

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

JASON KING, P.E.
STATE ENGINEER



COYOTE SPRING VALLEY
HYDROGRAPHIC BASIN 13-210

GROUNDWATER PUMPAGE INVENTORY

CALENDAR YEAR 2015

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ABSTRACT

This inventory represents the status and usage of all permitted, certificated and claims of vested right groundwater rights located within Coyote Spring Valley, Hydrographic Basin 13-210, for calendar year 2015 (January 1, 2015 through December 31, 2015). Also included for summary purposes are graphs and data associated with this use, and yearly totals of historical groundwater use from 2002 through 2015 by manner of use.

The data presented are valid for the time period of this report, and may vary from previously published figures as water rights within the basin are subject to administrative action, such as certification, cancellation, forfeiture, or withdrawal on a continual basis.

For calendar year 2015, the permitted, certificated and claims of vested right groundwater rights totaled 16,693 acre-feet, with estimated pumpage of approximately **2,064 acre-feet**. This figure includes an estimated 2 acre-feet pumped from exempt domestic wells.

Municipal is the largest manner of use within the basin. For calendar year 2015, appropriations for municipal purposes totaled 13,850 acre-feet and the pumpage was 1,494 acre-feet. The second largest manner of use was industrial with appropriations totaling 2,500 acre-feet and pumpage of 0 acre-feet. The third largest manner of use was irrigation with appropriations totaling 343 acre-feet and pumpage of 568 acre-feet. The fourth largest manner of use was pumping by exempt domestic wells, at 2 acre-feet.

In January 2014, State Engineer's Rulings 6254 through 6260 found that Coyote Spring Valley (Hydrographic Basin 13-210), Garnet Valley (13-216), Hidden Valley (13-217), California Wash (13-218), Muddy River Springs Area (13-219), and the northwestern portion of Black Mountains Area (13-215) share a unique and close hydrologic connection and in the future should be jointly managed. Consistent with the joint management of these hydrographic basins, the State Engineer has allowed changes in points of diversion between them, a practice not allowed in separately-managed basins. However, this pumpage inventory only includes details on groundwater pumping from the Coyote Spring Valley Hydrographic Basin.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER	210, REGION 13	
HYDROGRAPHIC BASIN NAME	COYOTE SPRING VALLEY	
COUNTIES	CLARK, LINCOLN	
MAJOR COMMUNITIES	ALAMO, MOAPA	
DESIGNATED	YES	
DENIALS BASED UPON WATER AVAILABILITY	IRRIGATION	
GROUNDWATER LEVEL MEASUREMENTS	NDWR, SNWA, USGS	
PUMPAGE INVENTORY, ACRE-FEET IN 2015	2,064 ¹	
STATE ENGINEER'S ORDERS		
NO. 905 – DESIGNATION	DATE: AUGUST 21, 1985	
NO. 1169 – FURTHER STUDY	DATE: MARCH 8, 2002	
NO. 1169a – FURTHER STUDY	DATE: DECEMBER 21, 2012	
COMMITTED GROUNDWATER RESOURCE: 16,693 ACRE-FEET	DATE: APRIL 2016	
INDUSTRIAL.....2,500	IRRIGATION.....343	MUNICIPAL.....13,850

NOTE: Committed groundwater resource data are accurate for April 2016. Manner of use category totals vary over time, as rights are not necessarily static. Rights may be subject to change applications, certification, withdrawals, forfeiture and cancellations; each of these circumstances could impact the duty, diversion rate and acreage associated with a given right. The value associated with each manner of use category does not include those portions that have been relinquished in support of domestic wells.

¹ Includes pumpage by exempt domestic wells, as defined by NRS 534.013. The domestic use estimate is based upon a count of the total domestic wells in the basin multiplied by 1.0 acre-foot per annum. The number of domestic wells in the basin, estimated by a query of the Nevada Division of Water Resources Well Log Database, is approximately 2.

PURPOSE AND SCOPE

The purpose of this report is to inventory all of the groundwater resources allocated and described by the Office of the State Engineer, Nevada Division of Water Resources (NDWR), and to estimate the amount of groundwater pumped within the Coyote Spring Valley Hydrographic Basin (13-210), for the time period beginning January 1, 2015 and ending December 31, 2015 (hereafter referred to as calendar year 2015). This report estimates the amount of groundwater pumped under the permits and certificates issued by the State Engineer, claims of vested right, as well as the amount pumped by exempt domestic wells within the basin.

DESCRIPTION OF THE STUDY AREA

Coyote Spring Valley is a basin located in south eastern Nevada, approximately 60 miles north of Las Vegas. The basin is located in Clark and Lincoln Counties (see Figure 1), and is within the Colorado River Hydrographic Region.

