

JEWEL LAKE STUDY TILDEN NATURE AREA

PUBLIC WORKSHOP #2 SUMMARY PACKET April 21, 2022 via ZOOM

Approximately 70 members of the public joined a public workshop held online from 6:30 to 8pm on April 21, 2022.

The workshop was divided into a presentation and question and answer session. The presentation covered the watershed history, two final conceptual plans, alternatives comparison, and conceptual-level project costs.

This summary packet includes:

- Workshop notice
- Agenda
- Sign-in sheet
- Presentation
- Summary of questions

Staff will take the input from the community into consideration as the Study is developed. Staff anticipates having the Study recommendations ready to present to the Board of Directors in Summer 2022.

Below are ways to receive information and participate in the Jewel Lake Study:

- Fill out comment form on the website
- Request to be placed on the Project e-mail mailing list
- Visit the Project website at the following link: <http://www.ebparks.org/JewelLakeStudy>
- For more information, please contact Scott Stoller, PE at [sstoller@ebparks.org](mailto:ssoller@ebparks.org) or 510-544-2316

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Ward 5

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General Manager

AGENDA

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

Jewel Lake Study
Public Workshop #2
May 3, 2022

Meeting Advertising and Outreach

The public meeting was advertised through the following methods:

1. Workshop Flyer – posted online and at Tilden Environmental Education Center
2. Park District Website – promoted on the website homepage for the week leading up to the meeting
3. Media Release
4. Tabling at the EEC for several days (April 10th, April 16, more).
5. Physical flyers at Tilden Nature Area and Wildcat Canyon
6. E-Newsletter (60K distribution),
7. Social Media channels (Facebook, Instagram, Twitter, Nextdoor)
8. Email lists: Attendees of public workshop #1, those who sent in comment letters, and community organizations including The Watershed Project, California Urban Streams Partnership, Friends of Five Creeks, SF Estuary Partnership, Friends of the Earth, Sierra Club, Urban Tilth, Cal Trout, Audubon Society, Wildcat-San Pablo Watershed Council

TWO POTENTIAL FUTURES for JEWEL LAKE

**We Want to Hear
From You**



RESTORE WILDCAT CREEK REMOVE DAM & LAKE

- Remove the dam and spillway
- Restore Wildcat Creek as a natural ecosystem
- Create optimal fish habitat and fish passage
- Minimal to no maintenance required
- Provide new bridges and creek overlook opportunities
- Retain and expand the riparian boardwalk
- Include interpretive opportunities and elements

CREATE BYPASS CHANNEL MODIFY LAKE

- Preserve open water lake habitat
- Construct diversion structure to manage sediment and flow
- Modify Jewel Lake to create a bypass channel
- Continual operation and maintenance of diversion structure required for fish passage
- Retain and expand the riparian boardwalk
- Include interpretive opportunities and elements



SCAN ME

Visit Project Website:

- ⇒ Renderings of the Options
- ⇒ Take the Survey
- ⇒ Register for upcoming workshop

PUBLIC WORKSHOP #2
April 21, 2022
6:30 - 8:00 PM via ZOOM

Public Workshop #2 will review the site history, present two developed conceptual plans aimed at meeting the project goals, and other work to-date for the Jewel Lake Study. There will be an organized forum for interested public to ask questions and provide feedback on the options being considered.

Project Contact:
Scott Stoller, PE
(510) 544-2316
SStoller@ebparks.org

Jewel Lake Public Workshop #2

Attendee Registration

April 21, 2022 @ 6:30pm

	<u>First Name</u>	<u>Last Name</u>
1	Roger	Wachtler
2	Sarah	Puckett
3	Brianna	Contaxis-Tucker
4	Claire	Jurgensen
5	Kyle	Thompson
6	Colleen	Haraden
7	peter	mangarella
8	barbara	scheifler
9	Cathy	Bleier
10	Jane	Whitley
11	Sarah	Harris
12	Peter	Guerrero
13	kay	rodriques
14	Brian	Howlel
15	David	Edelson
16	Glenn	Phillips
17	Lori	Gray
18	Denny	Parker
19	Laura	Cremin
20	Ellen	Barth
21	Neil	Tsutsui
22	May	Kandarian
23	Joseph	Toman
24	Karen	Storey
25	Dawn	Stevenson
26	Peter	Rauch
27	Janet	Stromberg
28	Robert	Brandriff
29	George	Millikan
30	mark	wegner
31	Doug	Streblow
32	Julie	Mickens
33	Angelica	Hamann
34	Jakob	Woodall
35	Ed	Oswalt
36	Jim	Rosenau
37	Kristina	Cervantes-Yoshida
38	Mari	Oda
39	Elizabeth	Jordan
40	Ilana	Peterson
41	Pam	Valois

Jewel Lake Public Workshop #2

Attendee Registration

April 21, 2022 @ 6:30pm

42 Mary	Newson
43 Alison	Moreno
44 Jerry	Kent
45 Linda	Blachman
46 Sara	Brown
47 Larry	Hayden
48 Dave	Zuckermann
49 Solwazi	Allah
50 Jeanne	Hammond
51 Edward	Culver
52 Elizabeth	Dodge
53 Morris	older
54 Kelsey	Scheckel
55 Sarah	Goorjian
56 Patricia	Donaldson
57 Joshua	Bright
58 Laurel	Collins
59 Laura	Cunningham
60 Charles	Honig
61 DAVID	HOLTZMAN
62 mark	hertz
63 Julie	Navarro
64 Mark	Bransom
65 karen	johnson
66 Alex	Benedict
67 Jane	Backus
68 Rainbow	Rubin
69 Max	Lambert
70 margaret	Heffernan
71 Mike	Hall

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

Public Workshop #2 – April 21, 2022



AGENDA

- Review Study Purpose & Timeline
- Review input from public outreach & previous Board Executive Committee Mtg
- Update on Project Analysis
- Next Steps
- Discussion



Regional Parks:

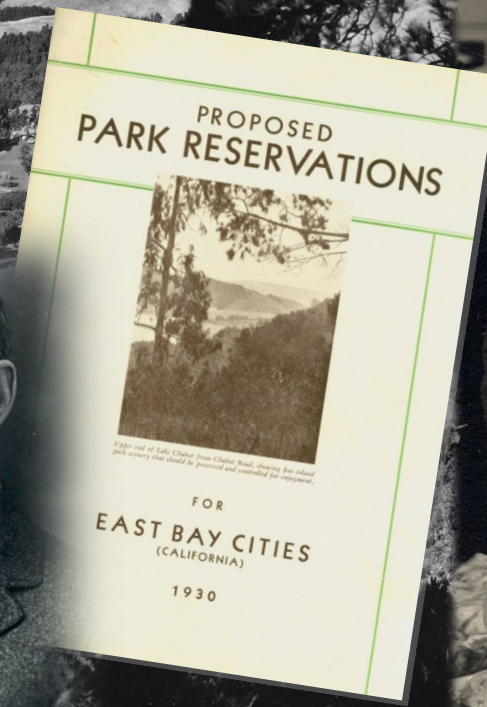
A bold proposal at the time



George Gibbs Jr.,
Olmsted Brothers



Frederick Law Olmsted Jr.,
Olmsted Brothers



Ansel F. Hall,
National Park Service

FEASIBILITY STUDY PURPOSE

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

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

- Agency Stakeholder Outreach (RWQCB, Tribes)
- Board Exec Recommendation (Concepts 3, 4) → **Workshop #2**

