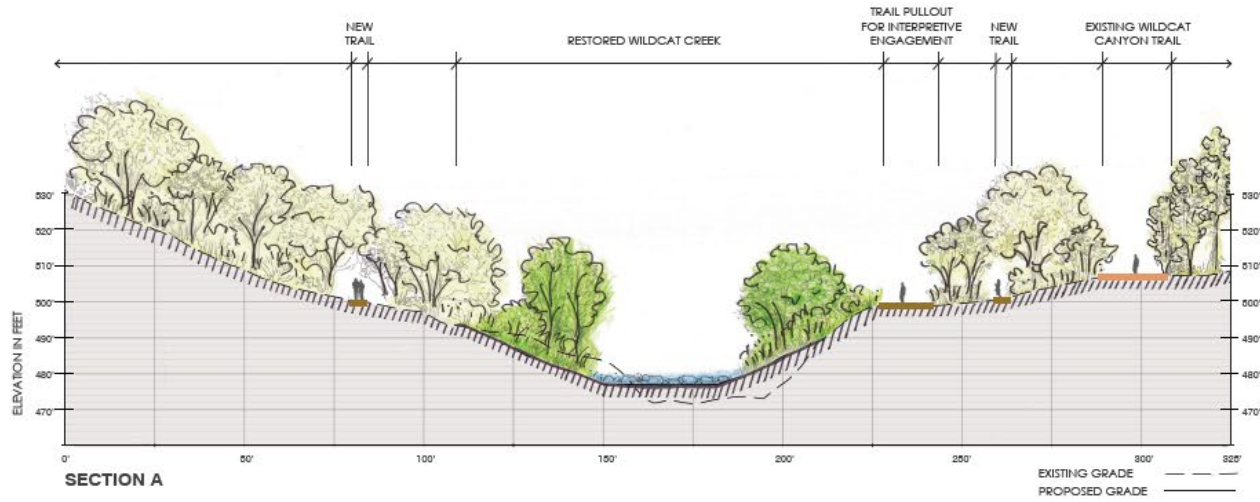
EXISTING FOOT TRAIL



DECOMMISSIONED FOOT TRAIL



CONCEPT 3 – RESTORE