Coyote Spring Valley is bounded on the west by the Sheep Range. This range rises to 9,920 feet (all elevations in this text are above mean sea level) at Hayford Peak at the south end of the range. The south end of Coyote Spring Valley is topographically closed by a bedrock and alluvial divide extending eastward from Hayford Peak to the Arrow Canyon Range. The Arrow Canyon Range and Meadow Valley Mountains border the basin to the east. The north boundary is defined by a series of hills at the south end of the Pahrnagat and Hiko Ranges and the Delamar Mountains.

The adjacent Nevada hydrographic basins are as follows: Pahrnagat Valley (13-209), to the north; Delamar Valley (10-182), to the north; Kane Springs Valley, 13-206, to the northeast; Lower Meadow Valley Wash, 13-205, to the east; Muddy River Springs Area, 13-219, to the east; California Wash, 13-218, to the southeast; Hidden Valley (13-217), to the south; Las Vegas Valley, 13-212, to the southwest; Three Lakes Valley (Southern Part), 13-211, to the southwest; Three Lakes Valley (Northern Part), 10-168, to the southwest; and Tikapoo Valley (Southern Part), 10-169B, to the west. The exterior boundary of the Coyote Spring Valley Hydrographic Basin is as described by Designation Order 905, issued by the Nevada State Engineer August 21, 1985.

GROUNDWATER LEVELS

Depths to groundwater in Coyote Spring Valley are measured by multiple agencies. Active measurement site names and links to their data (refer to Figure 2 for well locations) are:

[210 S10 E62 25ACAD1](#)
[210 S11 E62 24BD 1](#)
[210 S11 E63 19ABAA1](#)
[210 S12 E63 29DABC1](#)
[210 S13 E63 11BACD1](#)
[210 S13 E63 23BAAB1](#)
[210 S13 E63 26AAAA1](#)
[210 S14 E63 28ACDC1](#)

[210 S10 E62 25CBCC1](#)
[210 S11 E62 24DB 1](#)
[210 S11 E63 21ABCA1](#)
[210 S13 E63 05ABCC1](#)
[210 S13 E63 11BCCC1](#)
[210 S13 E63 23DDDC1](#)
[210 S13 E63 26AABD1](#)
[210 S15 E63 03BBCC1](#)

[210 S11 E62 24BA 2](#)
[210 S11 E63 13CBAB1](#)
[210 S12 E63 29ADCC1](#)
[210 S13 E63 10DCCA1](#)
[210 S13 E63 22DCAC1](#)
[210 S13 E63 25BDBB1](#)
[210 S14 E62 01ADBD1](#)

Groundwater level data have also been collected by the U.S. Geological Survey and may be accessed through their website (<http://nevada.usgs.gov/>).

METHODS TO ESTIMATE PUMPAGE

One of the purposes of this report is to estimate the amount of groundwater pumped under vested claims, permits and certificates issued by the State Engineer, as well as the amount pumped by the exempt domestic wells in the valley. The following methods were used to arrive at the estimated use:

- Where totalizing meters were in place, meter readings were taken and compared with previous data (if available).
- Where meters were not in place and the use was irrigation, pumpage was estimated by multiplying the number of hours the well was operated during the past year (determined from an hour meter reading or asking the water user) by the certificated diversion rate.
- Where there were no flow meters or other reliable options for estimating pumpage and the use was irrigation, pumpage was estimated by dividing the Net Irrigation Water Requirement (NIWR) for the crop grown by the efficiency of the irrigation method used, then multiplying by the number of acres irrigated. Irrigation efficiencies associated with three types of irrigation methods are: pivot at 85%; wheel line or other hand moved sprinklers at 75%; and flood at 60%. The pumpage amount estimated by this method was limited by the duty of the permit. For places where the groundwater rights were supplemental to surface water, groundwater use was estimated using the NIWR method above, but adjusted based on available surface water for the year. Evapotranspiration and NIWR data by basin can be found on the NDWR website at: http://water.nv.gov/mapping/et/et_general.cfm.
- Where meters were not present, previous data were not available, and the manner of use was not irrigation, pumpage was estimated by applying the annual duty associated with the certificate (if the water right was perfected), permit or claim, if the use was as described in the certificate, permit or claim. If the use was not as described in the certificate, permit or claim, a value was estimated based upon the circumstances of use for the subject year.
- Exempt domestic wells may be drilled and utilized where water service from a purveyor is not available. These types of wells do not require a permit from the State Engineer if they do not pump more than 2 acre-feet per year as provided by Nevada Revised Statutes (NRS) [534.180](#). [NRS 534.013](#) defines this category of domestic use as follows: “*Domestic use or domestic purposes extends to culinary and household purposes directly related to a single family dwelling, including, without limitation, the watering of a family garden and lawn and the watering of livestock and any other domestic animals or household pets.*” The number of exempt domestic wells in the basin was determined by a query of the NDWR Well Log Database. The amount of water pumped by exempt domestic wells is estimated to be 1 acre-foot per well in Coyote Spring Valley.

