

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

Project Briefing September 14, 2021



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 Salmonid Passage
- Provide Sediment Continuity

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 Study
- Current Jewel Lake Study



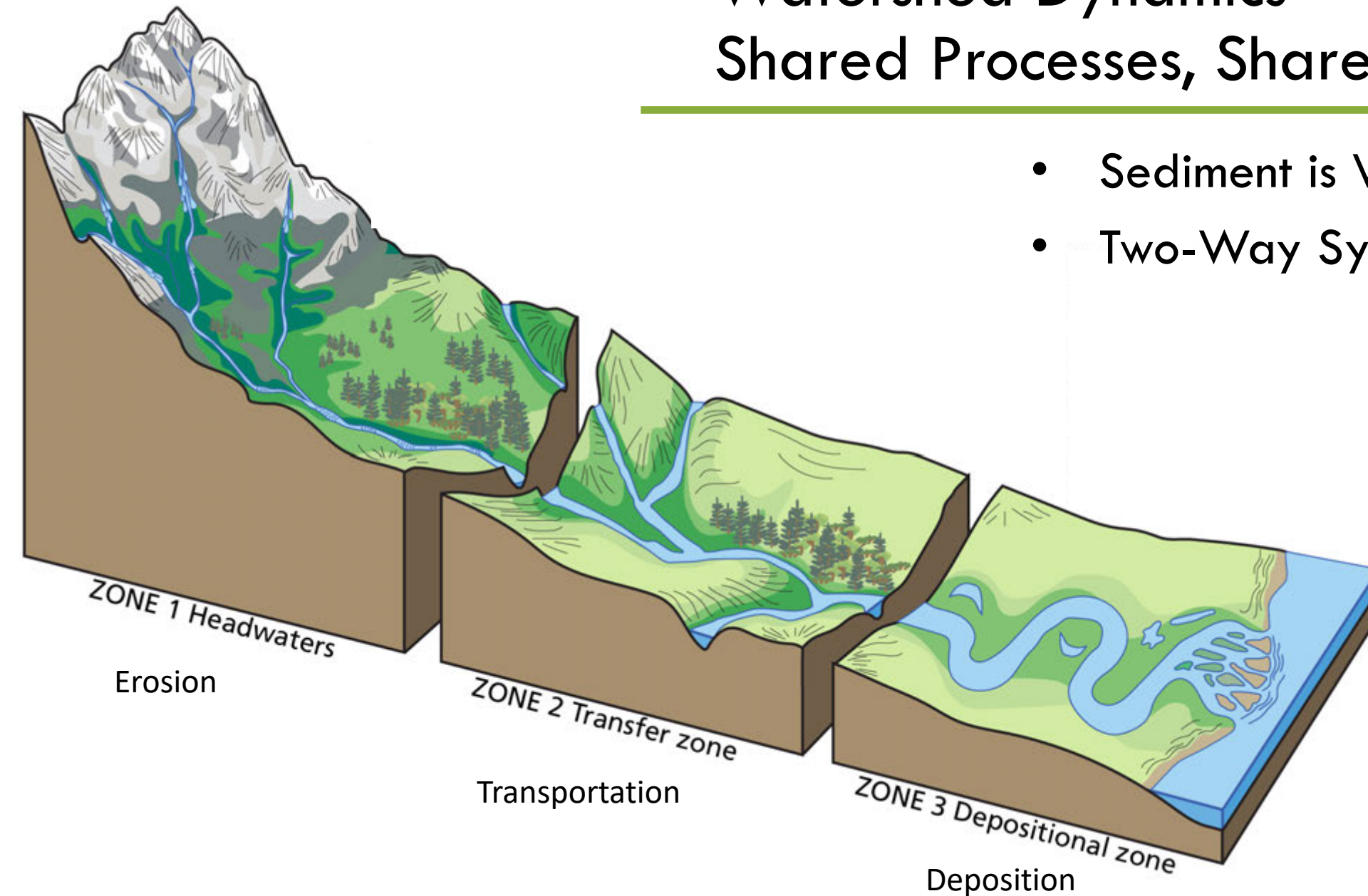
Watershed Management

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



Watershed Dynamics- Shared Processes, Shared Wealth

- Sediment is Watershed Wealth
