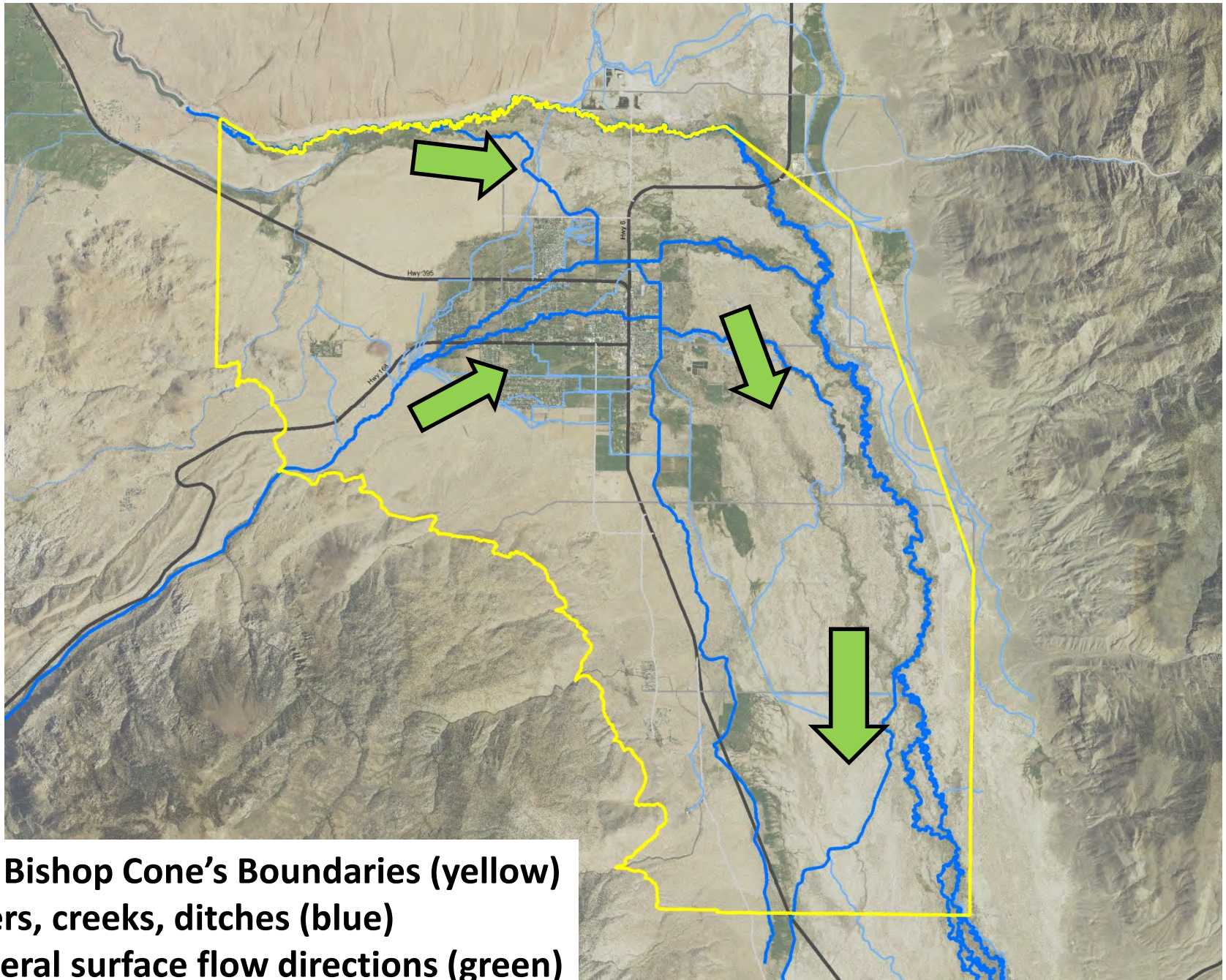


The Bishop Cone Audit

An annual accounting which compares water use on LA land on the Bishop Cone to LA groundwater extraction from the Bishop Cone to confirm LADWP compliance with the 1940 Hillside Decree



- The Bishop Cone's Boundaries (yellow)
- Rivers, creeks, ditches (blue)
- General surface flow directions (green)