PUMPAGE BY MANNER OF USE

Note that all data herein are estimates and subject to revision.

The total estimated groundwater pumpage for the calendar year 2015 was 2,064 acre-feet. The annual duties of permitted, certificated and claims of vested groundwater rights within the Coyote Spring Valley Hydrographic Basin total approximately 16,693 acre-feet. The permitted and pumped totals for calendar year 2015, categorized by manner of use, are as follows:

A. Domestic (DOM)

Appropriations for domestic purposes totaled 0 acre-feet in the basin. However, records of the State Engineer indicate an estimated 2 exempt domestic wells existed in the basin during water year 2015. The amount of water pumped for domestic use as described under NRS 534.013 is estimated at 2 acre-feet.

B. Industrial (IND)

Appropriations for industrial purposes totaled 2,500 acre-feet, with estimated groundwater pumpage of 0 acre-feet.

C. Irrigation (IRR)

Appropriations for irrigation purposes totaled 343 acre-feet, with estimated groundwater pumpage of 568 acre-feet.

D. Municipal (MUN)

Appropriations for municipal totaled 13,850 acre-feet, with estimated groundwater pumpage of 1,494 acre-feet.

TABLES

Table 1. Coyote Spring Valley historical pumpage (acre-feet) by calendar year.

YEAR	DOM	IND	IRR	MM	MUN	TOTAL
2002	1	0	0	110	0	111
2003	2	0	0	149	0	151
2004	2	0	0	382	0	384
2005	2	0	0	406	259	667
2006	2	0	0	386	416	804
2007	2	0	0	364	2,781	3,147
2008	2	0	0	338	1,660	2,000
2009	2	0	0	377	1,413	1,792
2010	2	0	0	423	2,498	2,923
2011	2	0	0	427	5,177	5,606
2012	2	0	413	0	5,101	5,516
2013	2	0	413	0	2,992	3,407
2014	2	0	613	0	1,643	2,258
2015	2	0	568	0	1,494	2,064

All values are in acre-feet.

