



Bear Valley Basin
Groundwater Sustainability Agency (BVBGSA)
C/O City of Big Bear Lake, Department of Water and Power (DWP)
Attention: Reginald A. Lamson
41972 Garstin Drive Big Bear Lake, CA 92315

Board Meeting Agenda
June 27, 2024 at 9:00 am

**This meeting will be held in person in the DWP Boardroom at
41972 Garstin Drive, Big Bear Lake, CA, 92315
and by Zoom.**

In compliance with the Americans with Disabilities Act, if you are a disabled person and you need a disability related modification or accommodation to participate in this meeting, please contact Reggie Lamson at (909) 866-5050. Requests must be made as early as possible and at least one full business day before the start of the meeting. Documents and material relating to an open session agenda item that are provided to the Board of Directors not less than 72 hours prior to a regular meeting will be available for public inspection and copying at 41972 Garstin Drive, Big Bear Lake, CA 92315 or on our web site at bvbgsa.org.

ZOOM ACCESS INFORMATION

This meeting will be available at: <https://us02web.zoom.us/j/86468670042>

Passcode: bigbear

Meeting ID: 864 6867 0042

You may also call into the meeting by dialing one of the phone numbers below, entering the meeting ID, and entering the password.

Meeting ID: 864 6867 0042

Password: 3767928

Dial by your location

- +1 669 900 9128 US (San Jose)
- +1 669 444 9171 US
- +1 719 359 4580 US
- +1 253 205 0468 US
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 309 205 3325 US

BOARD MEMBERS

James Miller, Chair

Steve Ludecke, Vice-Chair

Craig Hjorth, Treasurer

John Russo, Secretary

OPEN SESSION

CALL MEETING TO ORDER

PLEDGE OF ALLEGIANCE

PUBLIC FORUM

The public may address the Board by completing a speaker card. All remarks shall be addressed to the Board as a body only. There is a three-minute maximum time limit when addressing the Board. Please note that California law prohibits the Board from taking action on any item not appearing on the agenda.

1. PUBLIC HEARING

1.1 Resolution No. 2024-01 Budget for Fiscal Year 2025

Board to review and consider adopting Resolution No. 2024-01 approving the budget for Fiscal Year 2025.

2. CONSENT CALENDAR

2.1 Approve Minutes of the Board Meeting Dated November 13, 2023

3. ITEMS REMOVED FROM CONSENT CALENDAR

4. DISCUSSION/ACTION ITEMS

4.1 Approval of Claims Payments

Board to review and consider authenticating the claims payments.

4.2 Replenish Big Bear Presentation

Board to listen and discuss Replenish Big Bear Presentation.

4.3 Management and Board Member Discussion

Board members and/or staff to identify matters for future BVBGSA Agenda Items.

ADJOURNMENT



Bear Valley Basin

Groundwater Sustainability Agency

C/O City of Big Bear Lake, Department of Water
 Attention: Reginald A. Lamson
 PO Box 1929 Big Bear Lake, CA 92315

DATE: June 27, 2024
TO: Board of Directors
FROM: Reginald A. Lamson, Administrator
RE: Fiscal Year 2025 Budget

In Fiscal Year 2025, the Bear Valley Basin Groundwater Sustainability Agency (BVBGSA) will continue to pursue its primary mission to support interagency efforts to ensure sustainable water supplies in the Bear Valley. BVBGSA is a Joint Powers Authority made up of four member agencies (Big Bear Area Regional Wastewater Management Agency - BBARWA, Big Bear Municipal Water District - BBMWD, Big Bear City Community Services District - BBCCSD, and the City of Big Bear Lake, Department of Water and Power - BBLDWP). Two years of higher-than-average rainfall has bolstered ground water supplied in the Bear Valley; however, longer term concerns remain. The Replenish Big Bear project is identified in the Bear Valley Basin Groundwater Sustainability Plan and remains a principal strategic objective of BVBGSA.

Bear Valley Basin Groundwater Sustainability Plan

The Bear Valley Basin Groundwater Sustainability Plan (the Plan) is a planning document to ensure sustainable water supplies in the Bear Valley Region and complies with the Sustainable Groundwater Management Act (SGMA). The Plan requires BVBGSA to prepare and submit an Annual Report to the California Department of Water Resources by April 1st of each year. The Annual Report is based on established hydraulic data models. The BVBGSA Budget for FY 2025 includes an appropriation of \$35,000 for the FY 2025 Annual Report.

Replenish Big Bear

Replenish Big Bear (the Project) is a forward-looking water supply project expected to produce millions of gallons of clean water annually protecting the Bear Valley community's future water supplies. The clean water produced will be used to increase ground and lake water levels throughout the Valley and help support the area's unique and diverse fish and wildlife and bolster the community's recreation and tourism.

BBARWA continues to move the project through regulatory review, pursue grant funding and build alliances for cost sharing. To date BBARWA has been awarded grants in the amount of \$26,942,543 for the project. Member agencies have pledged \$1,400,000 (\$350,000 per agency) to the project and initially provided funding in the amount of \$1,233,532 (\$308,383 per agency) which has been reimbursed by the grants received.

Fiscal Year 2025 Budget

Revenues

Revenues are based on contributions from member agencies. Under the terms of the Joint Power Agreement member agencies contribute in equal proportions to cover all necessary operating expenses of the agency. Revenues are projected to equal budgeted expenses. Revenues expected for fiscal year 2025 are shown below:

Revenue Source	2023 Actual	2024 Projected	2025 Expected	\$ Change	% Change
BBLDWP Contributions	\$11,510	\$11,900	\$12,100	\$200	2%
BBMWD Contributions	11,510	11,900	12,100	200	2%
BBARWA Contributions	11,510	11,900	12,100	200	2%
BBCCSD Contributions	<u>11,510</u>	<u>11,900</u>	<u>12,100</u>	<u>200</u>	2%
Total	\$46,040	\$47,600	\$48,400	\$800	2%

Expenses

Expenses consist primarily of administrative expenses to maintain agency operations and professional service costs for hydrology reporting. Fiscal year 2025 budgeted expenses are expected to decrease slightly by \$860 or 2% from the fiscal year 2024 budget. A detailed break down of expenses is shown below:

Expense Type	2023 Actual	2024 Budgeted	2024 Projected	2025 Approved	\$ Change	% Change
Bank Charges	\$3,220	4,100	4,100	4,200	100	2%
Insurance	1,800	2,000	1,800	2,000	0	0%
Hydrology Services	34,590	35,000	35,000	35,000	0	0%
Audit Services	4,260	4,400	3,380	4,400	0	0%
Memberships	600	800	820	900	100	13%
Other	<u>1,700</u>	<u>2,960</u>	<u>2,500</u>	<u>1,900</u>	<u>(1,060)</u>	(39%)
Total	\$46,170	\$49,260	\$47,600	\$48,400	(860)	(2%)

Bank charges, insurance and memberships costs are expected to increase slightly with general inflation. Hydrology services are expected to remain flat. BVBGSA uses the same audit firm as BBLDWP which is under a new contract starting in 2025. The new audit contract reflects cost increases of 26% which is presumed for BVBGSA. Other expenses combined office supplies, computers/software and advertising into one category. DWP previously paid for a QuickBooks subscription for accounting purposes that was not renewed since BBLDWP’s accounting system can adequately handle all accounting functions required by BVBGSA without the need for a separate subscription resulting in a net decrease in other expenses.

RESOLUTION NO. 2024-01

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
BEAR VALLEY BASIN GROUNDWATER SUSTAINABILITY AGENCY,
COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA,
APPROVING THE FISCAL YEAR 2025 BUDGET**

WHEREAS, on May 25, 2017, the Bear Valley Basin Groundwater Sustainability Agency (BVBGSA) was formed; and

WHEREAS, on October 18, 2017, the Board of Directors (Board) acknowledged the updated Joint Powers Agreement (JPA) by and among the City of Big Bear Lake, Department of Water and Power, the Big Bear City Community Services District, the Big Bear Municipal Water District, and the Big Bear Regional Wastewater Agency for the BVBGSA; and

WHEREAS, pursuant to the Sections 12 and 13 of the JPA, the Board shall adopt a budget as specified in the bylaws, by resolution or otherwise; and

WHEREAS, on October 18, 2017, the Board adopted the BVBGSA Bylaws and pursuant to the Article 7.3 of the Bylaws, the BVBGSA shall operate pursuant to an operating fund/budget adopted in accordance with Sections 12 and 13 of the Agreement; and

WHEREAS, the Directors have conducted a public hearing and adopted the Fiscal Year 2025 Departmental Budget as follows:

- 1. General Fund appropriated resources in the amount of \$48,400 and appropriated uses in the amount of \$48,400;

NOW, THEREFORE BE IT RESOLVED that the Board of Directors of BVBGSA does hereby approve the Fiscal Year 2025 Budget attached hereto.

PASSED, APPROVED, and ADOPTED this 27th day of June 2024.

- AYES:
- NOES:
- ABSTAIN:
- ABSENT:

Jim Miller, Chair
Board of Directors

ATTEST:

John Russo, Secretary
Board of Directors

**BOARD OF BEAR VALLEY BASIN
GROUNDWATER SUSTAINABILITY AGENCY
MEETING MINUTES
November 13, 2023**

OPEN SESSION

A meeting of the Bear Valley Basin Groundwater Sustainability Agency Board of Directors was called to order at 9:00 a.m. on November 13, 2023, by Vice-Chair Miller at 41972 Garstin Drive, Big Bear Lake, CA 92315.

BOARD MEMBERS PRESENT:

Jim Miller, Vice-Chair
Craig Hjorth, Treasurer
Steve Ludecke, Secretary
John Russo, Director

PLEDGE OF ALLEGIANCE

Reggie Lamson, Administrator BVBGSA, General Manager DWP

PUBLIC FORUM:

No comments from the public.

1. CONSENT CALENDAR**1.1 Approve Minutes of Board Meeting Dated June 20, 2023**

Motion made by Treasurer Hjorth, seconded by Secretary Ludecke, and carried 4-0 to approve the Consent Calendar.

AYES: Hjorth, Ludecke, Miller, Russo

NOES: -

ABSTAIN: -

2. ITEMS REMOVED FROM CONSENT CALENDAR

None

3. DISCUSSION/ACTION ITEMS**3.1 Agreement with Thomas Harder & Co. to Prepare the Groundwater Sustainability Plan 2022/23 Annual Report**

Secretary Ludecke inquired into the prior year cost to prepare the GSP Annual Report. Reggie Lamson responded that it cost around \$40,000 to prepare the GSP 2021/22 Annual Report. Vice-Chair Miller asked if the Board considered hiring another consulting firm, would the cost, more than likely, be higher. Reggie responded yes, because Tom Harder has set up the monitoring stations, groundwater model, and can prepare the Annual Report efficiently.

Motion made by Secretary Ludecke, seconded by Treasurer Hjorth, and carried 4-0 to approve an agreement with Tom Harder to prepare the GSP 2022/23 Annual Report contingent upon concurrence of approval by the member agencies that will be responsible for reimbursing the BVBGSA.

AYES: Hjorth, Ludecke, Miller, Russo

NOES: -

ABSTAIN: -

3.2 Appointment of Officers

Motion made by Treasurer Hjorth, seconded by Vice-Chair Miller, and carried 4-0 to appoint Board Officers as follows: Jim Miller as Chair; Steve Ludecke as Vice-Chair; Craig Hjorth as Treasurer; and John Russo as Secretary.
 AYES: Hjorth, Ludecke, Miller, Russo
 NOES: -
 ABSTAIN: -

3.3 Approval of Claims Payments

Vice-Chair Ludecke inquired into why the bank fees were so high. Nathan Statham, DWP's Chief Financial Officer, responded the bank fees are based on a flat fee for public funds.

Motion made by Treasurer Hjorth, seconded by Vice-Chair Ludecke, and carried 4-0 to authenticate the claims payments from June 17, 2023 through November 13, 2023.
 AYES: Hjorth, Ludecke, Miller, Russo
 NOES: -
 ABSTAIN: -

3.4 Financial Statement Audit 2023

Motion made by Vice-Chair Ludecke, seconded by Treasurer Hjorth, and carried 4-0 to receive and file BVBGSA's 2023 audited financial statements and related auditor reports and communications.
 AYES: Hjorth, Ludecke, Miller, Russo
 NOES: -
 ABSTAIN: -

3.5 Resolution No. 2023-02 - Member Cash Balance Funding Realignment

Treasurer Hjorth asked if the Board needs to address this because of the low dollar amount. Nathan responded that it is not a requirement, but the Board is recommended to address it because of the perception to readers of the financial statements relative to the size of the BVBGSA organization. Treasurer Hjorth stated his understanding that we are proposing to realign funds now to prepare for the future. Nathan responded yes. Chair Miller clarified his understanding that as a Joint Venture, each agency should have an equal share. Nathan responded yes; and the issue is that the DWP appears to have more influence over the BVBGSA activities because of work performed by DWP staff on behalf of the BVBGSA. David Lawrence, General Manager of BBARWA, asked if the BVBGSA has a separate bank account. Nathan responded yes, and separate Board. Nathan added that the BVBGSA is not considered a component of the DWP.

Vice-Chair Ludecke asked if the DWP is paid to perform work on behalf of the BVBGSA. Nathan responded no; and that he is proposing an agreement between the BVBGSA and the DWP with a modest dollar amount for the role DWP is performing on behalf of the BVBGSA. Treasurer Hjorth inquired if this matter has been discussed with BB&K. Nathan responded no; waiting for Board direction on the matter. Chair Miller asked if the DWP should assess the fully burdened rate for the work performed by the DWP and charge that rate to the member agencies. Nathan responded that we could calculate a cost basis and create an agreement. Chair Miller stated his understanding that the matter before the Board today is the realignment of funds and the agreement for DWP performed work will be brought back to the Board at a subsequent meeting. Nathan responded yes. Vice-Chair Ludecke asked if the DWP pays for the legal analysis. Nathan responded that legal fees are billed to the BVBGSA.

Motion made by Treasurer Hjorth, seconded by Vice-Chair Ludecke, and carried 4-0 to adopt Resolution No. 2023-02, assessing member contributions equal to \$1,000 and repay DWP excess lent funds in the amount of \$2,000.

AYES: Hjorth, Ludecke, Miller, Russo

NOES: -

ABSTAIN: -

3.6 Replenish Big Bear Update

David provided Replenish Big Bear Status Update to the Board. Treasurer Hjorth asked if the Bear Mountain Resorts are using their own pipelines to pump water from the lake to the golf course. David responded yes. Brittany Lamson, Interim General Manager MWD, stated that back in 2018, the Bear Mountain Resorts were allowed to pump water from the lake to water the golf course, but the current agreement does not include this option. Vice-Chair Ludecke asked if there is no organization locally to test the brine being sent to Israel. David responded no; there is a unit in Chili but the cost to bring to unit to the BBARWA facilities is \$750,000 and the unit is not the right size or UL graded. It will cost an additional \$250,000 to upgrade the testing equipment to obtain a UL rating. David added that BBARWA is looking at an alternative brine process.

Vice-Chair Ludecke inquired into the WIFIA modified agreement. David responded that the purpose of the modified agreement is to ensure the public agencies including CSD, City of Big Bear Lake, and the County of San Bernardino, do not leave the BBARWA JPA until the WIFIA loan is paid off. Vice-Chair Ludecke asked how long the debt service lasts. David responded up to 40 years. Chair Miller stated his understanding that the water being discharged into the lake is better water quality than the water in the lake. David responded no that the lake water quality is so good that the Replenish product water will be above drinking water quality, not lake water quality. David added that the goal is not to add nutrients to the lake water. Vice-Chair Ludecke asked if BBARWA has responded to all public comments received on the EIR. David responded yes. Chair Miller asked that once the Environmental Report is approved, will that open to door to more grant opportunities. David responded yes.

Treasurer Hjorth stated that the rate structure is open to misunderstanding and requested BBARWA get the message out regarding the additional rates. Chair Miller recommended the presentation be updated to add "annual rate adjustment" to the title of the slide.

3.7 Management and Board Members Discussion

None.

ADJOURN

No additional business came before the Board. At 10:26 a.m., Chair Miller adjourned the meeting.

John Russo, Secretary to the Board



Bear Valley Basin Groundwater Sustainability Agency Agenda Report

DATE: June 27, 2024
TO: Board of Directors
FROM: Reginald A. Lamson, Administrator
RE: **Approval of Claims Payments**

Background & Discussion:

Pursuant to paragraph 7.2 of the Bylaws of Bear Valley Basin Groundwater Sustainability Agency, the Board shall authenticate all claims payments. All checks issued for payment of claims have been signed by the Treasurer and the Administrator.

Recommendation:

Authenticate the claims payments as presented in the attached check register.

Attachments:

Check Register November 14, 2023 through June 27, 2024.