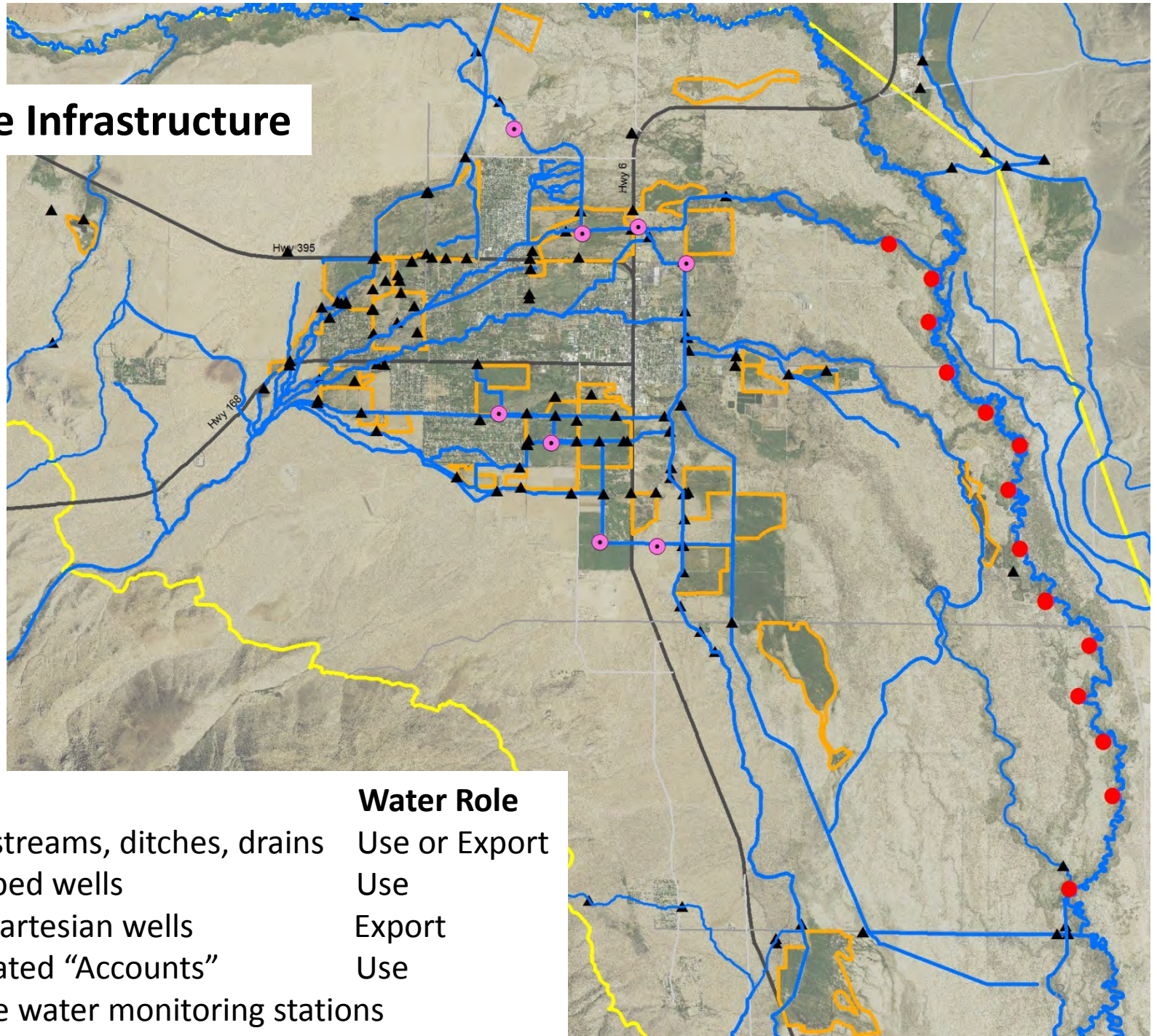
Background and Timeline

- During a drought in the late 1920s and early 1930s LADWP pumped and exported a significant amount of groundwater from wells on the Bishop Cone to LA
- Local property owners challenged this export and a multi-year legal battle ensued
- 1940 Hillside Decree settled this protracted legal challenge
- Extraction declined after 1940 but has gradually increased to an average of 15,000 Acre-feet/year
- 1991 Long Term Water Agreement Section VIIA recognizes the Hillside Decree and incorporates stipulations into Bishop area water management
- 1996 Green Book Section IV.D adds the specific Bishop Cone Audit procedures

Key Concepts

- Bishop Cone Audit is conducted to comply with the strictures of the Hillside Decree, the LTWA, and the Green Book
- BCA uses the existing LADWP lease, ditch and monitoring systems that were in place in 1990s
- LADWP's data is based on leased "Accounts" for irrigated land and recreation areas (Millpond, Buckley Ponds, etc.)
- Geographical realities of LADWP infrastructure play a role in water management on the Bishop Cone
- BCA is not a water budget; it isn't a total of Bishop area exported water; it isn't a groundwater modeling tool