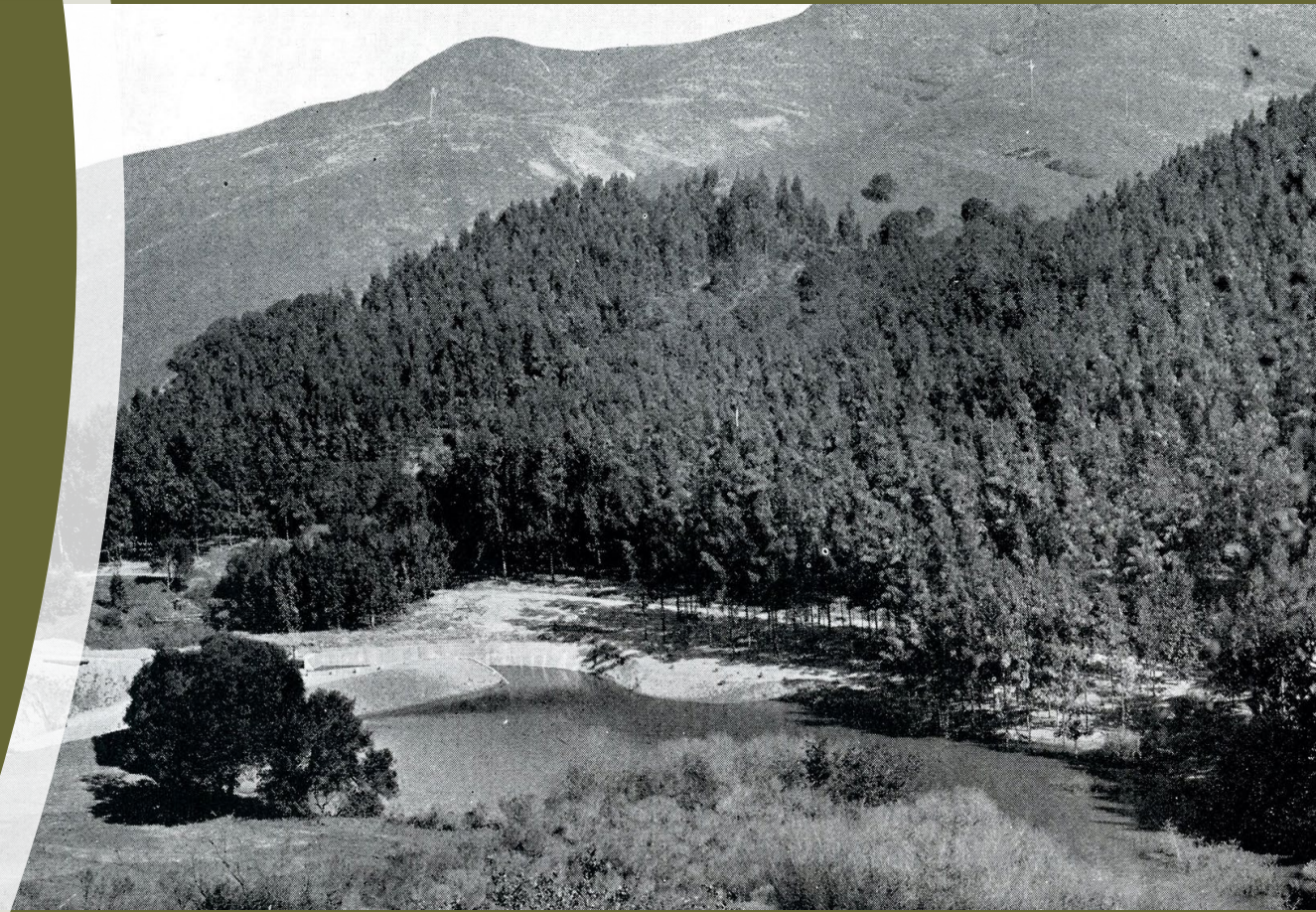
Spring/Summer
2022

Board Consideration

- Board Exec Recommendation (Preferred Concept) → Workshop #3
- Board Review and Consideration
- Proceed with developing Preferred Concept

JEWEL LAKE HISTORY

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




Watershed Management

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



Hydrology: Above Ground vs Below Ground

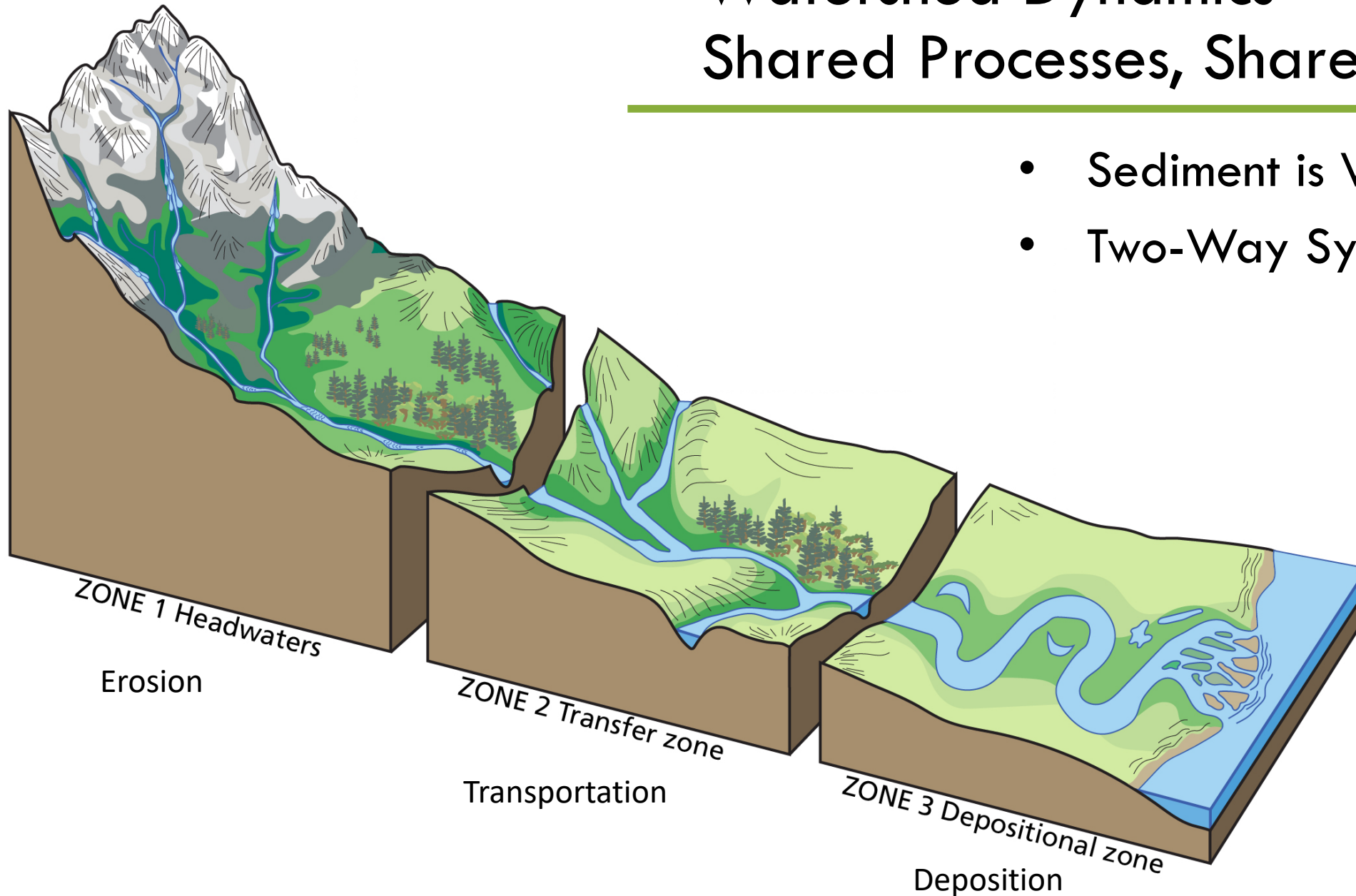
East Bay 
Regional Park District
Healthy Parks Healthy People