FIGURES

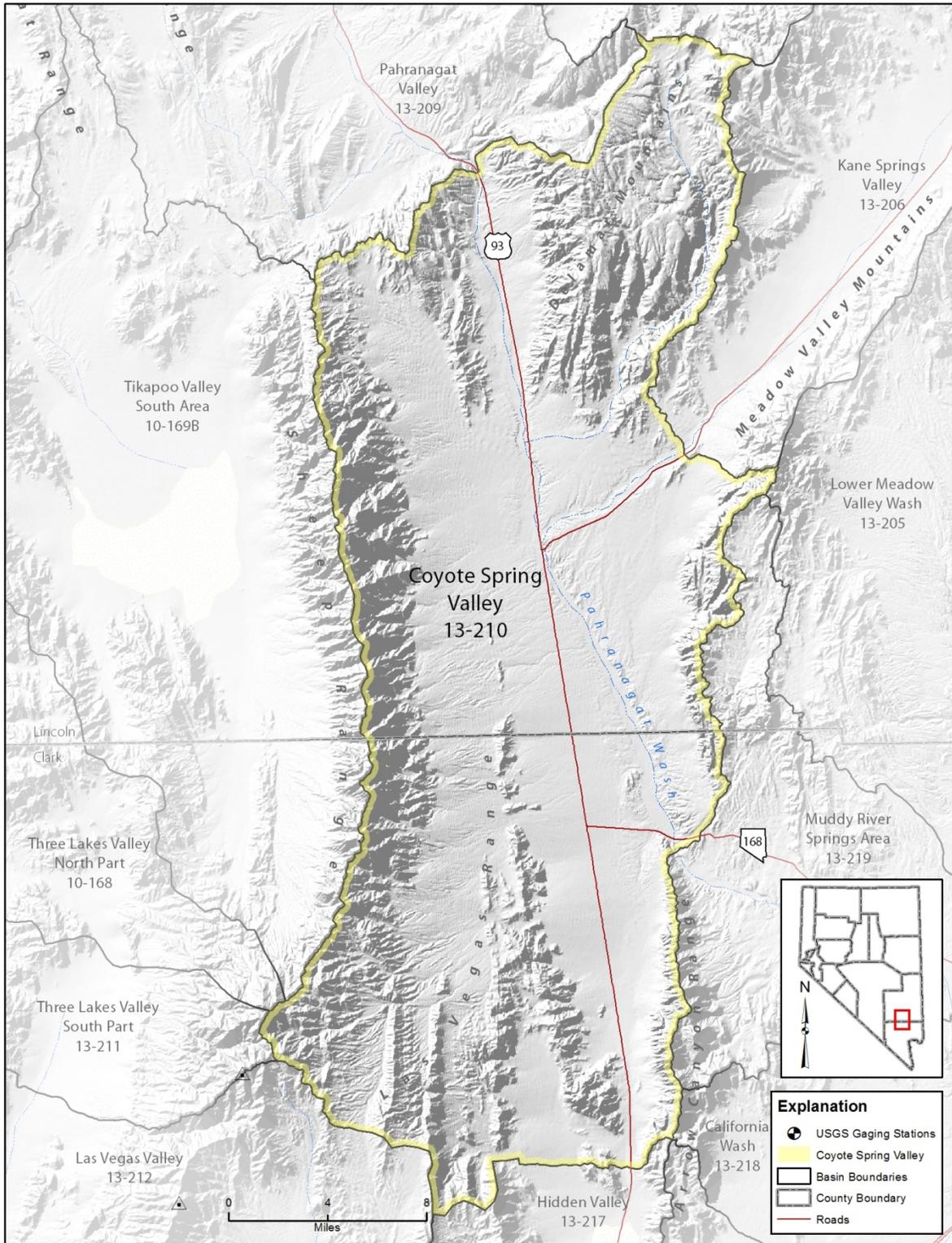


Figure 1. Location map for Coyote Spring Valley (Hydrographic Basin 13-210).

