Basin Technical Advisory Committee

Mailing Address:
380 East Vanderbilt Way
San Bernardino, CA 92408

2024 Regional Water Management Plan

December 2023
(Revised May 2024)

2024 Regional Water Management Plan

Table of Contents

Executive Summary

In December 2007, fourteen agencies adopted the Upper Santa Ana Watershed Integrated Regional Water Management Plan (Integrated Plan). This comprehensive water resources plan identifies various management strategies that will help ensure a reliable water supply for the San Bernardino, Yucaipa, Big Bear Valleys, and San Gorgonio Pass area. The Plan covers all, or portions of the cities and communities of San Bernardino, Riverside, Fontana, Rialto, Colton, Grand Terrace, Loma Linda, Highland, Redlands, Mentone, Yucaipa, Big Bear Lake, the San Timoteo Watershed, Beaumont, Banning, Cherry Valley and a large portion of the San Bernardino National Forest. Most of the planning area is within the boundaries of the San Bernardino Valley Municipal Water District (Valley District). The Integrated Plan was updated in 2020 as the Upper Santa Ana Watershed Integrated Regional Urban Water Management Plan (IRUWMP).

The Basin Technical Advisory Committee (BTAC), made up of water agency staff and other stakeholders, was formed to implement the Integrated Plan. Each year, the BTAC prepares its Regional Water Management Plan (RWMP) for consideration by the two Boards that make up the Western-San Bernardino Watermaster: Western Municipal Water District and Valley District. The goal of the RWMP is to evaluate the three, general water management goals based on the Integrated Plan and the underlying agreements and judgments.

Goal	Description	Management Action(s)	Status
	**Manage Water Levels.** Water levels that are too high can cause liquefaction in an earthquake.	Recharge thresholds are set to maximize recharge while avoiding high groundwater	☑
	**Manage Santa Ana River Diversions.** Mitigate for Valley District and Western Municipal Water District diversions that would have recharged the SBB and the Riverside North Basin.	A minimum of 17% of diversions shall be recharged in the SBB. Recharge in Riverside North tracked by Watermaster Table 17-C.	☑ ☑
	**Manage Contaminant Plumes.** We do not want management actions to cause additional spread of the existing contaminant plumes.	Recharge thresholds are set to reduce, or eliminate, any impacts to contaminant plumes.	☑

2024 Regional Water Management Plan

WATER RESOURCES AND FORECAST:

	Dec. 2023	May 2024
State Water Project (SWP) Allocation	**Initial; 10%**	40%
SBVMWD/WMWD Santa Ana River Diversions for WY2023-24 (acre-feet)	**Low**	
San Bernardino Basin Conditions:		
Liquefaction Potential:	**Low**	
Leakage across the San Jacinto Fault:	**Low**	
Total Storage, 2022 (acre-feet)	**4,658,475**	4,881,235
Estimated Storage Space Available, Fall 2022 (acre-feet)	**(1,031,525)**	(808,765)
Artificial recharge threshold in SBBA (no high groundwater or plume movement) (acre-feet)	**625,000**	402,000
Total Change in Storage Trend	**Down/Stable**	Gaining
Subsidence Risk?	**Appendix H**	
Riverside North Basin Condition	**Appendix C**	
Water Levels	**Appendix D**	
Precipitation Trend	**Down; Appendix E**	
Rialto-Colton Basin Condition	**Appendix G**	
Yucaipa Basin Condition	**Appendix J**	

BTAC RECOMMENDATIONS:

	Dec. 2023	May 2024
SBVMWD/WMWD Santa Ana River Diversions:		
Direct delivery	None	
Artificial Recharge (17% required by Riverside Agreement unless credits)	All	
Exchange (long-term storage/banking, 40 cfs max)	None	
Additional San Bernardino Basin pumping to lower water levels:	No	
State Water Project Water:		
Available (estimate as of Dec. 1, 2023):		
Carryover (acre-feet) from 2023	49,500	51,300
Kern-Delta Water Bank (5,000 af/yr maximum)	2,907	2,907
Big Bear Lake (Table A <= 40%)	-	
Entitlement (acre-feet) - 10% Initial Table A allocation	10,260	41,040
Yuba Accord (acre-feet)		
TOTAL STATE WATER PROJECT SUPPLIES	**62,667**	95,247
Demands:		
Estimated Direct Deliveries	21,725	26,500
CLAWA Sale (acre-feet)	200	
Recommended uses for available State Water Project Water:		
Short-term (carryover) storage into 2025 for direct deliveries (acre-feet)	11,132	21,246
SBB Groundwater Council (acre-feet) and other recharge	29,610	44,594
Long-term storage/banking (acre-feet)	TBD	2,907
Sale	TBD	
TOTAL USE	**62,667**	95,247

2024 Regional Water Management Plan (continued)

BTAC RECOMMENDATIONS (Continued):

Artificial Recharge Targets (Local and Imported Water)

San Bernardino Basin [1,2]	Recommended Maximum (AF)	Estimated Recharge Capacity (AFY)*
1. Waterman Basins & 9. East Twin Creek Spreading Basin	54,625	29,160
2. Santa Ana Basins	71,250	81,000
3. Mill Creek Basins	42,750	54,000
4. City of Redlands Spreading Basins	-	
5. Bear Valley Spreading Basin	-	
6. Santa Ana River Bottom	-	Variable
7. Patton Basin	-	
8. EVWD Turnout	-	
10. Badger Basins	8,313	2,025
11. Wiggins Basin	-	
12. Devil Canyon & Sweetwater Basins	13,063	12,150
13. Gravel Pits	-	
14. Others, including City Creek and streambeds	-	Variable
Sub-total SBBA	**190,000**	**178,335**

[1] Suggested maximum recharge values. See Appendix F.

[2] Due to shallwow groundwater levels in this area, exceeding this value may result in rejected recharge at this location.

*Assumes 75% firm capacity based on percolation rate and monthly capacity; equivalent to nine (9) months of continuous recharge

	Recommended Maximum (AF)	Estimated Recharge Capacity (AFY)
Rialto-Colton Basin	7,000	-
Yucaipa Basin	5,000	8,000
Riverside North Basin		
SBVMWD Recharge in Riverside North (Watermaster Table No. 17C)	7,543	-
Other	-	-

Other Requirements

Water Level Requirements of Agreements met?	Yes	
Triennial water quality report provided to RWQCB?	Submitted to RWQCB in December 2021	

New for 2024

The following is the list of new content or changes made to the Regional Water Management Plan since last year:

1. **Pages 4 (Water Resources & Forecast, and BTAC Recommendations):** Few changes made to the Water Resources & Forecast table including a column for current conditions/ estimate as of November 2023 and a column for May 2024 where updated numbers will be added next year.
2. **Page 5 (BTAC Recommendations)**: Estimated artificial recharge capacity column was added to show a realistic amount that can be recharged at each location relative to what is plausible.

Definitions

Artificial recharge: Intentionally introducing water into the groundwater system by man-made means such as pouring water into pits and allowing it to percolate into the ground.

BTAC: Basin Technical Advisory Committee

Direct delivery: Any delivery that is made to benefit one single agency. Examples include deliveries to surface water treatment plants and for artificial recharge projects that recharge a specific well field owned by one agency.

SBB: San Bernardino Basin

Western Judgment: Western Municipal Water District of Riverside County, et al. vs. East San Bernardino County Water District, et al., 1969.

APPENDIX

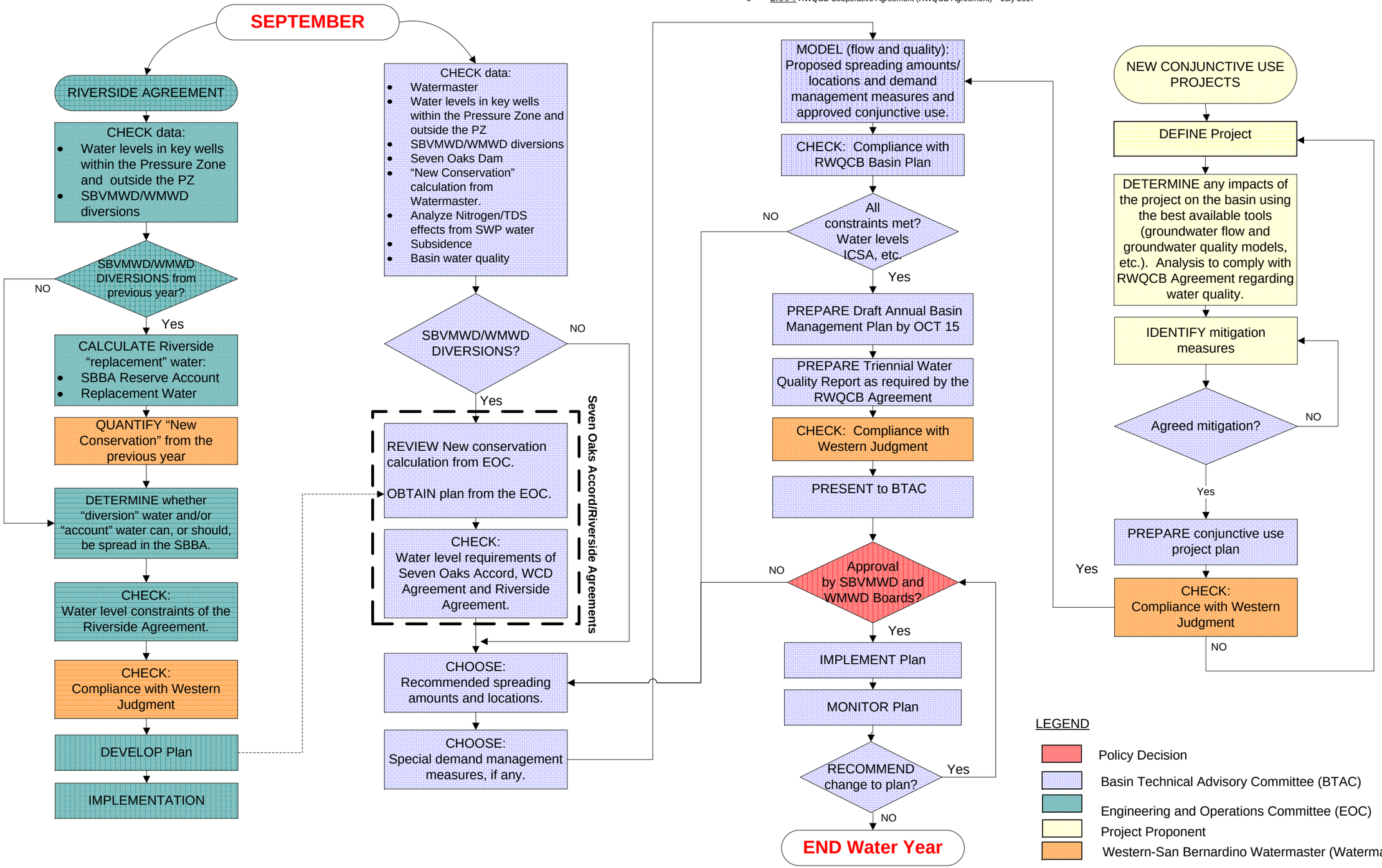
A. PROCESS FLOW CHART FOR MANAGING THE SBB

INTEGRATED REGIONAL WATER MANAGEMENT PLAN

Process for Managing the San Bernardino Basin Area

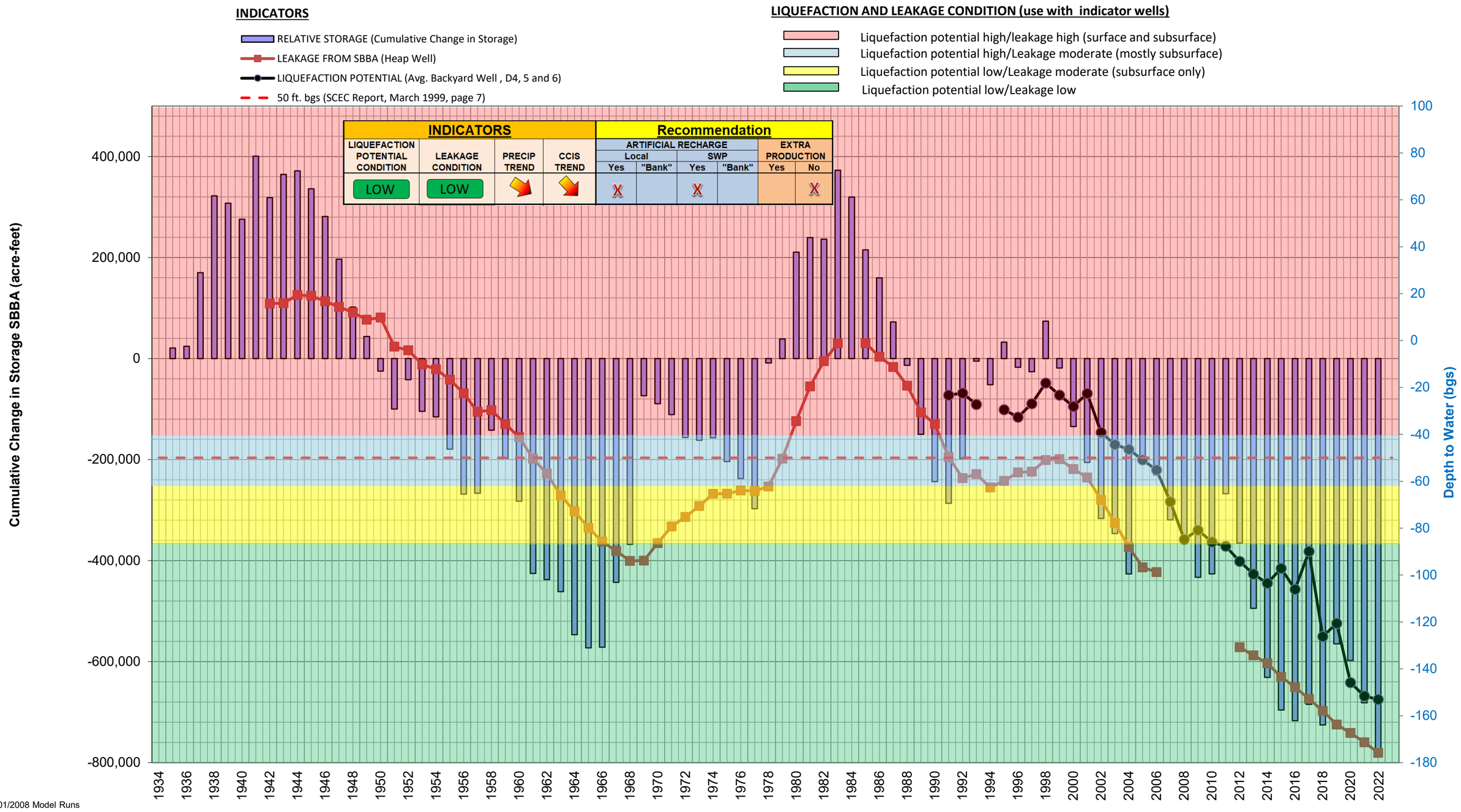
Sources:

- Western Judgment – April 1969
- Seven Oaks Accord – July 2004
- Settlement Agreement Among SBVWCD, SBVMWD, and WMWD – August 2005
- MOU Among City of Riverside, SBVMWD, and WMWD – September 2005
- Agreement Among City of Riverside, SBVMWD and WMWD – March 2007
- Institutional Controls Settlement Agreement (ICSA)
- DRAFT RWQCB Cooperative Agreement (RWQCB Agreement) – July 2007



B. SBB RECOMMENDATIONS

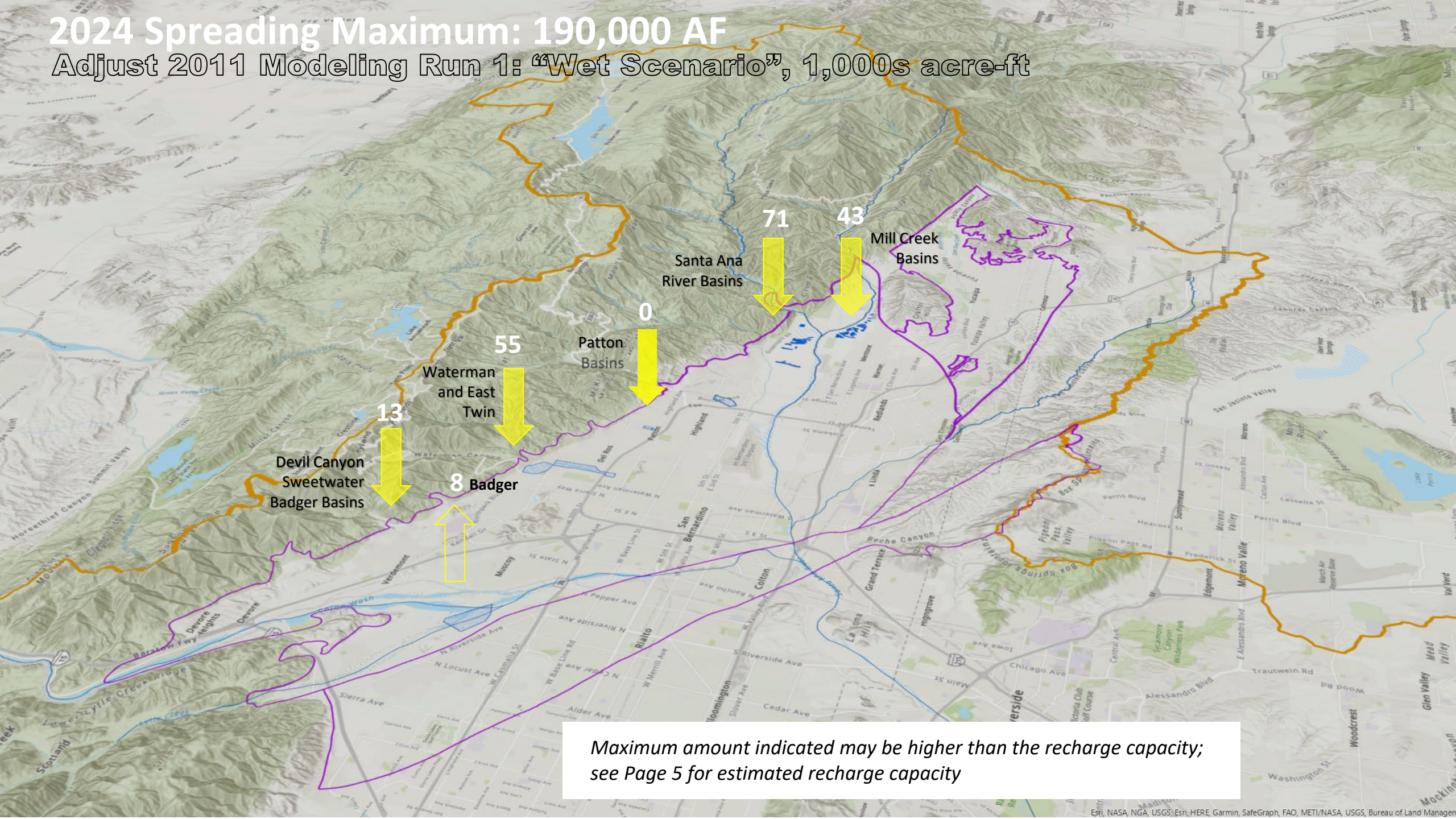
BTAC ANNUAL MANAGEMENT PLAN: SHOULD WE ARTIFICIALLY RECHARGE? DO WE NEED EXTRA PRODUCTION?



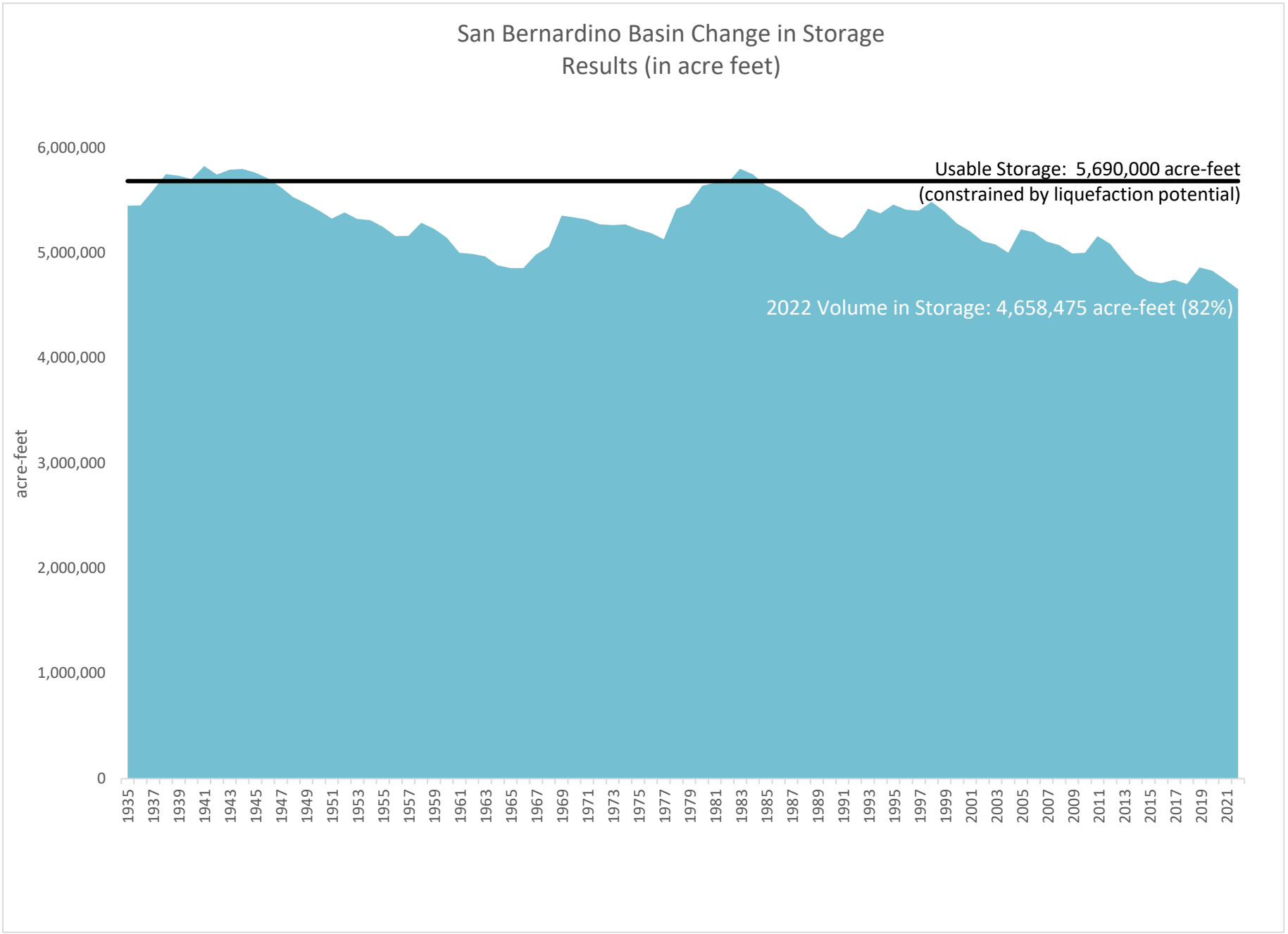
01/2008 Model Runs

2024 Spreading Maximum: 190,000 AF

Adjust 2011 Modeling Run 1: "Wet Scenario", 1,000s acre-ft



Maximum amount indicated may be higher than the recharge capacity; see Page 5 for estimated recharge capacity


San Bernardino Basin Change in Storage
Results (in acre feet)
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
acre-feet
Usable Storage: 5,690,000 acre-feet
(constrained by liquefaction potential)
2022 Volume in Storage: 4,658,475 acre-feet (82%)
1935
1937
1939
1941
1943
1945
1947
1949
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
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2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021

C. RIVERSIDE AGREEMENT SUMMARY

SAN BERNARDINO Valley MUNICIPAL WATER DISTRICT

380 East Vanderbilt Way
San Bernardino, CA 92408
phone: 909.387.9200
fax: 909.387.9247
www.sbvmwd.com

March 7, 2016

Todd Jorgenson
Utilities Assistant General Manager
Riverside Public Utilities
3900 Main Street
Riverside, CA 92522

SUBJECT: Calculations Required by the Riverside Agreement

Dear Todd,

In March 20, 2007, Riverside Public Utilities (Riverside), Western Municipal Water District (Western) and San Bernardino Valley Municipal Water District (Valley District) entered into an agreement titled Agreement Relating to the Diversion of Water from the Santa Ana River System Among Western Municipal Water District of Riverside County, San Bernardino Valley Municipal water District and City of Riverside (Riverside Agreement). The main purpose of the Riverside Agreement was to mitigate for any reduction in natural recharge in the river bottom within the San Bernardino Basin Area (SBBA) and the Riverside North Basin that may be caused by the upstream diversion of SAR water by Valley District/Western. To mitigate the impacts of these upstream diversions on groundwater recharge, the agreement establishes a procedure for calculating the portion of the upstream diversions by Valley District/Western that would have recharged in the SBBA and the Riverside North Basin (reduced recharge). These reduced recharge calculations are performed each year by the Seven Oaks Dam Water Diversions Engineering and Operations Committee (EOC), formed by the Riverside Agreement, and the results are tracked in two "accounts". The "Reserve Account" tracks the amount of reduced recharge in the SBBA and the "Riverside North Basin Recharge Account" tracks the amount of reduced recharge in the Riverside North Basin (collectively referred to hereafter as "Riverside Agreement calculations").

Western, Riverside and Valley District worked to develop a methodology for calculating "new conservation", as defined in the 1969 Western-San Bernardino Judgment. This analysis used existing computer models to determine how much of the Valley District/Western diversions are "new" to the basin, first considering the amount of stormwater that would have historically recharged the river bottom. While this analysis was being performed, Riverside and Valley District agreed to postpone the annual calculations required under the Riverside Agreement. Once the analysis was complete, the Western-San Bernardino Watermaster (Watermaster) decided to track the portion of water that would have recharged in the Riverside North basin, absent the Valley District/Western diversions downstream of Seven Oaks Dam, in Table No. 17C of the annual Watermaster Report. Recently, the EOC updated the calculations for the

Riverside North Basin Recharge Account per the methodology in the Riverside Agreement and the river bottom recharge rate determined in the new conservation analysis. The balance calculated by the EOC was within 2% of the amount calculated by the Watermaster in Table No. 17C. For this reason, the EOC is recommending that Watermaster Table No. 17C be used to track the balance in the Riverside North Basin Recharge Account. The balance in this table will also be published in the Basin Technical Advisory Committee (BTAC) Regional Water Management Plan (Plan) each year.

The Reserve Account tracks the percentage of Valley District/Western diversions that are recharged in the San Bernardino Basin Area (SBBA). Under the Riverside Agreement, a minimum of 17% of the Valley District/Western diversions are to be recharged in the SBBA. To date, 100% of the diversions have been recharged into the SBBA resulting in a 83% "credit" (credits expire after 5 years) in this account. The BTAC Plan already includes a recommendation for the Valley District/Western diversions. The EOC is recommending that the Reserve Account requirement be tracked using the recommendation in the BTAC Plan, which will be shown as a percentage.

The EOC is recommending that the above-mentioned methodology be used as the Riverside Agreement Calculations. The EOC will continue to meet annually, as required under the Riverside Agreement, to review the results of the Riverside Agreement Calculations. This decision to change the methodology is considered "administrative" and may be changed, at any time, by Riverside and/or Valley District.

This letter is intended to document this decision.

