

## SECTION V: BISHOP CONE AUDIT REVIEW

### Introduction and Background

The Bishop Cone Audit (Audit or BCA) is an annual comparison between Los Angeles Department of Water and Power's (LADWP) water usage on Los Angeles-owned lands on the Bishop Cone and its amount of groundwater extraction from wells on the Bishop Cone (Cone). The Bishop Cone Audit is required by the Inyo County/Los Angeles Long Term Water Agreement (Water Agreement). The "Bishop Cone" is a reference to the legally defined area in the 1940 Hillside Decree which incorporates most of the Bishop Creek alluvial fan along with a portion of the northern Owens Valley from Bishop south towards Big Pine. The Water Agreement and the Green Book (the technical appendix to the Water Agreement) define the terms, conditions, and procedures of the Bishop Cone Audit. Inyo County Water Department (ICWD) staff compiles the Bishop Cone Audit from data provided by LADWP. The Audit sums pumping and flowing well amounts and compares those totals to water use on Los Angeles-owned land during a given runoff year (April 1 to March 31) to determine whether LADWP's groundwater extractions exceed its surface water uses on the Bishop Cone. The annual Audit reports are available on the ICWD website: <https://www.inyowater.org/documents/reports/bishop-cone/>

The City of Los Angeles owns prior appropriative surface water rights in the Bishop area. Los Angeles also owns groundwater rights on the Bishop Cone as a consequence of its ownership of overlying land. A system of ditches and canals exists to convey surface water from Bishop Creek and the Owens River, as well as groundwater pumped from LADWP wells, to irrigated land throughout the Bishop Cone, with some water exiting the Cone. In 1930 and 1931, Los Angeles extracted groundwater from wells on the Bishop Cone for the purpose of export to Los Angeles. This export of groundwater was challenged by local residents, and in the 1940 Hillside Decree, Los Angeles agreed not to pump groundwater for the purpose of export off the Bishop Cone.

In 1972, Inyo County filed a California Environmental Quality Act suit claiming that increased groundwater pumping by LADWP was harming the environment of the Owens Valley and demanding that an Environmental Impact Report (EIR) be completed to analyze the effects of this increased pumping. After numerous legal challenges and negotiations, in 1991 an EIR was approved for LADWP's groundwater pumping, and a long term groundwater management plan was agreed upon by Inyo County and LADWP. Section VII.A of the 1991 Water Agreement addresses the Bishop Cone and Hillside Decree. Full text of the Hillside Decree, 1991 EIR, the Water Agreement, Greenbook and Bishop Cone Audit for the 2022-23 Runoff Year can be found at the ICWD's website (see References Section).

At its October 17, 1995, meeting, the Technical Group agreed to recommend to the Inyo County/Los Angeles Standing Committee the description of a Bishop Cone Audit procedure to be incorporated into the Green Book. The Standing Committee adopted the agreed-upon Bishop Cone Audit procedure on November 7, 1996, as Section IV.D of the Green Book.