Bishop Cone Infrastructure



Feature

Blue are rivers, streams, ditches, drains

Purple are pumped wells

Red are flowing artesian wells

Orange are irrigated "Accounts"

Black are surface water monitoring stations

Water Role

Use or Export

Use

Export

Use

Key Components

Extractions include:

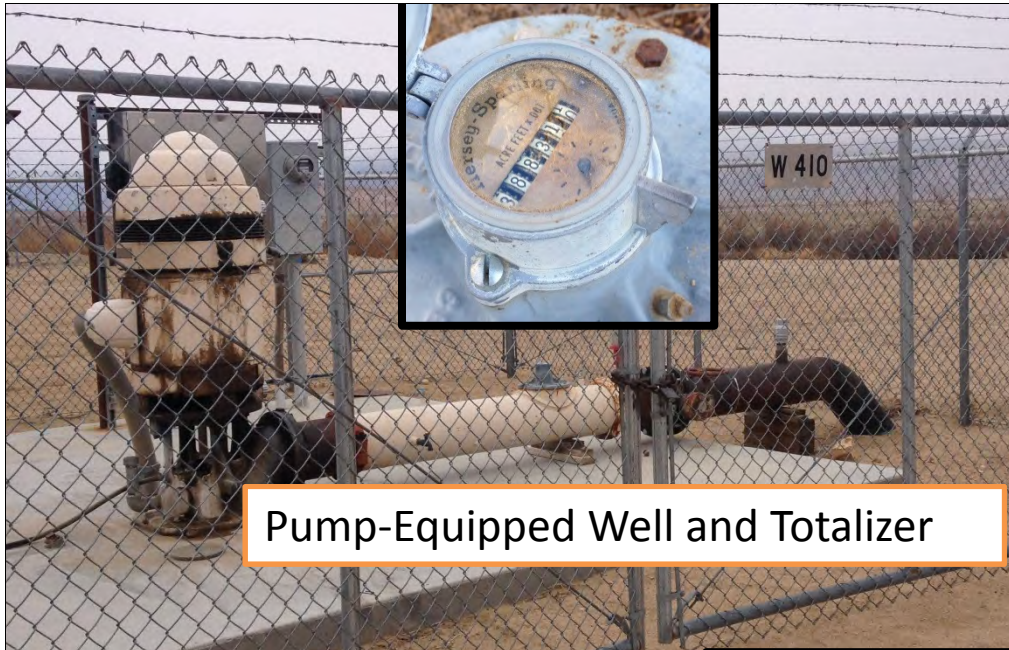
- Pumped groundwater from 8 existing LADWP wells on the Cone
- Flowing water from 15 artesian wells near Owens River
- These extractions are relatively easy to quantify

Uses include:

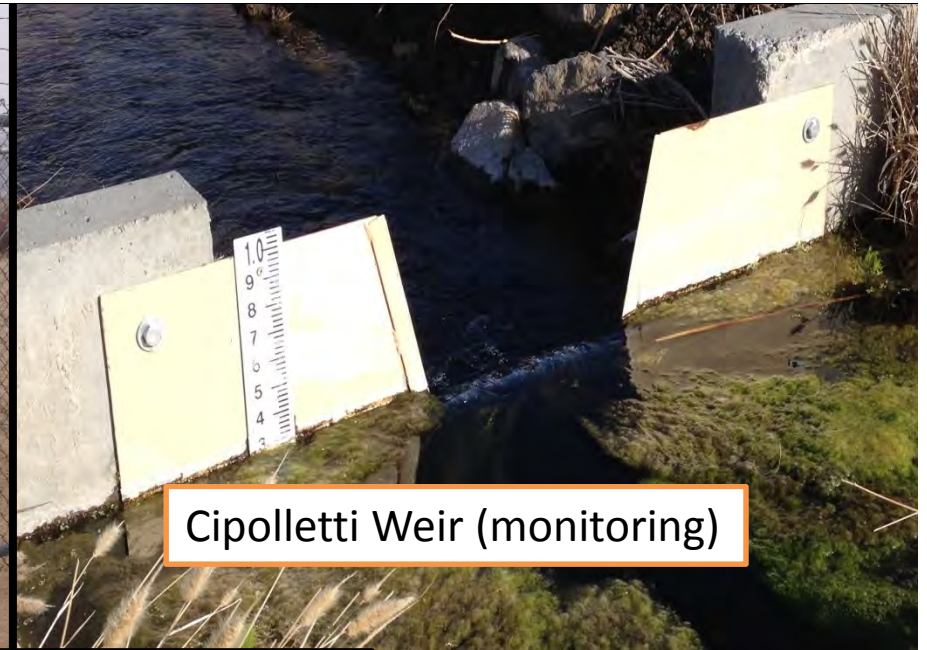
- Surface or groundwater applied to Bishop Cone “Accounts”
(irrigation to leases, ponds and recreation areas)
- Return flows subtracted from Uses
- Conveyances losses (surface water seepage)
- More complicated system to quantify

