



STAFF REPORT

Report To: Board of Supervisors

Meeting Date: January 4, 2018

Staff Contact: Ed James, edjames@cwsd.org

Agenda Title: Presentation Only: Presentation and update of the 2017 water year and future water issues.

Staff Summary: Edwin James, General Manager of the Carson Water Subconservancy District, will give a presentation on the water resources for the Carson River Watershed.

Agenda Action: Other/Presentation

Time Requested: 20 mins

Proposed Motion

No action - presentation only.

Board's Strategic Goal

N/A

Previous Action

Background/Issues & Analysis

Applicable Statute, Code, Policy, Rule or Regulation

Financial Information

Is there a fiscal impact? Yes No

If yes, account name/number:

Is it currently budgeted? Yes No

Explanation of Fiscal Impact:

Alternatives

Board Action Taken:

Motion: _____

1) _____

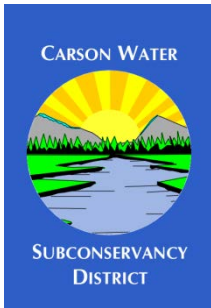
2) _____

Aye/Nay

(Vote Recorded By)

2017 Water Year Update and Future Water Issues

Edwin James, P.E., General Manager,
Carson Water Subconservancy District



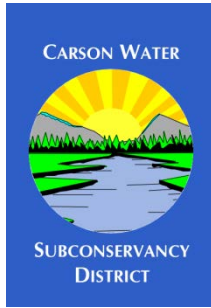
CWSD ROLE

- In 1989, the Nevada Legislature charged CWSD with the responsibility of management and development of water resources in the upper Carson River to alleviate reductions and loss of water supply, promote conservation, and protect the health, safety, and welfare of the people of the upper Carson River Basin.

Carson River Coalition (CRC)

- **1997 Flood**
- **1998 Conference – Created CRC – Intergraded Process – CWSD to Coordinate**
- **1999 Churchill County joined CWSD**
- **2001 Alpine County joined with CWSD**
- **2009 Storey County began participating with CWSD**
- **Focus is now on the entire watershed**





Structure of CWSD



- 14 Members representing 6 counties and 2 states
- Funding
 - Property Tax (\$0.03/\$100)
 - Grants (State, Fed., & others)
- Staffing
 - 2 Full Time, 3 Part Time
- Staff includes specialists in areas of:
 - Water quantity, quality, hydrology & conservation
 - Aquatic ecology
 - Floodplain management
 - Stakeholder facilitation
 - Public outreach and communication
 - Budget & grant administration

Carson River Watershed

- Encompasses apx. 3,966 square miles
- Carson River 184 miles long
- Current population estimation 125,000
- Predicted to reach over 300,000 +/- by 2050