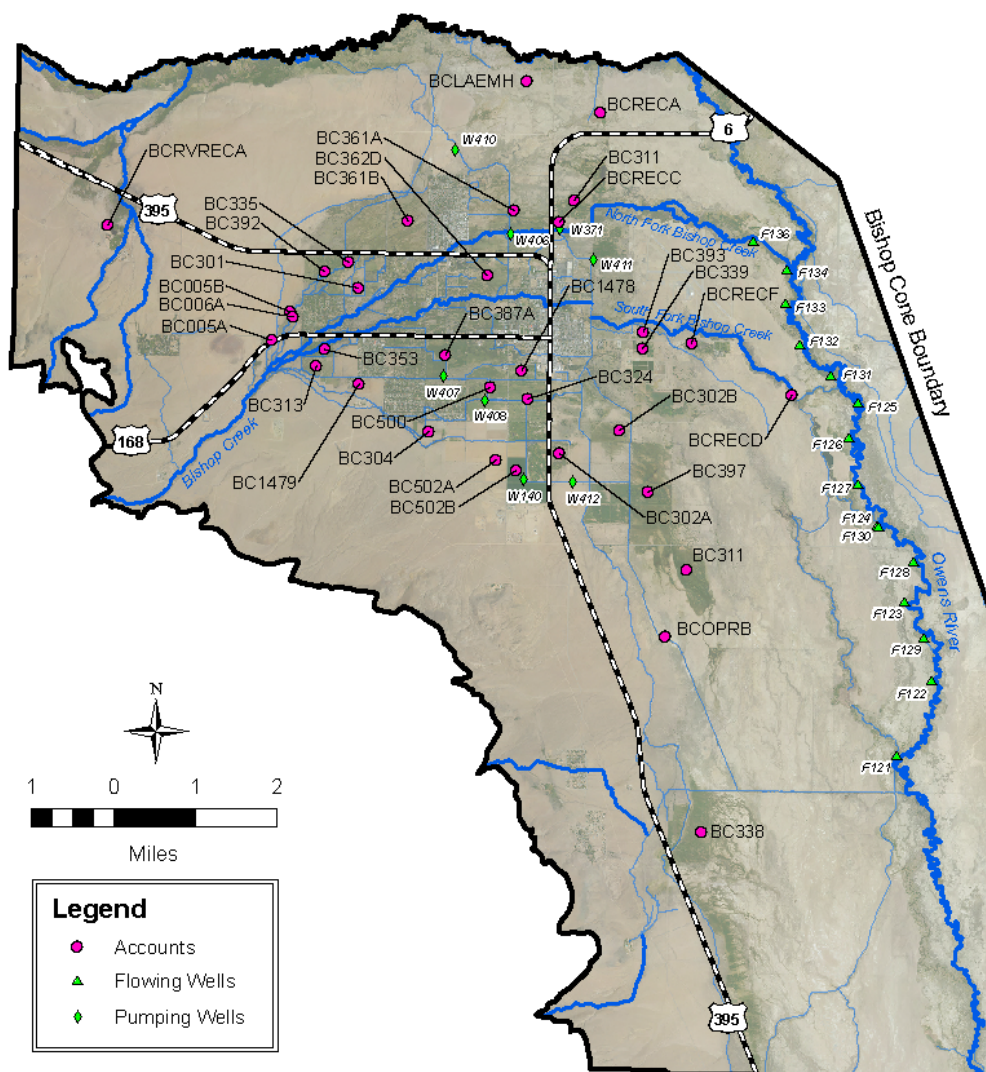
Prior to the adoption of the Water Agreement, several methods were researched to determine the best procedure for tracking LADWP's uses and extractions on the Bishop Cone. A final method was selected which compares the sum of pumped groundwater from production wells and flowing groundwater from artesian wells (extractions) to surface water applied to LADWP-owned lands on the Cone (uses). To determine the total uses, a lease-wise approach was selected which tracks the difference between

water coming onto a given LADWP lease and the water (if any) that exits that lease to return to the conveyance system (ditch, canal, creek, or river). The Bishop Cone Audit for the 2022-23 runoff year, summarized below, is in conformity with this method.

It is important to note that the Bishop Cone Audit does not attempt to compute a complete surface or groundwater budget. Its purpose is to monitor compliance with the dictates of the Water Agreement, the Green Book, and the legal interpretations of the Hillside Decree. The Audit compares LADWP's total water uses to groundwater extractions during a given runoff year. ICWD staff gave a presentation on the Bishop Cone Audit to the Inyo County Water Commission on December 7, 2016, explaining the principles of the BCA in detail. A copy of the PowerPoint presented at the ICWC meeting can be found on the ICWD website: [http://www.inyowater.org/wp-content/uploads/2016/12/Bishop-Cone-Audit-12\\_7\\_16.pdf](http://www.inyowater.org/wp-content/uploads/2016/12/Bishop-Cone-Audit-12_7_16.pdf)

## Water Uses On LADWP-Owned Land on the Bishop Cone

The location of the Bishop Cone and the pumping and flowing wells on the Bishop Cone are shown in Map 1. Also shown on Map 1 are the general locations of the LADWP-owned lease accounts used in the Bishop Cone Audit Uses Report (Appendix C in the 2022-23 BCA).



Map 1. Bishop Cone Audit Features.