- Two-Way System

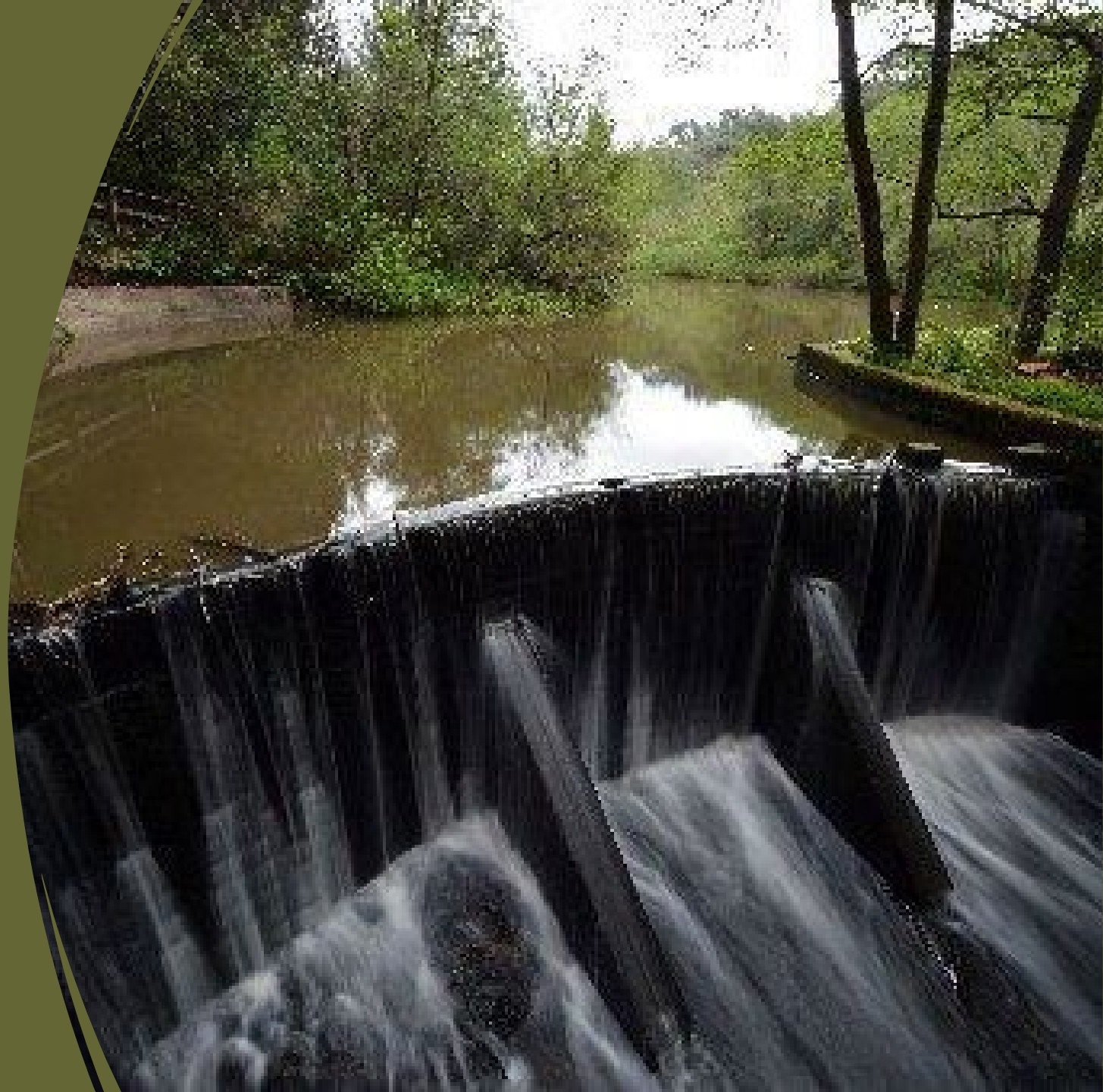


Interrupting Natural Processes



Opportunity to Restore Natural Processes

- Artificial zone of deposition
- Artificial zone of erosion



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



