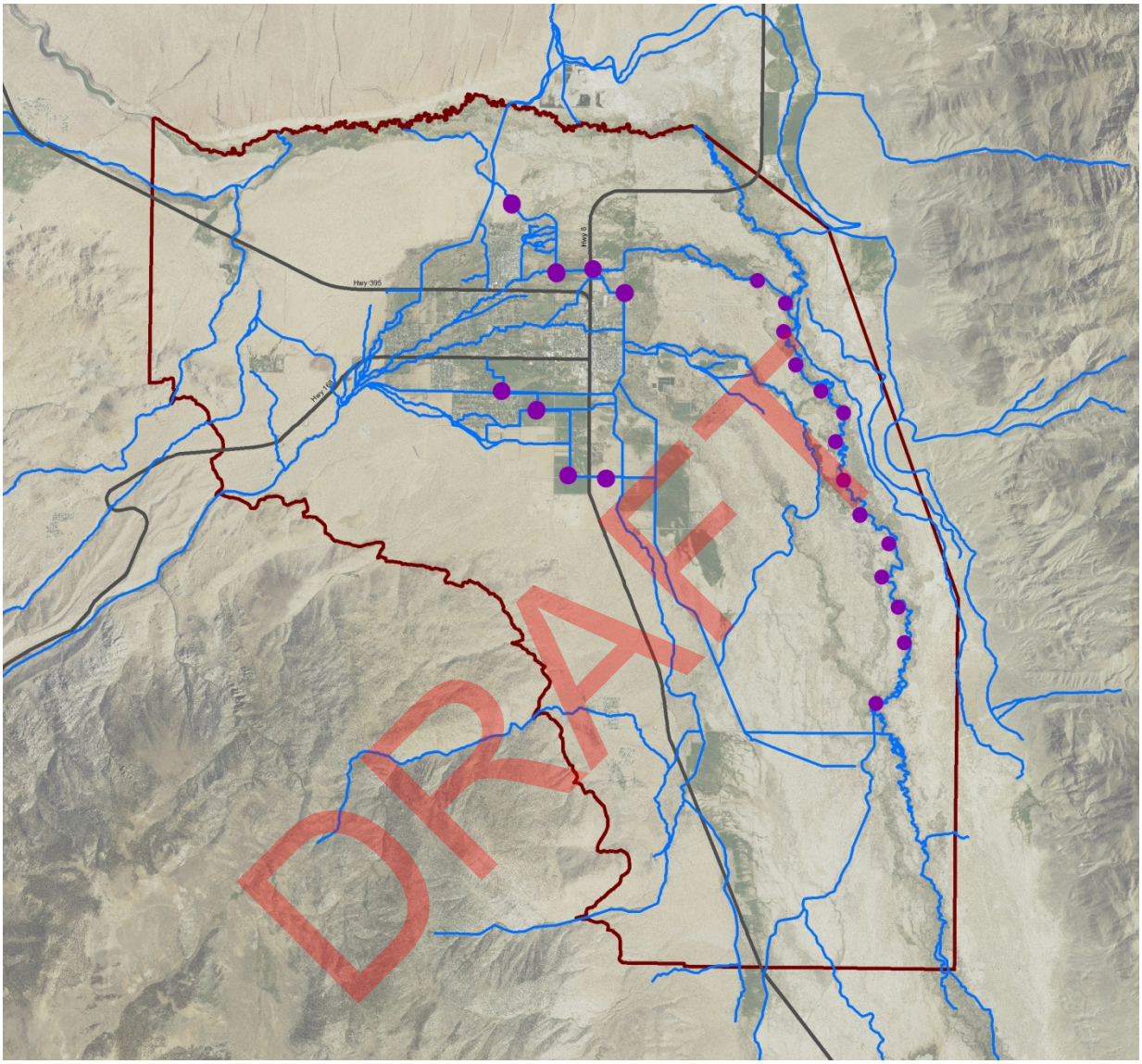
THE BISHOP CONE AUDIT
FOR THE 2020-21 RUNOFF YEAR



Inyo County Water Department
June 2021

THE BISHOP CONE AUDIT
FOR THE 2020-21 RUNOFF YEAR

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THE BISHOP CONE AUDIT
FOR THE 2020-21 RUNOFF YEAR

1.0 INTRODUCTION

The Bishop Cone Audit (Audit) 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. The Bishop Cone Audit is required by the Inyo County/Los Angeles Long-term Groundwater Management 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 (Map 1). 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.

2.0 BACKGROUND

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 exist to convey both surface water from Bishop Creek and the Owens River and also 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.

Relevant language of the 1940 Hillside Decree is presented below (a link to the entire decree can be found at the ICWD's website at www.inyowater.org/documents/hillside-decree-1940/):

XI

That the defendants [LADWP]*, their servants, agents, employees, and assigns, and each of them, be, and they are hereby, enjoined, prohibited, and restrained from in any manner whatsoever pumping, extracting, taking, or transporting out of the Bishop Cone area any subterranean waters from beneath said area: provided, however, that nothing in this judgment contained shall in any manner enjoin, prohibit, or restrain the defendants, their servants, agents, employees, assigns, or any of them, from maintaining or operating their presently–existing drainage ditches to the full extent of their present normal capacity, or from taking artesian water that may arise to the surface of said area outside the casings of any of defendants' capped wells, or from pumping, extracting, taking, or using any such water as may be reasonably necessary for beneficial use upon any lands belonging to the defendants, …..*

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 with relevant language quoted below (full text of the 1991 EIR, the Water Agreement and the Greenbook can be found at the ICWD's website at http://www.inyowater.org/documents/governing-documents/):

"*Before the Department* [LADWP] *may increase groundwater pumping above present levels, or construct any new wells on the* [Bishop] *Cone, the Technical Group must agree on a method for determining the exact amount of water annually used on Los Angeles-owned lands on the Cone. The agreed upon method shall be based on a jointly conducted audit of such water uses. The Department's annual groundwater extractions from the Cone shall be limited to an amount not greater than the total amount of water used on Los Angeles-owned lands on the cone during that year*." (Water Agreement Section VII.A, Appendix A)

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.

Section IV.D.1.a. of the Green Book states: *"For the purposes of the Bishop Cone audit, water usage on Los Angeles-owned land on the Bishop Cone is defined as the quantity of water supplied to such land, including conveyance losses, less any return flow to the aqueduct system. Water usage is documented on a runoff-year basis and is compiled by LADWP each May in the Bishop Area Water Use Report* [Bishop Cone Audit Uses Report]*."* (Appendix B)

In theory compliance with the Water Agreement and the Green Book is simple: LADWP can only extract groundwater to be used on its lands and leases on the Bishop Cone with no flow leaving the system. In a simplified, hypothetical situation, LADWP would have groundwater extraction wells at the "top" of the cone which would provide surface water to ditches running downhill to its lands and leases. Upon reaching the "lowest" land, no surface water would leave. However, there are many practical factors that dictate and complicate how the Bishop Cone Audit accounts for LADWP extractions and uses. Some of these factors are: the Bishop Cone topography (generally sloping west to east in the Bishop area, and north to south from Bishop towards Big Pine), the location of LADWP-owned lands throughout the Bishop Cone area, the location of LADWP's groundwater extraction wells (in central Bishop), the location of LADWP's flowing wells (east of Bishop adjacent to the Owens River), the location of the various ditch and canal systems used to convey water in the Bishop Cone, and operational necessities for conveying surface water both on and off the Bishop Cone.