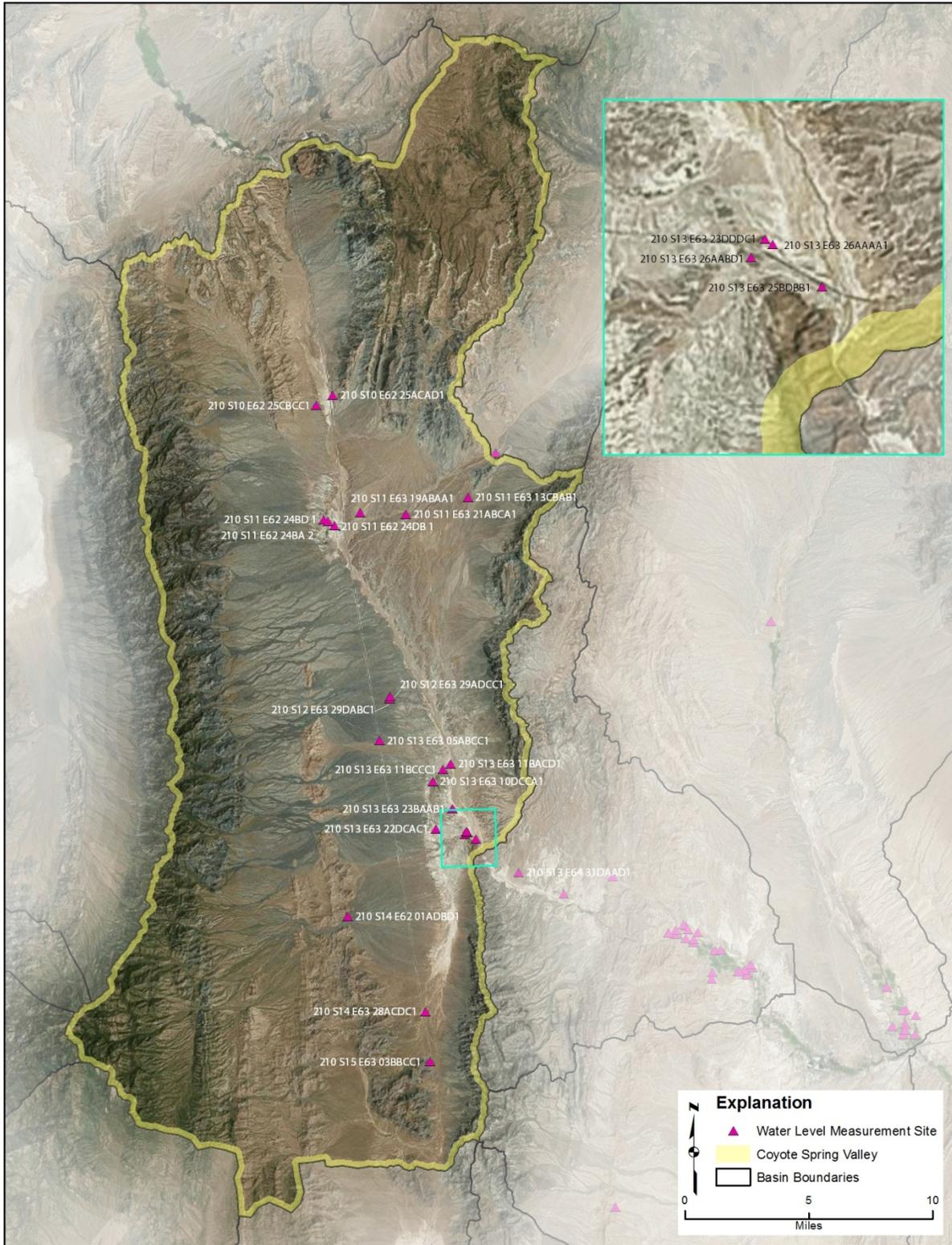


Figure 2. Coyote Spring Valley farm areas and water level measurement sites. Base map is standard satellite imagery; National Agricultural Imagery Program imagery is incomplete in this area.

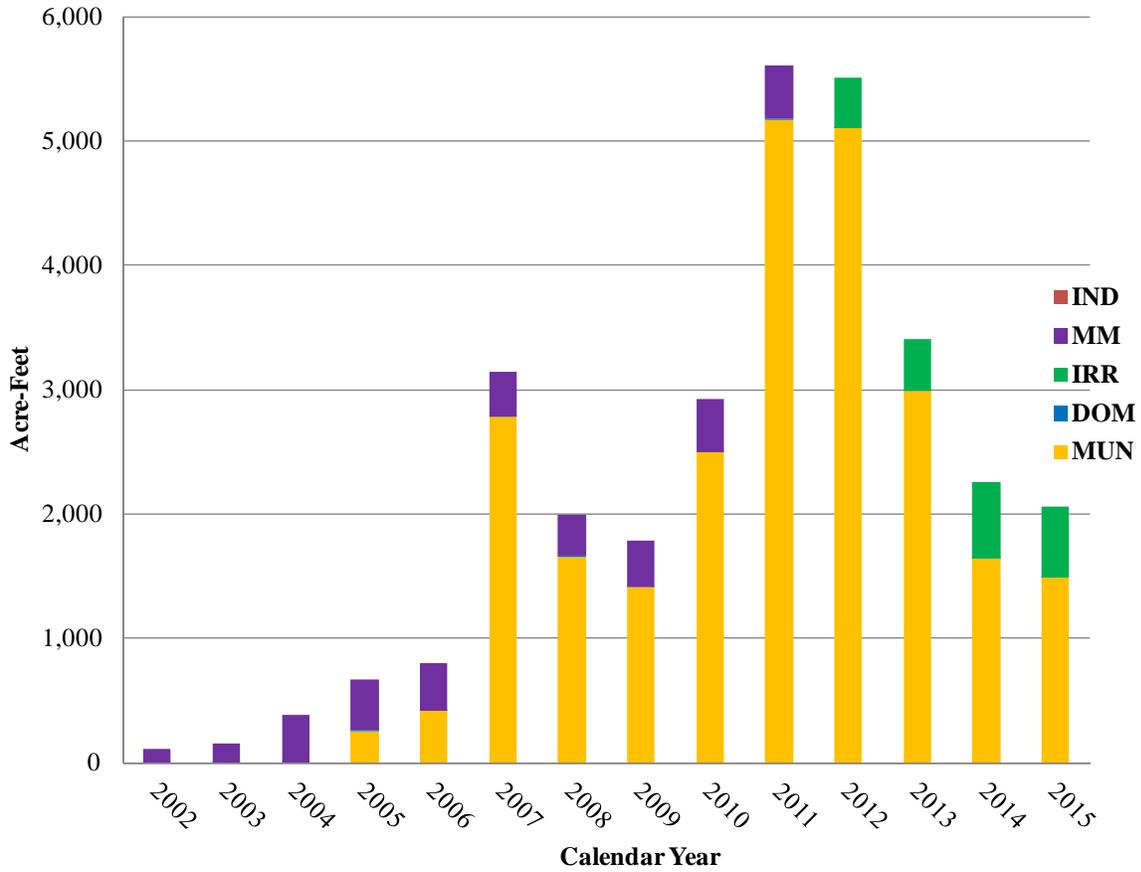


Figure 3. Coyote Spring Valley historical pumpage by manner of use.