Sincerely,

Douglas D. Headrick

Douglas Headrick, P.E.
General Manager
and Chief Engineer

cc: Bob Tincher
Michael Plinski, RPU
John Rossi, WMWD
Tim Barr, WMWD

Attachments:
Watermaster Table No. 17C
Riverside Agreement 2015 Statement
2016 BTAC Plan showing Riverside Agreement Calculations

TABLE NO. 17C

ANNUAL ACCOUNTING FOR
RIVERSIDE BASIN MITIGATION ACCOUNT
RELATED TO SEVEN OAKS WATER CONSERVED
IN SAN BERNARDINO BASIN AREA

(All Values in Acre-Feet)

		Calendar Years				
		2018	2019	2020	2021	2022
MITIGATION ACCOUNT ADDITIONS	1					
Long Term Forecast Annual Average Amounts Included Pursuant to Footnote	2	483 12	483 12	483 12	483 12	483 12
Specific Year Amounts Included Pursuant to Footnote	3, 13	0	0	0	0	0
Total Mitigation Account Additions	4	483	483	483	483	483
ACCUMULATED MITIGATION ACCOUNT ADDITIONS	5	5,611	6,094	6,577	7,060	7,543
MITIGATION ACCOUNT EXTRACTIONS	6					
Extractions by City of Riverside	7	0	0	0	0	0
Extractions by Other Than Plaintiffs	8	0	0	0	0	0
Total Mitigation Account Extractions	9	0	0	0	0	0
ACCUMULATED MITIGATION ACCOUNT EXTRACTIONS	10	0	0	0	0	0
MITIGATION ACCOUNT BALANCE	11	5,611	6,094	6,577	7,060	7,543

ANNUAL ACCOUNTING FOR RIVERSIDE BASIN MITIGATION ACCOUNT RELATED TO SEVEN OAKS WATER CONSERVED IN SAN BERNARDINO BASIN AREA

1 *Pursuant to the 2013 Agreement Regarding Additional Extractions of New Conservation Water From the San Bernardino Basin Area (Basin) (2013 Agreement), any amount of replenishment in the Basin resulting from operation of Seven Oaks Dam and related diversion and spreading facilities that, in the absence of such operation, would have been replenished in the Riverside Basin, shall be included in a Riverside Basin Mitigation Account. Such water is referred to herein as Mitigation Water.*

2 *Equal annual average amounts of Mitigation Water determined on the basis of a long term forecast of Seven Oaks related conservation at the Santa Ana River Spreading Grounds. Pursuant to the 2013 Agreement, such forecasts are subject to periodic change and hence the otherwise equal annual amounts may change periodically.*

3 *Specific amounts of Mitigation Water resulting from a determination of prior years (1998-2012) new conservation and any determination of new conservation resulting from conservation through direct use, recharge in the Basin in areas other than the Santa Ana River Spreading Grounds and/or export from the Basin and subsequent return for direct use or recharge.*

4 *Long Term Forecast Annual Average Amounts plus Specific Year Amounts.*

5 *Accumulated amount of Mitigation Account Additions includes amounts accumulated prior to the current five-year period.*

6 *Pursuant to the 2013 Agreement, the City of Riverside may be required to extract San Bernardino Basin Area water that is included in the Mitigation Account and reduce extractions in its Flume Tract wells in the Riverside Basin by the same amount. Similarly, San Bernardino Valley may choose to extract water that is included in the Mitigation Account and deliver it for recharge in the Riverside Basin.*

7 *Amounts of Mitigation Water extracted by City of Riverside pursuant to the 2013 Agreement.*

8 *Amounts of Mitigation Water extracted by any producer other than Plaintiffs for delivery and recharge in the Riverside Basin.*

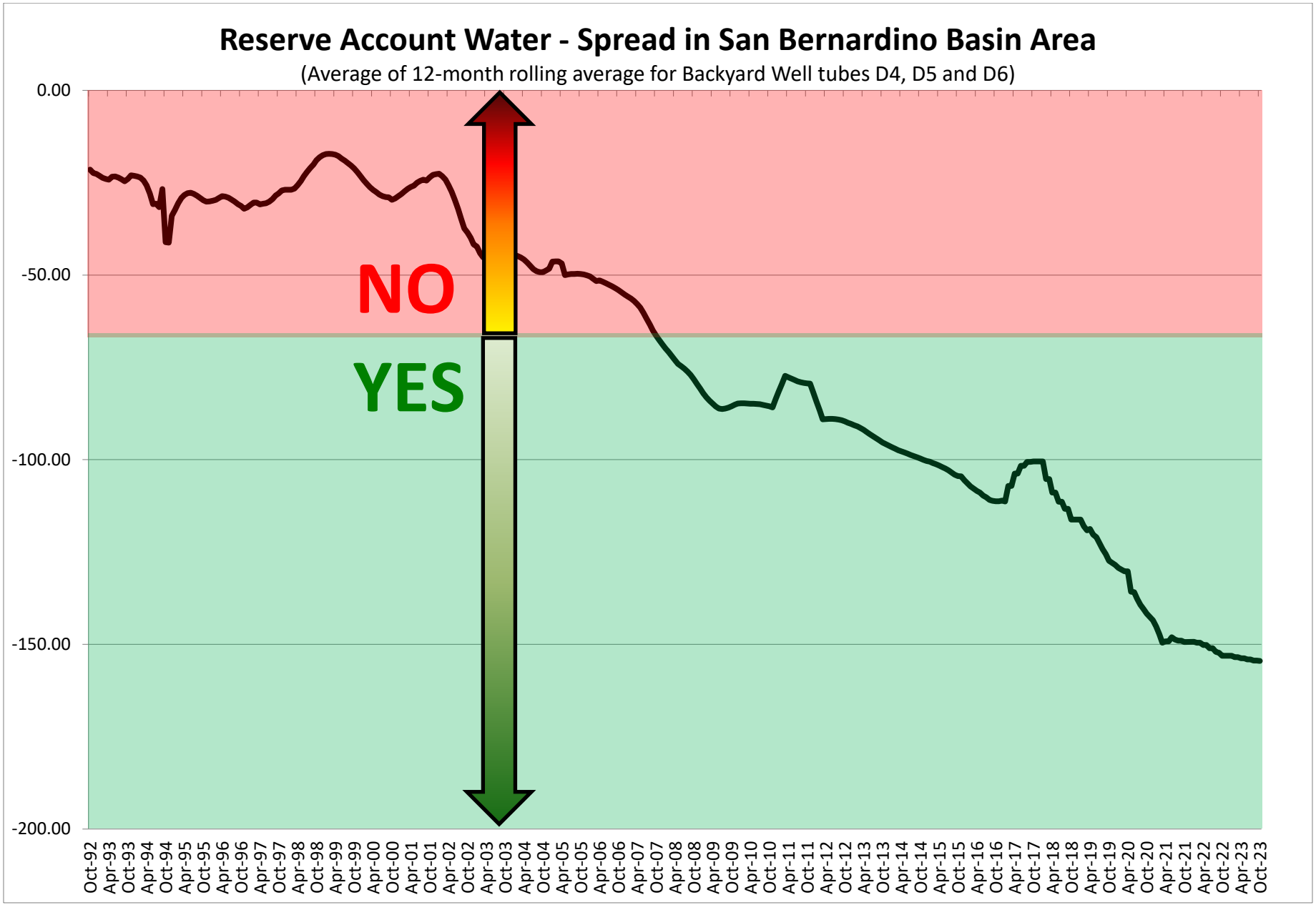
9 *Extractions by City of Riverside plus Extractions by Other Than Plaintiffs.*

10 *Accumulated amount of Mitigation Account Extractions includes amounts accumulated from 1971 to the current five-year period.*

11 *The amount of Mitigation Water Additions to the Mitigation Account minus the amount of Mitigation Water Extractions from the Mitigation Account by City of Riverside and by Other Than Plaintiffs in San Bernardino County.*

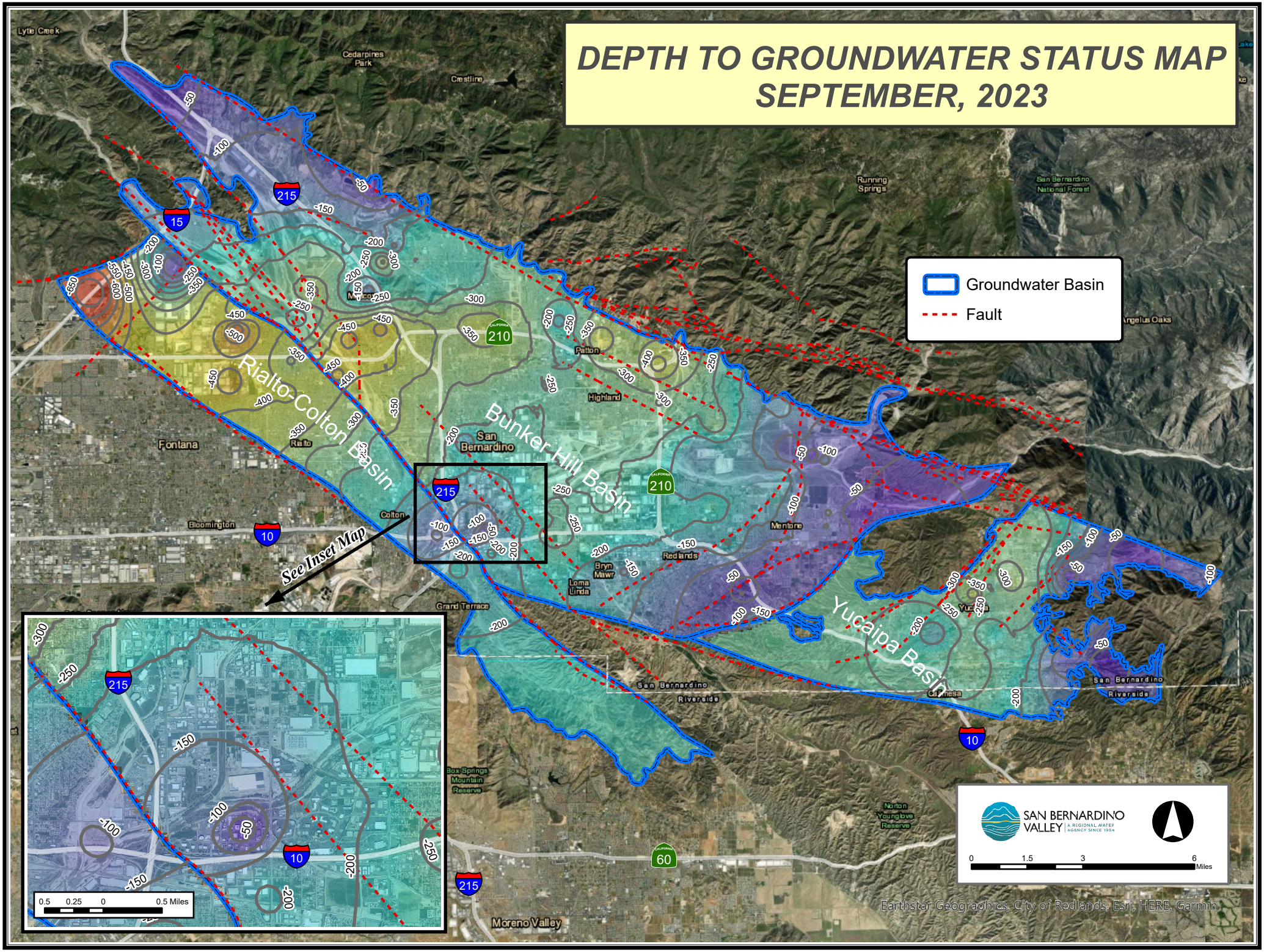
12 *Based on calculations by GEOSCIENCE/SAIC in an August 1, 2013 Technical Memorandum to Western and San Bernardino Valley, Watermaster determined that 483 acre-feet/year of Mitigation Water should be included in the Riverside Basin Mitigation Account based on the current maximum spreading grounds diversion rate of 195 cfs. Inclusion of such annual average amount of Mitigation Water continues annually until another long term forecast results in a change.*

13 *Based on calculations by GEOSCIENCE/SAIC in an August 1, 2013 Technical Memorandum to Western and San Bernardino Valley, Watermaster determined that during prior years 1998-2012, 2,713 acre-feet of Mitigation Water should be included in the Riverside Basin Mitigation Account.*



Riverside Agreement, Section 3.8.2

D. WATER LEVEL DATA



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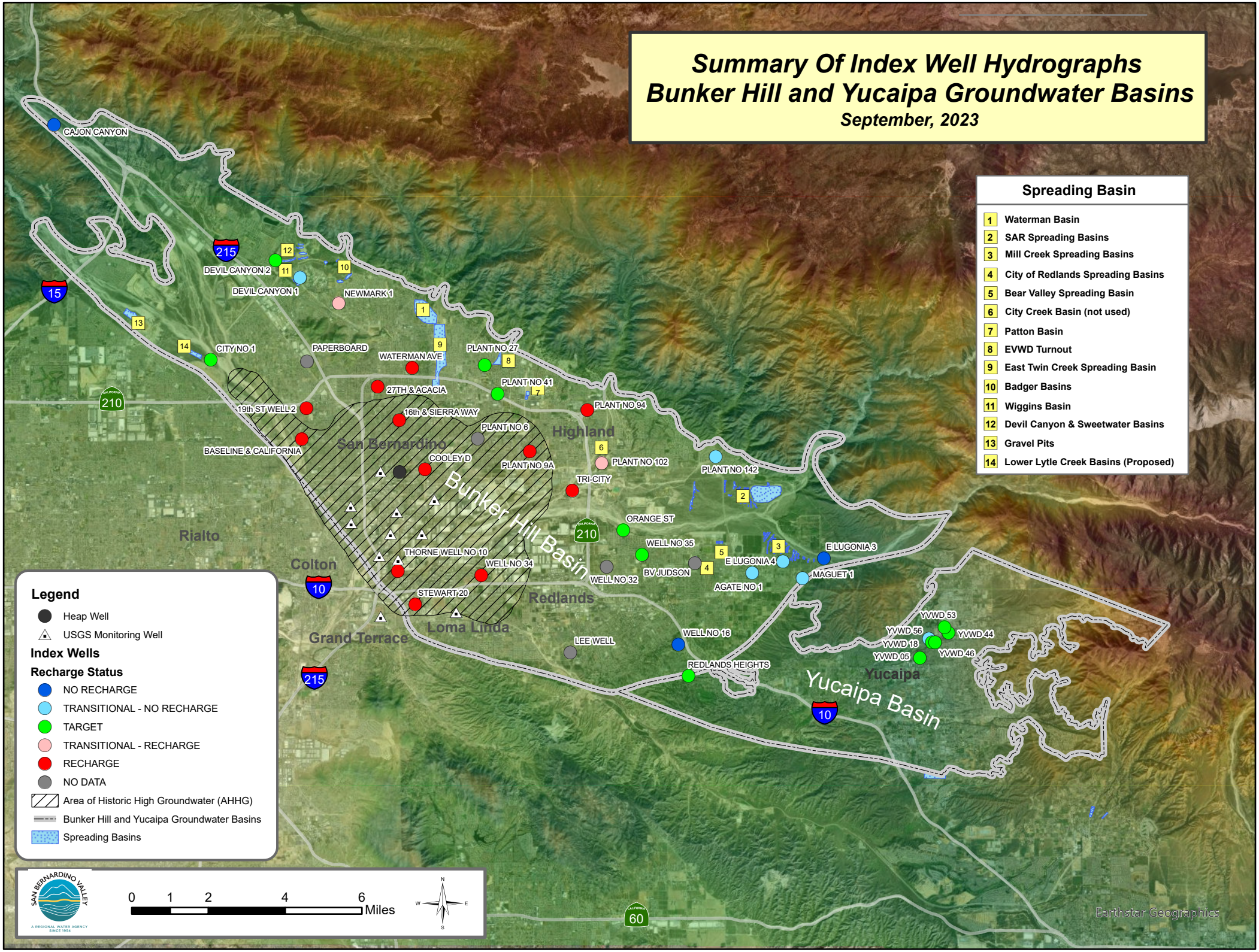
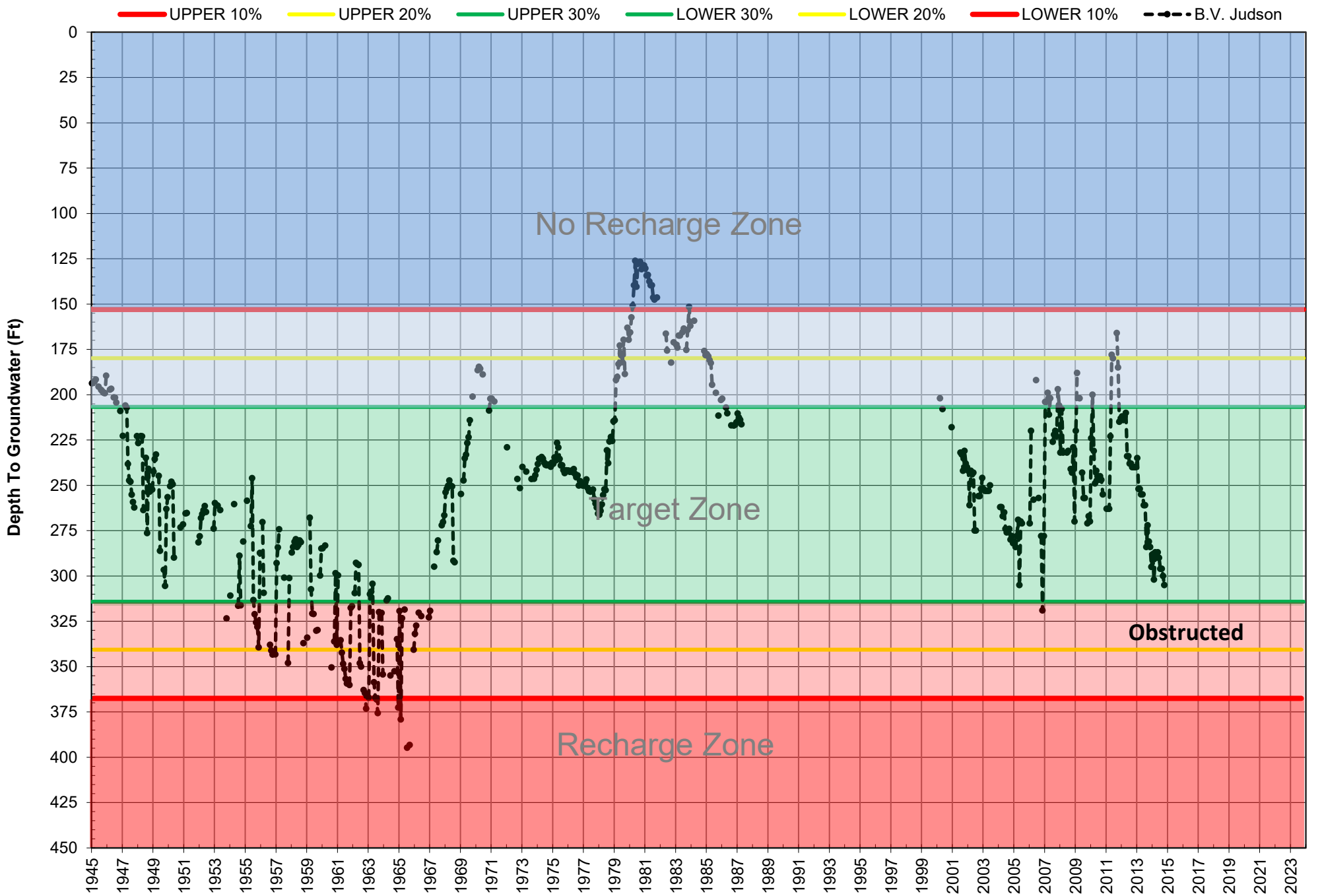

Summary Of Index Well Hydrographs
Bunker Hill and Yucaipa Groundwater Basins
September, 2023
Spreading Basin
1 Waterman Basin
2 SAR Spreading Basins
3 Mill Creek Spreading Basins
4 City of Redlands Spreading Basins
5 Bear Valley Spreading Basin
6 City Creek Basin (not used)
7 Patton Basin
8 EVWD Turnout
9 East Twin Creek Spreading Basin
10 Badger Basins
11 Wiggins Basin
12 Devil Canyon & Sweetwater Basins
13 Gravel Pits
14 Lower Lytle Creek Basins (Proposed)
CAJON CANYON
DEVIL CANYON 2
DEVIL CANYON 1
NEWMARK 1
CITY NO 1
PAPERBOARD
WATERMAN AVE
PLANT NO 27
PLANT NO 41
27TH & ACACIA
19th ST WELL 2
16th & SIERRA WAY
PLANT NO 6
PLANT NO 94
BASELINE & CALIFORNIA
COOLEY D
PLANT NO 9A
PLANT NO 102
PLANT NO 142
TRI-CITY
ORANGE ST
WELL NO 35
E LUGONIA 3
E LUGONIA 4
BV JUDSON
WELL NO 32
AGATE NO 1
MAGUET 1
THORNE WELL NO 10
WELL NO 34
STEWART 20
LEE WELL
WELL NO 16
REDLANDS HEIGHTS
YVWD 53
YVWD 56
YVWD 44
YVWD 18
YVWD 05
YVWD 46
San Bernardino
Highland
Rialto
Colton
Redlands
Grand Terrace
Loma Linda
Yucaipa
Bunker Hill Basin
Yucaipa Basin
Legend
Heap Well
USGS Monitoring Well
Index Wells
Recharge Status
NO RECHARGE
TRANSITIONAL - NO RECHARGE
TARGET
TRANSITIONAL - RECHARGE
RECHARGE
NO DATA
Area of Historic High Groundwater (AHHG)
Bunker Hill and Yucaipa Groundwater Basins
Spreading Basins
0 1 2 4 6 Miles
Earthstar Geographics
Y:\1639_BTACAnnualReport\2023\2023_RWMP\2023_RWMP.aprx

SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

B.V. Judson
Index Well Hydrograph

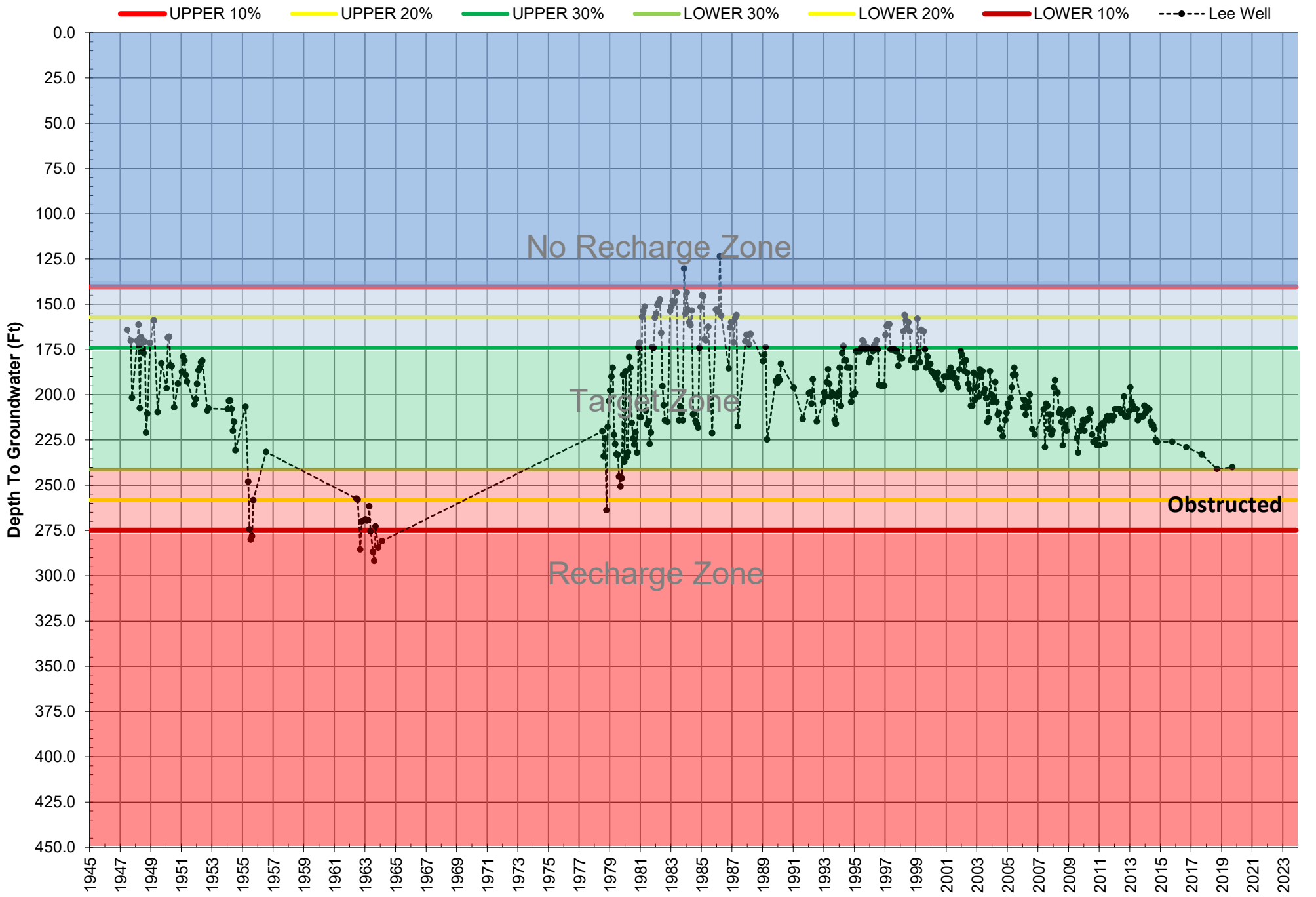
Bear Valley Mutual Water Co.



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Lee Well
Index Well Hydrograph

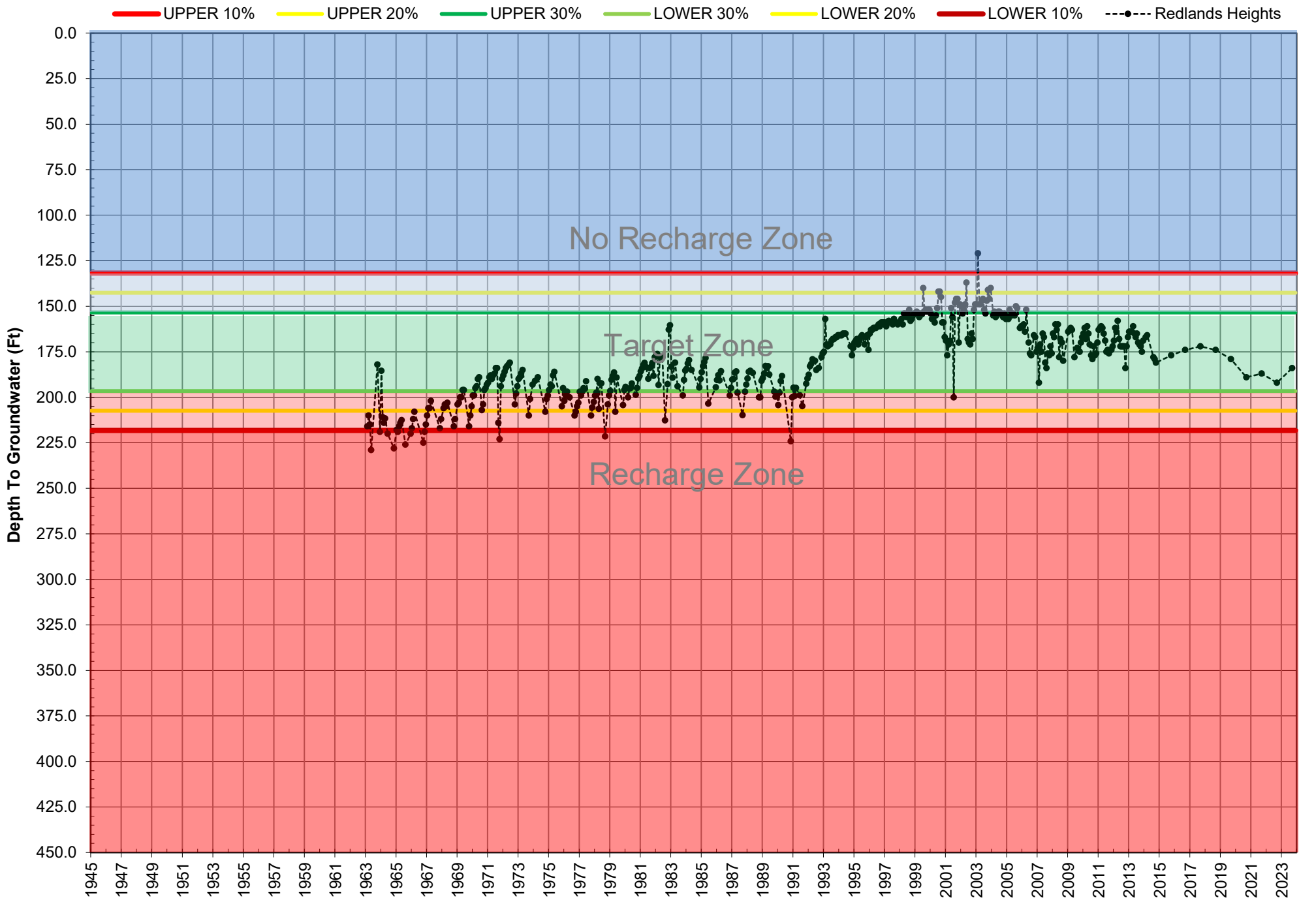
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Redlands Heights
Index Well Hydrograph

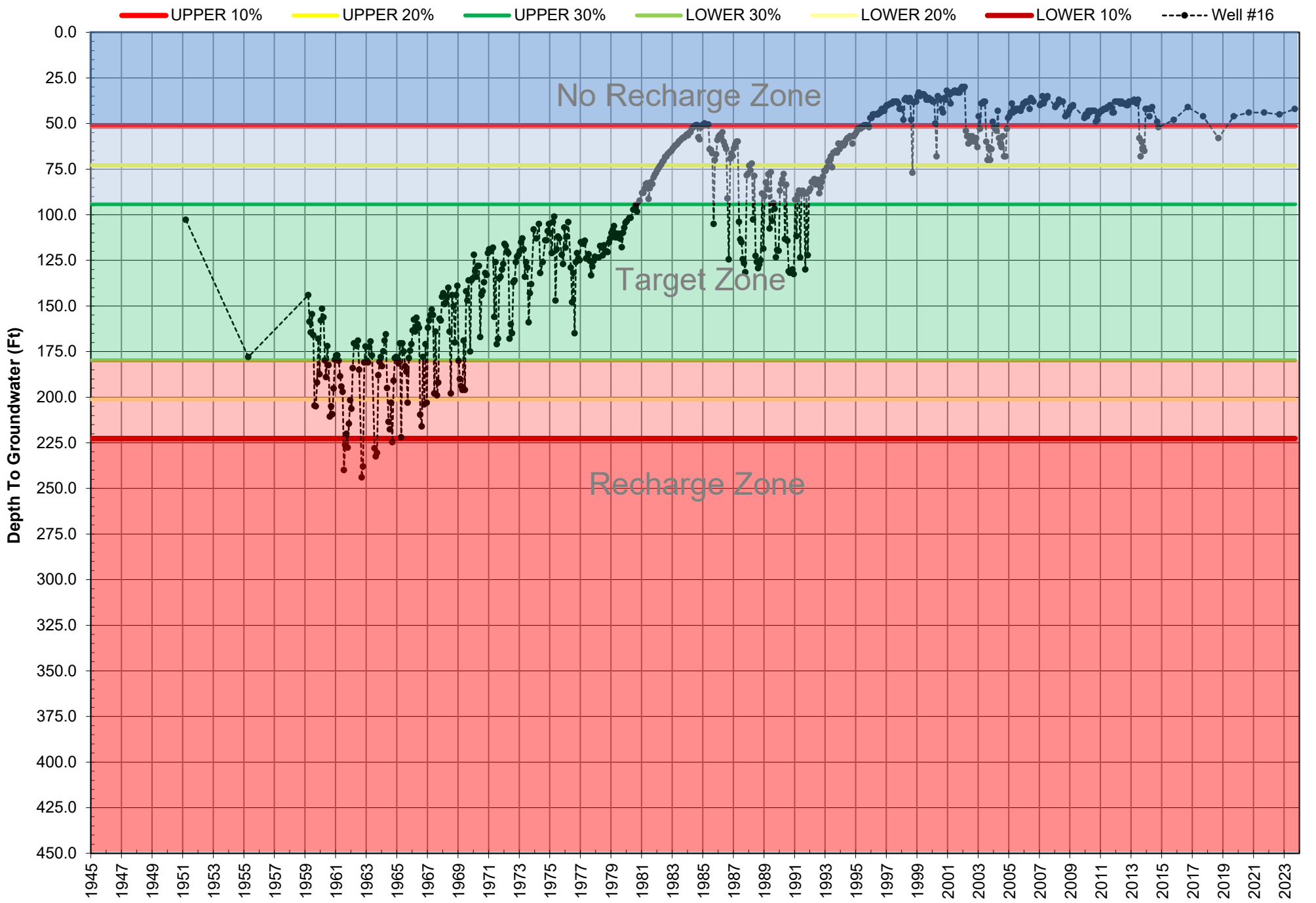
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #16
Index Well Hydrograph

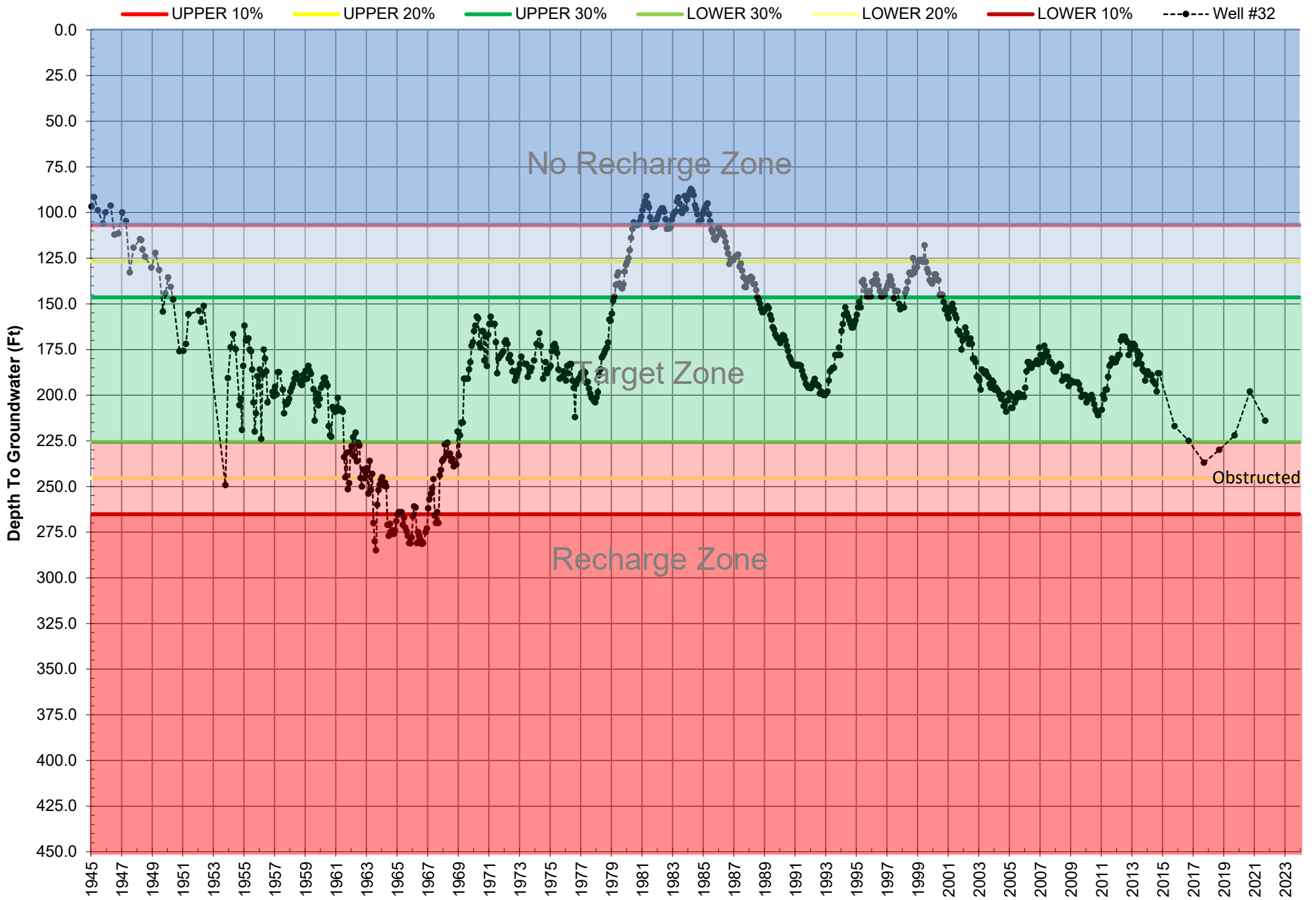
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #32
Index Well Hydrograph