**Bear Valley Basin GSA
Claims Payment Register
November 14, 2023 through June 27, 2024**

Payee	Payment Date	Payment Number	Description	Account	Amount
ACWA JPIA	12/14/2023	2037	Liability Insurance 10/1/2023-2024	Insurance	\$ 1,688.00
BBLDWP	11/16/2023	2036	Repayment of DWP Advance	Accrued Payables	2,000.00
LSL CPAs	2/8/2024	2040	LSL CPAs GSA Audit 22/23	Professional Services - Audit	3,360.00
Thomas Harder & Co	12/8/2023	2038	23-209-103.1 GSA Sustainability Plan Annual Report 22/23	Professional Services	4,278.75
Thomas Harder & Co	1/25/2024	2039	23-209-103.2 GSA Sustainability Plan Annual Report 22/23	Professional Services	6,418.75
Thomas Harder & Co	3/21/2024	2041	23-209-103.3 GSA Sustainability Plan Annual Report 22/23	Professional Services	1,720.00
Total Checks					\$ 19,465.50
US Bank	11/15/2023	587	October Bank Fees	Bank Charges & Misc Fees	\$ 272.80
US Bank	12/14/2023	588	November Bank Fees	Bank Charges & Misc Fees	269.79
US Bank	1/15/2024	590	December Bank Fees	Bank Charges & Misc Fees	274.54
US Bank	2/15/2024	591	January Bank Fees	Bank Charges & Misc Fees	305.00
US Bank	3/14/2024	592	February Bank Fees	Bank Charges & Misc Fees	292.41
US Bank	4/15/2024	593	March Bank Fees	Bank Charges & Misc Fees	289.47
US Bank	5/15/2024	3841	April Bank Fees	Bank Charges & Misc Fees	289.18
US Bank	6/14/2024	3850	May Bank Fees	Bank Charges & Misc Fees	291.22
Total ACH Payments					\$ 2,284.41
Total Claims Paid					\$ 21,749.91



REPLENISH
— *Big Bear* —

June 27, 2024

**Replenish Big Bear: Background,
Alternatives and Path Forward**



REPLENISH
— *Big Bear* —

AGENDA

- **Background and Purpose**
- **Alternatives Considered**
- **Replenish Big Bear Overview**
- **Milestones to Date**
- **Path Forward**



Presentation Objectives

- Review the drivers for water reuse in the Big Bear Valley and the historical efforts and barriers encountered
- Review more recent regulatory and funding developments that make water reuse more achievable now than in the past
- Review the different water reuse alternatives for Big Bear Valley that have been considered in the past 20 years
- Compare the costs of benefits of the alternatives and why Replenish Big Bear was originally selected as the preferred option
- Provide an overview of Replenish Big Bear and status to date
- Discuss potential path forward



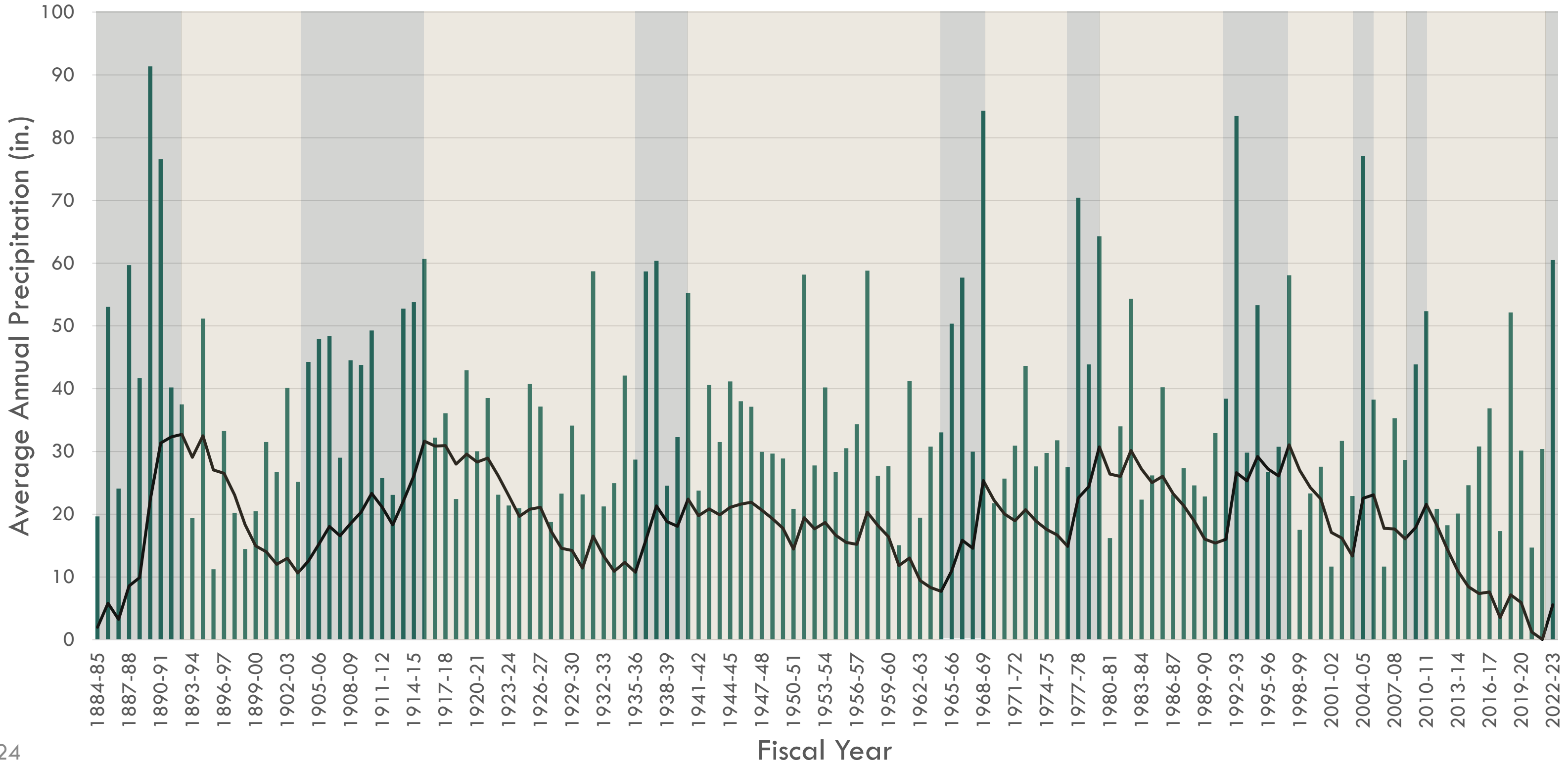
REPLENISH
— *Big Bear* —

Background and Purpose

Wet/Dry Trends from 1884 to 2022

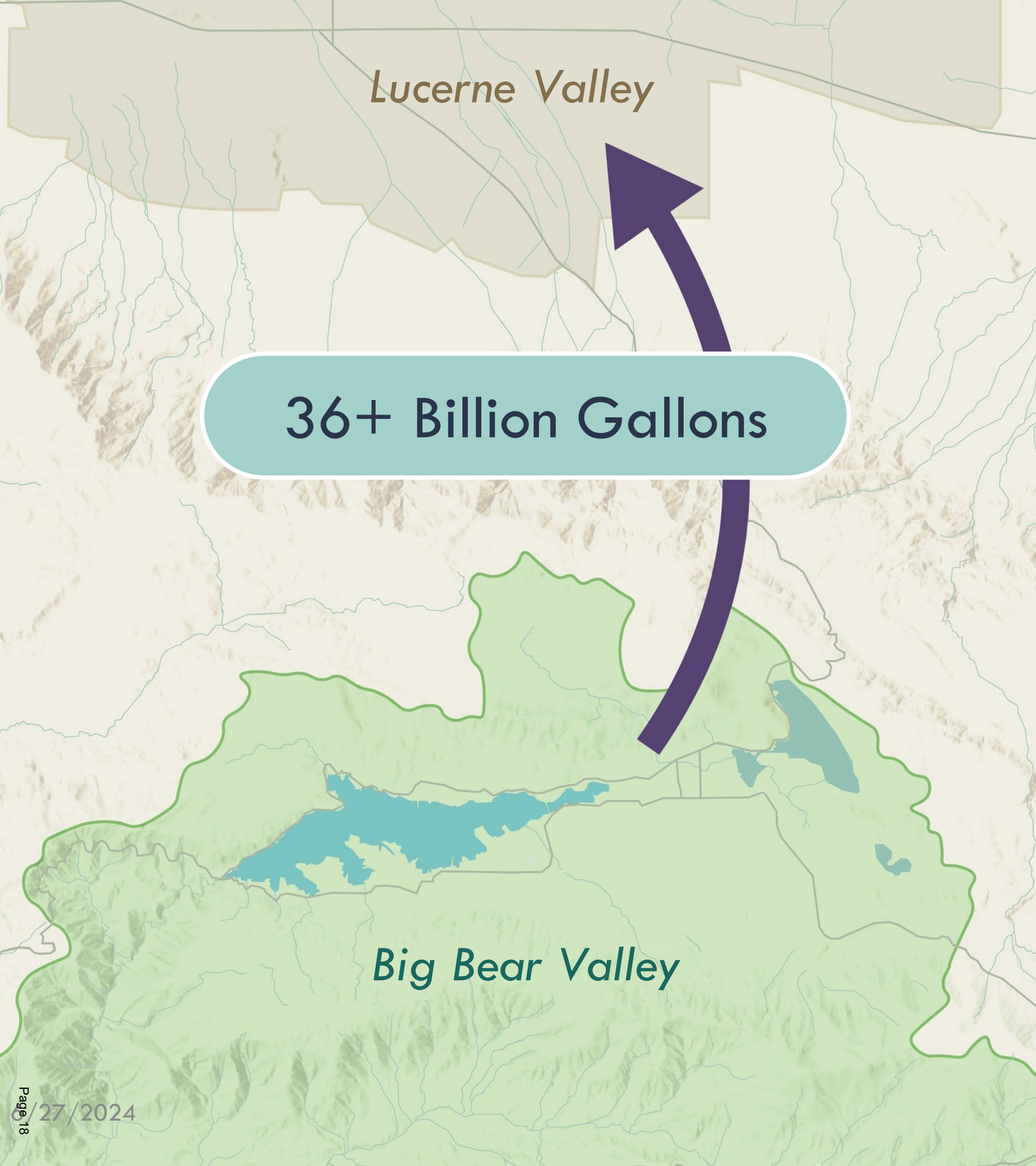


- Precipitation at Bear Valley Dam
- Wet Trend
- Dry Trend
- Cumulative Departure From Mean



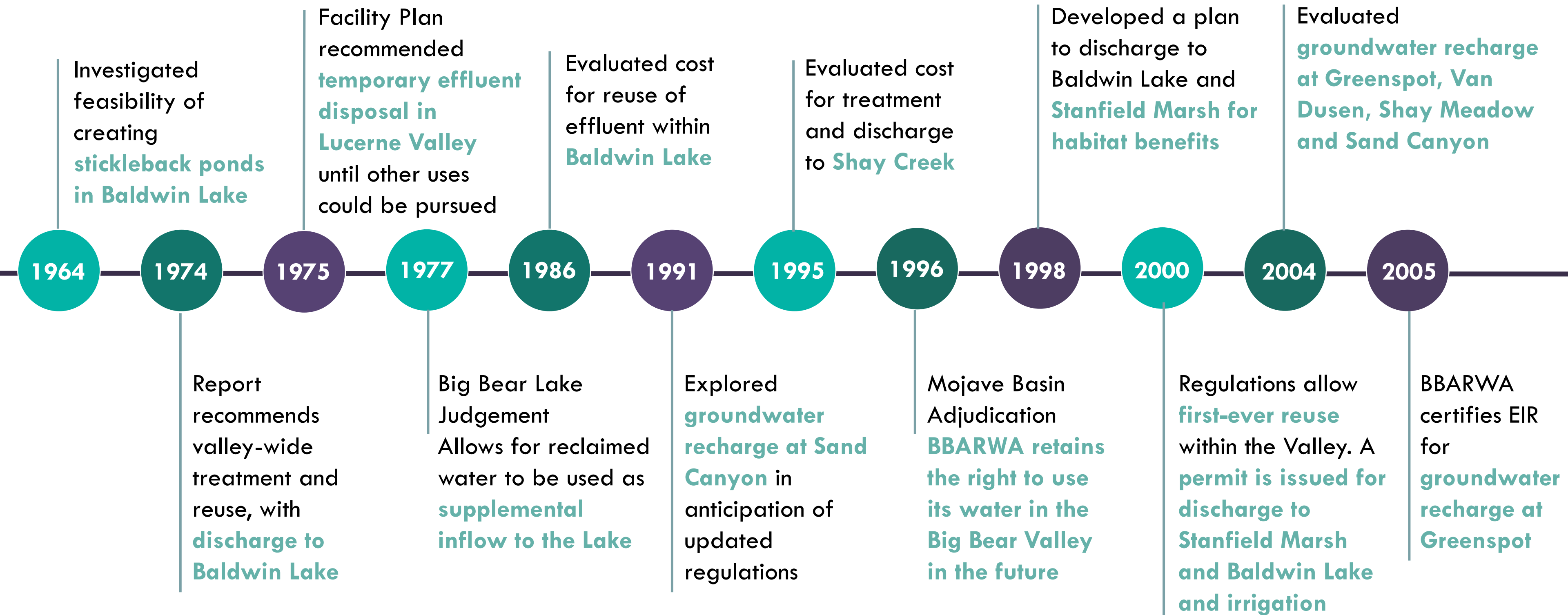


REPLENISH
— Big Bear —

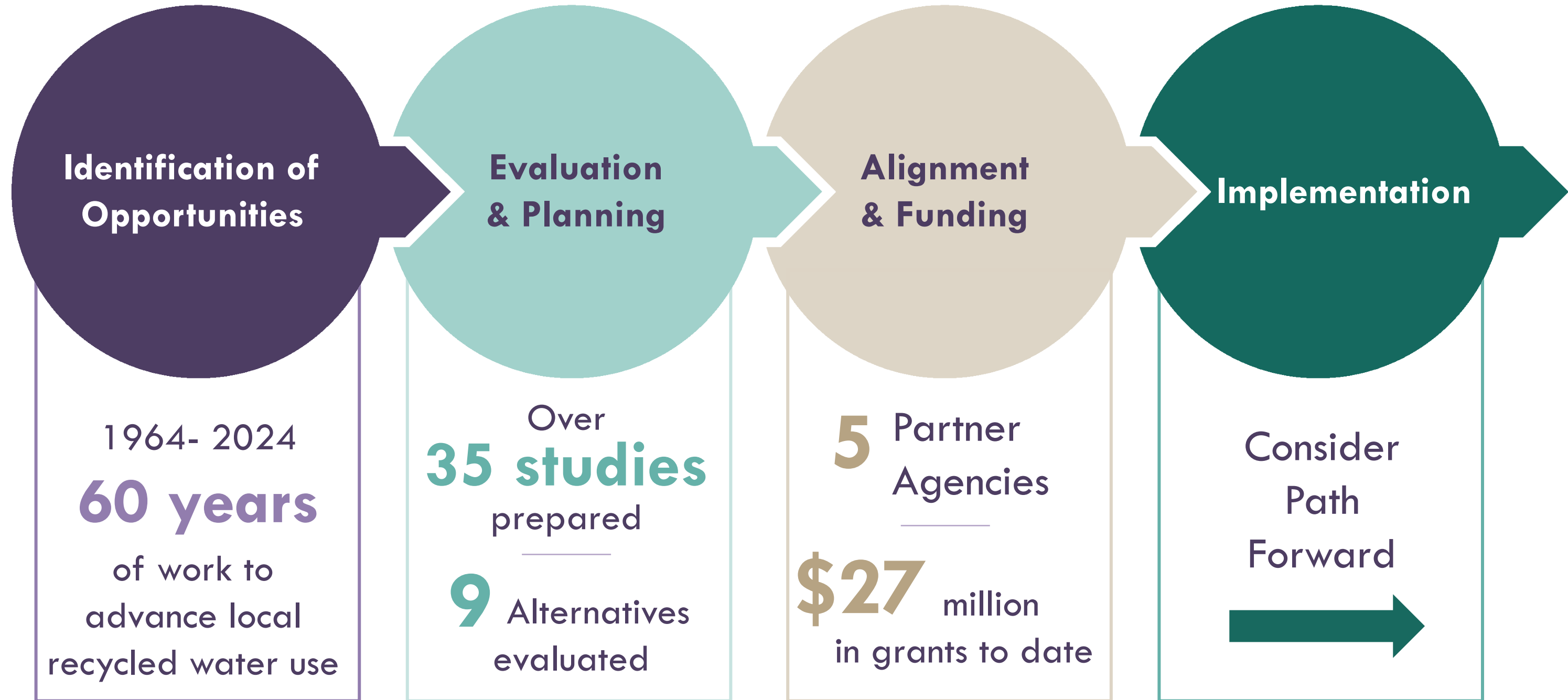


Over
36 Billion
gallons of water
exported since
1980

Exploration of Big Bear Water Solutions Through the Years



Decades of Work to Evaluate Possibilities for the Future





REPLENISH
— *Big Bear* —

Why Now?



REPLENISH
- Big Bear -

Why Now?



Regulations

After decades of planning, the regulatory landscape is favorable to reuse within Big Bear Valley.



Funding

State and Federal funding programs are prioritizing water reuse and groundwater recharge projects, softening the impact to rate payers.



Evidence

Potable reuse projects have been in existence for decades and have proven to be safe and reliable.