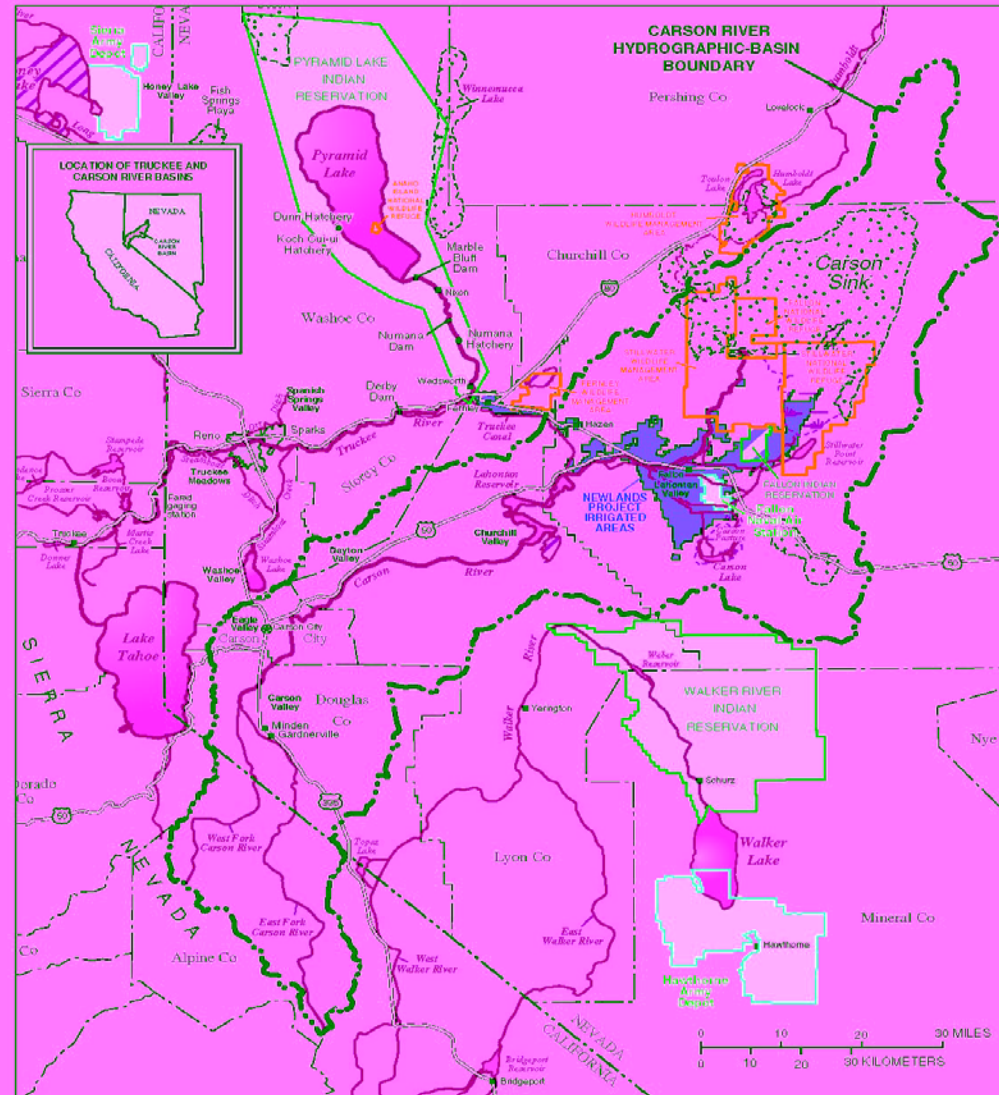
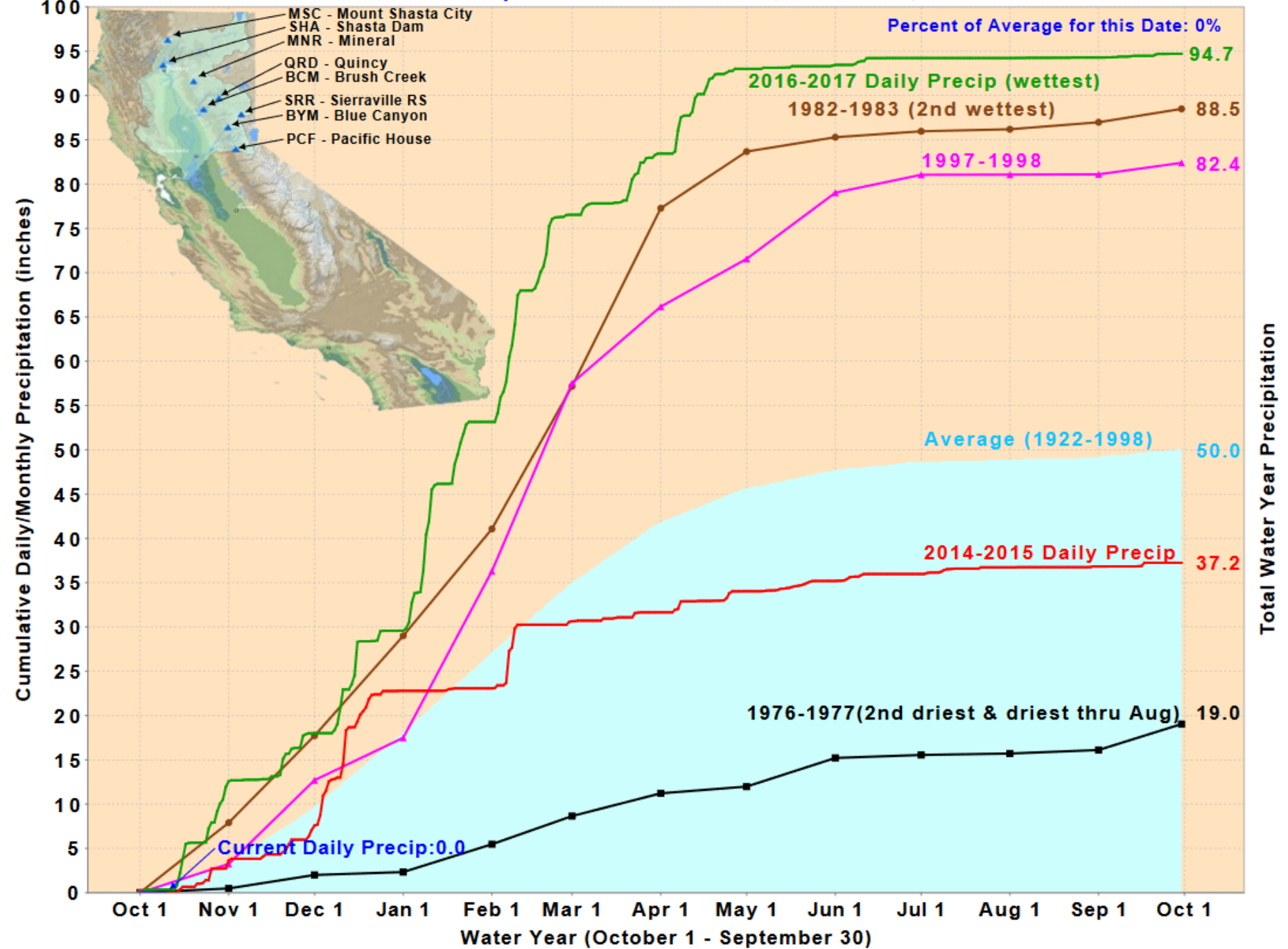


Figure1. USGS hydrologic features map of the Carson River watershed and surroundings.