To illustrate further, the primary source of water available for use on LADWP lands in the topographically higher west Bishop area of the cone is LADWP surface water from Bishop Creek that is diverted into various ditches for irrigation (use) on LADWP-owned land. Groundwater pumped from LADWP wells in central Bishop supplements the remaining Bishop

Creek surface water. The now combined surface and groundwater flows east and south and is used on LADWP land in the central and southern portions of the Cone. Groundwater extracted from flowing wells provides water to the Owens River for export and/or downstream uses in the Owens Valley. Some mixture of surface and groundwater also leaves the Bishop Cone either in canals or the Owens River.

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). LADWP supplies a listing of surface water uses by each individual lease account in its annual Bishop Cone Audit Uses Report (Use Report). Credit for a use is granted on accounts that have been agreed to and inspected by ICWD staff. A combination of monitoring devices are used to track extractions and uses on the Bishop Cone, including flumes, weirs, and propeller meters. Flow measurements are taken either manually or continuously using data-logging devices at these devices.

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

3.0 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).

Table 1 (below) is a compilation of water usage by account number in acre-feet (AF) on LADWP-owned land on the Bishop Cone for the runoff years of 2019-20 and 2020-21. These water-usage amounts are a yearly total of the surface water coming onto a given lease minus the surface water leaving the lease. Overall, there was a decrease in total water use on the Bishop Cone of 16,205 AF from 2019-20 (Use: 43,540) to 2020-21 (Use: 27,335). The 2019-20 runoff year was well above average (155%) and water use was above the range of long-term average due to increased surface water availability and spreading. Runoff in 2020-21 was 75% of average and water uses were closer to their long-term averages.

TABLE 1
WATER USES ON LOS ANGELES-OWNED LAND ON THE BISHOP CONE

LADWP ACCOUNT NUMBER *2	RUNOFF YEAR*1 2019-2020 (AF)	RUNOFF YEAR*1 2020-2021 (AF)
BC502B (BA354B or BA362B)	589	716
BC302A	216	188
BC302B	1923	1352
BC311	5238	3422
BC313	1512	1113
BC324	1631	1477
BC1478 (BAICR) *2	373	541
BC387A	740	680
BCRECF	665	391
BC339	558	407
BC393	272	103
BC362D	(No Credit) *3	(No Credit) *3
BC304	160	203
BC500	1732	984
BC397 (BA387B) *2	5934	3214
BC361A	3901	1304
BC361B	2231	2245
BC502A (BA354A or 362A) *2	1107	1039
BCRECA	2105	328
BCRECC	250	0
BCRECD	2587	2486
BC338	5103	2980
BCOPRB	2389	0
BCLAEMH	769	761
BC353	193	353
BC005A	33	1
BC005B	248	93
BC006A	112	96
BC1479 (BA342) *2	47	48
BC392	(No Credit) *3	(No Credit) *3
BC301	639	580
BC335	283	227
BCRVRECA	(No Credit) *3	(No Credit) *3
TOTAL	**43,540**	**27,335**

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

*2 – Former account names listed in parenthesis; in 2015/16 “BA” prefix was changed to “BC”

*3 - Accounts need additional monitoring or diversion infrastructure to establish credit.

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 2021 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.

Also based on the 2016/17 field inspections, the method for calculating Use on a given account for the purpose of the BCA was changed. Prior to 2015/16, LADWP used Stockwater and Ditch Loss as credits to its lessees to distinguish between surface water used for irrigation and not used for irrigation. However, the Audit's water balance is to determine the total amount of water used on the Bishop Cone between metering devices. The Audit is not specifically concerned with how the water is used (stockwater or irrigation). Stockwater is simply water supplied to a parcel during the year for the purpose of providing surface water to stock instead of irrigation to grow plants; it is a distinction made by LADWP for the lessees but is a "Use" for the purpose of the Audit with properly metered water flowing through diversions onto an account and not exiting the account. Ditch Loss is a similar accounting distinction made by LADWP and its lessees; it is an estimation of the water that seeps into the ground from the Account's metering device prior to arriving at the actual surface water diversion point on the lease (these are sometimes large distances apart). The Ditch Losses are credited to the lessee to reflect water that cannot be used for irrigation. This water, however, is a Use for purposes of the BCA. The Stockwater and Ditch Loss estimates from previous BCA's (prior to 2015/16) have been replaced with the more rigorous and accurate calculation of subtracting flow onto each account from flow off of that account.

The data reporting format used by LADWP for the BCA has also been updated with approval from ICWD staff. The updated Use Report contained in Appendix C has been simplified by removing LADWP's internal, lessee-related notations. The new Use Report now contains totals of water entering and leaving a lease (the pertinent information for conducting the Audit). All flow monitoring stations were inspected during the 2016/17 field campaign.

Finally, ICWD staff continues to receive the previous LADWP version of the Use Report to check for historic consistency. The changes in adding Stockwater and Ditch Loss credits for BCA reporting are the primary reason 2015-16 Uses were substantially greater than 2014-15 Uses. The additional increase in Use between 2015-16 and 2016-17 is primarily due to increased surface water availability due to a moderately wet runoff year combined with operational spreading in early 2017. The increase in use from 2016-17 to 2017-18 is due to heavy runoff following the historic winter (appx. 200% of long-term average). As noted previously, LADWP actively spread surface water throughout the Owens Valley; and a significant amount of surface water was spread throughout the Bishop Cone.