Alternatives Evaluated

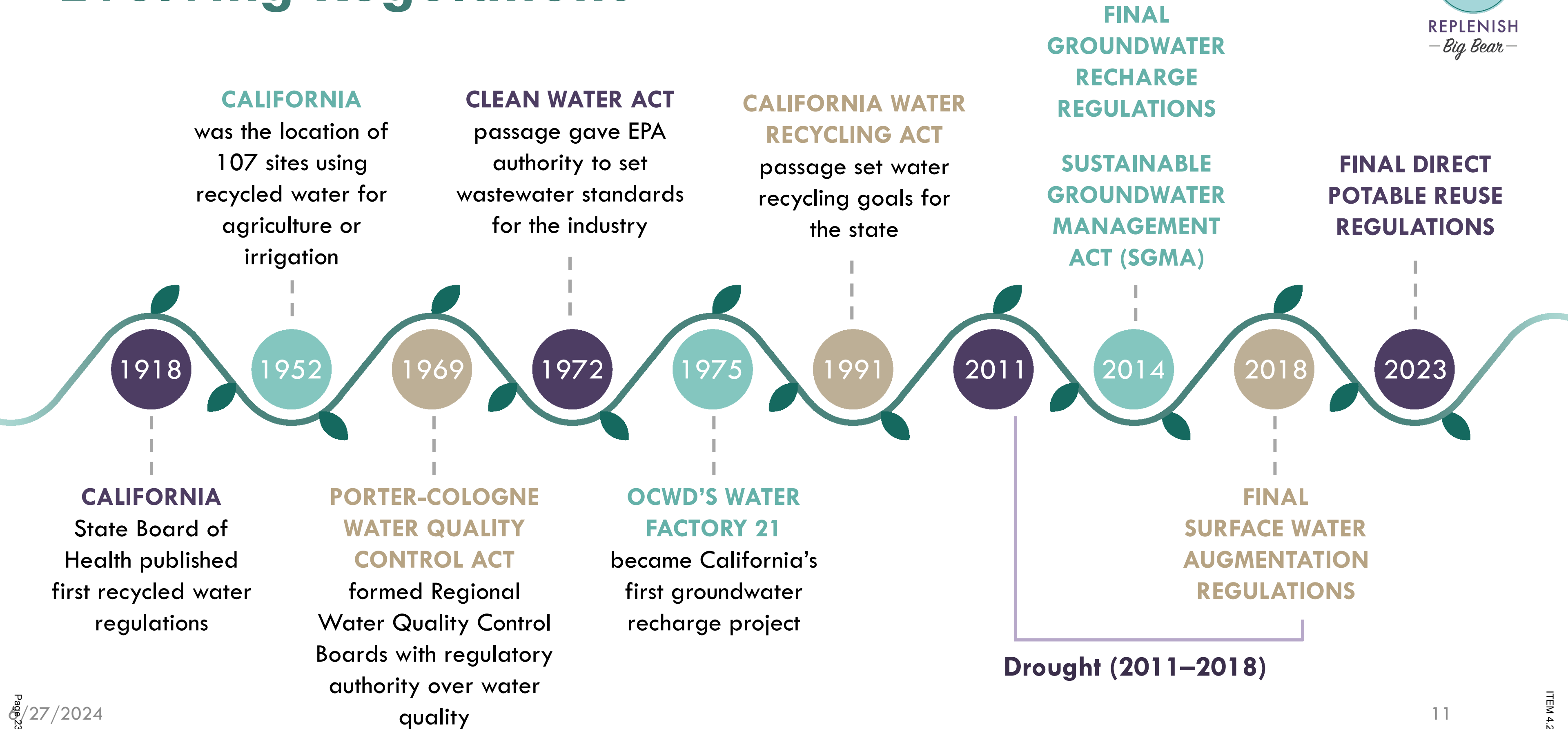
Many alternatives have been evaluated, providing clarity on the feasibility, regulatory and treatment requirements, and relative costs and benefits.



Treatment Advances

Advances in wastewater treatment technology and water quality monitoring demonstrate high levels of removal of constituents of concern.

Evolving Regulations



Expanded Funding Opportunities for Water Reuse



2014 

Water Infrastructure Finance and Innovation Act (WIFIA) provides low interest **loan funding** for up to **80%** of the project costs for small communities.

California Prop 1 Water Bond Water Quality, Supply, and Infrastructure Improvement Act Authorizes **\$510 million** for Integrated Regional Water Management Plan projects.

2016 

Water Infrastructure Improvements for the Nation (WIIN) Act makes US Bureau of Reclamation Water Recycling Funding more accessible for new projects to receive up to **25% grants**.

2020 


House of Representatives Community Project Funding process **reinstates ability to make funding requests for specific projects** (formerly referred to as “earmarks”).

Multi-benefit projects align with federal and state funding program goals



State priorities according to the California Water Action Plan and SRF Intended Use Plan

1



Protect and restore important ecosystems

2



Increase regional self-reliance and integrated water management across all levels of government

3



Manage and prepare for dry periods

4



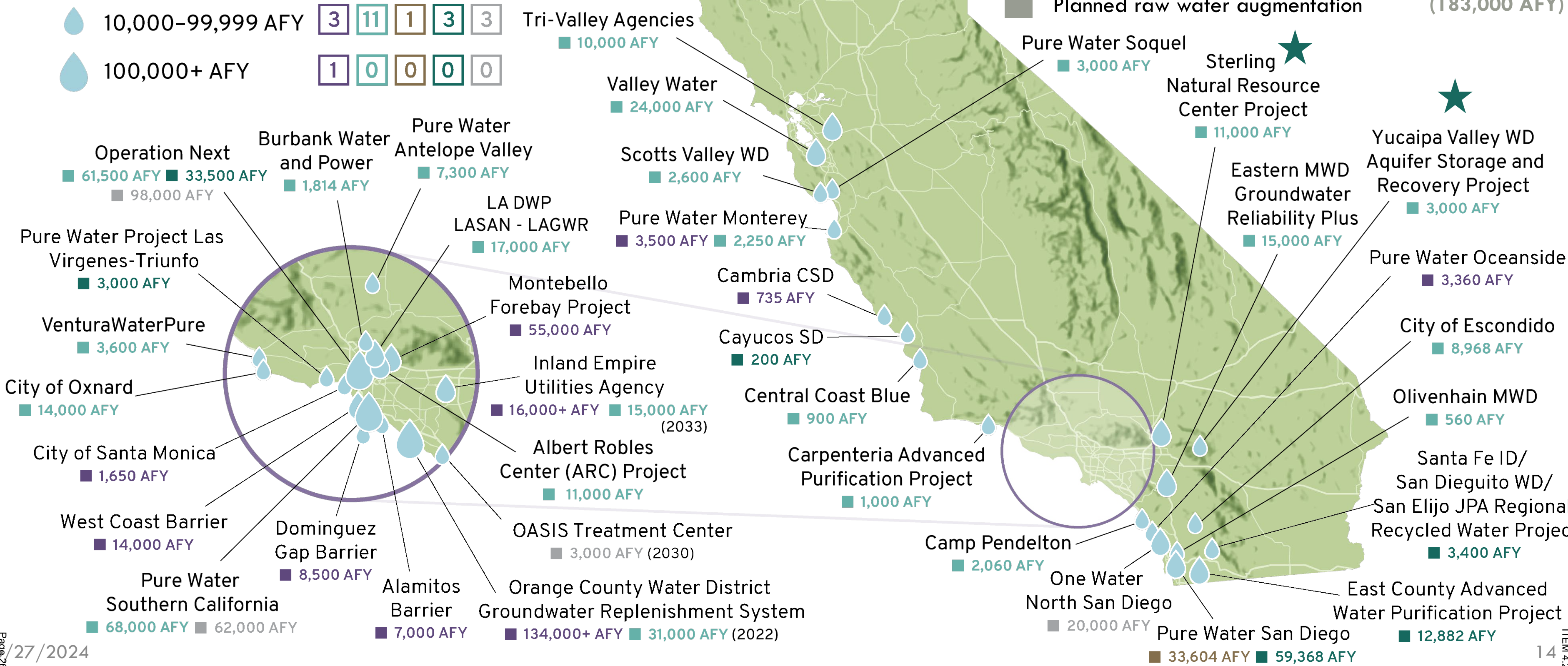
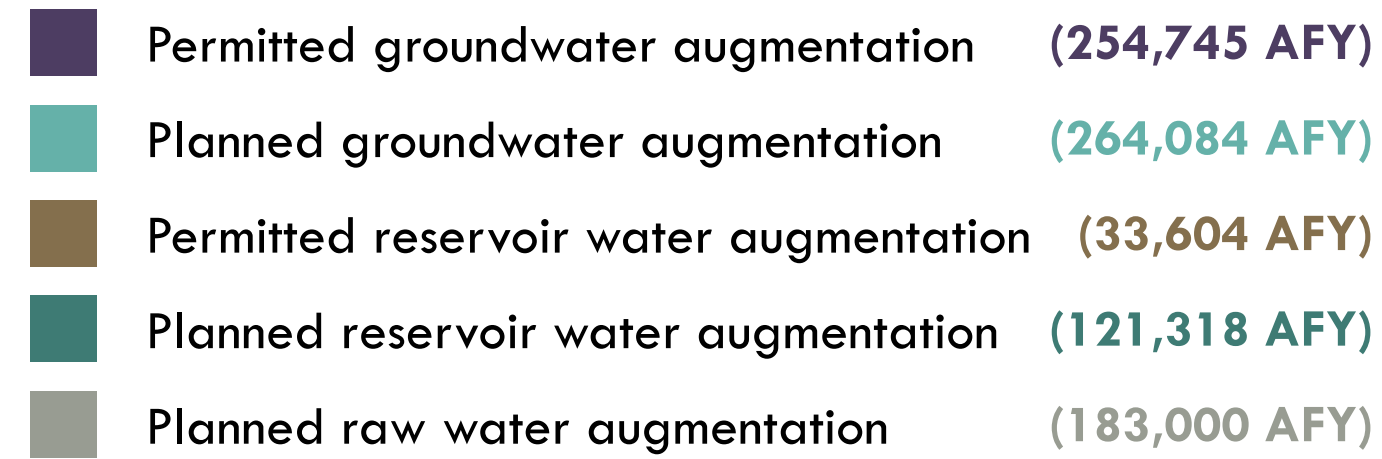
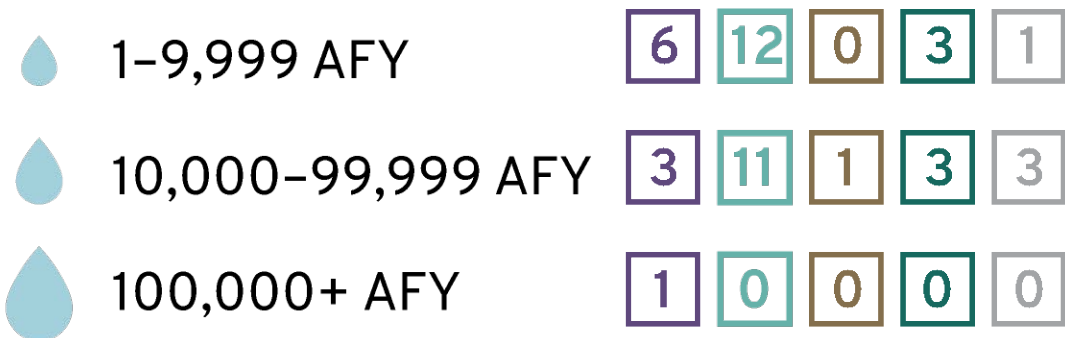
Increase flood protection

5 **6** **7**

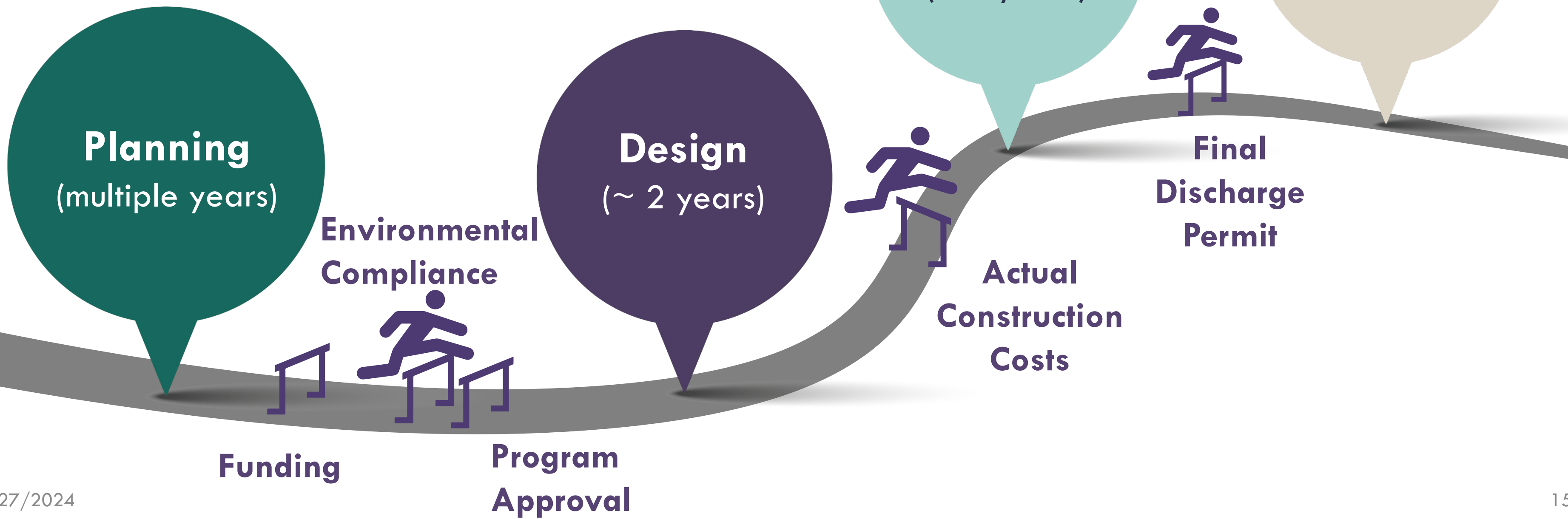
Continue to fund: Disadvantaged communities, water recycling, and green projects



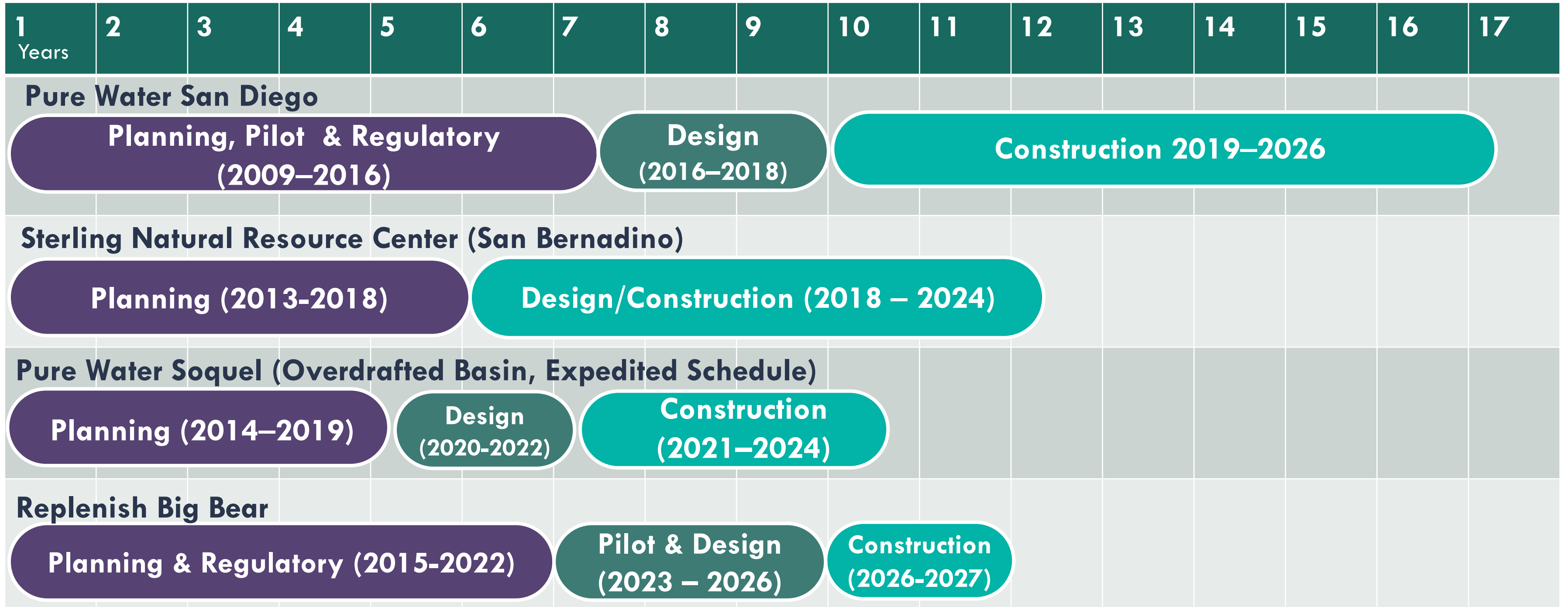
Potable Reuse Projects



Implementing Reuse Projects is a Long and Challenging Path That Takes Commitment and Perseverance