Monitoring Apparatus include:

- Totalizers measure outflow from pumped wells
- Artesian wells flow into pools; and weirs monitor outflow
- Flumes and weirs with data-logging devices measure surface flows onto and off-of leases



Pump-Equipped Well and Totalizer



Cipolletti Weir (monitoring)



Parshall Flume (monitoring)



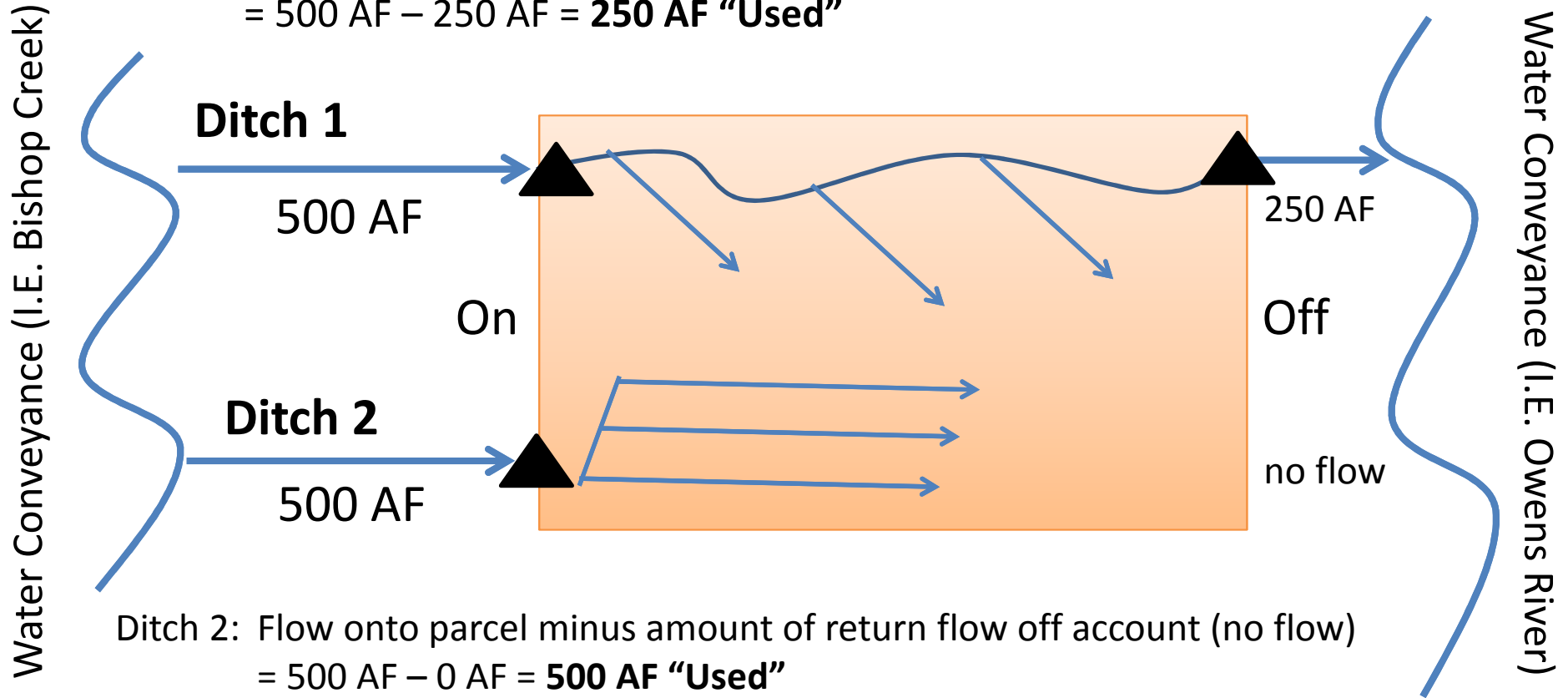
Ditch system



Artesian Well

For Account #BA1: Usage is the sum of Ditch 1 and 2 Uses

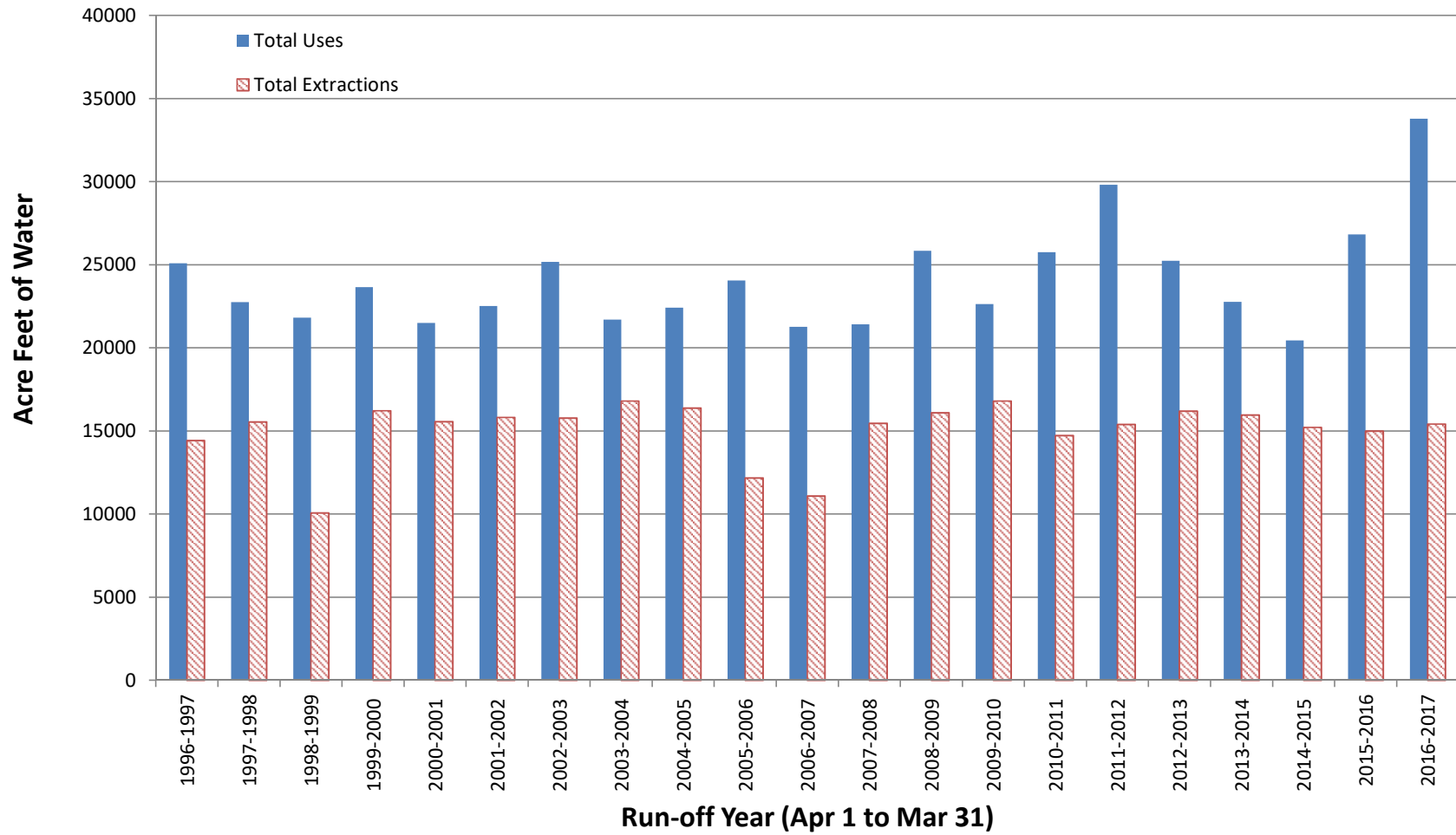
Ditch 1: Flow onto parcel minus amount of return flow off account to conveyance
= 500 AF – 250 AF = **250 AF “Used”**



Ditch 2: Flow onto parcel minus amount of return flow off account (no flow)
= 500 AF – 0 AF = **500 AF “Used”**

Account BA#1 Total Usage = 250 AF + 500 AF = 750 AF

FIGURE 2
WATER USES VERSUS EXTRACTIONS ON THE BISHOP CONE



Recent Activity on Bishop Cone

- Increased monitoring by ICWD & DWP staff on Bishop Cone due to drought and ditch flows
- ICWD conducting field audit of all accounts and monitoring devices with DWP staff
- Working on clarifying and simplifying Bishop Water Use Report component of BCA
- ICWD staff conducting spot checks of BCA devices
- LADWP has consultants updating Bishop/Laws groundwater model
- DWR staff investigated West Bishop Flooding/Dry Wells