- 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



Putting Sustainable Processes in Place

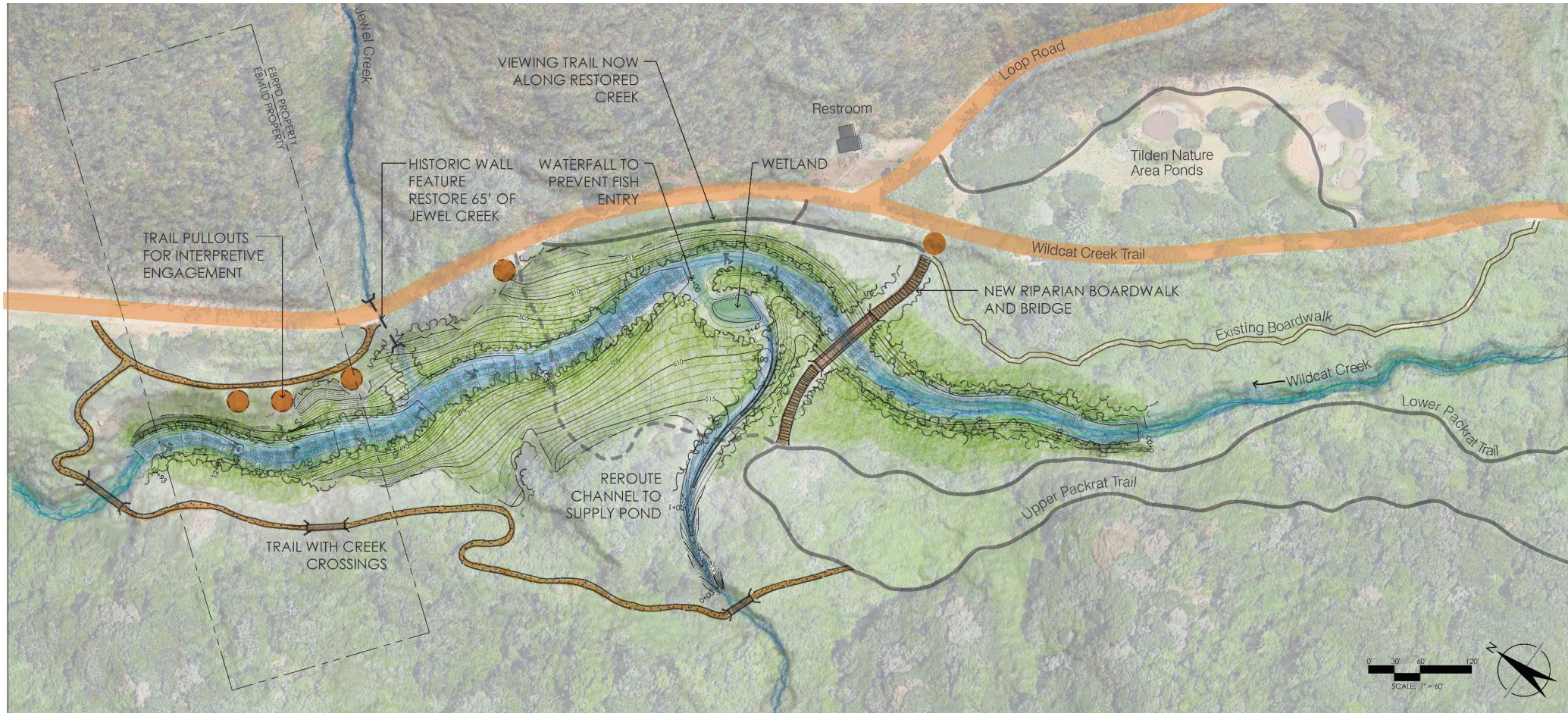
- Ecological
- Recreational
- Interpretive
- Accessible
- Inclusive
- Personal Connection



EXISTING CONDITIONS



CONCEPT 3 – RESTORE WILDCAT CREEK, REMOVE DAM & LAKE



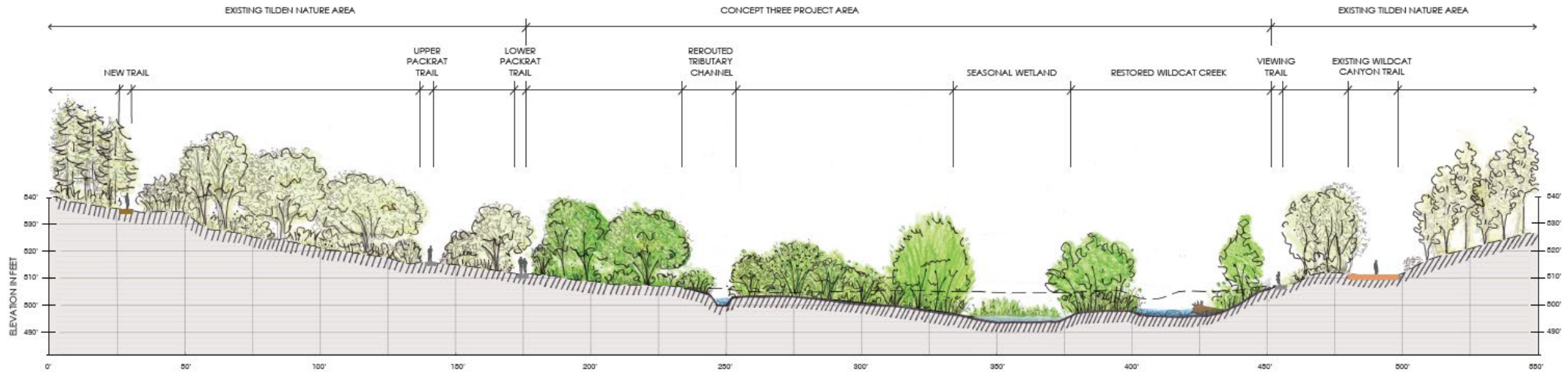
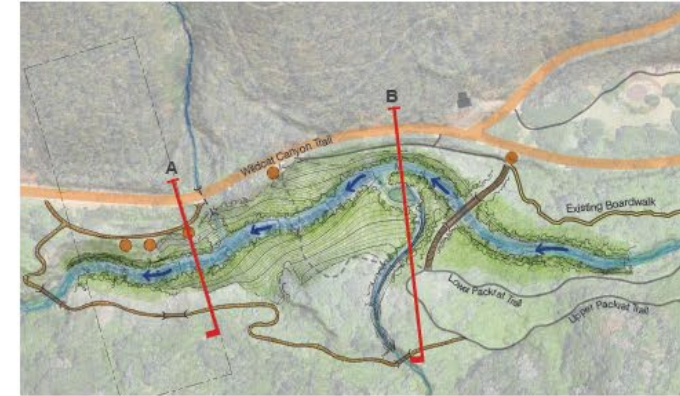
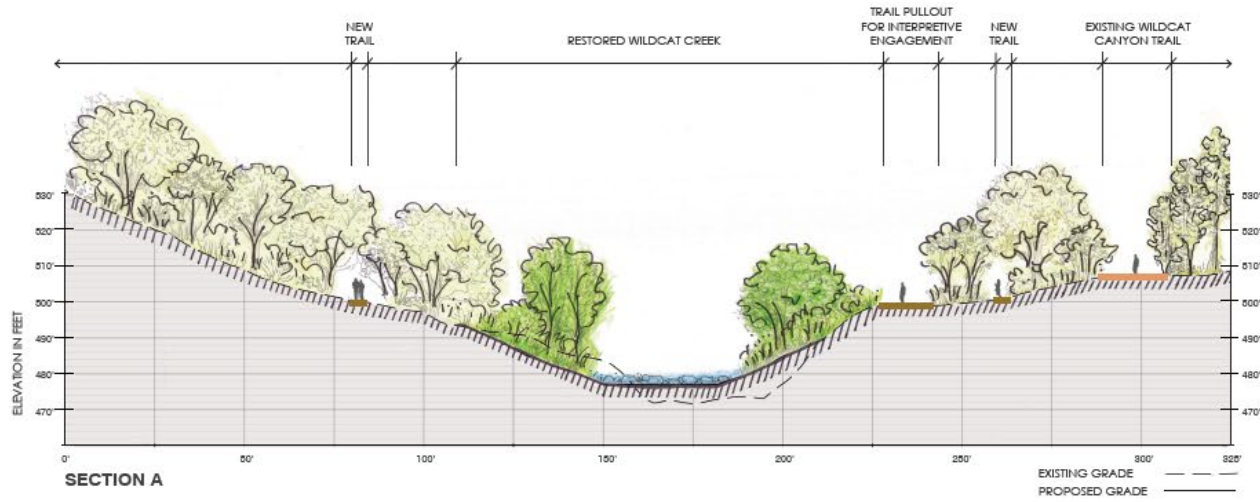
LEGEND	
Total Cost	
Maintenance & Monitoring Cost (50-yr Timeframe)	\$1.4
Construction & Administration Cost	\$7.8
Design & Permitting Cost	\$1.1