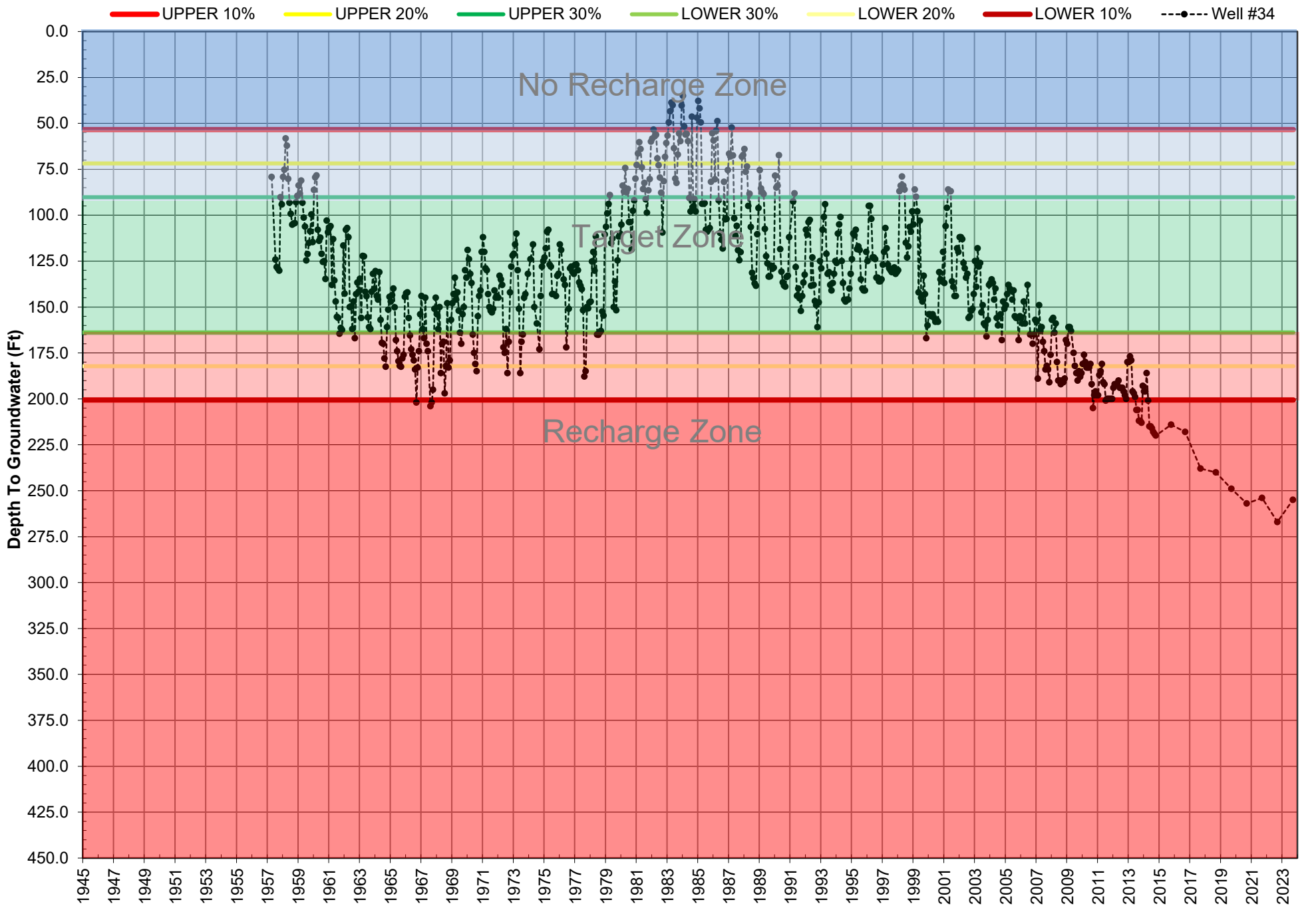
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #34
Index Well Hydrograph

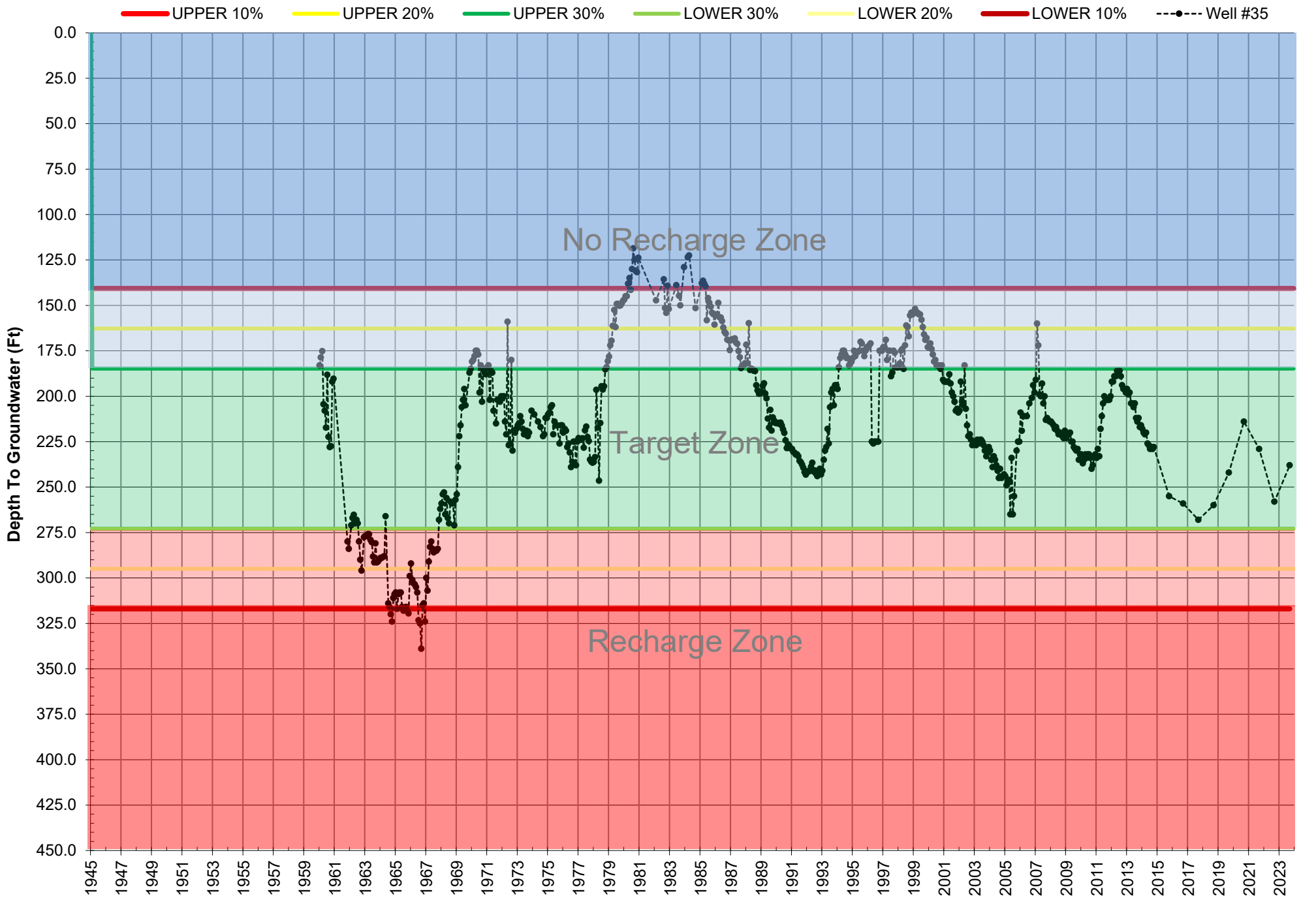
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #35
Index Well Hydrograph

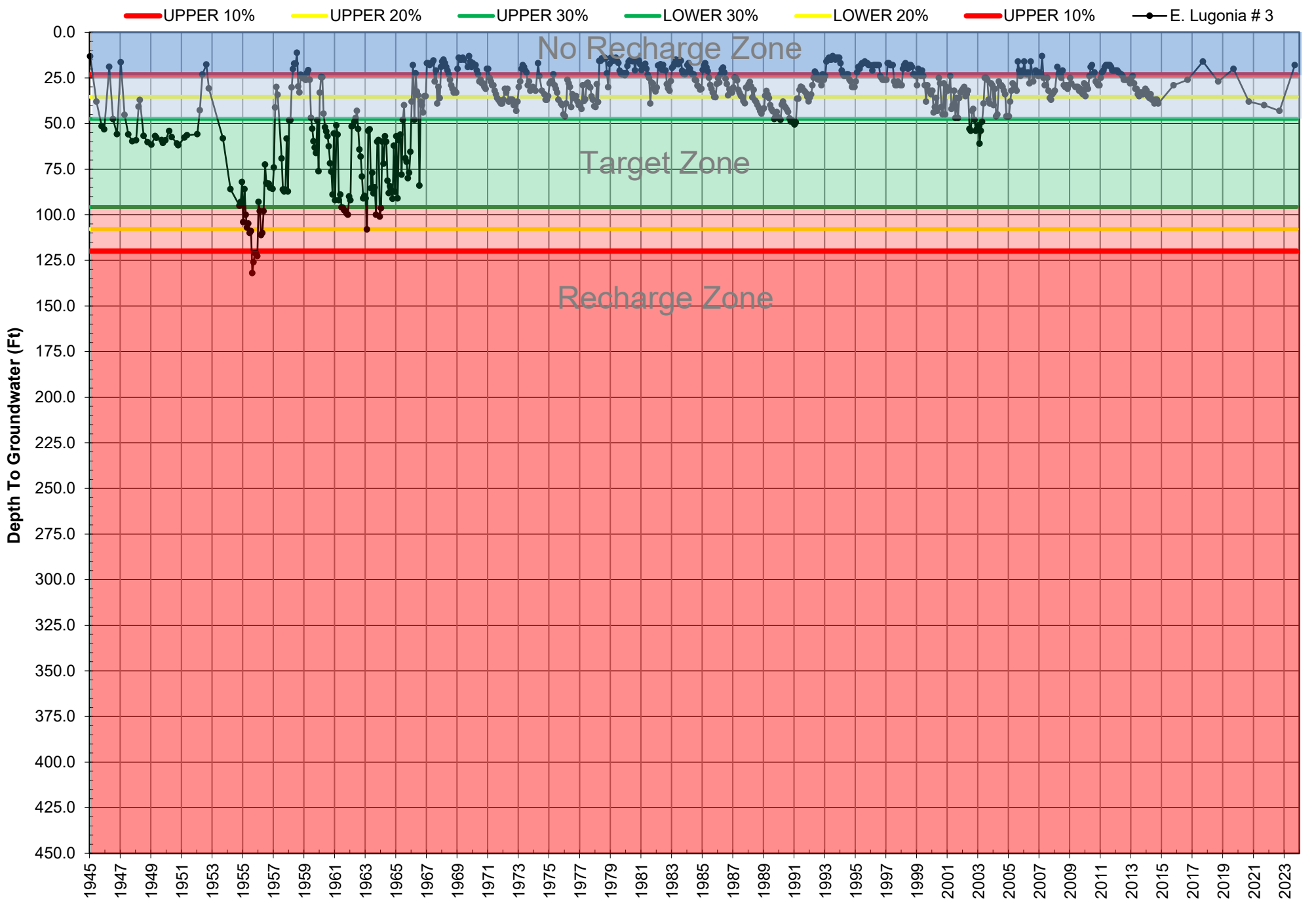
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

East Lugonia #3
Index Well Hydrograph

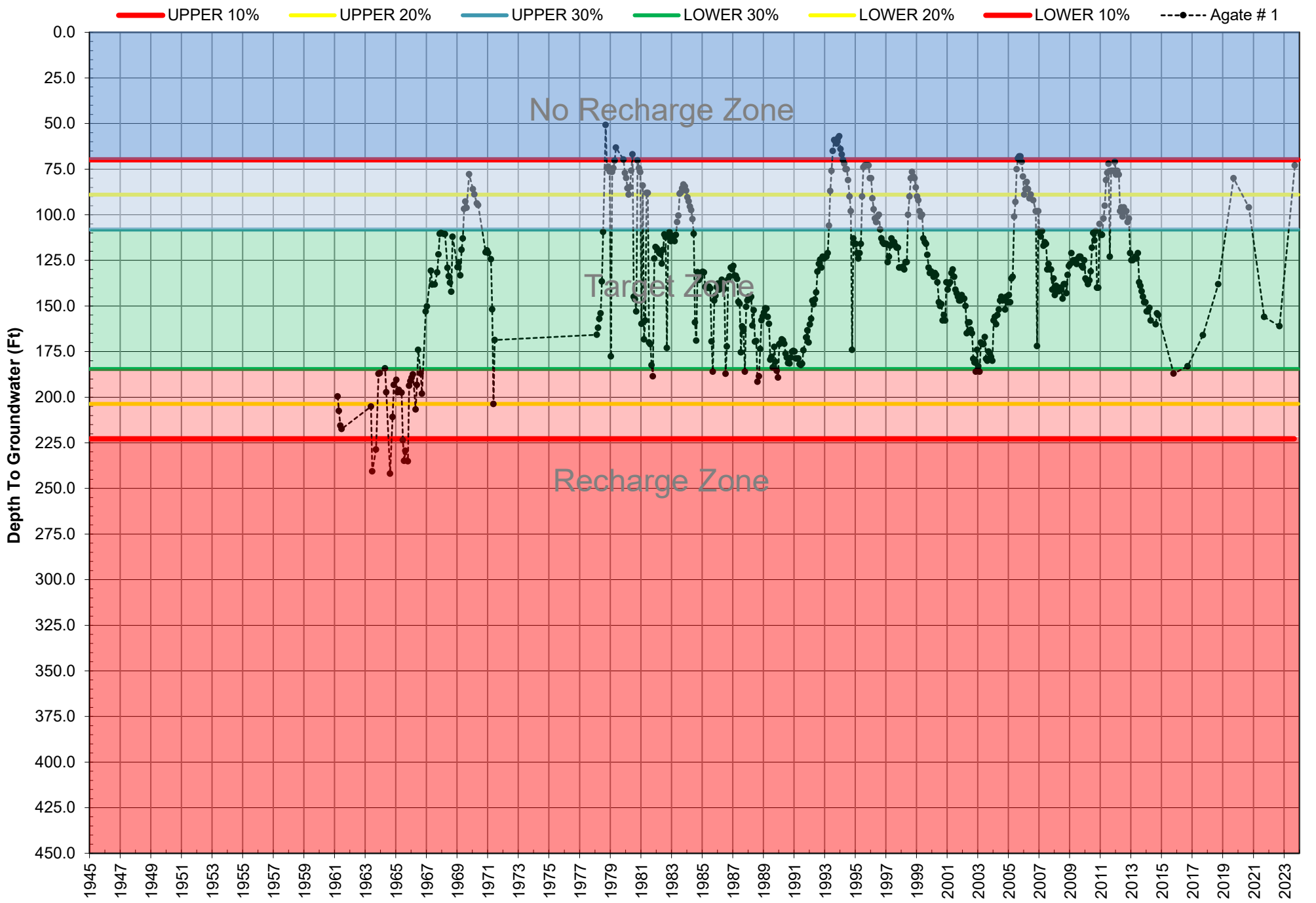
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Agate #1
Index Well Hydrograph

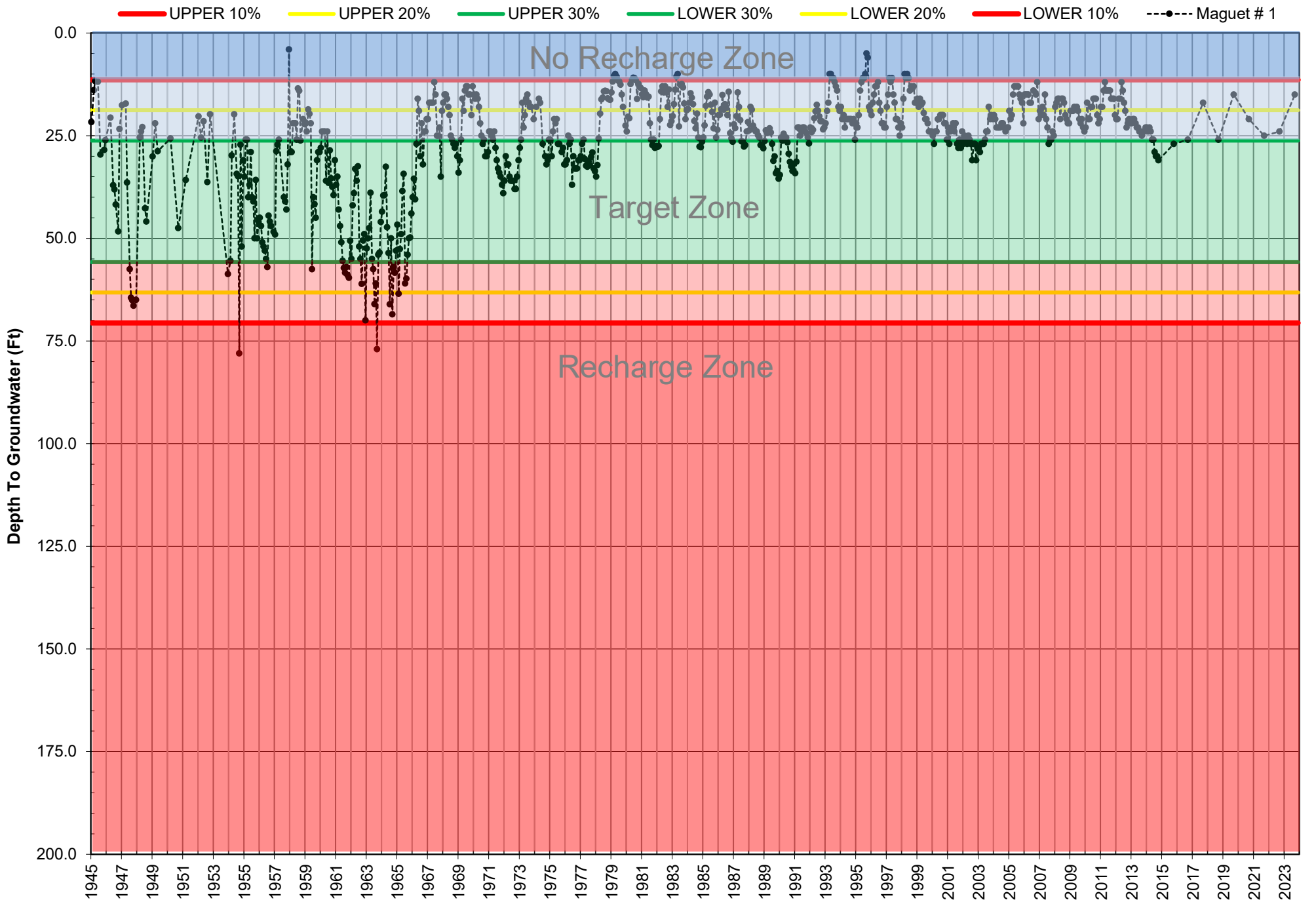
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Maguet #1
Index Well Hydrograph

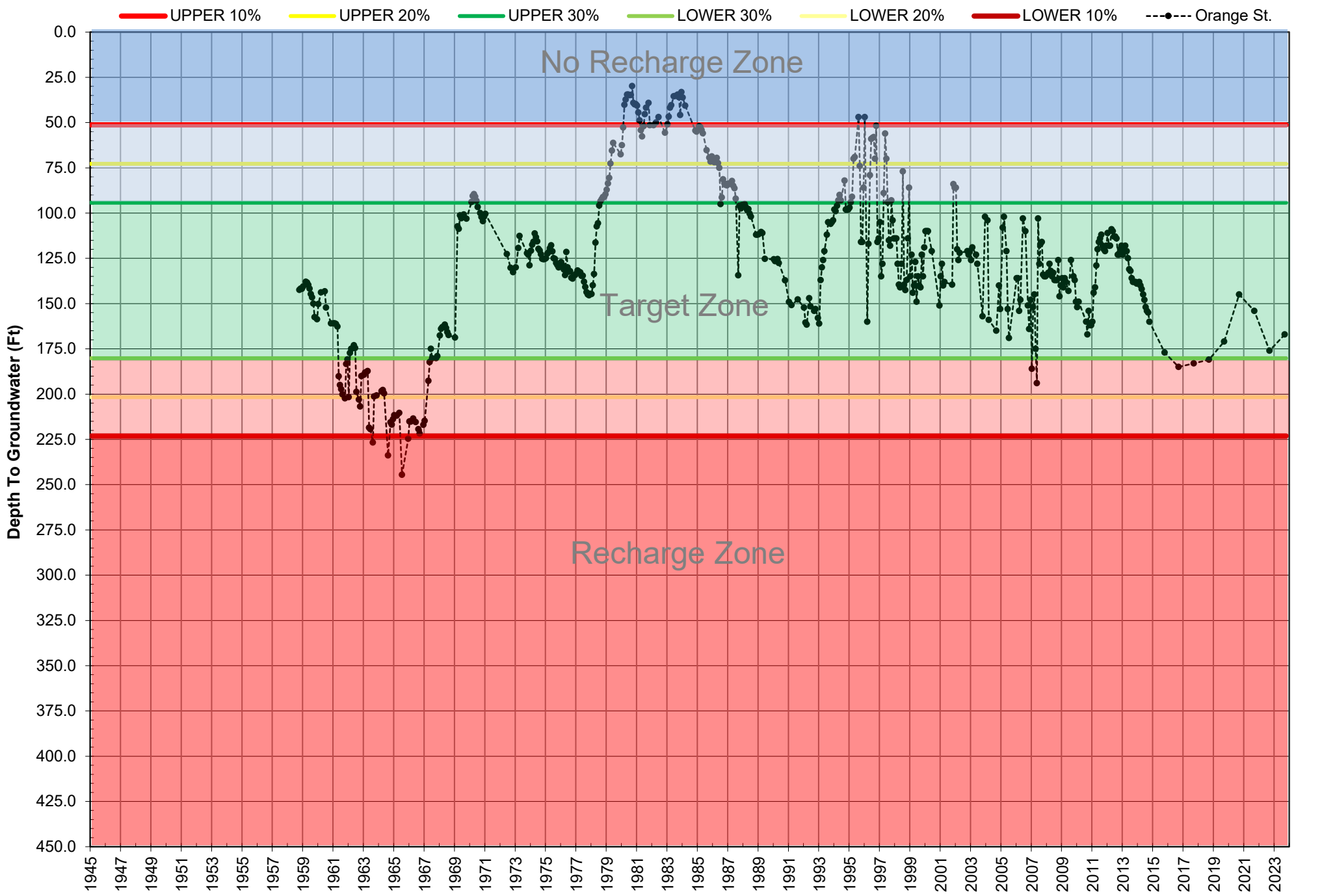
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Orange St.
Index Well Hydrograph

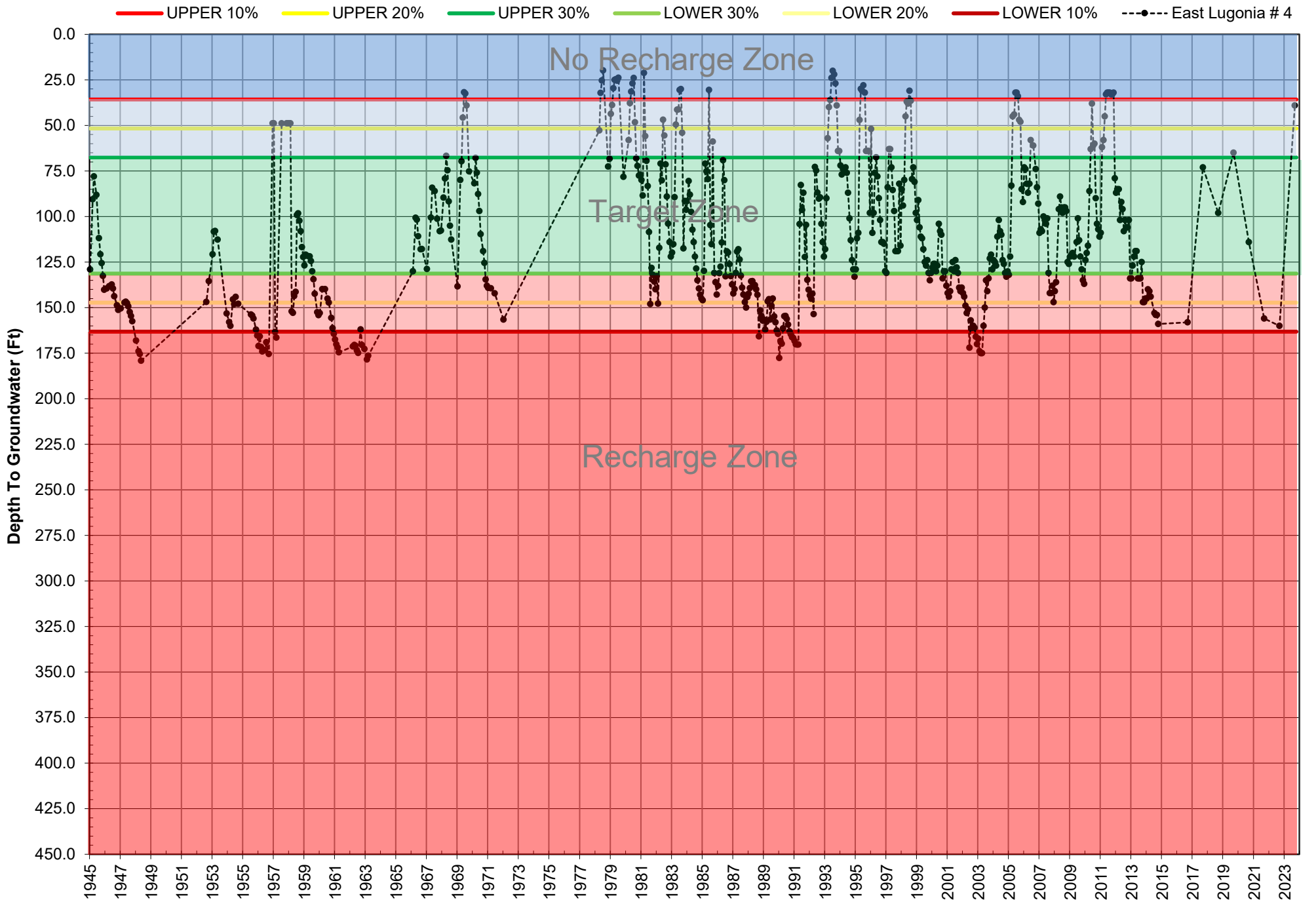
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

East Lugonia #4
Index Well Hydrograph

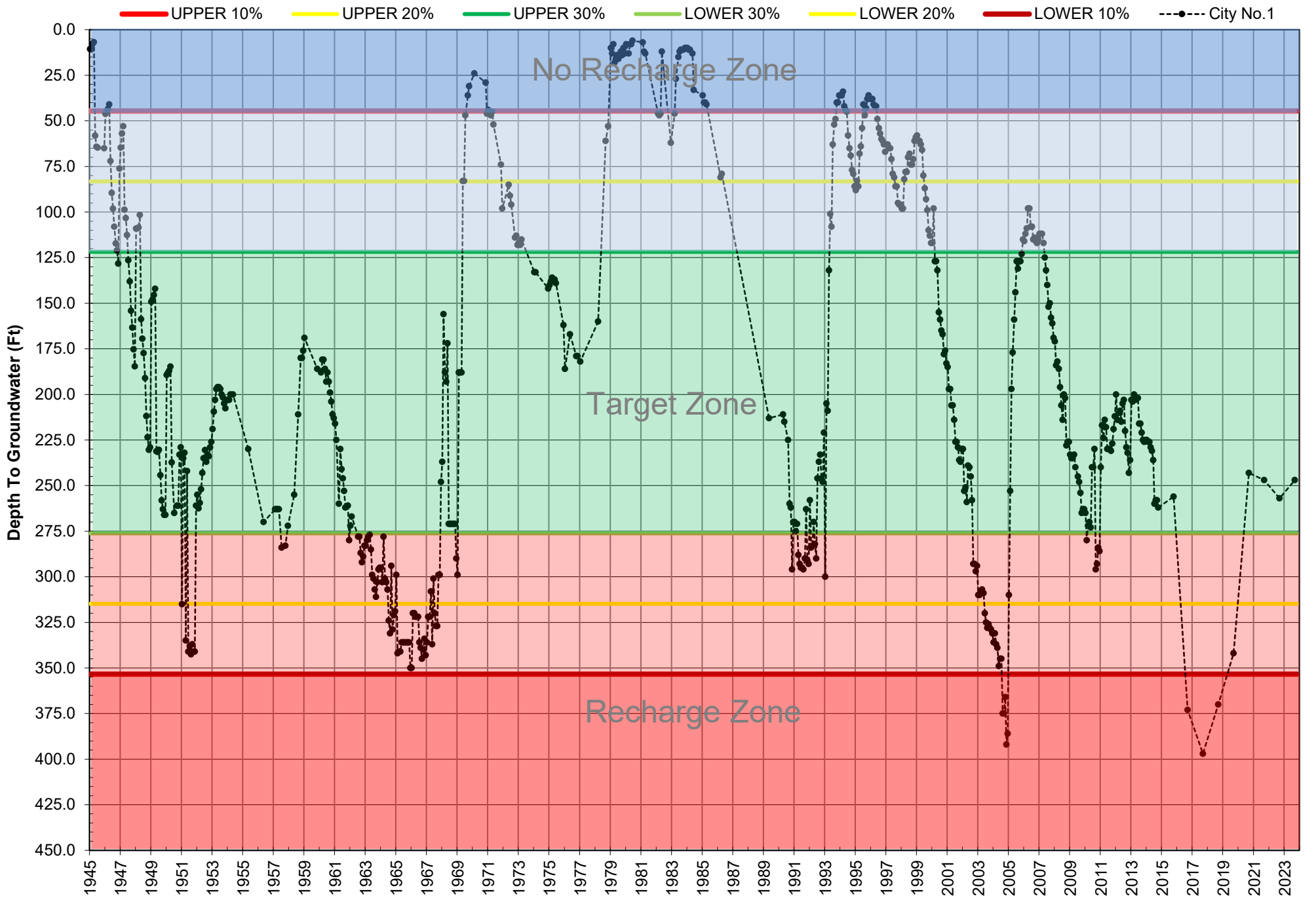
City of Redlands



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

City No. 1
Index Well Hydrograph

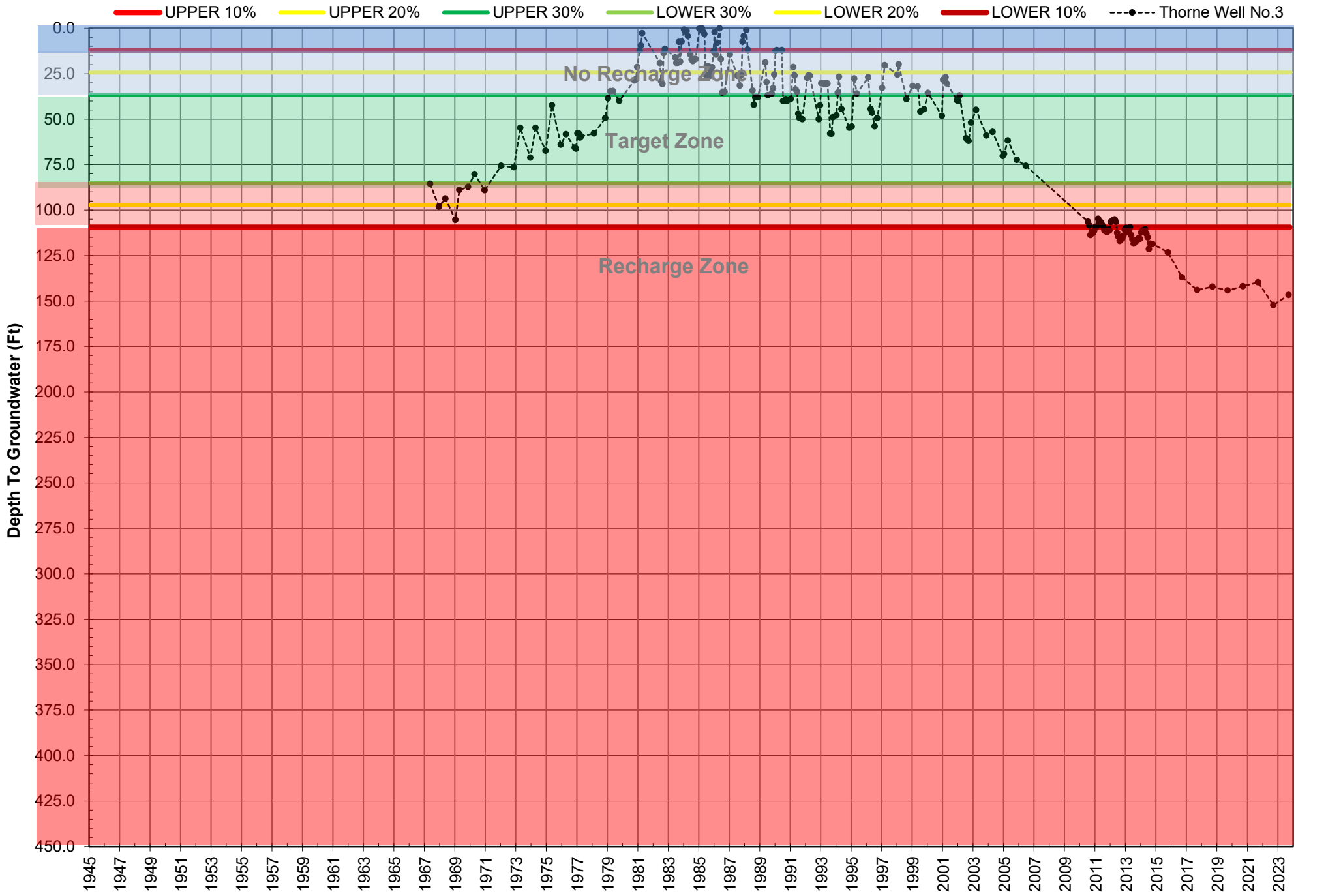
City of Rialto



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Thorne No. 9/3
Index Well Hydrograph