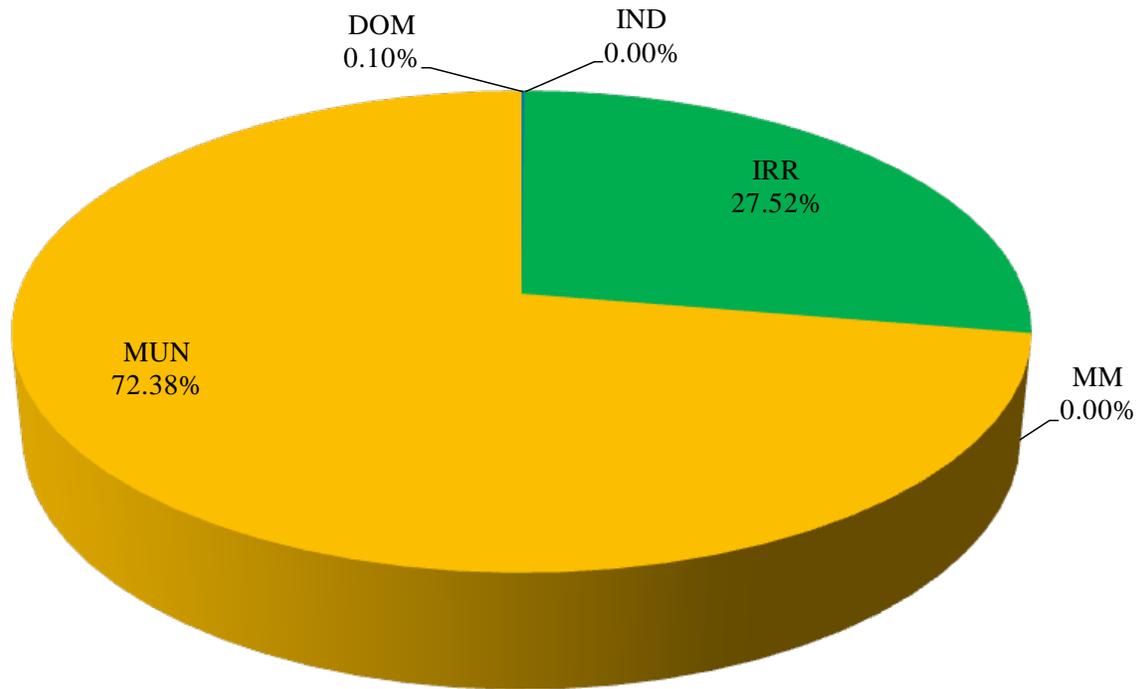


Figure 4. Percentage of 2015 groundwater pumpage by manner of use.