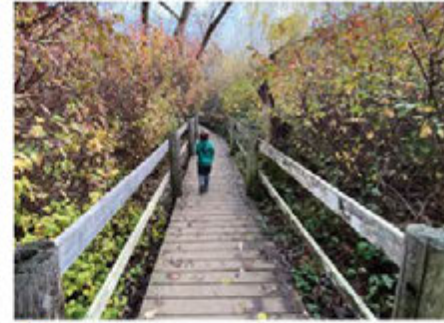
1 EXISTING DAM INFRASTRUCTURE



2 EUCALYPTUS DOMINATED UPLAND



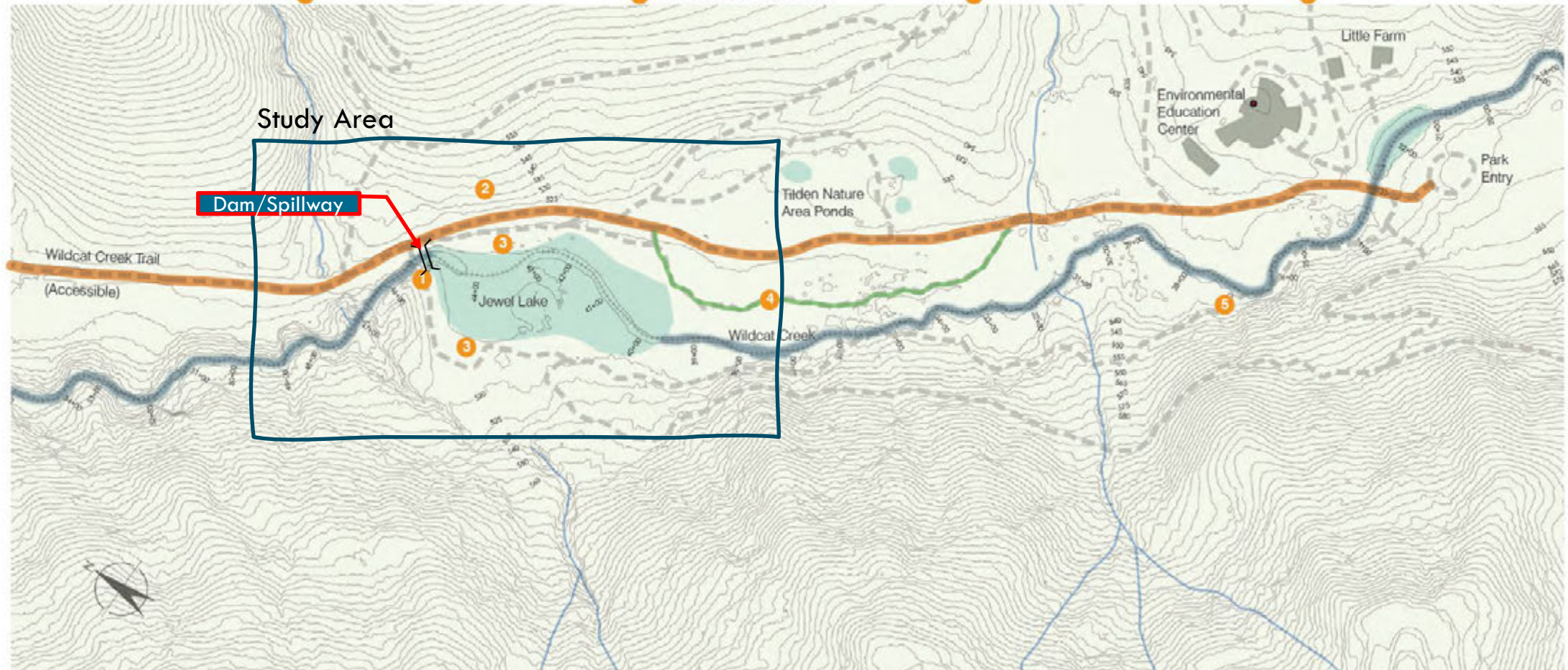
3 WATERVIEWS AND ACCESS



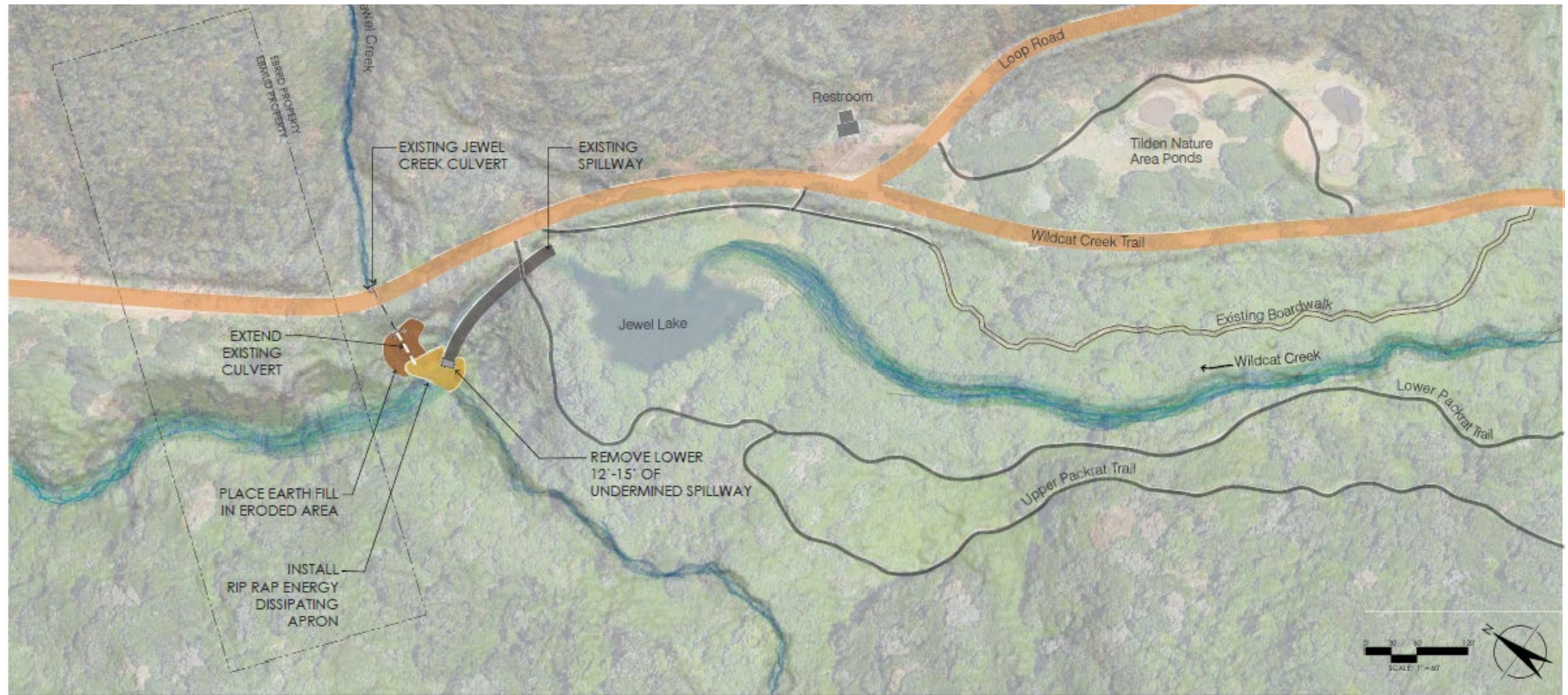
4 BOARDWALK TRAIL