Emphasizes restoring natural habitats for critical species recovery and removing dams that do not support essential societal needs.

Investment reflects an interest to minimize long-term maintenance liabilities.

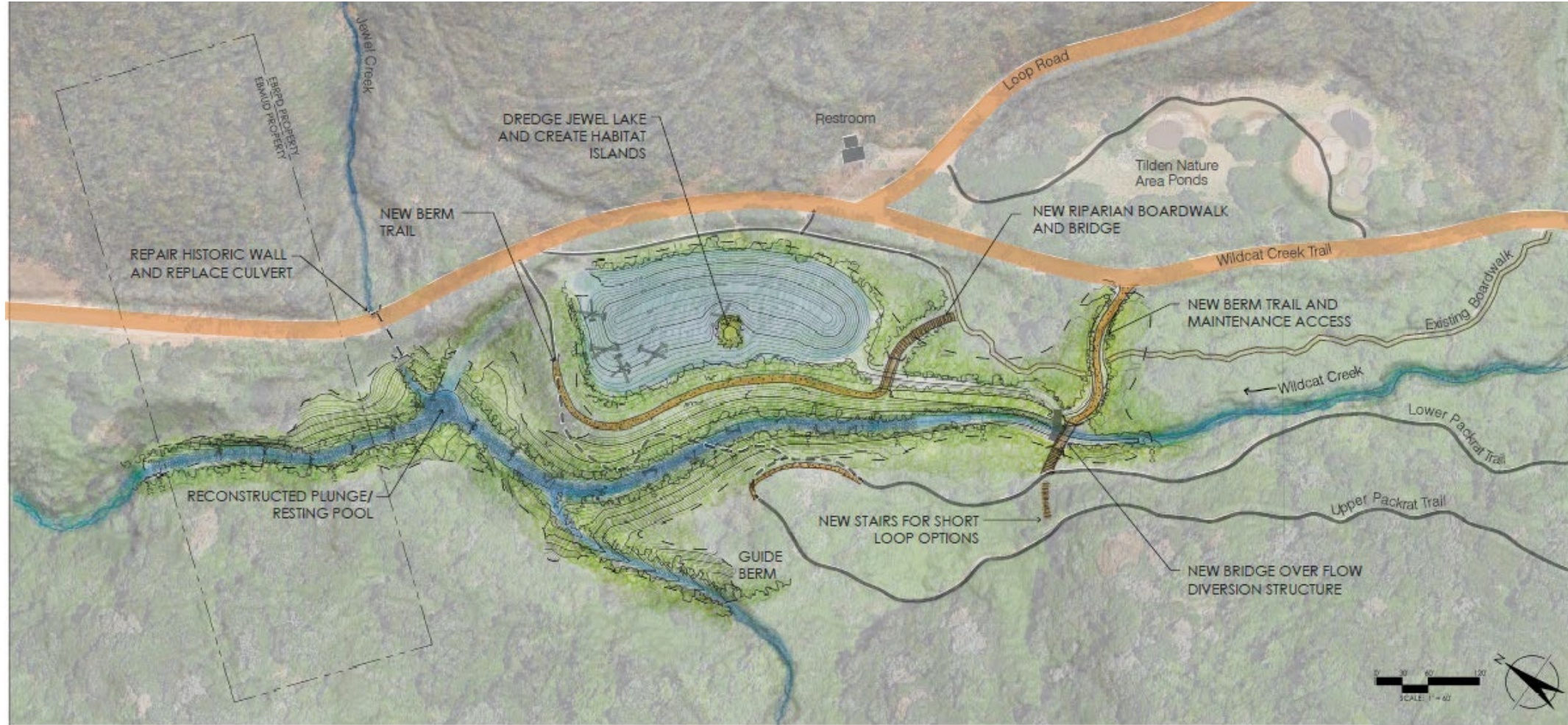
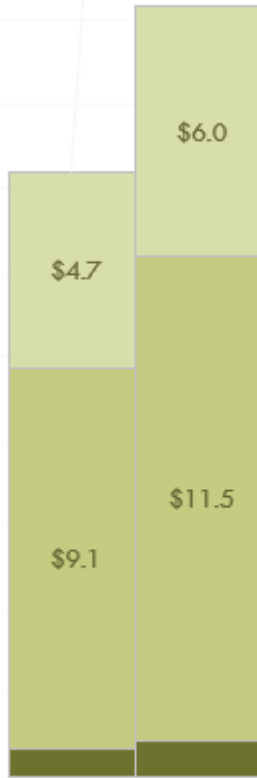