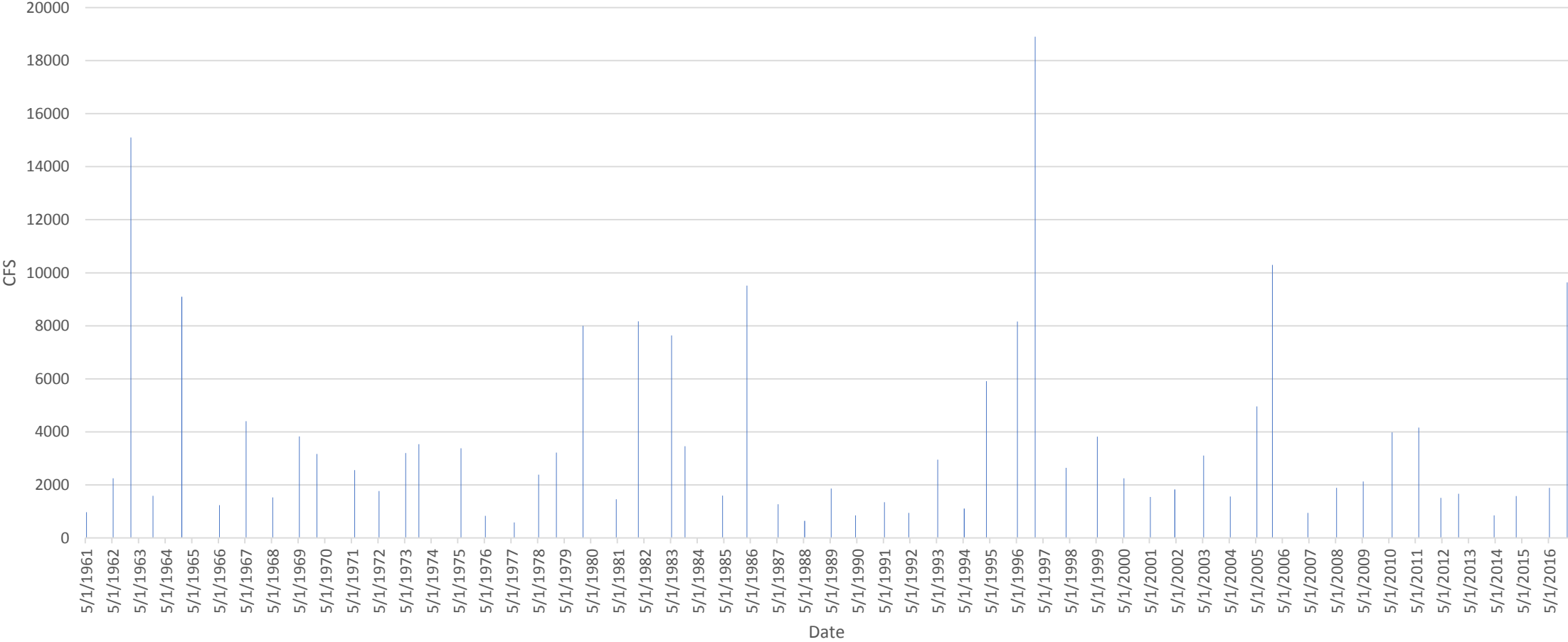
2017 WATER YEAR



North Sierra Precipitation: 8-Station Index, October 10, 2017



Markleville Gauge Peak Flows



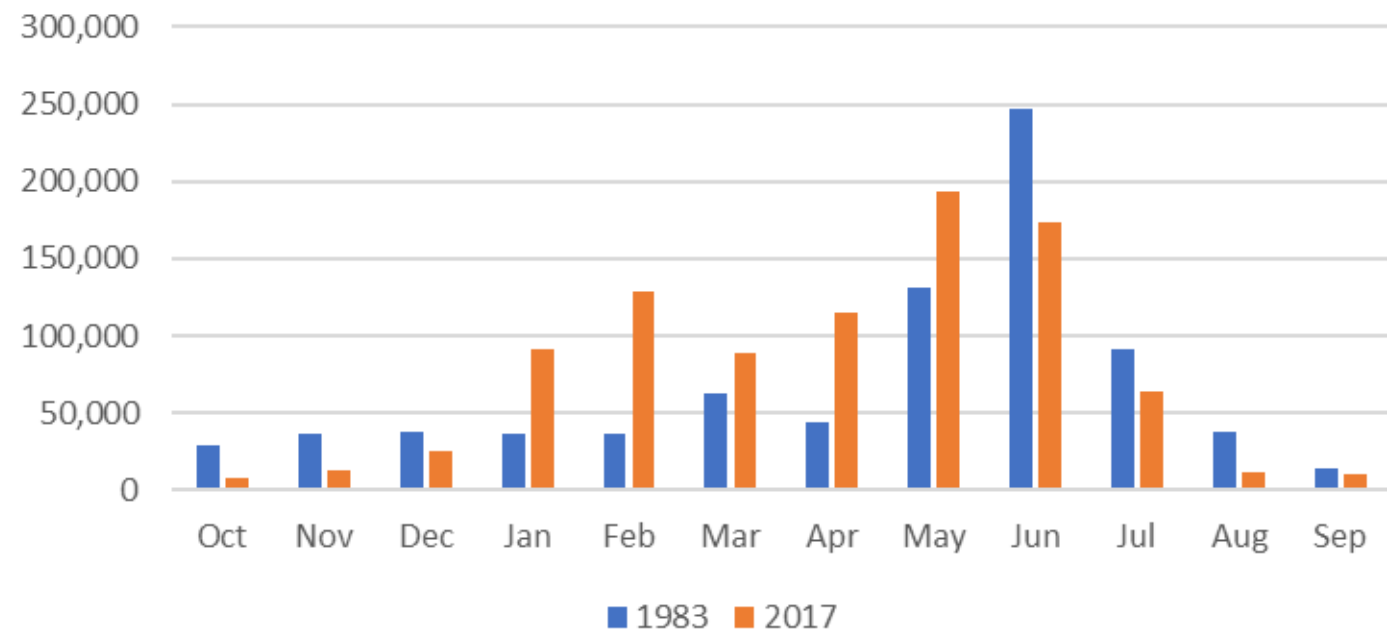
RUNOFF COMPARISON 1983 TO 2017

(ACRE FEET)

WATER YEAR	CARSON CITY GAGE	FORT CHURCHILL GAGE	BELOW LAHONTAN DAM
1983	826,225	804,105	771,414
(EST.) 2017	928,120	926,885	692,974