5 LOWER PACKRAT TRAIL



CONCEPT 1 – LAKE TRANSITIONS TO MEADOW



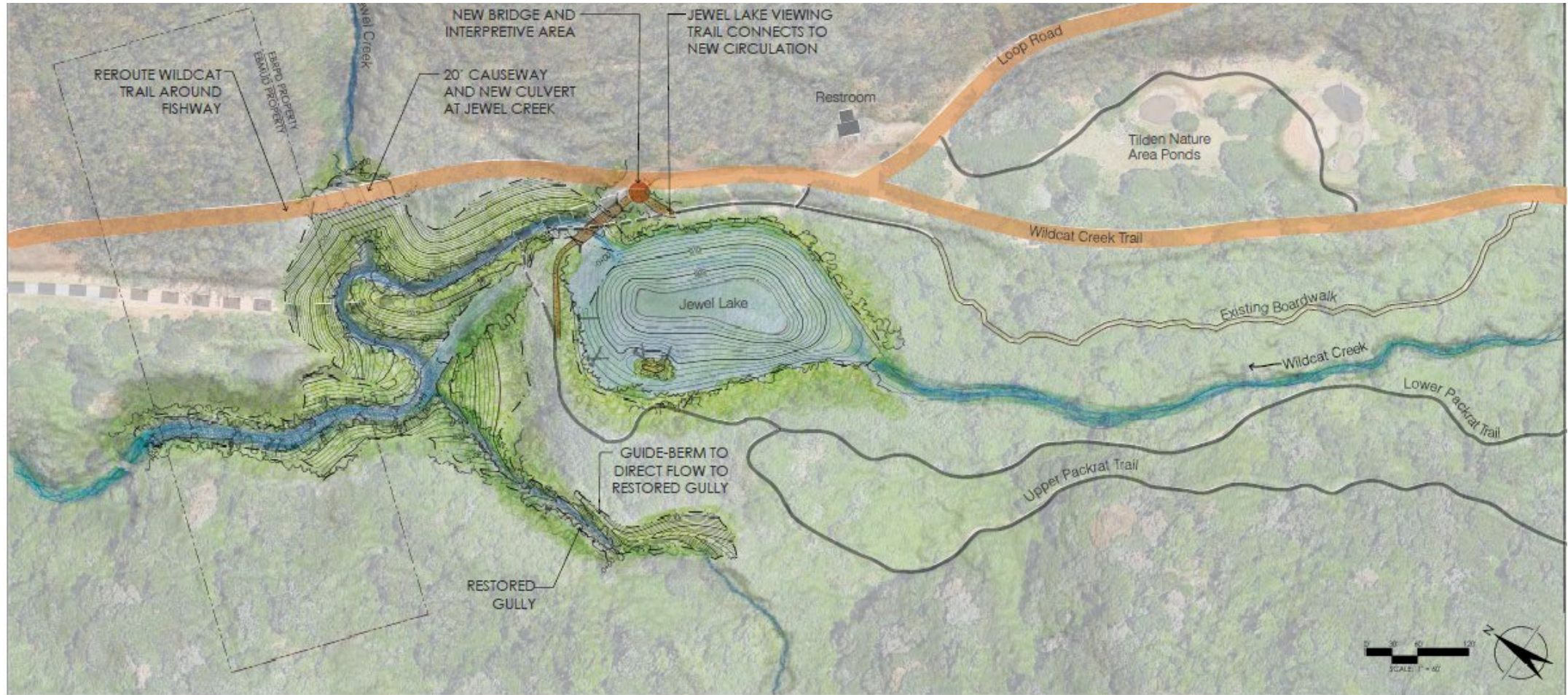
CONCEPT SUMMARY:

- 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 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.