CONCEPT 3 – RESTORE WILDCAT CREEK, REMOVE DAM & LAKE



CONCEPT 4 – CREATE BYPASS CHANNEL, MODIFY LAKE

\$14.4 - \$18.3



Concept 4
Lake + Bypass Channel

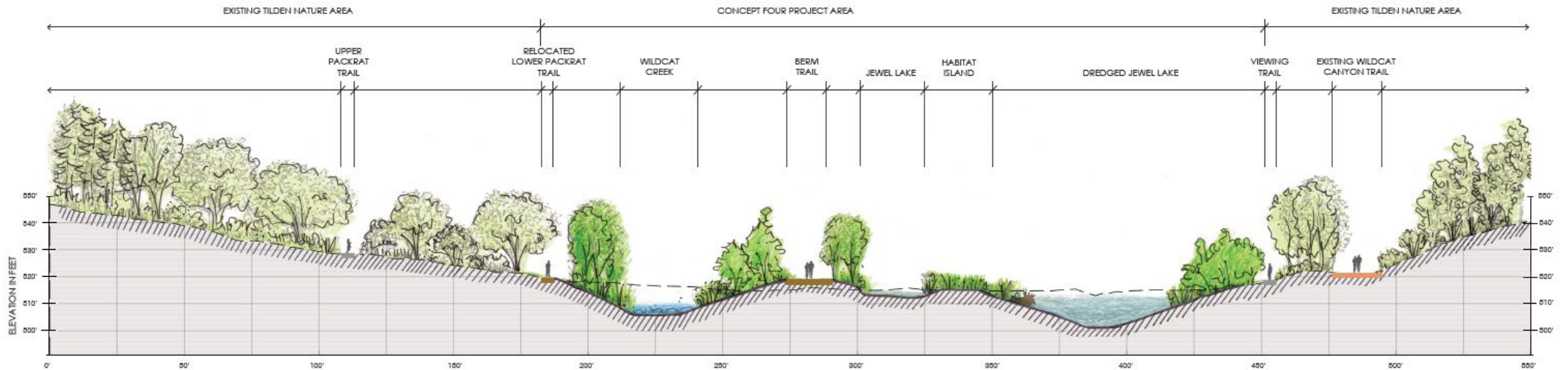
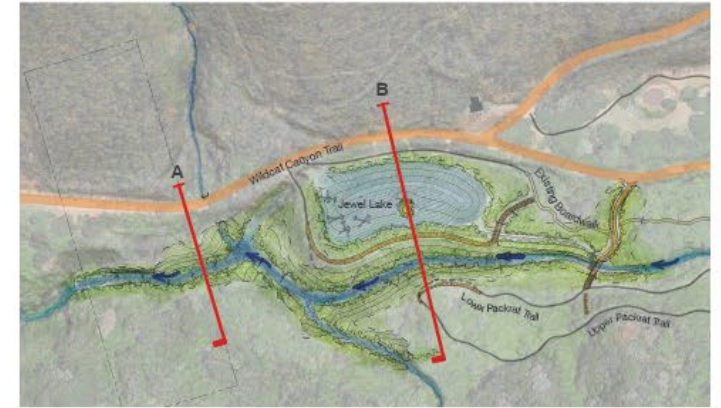
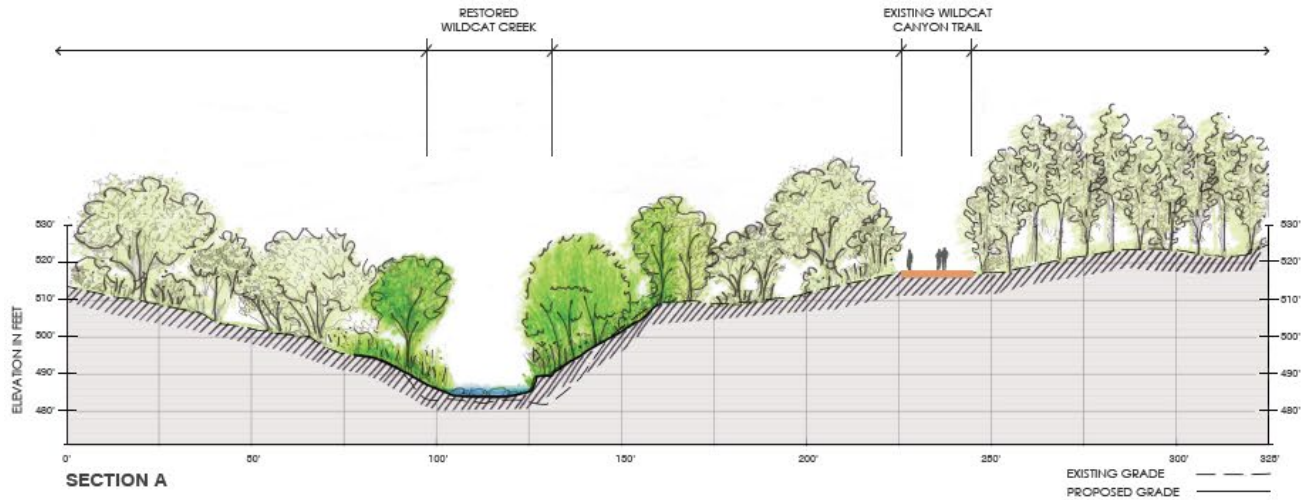
LEGEND	
Total Cost	
Maintenance & Monitoring Cost (50-yr Timeframe)	\$4.7
Construction & Administration Cost	\$9.1
Design & Permitting Cost	\$6.0

Emphasizes both native fish passage requirements and the recreational and aesthetic value of the lake.

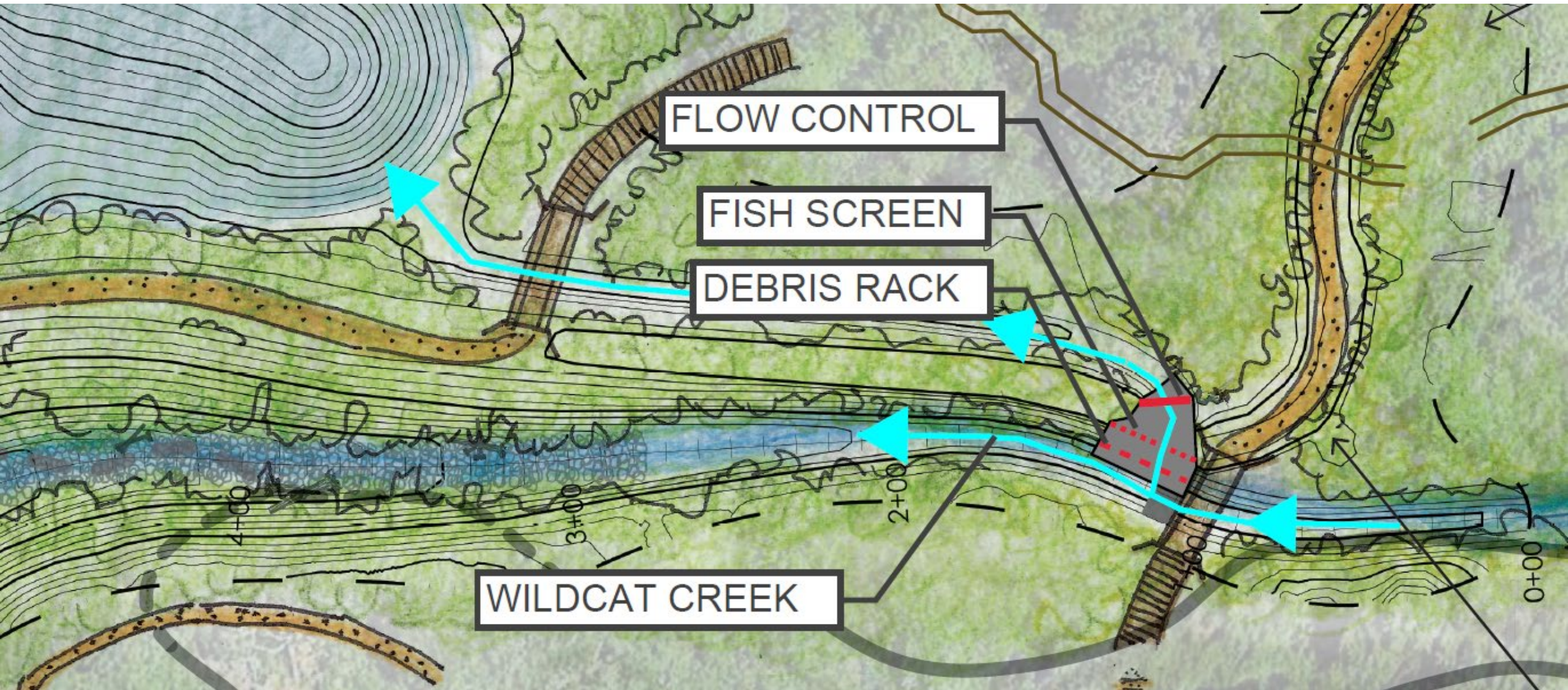
Investing in perpetual flow-split operations and maintenance indicates our commitment to an open water visitor experience.