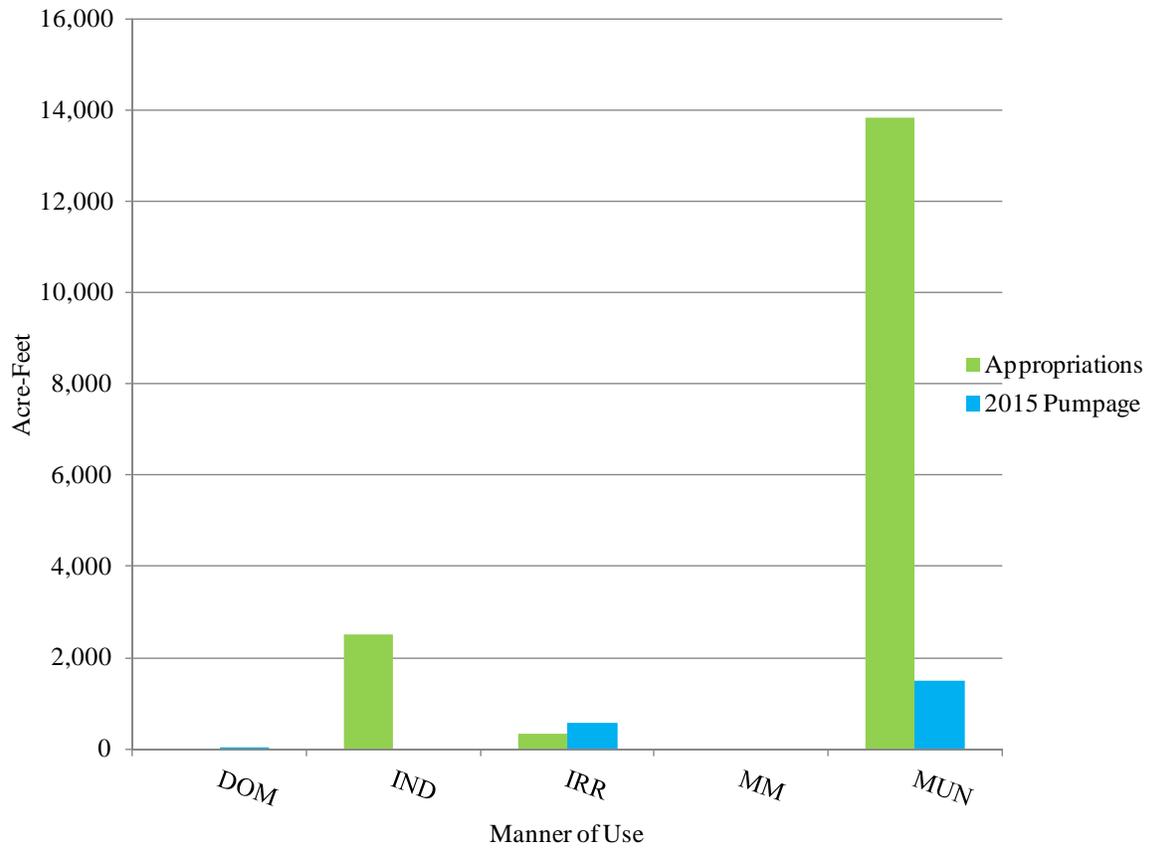


Figure 5. 2015 groundwater pumpage appropriations versus actual pumpage.

**APPENDIX A. COYOTE SPRING VALLEY 2015 GROUNDWATER PUMPAGE BY
APPLICATION NUMBER.**

EXPLANATION OF COLUMN HEADINGS FOR GROUNDWATER PUMPAGE INVENTORY

APP NUMBER	The file number of the Application or the Vested Claim of Right.																
STATUS	Indicates if the application is a Vested Claim of Right (VST), a Permit (Permit), or a Certificate (Cert).																
OWNER OF RECORD	The owner of the water right as recorded in the files of the State Engineer. A water right may have more than one owner of record.																
PLACE OF USE																	
QQ	The quarter quarter of the Section in which the point of diversion is located.																
Qtr	The quarter of the Section in which the point of diversion is located.																
Sec	The Section in which the point of diversion is located.																
T	The Township in which the point of diversion is located.																
R	The Range in which the point of diversion is located.																
ACRES OR DUTY	The number of acres that are permitted to be irrigated or the duty if the manner of use is anything other than irrigation.																
ACRES IRR OR USE	<p>The number of acres irrigated or the manner of use of the appropriated water. The types of manner of use may include:</p> <table border="0" style="width: 100%;"> <tr> <td>COM - Commercial</td> <td>CON - Construction</td> </tr> <tr> <td>DOM - Domestic</td> <td>ENV - Environmental</td> </tr> <tr> <td>IND - Industrial</td> <td>IRR - Irrigation</td> </tr> <tr> <td>MM - Mining & Milling</td> <td>MUN - Municipal</td> </tr> <tr> <td>OTH - Other</td> <td>PWR - Power</td> </tr> <tr> <td>QM - Quasi-Municipal</td> <td>REC - Recreation</td> </tr> <tr> <td>STK - Stockwater</td> <td>STO - Storage</td> </tr> <tr> <td>WLD - Wildlife</td> <td></td> </tr> </table>	COM - Commercial	CON - Construction	DOM - Domestic	ENV - Environmental	IND - Industrial	IRR - Irrigation	MM - Mining & Milling	MUN - Municipal	OTH - Other	PWR - Power	QM - Quasi-Municipal	REC - Recreation	STK - Stockwater	STO - Storage	WLD - Wildlife	
COM - Commercial	CON - Construction																
DOM - Domestic	ENV - Environmental																
IND - Industrial	IRR - Irrigation																
MM - Mining & Milling	MUN - Municipal																
OTH - Other	PWR - Power																
QM - Quasi-Municipal	REC - Recreation																
STK - Stockwater	STO - Storage																
WLD - Wildlife																	
USED (AF)	The amount of water used during the water year, in acre-feet, as determined by review of records and/or field investigation.																
REMARKS	Notes pertaining to field investigation and/or review of records.																