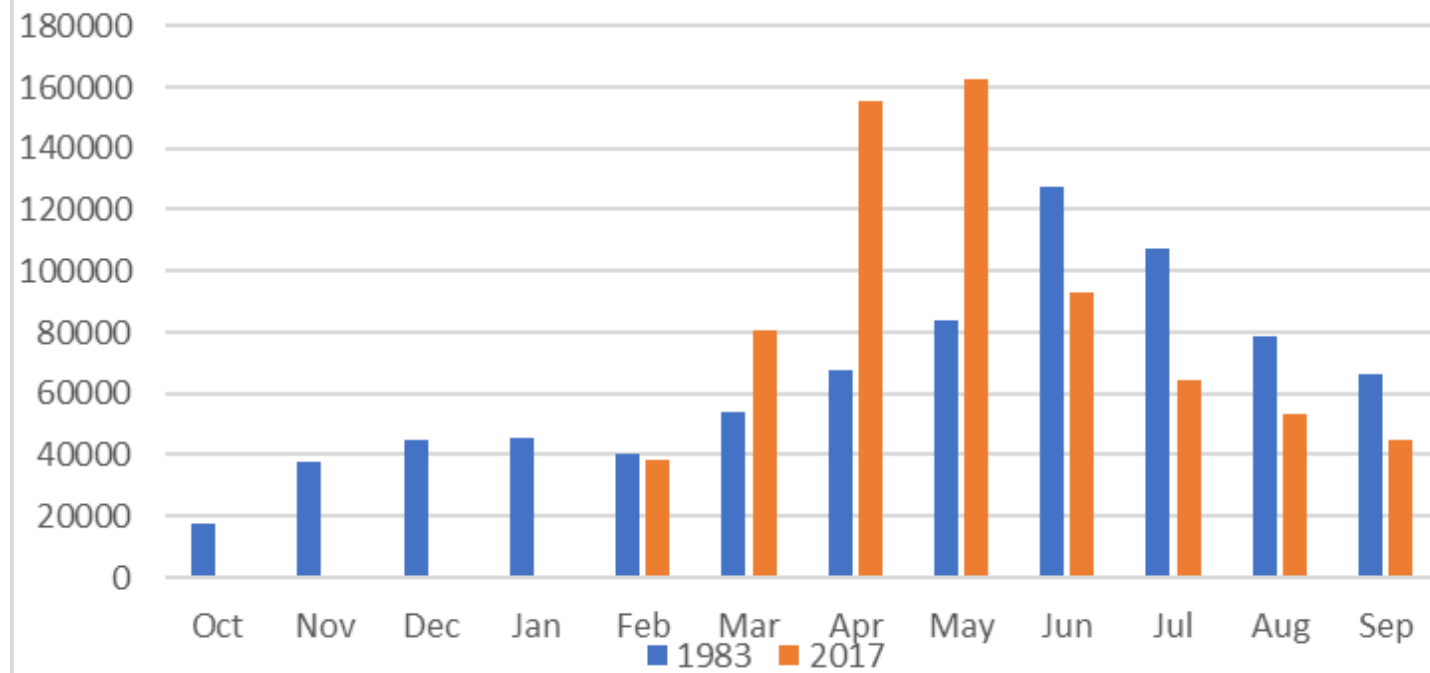
Fort Churchill Gage

Acre Feet



Below Lahontan Dam

Acre Feet



Groundwater

- **Groundwater levels increased during 2017**



FUTURE WATER ISSUES



SURFACE WATER



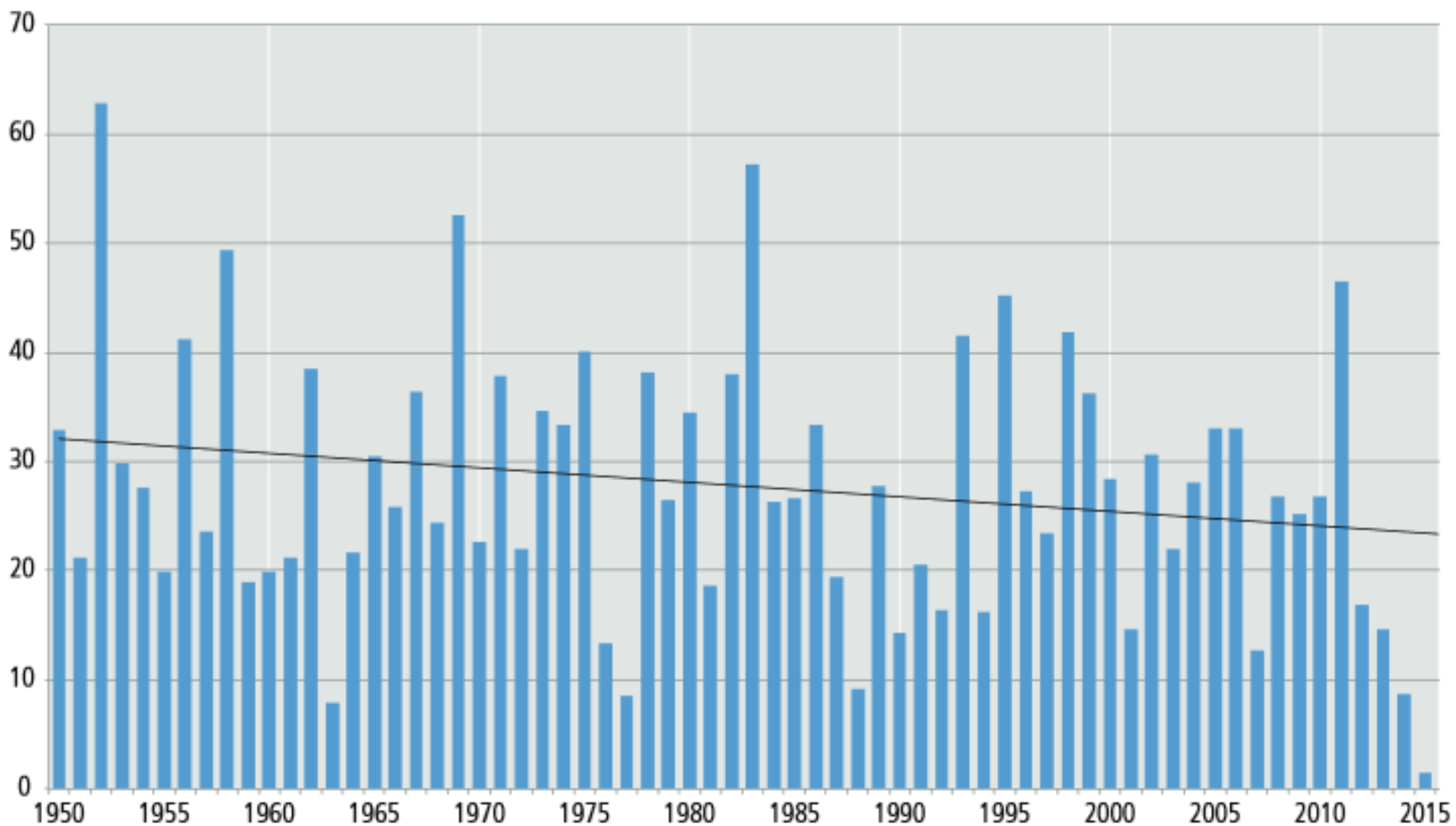
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Current Water Situation

- Carson River is administered through the Alpine Decree
- River is fully appropriated
 - 95 %+ of the river water is used for Ag
- Flood Waters are allocated to Stillwater Project
- No large upstream storage
- Water quality problems
- Growth