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

CONCEPT 4 – CREATE BYPASS CHANNEL, MODIFY LAKE



CONCEPT 4 – CREATE BYPASS CHANNEL, MODIFY LAKE



DIVERSION STRUCTURE



DEBRIS RACK
(clearing sediment)



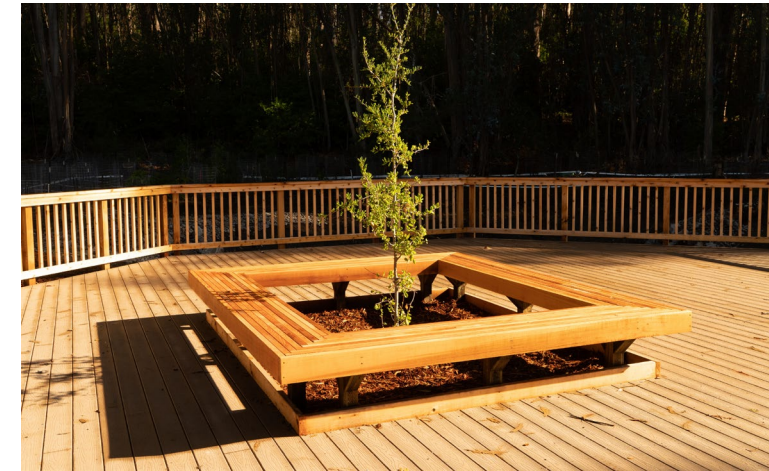
FISH SCREEN
(screen fouling)



FLOW CONTROL
(water level monitoring)

POTENTIAL DESTINATIONS FOR WALKS

Project team to work with Tilden Nature Area staff for place-making



REVIEW PUBLIC MEETING

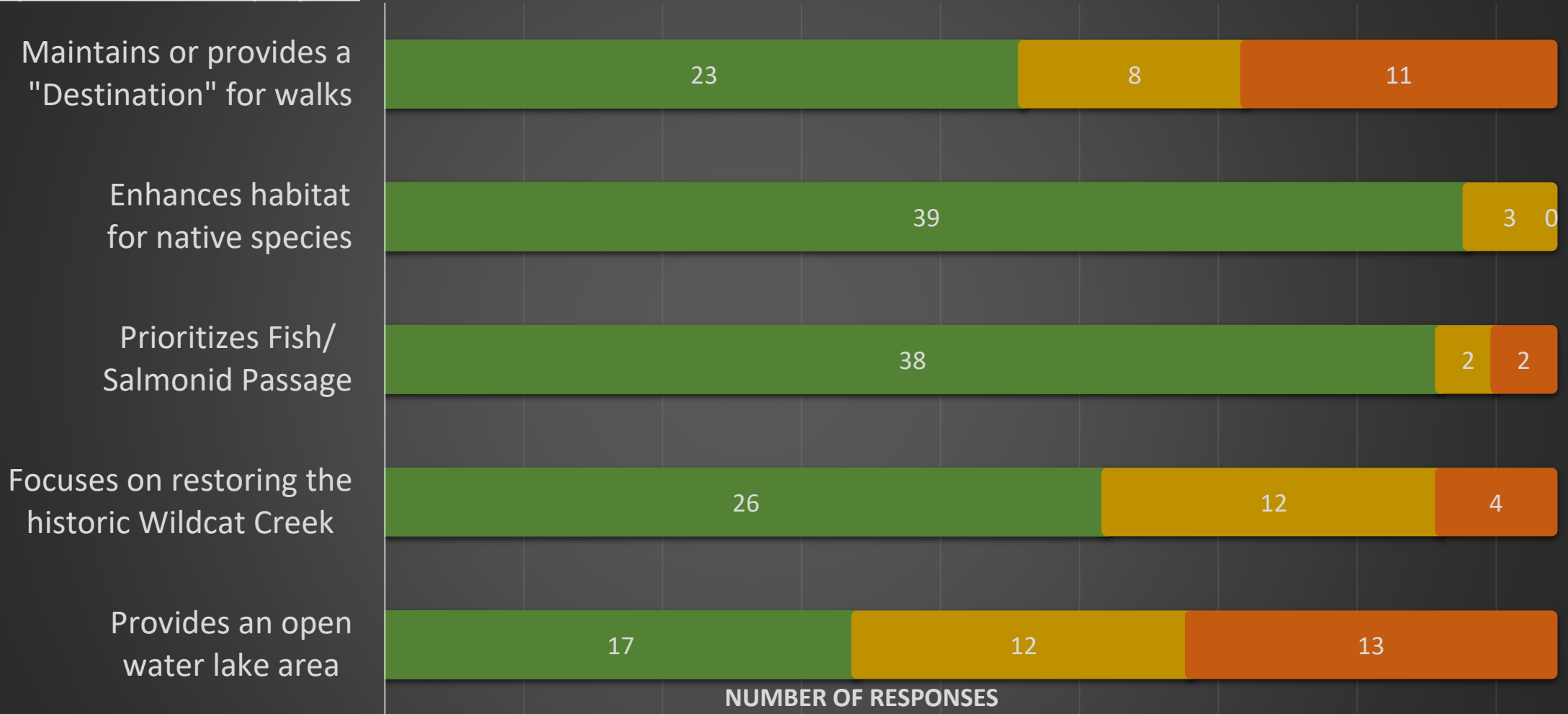
October 14, 2021

- Support for Concepts 3 and 4
- Sense of urgency for action
- 42 respondents to survey



Public Survey Highlights

It is important that the project:



Agree Undecided Disagree

PROJECT BIOLOGISTS

- Rainbow trout are priority at this site
- Lake is a net detriment for rainbow trout
- Fish screen required
- Similar wildlife habitat available nearby
- Birding along boardwalk is undisturbed



Concept Comparison

	RESTORE WILDCAT CREEK REMOVE DAM & LAKE	CREATE BYPASS CHANNEL MODIFY LAKE
RAINBOW TROUT HABITAT	Reliable fish habitat and fish passage	Intermittent and dependent on diversion operation
OPEN WATER	No open water prevents predation of trout	Open water provides aesthetic amenity/Preserve open water habitat
POTENTIAL FOR SUCCESS	High – simpler project with numerous restoration examples	Moderate – Performance relies on Maintenance of proposed diversion Infrastructure Design & Maintenance is complex Water quality uncertainty
OPERATIONS & MAINTENANCE	Self-Sustaining Natural Processes Restored	Complex additional infrastructure Daily Operations & Maintenance Required
CLIMATE CHANGE RESILIENCY	High – Nature self-regulates Increased baseflow	Moderate – Infrastructure less reliable Less flow in channel

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Summer
2021

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Summer/
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Fall/Winter
2021, 22

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Spring/Summer
2022

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Public Workshop #2 – April 21, 2022



Project Website:

www.ebparks.org/JewelLakeStudy

Survey

will be open through May 6, 2022

<https://www.surveymonkey.com/r/Jewel2>

Or scan the QR code:



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

Workshop 2 - Question/Answer Session: April 21, 2022

Question 1: (Karen Johnson) The Jewel lake boardwalk is great for baby strollers and wheelchairs and I have made many very happy memories there.

Answer 1: None.

Question 2: (Peter Rauch) How does fish passage fit into management of Lake Anza?

Answer 2: (Scott Stoller, *Civil Engineer, Restoration Projects Unit*) The work at Jewel Lake really does not impact or affect Lake Anza. Lake Anza is within the watershed and has its own function and has not been impacted by sedimentation in the same way the Jewel Lake has.

Question 3: (Peter Rauch) How does the reduction of sediment production fit into the plan?

Answer 3: (Scott Stoller) The sedimentation basin by the environmental education center would no longer be needed because both options being considered route the flow and sediment downstream providing "sediment continuity" to the ecosystem. Wildcat Creek watershed is largely undeveloped, meaning that the natural watershed process take care of themselves, however the soils within the watershed are highly erosive naturally. One of the best things about this project is that humans are getting out of the way and will not be managing the sediment within the watershed. But there are some point sources of runoff from Wildcat Canyon Road and some of the development in the hills. The park district monitors those and engages in stabilization efforts.