Timeline for Similar Projects

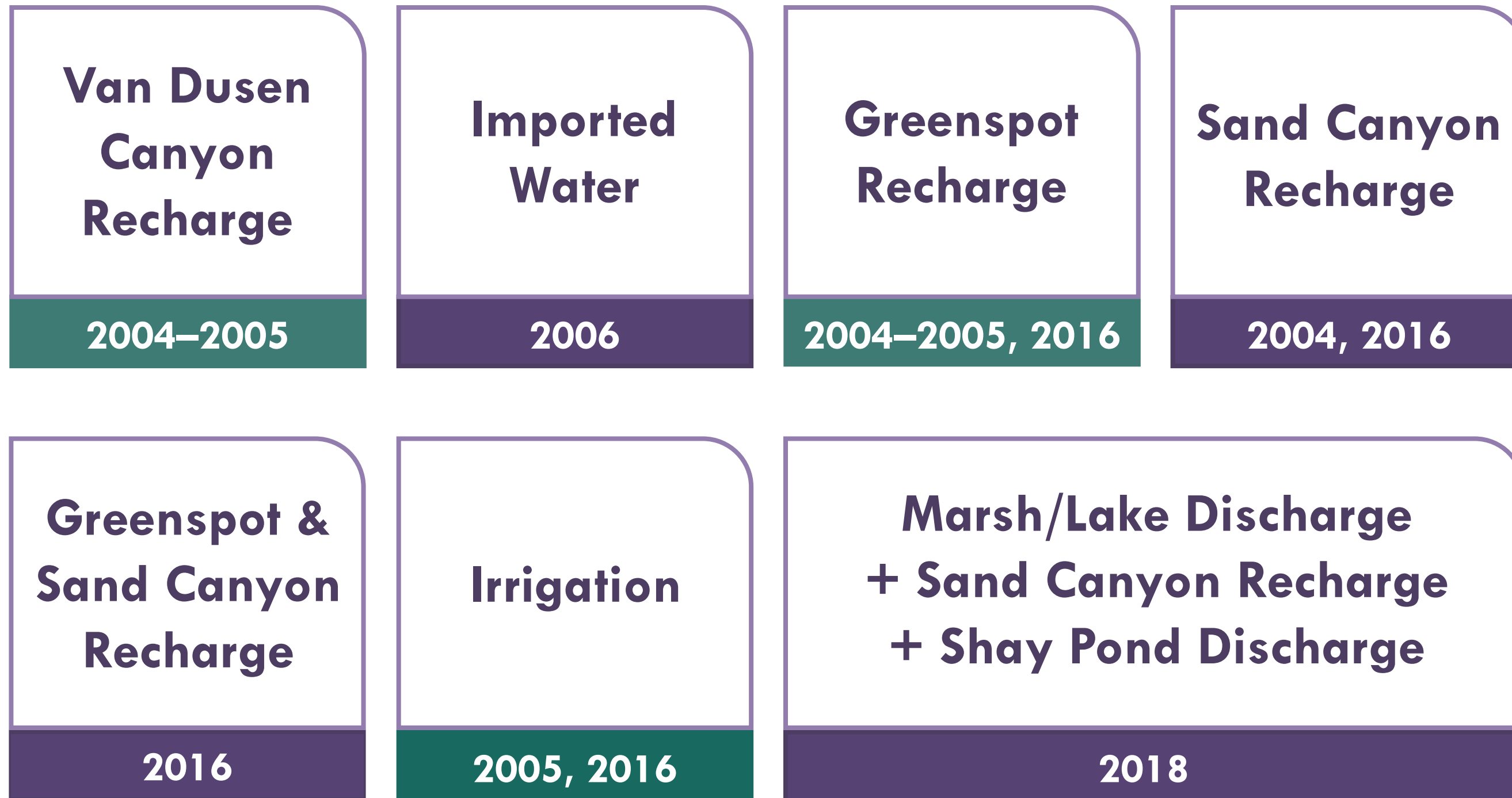




REPLENISH
— *Big Bear* —

Recycled Water Alternatives Evaluated

Recycled Water Alternatives Evaluated Since 2004

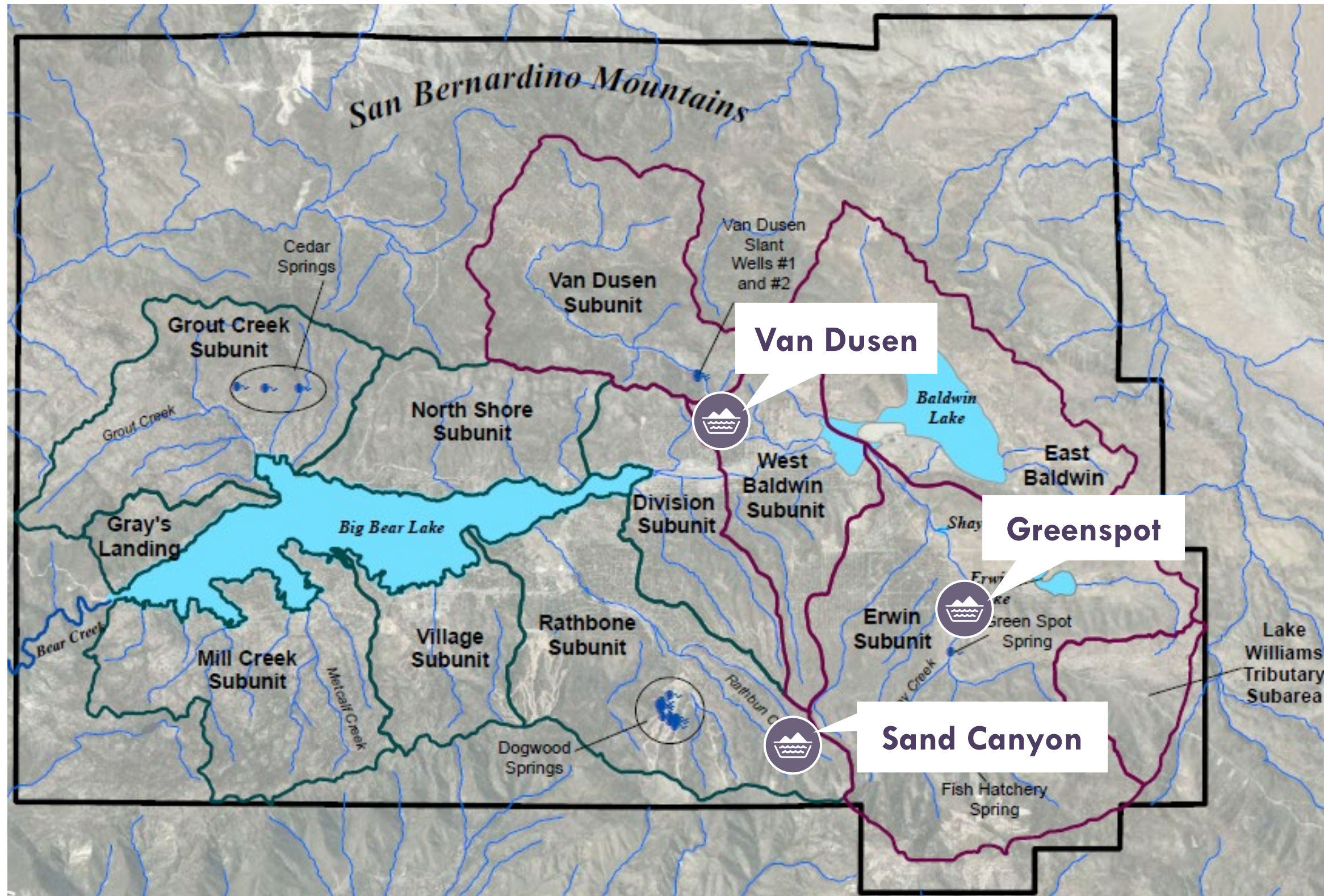


Imported Water

- **Yield: 1,000** AFY of imported water
- \$8,420/AF
- Requires new supply contracts with State Water Contractors, may not be possible
- Supply is limited or unavailable during drought
- Requires new surface water treatment plant to use as potable water source
- For comparison: not sufficient water quality to put in the Lake (although this is not proposed)



Potential Recharge Locations within Big Bear Valley Groundwater Basin Subunits

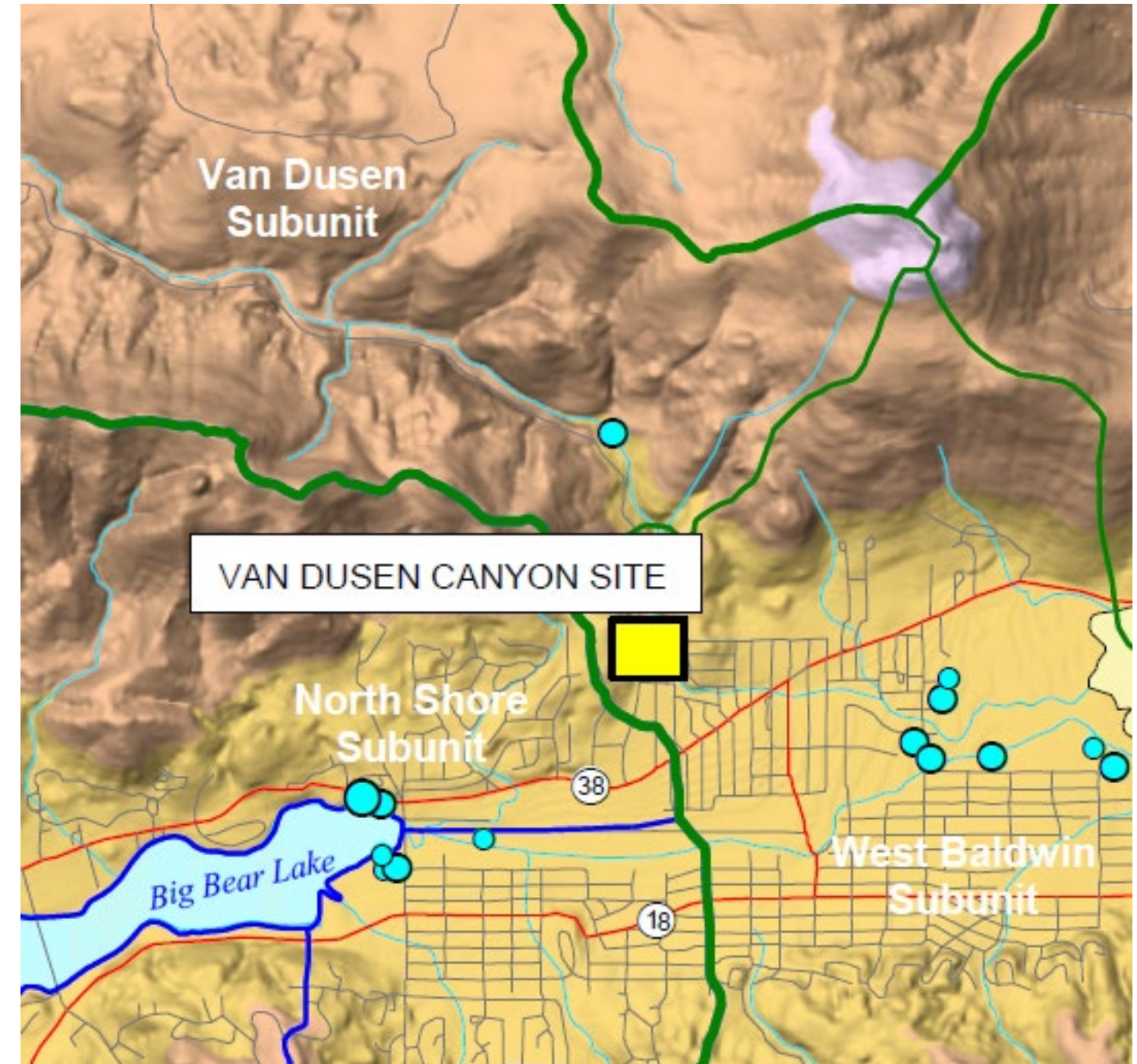


Map Features

- Spring / Slant Well
- Major Hydrologic Feature
- Drainage/Creek
- Baldwin Lake Watershed
- Big Bear Lake Watershed
- Bear Valley Basin Groundwater Sustainability Agency Boundary

Groundwater Recharge at Van Dusen Canyon

- **Yield:** Not estimated in 2004 study
- Recharge rate 1.1 – 1.6 ft/day
- Recharge water would reach the nearest well in 8-13 years. Additional wells could be added to extract the water sooner.
- Considered feasible in 2004 study, but not evaluated in 2016 because Greenspot was more favorable
- Advanced treatment upgrades and brine disposal required for all recharge locations

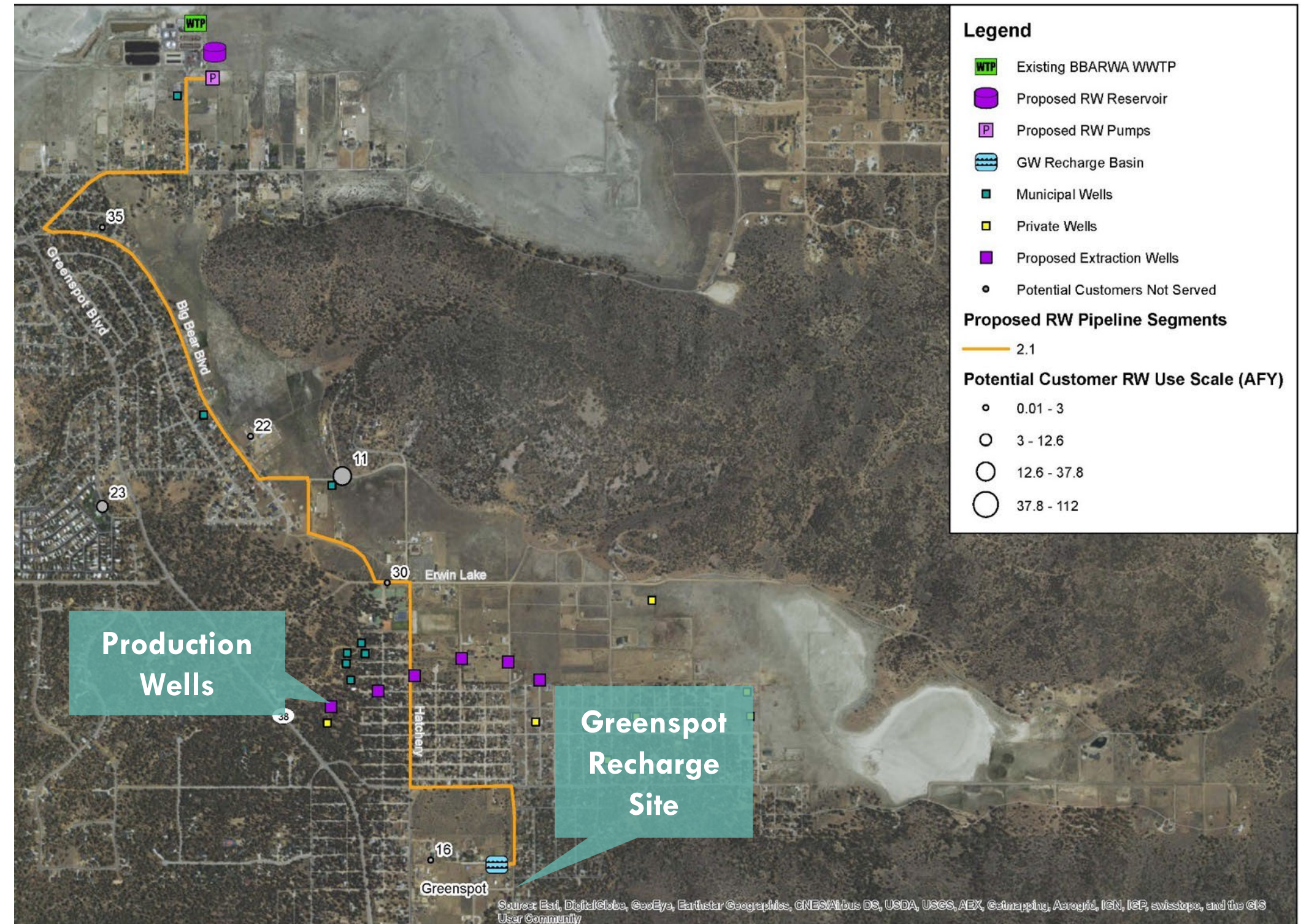


ALTERNATIVE

Groundwater Recharge at Greenspot



- **Yield: 1,000** AFY for groundwater sustainability.
- Recharge rate 3.1–3.7 ft/day.
- Requires six new production wells and coordinated pumping to recover recharged water

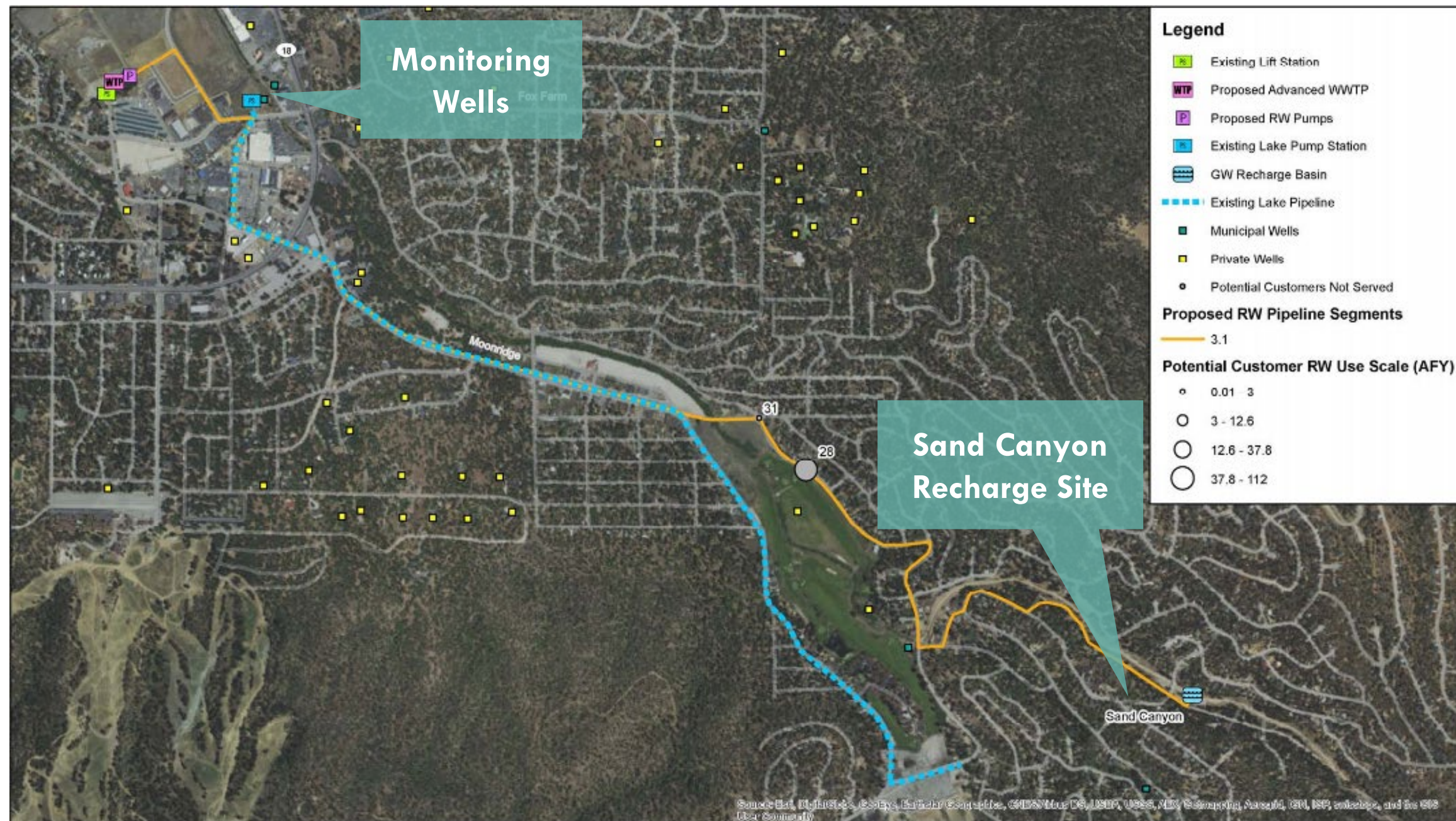


ALTERNATIVE

Groundwater Recharge at Sand Canyon



- **Yield: 500 AFY** for groundwater sustainability
 - **380 AFY** for Sand Canyon Recharge
 - **120 AFY** for Golf Course Irrigation
- Recharge rate 2.1 ft/day
- Recharge water will reach the nearest production in about 13 months, no new production wells needed