WILDCAT CREEK





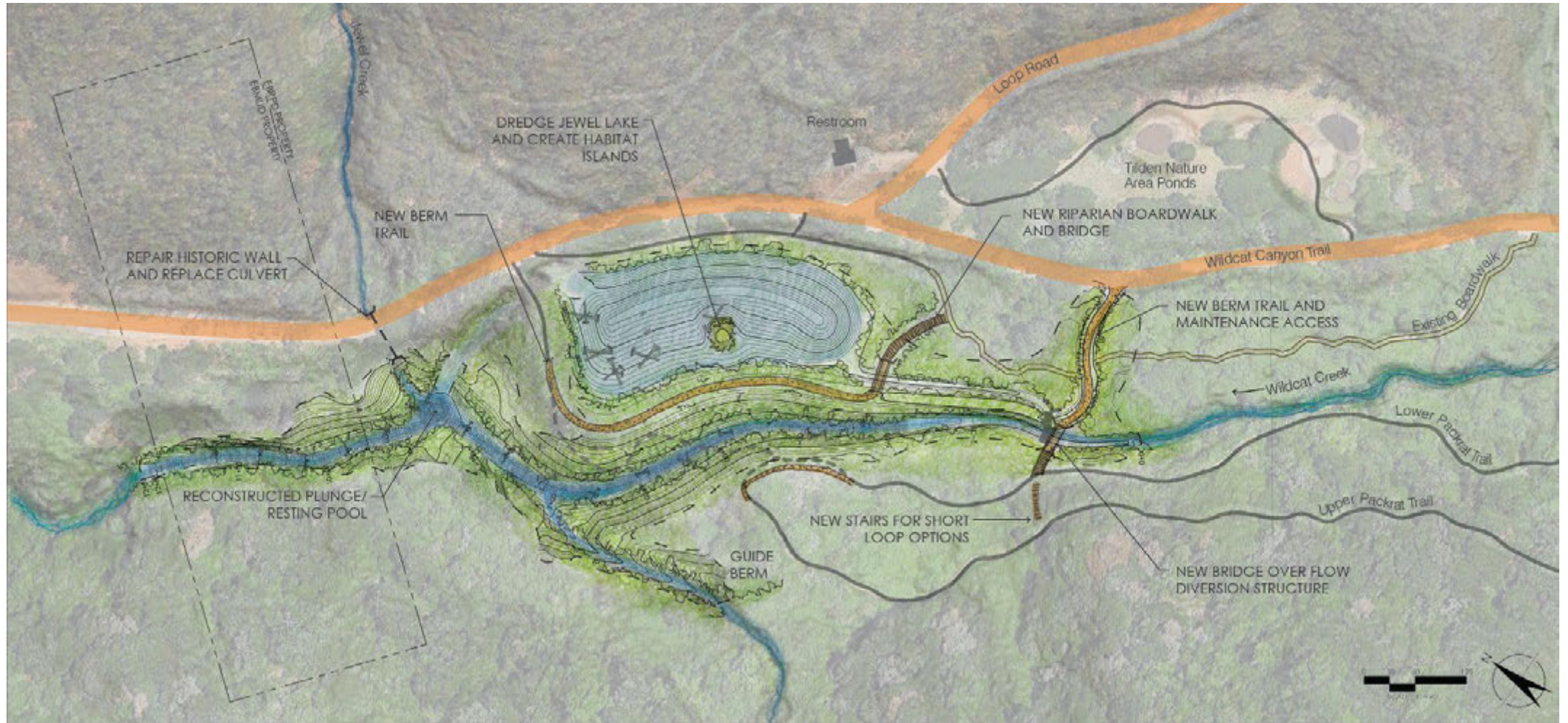
Gleason Creek 2007
Photo Credit: Balance Hydrologics