4.0 TOTAL LADWP GROUNDWATER EXTRACTION ON LADWP-OWNED LAND ON THE BISHOP CONE FOR RUNOFF YEARS 2019-20 AND 2020-21

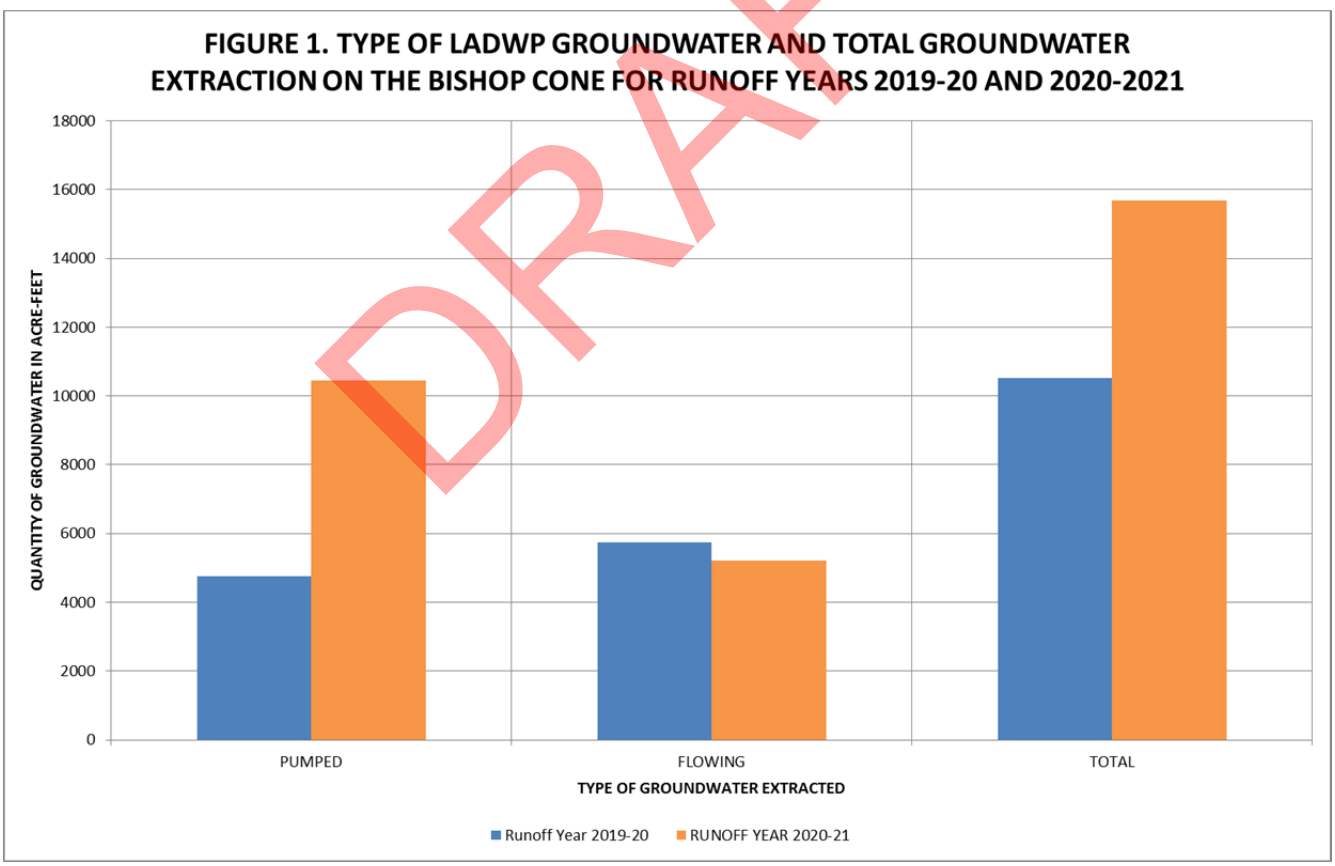
Section IV.D.1.d of the Green Book states: "*Total groundwater extraction by LADWP will be compared with corrected water usage on the Bishop Cone for the runoff year. Total groundwater extraction is defined as the sum of all groundwater pumped by LADWP plus the amount of artesian water that flowed out of LADWP uncapped wells on the Bishop Cone during the runoff year*." (Appendix B)

Figure 1 (below) presents the total amount LADWP groundwater extraction and the groundwater extraction classified as flowing and pumped groundwater on the Bishop Cone in acre-feet for runoff years of 2019-20 and 2020-21.

For runoff year 2019-20, LADWP extracted 10,514 AF of groundwater (4,763 AF from pumped wells and 5,751 AF from flowing wells). For runoff year 2020-21, LADWP extracted 15,676 AF of groundwater (10,459 AF from pumped wells and 5,217 AF from flowing wells).

LADWP groundwater extractions on the Bishop Cone for the 2020-21 increased by 5,162 AF compared to the previous year due to a return to average pumping amounts (Figure 2) in the below-average runoff year of 2020-21.

FIGURE 1. TYPE OF LADWP GROUNDWATER AND TOTAL GROUNDWATER EXTRACTION ON THE BISHOP CONE FOR RUNOFF YEARS 2019-20 AND 2020-2021



Flowing and pumped groundwater on the Bishop Cone are broken into detail by each well in Table 2.

TABLE 2
FLOWING AND PUMPED GROUNDWATER BY WELL ON THE BISHOP CONE IN RUNOFF YEAR 2020-21

WELL	FLOWING GROUNDWATER (AF)	PUMPED GROUNDWATER (AF)
F121	72	NA
F122	72	NA
F123	171	NA
F124	0	NA
F125	1108	NA
F126	402	NA
F127	417	NA
F128	296	NA
F129	89	NA
F130	408	NA
F131	692	NA
F132	409	NA
F133	325	NA
F134	631	NA
F136	124	NA
W140	NA	1194
W371	NA	813
W406	NA	1057
W407	NA	981
W408	NA	1058
W410	NA	2759
W411	NA	1478
W412	NA	1119
TOTAL	**5,217**	**10,459**

5.0 COMPLIANCE WITH THE INYO COUNTY/LOS ANGELES LONG-TERM GROUNDWATER MANAGEMENT AGREEMENT

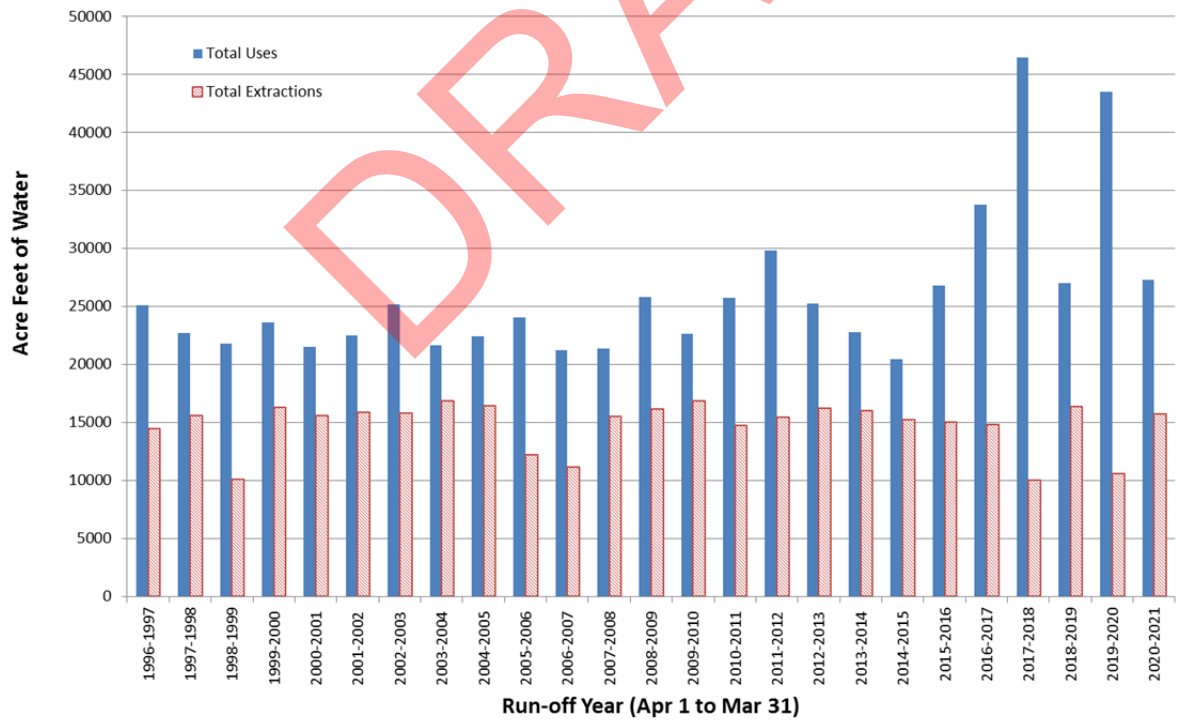
The Water Agreement provides that, during any runoff year, total groundwater extraction by LADWP on the Bishop Cone shall not exceed water usage on Los Angeles-owned land on the Cone. Table 3, below, shows that LADWP was in compliance with the above provision for runoff years 2019-20 and 2020-21 as the total uses on the Bishop Cone exceeded the total groundwater extractions for each year.