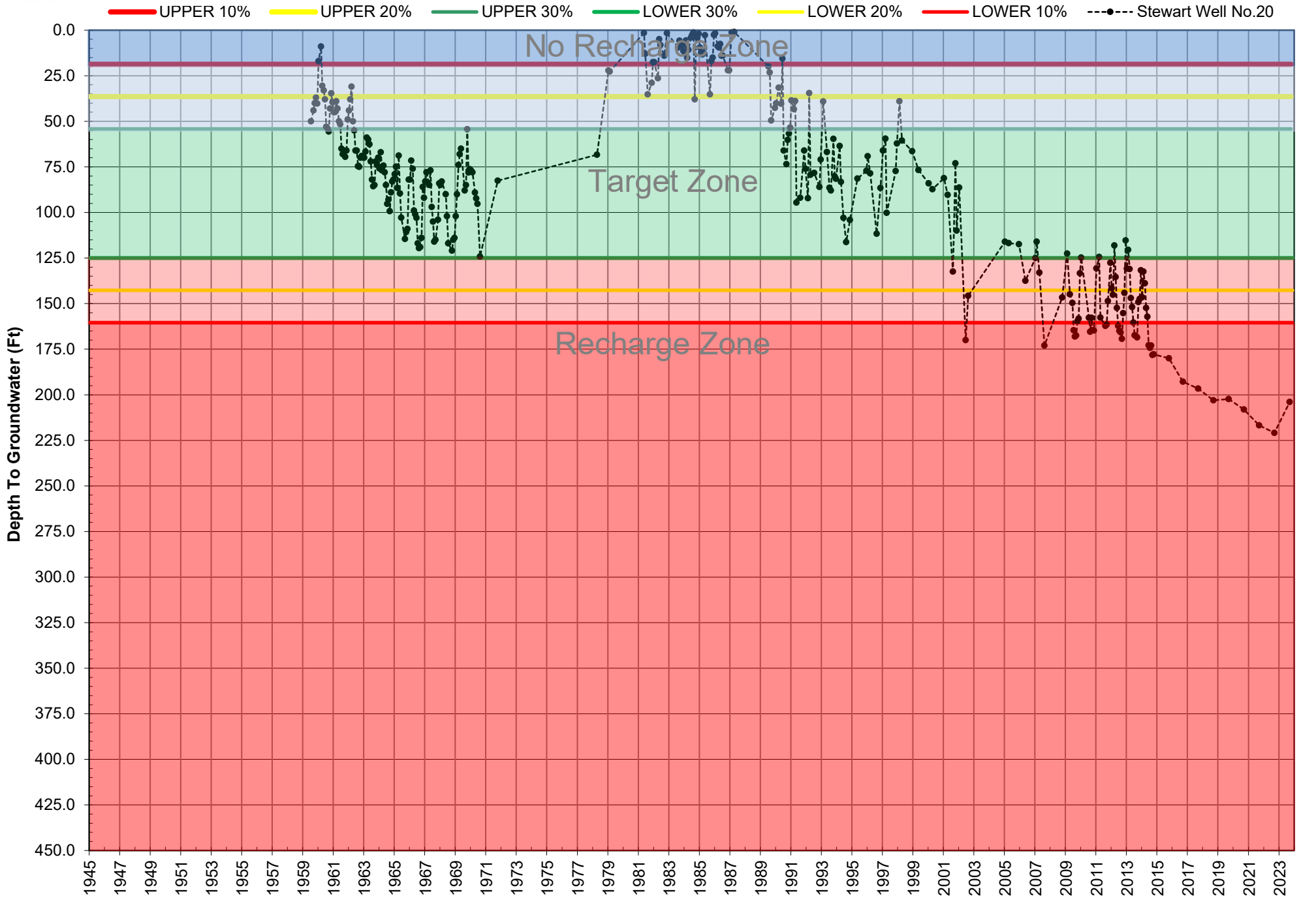
City of Riverside



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Stewart No. 20
Index Well Hydrograph

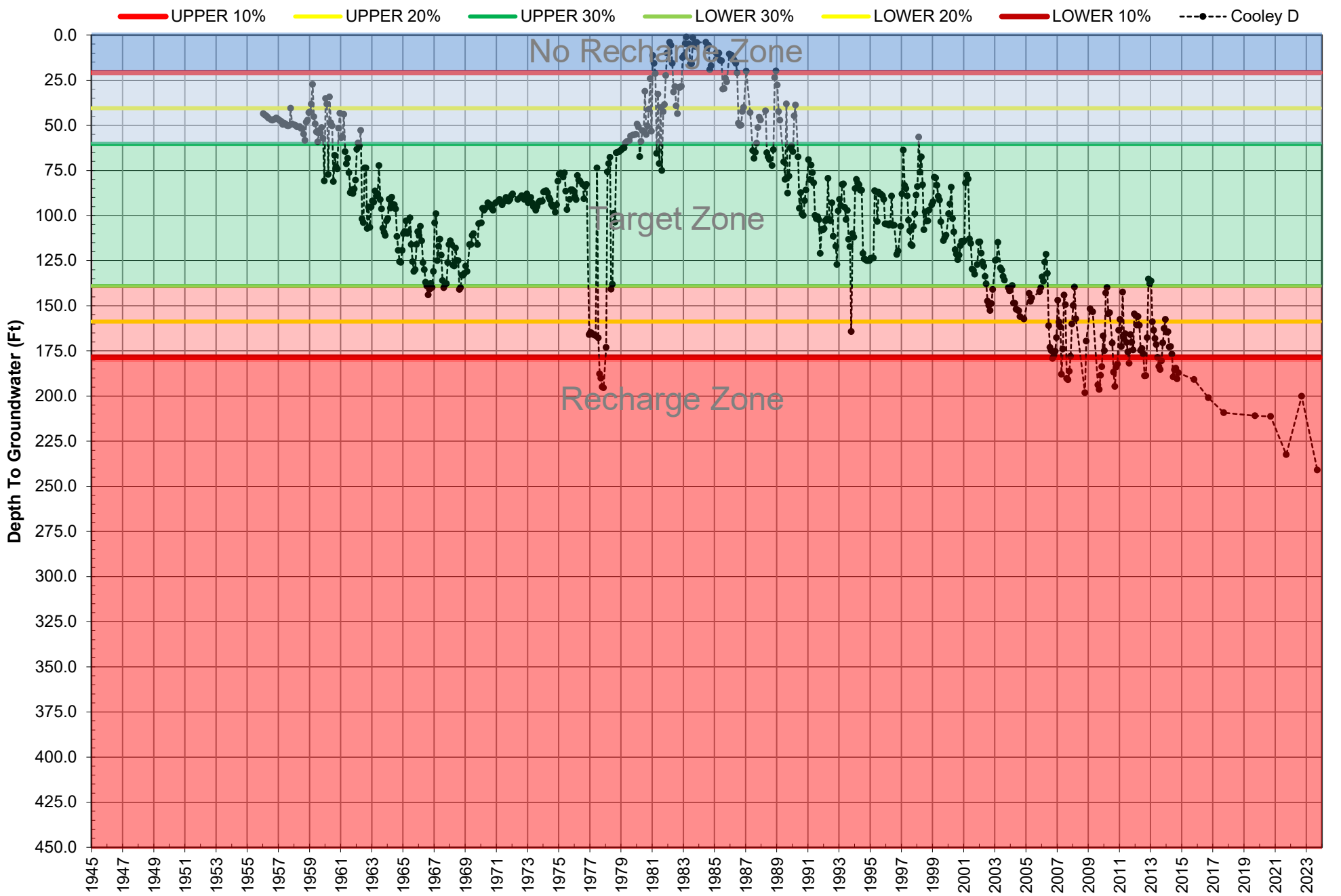
City of Riverside



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Cooley D
Index Well Hydrograph

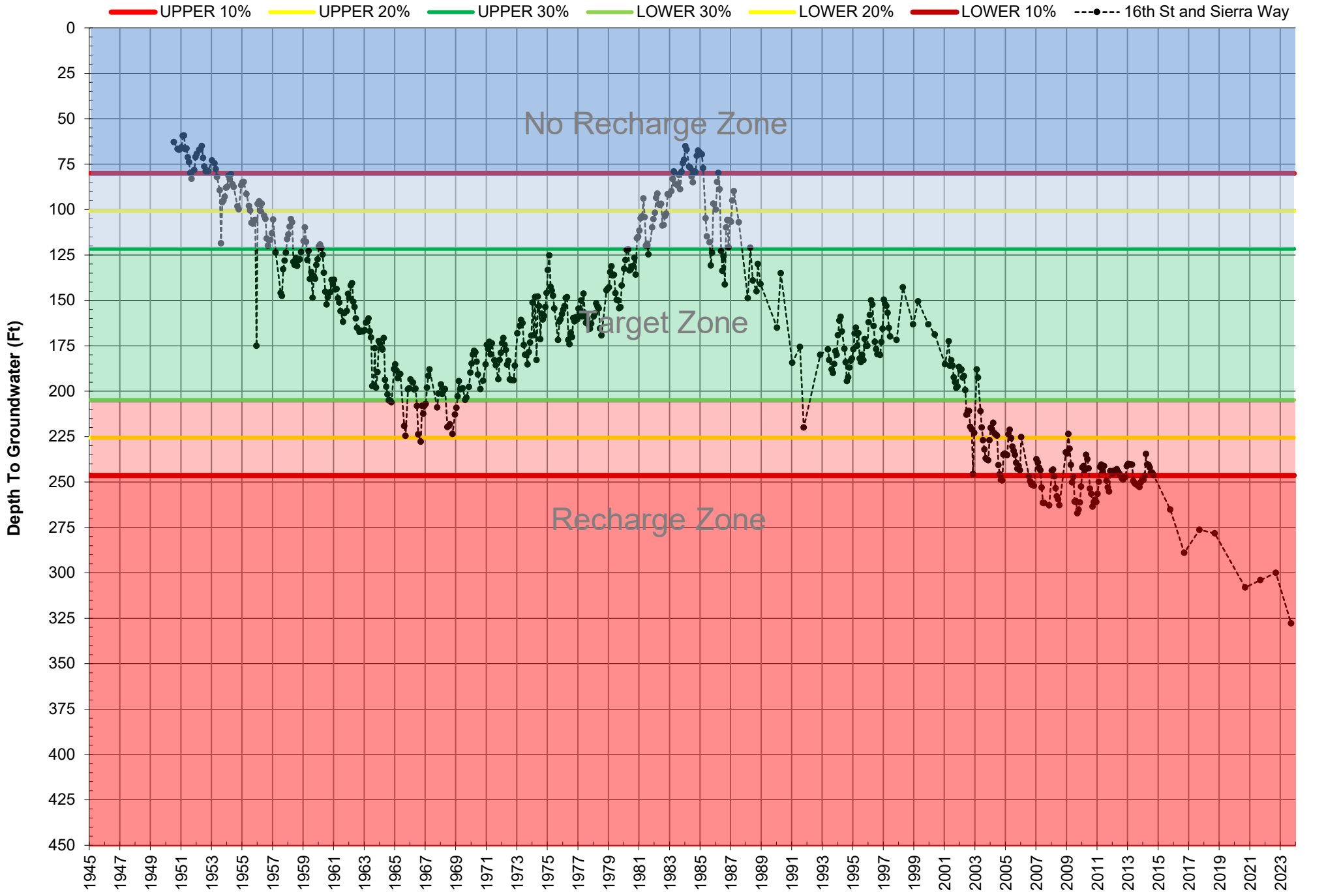
City of Riverside



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

16th St.
Index Well Hydrograph

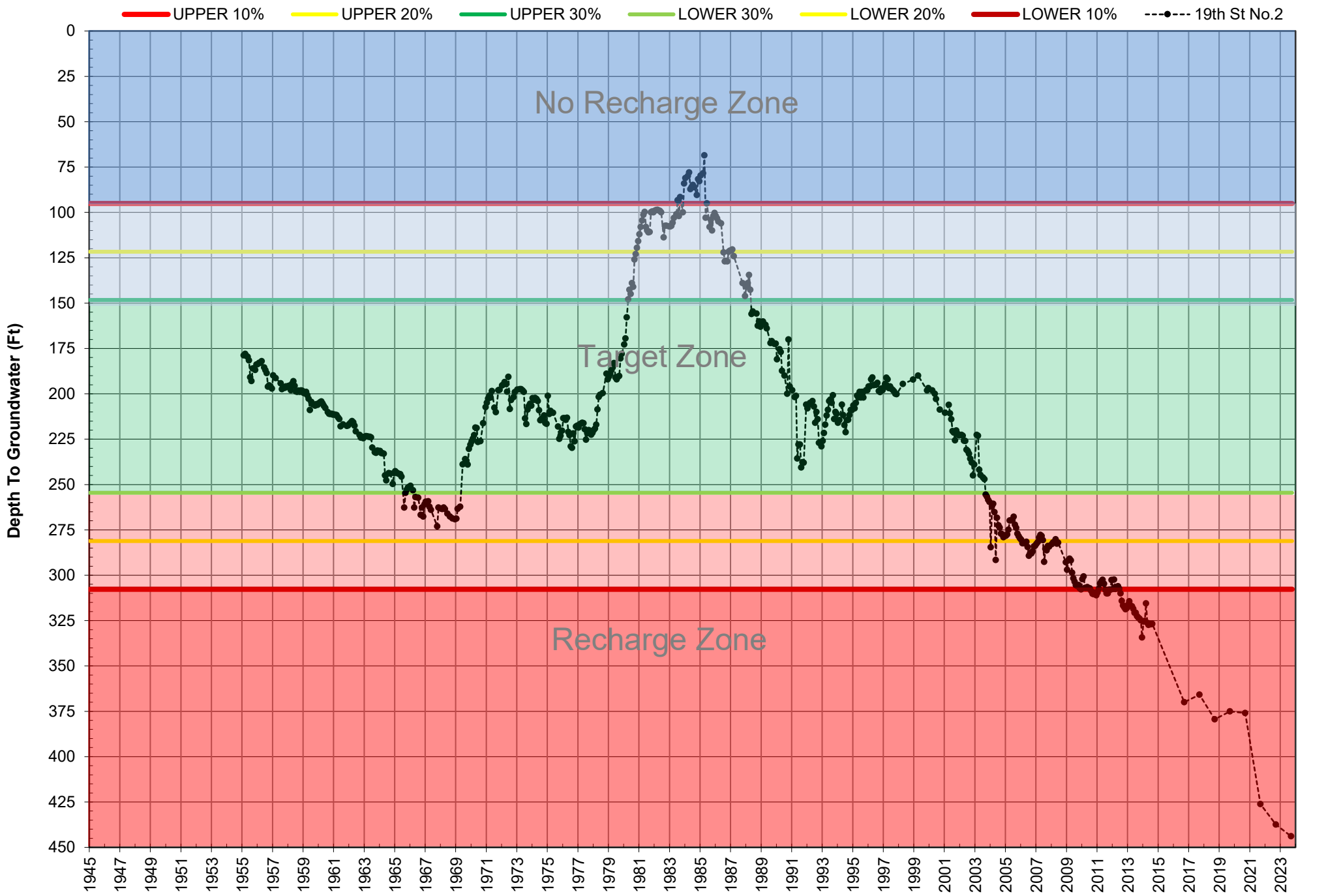
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

19th St. No. 2
Index Well Hydrograph

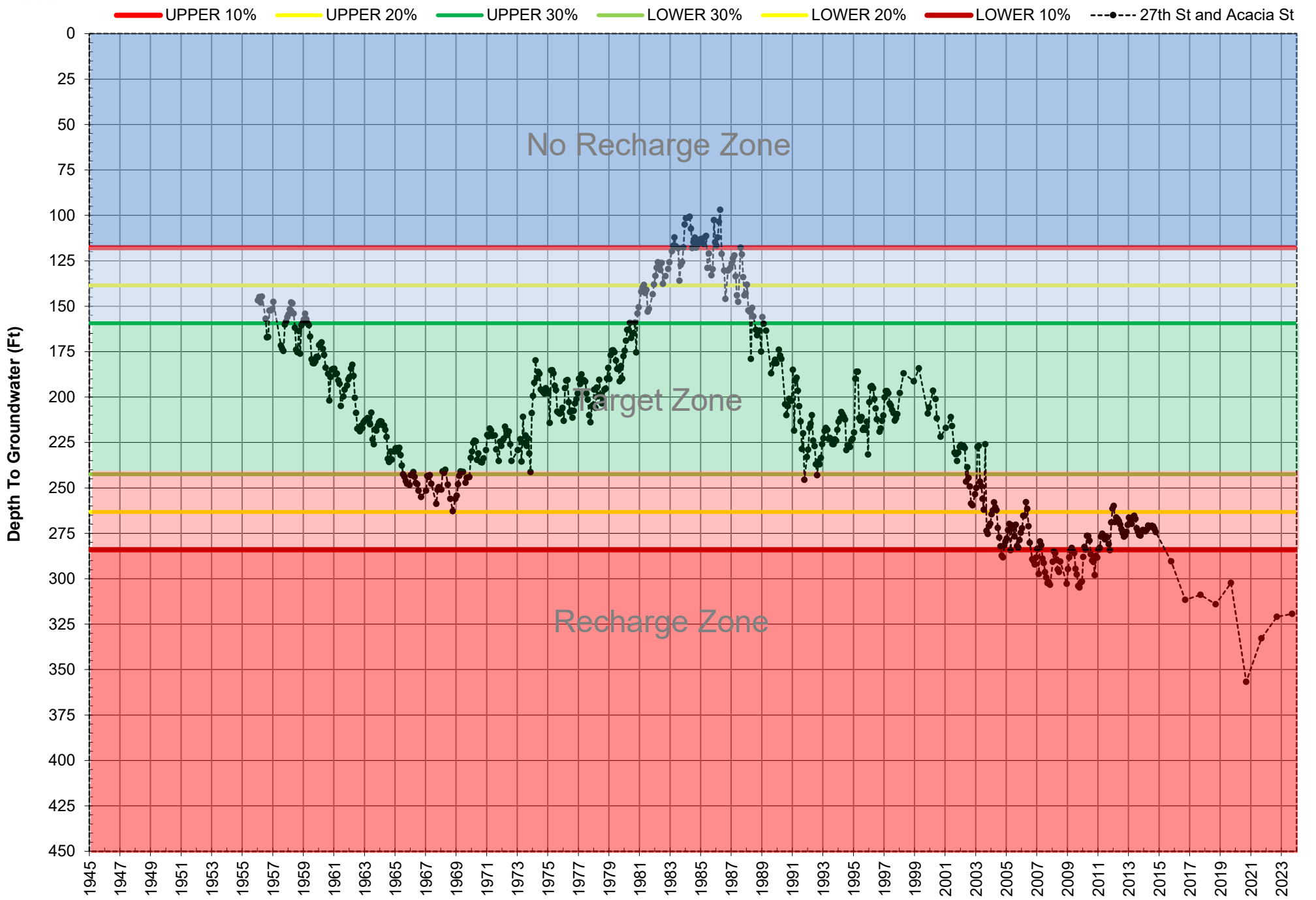
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

27th St.
Index Well Hydrograph

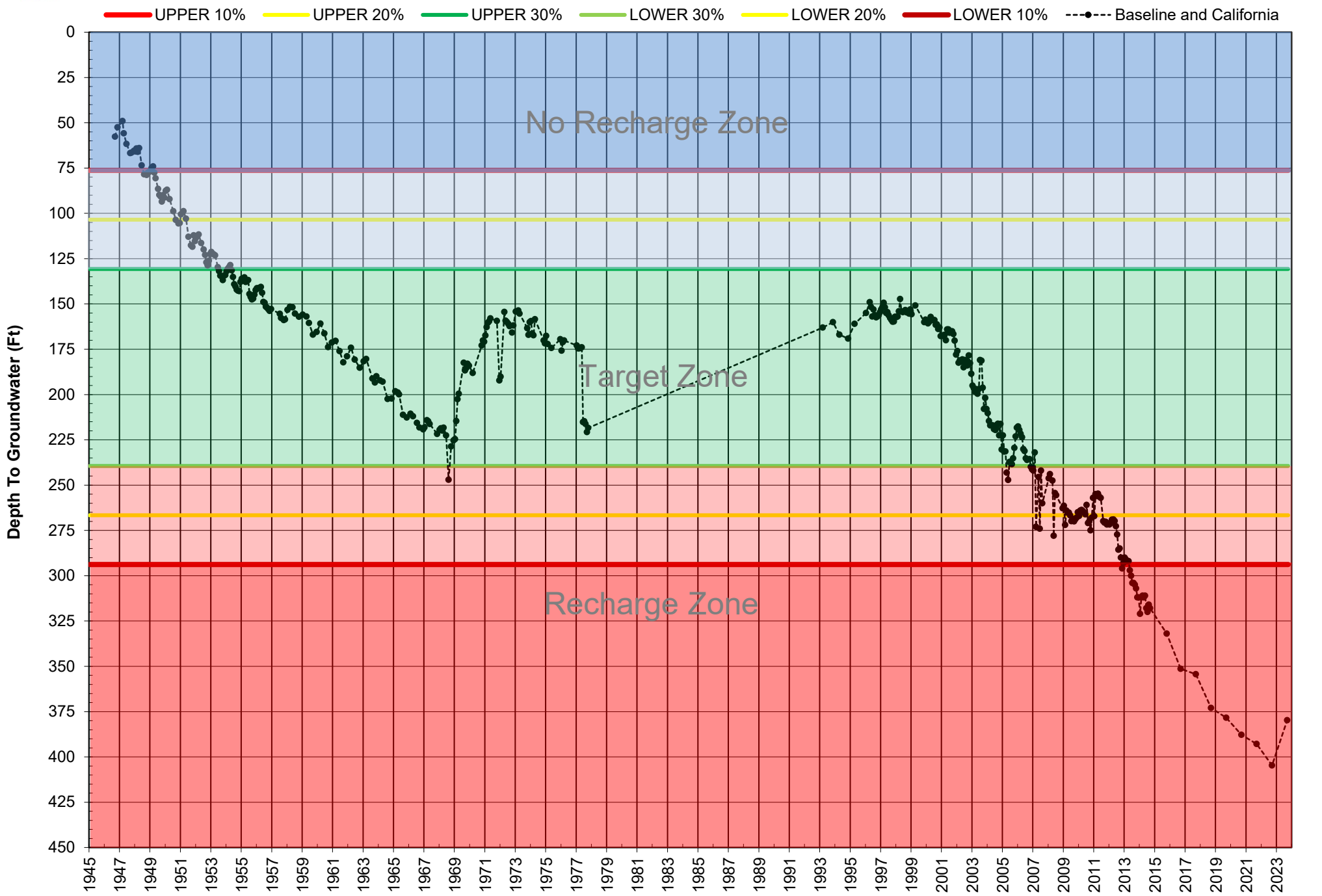
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Baseline & California
Index Well Hydrograph

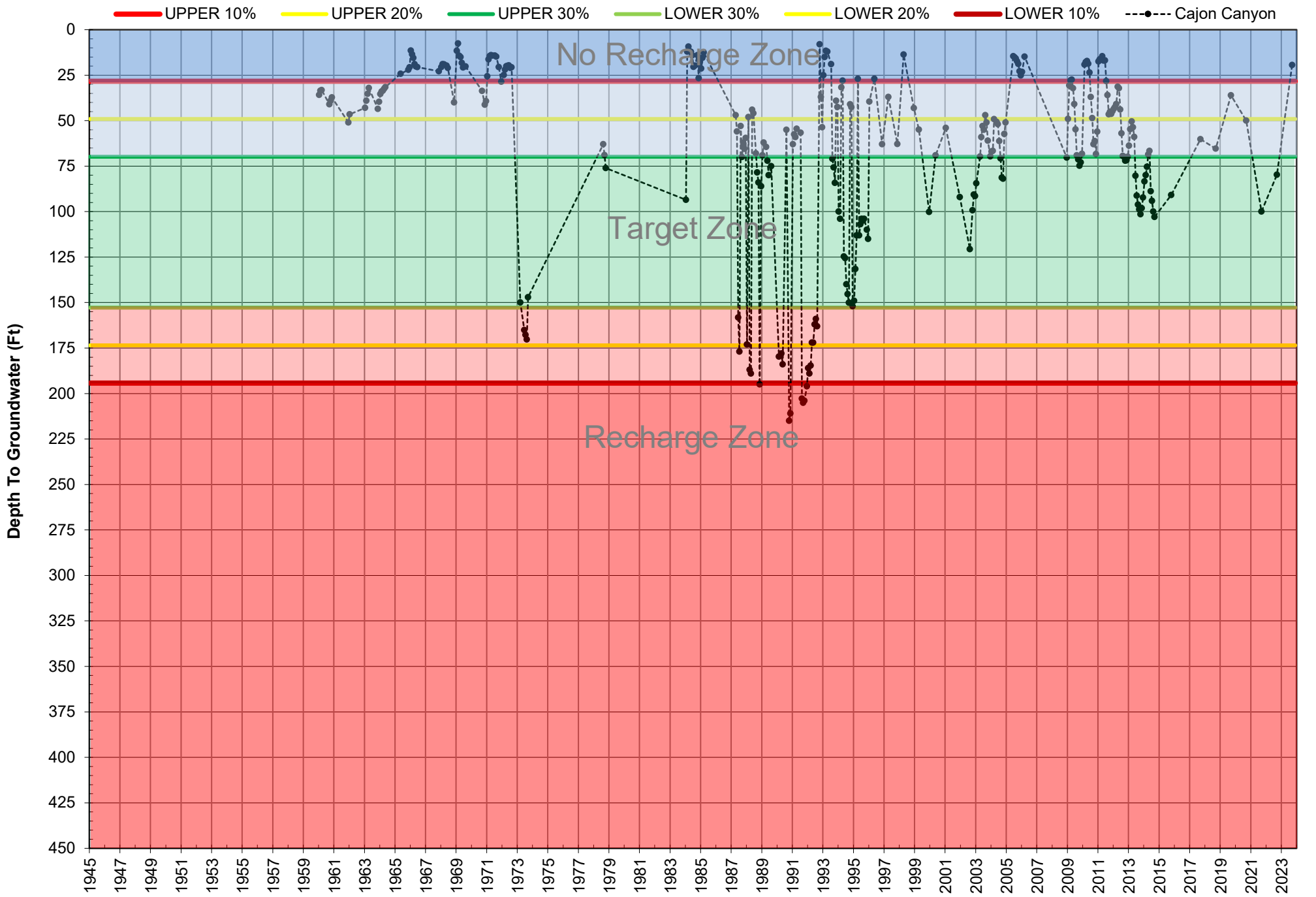
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Cajon Canyon
Index Well Hydrograph