ALTERNATIVE

Groundwater Recharge at Greenspot and Sand Canyon



- **Yield: 1,500 AFY** for groundwater sustainability.
- Requires six new production wells and coordinated pumping to recover recharge water at Greenspot

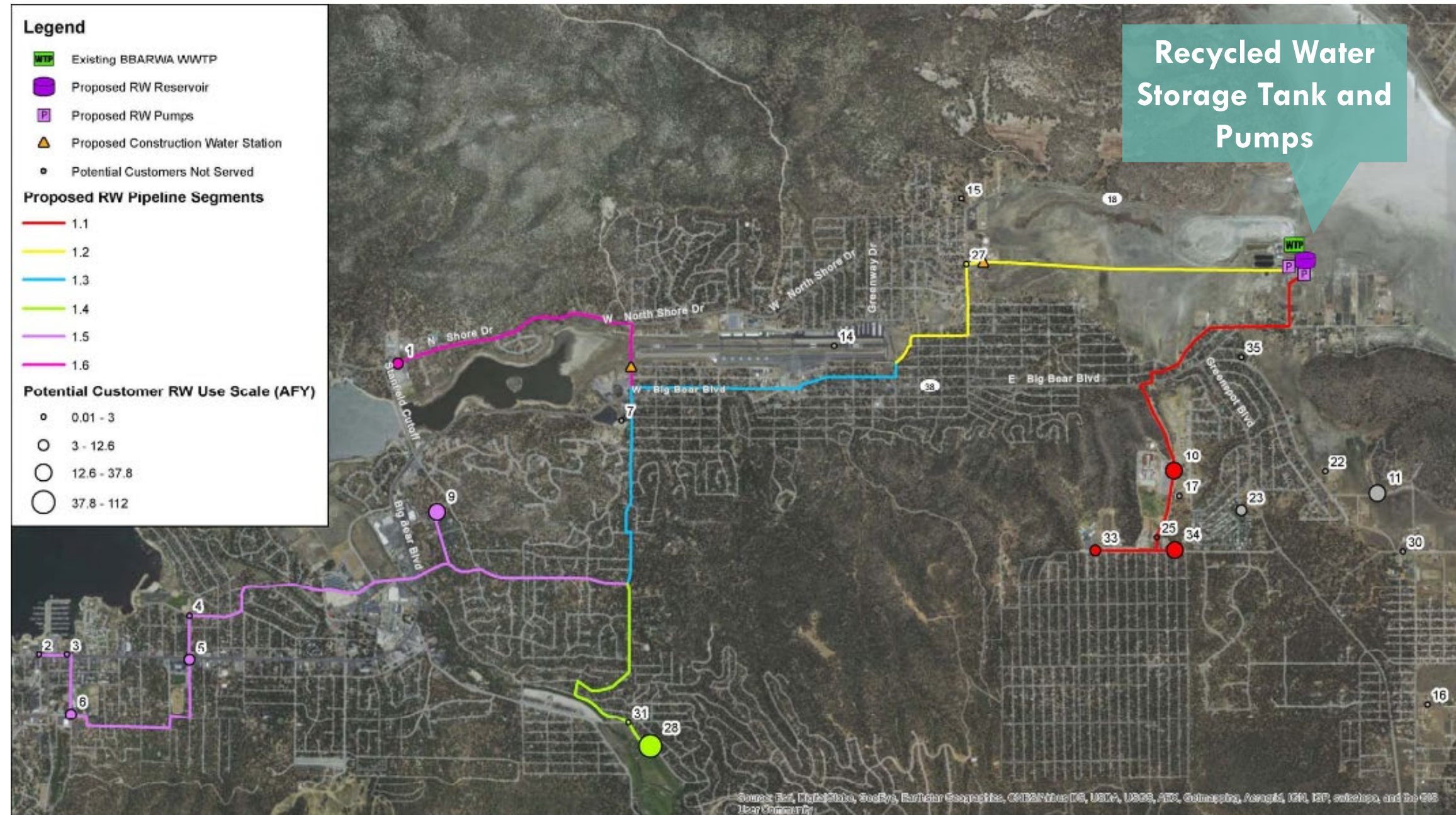


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

ALTERNATIVE

Irrigation

- **Yield: 54 AFY** for irrigation (red segment only)
- Up to 231 AFY total for all segments, but unit cost increases
- Tertiary treatment upgrades required

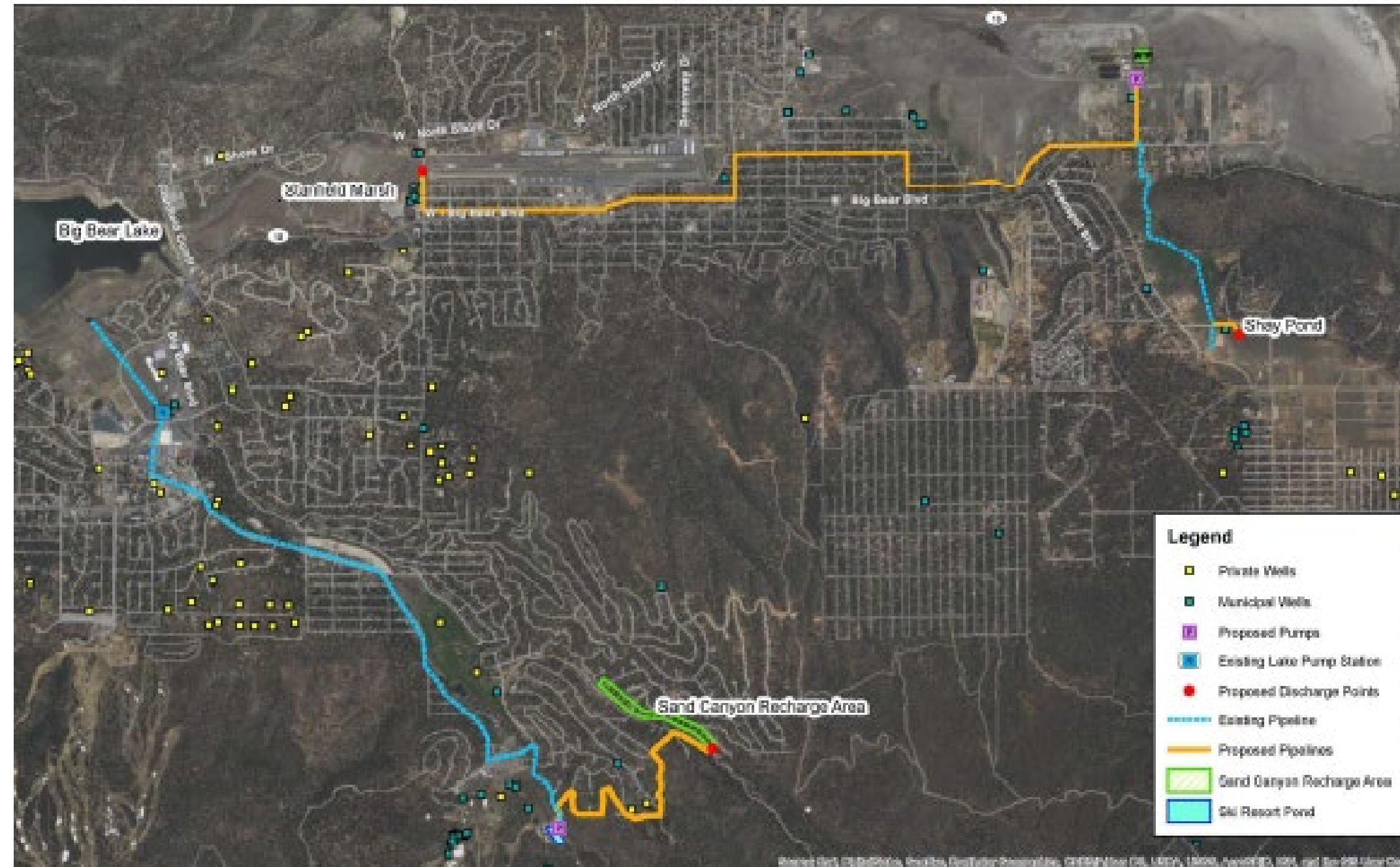


ALTERNATIVE















Lake Alternative (renamed Replenish Big Bear)



- **Yield: 2,200** AFY for multiple beneficial uses
- Marsh/Lake Discharge, Groundwater Recharge at Sand Canyon, Golf Course Irrigation
- Provides water supply, Lake and habitat benefits



Comparing Water Solutions for Big Bear Valley

	REPLENISH BIG BEAR	RECHARGE GREENSPOT & SAND CANYON	RECHARGE GREENSPOT	RECHARGE SAND CANYON	IRRIGATION
 RECYLED WATER RECOVERED <i>Percentage of total BBARWA Flow</i>	2,200 AFY* 93%	1,500 AFY 63%	1,000 AFY 42%	500AFY 21%	54 AFY 2%
 BENEFITS  <i>Water Supply</i>  <i>Habitat</i>  <i>Recreation</i>	  				
 UNIT COST <i>(\$/Acre Foot)</i>	\$3,400	\$6,500	\$6,500	\$7,900	\$5,700
 TOTAL CAPITAL COST	\$86.7 MILLION BBARWA WASTEWATER TREATMENT UPGRADES \$3.5 MILLION SAND CANYON RECHARGE	\$125 MILLION	\$86 MILLION	\$45 MILLION	\$5 MILLION

*AFY - Acre Feet Per Year

Replenish Big Bear Program Overview



Inflow from Marsh

Replenish Big Bear Lake

2,200 AFY

Stanfield Marsh/Big Bear Lake Discharge

2,200 AFY

New Purified Water Source

120 AFY

Golf Course Irrigation (GW Offset)