TABLE 3
LADWP USES IN COMPARISON TO LADWP GROUNDWATER EXTRACTION ON THE BISHOP CONE

	RUNOFF YEAR 2019-20 (AF)	RUNOFF YEAR 2020-21 (AF)
TOTAL USES	**43,540**	**27,335**
TOTAL GROUNDWATER EXTRACTION	**10,514**	**15,676**
USES MINUS EXTRACTIONS	**33,026**	**11,659**
Hillside Decree Compliance?	**YES**	**YES**

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 simplfied (see full explanation in Section 3) and some Uses that were denied credit in previous Bishop Cone Audits were effectively granted credit

APPENDIX A

Section VII.A of the Inyo County/Los Angeles Long-Term Groundwater Management Agreement

Section VII of the Agreement

VII. GROUNDWATER PUMPING ON THE BISHOP CONE

A. Any groundwater pumping by the Department on the "Bishop Cone" (Cone) shall be in strict adherence to the provisions of the Stipulation and Order filed on the 26th day of August, 1940, in Inyo County Superior Court in the case of Hillside Water Company, a corporation, et al. vs. The City of Los Angeles, a Municipal Corporation, et al., ("Hillside Decree").

Before the Department may increase groundwater pumping above present levels, or construct any new wells on the Cone, the Technical Group must agree on a method for determining the exact amount of water annually used on Los Angeles-owned lands on the Cone. The agreed upon method shall be based on a jointly conducted audit of such water uses.

The Department's annual groundwater extractions from the Cone shall be limited to an amount not greater than the total amount of water used on Los Angeles-owned lands on the Cone during that year. Annual groundwater extractions by the Department shall be the total of all groundwater pumped by the Department on the Cone, plus the amount of artesian water that flowed out of the casing of uncapped wells on the Cone during the year. Water used on Los Angeles-owned lands on the Cone, shall be the quantity of water supplied to such lands, including conveyance losses, less any return flow to the aqueduct system.

B. The overall management goals and principles and the specific goals and principles for each vegetation classification of this Stipulation and Order apply to vegetation on the Cone.

APPENDIX B

Section IV.D of the Green Book

COPY FOR YOUR INFORMATION

AGENDA ITEM 4

MEMORANDUM

7 November 1996

TO: Inyo County/Los Angeles Standing Committee
FROM: Inyo County/Los Angeles Technical Group

CONSIDERATION OF GREEN BOOK SECTION DESCRIBING THE BISHOP CONE AUDIT

Background

Section VII.A of the Inyo County/Los Angeles long-term water management agreement provides that "before the Department may increase groundwater pumping above present levels, or construct any new wells on the [Bishop] Cone, the Technical Group must agree on a method for determining the exact amount of water annually used on Los Angeles-owned lands on the Cone. The agreed upon method shall be based on a jointly conducted audit of such water uses."

At its 17 October 1995 meeting, the Technical Group agreed to recommend to the Inyo County/Los Angeles Standing Committee the attached description of a Bishop Cone audit to be incorporated into the Green Book (the technical appendix to the long-term agreement).

Request

The Technical Group requests that the Standing Committee adopt the attached description as section IV.D of the Green Book.

D. Bishop Cone Audit

This sub-section describes the procedures for conducting the Bishop Cone audit in accordance with Section VII.A of the Agreement. The Bishop Cone audit is an annual accounting of LADWP groundwater extraction and water usage on Los Angeles-owned land on the Bishop Cone. The 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. The area defined as the Bishop Cone is shown as Figure IV.D.1.

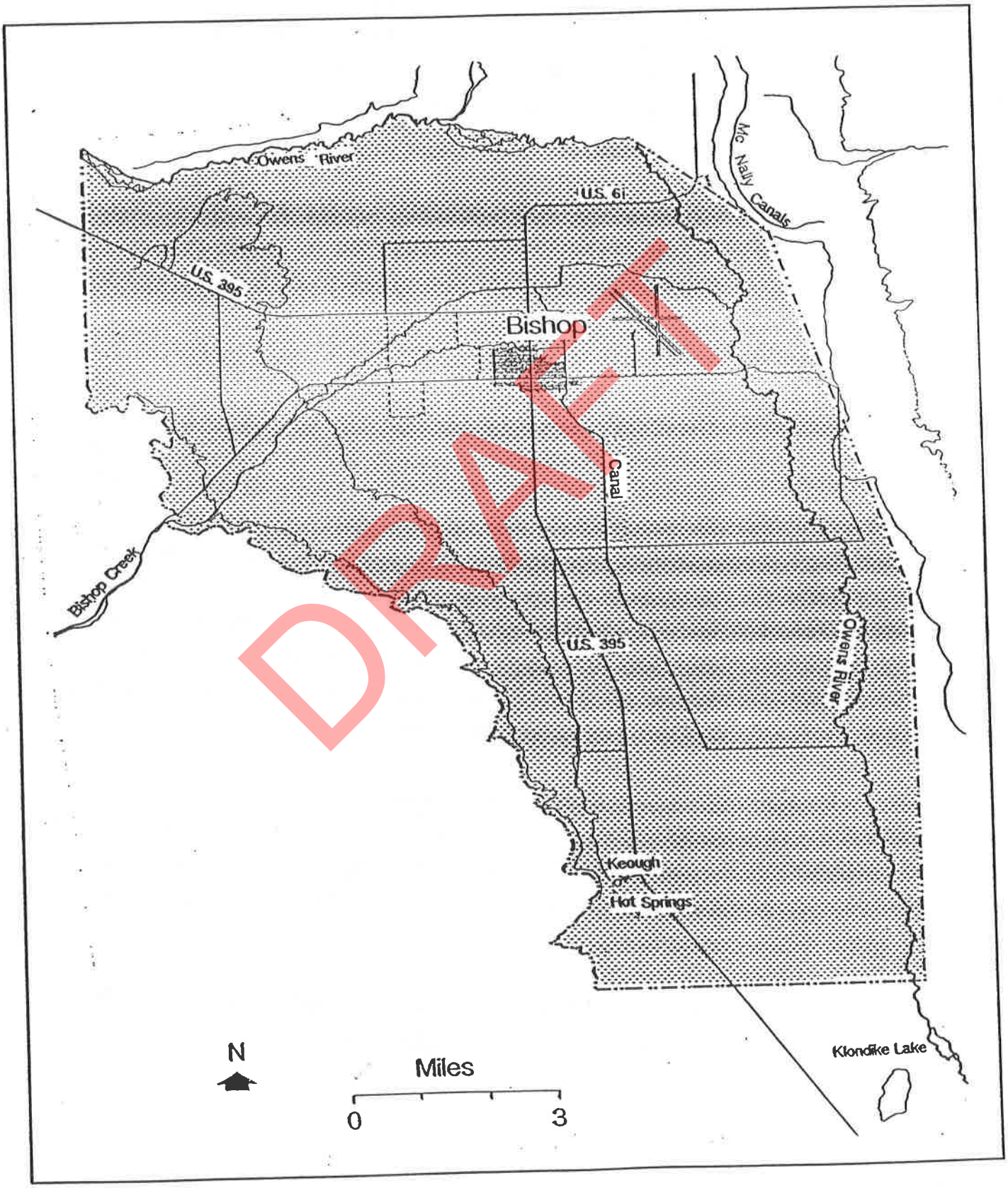
1. Procedures for Conducting the Bishop Cone Audit