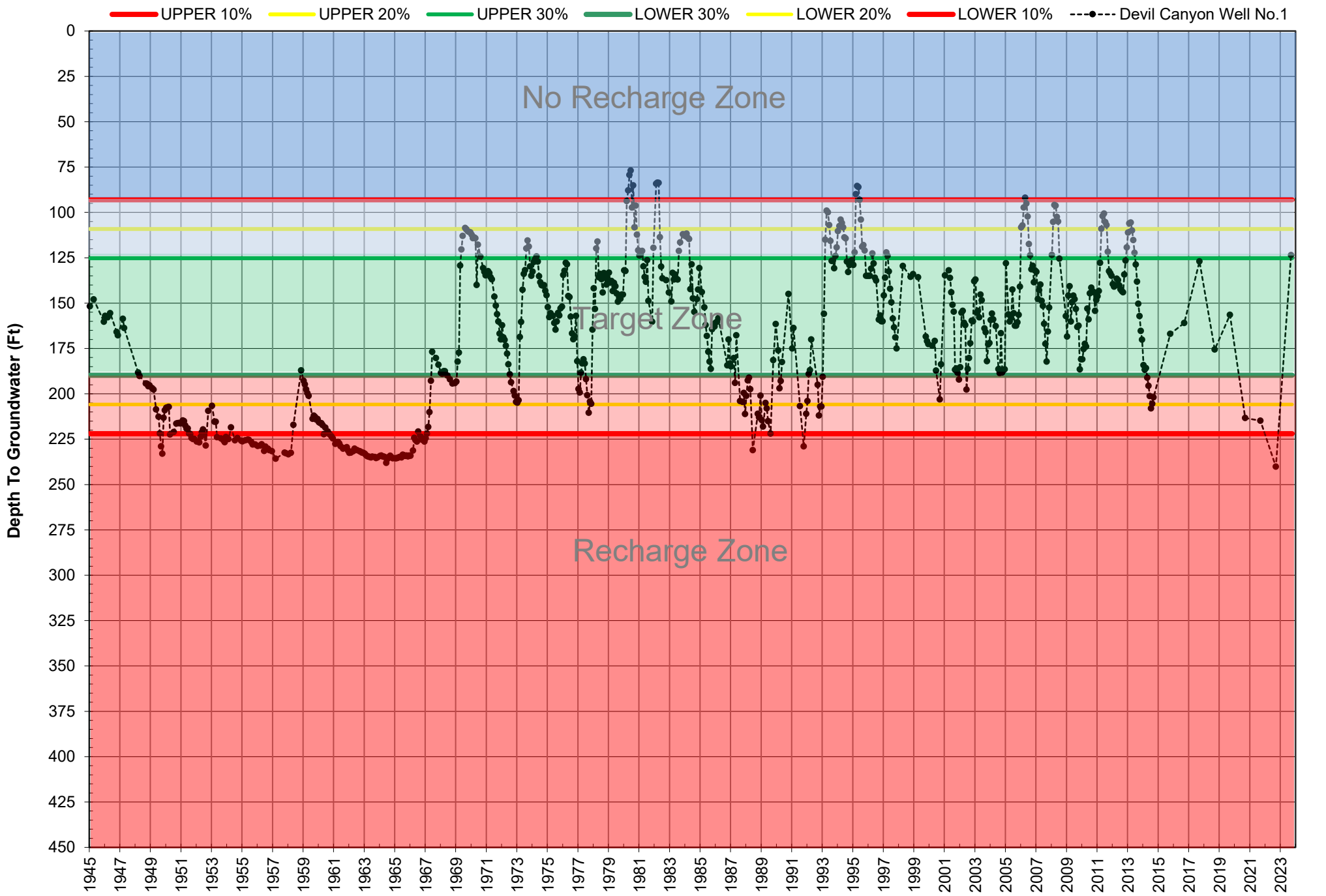
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Devil Canyon No. 1
Index Well Hydrograph

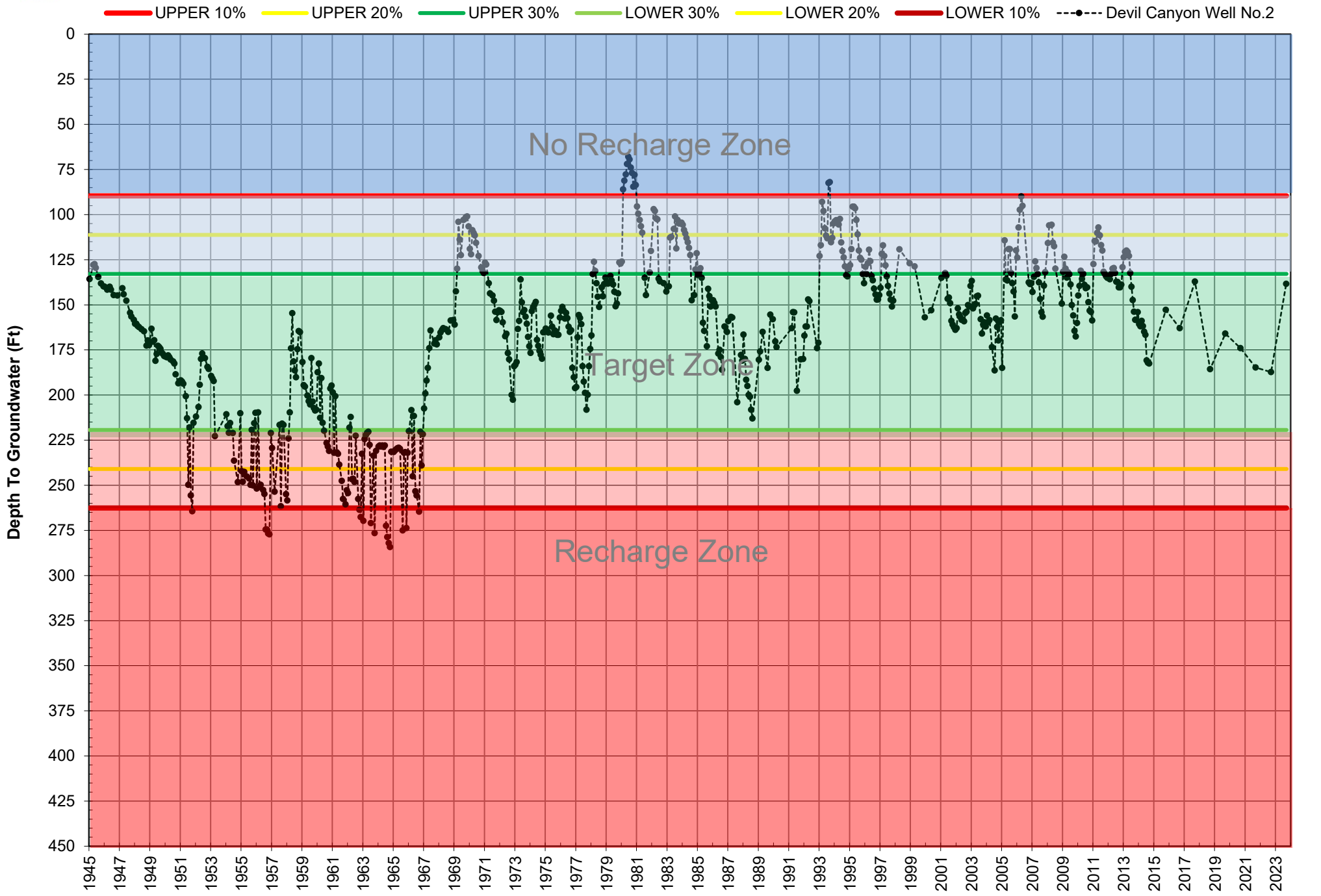
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Devil Canyon No. 2
Index Well Hydrograph

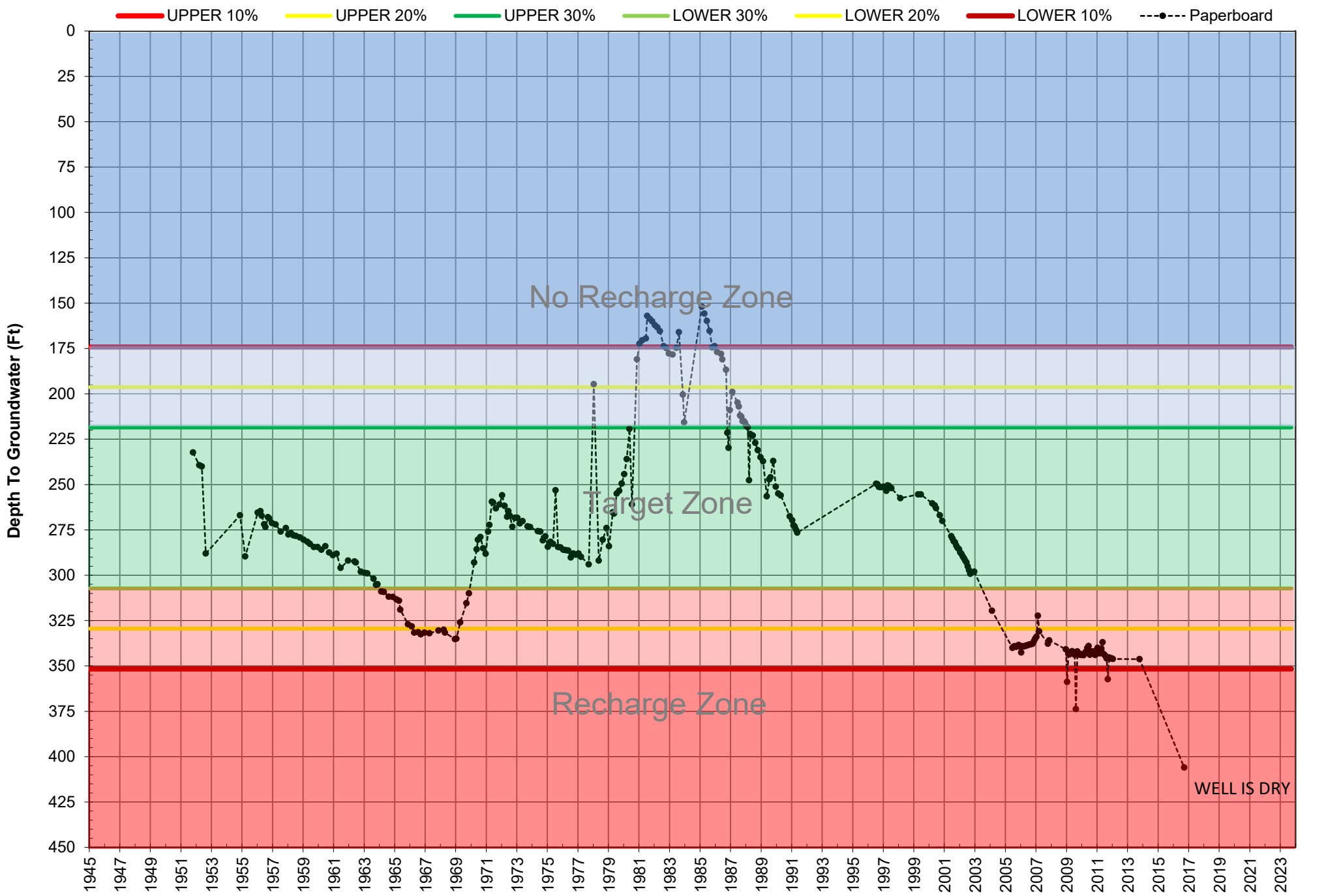
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

PaperBoard
Index Well Hydrograph

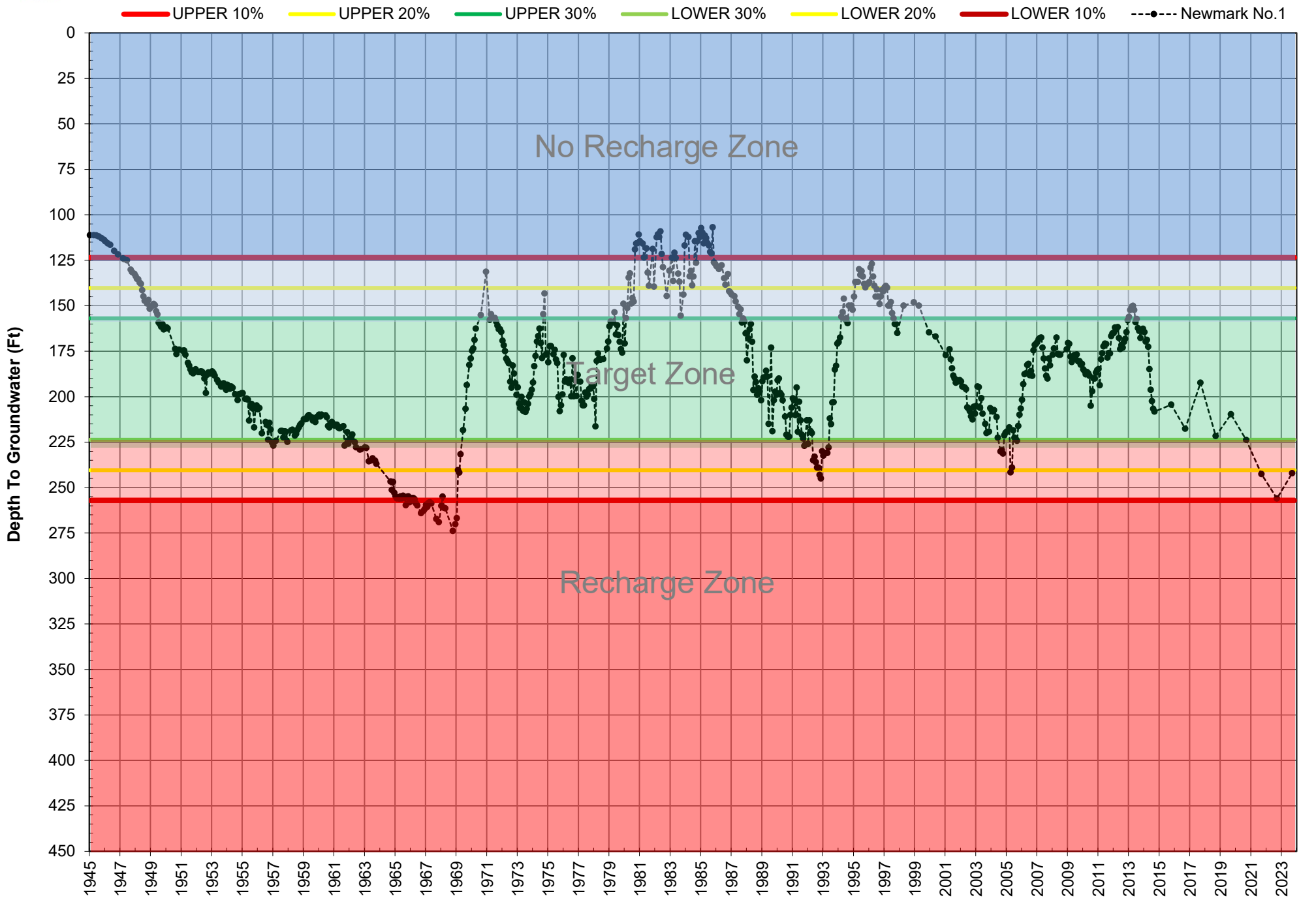
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Newmark No. 1
Index Well Hydrograph

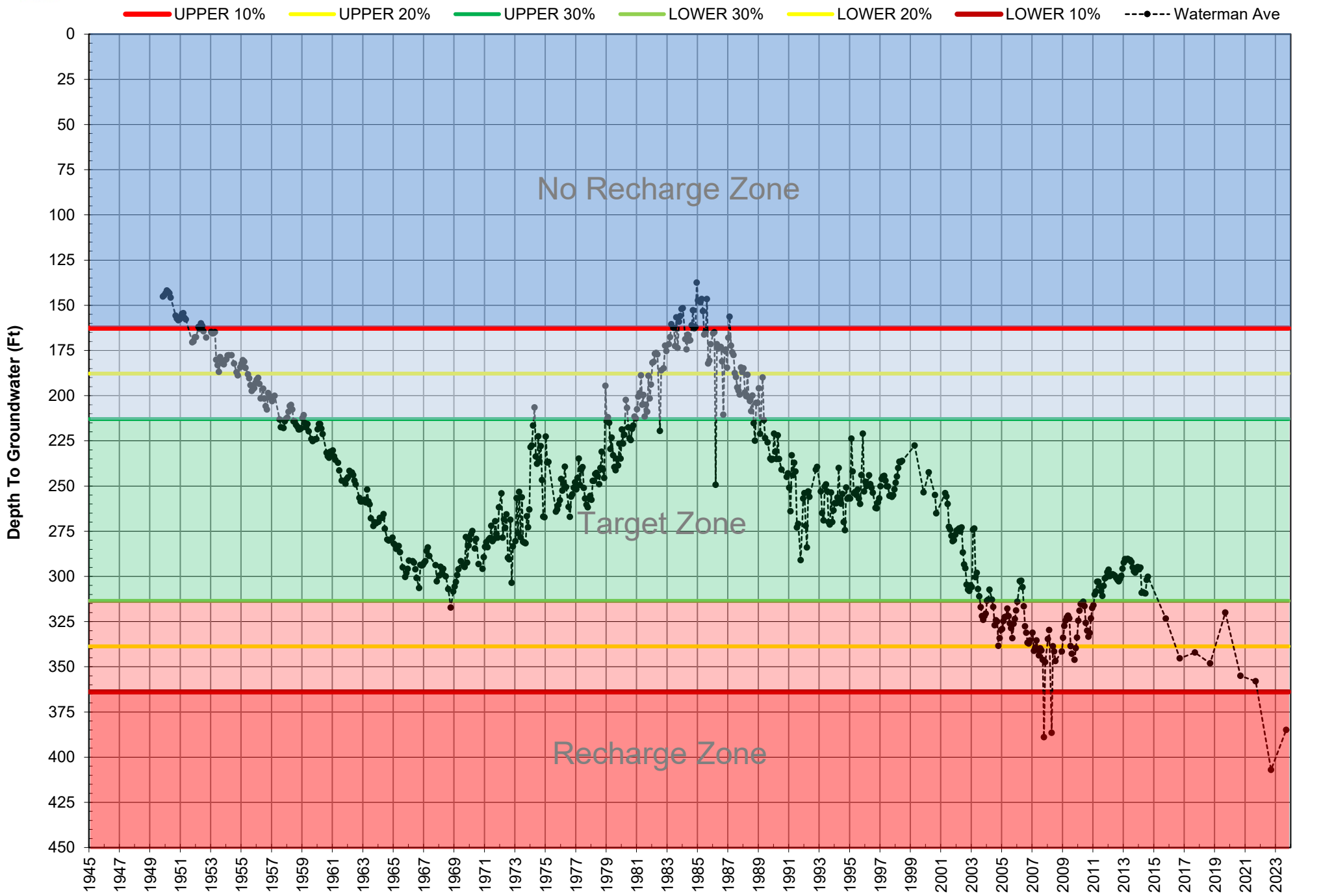
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Waterman Ave.
Index Well Hydrograph

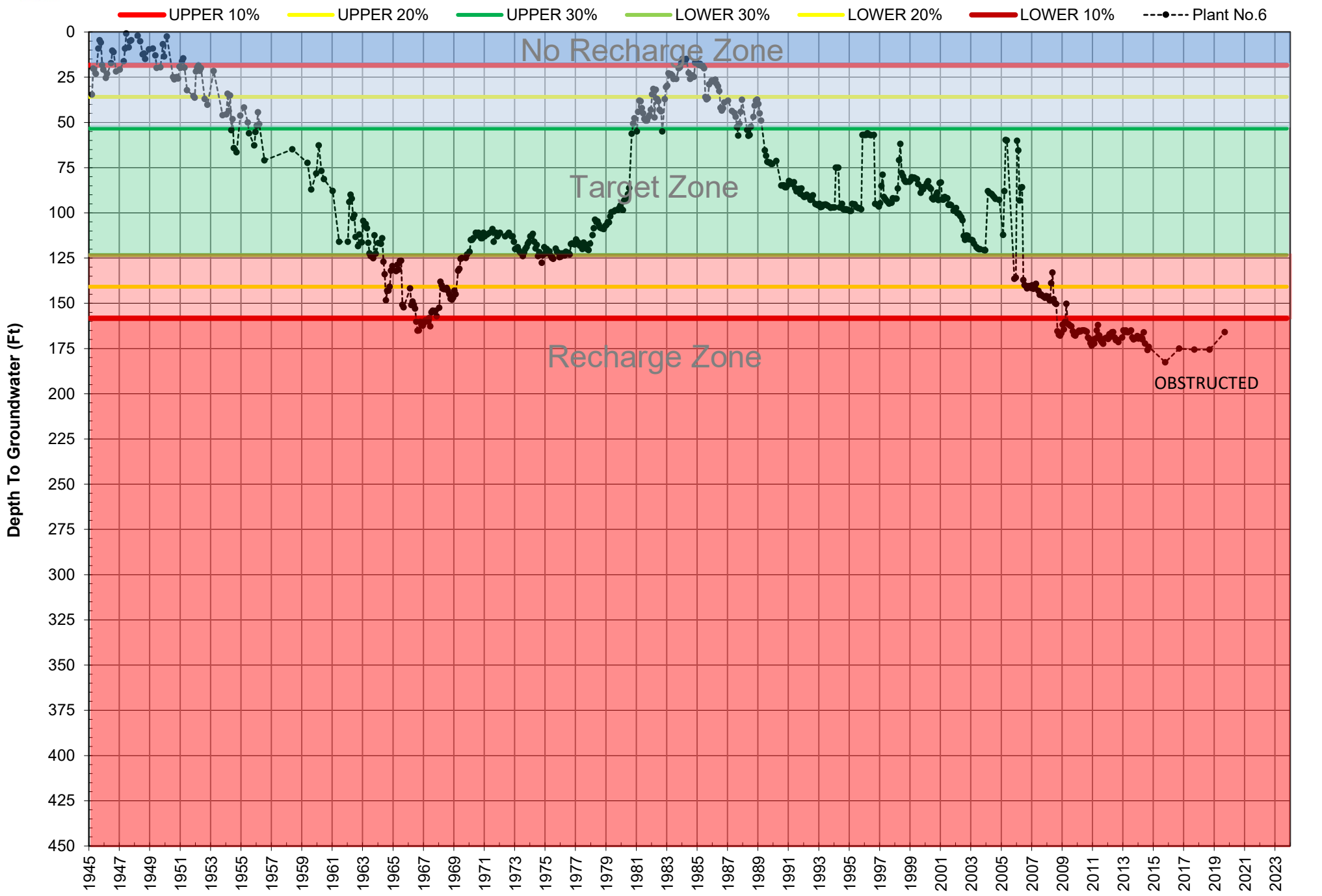
City of San Bernardino



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 6
Index Well Hydrograph

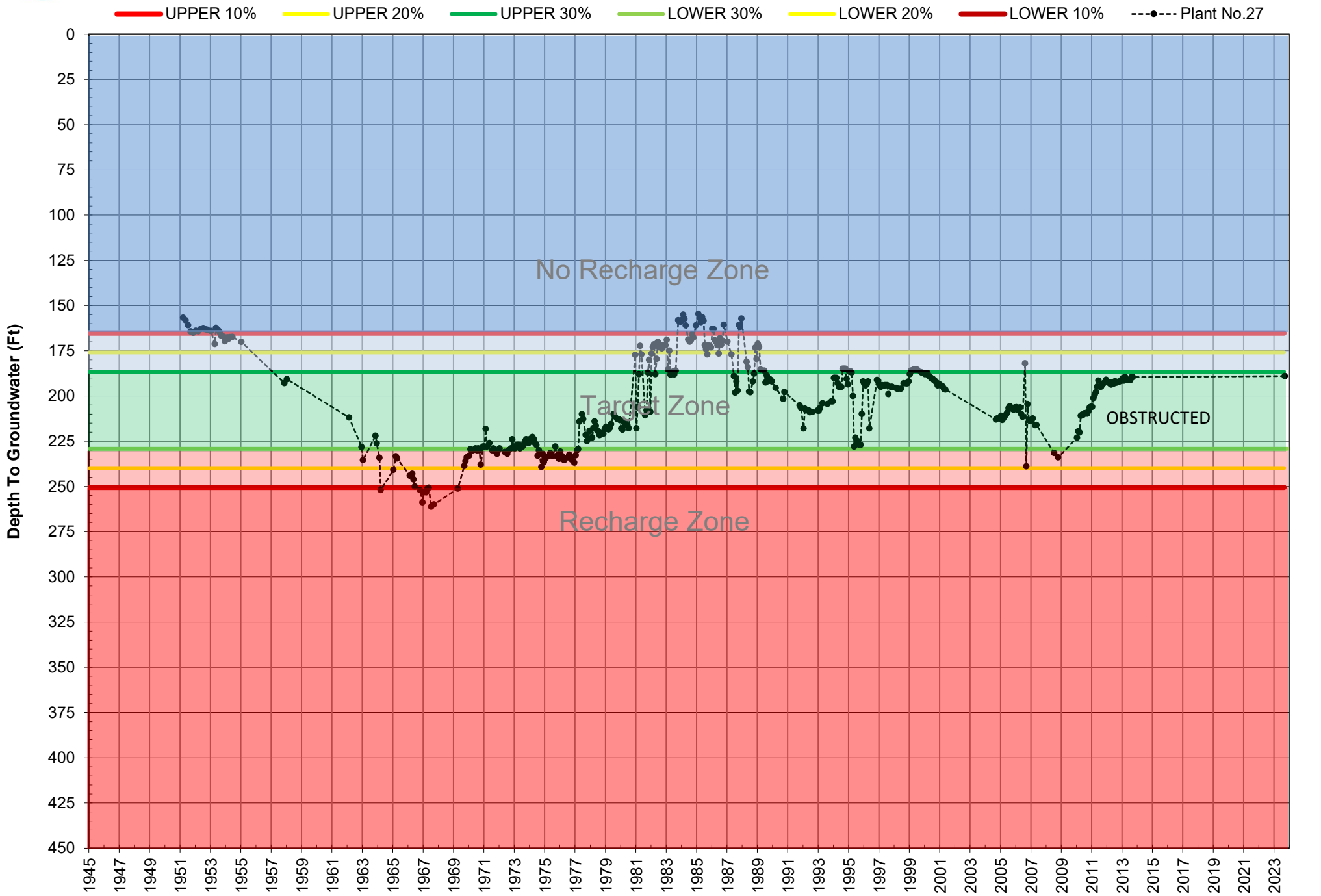
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 27
Index Well Hydrograph

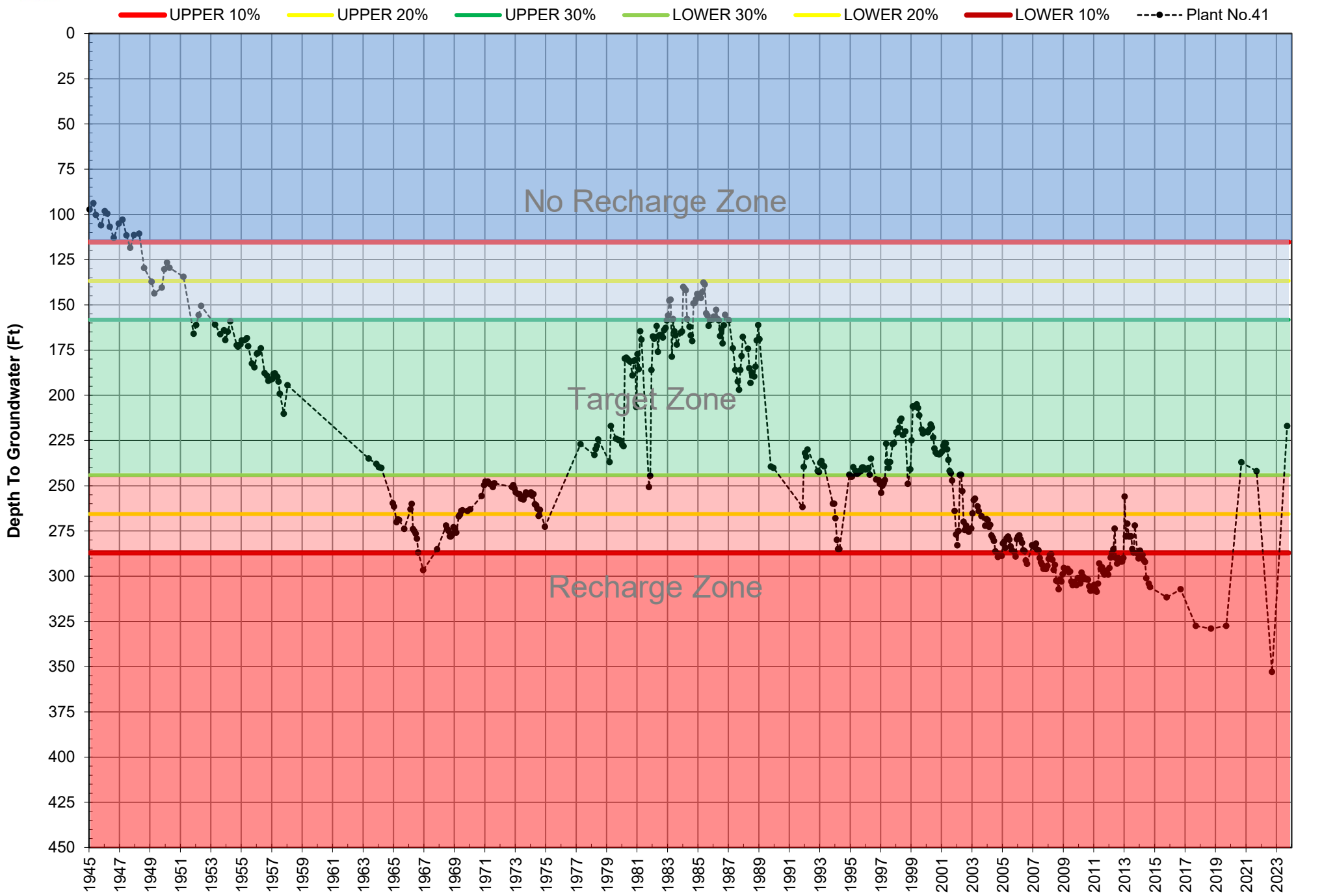
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 41
Index Well Hydrograph

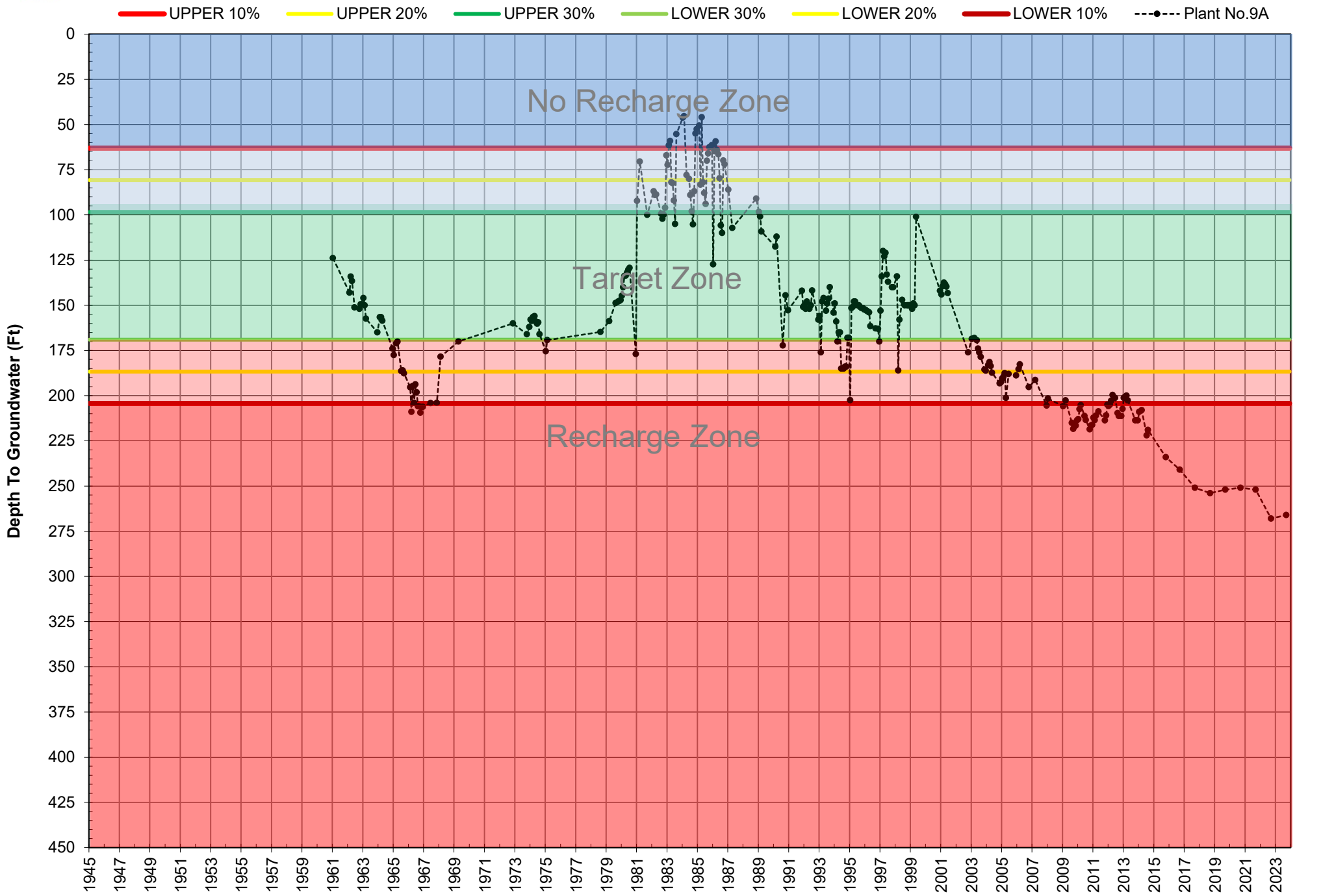
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 9A
Index Well Hydrograph