Question 4: (Peter Rauch) How will the upstream sediment accumulation be stabilized if the dam is removed as shown in Concept 3.

Answer 4: (Scott Stoller) Both Concept 3 and 4 – When Jewel Lake was constructed the lake extended up to the Environmental Education Center. So there has been a lot of sedimentation in the last 100 years. Within the project limits that sediment would be excavated and off hauled to get to the grades needed to reconstruct the channel in that area. Any of the sediment that deposited upstream gets stabilized in place. There is a series of step pools that would be constructed out of rock that will be needed to achieve the proposed channel grade that natural stabilizes the upstream sediment in place.

Question 5: (Laurel Collins) Can more off-channel habitat be created along the constructed channel in Concept 3 utilizing the floodplain including connections to the nature ponds area upstream to the east

that is presently cut off by Wildcat Canyon Trail Road to create resting sites and habitat such as appropriately deep ponds that simulate cutoff channels for red-legged frogs.

Answer 5: (Scott Stoller) That is a great question. One of the things that we will be exploring as the project moves into design is some of these options. Given the steepness of the channel through this area, approximately 3% or so, it will be largely a step-pool system that does not naturally have a lot of floodplain zones. For most of the project reach we are in that condition, but we do see some opportunities perhaps to add some wetland features and guide some of the tributaries to create some varied habitats.

Question 6: (Peter Rauch) Sense of place would then be outfitted with what appears to be more elevated/bridge trail segments creates noise generating environments which seems counter-productive for those who seek the quiet and who seek a view wildlife undisturbed by thundering hiker viewers.

Answer 6: None.

Question 7: (Dawn Stevenson) Was the survey what assisted the District narrowing the four options down to two? Or was there other input taken into account for that?

Answer 7: (Scott Stoller) Yes, it was public comment but we also reached out to local tribes and other stakeholders including watershed groups in the area and cities and regulators. Took this input as well as our own analysis and there was a strong consensus that Concepts 3 and 4 both largely met the project goals so that is how we narrowed the options to these two.

Question 8: (Laurel Collins) How will you prevent stranding of fish and other aquatic organisms in the constructed channel under Concept 4 when water is diverted into Jewel Lake. Is there a potential that the main channel dry completely when water is diverted into the pond.

Answer 8: (Scott Stoller) The operations for Concept 4, the diversion structure, will rely on adaptive management. The goal is to divert the minimum amount of water in the lake to maintain the water level and water quality. Those are the two goals and by the springtime to have the lake full and that during priority times of the year and priority flows, including fish migration windows, to keep water in the creek. We see diverting as small amount as possible through the lake. It will take an understanding year to year what those management needs will be.

Question 9: (David Edelson) Can the project provide reliable fish habitat in the future given climate change and increasing droughts. How is that being taken into account?

Answer 9: (Scott Stoller) For both Concepts 3 and 4 have very similar channel geometries, lengths, and slopes. What we are trying to do is to create a naturalized creek channel. We recognize that at times, including last year, Wildcat Creek dried up in many places with only a few resting pools persisting throughout the year. There are going to be times, and there have been times in the past when droughts

dry up the flow within Wildcat Creek in Tilden Park. The goal of this project is to make the newly constructed channel “invisible” as a project and renaturalizes it to be in character with the channel both up and downstream of the project site.

(Joe Sullivan, *Fisheries Program Manager*) It is very important to realize that the trout in Wildcat Creek evolved live in drought conditions and that is the essence of what Steelhead are. When there is no water in the creek they go out to the ocean and when there are favorable conditions they can come up into the creek and reproduce. The trout that we see in East Bay streams are exactly what they are adapted to be able to do. By not providing that habitat to be available to them through dams and diversions and blocking them from coming back from the ocean, we are not allowing them to be part of the natural processes that they are very well evolved and adapted to handle.

Question 10: (David Edelson) How is the existence of Lake Anza above Jewel Lake affect the watershed restoration possibilities and is the District considering removing lake Anza.

Response 10: (Joe Sullivan) We are not considering removing lake Anza. We know it provides plenty of recreation opportunities for fishing, hiking, and swimming. Upstream of Lake Anza there is only about 1/4 mile of favorable habitat for rainbow trout until you get into the botanical garden. Above that is the golf course that does not have any favorable habitat. Removing Lake Anza is not as beneficial as a project such as we are looking at tonight at Jewel Lake. There is much more stream habitat provided by allowing fish to migrate up through the Jewel Lake reach.

(Scott Stoller) I would also add that there is approximately 2 miles of high-quality habitat between Jewel Lake and Lake Anza. That would be accessible no matter which concept is chosen.

Question 11: (Rainbow Reuben): Sending in enthusiastic vote for Option 3 Restoring natural processes, supporting fish habitat, and choosing a lower cost project with a higher probability of success. Option 3 is the obvious choice to prevent a high cost that proliferates non-native species and requires maintenance in perpetuity. Your data shows the community’s enthusiastic support for rainbow trout habitat and moderate likelihood of success for the lake. How do board members that support the lake justify their rationale? Please choose Option 3.

Answer 11: none.

Question 12: (David Holtzman) I have lived for 12 years in the East Bay and worked as an environmental consultant for CalEPA. Most importantly I love the East Bay hills and aim to get back up there with friends soon. Between Concepts 3 and 4 it looks like Concept 3 does a better job of serving the Park Districts objectives. Based on the diagrams I would say that Option 3 boardwalks and trails looks better and serve visitors with disabilities. The pullouts and views would provide great opportunities for education and give park goers the opportunity to see how the creek restoration proceeds. Finally, I like fish, their stream travel always amazes me. Option 3 includes less maintenance costs than Option 4 providing a better chance that fish would keep coming. My late friend Palma worked for US EPA and helped preserve vital waterways in Region 9. I offer these remarks, in part, as tribute to her.

Answer 12: None.

Question 13: (Elizabeth Dodge) What is the purpose of the waterfall to prevent fish entry in Concept 3?

Answer 13: (Scott Stoller) It is similar to why we would have a fish screen for Concept 4 and that is prevent fish stranding within the wetland habitat. But there are many ways we can accomplish that with how the wetland feature is shown and that will get developed further during the design process. The design for the waterfall would likely be adjusted further during design development.

Question 14: (Karen Johnson) We like the like, so prefer Option 4. Presentation seems skewed to Option 3.

Answer 14: None

Question 15: (Charles Honig) How does the fate of Lake Anza relate to the options?

Answer 15: (Mike Moran, *Regional Interpretive and Recreation Services Manager*) We addressed this earlier Charles, not sure if you missed it. But you can send in the question to the website or email us so we can reply to. We want to make sure we get that answered to your satisfaction.

Question 16: (Jakob Woodall) With the current drought what is the feasibility that the lake and the lower reaches of the creek can be fed?

Answer 16: (Scott Stoller) The volume of the lake is relatively small compared to the volume that passes through Wildcat Creek in any given storm. In terms of ensuring the lake does get water in Concept 4, we are relatively confident that the majority of years, in the springtime, the lake would be full. There is always evaporation during the dry season so the lake level in extreme drought would likely drop. What we are showing under Concept 4 is preventing sedimentation of lake. In that situation the lake depth stays relatively constant for many decades so there would be some buffer in terms of if there were a few feet of evaporation during the dry season the water level would drop but the lake itself would not go dry.

Question 17: (Pam Velois) Both concepts keep the current boardwalk, correct? What happened to the pools that were built recently?