a. For the purposes of the Bishop Cone audit, water usage on Los Angeles-owned land on the Bishop Cone is defined as the quantity of water supplied to such land, including conveyance losses, less any return flow to the aqueduct system. Water usage is documented on a runoff-year basis and is compiled by LADWP each May in the Bishop Area Water Use Report. At the conclusion of each runoff year, LADWP will forward the final water use report for the runoff year to Inyo County.

b. The final water use report will be compared for consistency with the previous year's report. If measuring stations have been added or removed from the water-use report during the year, or if a significant change in the pattern of water usage occurs (for example, an account that has not received water for one year receives a

FIGURE IV.D.1

Bishop Cone Boundary



considerable amount the next year), the location will be field-checked. The field-check will evaluate whether changes in water usage warrant the changes noted in the report. If a change is made in the method of delivery to or return from an account that results in an overestimation of uses on the Bishop Cone, water usage for that account will not be credited to the total uses for the audit.

c. Water usage for accounts BAIND (Bishop Indian Reservation), BA391 (outside of Bishop Cone boundary), and BAWEST (West Bishop private uses) will be subtracted from the total reported water usage.

d. Total groundwater extraction by LADWP will be compared with the corrected water usage on the Bishop Cone for the runoff year. Total groundwater extraction is defined as the sum of all groundwater pumped by LADWP plus the amount of artesian water that flowed out of uncapped wells on the Bishop Cone during the runoff year. 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.

e. A draft report summarizing the results of the Bishop Cone audit will be prepared annually as an Inyo County Water Department report and will be submitted to the Technical Group in June for a 30-day review.

f. A final Bishop Cone audit report will be submitted in July to the Technical Group, the Standing

Committee, the Inyo County Board of Supervisors, and the Inyo County Water Commission.

LADWP will notify Inyo County of any changes in the status, location, or operation of any measuring station used to conduct the Bishop Cone audit at the time the final Bishop Area Water Use Report is submitted to the County. LADWP will also notify the County of any changes in the boundaries of the accounts included in the audit.

Upon request by Inyo County, LADWP will provide measuring station data for accounts included in the audit to assist the County in verifying water usage for individual accounts.

APPENDIX C

Data on Uses and Total Groundwater Extracted on the Bishop Cone
(Supplied by LADWP)

2020/21 RUNOFF YEAR BISHOP CONE FLOWING WELL TOTALS

(ACRE-FEET)

	2020									2021			
WELL	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
F121	6	6	6	6	6	6	6	6	6	6	6	6	72
F122	5	6	6	6	6	6	6	6	6	6	5	6	72
F123	13	14	14	16	16	15	16	14	14	14	12	14	171
F124	0	0	0	0	0	0	0	0	0	0	0	0	0
F125	91	95	87	89	89	91	91	76	95	99	99	105	1108
F126	33	35	33	35	36	33	34	32	32	33	31	34	402
F127	33	34	34	37	37	33	35	36	35	34	32	37	417
F128	24	27	24	24	23	24	27	24	24	24	23	26	296
F129	6	7	7	9	9	8	7	6	7	9	10	5	89
F130	35	34	33	35	36	31	34	33	34	35	33	36	408
F131	37	40	54	59	60	66	65	58	62	62	60	69	692
F132	28	28	27	33	33	34	41	43	39	35	34	33	409
F133	28	28	25	27	28	27	29	27	27	27	25	27	325
F134	54	51	45	47	47	42	49	57	59	61	57	62	631
F136	10	7	3	4	7	8	13	17	14	14	13	14	124
TOTAL	404	412	399	429	433	424	452	436	456	460	439	474	5217

2020/21 RUNOFF YEAR BISHOP CONE PUMPING WELL TOTALS

(ACRE-FEET)

	2020									2021			
WELL	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
W140	210	135	187	256	74	164	166	3	0	0	0	0	1194
W371	84	94	91	95	53	5	95	78	0	18	96	104	813
W406	205	211	200	200	154	86	0	0	0	0	0	0	1057
W407	162	170	166	155	168	159	0	0	0	0	0	0	981
W408	178	184	176	179	176	164	0	0	0	0	0	0	1058
W410	86	240	238	245	245	237	246	238	245	245	221	272	2759
W411	245	256	246	252	251	229	0	0	0	0	0	0	1478
W412	240	250	241	248	141	0	0	0	0	0	0	0	1119
TOTAL	1411	1540	1546	1630	1262	1045	507	318	245	263	317	376	10459