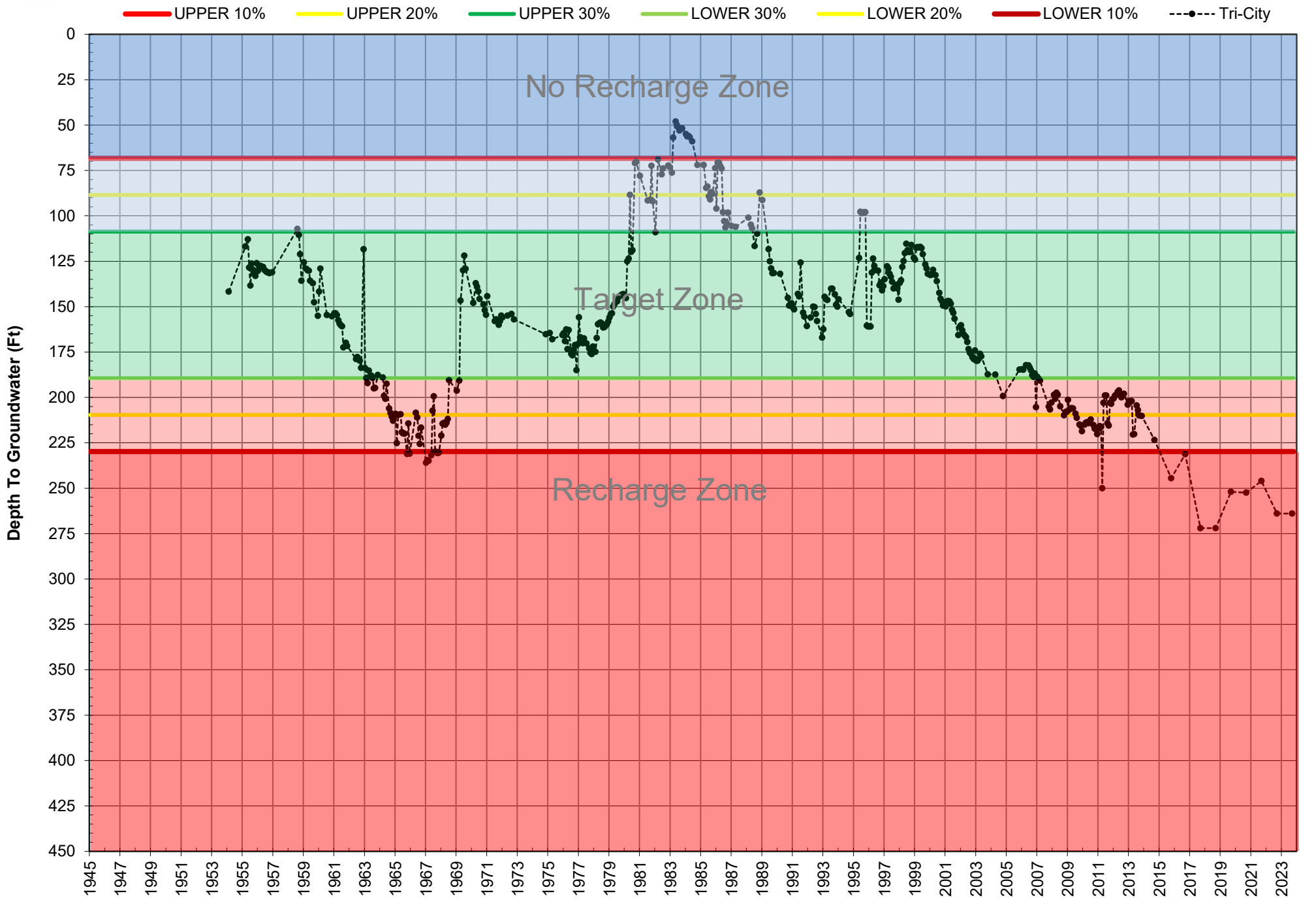
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Tri City
Index Well Hydrograph

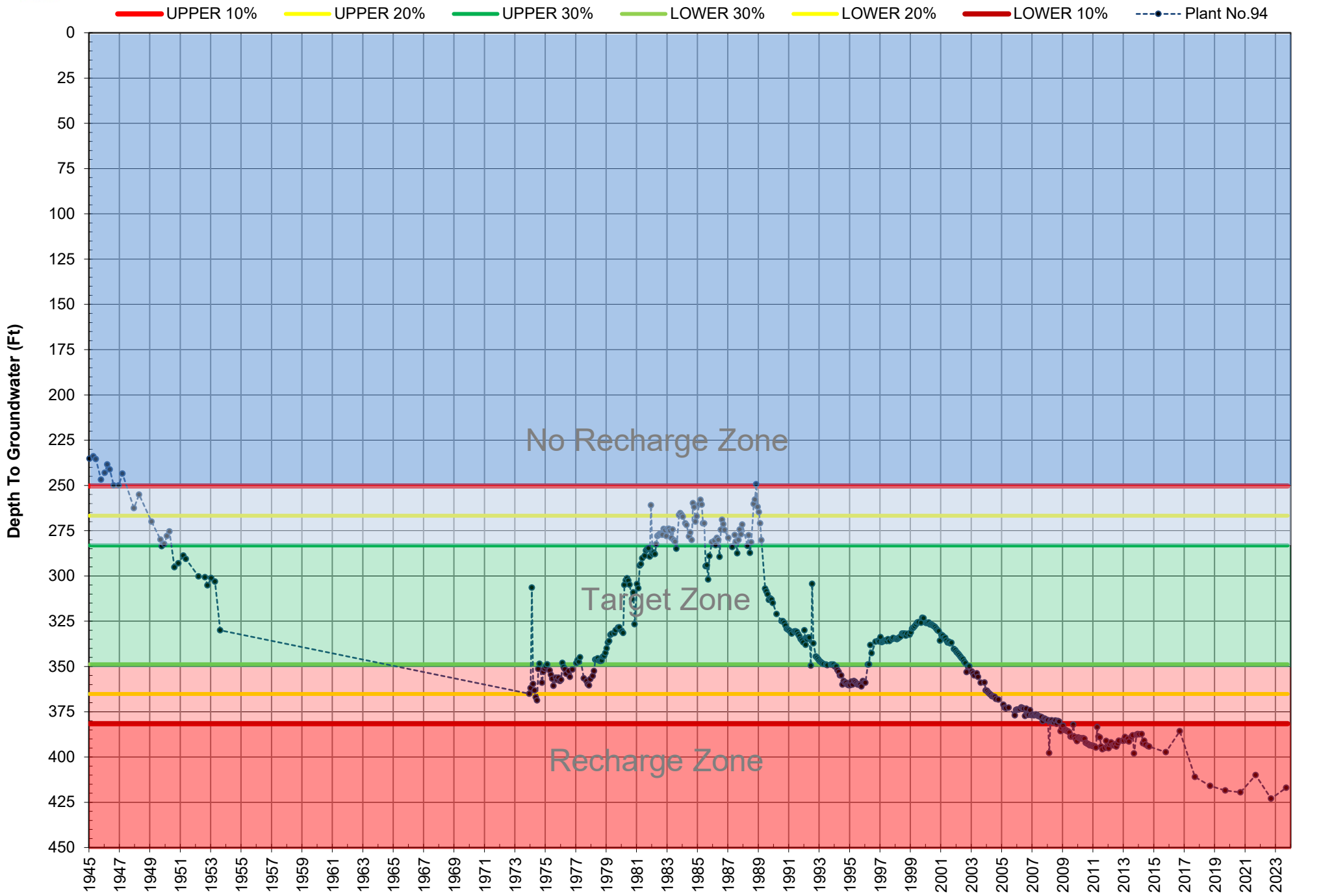
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 94
Index Well Hydrograph

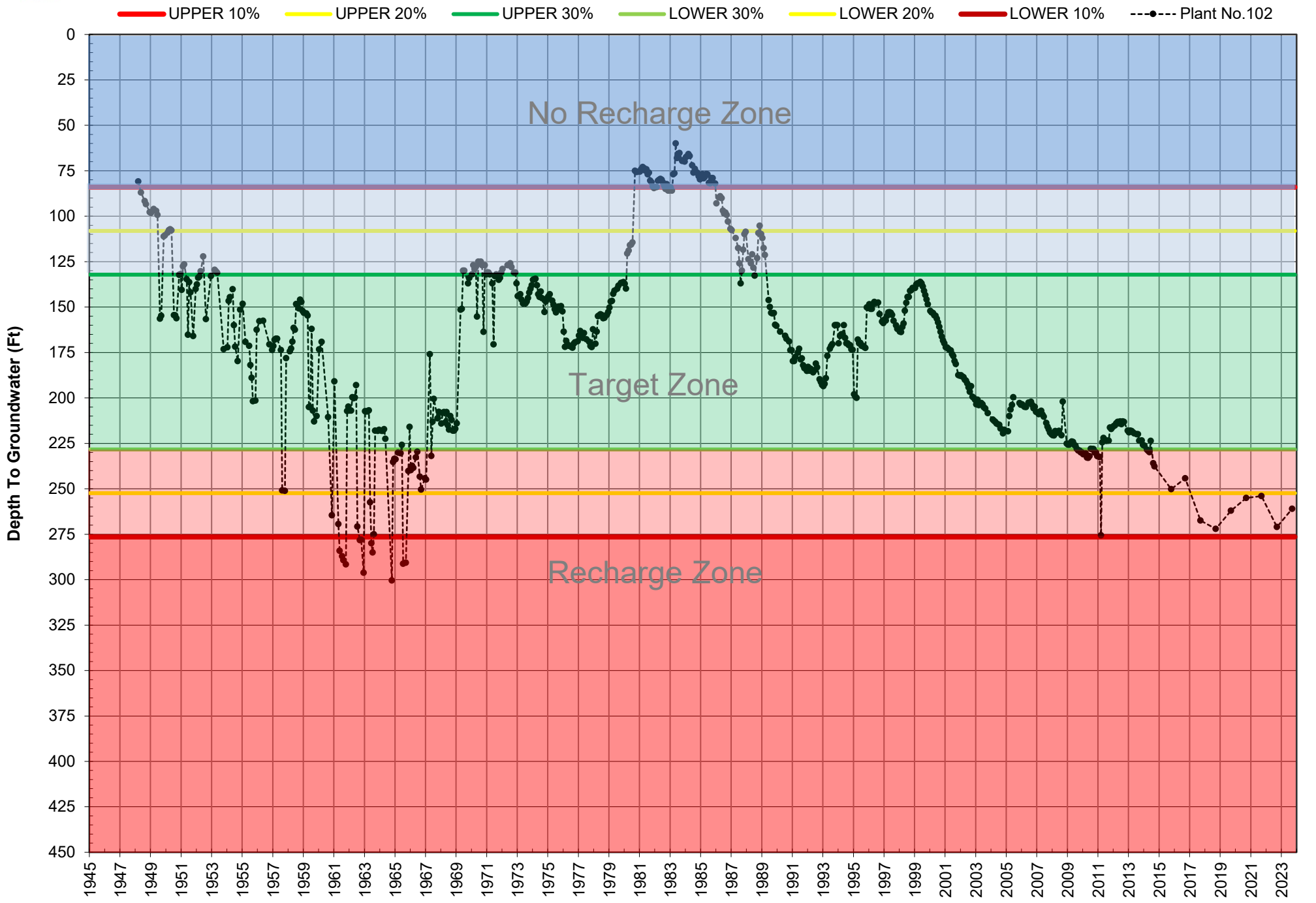
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 102
Index Well Hydrograph

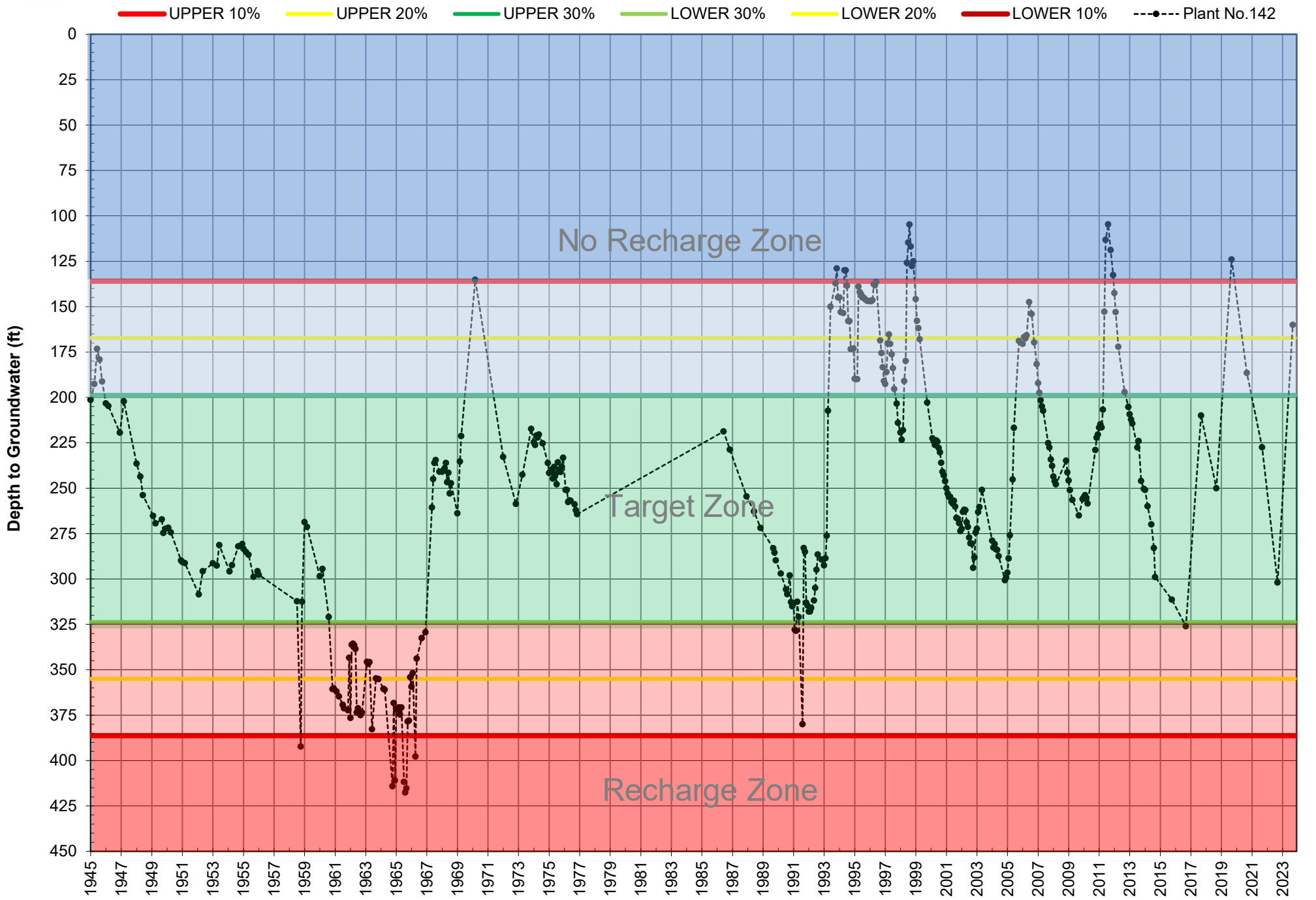
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Plant No. 142
Index Well Hydrograph

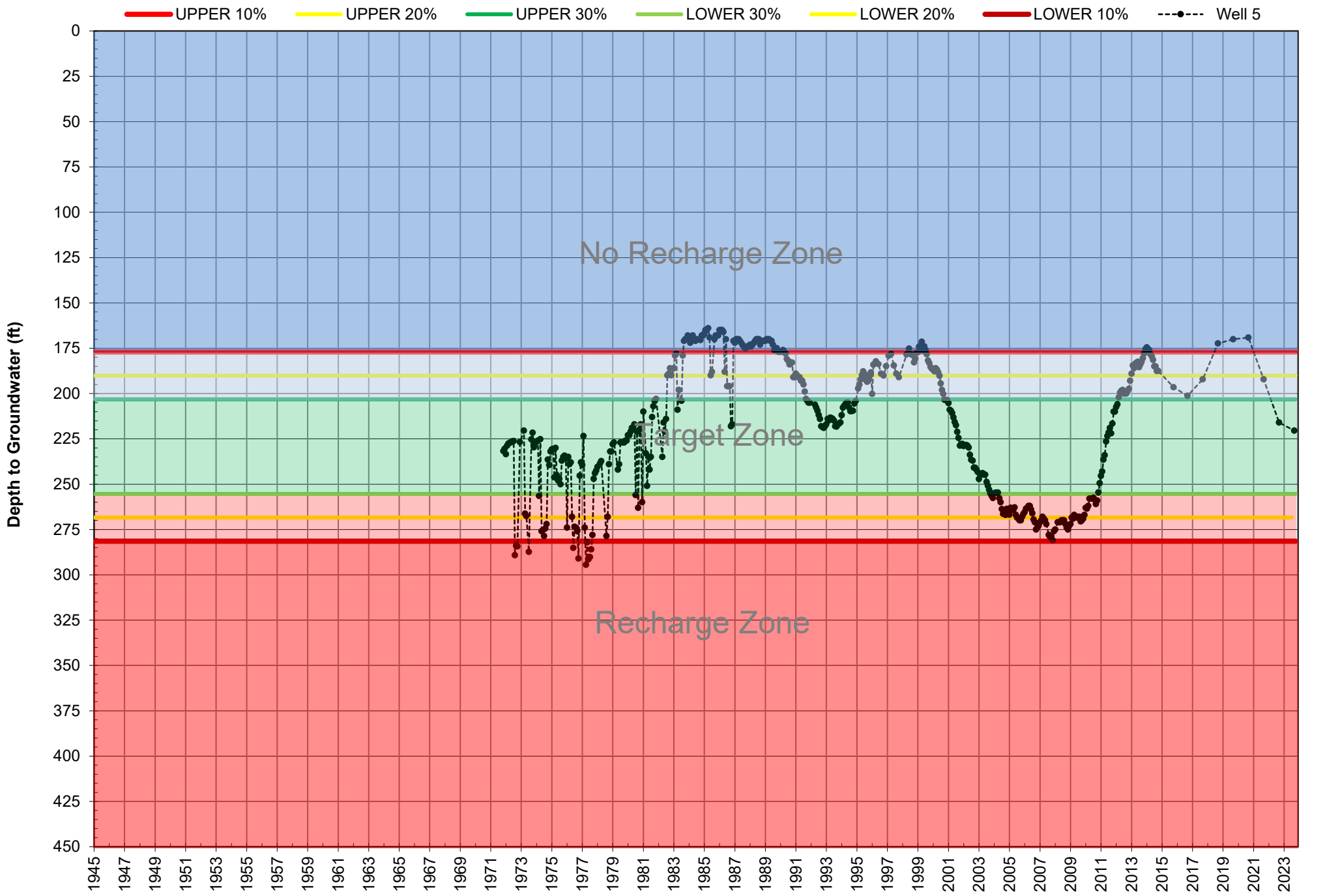
East Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #5
Index Well Hydrograph

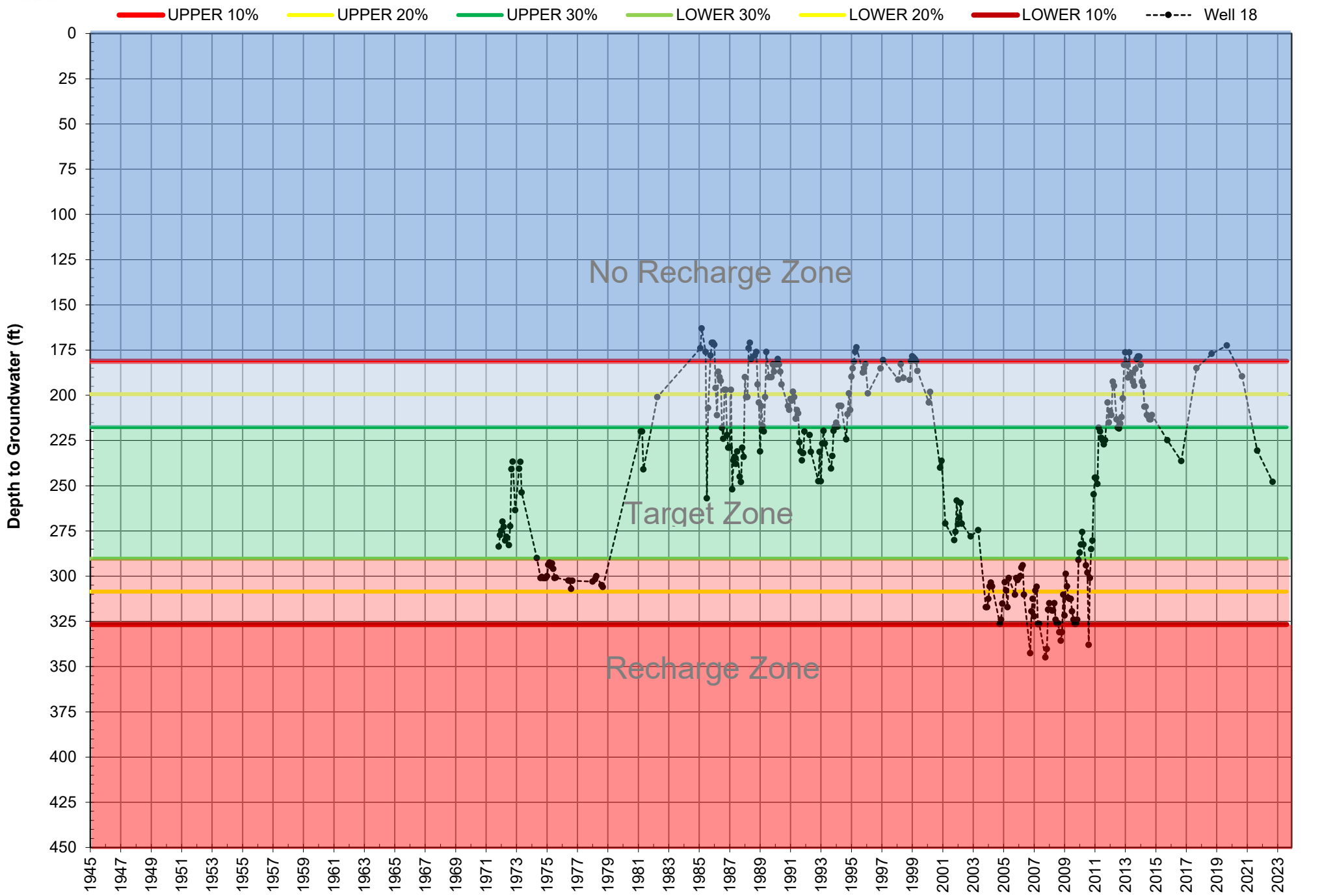
Yucaipa Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #18
Index Well Hydrograph

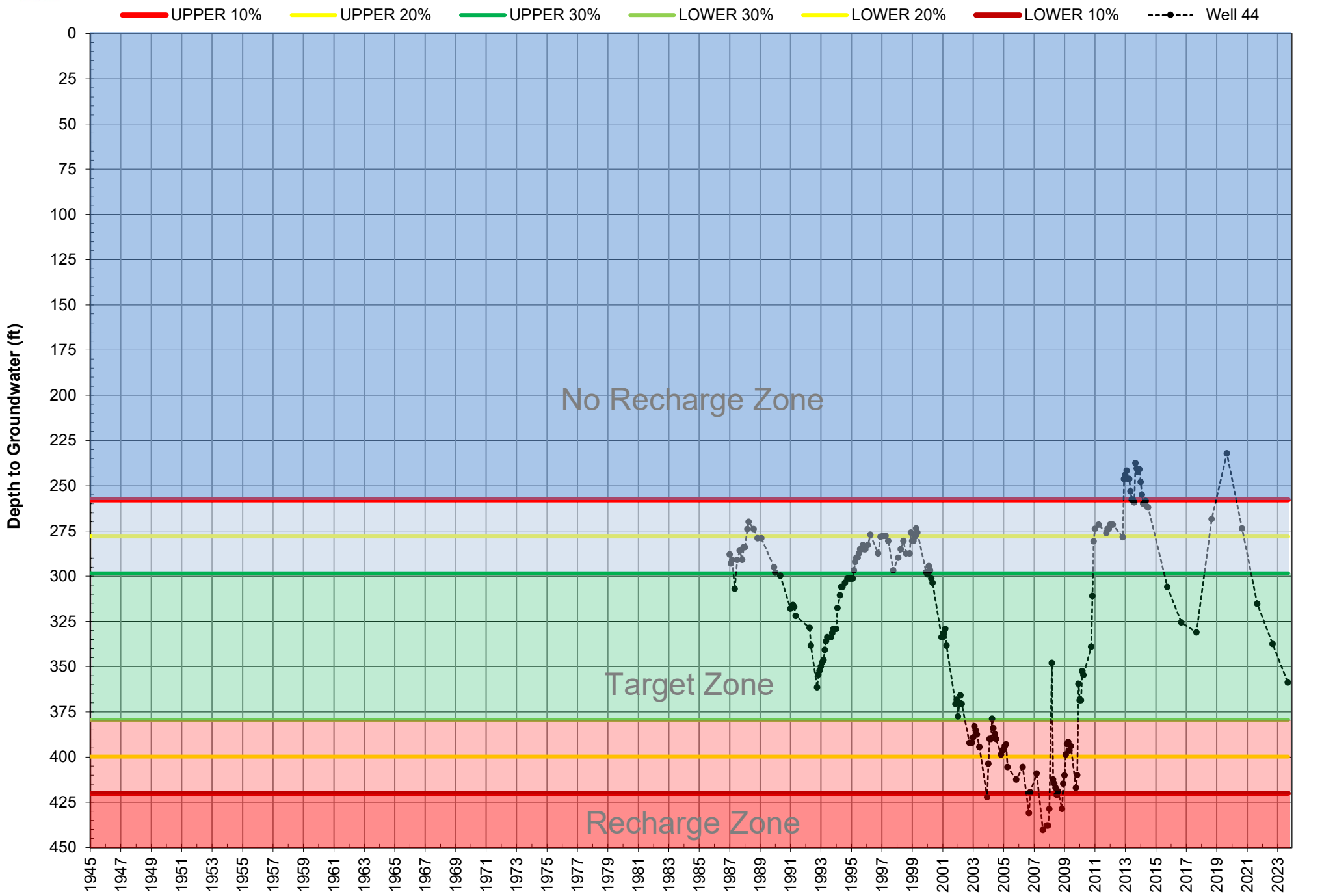
Yucaipa Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #44
Index Well Hydrograph

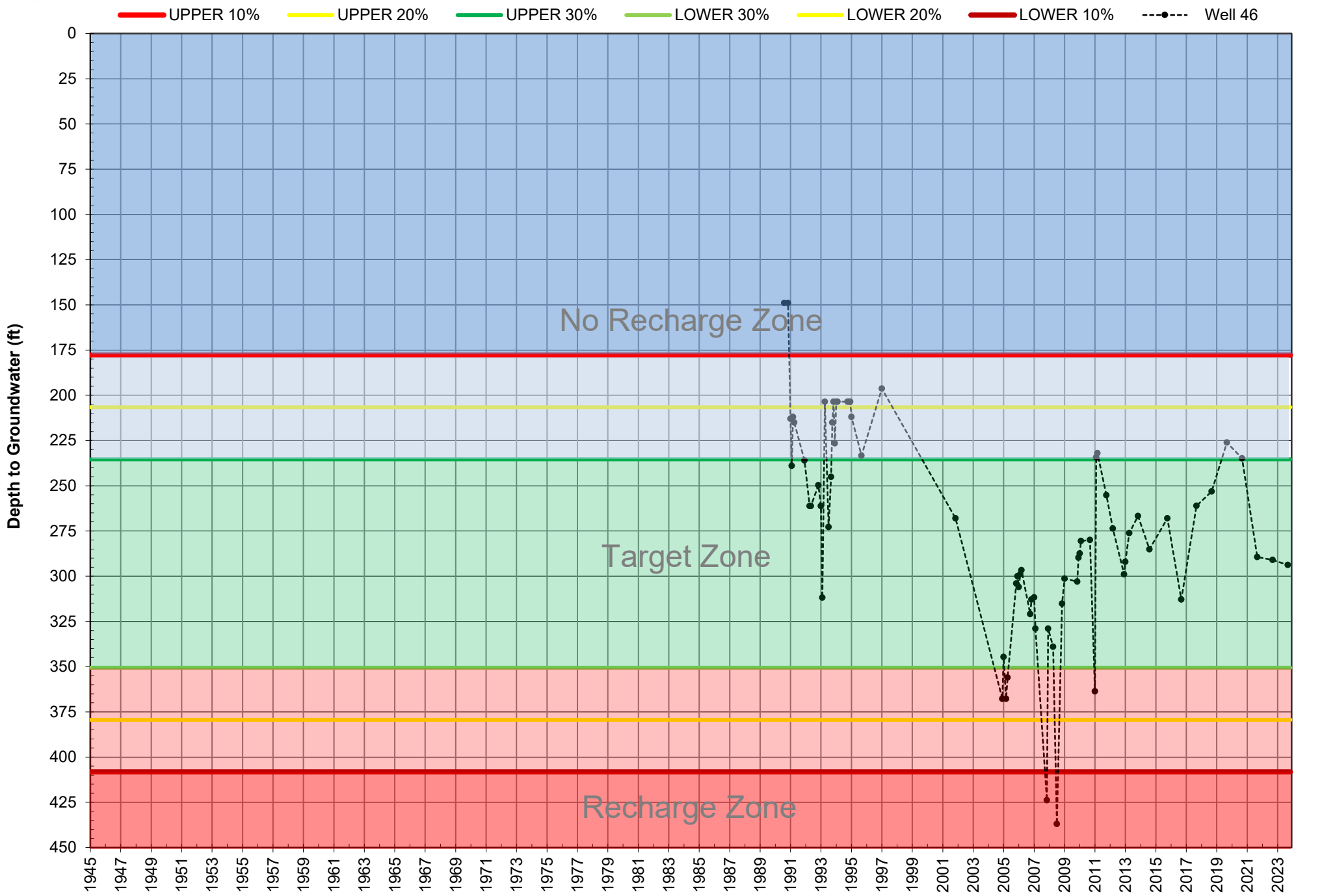
Yucaipa Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #46
Index Well Hydrograph