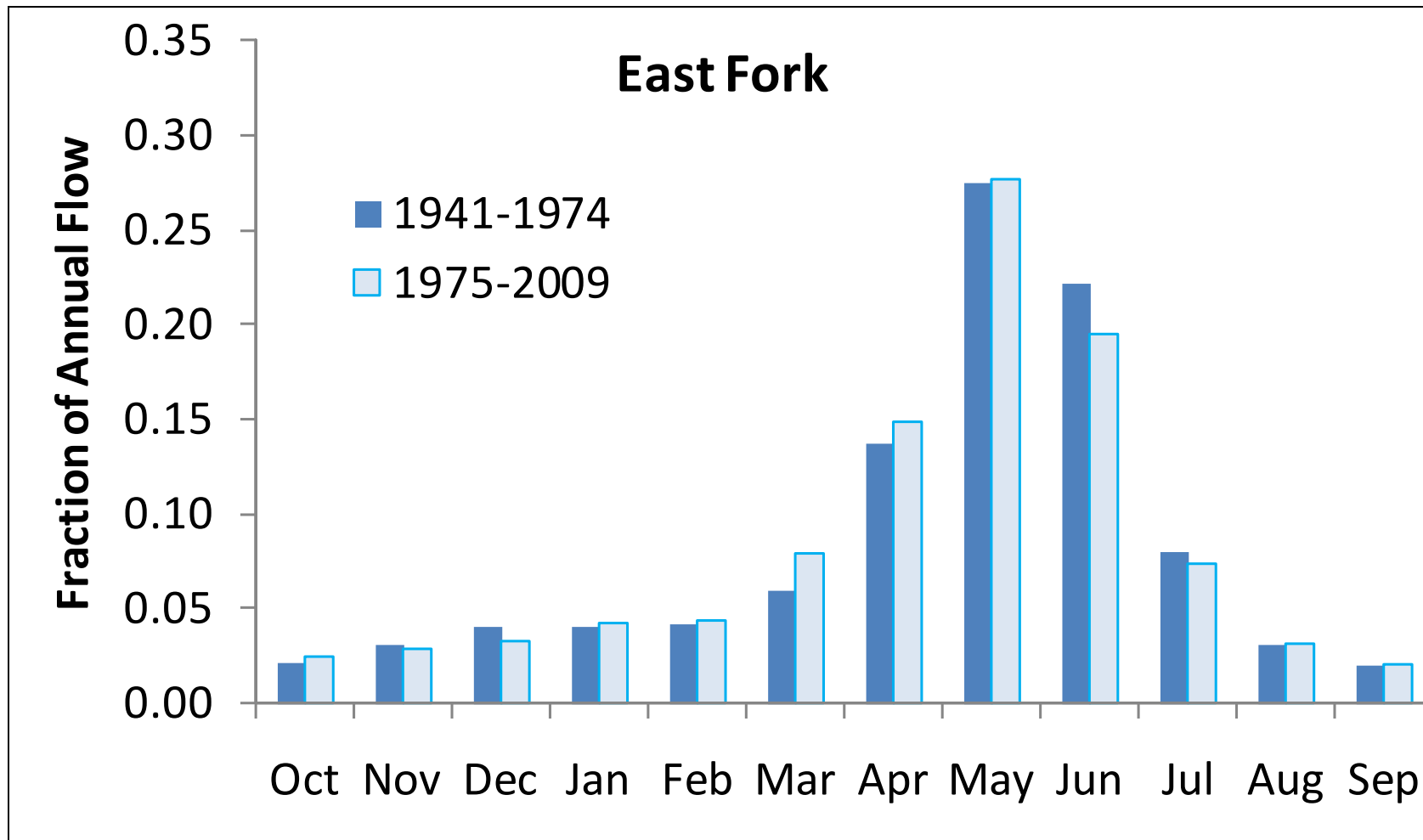
April 1 Snow-Water Content, 13 Northern Sierra Nevada Snow Courses