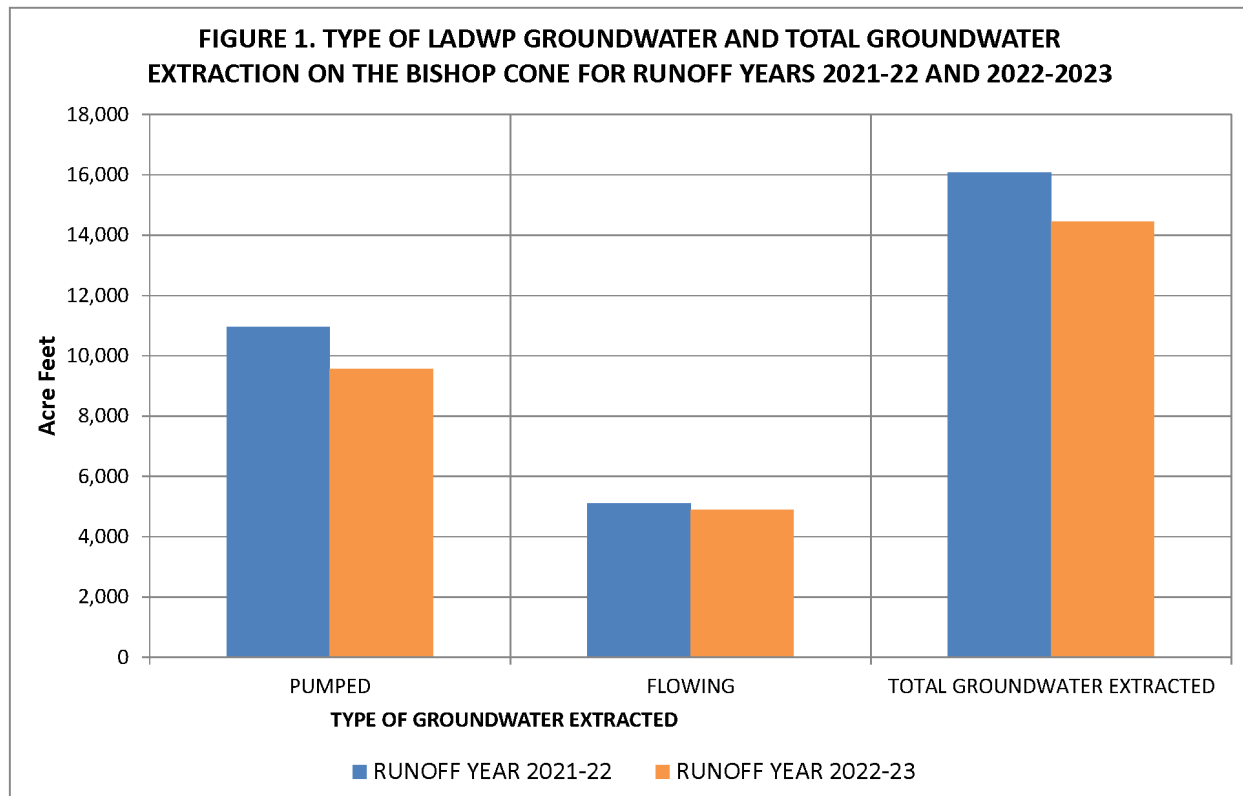
Table 1 (in a subsequent section) includes a summed total of the compilation of water usage by account number in acre-feet (AF) on LADWP-owned land on the Bishop Cone for the runoff years of 2021-22 and 2022-23. These water-usage amounts are a yearly total of the surface water (and commingled pumped groundwater) coming onto a given lease minus the surface water leaving the lease. Overall, there was an increase in total water use on the Bishop Cone of 1,080 AF from 2021-22 (26,259 AF) to 2022-23 (27,339 AF). Runoff in 2021-22 was severely below average (45%) and, due to low flows in Bishop Creek, many parcels were unable to have full irrigation amounts supplied. Runoff in 2022-23 was 59% of average (1971-2020), and water uses were closer to their long-term averages.

During fall 2016 through winter 2017, joint field visits to the active BCA accounts were conducted by ICWD and LADWP staff. Based on these visits, and as a result of observations and discussion of past infrastructure workings, several accounts were either granted or denied credit for the 2016/17 Audit. The accounts denied credit for 2016/17 were: BC362D, BC392, and BCRVRECA. At these three sites, ICWD staff deemed there to be insufficient flow monitoring, potentially allowing unmetered water to affect the accounts without proper quantification. ICWD staff visited these BCA accounts in 2023, and no additional flow monitoring devices have been installed at these accounts. Therefore, BC362D, BC392, and BCRVRECA were not granted credit in the current year.

### **Total LADWP Groundwater Extraction on LADWP-Owned Land on the Bishop Cone for Runoff Years 2021-22 and 2022-23**

Figure 1 presents the total amount of LADWP groundwater extraction and the groundwater extraction classified as flowing and pumped groundwater on the Bishop Cone in acre-feet for runoff years of 2021-22 and 2022-23.

For runoff year 2021-22, LADWP extracted 16,081 AF of groundwater (10,969 AF from pumped wells and 5,112 AF from flowing wells). For runoff year 2022-23, LADWP extracted 14,453 AF of groundwater (9,566 AF from pumped wells and 4,887 AF from flowing wells). LADWP groundwater extractions on the Bishop Cone for the 2022-23 runoff year decreased by 1,628 AF compared to the previous year.



## Compliance with the INYO County/Los Angeles Long Term Groundwater Management Agreement

The Water Agreement provides that, during any runoff year, total groundwater extraction by LADWP on the Bishop Cone shall not exceed water usage on Los Angeles-owned land on the Cone. Table 1 shows that LADWP was in compliance with the above provision for runoff years 2021-22 and 2022-23 as the total uses on the Bishop Cone exceeded the total groundwater extractions for each year.