LOS ANGELES DEPARTMENT OF WATER AND POWER
NORTHERN AQUEDUCT OPERATIONS
RUNOFF YEAR 2020-21

BISHOP CONE AUDIT RUNOFF SUMMARY
IN ACRE-FEET

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL APR-MAR
3049	#161 OTEY		84	93	57	48	66	45	45	17	13	13	9	7	497
3377	OTEY DITCH RETURN AT MATLICK DITCH	(-)	78	91	57	43	61	39	49	21	16	16	13	11	496
BC005A			**6**	**1**	**0**	**5**	**5**	**6**	**-4**	**-5**	**-3**	**-3**	**-4**	**-4**	**1**
3378	OTEY DITCH DIV. ABOVE MATLICK DITCH		7	9	13	22	40	1	0	0	0	0	0	0	93
BC005B			**7**	**9**	**13**	**22**	**40**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**93**
3048	#61-A FRANK ROUFF		49	54	96	99	87	67	46	46	14	11	11	27	607
3063	DUGGAN DITCH FLOW THROUGH	(-)	43	45	84	87	75	57	40	40	8	5	6	20	511
BC006A			**6**	**8**	**12**	**12**	**11**	**10**	**6**	**6**	**6**	**6**	**6**	**6**	**96**
3002	GEORGE DITCH W. OF SUNLAND AVENUE		53	72	82	71	94	82	45	36	39	50	22	31	677
3264	NORTH INDIAN DITCH BELOW A-1 DRAIN B3A		87	212	129	170	258	246	112	86	147	106	79	55	1689
3068	GEORGE DITCH C-3	(-)	33	54	55	44	56	58	39	31	37	35	19	25	485
3370	NORTH INDIAN DIVERSION W/O SUNLAND	(-)	6	12	9	19	9	4	0	0	0	0	0	0	60
3364	NORTH INDIAN DITCH W/O HWY 395	(-)	61	144	89	108	209	205	93	67	123	81	61	42	1281
BC1478			**40**	**74**	**58**	**70**	**79**	**61**	**26**	**24**	**27**	**41**	**22**	**19**	**541**
3025	SOUTH INDIAN DITCH DIVERSION #3		5	9	9	9	10	6	1	0	0	0	0	0	48
BC1479			**5**	**9**	**9**	**9**	**10**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**48**
3396	NELLIGAN DIV. #1		76	149	92	114	110	105	115	92	52	9	59	79	1052
3397	NELLIGAN BELOW DIV. #1		131	180	180	156	146	107	114	102	87	85	100	109	1497
3401	YOUNG DITCH #2		77	101	92	107	98	76	63	49	46	22	12	12	756
3421	TOM KEY DITCH ABOVE DIVERSION		37	43	40	40	42	40	42	16	13	10	27	32	381
3050	HOLLAND #63-B	(-)	22	29	27	29	26	27	31	19	22	16	24	27	300
3404	NELLIGAN DITCH #2	(-)	145	216	182	170	162	154	195	153	103	74	134	155	1844
3402	YOUNG DITCH #3	(-)	43	74	62	76	42	53	62	51	49	29	15	16	569
3407	YOUNG DITCH #4	(-)	17	7	8	0	11	0	0	0	0	0	0	0	42
3422	TOM KEY DITCH BELOW DIVERSION	(-)	35	36	31	35	38	39	39	15	14	12	27	30	351
BC301			**59**	**109**	**95**	**108**	**119**	**55**	**8**	**21**	**10**	**-5**	**-3**	**4**	**580**
3006	HALL DITCH @ GOLF COURSE RETURN		29	45	6	51	2	54	0	0	0	0	0	0	188
BC302A			**29**	**45**	**6**	**51**	**2**	**54**	**0**	**0**	**0**	**0**	**0**	**0**	**188**

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL APR-MAR
3161	BISHOP CK DITCH #16		63	76	67	58	66	51	36	30	30	20	18	16	529
3162	BISHOP CK DITCH #17		74	37	47	49	43	38	0	0	0	0	0	0	288
3164	BISHOP CK DITCH #20		61	55	57	66	88	61	43	35	22	16	13	17	535
3165	BISHOP CK DITCH #21		0	0	0	0	0	0	0	0	0	0	0	0	0
BC302B			**199**	**168**	**170**	**173**	**197**	**150**	**80**	**64**	**52**	**35**	**31**	**33**	**1352**
3026	NEWLON DITCH BOYD PUMP PLANT		13	31	29	27	38	33	23	2	0	0	0	7	203
BC304			**13**	**31**	**29**	**27**	**38**	**33**	**23**	**2**	**0**	**0**	**0**	**7**	**203**
3166	BISHOP CK DITCH #5		110	80	100	68	58	47	0	0	0	0	0	0	463
3022	BISHOP CK DITCH #5-A		54	112	92	58	89	45	0	0	0	0	14	11	475
3167	BISHOP CK DITCH #9		59	59	103	89	61	59	0	0	0	0	0	0	430
3168	BISHOP CK DITCH #30		328	362	259	259	258	281	59	60	55	48	29	43	2041
3392	FORD RAWSON-DIV 1A		0	2	1	1	4	4	0	0	0	0	0	0	13
BC311			**551**	**615**	**555**	**476**	**471**	**436**	**59**	**60**	**55**	**48**	**43**	**54**	**3422**
3016	NORTH INDIAN DITCH ABOVE MUMY LANE #58-E		415	738	788	735	663	331	336	285	246	187	172	166	5062
3017	WONACOTT A-2		57	115	103	114	85	48	24	29	31	26	26	23	680
3015	WONACOTT A-1	(-)	89	157	137	156	129	65	40	38	43	40	34	28	955
3054	WONACOTT A-3 RETURN	(-)	21	67	47	56	46	22	11	16	24	22	14	11	358
3051	WONACOTT #58-F	(-)	28	39	37	44	42	20	19	12	9	7	12	11	280
3018	NORTH INDIAN B-2	(-)	246	459	482	404	385	178	250	192	152	95	98	94	3036
BC313			**88**	**130**	**188**	**189**	**147**	**94**	**39**	**56**	**49**	**49**	**40**	**44**	**1113**
3370	NORTH INDIAN DIVERSION W/O SUNLAND		6	12	9	19	9	4	0	0	0	0	0	0	60
3270	SOUTH INDIAN D-3		331	397	374	444	436	376	143	141	115	50	76	93	2976
3005	SOUTH INDIAN DITCH D-4	(-)	155	179	149	143	179	290	107	113	89	39	48	68	1559
BC324			**181**	**231**	**234**	**320**	**266**	**90**	**36**	**28**	**26**	**11**	**29**	**25**	**1477**
3402	YOUNG DITCH #3		43	74	62	76	42	53	62	51	49	29	15	16	569
3407	YOUNG DITCH #4		17	7	8	0	11	0	0	0	0	0	0	0	42
3403	YOUNG DITCH RETURN TO NELLIGAN	(-)	24	41	34	36	14	32	59	48	46	25	13	13	384
BC335			**35**	**40**	**35**	**40**	**39**	**21**	**3**	**3**	**2**	**4**	**2**	**3**	**227**
2026	FORD RAWSON CANAL BELOW BISHOP CK CANAL		603	604	625	783	1043	180	0	0	0	0	0	0	3839
3368	RAWSON & KEOUGH DITCH E/O HWY 395		24	22	19	14	8	14	17	17	19	20	16	23	214
2004	FORD RAWSON CANAL DIV. #7	(-)	160	160	185	265	295	0	0	0	0	0	0	0	1066
2043	YRIBARREN RETURN #2	(-)	0	0	0	0	0	0	0	0	0	0	0	0	0
3369	RAWSON & KEOUGH DITCH RETURN AT A-DRAIN	(-)	6	1	0	0	0	0	0	0	0	0	0	0	8
BC338			**461**	**465**	**459**	**531**	**756**	**194**	**17**	**17**	**19**	**20**	**16**	**23**	**2980**
3170	KINGSLEY C-1		70	72	41	62	49	37	16	13	12	13	9	14	407
BC339			**70**	**72**	**41**	**62**	**49**	**37**	**16**	**13**	**12**	**13**	**9**	**14**	**407**