Answer 17: (Scott Stoller) Yes, both concepts to keep the boardwalk and extend them modestly. The educational ponds that were constructed a few years ago are still there, and operational, and look great. I was just there the other day and they look great. When I was there two ponds had water in them and the third one was more of a wetland at this point. They are designed to dry out to provide habitat for red-legged frog and prevent colonization by bullfrog. I also so some newts in there so the ponds are very active and successful.

(Mike Moran) The ponds do have newts and tree frog larvae in them presently.

Question 18: (Jerry Kent) The Tilden LUP was done in 1988 and provides for dredging of Jewel Lake. Do you plan to do a project CEQA process to cover proposed alternatives.

Answer 18: (Scott Stoller) The project as it moves forward will need to undergo CEQA evaluation so we would need to be in accordance with the land use plan and provide analysis and evaluations for any plans that we develop for this project.

(Mike Moran) We have been referring to the project alternatives as “concepts”. We have not gone into the alternatives phase, which is a legal differentiation.

Question 19: (Laurel Collins) There are numerous large earth flows on the hillside to the west of the proposed channel these landslides tend to have a high rate of creep and sometimes move as large surges. How would you be able to ensure the stability of the diversion structure on the channel to continue to keep it operable in the long term?

Answer 19: (Scott Stoller) That is one of the challenges of the project. Our team is well aware of the landslides. We have a geotechnical engineer on the project team. This is one of the things that they are looking at during this preliminary stage – the stability of some of these landslides and stabilize or remedy the risks to the project.

Question 20: (Julie Mickens) Do the steelhead or rainbow trout have a seasonal run like salmon do? That could be a real attraction and cool ecological phenomenon.

Answer 20: (Joe Sullivan) Yes. Steelhead and salmon have a seasonal run. Salmon run upstream to spawn in suitable habitat in the late summer, early fall and into the winter. Steelhead follow that time period. In the news we had a very exciting run of salmon this winter in almost all of our east bay streams including Wildcat Creek. This gives us even more confidence that these species are well adapted to these very fluctuating climate variations. When the conditions are suitable, they will come. We just need to give them access. We are confident that we will see these species in the streams again as long as we allow them to get to suitable spawning habitat.

Question 21: (Mike Hall) Maintenance daily is what the Tilden staff excels at. Open water benefits a range of habitat to wildlife. It is way more than a sentimental destination. Lake Anza does not meet the need in a similar way. Kudos to all who are thinking their way to solutions. From a Spawners supporter.

Answer 21: None.

Question 22: (Jakob Woodall) Jewel Lake is currently a hotbed for bullfrog activity. Both as a sink and a source. By keeping the lake around, the potential to remove this threat to native biodiversity becomes almost impossible as any removal efforts in the nearby pond or creek will be rendered useless by dispersal movements. This is important considering that Tilden Nature Area has had California Red-

Legged Frog in the recent past. How is this being evaluated in weighing the pros and cons and being planned for?

Answer 22: (Tammy Lim, wildlife biologist) In short, Option 3 which reduces the open water habitat and keeps the water flowing would improve conditions for the California Red-Legged Frog. This situation would reduce habitat quality for breeding bull frogs. Bullfrogs generally need warm open water and Option 3 would remove a lot of that habitat. It would be beneficial in the sense that it would remove habitat for invasive species such as bullfrogs and red ear slider turtles.

Question 23: (Alex Benedict) Are rainbow trout currently successfully using the available Wildcat Creek habitat. If not how would the habitat be available to them under these concepts.

Answer 23: (Joe Sullivan) We have resident rainbow trout in Wildcat Creek. Those are the same species as steelhead that can migrate to the ocean and then come back. There are two different life histories. There are fish that live in the stream and when conditions are not good in the stream they go to the ocean where they get bigger. There are a lot more resources in the ocean they eat more and those are steelhead. There are currently rainbow trout in Wildcat Creek that are native. They utilize the habitat even when the stream goes dry. If you have explored the creek there are some deep pools that they rely on. They will sit in these pools in the summer even when the creek is not flowing. They will hang out in these nice, shaded pools until water starts flowing again and they will start to disperse again throughout the stream.

Question 24: (Pam Velois) How would the dimension of the lake for Concept 4 compare to its existing size now?

Answer 24: (Scott Stoller) When the lake is full as it is currently, the lake for Concept 4 would be approximately the same size though the shape would change somewhat to be able to fit the lake and the creek in the same corridor. Even looking back to when the lake was previously dredged in 1991 and 1967, the surface area is very similar to those times as well.

Question 25: (Laurel Collins) Are the landslides in the cost analysis of Option 3?

Answer 25: (Scott Stoller) In terms of stabilizing that western bank, I don't think any assumptions were made for the cost estimate for stabilizing that bank. For Concept 3 and 4 there would likely be similar work to be done because the channel would cut through similar material. I don't think those costs were incorporated.

Question 26: (Lori Gray) I am wondering who within the park staff I can talk with about accessibility of both of these options? Is there a written description of the diagrams, since I am blind and would not be able to access the diagrams?

Answer 26: (Mike Moran) Let's connect with Sara Fetterly the Supervising Naturalist at Tilden Nature Area and we will follow up.

Question 27: (Mark Wegner) Will the cost of the concepts play an important part in making a decision between the two?

Answer 27: (Scott Stoller) The cost may weigh as a consideration but will likely not be a big factor in the decision itself. A lot of the restoration project conducted by the park district seek to find grant resources to help with the costs. We have been very successful doing that. One of the things that we do when we put a project together is to look at project elements that would be more favorable for granting agencies. Fish passage is a very important restoration action within California. Projects that incorporate these fish passage elements and put them front and center are usually very competitive for granting agencies. We have projects that range from a few hundred thousand dollars to tens of millions of dollars. This project, while it is large and considerable, it is by far not the largest project that we have engaged in and successfully raised funds for.

Question 28: (Pam Velois) How far from the ocean is Jewel Lake?

Answer 28: (Scott Stoller) Jewel Lake is approximately 9 miles from the Bay. There is a Bay Nature article published in the spring edition where the author walked from the headwaters all the way down to the bay and chronicled her journey. It is a really interesting read. It is about 9 miles from Jewel Lake to the Bay. From the top of Vollmer Peak is another 3 or 4 miles.

(Mike Moran) Best to do a google maps measurement. If you are thinking about the distance of migration for fish. The route may be direct on the map, but fish take circuitous routes on their migration. Some might go through racoon straight others might go the other way around Angel Island. It would be interesting to know why you aske that question so we can provide a more complete answer for you.

Question 29: (Peter Rauch) For Concept 4, does that require the removal of the entire dam?

Answer 29: (Scott Stoller) it does not require the removal of the entire dam. Te spillway would stay intact and a portion of the dam. There would be a new berm constructed between the channel and the lake which would help impound water in the realigned lake and limit seepage back into the creek.

Question 30: (Laurel Collins) Please note that landslide stabilization will be essential for the operation of the diversion structure proposed in Option 4. For Option s3 stabilization is not that critical for to maintain some kind of channel and connection to the downstream. For Concept 3 landslide will not be as critical for the channel to adjust and laterally migrate. It seems like the budget would be much higher for Option 4 to have success

Answer 30: (Scott Stoller) Thank you for this detailed comment.

Question 31: (Dawn) Are you going to save some of the dam pieces? Didn't the CCC build some of the dam/spillway

Answer 31: (Scott Stoller) The dam was constructed in 1921, so before the WPA. The dam was constructed to be a water supply reservoir back in the days when we had competing private water companies. The spillway is historic and something that we do want to preserve as much as we can for future interpretive purposes. There is an opportunity to preserve some of that spillway in place since it is located right up against the existing trail. Even under Concept 3 we would be able preserve a large portion intact. Even if there are portions we are pulling out we do want to preserve as much as possible for interpretive purposes.