380 AFY

Sand Canyon Recharge

Peaks

Lucerne Valley (LV Site) Discharge Reduction

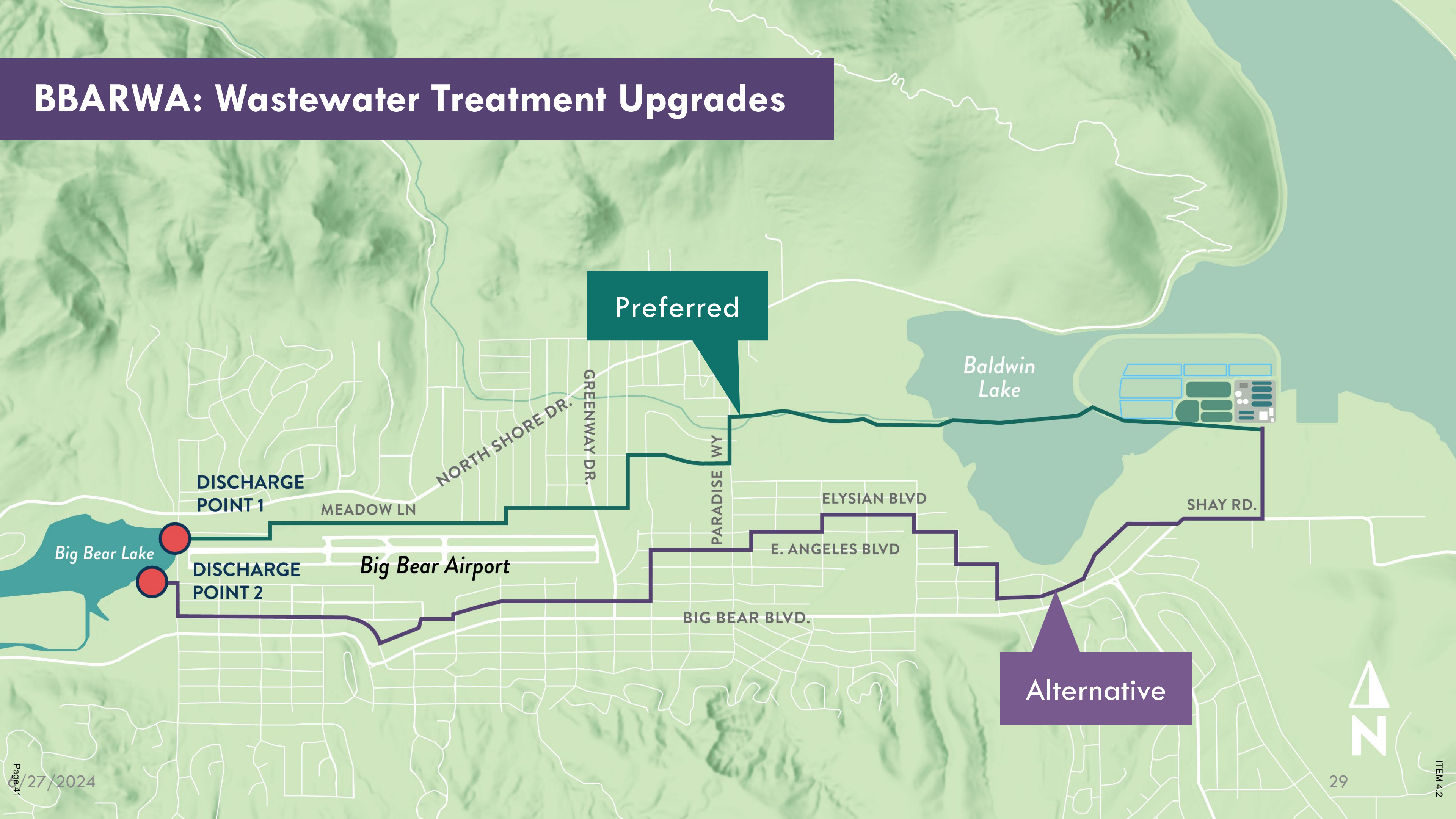
Future Option

Shay Pond Discharge

LEGEND

-  New Pipeline
-  Existing Pipeline
-  Pump Station

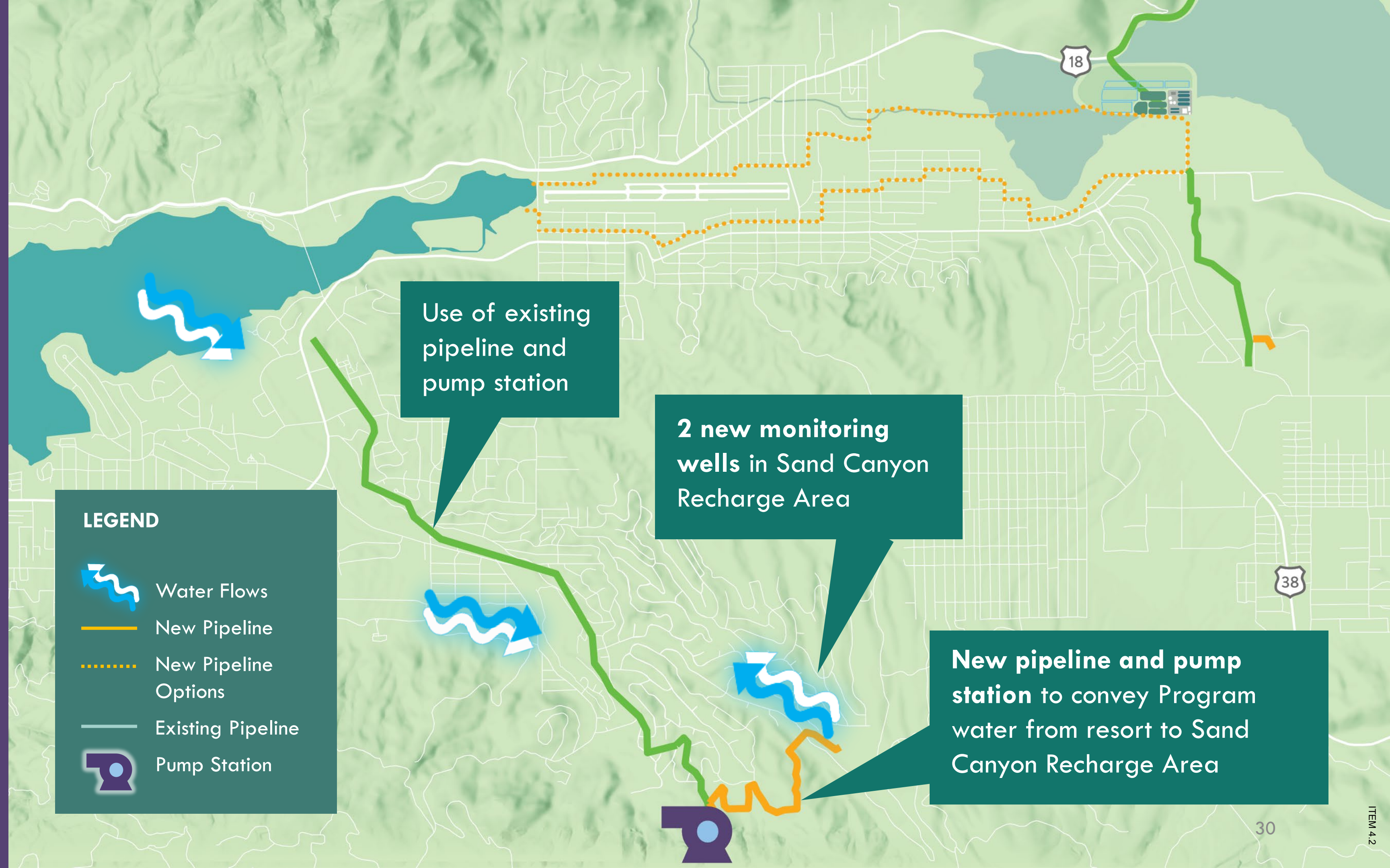
BBARWA: Wastewater Treatment Upgrades



Preferred

Alternative

BBLDWP/BBCCSD: Sand Canyon Recharge Project



LEGEND

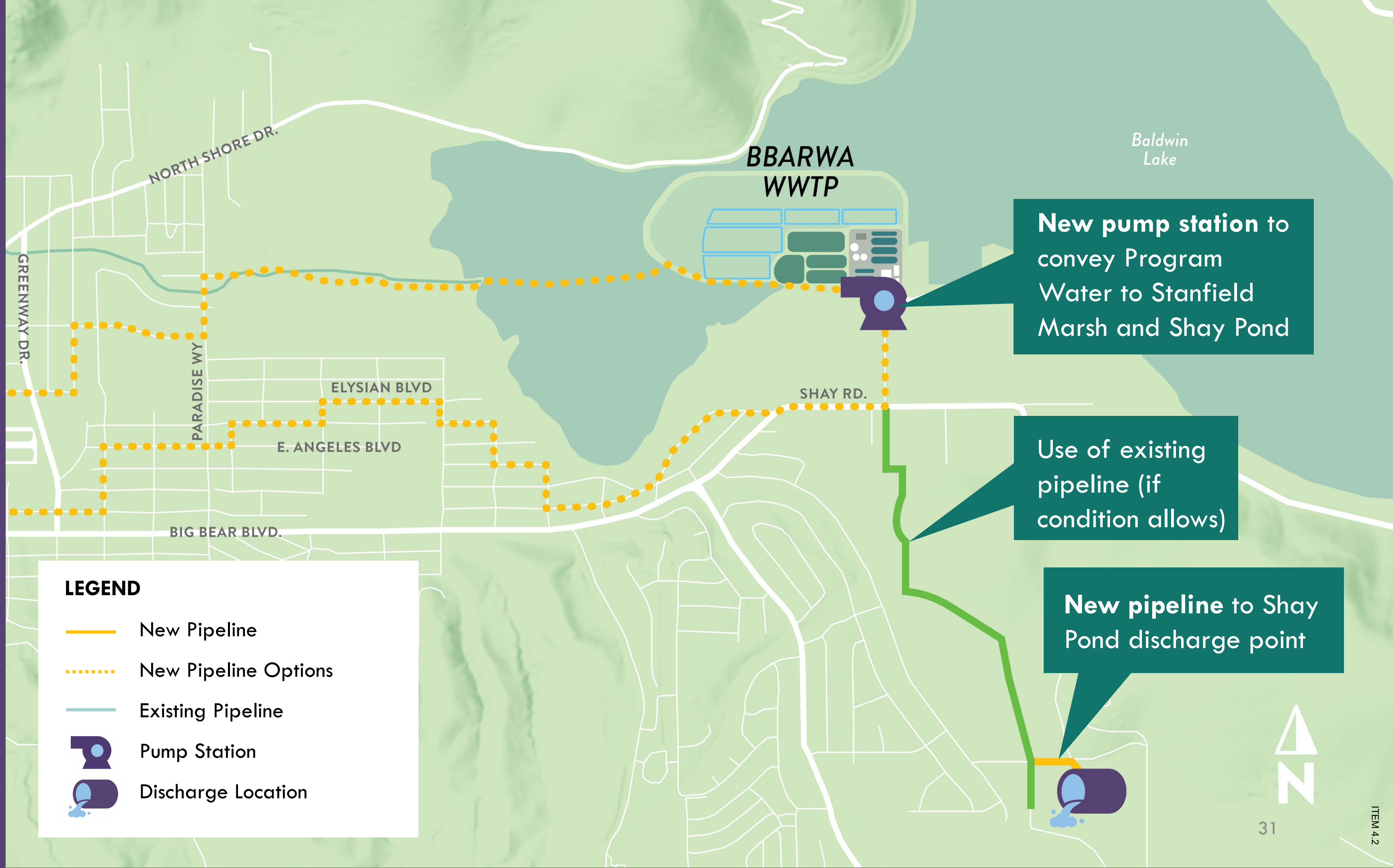
- Water Flows
- New Pipeline
- New Pipeline Options
- Existing Pipeline
- Pump Station

Use of existing pipeline and pump station

2 new monitoring wells in Sand Canyon Recharge Area

New pipeline and pump station to convey Program water from resort to Sand Canyon Recharge Area

BBARWA/BBCCSD: Shay Pond Discharge Project Future Option



LEGEND

- New Pipeline
- New Pipeline Options
- Existing Pipeline
- Pump Station
- Discharge Location

New pump station to convey Program Water to Stanfield Marsh and Shay Pond

Use of existing pipeline (if condition allows)

New pipeline to Shay Pond discharge point

Replenish Big Bear Benefits



REPLENISH
— Big Bear —



Recover local water for beneficial use in the Big Bear Valley



Recharge the groundwater basin to enhance long term sustainability



Increase Big Bear Lake levels to support recreation and habitat

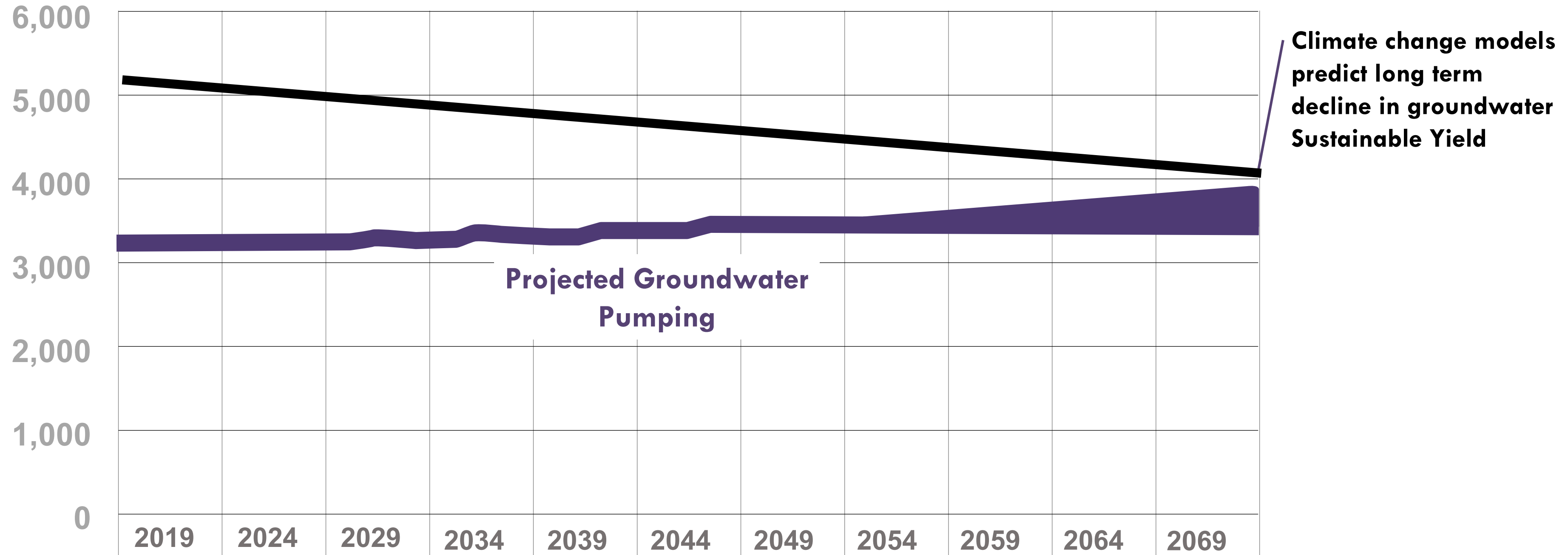


Provide a constant source of water to Stanfield Marsh to restore marsh/ meadow habitat

New Water Source Enhances Groundwater Sustainability



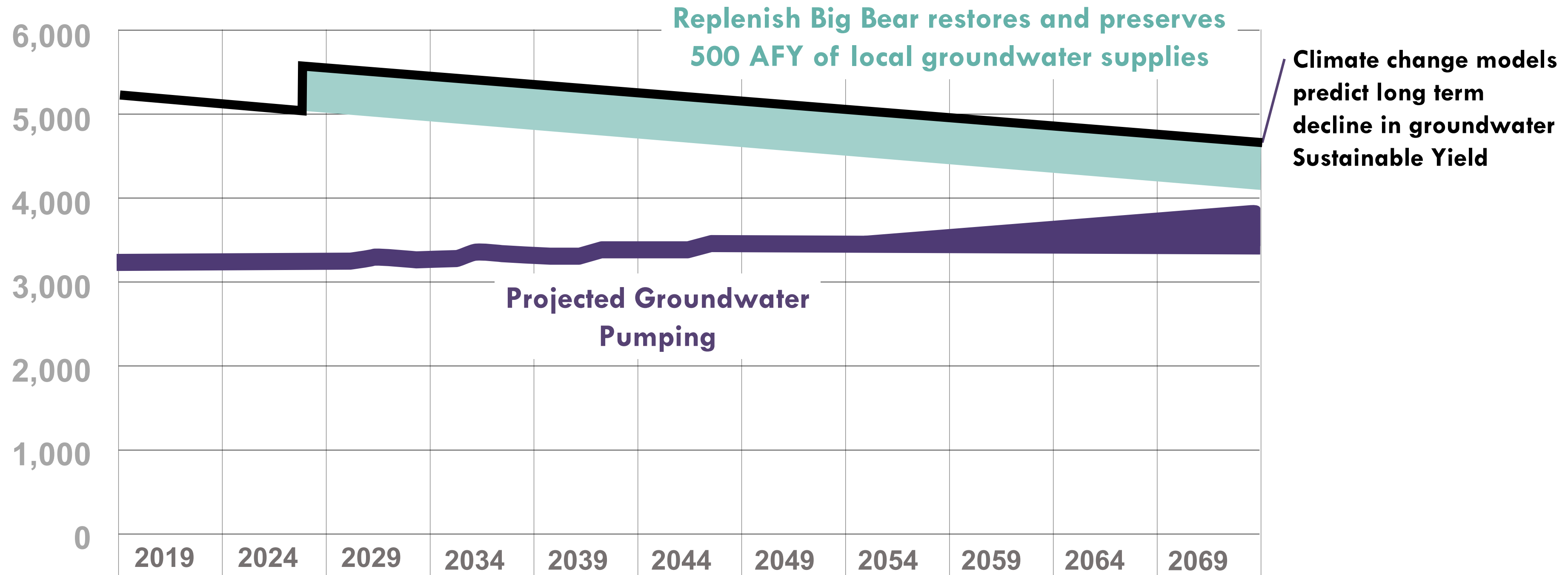
— Projected Sustainable Yield



New Water Source Enhances Groundwater Sustainability



- Projected Sustainable Yield
- Sustainable Yield with Project



Some residents and businesses receive **water** and **sewer service** from different agencies.

More than 5,500 of **BBLDWP** water customers receive **sewer service** from **BCCSD**.

Legend

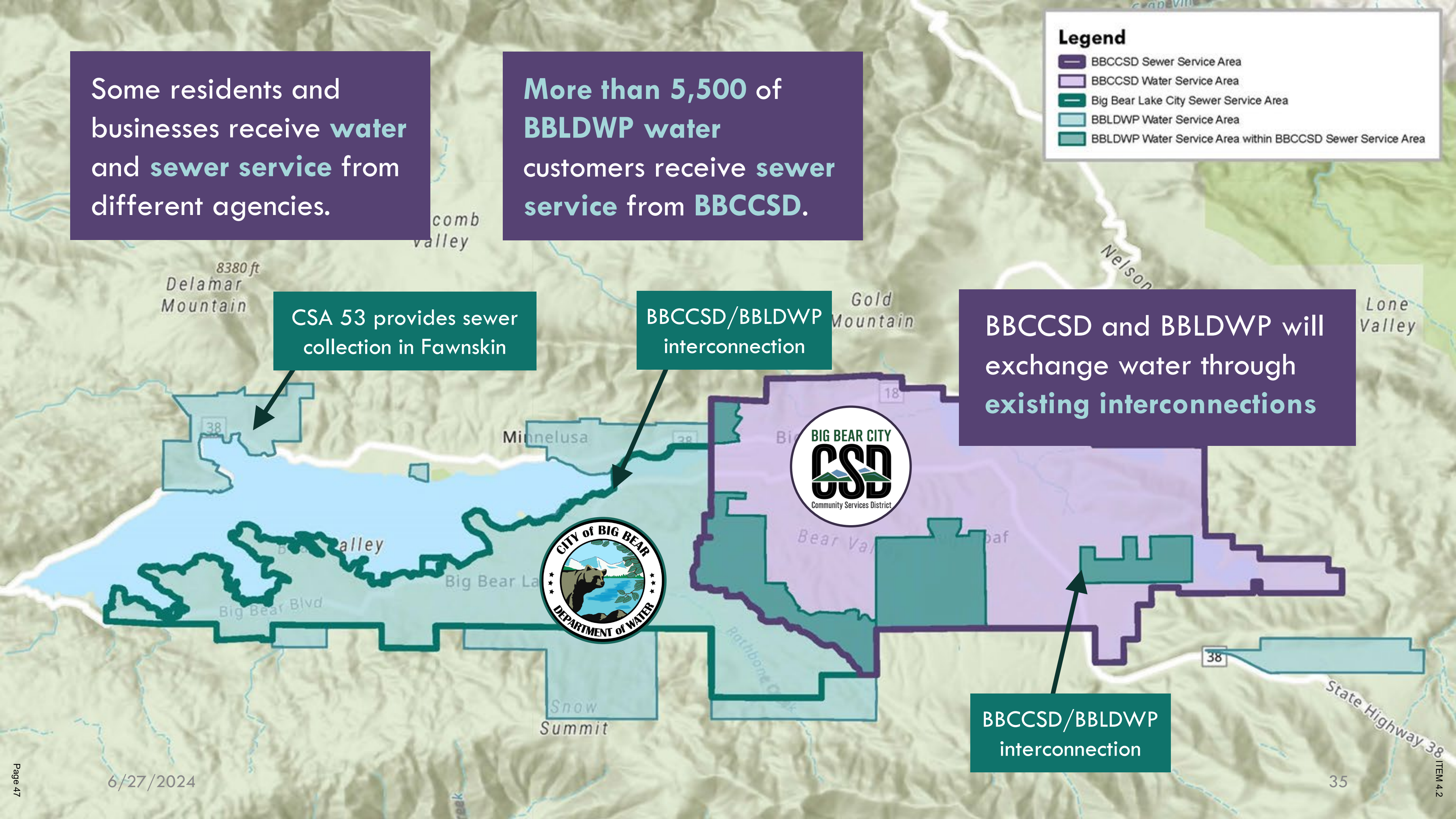
- BBCCSD Sewer Service Area
- BBCCSD Water Service Area
- Big Bear Lake City Sewer Service Area
- BBLDWP Water Service Area
- BBLDWP Water Service Area within BBCCSD Sewer Service Area