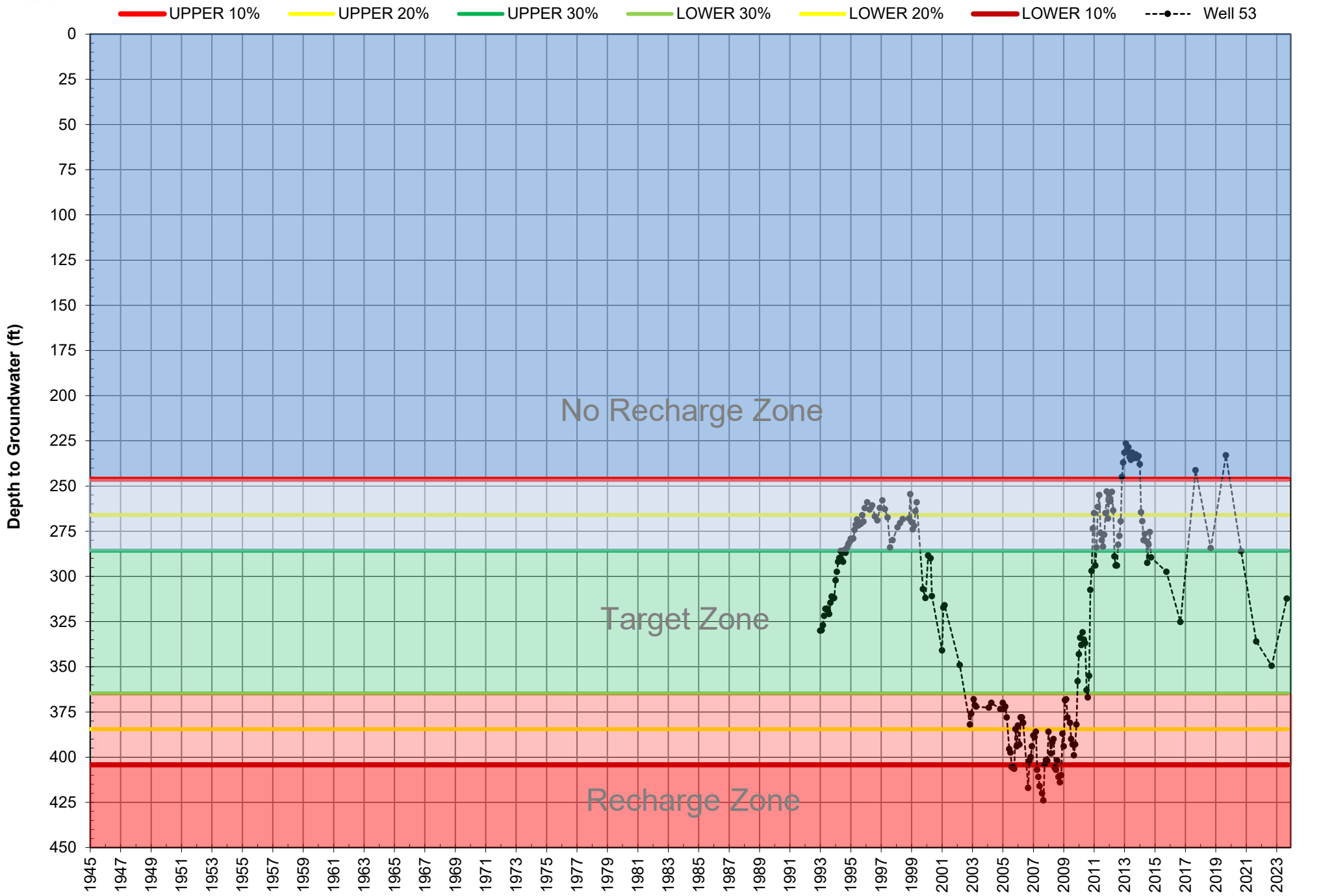
Yucaipa Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

Well #53
Index Well Hydrograph

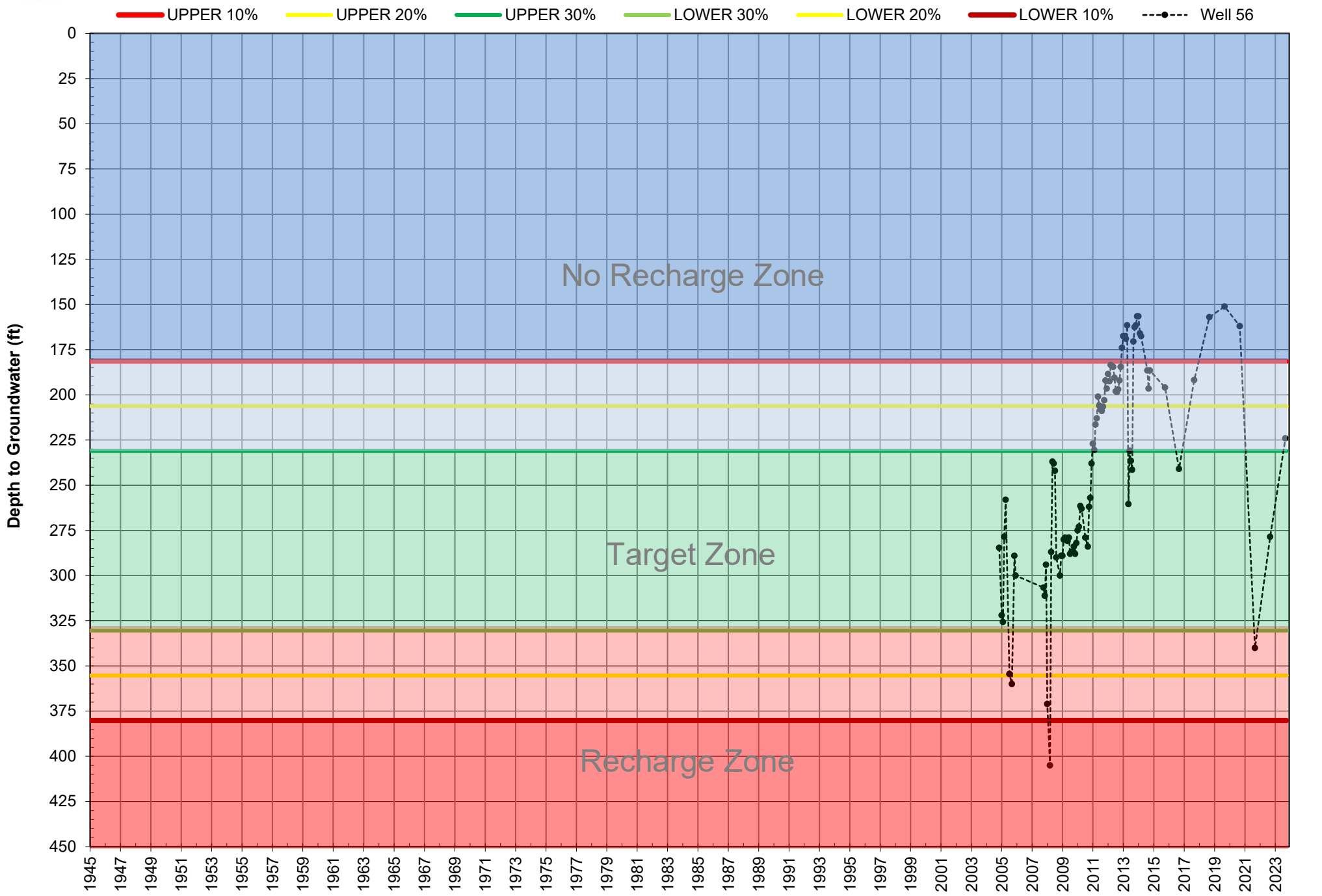
Yucaipa Valley Water District



SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

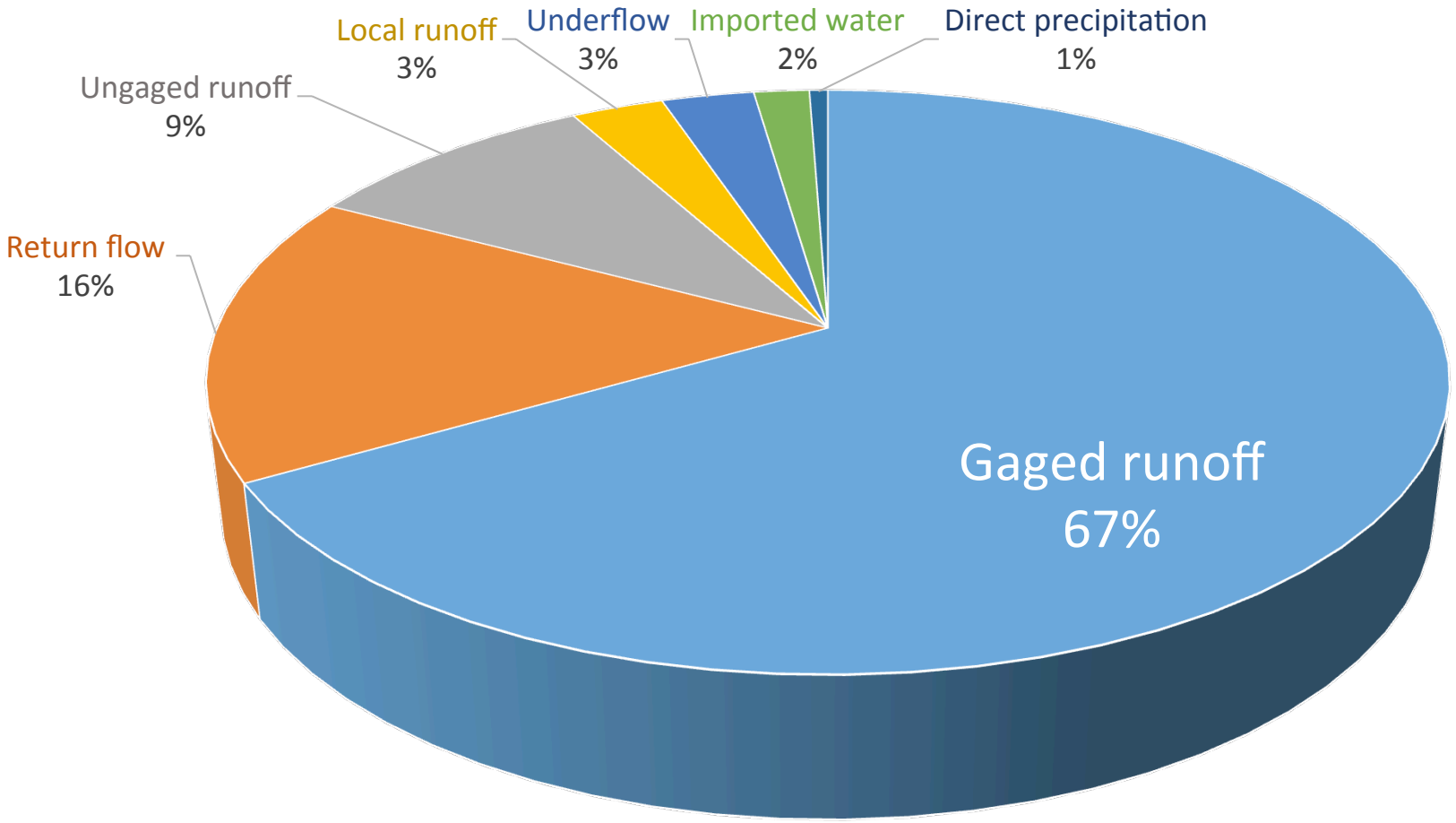
Well #56
Index Well Hydrograph

Yucaipa Valley Water District



E. PRECIPITATION DATA

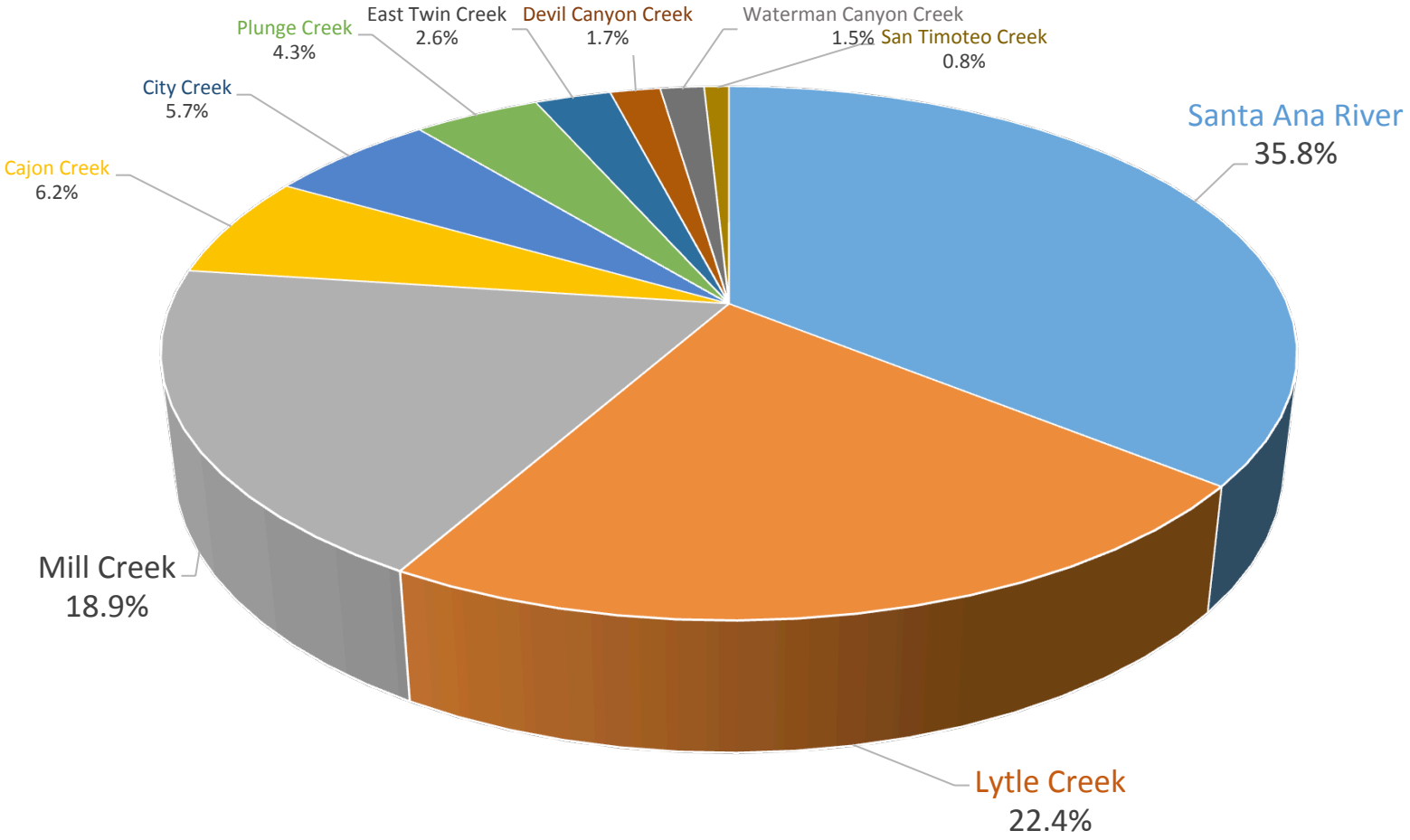
Average Recharge for the SBB (1945-1998)



Most (67%) of the recharge is from gaged runoff.

Source: USGS Professional Paper 1734

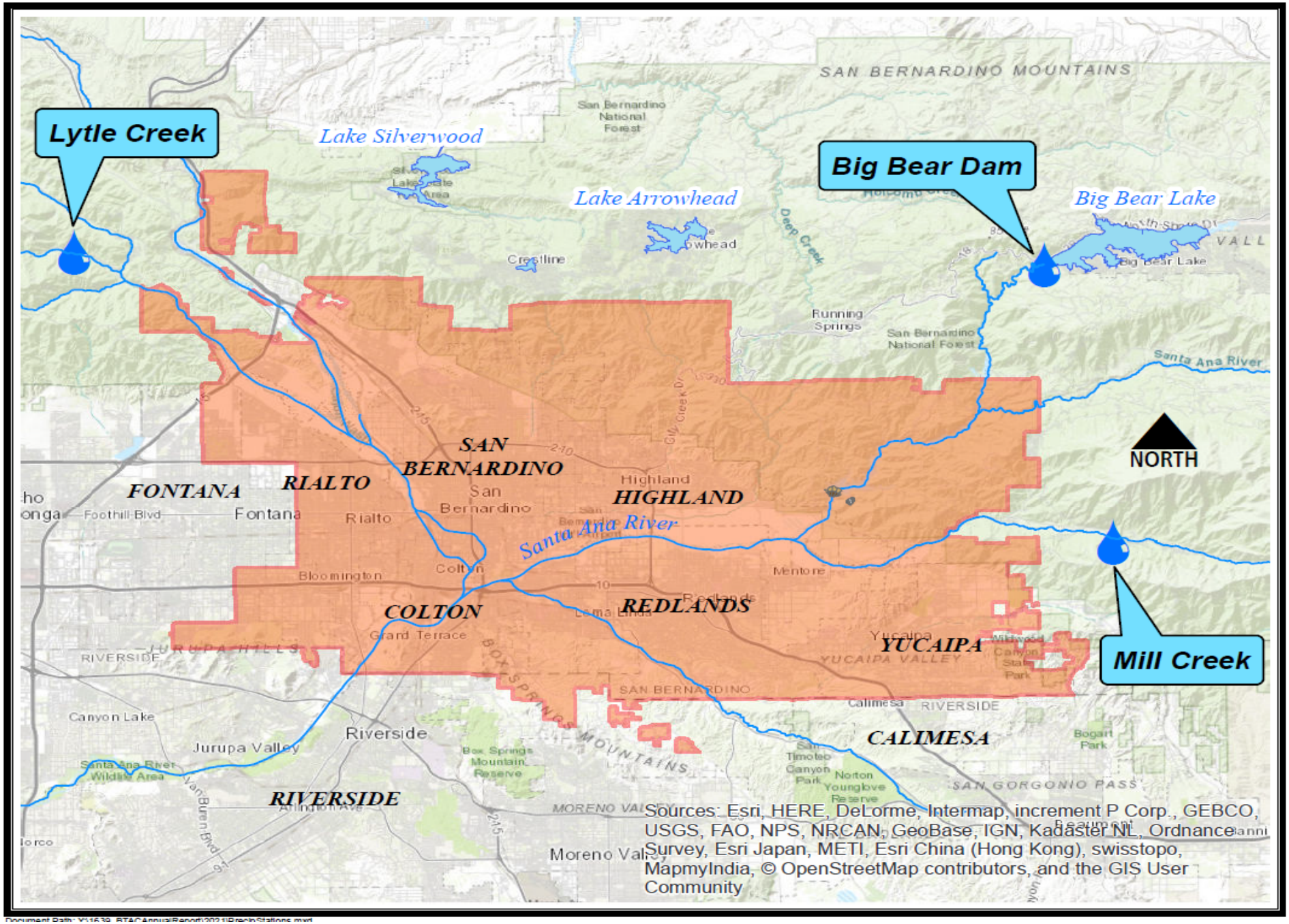
Average Annual Discharge of Gaged Streams Flowing into the SBB (1945-1998)



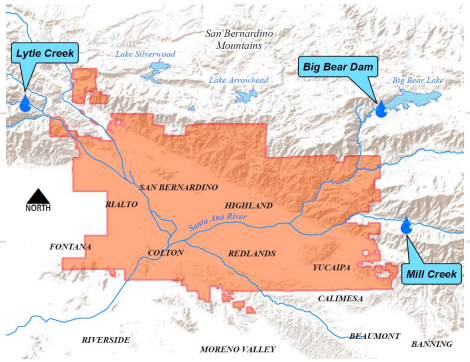
The Santa Ana River, Lytle Creek and Mill Creek contribute approximately 50% of the recharge (77% x 67%).

Source: USGS Professional Paper 1734

Precipitation Index: Average of Gages in Lytle, Santa Ana and Mill Creek Watersheds



San Bernardino Basin Three Station Pecipitation Index



CUMULATIVE DAILY/MONTHLY PRECIPITATION (INCHES)

WY 1992-93 (wettest), 76.9 inches

WY 2018-19, 37.38 inches

Safe Yield Average(1934-1960) 32.9

Historic Average (1931-Present) 31.1

WY 2019-20, 28.09 inches

WY 2021-22, 29.48 inches

WY 2017-18, 14.61 inches

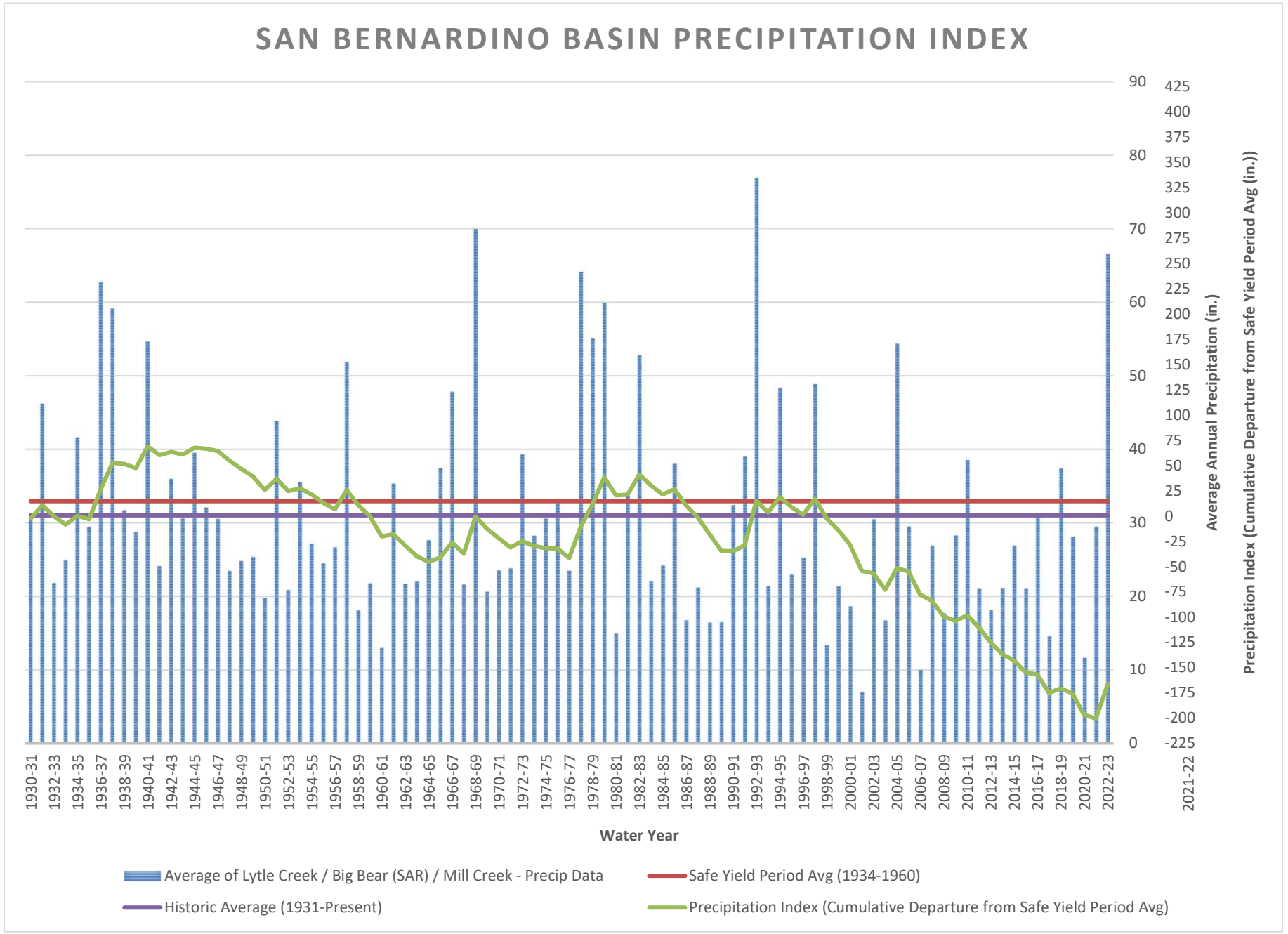
WY 2020-21, 11.64 inches

WY 2001-02 (driest), 7.02 inches

WATER YEAR (OCTOBER - SEPTEMBER)

Historic Average (1931-Present)
Safe Yield Average(1934 - 1960)
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24

Current as of Nov. 29, 2023


SAN BERNARDINO BASIN PRECIPITATION INDEX
90
80
70
60
50
40
30
20
10
0
425
400
375
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
Average Annual Precipitation (in.)
Precipitation Index (Cumulative Departure from Safe Yield Period Avg (in.))
1930-31
1932-33
1934-35
1936-37
1938-39
1940-41
1942-43
1944-45
1946-47
1948-49
1950-51
1952-53
1954-55
1956-57
1958-59
1960-61
1962-63
1964-65
1966-67
1968-69
1970-71
1972-73
1974-75
1976-77
1978-79
1980-81
1982-83
1984-85
1986-87
1988-89
1990-91
1992-93
1994-95
1996-97
1998-99
2000-01
2002-03
2004-05
2006-07
2008-09
2010-11
2012-13
2014-15
2016-17
2018-19
2020-21
2021-22
2022-23
Water Year
Average of Lytle Creek / Big Bear (SAR) / Mill Creek - Precip Data
Safe Yield Period Avg (1934-1960)
Historic Average (1931-Present)
Precipitation Index (Cumulative Departure from Safe Yield Period Avg)

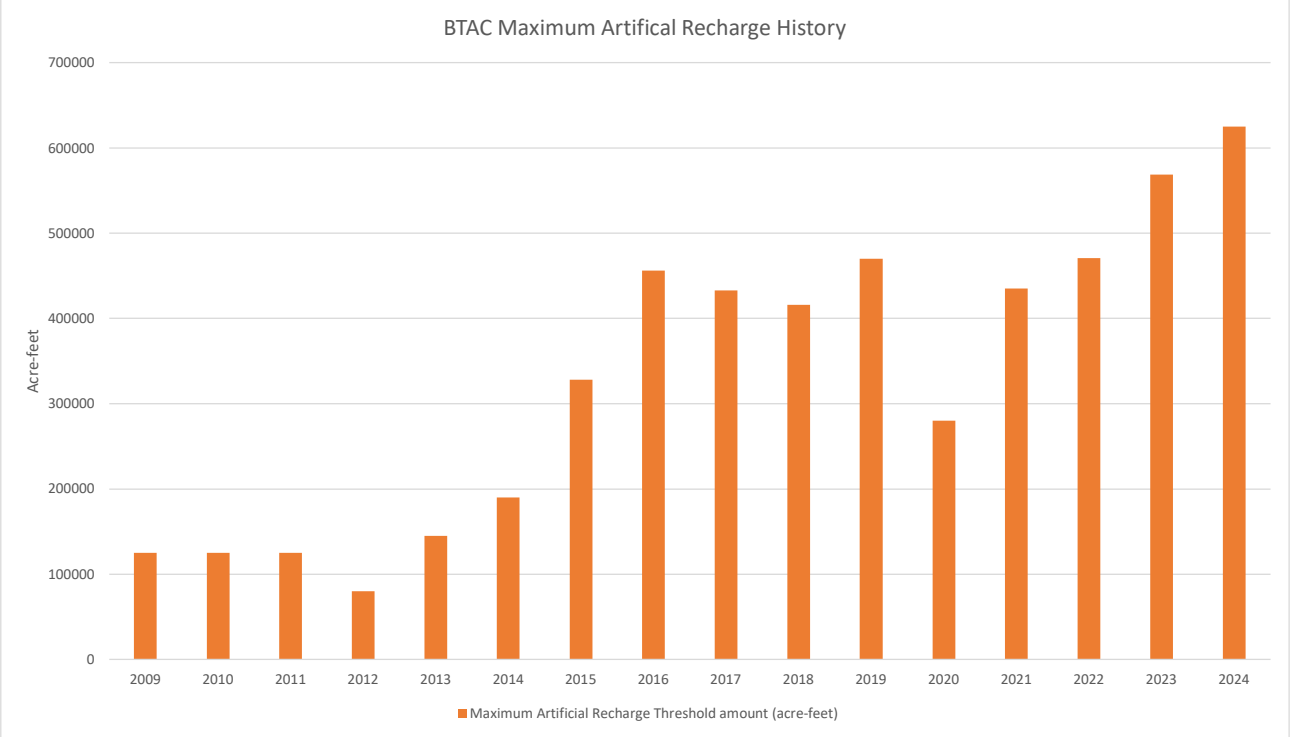
F. ARTIFICIAL RECHARGE THRESHOLD FOR THE SAN BERNARDINO BASIN

Artificial Recharge Threshold in the San Bernardino Basin, 2024

Usable Storage		5,690,000
Water in Storage, 2022 Change in Storage Report		4,658,475
Space Available for Recharge		**1,031,525**
Preserve space for local rainfall		
Assume average year 2024	72,000	
Assume wet year 2025 (1969)	295,000	
		367,000
Anticipated imported water in 2024 for SBB Recharge	40,000	
		40,000
ESTIMATED SPACE FOR ARTIFICIAL RECHARGE		624,525

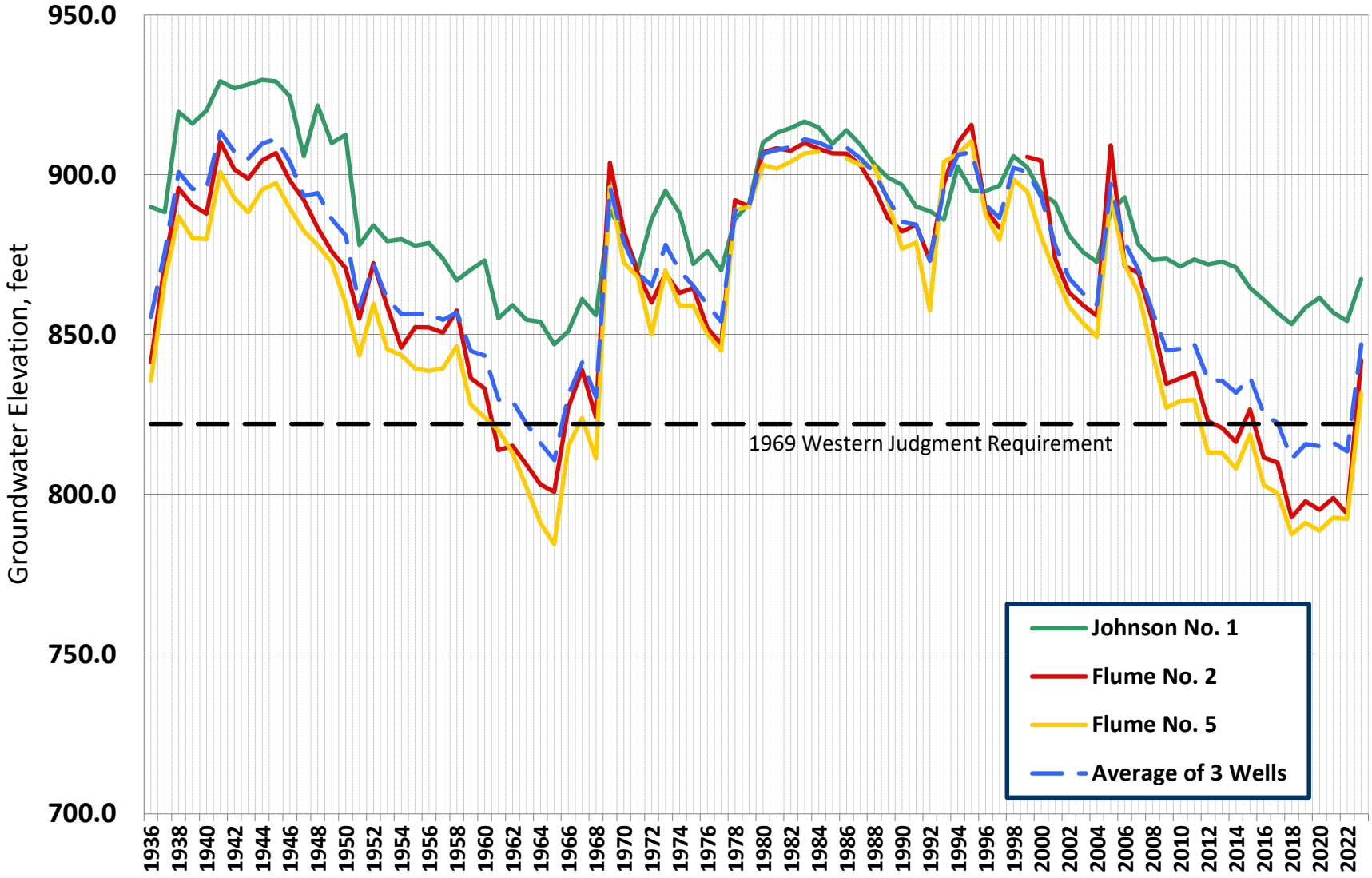
Artificial Recharge Threshold*	**625,000 A/F**