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL APR-MAR
3015	WONACOTT A-1		89	157	137	156	129	65	40	38	43	40	34	28	955
3053	TOMMY SMITH DITCH #162-A		10	16	22	16	14	0	0	0	0	0	0	0	78
3017	WONACOTT A-2	(-)	57	115	103	114	85	48	24	29	31	26	26	23	680
BC353			**43**	**58**	**57**	**57**	**57**	**17**	**16**	**9**	**12**	**14**	**8**	**5**	**353**
3036	NORTH FORK BISHOP CREEK I-1(#155 STANLEY MATLICK)		38	156	162	134	127	29	38	32	11	4	8	23	761
3004	BISHOP CK N. FORK I-2		0	0	0	0	0	0	0	0	0	0	0	0	0
3316	IRRIGATION FROM WELL #406		115	78	141	173	101	85	0	0	0	0	0	0	693
3042	TATUM RETURN AT HIGHWAY 6	(-)	3	12	5	11	6	1	0	0	0	0	0	0	38
3039	TATUM RETURN AT BISHOP CK CANAL	(-)	23	24	16	12	9	6	2	0	1	5	6	7	111
BC361A			**127**	**198**	**280**	**285**	**212**	**106**	**36**	**32**	**11**	**-1**	**2**	**16**	**1304**
3009	MATLICK DITCH F-10		170	170	182	201	269	211	47	47	39	47	43	40	1466
3040	MATLICK DITCH F-13 N		110	209	94	141	121	180	275	207	144	101	141	187	1911
3008	MATLICK DITCH F-13 E		13	75	69	34	44	21	5	34	31	17	26	11	379
3007	MATLICK DITCH F-14		30	23	14	13	15	17	15	9	9	6	14	19	185
3035	MATLICK DITCH #154		52	122	96	124	136	23	18	15	5	4	5	5	605
3154	SCHILDER RETURN G-2	(-)	50	72	45	7	8	12	6	8	21	27	26	16	297
3037	MATLICK DITCH #63-A	(-)	40	62	66	43	38	37	28	44	45	31	53	38	523
3038	TATUM RETURN H-1	(-)	57	158	47	41	84	88	26	10	0	1	7	9	527
3003	MATLICK DITCH RETURN @ B-1 DRAIN	(-)	0	1	3	0	0	0	0	0	0	0	0	0	5
3010	MATLICK RETURN TO "C" DRAIN	(-)	4	16	8	25	15	36	213	188	123	75	107	140	949
BC361B			**225**	**291**	**288**	**397**	**439**	**280**	**88**	**63**	**39**	**39**	**37**	**59**	**2245**
3388	INDIAN S. RETURN ON SEE-VEE LANE		68	105	109	119	43	15	22	18	14	18	15	20	566
3389	INDIAN MIDDLE RETURN ON SEE-VEE LANE		1	4	2	0	0	0	0	0	0	0	0	0	9
3390	INDIAN N. RETURN ON SEE-VEE LANE		54	39	74	44	60	7	29	24	12	7	2	13	365
BC362D			**124**	**148**	**185**	**163**	**103**	**22**	**51**	**41**	**26**	**25**	**17**	**32**	**939**
3043	NORTH INDIAN DITCH B-3		68	67	85	113	115	31	0	0	0	0	0	10	490
3011	WEST LINE L-2		26	42	31	32	27	22	8	2	0	0	0	0	190
BC387A			**94**	**109**	**116**	**146**	**142**	**53**	**8**	**2**	**0**	**0**	**0**	**10**	**680**
3387	MATLICK DITCH TO THE N.		131	175	168	140	189	80	73	59	67	71	47	38	1238
3398	MATLICK DITCH #1		216	421	442	431	351	153	171	195	94	72	96	84	2726
3399	REINHACKLE #1		81	203	186	146	221	142	286	229	160	121	123	144	2042
3400	YOUNG DITCH #1		72	62	35	103	101	90	0	0	0	0	0	0	462
3424	MCLAREN TAILWATER		66	80	86	64	57	50	63	49	46	49	51	56	719
3401	YOUNG DITCH #2	(-)	77	101	92	107	98	76	63	49	46	22	12	12	756
3406	C-DRAIN AT INTAKE	(-)	171	462	549	491	396	166	460	421	282	213	210	215	4036
3009	MATLICK DITCH F-10	(-)	170	170	182	201	269	211	47	47	39	47	43	40	1466
BC392			**148**	**208**	**94**	**83**	**155**	**63**	**22**	**15**	**0**	**31**	**53**	**56**	**929**
3061	KINGSLEY DITCH PUMP DIV. AT DIV. #2		7	7	8	7	14	3	0	0	0	0	0	1	48
3171	BISHOP CK DITCH #11		0	0	18	0	20	13	4	0	0	0	0	0	56
BC393			**7**	**7**	**27**	**7**	**34**	**16**	**5**	**0**	**0**	**0**	**0**	**1**	**103**