CSA 53 provides sewer collection in Fawnskin

BBCCSD/BBLDWP interconnection

BBCCSD and BBLDWP will exchange water through existing interconnections

BBCCSD/BBLDWP interconnection



Percent of Sewer EDUs

Legend

-  BBCCSD Sewer Service Area
-  Big Bear Lake City Sewer Service Area

5%

CSA 53 provides sewer collection in Fawnskin

46%

49%



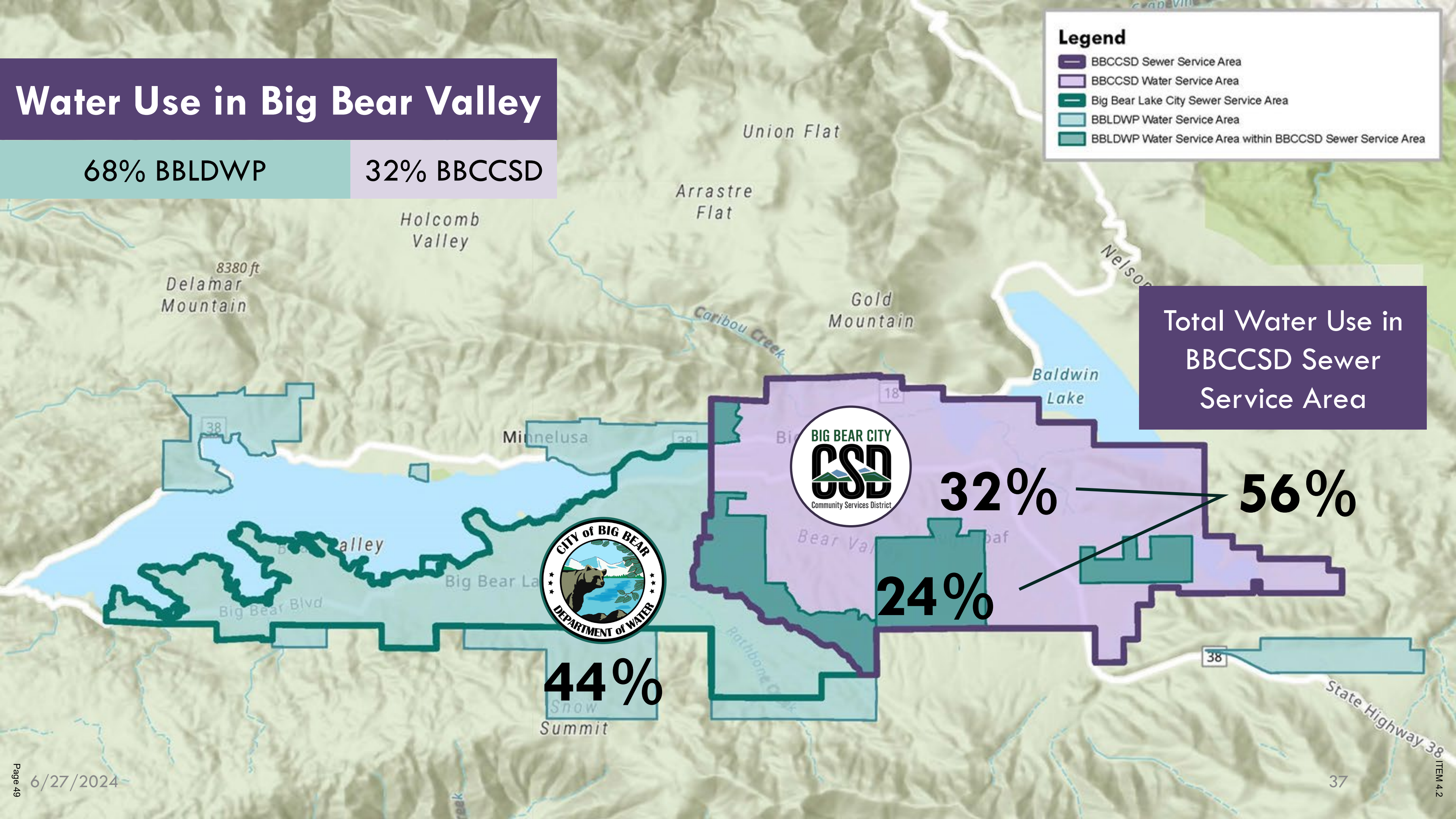
Water Use in Big Bear Valley

68% BBLDWP

32% BBCCSD

Legend

- BBCCSD Sewer Service Area
- BBCCSD Water Service Area
- Big Bear Lake City Sewer Service Area
- BBLDWP Water Service Area
- BBLDWP Water Service Area within BBCCSD Sewer Service Area



Total Water Use in BBCCSD Sewer Service Area

32%

56%

24%

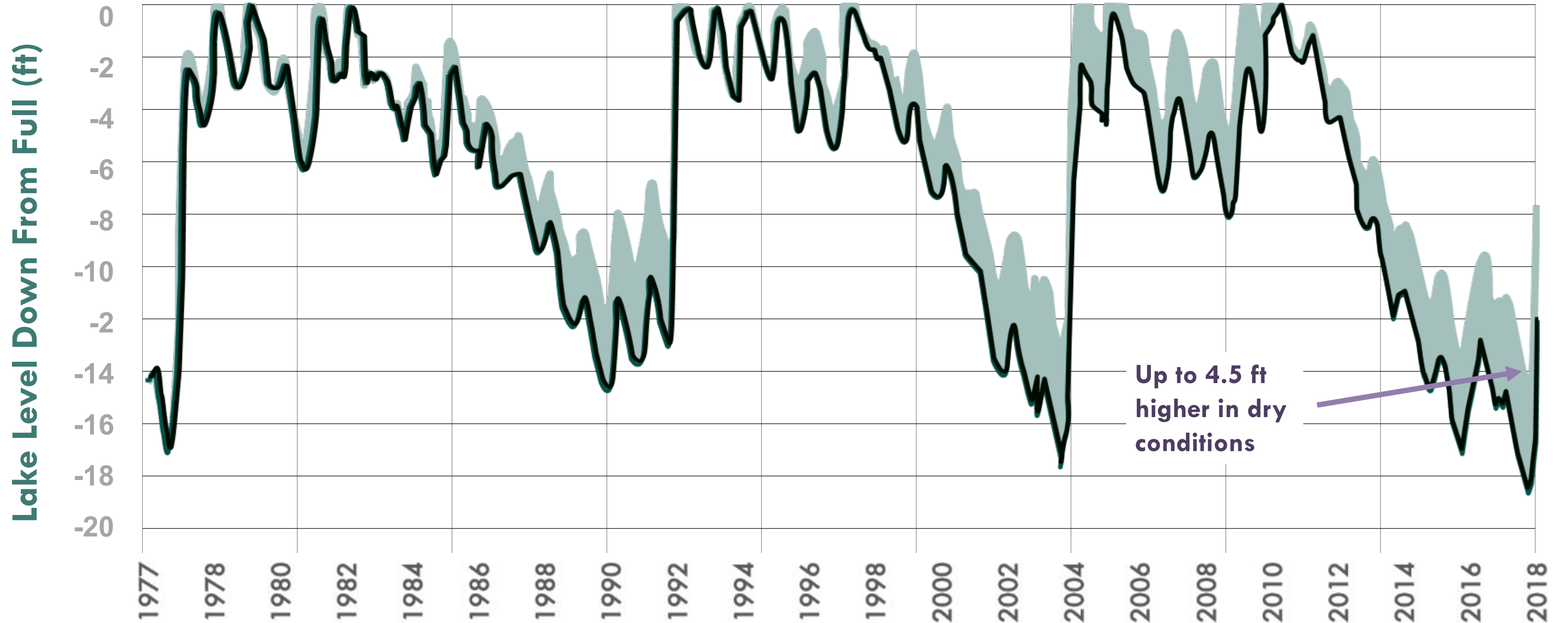
44%



New water source mitigates drought impacts to the Lake



- Historic Lake Level
- Estimated Project Lake Level

















Up to 4.5 ft higher in dry conditions

Comparing Water Solutions for Big Bear Valley



REPLENISH
— Big Bear —

	REPLENISH BIG BEAR	RECHARGE GREENSPOT & SAND CANYON	RECHARGE GREENSPOT	RECHARGE SAND CANYON	IRRIGATION
 RECYLED WATER RECOVERED <i>Percentage of total BBARWA Flow</i>	2,200 AFY* 93%	1,500 AFY 63%	1,000 AFY 42%	500AFY 21%	54 AFY 2%
 BENEFITS  <i>Water Supply</i>  <i>Habitat</i>  <i>Recreation</i>	  				
 UNIT COST <i>(\$/Acre Foot)</i>	\$3,400	\$6,500	\$6,500	\$7,900	\$5,700
 TOTAL CAPITAL COST	\$86.7 MILLION BBARWA WASTEWATER TREATMENT UPGRADES \$3.5 MILLION SAND CANYON RECHARGE	\$125 MILLION	\$86 MILLION	\$45 MILLION	\$5 MILLION

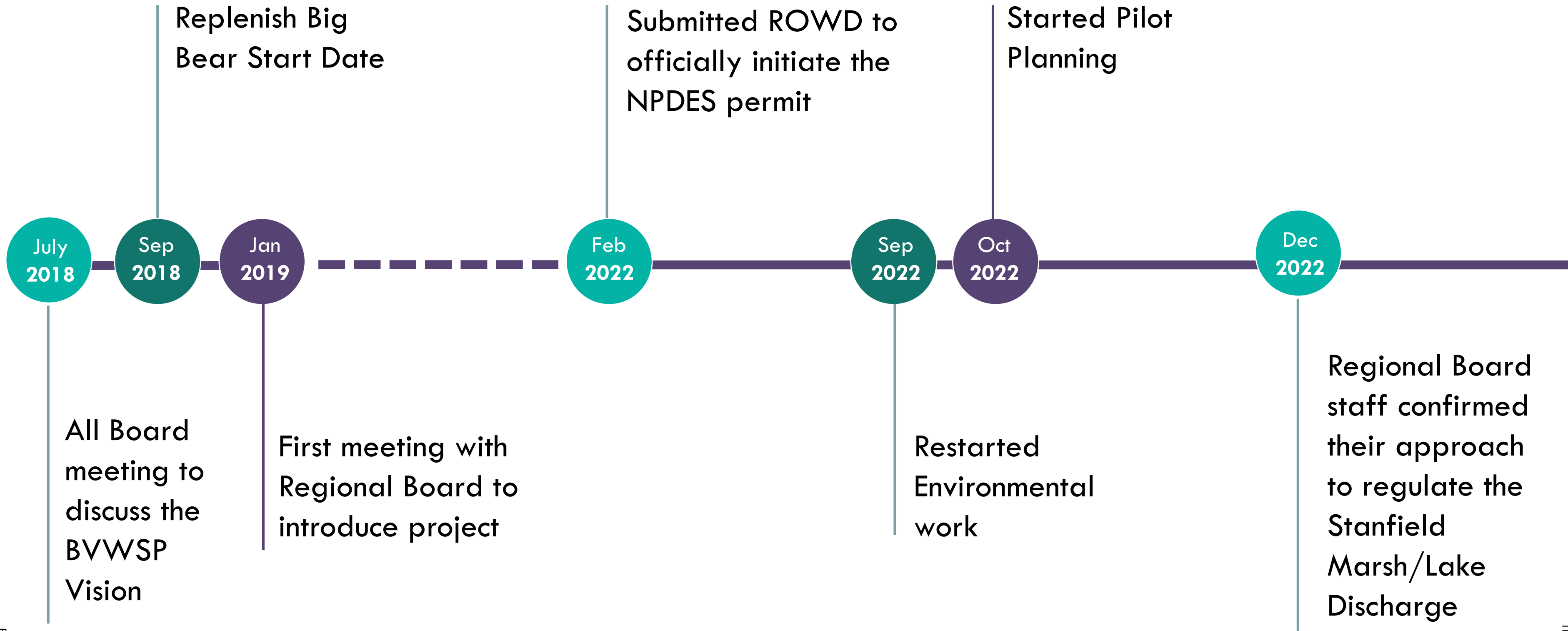
*AFY - Acre Feet Per Year

Program Kick Off - July 17, 2018

- All Boards Meeting to Kick Off the Program
- Discussed Program Goals
- Shared Understanding of Program Vision and Benefits