inches



Runoff Changes

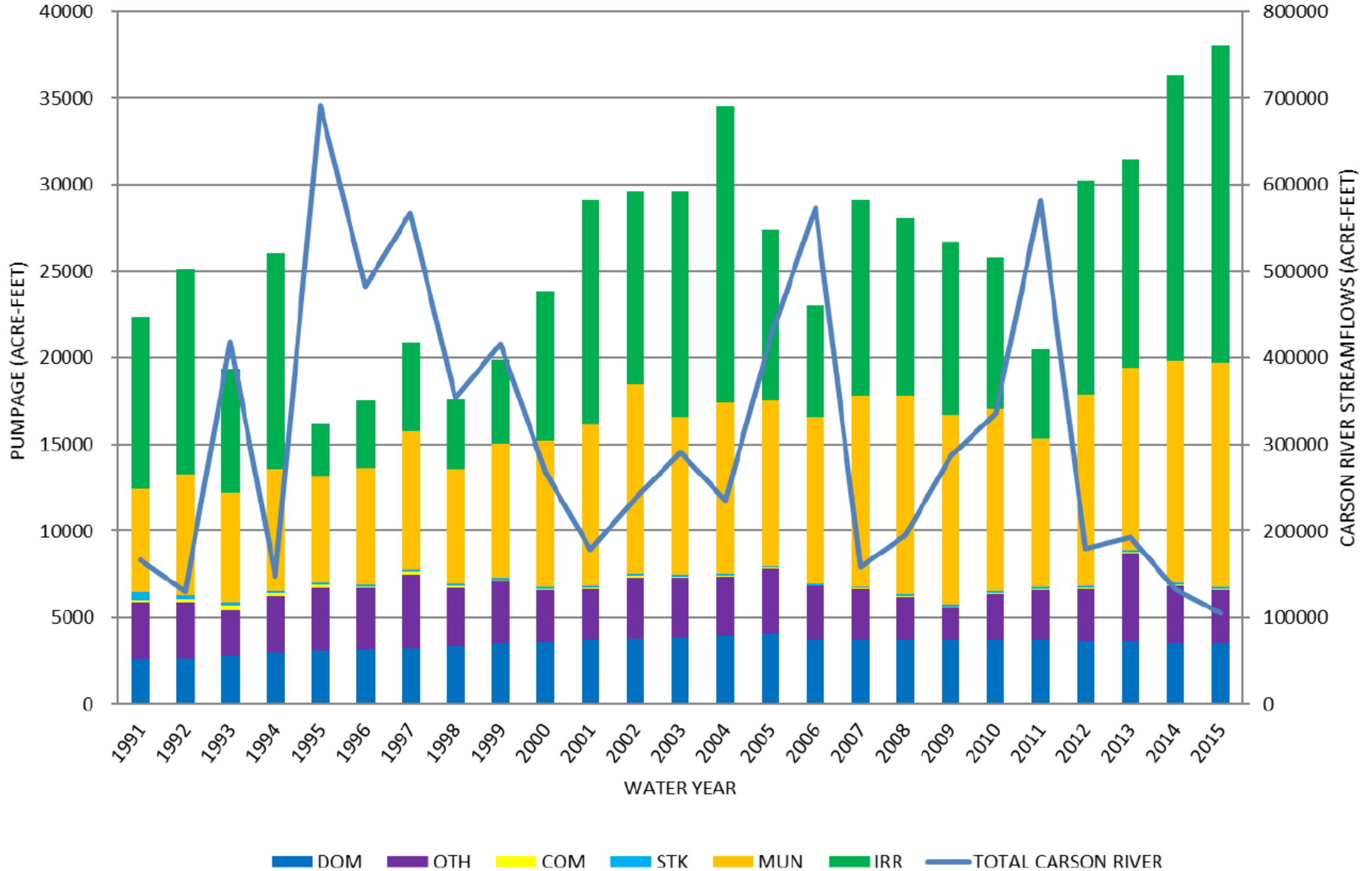
Monthly Streamflow – East Fork



Groundwater