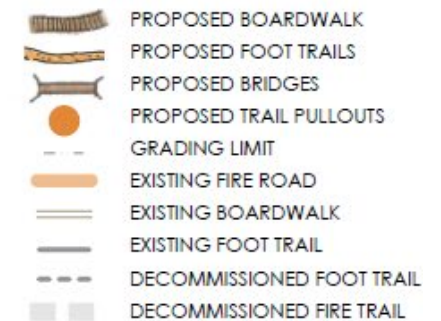
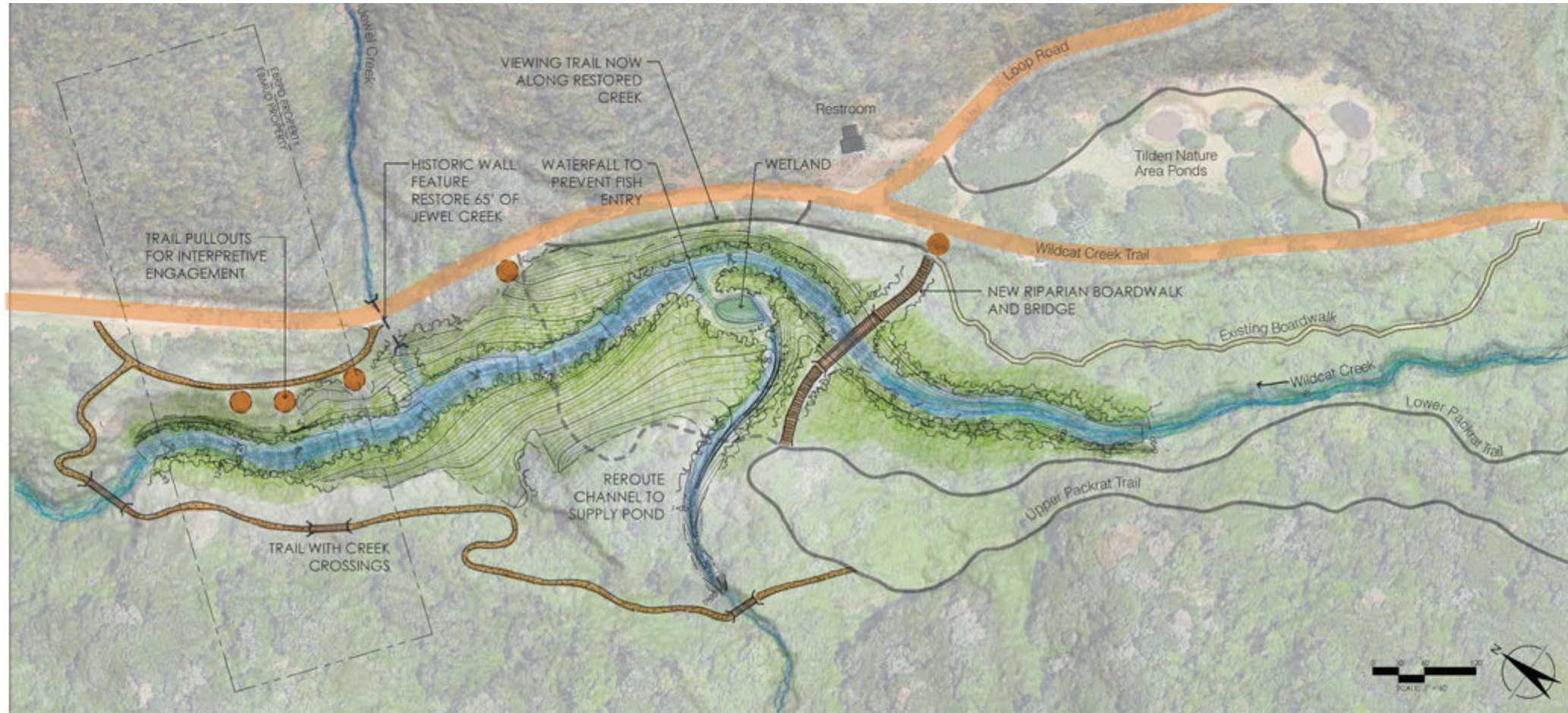




Photo Credit: Chick Markley

CONCEPT 3 – RESTORE WILDCAT CREEK



CONCEPT SUMMARY:

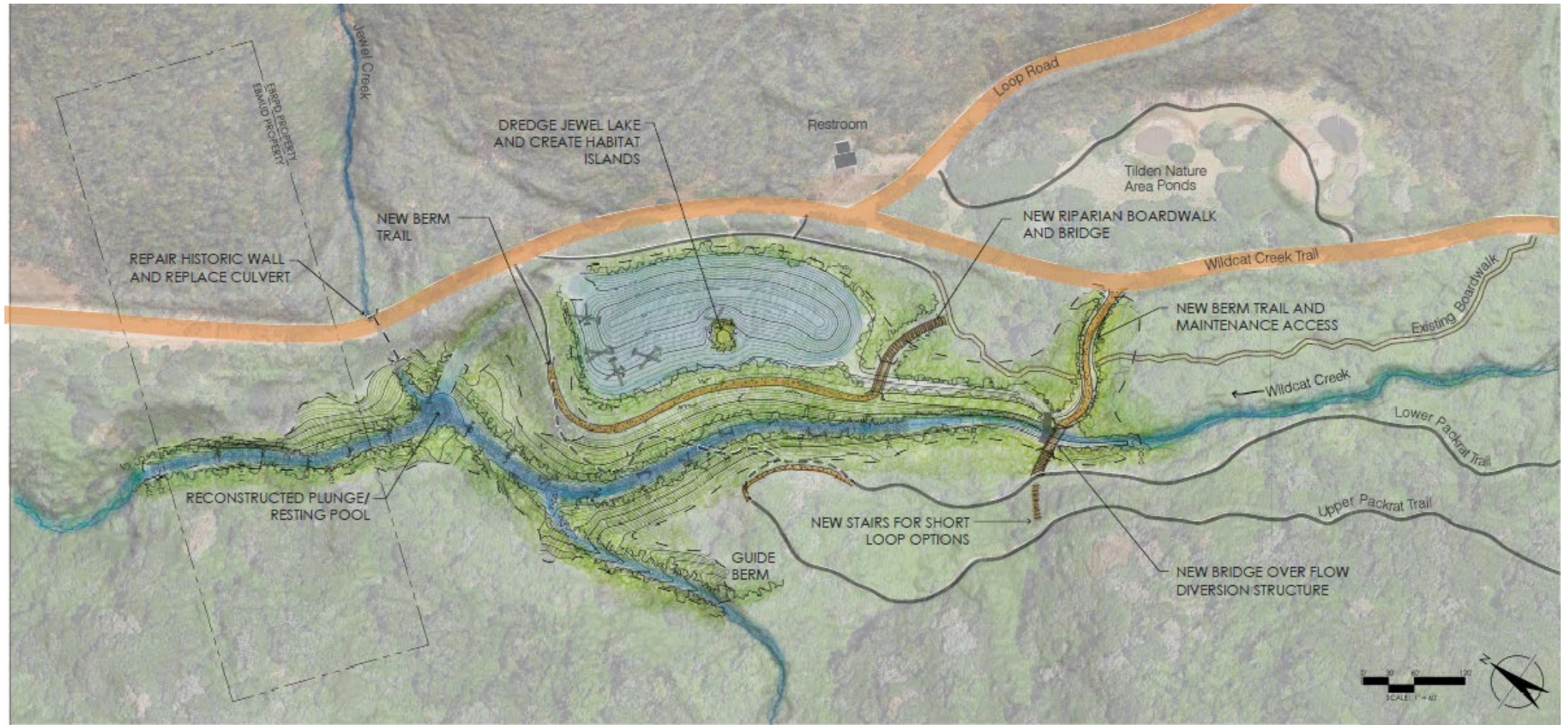
- Restore fish passage in Wildcat Creek by removing Jewel Dam & restoring the riparian corridor.
- Remove small dam at upstream sedimentation basin.
- Remove portion of Lower Packrat Trail.
- Add a new boardwalk & Trail with creek crossings.