Gleason Creek 2013
Photo Credit: Balance Hydrologics



CONCEPT 4 – LAKE + BYPASS CHANNEL

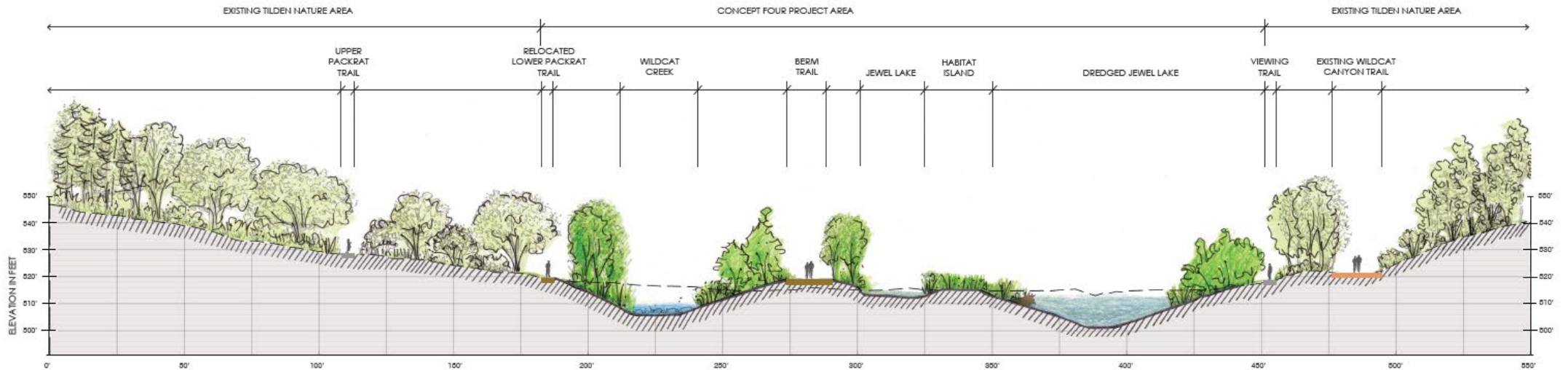
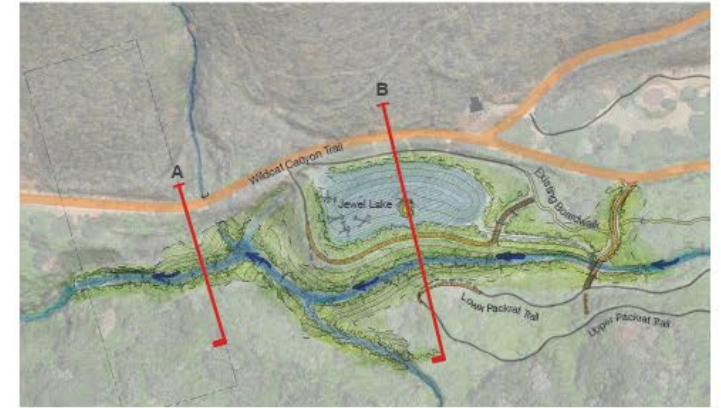
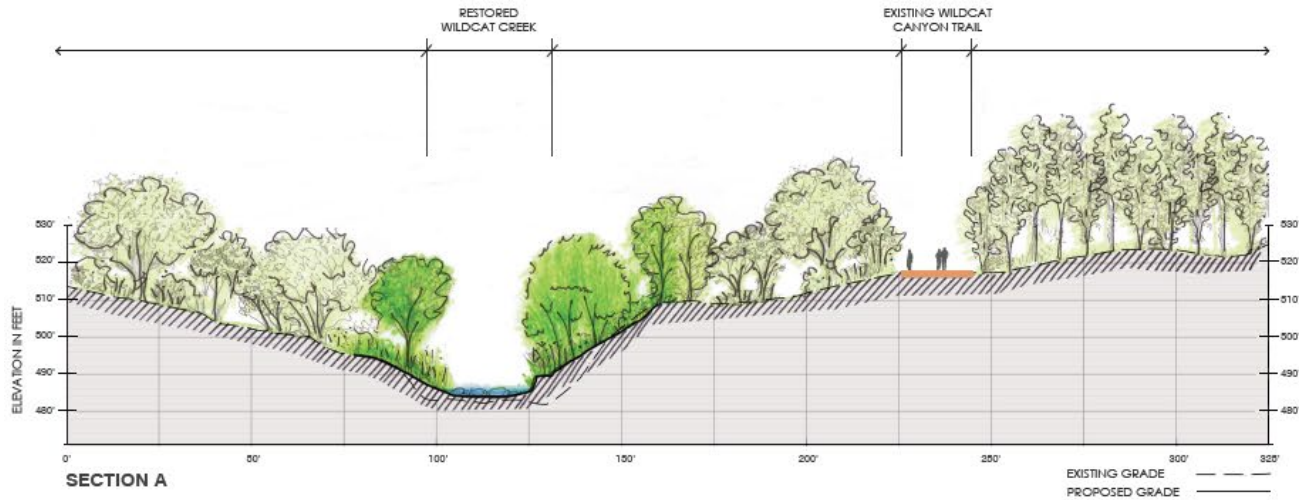


CONCEPT SUMMARY:

- Construct a naturalized bypass stream channel on the west side of Wildcat Canyon to restore sediment continuity & fish passage.
- Dredge & enhance Jewel Lake, modify dam to maintain open water.
- Remove small dam at upstream sedimentation basin.
- Adjust Lower Packrat Trail & add new berm trails.

	PROPOSED BOARDWALK		EXISTING FIRE ROAD
	PROPOSED FOOT TRAILS		EXISTING BOARDWALK
	PROPOSED BRIDGES		EXISTING FOOT TRAIL
	GRADING LIMIT		DECOMMISSIONED FOOT TRAIL