CARSON VALLEY GROUNDWATER BASIN



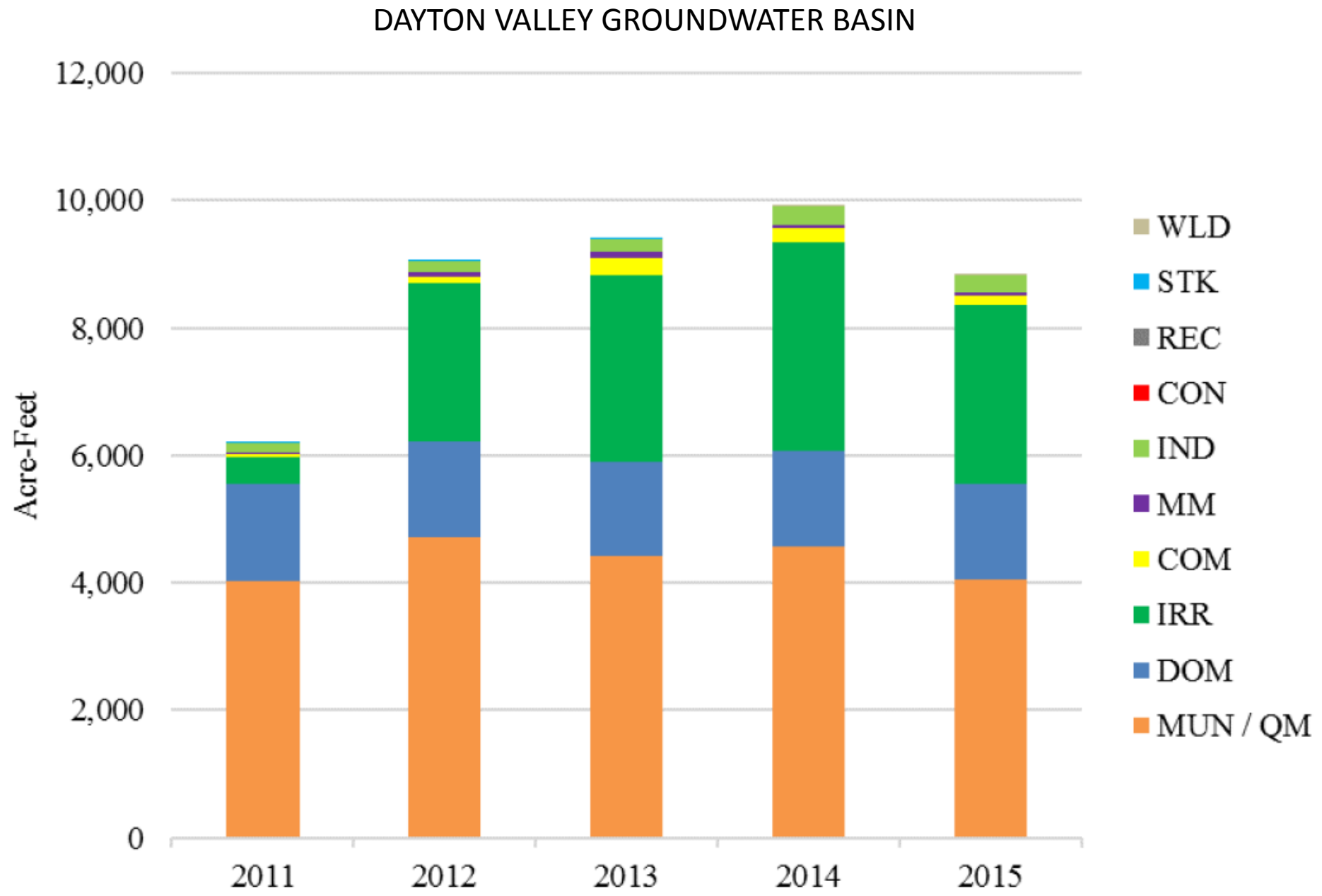
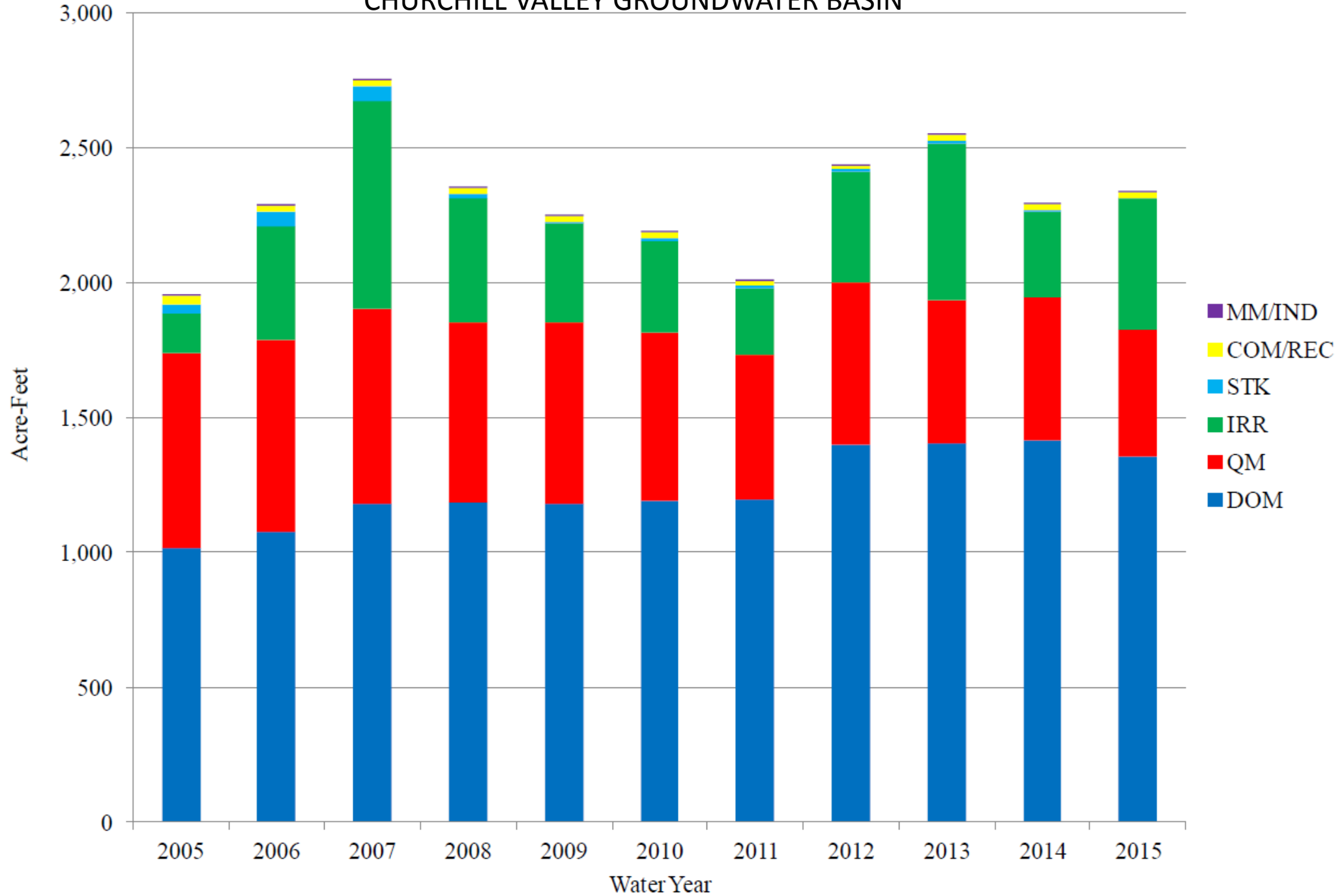