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





CONCEPT 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
- PROPOSED FOOT TRAILS
- PROPOSED BRIDGES
- GRADING LIMIT
- EXISTING FIRE ROAD
- EXISTING BOARDWALK
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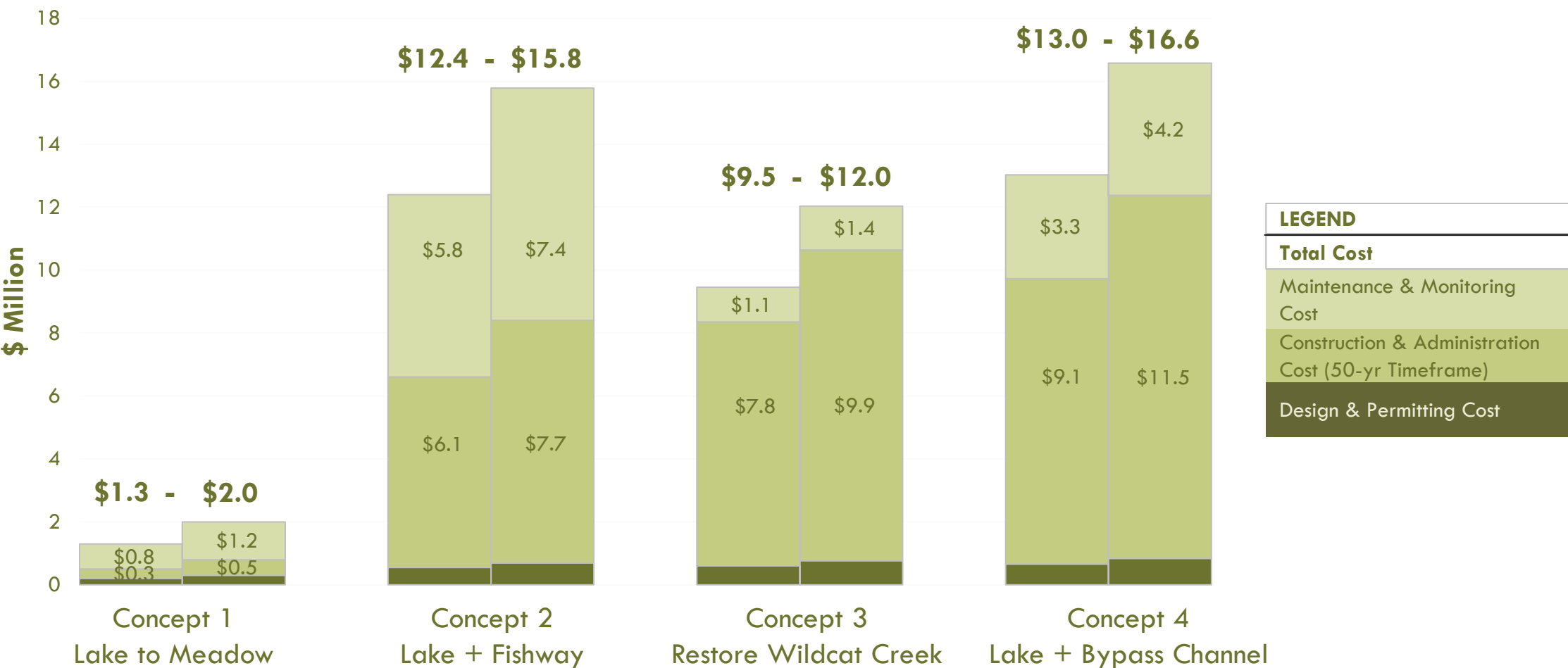


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PROJECT GOALS DECISION MATRIX	CONCEPT 1: LAKE TRANSITIONS TO MEADOW	CONCEPT 2: MAINTAIN OPEN WATER + FISHWAY	CONCEPT 3: RESTORE WILDCAT CREEK	CONCEPT 4: LAKE + BYPASS CHANNEL
Enhance Native Species Habitat	+	++	++	++++
Provide Salmonid Passage	-	+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

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PROJECT LIFECYCLE COSTS



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Stakeholder & Public Outreach

(Preliminary List)

AGENCY/TRIBAL STAKEHOLDERS

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

PUBLIC WORKSHOP INVITEES

- Friends of Five Creeks
- Wildcat-San Pablo Creeks Watershed Council
- Watershed Project
- Trout Unlimited
- Cal Trout
- Sierra Club
- Audobon Society
- Friends of the Earth

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