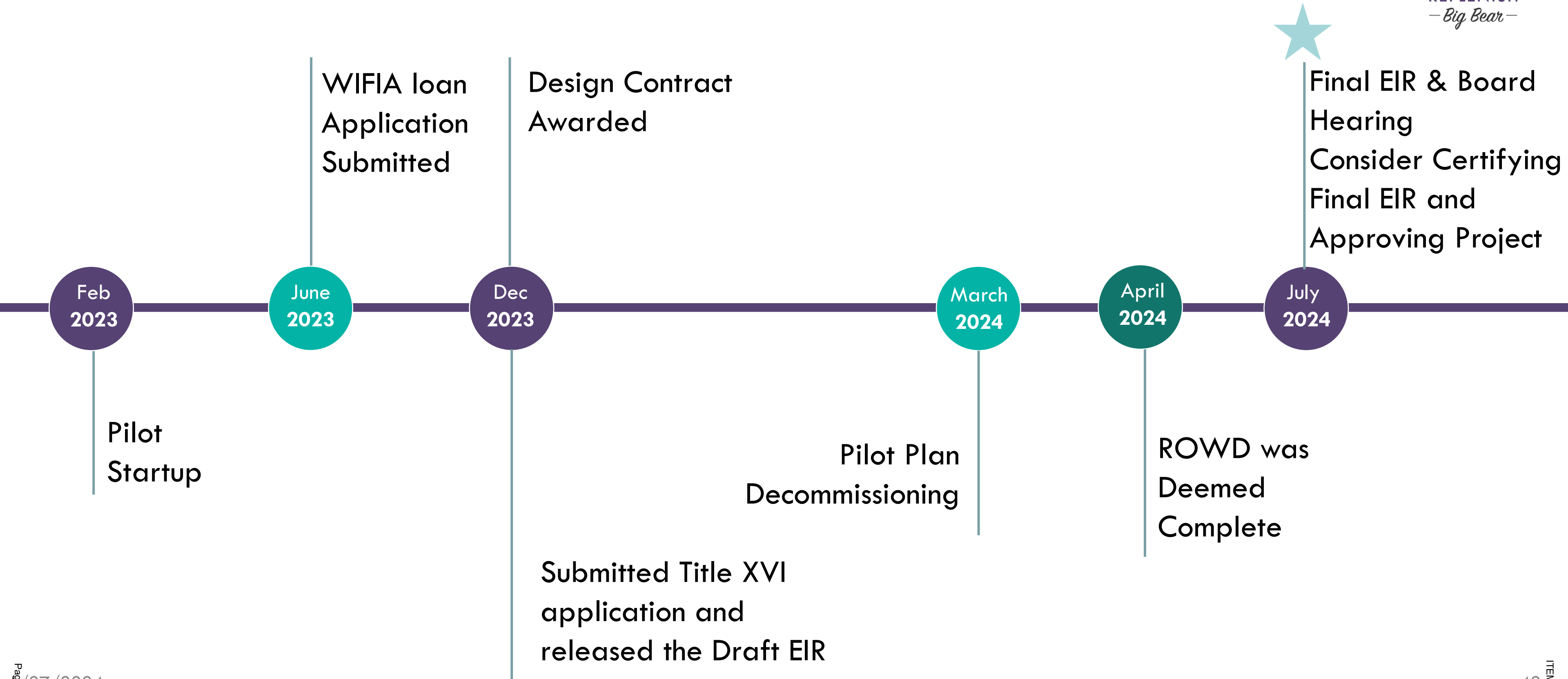
Program Milestones



Program Milestones



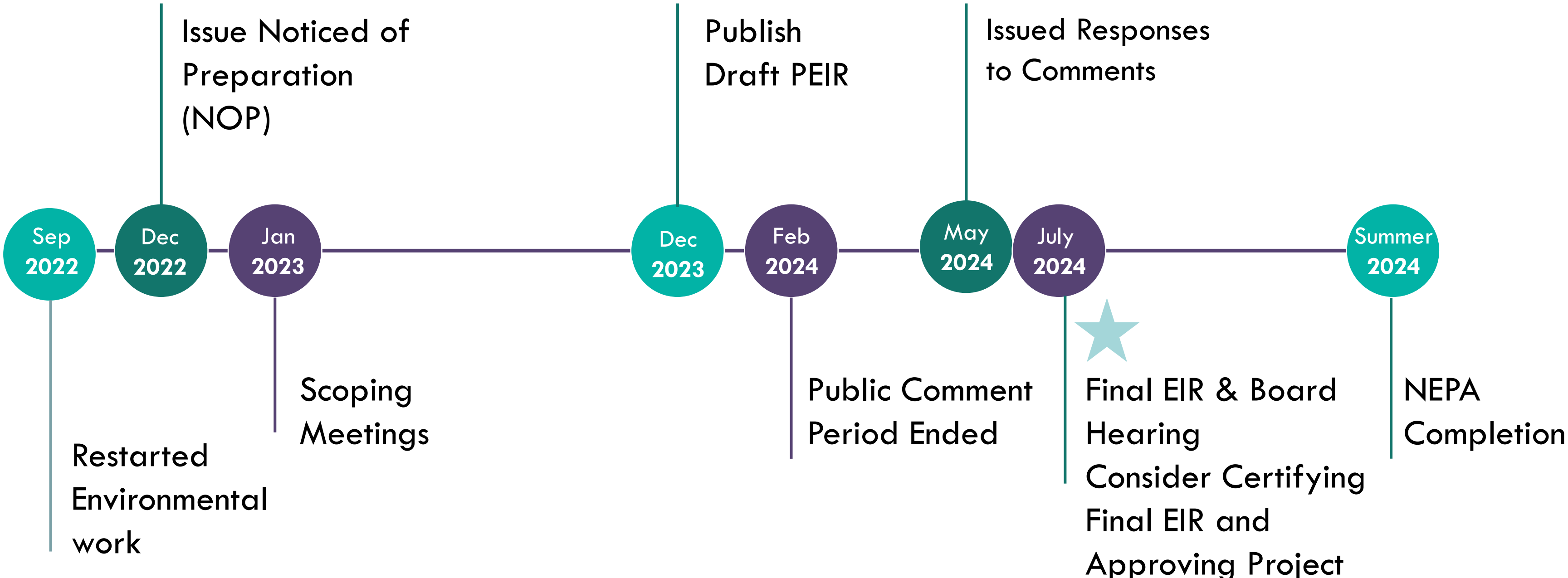
REPLENISH
— Big Bear —



Environmental Documentation Milestones



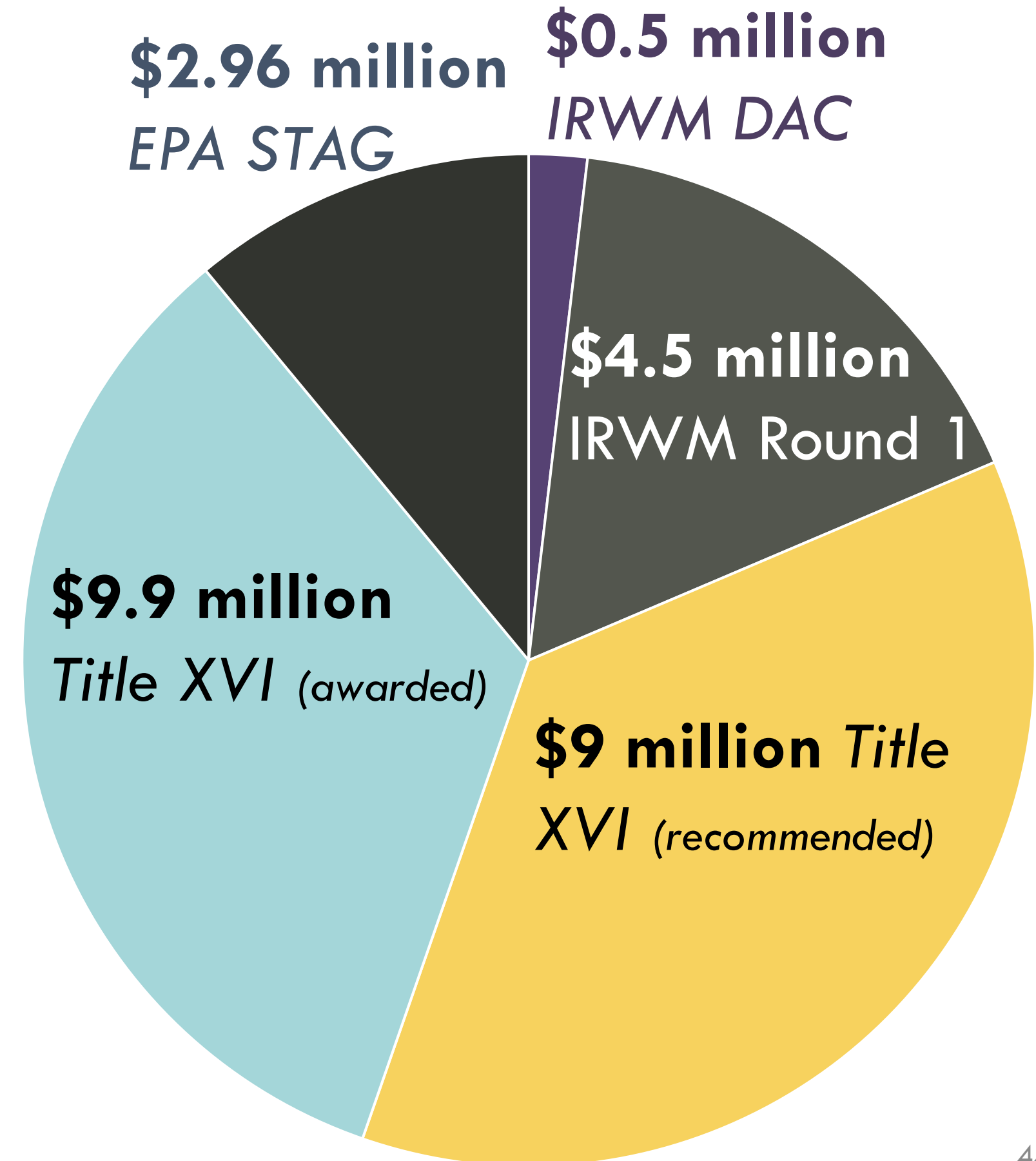
REPLENISH
— Big Bear —



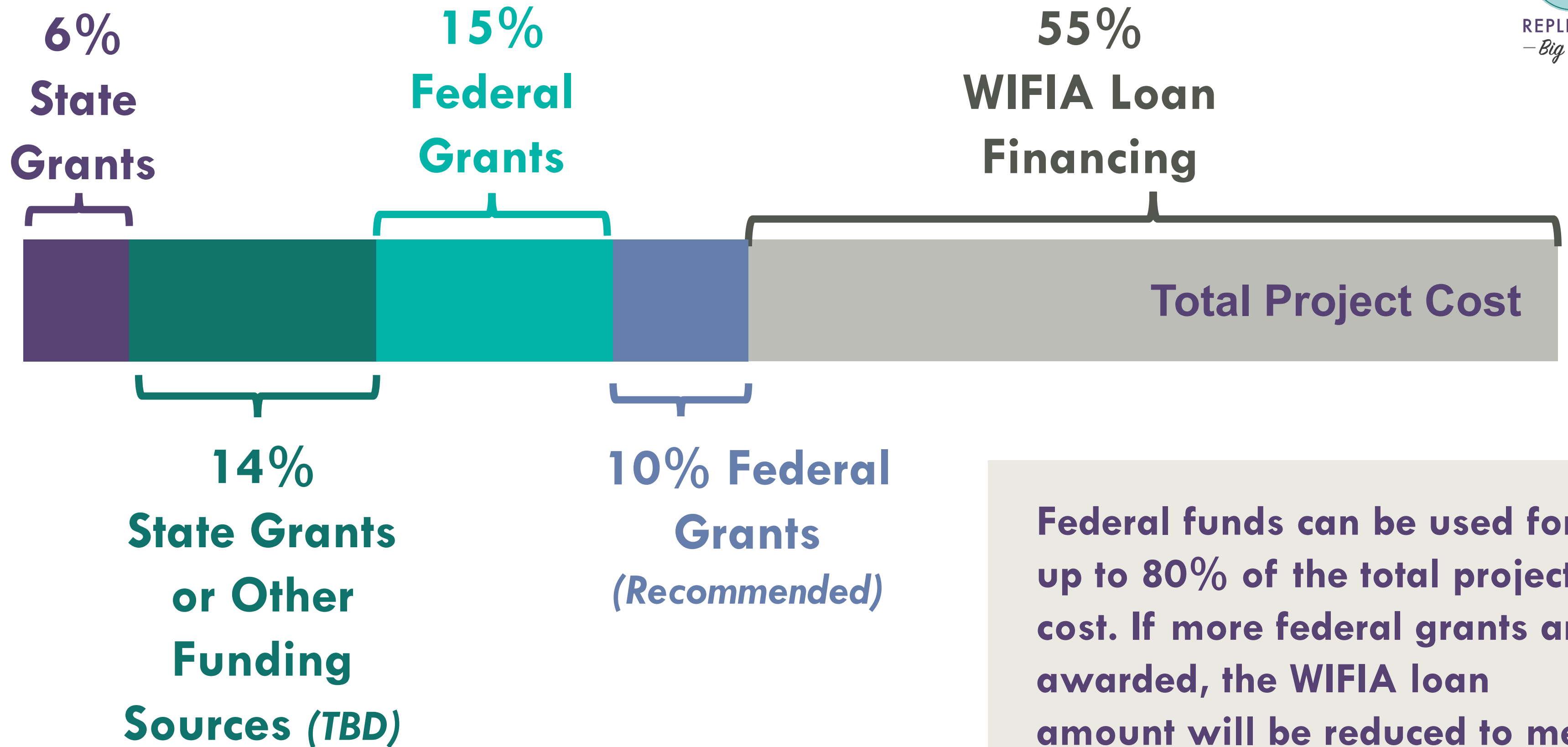
Grants to Date

Replenish Big Bear has been successful in securing about **\$27 million in grants**

- **\$18 million awarded**
- **\$9 million recommended**



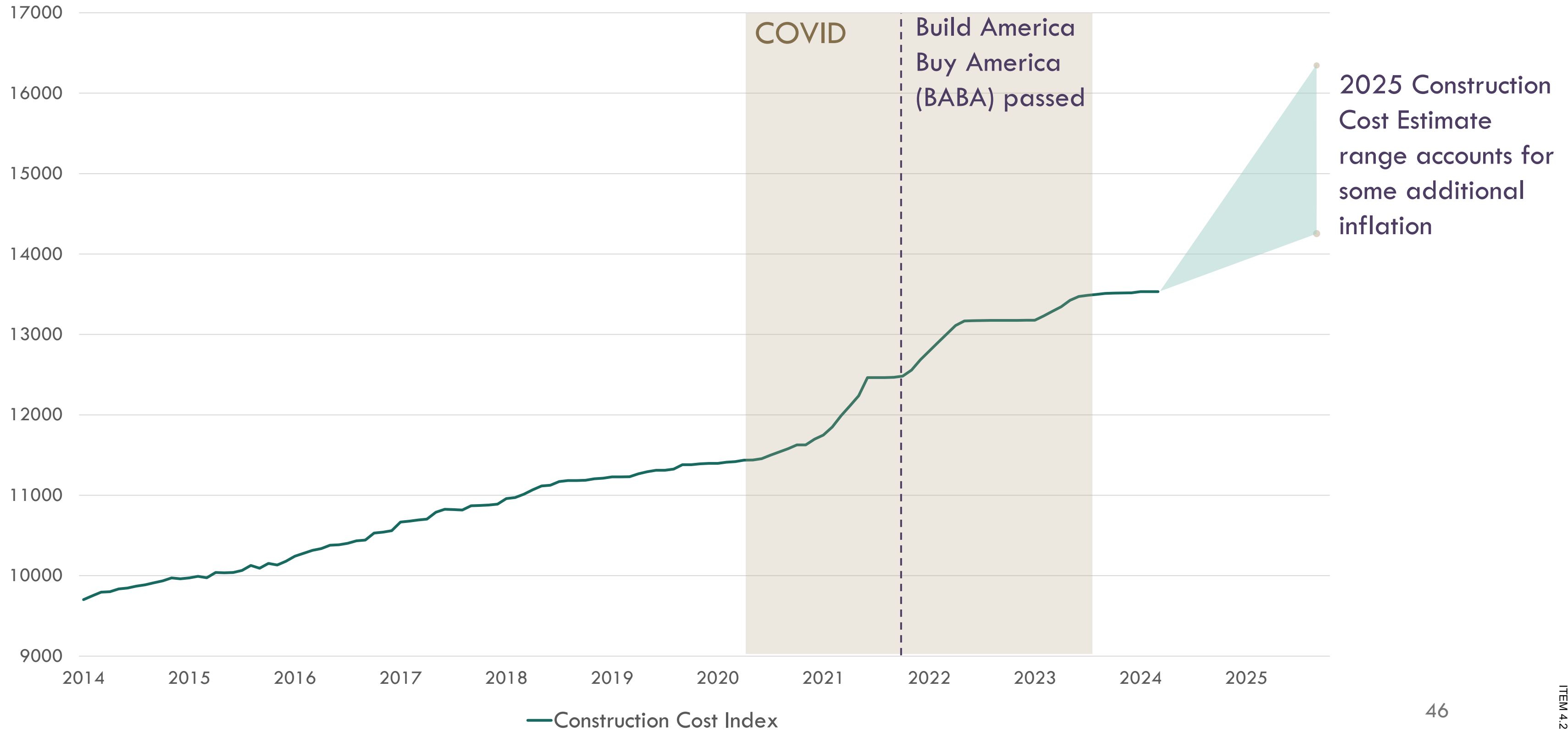
Funding and Financing



Federal funds can be used for up to 80% of the total project cost. If more federal grants are awarded, the WIFIA loan amount will be reduced to meet the 80% limit.

Program Cost Drivers

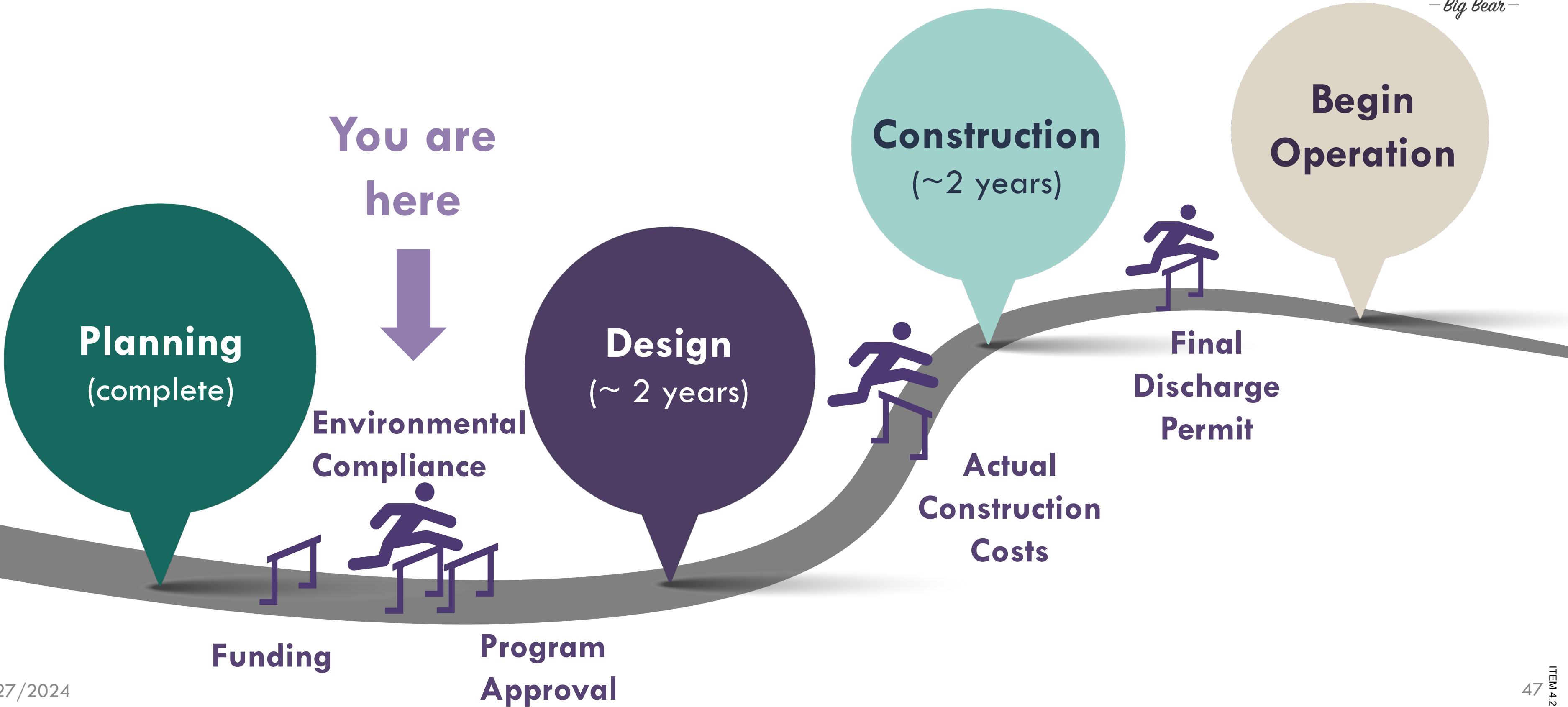
Post-COVID Construction Cost Inflation



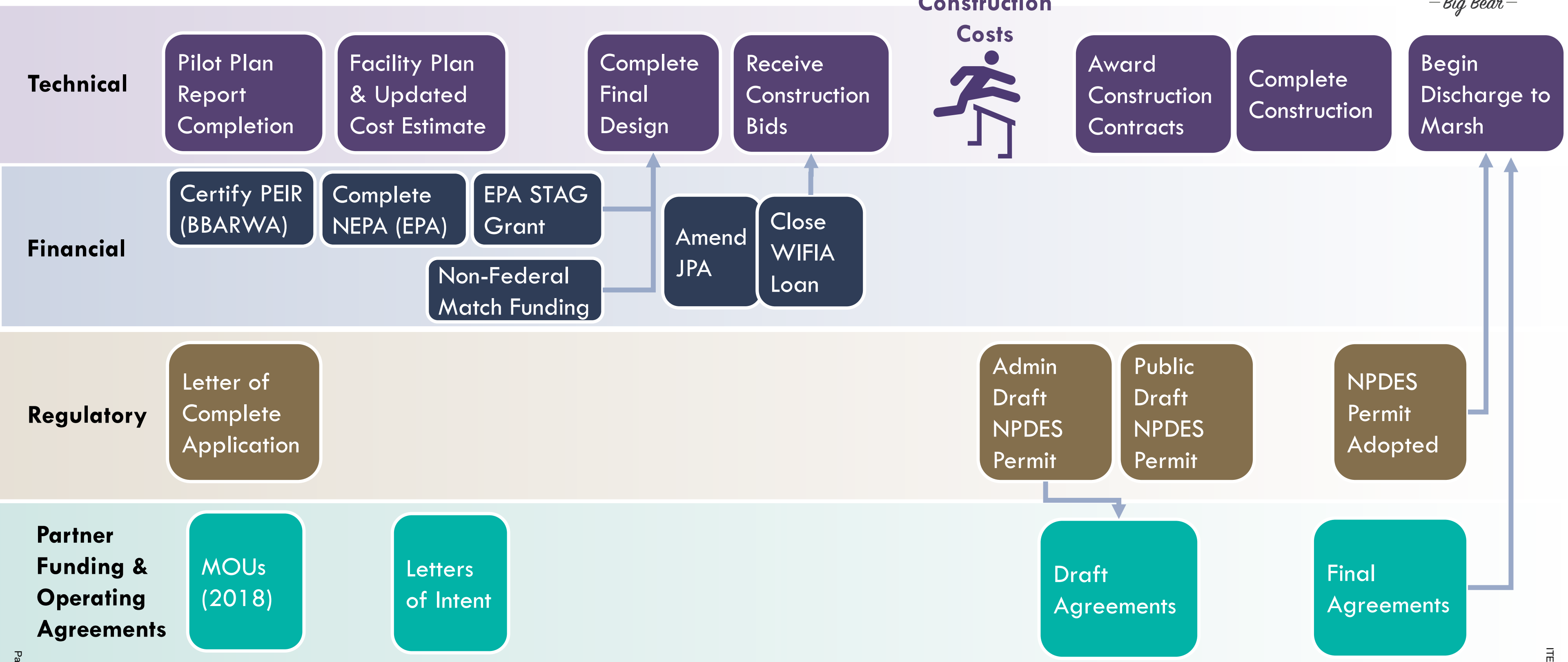
Path Forward



REPLENISH
— Big Bear —



Program Milestone Sequence



Questions?





Bear Valley Basin Groundwater Sustainability Agency Agenda Report

DATE: June 27, 2024
TO: Board of Directors
RE: **Management and Board Member Discussion**

Board Members:

James Miller, Chair
Steve Ludecke, Vice-Chair
Craig Hjorth, Treasurer
John Russo, Secretary

Management:

David Lawrence, General Manager BBARWA
Glenn Jacklin, General Manager CSD
Brittany Lamson, Interim General Manager MWD
Reginald Lamson, BVBGSA Administrator/General Manager DWP