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL APR-MAR
3163	BISHOP CK DITCH #19		104	68	68	61	63	0	0	0	0	0	0	0	363
3174	BISHOP CK DITCH #22		64	114	75	73	70	0	0	0	0	0	0	0	397
3019	BISHOP CK CANAL DIV. #24		99	158	181	146	119	0	34	45	32	24	18	17	872
3020	BISHOP CK CANAL DIV. #25		0	11	62	37	37	0	0	0	0	0	0	0	147
3177	BISHOP CK DITCH #26		77	112	176	136	94	0	0	0	0	0	0	0	595
3178	BISHOP CK DITCH #27		8	13	10	8	7	0	0	0	0	0	0	0	47
3179	BISHOP CK DITCH #28		30	29	29	29	33	0	0	0	0	0	0	0	149
3024	BISHOP CK CANAL DIV. #29		68	76	123	65	49	0	25	76	49	39	36	38	644
BC397			**451**	**582**	**723**	**555**	**472**	**0**	**59**	**121**	**81**	**63**	**53**	**55**	**3214**
3012	GEORGE DITCH C-1		86	96	134	133	112	131	38	29	33	33	29	23	878
3365	PARK W. RETURN S/O A-DRAIN		44	96	65	69	86	113	51	44	20	2	2	2	594
3047	4 X - 58D		237	365	389	302	281	255	344	312	335	258	225	241	3544
3366	SOUTH INDIAN DITCH DIVERSION #1 N/O SCHOBER LANE		4	7	4	7	7	7	0	0	0	0	0	0	37
3367	SOUTH INDIAN DITCH DIVERSION #2 N/O SCHOBER LANE		42	90	71	86	106	74	1	0	0	0	0	0	471
W408	WELL 408		178	184	176	179	176	164	0	0	0	0	0	0	1058
3002	GEORGE DITCH W. OF SUNLAND AVENUE	(-)	53	72	82	71	94	82	45	36	39	50	22	31	677
3046	SOUTH INDIAN RETURN AT A-1 DRAIN	(-)	66	192	209	91	44	69	243	213	240	262	159	155	1943
3270	SOUTH INDIAN D-3	(-)	331	397	374	444	436	376	143	141	115	50	76	93	2976
BC500			**143**	**178**	**175**	**170**	**193**	**218**	**3**	**-6**	**-6**	**-68**	**-1**	**-12**	**984**
3027	HALL DITCH PUMP PLANT #2@DON TATUM LEASE(KOCH)		9	22	29	18	5	0	0	0	0	0	0	0	83
3028	HALL DITCH PUMP PLANT #4 AT DON TATUM LEASE		164	160	162	165	167	103	21	0	0	0	0	14	956
BC502A			**173**	**182**	**191**	**183**	**172**	**103**	**21**	**0**	**0**	**0**	**0**	**14**	**1039**
3031	A-1 DRAIN PUMP PLANT #1 S/O HALL DITCH		0	0	0	0	0	0	0	0	0	0	0	0	0
3032	A-1 DRAIN PUMP PLANT #3 AT WELL #140		110	115	109	110	117	97	31	1	0	0	0	25	716
BC502B			**110**	**115**	**109**	**110**	**117**	**97**	**31**	**1**	**0**	**0**	**0**	**25**	**716**
2086	A-DRAIN DIV. TO ARKANSAS FLATS		0	0	0	0	0	0	0	0	0	0	0	0	0
BCOPRB			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3155	BISHOP CK DITCH #5-B		0	0	0	0	0	11	182	101	33	1	0	0	328
BCRECA			**0**	**0**	**0**	**0**	**0**	**11**	**182**	**101**	**33**	**1**	**0**	**0**	**328**
3021	BISHOP CK CANAL DIV. #67		0	0	0	0	0	0	0	0	0	0	0	0	0
BCRECC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3194	SOUTH FORK BISHOP CREEK BELOW BISHOP CREEK CANAL		448	562	675	785	772	639	561	548	402	351	263	302	6306
3193	SANDERS POND RETURN AT OWENS RIVER	(-)	177	173	172	190	196	255	263	282	234	207	162	155	2467
3066	RAWSON POND #3 RETURN TO OWENS RIVER	(-)	143	147	184	214	209	93	97	121	53	43	24	23	1353
BCRECD			**127**	**241**	**318**	**381**	**368**	**290**	**200**	**144**	**115**	**100**	**78**	**123**	**2486**

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL APR-MAR
3023	KINGSLEY DITCH DIV. C-4		95	76	96	99	107	79	66	39	25	25	27	66	799
3183	CEMETERY DITCH AT E. LINE ST.	(-)	41	43	58	59	61	43	48	16	3	0	0	36	407
BCRECF			**54**	**33**	**38**	**40**	**47**	**36**	**18**	**23**	**22**	**25**	**27**	**30**	**391**
3242	BISHOP CK CANAL DIV. TO 5 BRIDGES #2		0	175	228	0	51	13	0	1	0	7	27	20	524
3317	BISHOP CK CANAL DIV. TO 5 BRIDGES #6		18	21	24	25	28	25	23	16	20	16	8	12	236
BCLAEMH			**18**	**196**	**252**	**25**	**80**	**38**	**23**	**18**	**20**	**23**	**36**	**32**	**761**
3185	MCGEE CK AT ABERLOUR RANCH		279	327	181	168	152	179	190	167	165	168	166	186	2329
3235	MILL POND RETURN	(-)	246	276	143	111	97	118	115	101	119	112	108	92	1638
BCRVRECA			**33**	**51**	**38**	**57**	**55**	**61**	**76**	**65**	**46**	**56**	**58**	**94**	**690**

STAID	STATION NAME	+/-	2020 APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	TOTAL USES APR-MAR
BC005A			6	1	0	5	5	6	-4	-5	-3	-3	-4	-4	1
BC005B			7	9	13	22	40	1	0	0	0	0	0	0	93
BC006A			6	8	12	12	11	10	6	6	6	6	6	6	96
BC1478			40	74	58	70	79	61	26	24	27	41	22	19	541
BC1479			5	9	9	9	10	6	1	0	0	0	0	0	48
BC301			59	109	95	108	119	55	8	21	10	-5	-3	4	580
BC302A			29	45	6	51	2	54	0	0	0	0	0	0	188
BC302B			199	168	170	173	197	150	80	64	52	35	31	33	1352
BC304			13	31	29	27	38	33	23	2	0	0	0	7	203
BC311			551	615	555	476	471	436	59	60	55	48	43	54	3422
BC313			88	130	188	189	147	94	39	56	49	49	40	44	1113
BC324			181	231	234	320	266	90	36	28	26	11	29	25	1477
BC335			35	40	35	40	39	21	3	3	2	4	2	3	227
BC338			461	465	459	531	756	194	17	17	19	20	16	23	2980
BC339			70	72	41	62	49	37	16	13	12	13	9	14	407
BC353			43	58	57	57	57	17	16	9	12	14	8	5	353
BC361A			127	198	280	285	212	106	36	32	11	-1	2	16	1304
BC361B			225	291	288	397	439	280	88	63	39	39	37	59	2245
BC362D			124	148	185	163	103	22	51	41	26	25	17	32	939
BC387A			94	109	116	146	142	53	8	2	0	0	0	10	680
BC392			148	208	94	83	155	63	22	15	0	31	53	56	929
BC393			7	7	27	7	34	16	5	0	0	0	0	1	103
BC397			451	582	723	555	472	0	59	121	81	63	53	55	3214
BC500			143	178	175	170	193	218	3	-6	-6	-68	-1	-12	984
BC502A			173	182	191	183	172	103	21	0	0	0	0	14	1039
BC502B			110	115	109	110	117	97	31	1	0	0	0	25	716
BCOPRB			0	0	0	0	0	0	0	0	0	0	0	0	0
BCRECA			0	0	0	0	0	11	182	101	33	1	0	0	328
BCRECC			0	0	0	0	0	0	0	0	0	0	0	0	0
BCRECD			127	241	318	381	368	290	200	144	115	100	78	123	2486
BCRECF			54	33	38	40	47	36	18	23	22	25	27	30	391
BCLAEMH			18	196	252	25	80	38	23	18	20	23	36	32	761
BCRVRECA			33	51	38	57	55	61	76	65	46	56	58	94	690
BCAUDIT			**3627**	**4607**	**4794**	**4754**	**4876**	**2659**	**1149**	**918**	**653**	**528**	**557**	**769**	**29893**