**GROUNDWATER PUMPAGE INVENTORY
COYOTE SPRING VALLEY, NO. 210
2015**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)	REMARKS
			QQ	Qtr	Sec	T	R				
70429	Cert	Coyote Springs Invest.	SE	SW	14	13	63	4600.00	MUN	1,108.39	
70430	Permit		SW	SE	22						
74094	Permit										
74095	Permit										
85527-T	Permit										
77164	Permit	Nevada Power Co.	NE	NE	26	13	63	2500.00	IND	0.00	
77291	Permit	SNWA	SE	SE	23	13	63	9000.00	MUN	385.40	
77292	Permit		SW	NW	13	11	63				
77293	Permit		SE	NE	10	12	63				
77294	Permit		SE	NE	10	13	63				
77295	Permit		SW	NW	13	11	63				
77296	Permit		SE	SE	28						
77297	Permit		NE	NE	3	12	63				
77298	Permit		SE	NE	10						
77299	Permit		NW	SE	29						
77300	Permit		NW	NW	3	13	63				
77301	Permit		SE	NE	10	13	63				
77302	Permit		NE	NE	20						
77303	Permit		NE	NE	21						
77304	Permit		NE	NE	1						
77305	Permit										
77306	Permit										
85852-T	Permit										
85853-T	Permit										
85854-T	Permit										
85855-T	Permit										

**GROUNDWATER PUMPAGE INVENTORY
COYOTE SPRING VALLEY, NO. 210
2015**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)	REMARKS	
			QQ	Qtr	Sec	T	R					
83044	Permit	Bedrock Inc.			NE	24	11	62	68.60	100.00	567.79	Alfalfa, wheel line Well 1: S/N 61792164 RD - 75411500 - 10-13-15 RD - 40722400 - 10-24-14 Well 3: S/N 1546592 RD - (1)56710600 - 10-13-15 RD - (1)20993300 - 10-14-14 Meters installed in 2015: Well 2: S/N 97707924 RD - 63890700 - 10-13-15 RD - 34428700 - 03-17-15 Well 4: S/N 14-018685 RD - 06893700 - 10-13-15 RD - 01559100 - 03-17-15 Well 5: S/N 14-016496 RD - 23590400 - 10-13-15 RD - 05196000 - 03-17-15 Well 6: S/N 62683157 RD - 18256700 - 10-13-15 RD - 04592500 - 03-17-15
					NE							
					NW							
					N/2	SE						
					NE	NE	25					

 , P.E.

Verified with field notes: _____

TOTAL 2,061.58 Permitted rights

**APPENDIX B. COYOTE SPRING VALLEY 2015 GROUNDWATER PUMPAGE FIELD
NOTES.**

2015

Coyote Spring Valley
No. 210

Inventory Field Notes

Compiled by:
John Guillory, P.E. and Christi Cooper

State of Nevada
Division of Water Resources
Southern Nevada Branch Office

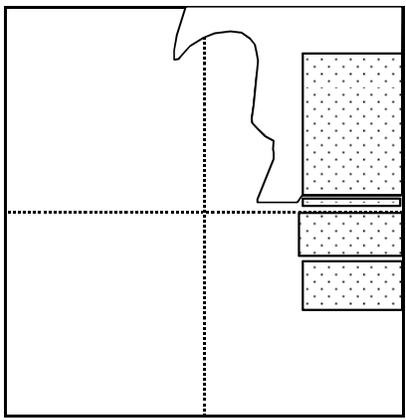
PUMPAGE INVENTORY FIELD REPORT

BASIN NO: 210 PERMIT NO: 83044
 WELL: YES NO **X** METER SER NO:
 PUMP: YES **X** NO PUMP TYPE: **Sump pump**
 MOTOR: YES NO **X** MOTOR TYPE:
 METER: YES **X** NO METER READ:
 PHOTO: YES NO **X** ACRES IRR: **100.0**
 BENEFICIAL USE: YES **X** NO PORTION ALL **X** TYPE **Irrigation**

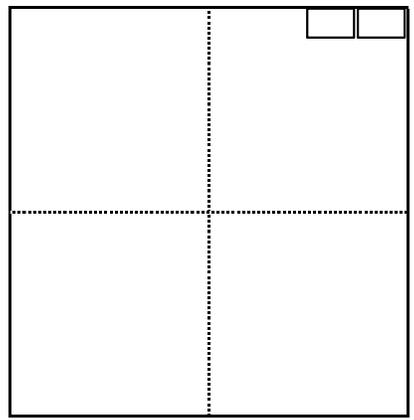
IF PARTIAL USE, SKETCH OF LAND IRRIGATED.

 1/4 1/4 SEC **24**

 1/4 1/4 SEC **25**



- IRR ALFALFA



REMARKS: **Permit is valid for 68.6 acres within POU. Mining operation, trailer park and landfill within POU also. Six (6) metered, unpermitted wells on property pump water to two (2) ponds, water is then distributed through property for several manners of use.**
No well visible at permitted point of diversion. Alfalfa irrigated by wheel lines.

SIGNATURE: , P.E. DATE: **10/13/2015**