Original modeling result from 2009 varies from 125,000 to 190,000 AF



G. COLTON BASIN AND RIVERSIDE BASIN

SBVMWD Rialto-Colton Basin Compliance Hydrograph
1969 Western Judgment



Measurement between Nov 6 and 10, 2023

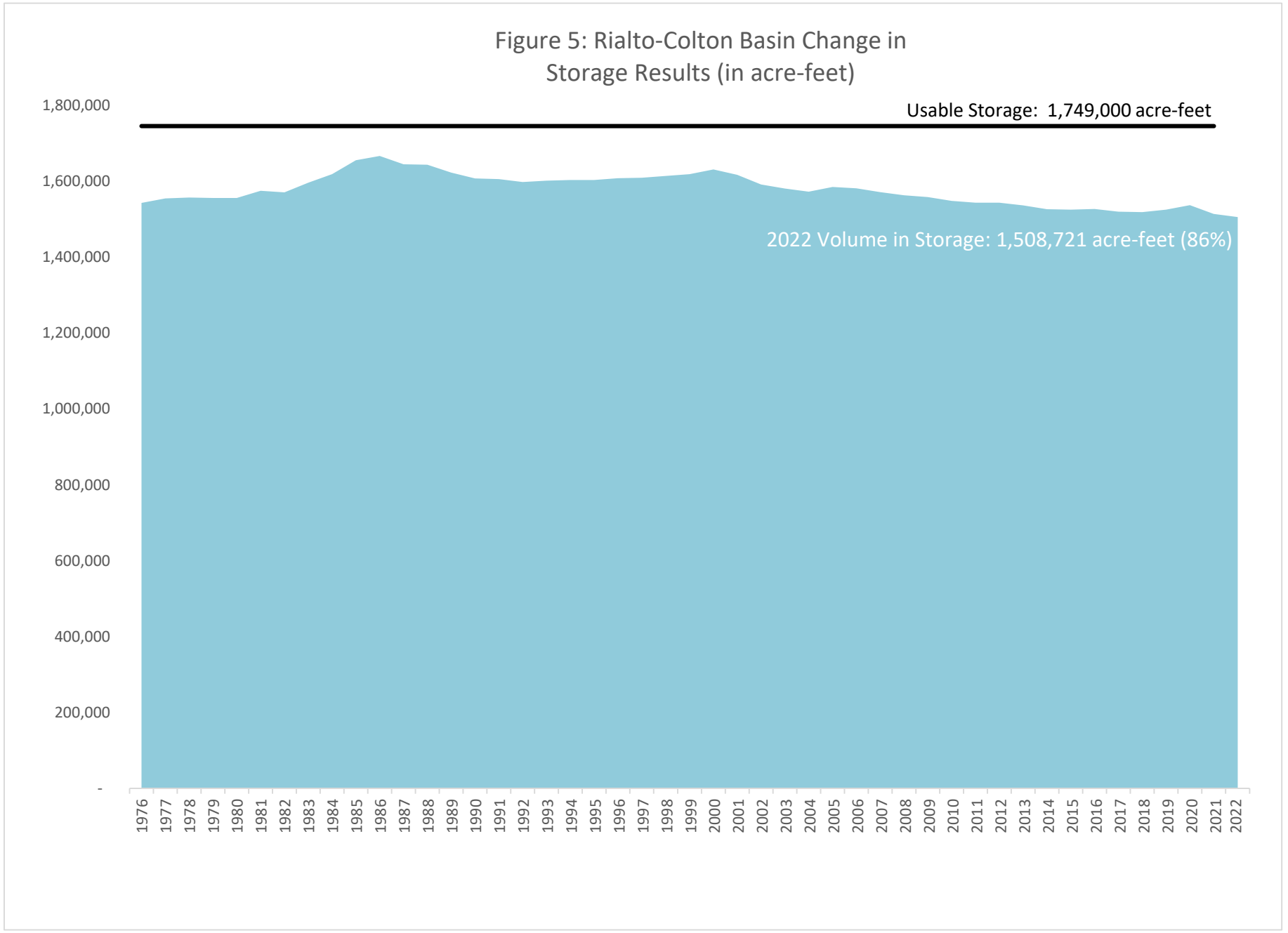


Figure 5: Rialto-Colton Basin Change in Storage Results (in acre-feet)
Usable Storage: 1,749,000 acre-feet
2022 Volume in Storage: 1,508,721 acre-feet (86%)
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
-
1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

H. SUBSIDENCE

To: Basin Technical Advisory Committee (BTAC)

From: Management Tools Subcommittee

Subject: Subsidence

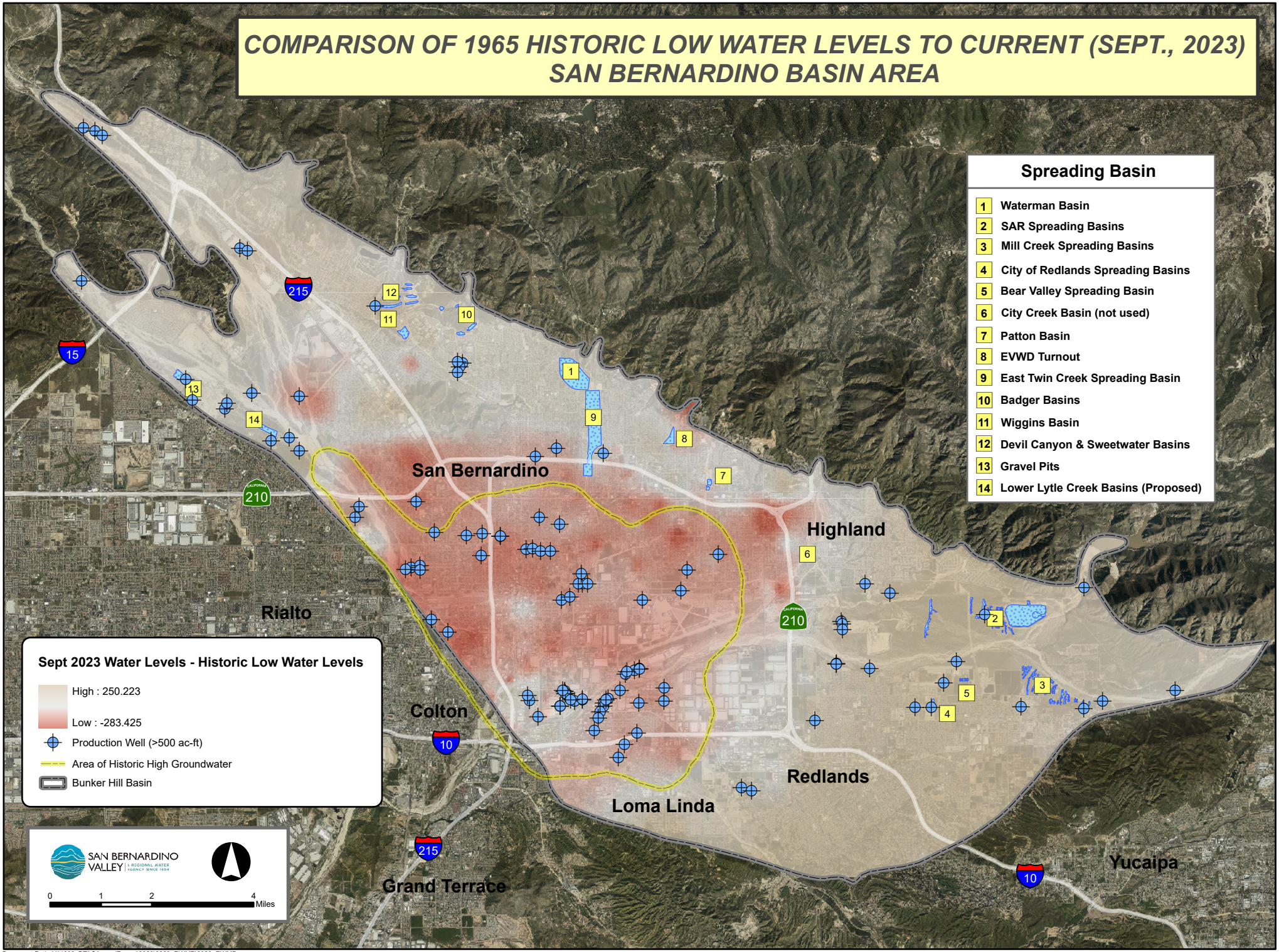
References:

a. USGS Fact Sheet 165-00, December 2000
b. Evaluation and Prediction of Subsidence, ASCE Conference, January 1978.
c. USGS Land Subsidence in the United States, Circular 1182, 1999.

The Management Tools Subcommittee (Subcommittee) references the above-mentioned documents regarding subsidence. According to these documents, most land subsidence occurs in clay layers that have been "newly" dewatered. Therefore, the "at risk areas" for subsidence in the San Bernardino Basin Area (SBBA) would generally be classified as any area where a clay layer has been dewatered below the lowest recorded water level.

The attached map shows any areas that are newly dewatered (experienced water levels below 1965 levels). Also attached is a cross-section through a portion of the newly dewatered area showing the anticipated geology. Since there is no one on the BTAC that feels qualified to make a determination regarding subsidence risk, it is left to the reader to draw their own conclusions from the provided data.

COMPARISON OF 1965 HISTORIC LOW WATER LEVELS TO CURRENT (SEPT., 2023)
SAN BERNARDINO BASIN AREA



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REGIONAL WATER MANAGEMENT PLAN

2023 Subsidence Risk Areas

Wells used in Cross Section A-A'

0 Meadowbrook Park
1 30th and Mt View
2 27th St and Acacia St
3 Hanford No 1
4 Lynwood Well
5 Waterman Avenue
6 Gilbert Street
7 Mill and D
8 Perris Hill No 5
9 31st and Mt View
10 23rd St and E St
11 7th St
12 10th and J St
13 17th and Sierra Way No 2
14 40th St
15 EPA Well No 1
16 EPA Well No 3
17 EPA Well No 5
18 Chandler
19 Backyard
20 East Twin (Inactive)
21 Sierra High School
22 Century Well

Subsidence Indicator Wells
- No Subsidence Risk
- Subsidence Risk
- Shallow Monitoring Wells
- Section Line A-A'
- AHHG Boundary
- Spreading Basins
- SBBA Boundary

SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

0 0.75 1.5 3 Miles

San Bernardino
Highland
Rialto
Colton
Loma Linda
Redlands
Yucaipa
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I. DEWATERING CONTINGENCY PLAN FOR THE AREA OF HISTORIC HIGH GROUNDWATER

To: Basin Technical Advisory Committee (BTAC)

From: Engineering Subcommittee

Date: November 2014

Subject: Dewatering Contingency Plan for the Area of Historic High Groundwater

Reference:

1. Appendix B – BTAC Management Plan: Should we artificially recharge? Do we need extra production?
2. Upper Santa Ana River Watershed Integrated Regional Water Management Plan

In the San Bernardino Basin Area (SBBA) on the northeast side of the San Jacinto fault, there are approximately 1,200 feet of unconsolidated and partly consolidated water-bearing deposits. In the area between Warm Creek and the Santa Ana River, the upper confining member of this aquifer acts to restrict vertical flow, causing semi-confined conditions in the upper 50 to 100 feet of saturated materials (Dutcher and Garrett 1963). This area is considered the Pressure Zone of and is also referred to as the Area of Historic High Groundwater (AHHG). Historically, this area has experienced very shallow groundwater conditions, flowing artesian at times. Water levels this shallow have damaged building foundations, flooded basements and utility structures and increased the potential for liquefaction during an earthquake in this seismically active region.

The San Bernardino Basin area has unusually high groundwater levels in its history. This photo shows an artesian well.

High groundwater in the AHHG is further aggravated by the direction of groundwater flow in the San Bernardino Basin Area, which is generally in a southwesterly direction from the San Bernardino Mountains to the San Jacinto fault. The fault zone generally runs perpendicular to the groundwater flow and acts as a barrier, or partial barrier, causing the groundwater to “pool up” behind the fault and rise upward toward the land surface.

One of the objectives of the *Upper Santa Ana River Watershed Integrated Regional Water Management Plan* was to develop tools that might be used by water agencies to manage the groundwater levels in the Pressure Zone to reduce the risk of liquefaction. The regional groundwater flow model, the BTAC annual water management plan which establishes a threshold for artificial recharge to help prevent high groundwater (levels shallower than 50 feet from ground surface) from recurring and the BTAC monthly statement that reviews water levels in the AHHG are examples of these types of tools.

During the high groundwater conditions in the 1980s, San Bernardino Valley Municipal Water District, in partnership with the retail water agencies, developed the *Pilot Dewatering Program* (Program). This Program primarily involved the use of existing wells to pump water from the AHHG for delivery to the Santa Ana River and, ultimately, to Orange County Water District (OCWD). The water was delivered to OCWD because, at the time, there was not enough demand in the upper watershed.

In 2013, the BTAC Engineering Subcommittee developed the next iteration of the Pilot Dewatering Program, the *Dewatering Contingency Plan for the Area of Historic High Groundwater* (Contingency Plan). Like its predecessor, the goal of the Contingency Plan is to identify existing wells that could be utilized during high groundwater conditions to pump additional water from the AHHG and to identify agencies that could take delivery of this water. The City of San Bernardino and the City of Riverside have identified existing facilities in the AHHG that could collectively produce an additional 45,000 acre-feet over what the facilities need to produce for their own customers. Three of the retail water agencies indicated they could take delivery of high groundwater as follows:

West Valley Water District: 3,700 (currently) – 12,000 (2035)

Riverside Public Utilities: 25,000

Western Municipal Water District: 8,000

TOTAL: 36,700 (currently) – 45,000 (2035)

The attached figure summarizes the dewatering contingency plan.

Basin Technical Advisory Committee (BTAC)

Dewatering Contingency Plan

Area of Historic High Groundwater

San Bernardino Wells

Available wet year capacity: 12,000 AF

Wet year customer: WVWD

Customer "shifted" wet year demand: 3,700 (2015) to 12,000 AF (2035)

Demand shifted from: Rialto-Colton Basin

Riverside Wells

Available wet year capacity: 33,000 AF

Wet year customer: RPU & WMWD

Customer "shifted" wet year demand:

RPU	25,000 AF
WMWD	8,000 AF
TOTAL	33,000 AF

Demand shifted from: Other groundwater supplies, imported water

WVWD
3,700 – 12,000

Encanto Booster

9th Street Wells (Valley District)

Baseline Feeder Pipeline

Baseline Feeder South Pipeline

Area of Historic High Groundwater

Area of Historic High Groundwater

RPU & WMWD 33,000

Gage Canal

BTAC Dewatering Contingency Plan

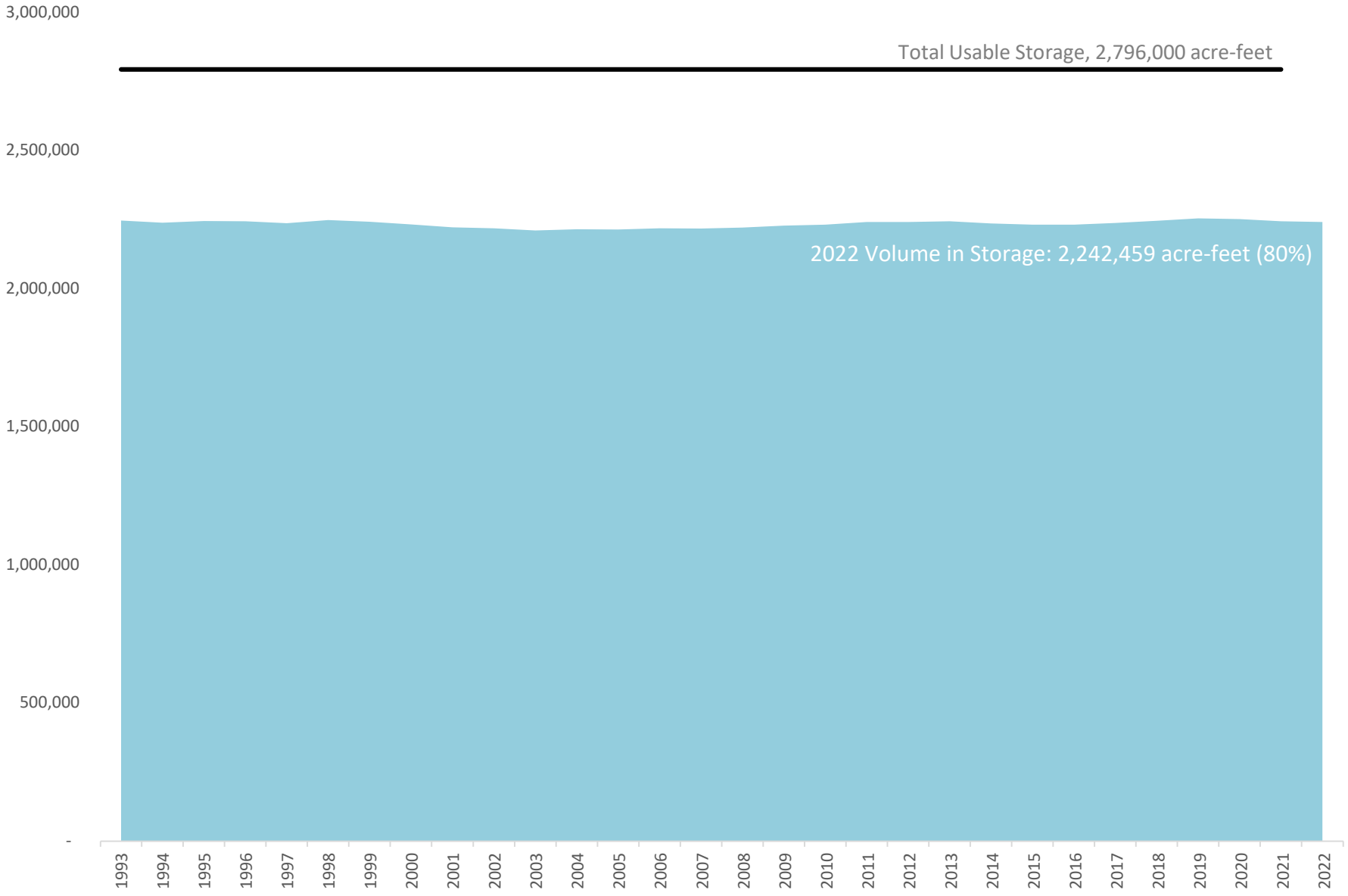
1,500 750 0 1,500 Feet

Riverside Well Locations & Annual Production (Acre Ft)
- 121 - 1300 AcFt
- 1301 - 2480
- 2481 - 3659
- 3660 - 4839

San Bernardino Well Locations & Annual Production (Acre Ft)
- 121 - 1300 AcFt
- 1301 - 2480
- 2481 - 3659
- 3660 - 4839

J. YUCAIPA BASIN

Figure 6: Yucaipa Basin Change in Storage Results (in acre-feet)



K. SUMMARIES OF VARIOUS LEGAL AGREEMENTS AND JUDGEMENTS

San Bernardino Basin Area Governance

The Western Judgment identifies regional representative agencies to be responsible, on behalf of the numerous parties bound thereby, for implementing the replenishment obligations and other requirements of the judgment. The representative entities for the Western Judgment are Valley District and Western. Valley District is solely responsible for providing replenishment of the SBBA if extractions exceed the safe yield of the basin. The court-appointed Watermaster includes representatives from Valley District and Western. The proposed basin management process could be under the authority of the Valley District and Western Boards of Directors with inputs from other significant producers.

Basin Technical Advisory Committee (BTAC)

The Integrated Plan established the BTAC membership as the staff representatives from plaintiffs and non-plaintiffs of the Western Judgment. Since the Integrated Plan was adopted, the BTAC has unanimously decided to include any other agencies that wish to participate in the development of the regional water management plan. The BTAC will meet as often as needed to effectively "operate" the regional water resources within Valley District on a real-time basis and to address any other technical issues related to basin management. The BTAC strives to make decisions by consensus.

SBBA Basin Management Strategy

The Basin Management Objectives (BMOs) formulated for the SBBA are the driving force in developing strategies for the basin management plan. The BMOs are as follows:

- Improve water supply reliability during droughts,
- Protect water quality,
- Reduce risk of liquefaction, and
- Avoid impact from and to the contaminant plumes.

To ensure adequate reliable water supply for the communities in the Upper Santa Ana River (SAR) watershed during a prolonged drought, the overall basin management strategy will be to operate the basin under the "Tilted Basin Concept" such that the basin would begin a drought period in "as full as possible" condition. Keeping the basin relatively full and operating a conjunctive management program according to the "Tilted Basin Concept" also provides the added flexibility to reduce imports from the SWP when water quality is less desirable. This overarching management strategy will be followed by the BTAC as they draft the basin management plan. Some of the specific management strategies that could contribute to improving water supply reliability during a drought are as follows:

- Retailers could take direct deliveries of SWP water when available instead of producing water from their wells. This reduces the amount of water withdrawn from the groundwater basin, which is equivalent to recharging the basin. This strategy will

require participation by the water agencies and may require the construction of new water treatment plants or upgrades to existing plants.

- Recharge as much SWP water as possible when available. This will likely result in spreading water in wet years, which has not occurred as much in the past. It may also require upgrading the existing spreading grounds.

- Prepare, to the extent possible, for the high groundwater condition that may be created by maintaining a "full basin" when a wet year arrives.

    - Implement an agreement(s) with groundwater producers within the AHHG, or Area of Historic High Groundwater (AHHG, see "Summary of Index Well Hydrographs, Bunker Hill and Yucaipa Groundwater Basins" map in Appendix D), to maximize production from the AHHG as much as practicable during unacceptably high groundwater level conditions.

    - Construct additional facilities to pump and convey large quantities of water from the AHHG for use outside the AHHG.

The San Bernardino Basin Area Management Plan will be developed in consideration of this overall management strategy and the BMOs.

SBBA Basin Management Requirements (Legal Agreements)

The annual basin management plan for the SBBA will meet the requirements identified in the following legal documents:

1. Western Judgment – April 1969
2. Seven Oaks Accord – July 2004
3. Settlement Agreement between SBVWCD, Valley District, and Western – August 2005
4. MOU between City of Riverside, Valley District, and Western – September 2005
5. Agreement between City of Riverside, Valley District, and Western – March 2007
6. Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin, June 2007
7. Consent Decree, City of San Bernardino v. United States of America, CV 96-8867 and CV 96-5205 (Consolidated).

A summary of the pertinent basin management information from each of these documents is provided below.

1) Western Judgment

a) **Natural Safe Yield** - established at 232,100 acre-feet per year. The Plaintiffs' (Western entities) rights are capped at 27.95 percent of the natural safe yield, or 64,862 acre-feet, notwithstanding any Additional Extraction Agreements or "new conservation," as defined

in the judgment. The Non-Plaintiffs' (Valley District entities) rights are unlimited provided that an equal amount of basin replenishment occurs to offset any amount that the Non-Plaintiff production exceeds—72.05 percent of the natural safe yield, or 167,238 acre-feet. An annual report, entitled *Annual Report of the Western-San Bernardino Watermaster*, provides an "accounting" of basin extractions.

b) **Replenishment** – Valley District is responsible for replenishing the SBBA for that amount of Non-Plaintiff extractions exceeding safe yield. The replenishment obligation may be met by any of the following means:

   i) Return flow from excess extractions;

   ii) Replenishment provided in excess of that required;

   iii) Amounts extracted without replenishment obligations (i.e., Additional Production Agreement);

   iv) That amount of water extracted below the natural safe yield; and

   v) Return flow from imported water.

c) **New Conservation** is defined in the 1969 Judgment as "any increase in replenishment from natural precipitation which results from operation of works and facilities not now in existence." The judgment contemplated that the parties would develop facilities that would result in the capture of more natural runoff. Construction of the Seven Oaks Dam within the SAR has provided such an opportunity, and Valley District and Western have obtained a water right from the SWRCB and are working to construct the facilities necessary to capture SAR water that was not historically captured. The parties under the Western Judgment had their adjusted extraction rights increased to include a proportionate share of the New Conservation made available by the construction of Seven Oaks Dam.

2) Seven Oaks Accord

a) **Groundwater Spreading/Management Program** (GMP) – Requires Valley District and Western to develop and manage a groundwater spreading program in cooperation with other parties, "That is intended to maintain groundwater levels at the specified wells at relatively constant levels, in spite of the inevitable fluctuations due to hydrologic variation." Specific requirements of the Seven Oaks Accord are as follows:

   i) GMP shall identify target water-level ranges in the specified "index wells" subject to the requirement that such spreading will not worsen high groundwater levels in the AHHG.

   ii) Thresholds of significance in terms of SAR water diverted by Valley District and Western and spreading by all parties should be observed (see sidebar). See Appendix I of the Accord.

iii) The determination as to whether a certain groundwater management action will "worsen" high groundwater levels in the AHHG is made through the use of the integrated surface and groundwater models.

iv) GMP must be "adopted" within five years of the date the SWRCB grants a permit to Valley District/Western. To date, Valley District and Western have not received the permit.

v) Redlands, East Valley, and Bear Valley Mutual agree to limit spreading to conform to the annual GMP.

3) San Bernardino Valley Water Conservation District Settlement Agreement

a) Annual Groundwater Management Plan – Valley District and Western will consult with SBVWCD in the development of the GMP.

b) An interim GMP could be developed prior to the completion of the model being developed for the San Bernardino Basin Area.

c) GMP objectives to be achieved simultaneously include:

i) Maximize the quantity of water spread in the SAR spreading grounds.

ii) Establish and maintain a shallowest target of 50 feet depth to water within the AHHG.

iii) Maintain groundwater levels in the Forebay Area within 10 feet of the levels that would have occurred in the absence of SAR diversions by Valley District and Western. Quantifying the difference between diversions and no diversions will be accomplished using the groundwater flow model developed for the SBBA.

iv) Otherwise avoid significant impacts on the environment.

d) Set as a goal to coordinate the San Bernardino Consent Decree management plan with the GMP.

e) No spreading will take place without authorization by the GMP.

4) Riverside MOU

a) Basin Management Account – Established with funds and future revenues from the SBVWCD "to fund recharge efforts in the basin."

b) Valley District and Western are required to exercise SBVWCD water rights in a manner that:

i) Maintains groundwater levels for the benefit of the production wells in the geographic area historically served by the SBVWCD at relatively constant levels.

ii) Maximizes the use of native water supplies to replenish the SBBA without causing high groundwater problems in the artesian zone and without causing the migration of contaminant plumes that would result in significant degradation of the water quality in any domestic well.

c) Valley District will spread sufficient water to ensure that groundwater supplies necessary to support the safe yield of the SBBA are maintained pursuant to the Western Judgment.

5) Riverside Agreement

a) This agreement establishes the Seven Oaks Dam Water Diversions Engineering and Operations Committee (EOC) to develop and implement procedures to:

i) Maintain the groundwater levels in the Index Wells at relatively constant levels, in spite of fluctuations due to hydrologic variation.

ii) Minimize such fluctuations (reduce highs and lows).

iii) Provide water "accounts" to Riverside to offset the loss of recharge to the SBBA and/or Riverside North due to Western/Valley District SAR water diversions.

(1) "Reserve Account" is initially established as 38 percent of the total volume of water diverted from the SAR by Valley District and Western pursuant to the SWRCB water right permit. To be recharged in the SBBA either directly or through an exchange.

(2) "Replacement water" varies from 0 to 6 percent of the flow at the E Street Bridge. Water to be recharged into the Riverside North basin.

iv) Develop recommendations to the Western Judgment Watermaster regarding the classification of diverted SAR water as either New Conservation or existing safe yield of the SBBA.

b) EOC will meet no later than six months after the SWRCB grants permits to Valley District and Western to develop the initial procedures. Ongoing, the EOC will meet no later than October 1 of each year. The EOC shall meet on a regular basis to effectively operate, on a real-time basis, a program to achieve the objectives listed above. EOC decisions will be implemented once approved by the EOC and will be provided to the BTAC for inclusion in the Annual San Bernardino Basin Area Management Plan. The tasks of the EOC could be covered at the BTAC meetings, realizing that most of the members of the BTAC have no standing in this agreement and the decisions of the EOC are not subject to review by BTAC or any of the BTAC members.

c) Water levels at the index wells outside the AHHG must be maintained at no lower than 10 feet, on average, during a repeat of the 39-year base period. Valley District will commence spreading to maintain these levels.

d) If the 12-month rolling averages of the Backyard Well ports D4, D5, and D6 are 50 feet bgs or greater, Valley District and Western will recharge water from the Reserve Account.

6) Consent Decree, City of San Bernardino March 23, 2005

a) The City of San Bernardino Municipal Water Department (SBMWD) is a party to a consent decree entered in March 2005. The Consent Decree obligates the SBMWD to

operate and maintain a system of wells and treatment plants known as the Newmark Groundwater Contamination Superfund Site (Newmark Site). The Newmark Site specifically treats groundwater contaminated with TCE and perchloroethylene (PCE).

b) The SBMWD is required by the terms of the Consent Decree, entered on March 23, 2005, to enact institutional controls and implement an ordinance providing for the protection and management of the Interim Remedy set forth in the Record of Decisions and Explanation of Significant Differences prepared by the Environmental Protection Agency (EPA).

7) City of San Bernardino Ordinance No. MC-1221 and Institutional Controls Settlement Agreement (ICSA)

a) Ordinance No. MC-1221 – This ordinance establishes the management zone boundaries within the City of San Bernardino for water spreading and water extraction activities.

i) The Consent Decree requires that the City of San Bernardino adopt and enforce an ordinance to ensure that activities occurring in the management zone, including, but not limited to, development, digging, drilling, boring or reconstruction of wells, extraction of groundwater from wells, and spreading of recharge water, do not interfere or cause pass-through of contaminants from the Newmark and Muscoy Operable Units. The ordinance was approved on March 20, 2006, by the Mayor and City Council.

ii) The Interim Remedy requires the extraction of contaminated groundwater from the Bunker Hill Groundwater Basin and within the Newmark and Muscoy Operable Units, and treatment of the groundwater to meet all State of California (State) and federal permits and requirements for drinking water.

iii) Unless a permit issued by the SBMWD pursuant to the provisions outlined in the ordinance is first obtained, it shall be unlawful for any person, as principal, agent, or employee to spread (artificial recharge) or extract (well pumping) within the Management Zones as defined in the ordinance.

b) Institutional Controls Settlement Agreement (ICSA)

i) An agreement (ICSA) has been executed to develop and adopt a successor agreement, titled Institutional Controls Groundwater Management Program (ICGMP), between the following parties:

(1) City of San Bernardino Municipal Water Department

(2) San Bernardino Valley Municipal Water District

(3) Western Municipal Water District

(4) City of Riverside

(5) West Valley Water District

(6) East Valley Water District

(7) City of Colton

(8) Riverside Highland Water Company

ii) The parties identified above will not be subject to the provisions of City of San Bernardino Ordinance No. MC-1221 as long as each is a party to the ICSA and, subsequently, the ICGMP Agreement.

8) Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin

a) Requires the preparation of a triennial water quality report, limited to nitrogen and total dissolved solids (TDS), which analyzes whether the recharge of imported water had any adverse impact on compliance with Salinity Objectives established in the Water Quality Control Plan for the Santa Ana River Basin. The first report is due August 2009 and then every three years thereafter.

b) Requires any party that is serving as a lead agency for a project involving the recharge of imported water to analyze any adverse impacts on Salinity Objectives as part of the California Environmental Quality Act (CEQA) review process. Said analysis must be made with a groundwater quality model listed in the agreement.

Development of Annual Management Plan for the SBBA

Considering the provisions of the above judgments and agreements, a process was developed for managing the SBBA (see Appendix A). This process is intended to be flexible and will be modified, as needed. The main purpose in developing a process is to ensure that management of the SBBA is in compliance with the provisions of the applicable judgment and agreements and to provide a cooperative forum among the water agencies to engage in developing solutions.