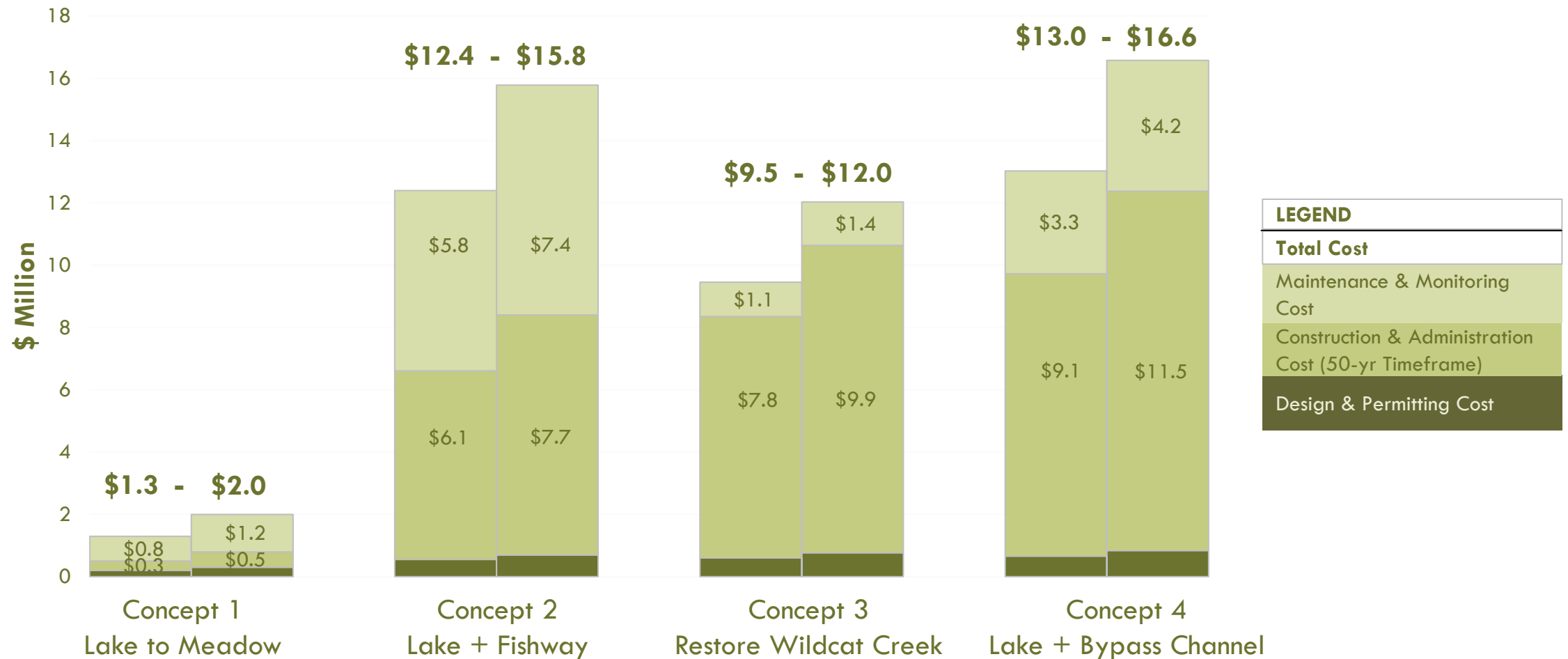
CONCEPT 4 – LAKE + BYPASS CHANNEL





PROJECT GOALS DECISION MATRIX	CONCEPT 1: LAKE TRANSITIONS TO MEADOW	CONCEPT 2: MAINTAIN OPEN WATER + FISHWAY	CONCEPT 3: RESTORE WILDCAT CREEK	CONCEPT 4: LAKE + BYPASS CHANNEL
Enhance Native Species Habitat	+	++	++	++++
Provide Salmonid Passage	-	+	++++	++
Prevent Sediment Deposition	+	-	++++	++
Maintain Level of Public Access	++	++	++	++
Maintain / Provide a “destination” for public	+	++	++	++
Maintain lake as open water	-	++	-	++++

PROJECT LIFECYCLE COSTS



LEGEND	
Total Cost	
Maintenance & Monitoring Cost	
Construction & Administration Cost (50-yr Timeframe)	
Design & Permitting Cost	

Stakeholder & Public Outreach

(Preliminary List)

AGENCY/TRIBAL STAKEHOLDERS

- EBMUD
- CC Flood Control
- Richmond
- San Pablo
- Berkeley
- Confederated Villages of Lisjan

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Winter/
Spring 2022

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QUESTION & ANSWER SEGMENT