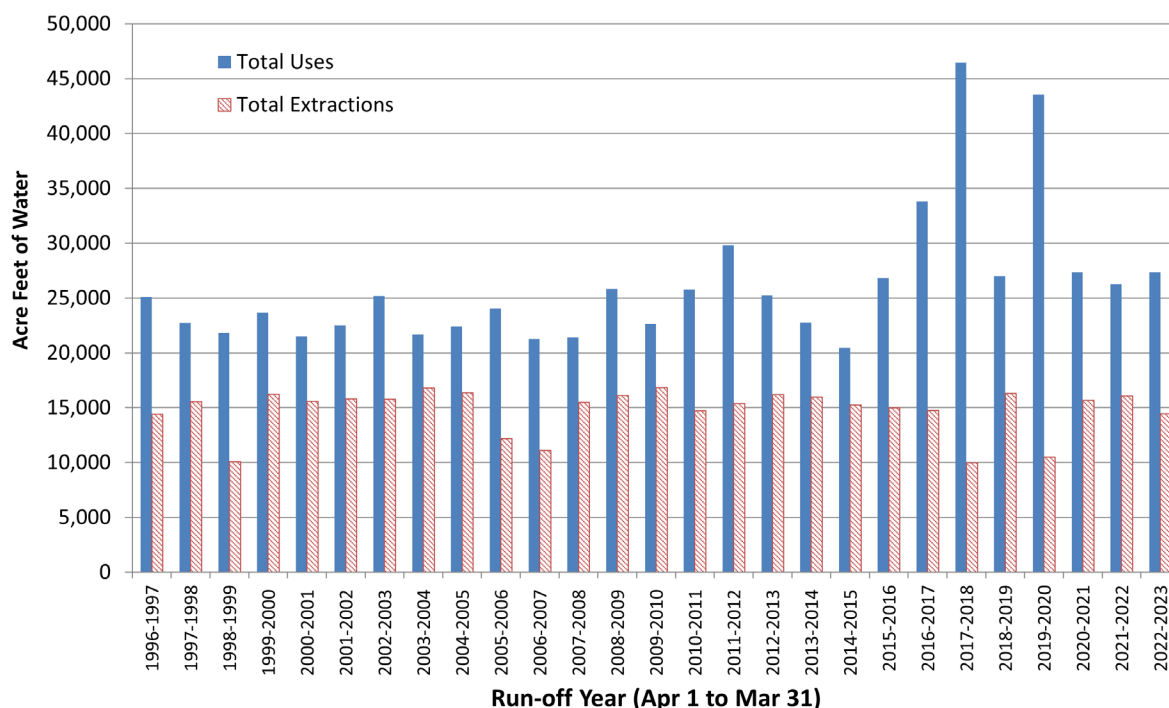
*Table 1. LADWP Uses in Comparison to LADWP Groundwater Extraction on the Bishop Cone.*

	RUNOFF YEAR*1 2021-22 Acre-Feet	RUNOFF YEAR*1 2022-23 Acre-Feet
<b>TOTAL USES</b>	<b>26,259</b>	<b>27,339</b>
<b>TOTAL GROUNDWATER EXTRACTION</b>	<b>16,081</b>	<b>14,453</b>
<b>USES MINUS EXTRACTIONS</b>	<b>10,178</b>	<b>12,886</b>
<b>Hillside Decree Compliance?</b>	<b>YES</b>	<b>YES</b>

\*1 - A runoff year is defined as starting April 1st and ending March 31st of the following year.

Figure 2 presents LADWP's water uses versus extractions since runoff year 1996-97. Uses have exceeded extractions throughout the data period; therefore, LADWP has been in compliance with Section IV.D.1.a. of the Green Book and the Water Agreement.

**FIGURE 2**  
WATER USES VERSUS EXTRACTIONS ON THE BISHOP CONE



Note: starting in 2015-16, Total Use computation was clarified and simplified (see full explanation in Section 3) and some Uses that were denied credit in previous Bishop Cone Audits were effectively granted credit

## References

EIR, 1991, <https://www.inyowater.org/documents/governing-documents/1991-eir/>

Green Book Section IV.D, 1990, <https://www.inyowater.org/documents/governing-documents/green-book/>

Hillside Decree, 1940, [www.inyowater.org/documents/hillside-decree-1940/](http://www.inyowater.org/documents/hillside-decree-1940/)

Inyo County/Los Angeles Long Term Groundwater Management Agreement, 1991, <https://www.inyowater.org/documents/governing-documents/water-agreement/>

Inyo County Water Department, The Bishop Cone Audit for the 2022-23 Runoff Year, Final, October 2023, <https://www.inyowater.org/documents/reports/bishop-cone/>