Figure 3. Dayton Valley historical pumpage by manner of use.

CHURCHILL VALLEY GROUNDWATER BASIN



Wet Water versus Paper Water

Churchill Valley Groundwater Basin		
	Pumpage Inventory	
Category	Committed Ground Water Resources (AF)	Pumpage 2015 (AF)
Irrigation	3,899	487
Commerical/Stock/ Industrial	445	28
Municipal	5,055	471
Domestic Wells	N/A	1,353
Total	9,399	2,339

Perennial Yield = 1,600 AF

Carson Valley Groundwater Basin		
	Pumpage Inventory	
Category	Committed Ground Water Resources (AF)	Pumpage 2015 (AF)
Irrigation	51,618	18,320
Commercial/ Stock	603	156
Municipal	34,143	12,972
Other	8,144	3,080
Domestic Wells	N/A	3,514
Total	94,516	38,042

Perennial Yield +/- 49,000 AF

General Water Issues

- **Infrastructure needs – new water lines, replace old water lines, more storage tanks, more wells**
- **Water Use for most water purveyors have been going down over the past ten years.**
- **Potential Water Law Changes**
- **Limited Water Supply East of Dayton**
- **Need for more induction wells**
- **Water Quality Concerns**
- **Need for Upstream Storage**

2018 WATER SUMMIT PLANNING FOR THE FUTURE

**January 30, 2018
Nevada Room
Governor's Mansion
606 Mountain Street
Carson City NV, 89703**



Questions?