

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

JASON KING, P.E.
STATE ENGINEER



HUALAPAI FLAT (HYDROGRAPHIC BASIN 02-024)

CROP & PUMPAGE INVENTORY

2012

By:
Steve DelSoldato
Tony Eng
Shannon McDaniel

Table of Contents

ABSTRACT	1
HYDROGRAPHIC BASIN SUMMARY	2
PURPOSE AND SCOPE	3
DESCRIPTION OF THE STUDY AREA	3
FIGURE 1: LOCATION MAP OF HUALAPAI FLAT, BASIN 2-024.....	4
FIGURE 2: MAP OF HUALAPAI FLAT VALLEY IRRIGATED ACREAGE	5
METHODS TO ESTIMATE IRRIGATED ACREAGE	6
METHODS TO ESTIMATE PUMPAGE	6
APPENDIX A	7
HUALAPAI FLAT HISTORICAL CROP INVENTORY.....	7
APPENDIX B	9
EXPLANATION OF COLUMN HEADINGS	10
2012 HUALAPAI FLAT CROP INVENTORY	12

ABSTRACT

This inventory represents the status and usage of all permitted and certificated groundwater rights for irrigation purposes located within Hualapai Flat, Hydrographic Basin 2-024, for the year 2012. **Only those groundwater rights associated with irrigation purposes are represented in this report.** For a listing and summary of all other manners of use within the basin, please refer to the [Nevada Division of Water Resources Hydrographic Basin Summary](#).

The data presented are estimates and subject to revision, and may change due to the dynamic nature of water rights which are subject to administrative action, such as certification, cancellation, forfeiture or withdrawal on a continuing basis. The estimates reported are valid for the time period of this report and may vary from previously published values.

For the year 2012, the permitted and certificated groundwater rights for irrigation purposes totaled approximately **6,376 acres** with a total duty of 25,506 acre-feet within Hualapai Flat. An estimated **1,176 acres** were irrigated and 3,676 acre-feet were pumped during 2012.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER	024, REGION 2
HYDROGRAPHIC BASIN NAME	HUALAPAI FLAT
COUNTIES	WASHOE, HUMBOLDT, PERSHING
MAJOR COMMUNITIES	GERLACH
DESIGNATED BASIN	YES
DENIALS BASED UPON WATER AVAILABILITY	1782 , IRR DENIED, 4/22/1971 2313 , IRR DENIED, 2/12/1978
ESTIMATED IRRIGATION PUMPAGE, 2012 (ACRE-FT)	3,676

STATE ENGINEER'S ORDERS

[NO. 1172 - DESIGNATION OF BASIN, IRR DENIED](#)

AUGUST 29, 2003

COMMITTED GROUNDWATER RESOURCE FOR IRRIGATION PURPOSES: 25,546 ACRE-FEET
DATE: FEBRUARY, 2013

NOTE: Committed groundwater resource data are accurate for February 2013. 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. Be advised this report acknowledges that other manner of uses may be present in the basin; however, only those groundwater rights associated with irrigation purposes are represented in this report.

* Acreage represented in this report may have surface water rights appurtenant. This report acknowledges those acres with surface water rights but is not intended to quantify, nor present any definitive use of those surface water rights. The data represent only the pumping of groundwater and the acreage to which it is applied.

PURPOSE AND SCOPE

The purpose of this report is to inventory all of the groundwater resources allocated to irrigation and described by the Office of the State Engineer, Nevada Division of Water Resources, and to estimate the amount of groundwater pumped for irrigation purposes within the Hualapai Flat Hydrographic Basin 2-024, for the year 2012.

DESCRIPTION OF THE STUDY AREA

Hualapai Flat (2-024) is located in northwest Nevada, approximately 100 miles north-northeast of Reno, and 20 miles north of Gerlach (Figure 1). The basin occupies approximately 315 square miles and lies mostly in northern Washoe County; the eastern one third of the basin lies in Pershing and Humboldt Counties. Route 34 traverses north-south through the center of the basin and provides good access to much of the area under irrigation. The adjacent hydrographic areas, beginning at the north and moving clockwise, are: High Rock Lake Valley (02-025), Mud Meadow (02-026), Black Rock Desert (02-028), Granite Basin (02-023), Smoke Creek Desert (02-022), and Duck Lake Valley (02-016) (Figure 1). The exterior boundary of the Hualapai Flat Hydrographic Basin is as described by Designation Order O-1172 issued by the Nevada State Engineer dated August 29, 2003.

Hualapai Flat is bounded on the southwest and west by the Granite Range, and on the northeast by the Calico Mountains. On the southeast side, a low northward-trending ridge separates Hualapai Flat from the Black Rock Desert to the east. The highest points in the Granite Range are Granite Peak (9,056 ft) and Fox Mountain (8,222 ft); Division Peak (8,491 ft) is the highest point in the Calico Mountains. The lowest elevations are at the south end of the valley floor which lies at 4,000 ft, and approximately 50 square miles of the basin is relatively flat valley lowland. Current crop irrigation from underground pumpage is limited to an area of approximately 8-10 square miles near the east center of the basin where it is accomplished by wheel line method, with the majority of the crop being alfalfa (Figure 2); elevations in this area average 4050 ft. The basin is considered arid with an average annual precipitation of 10.1 inches (USGS, 2005). The area is off the power grid, and due in part to reliance on diesel power generators, crop irrigation and pumpage has diminished significantly since 2006 because of higher diesel prices.

FIGURE 1: LOCATION MAP OF HUALAPAI FLAT, BASIN 2-024

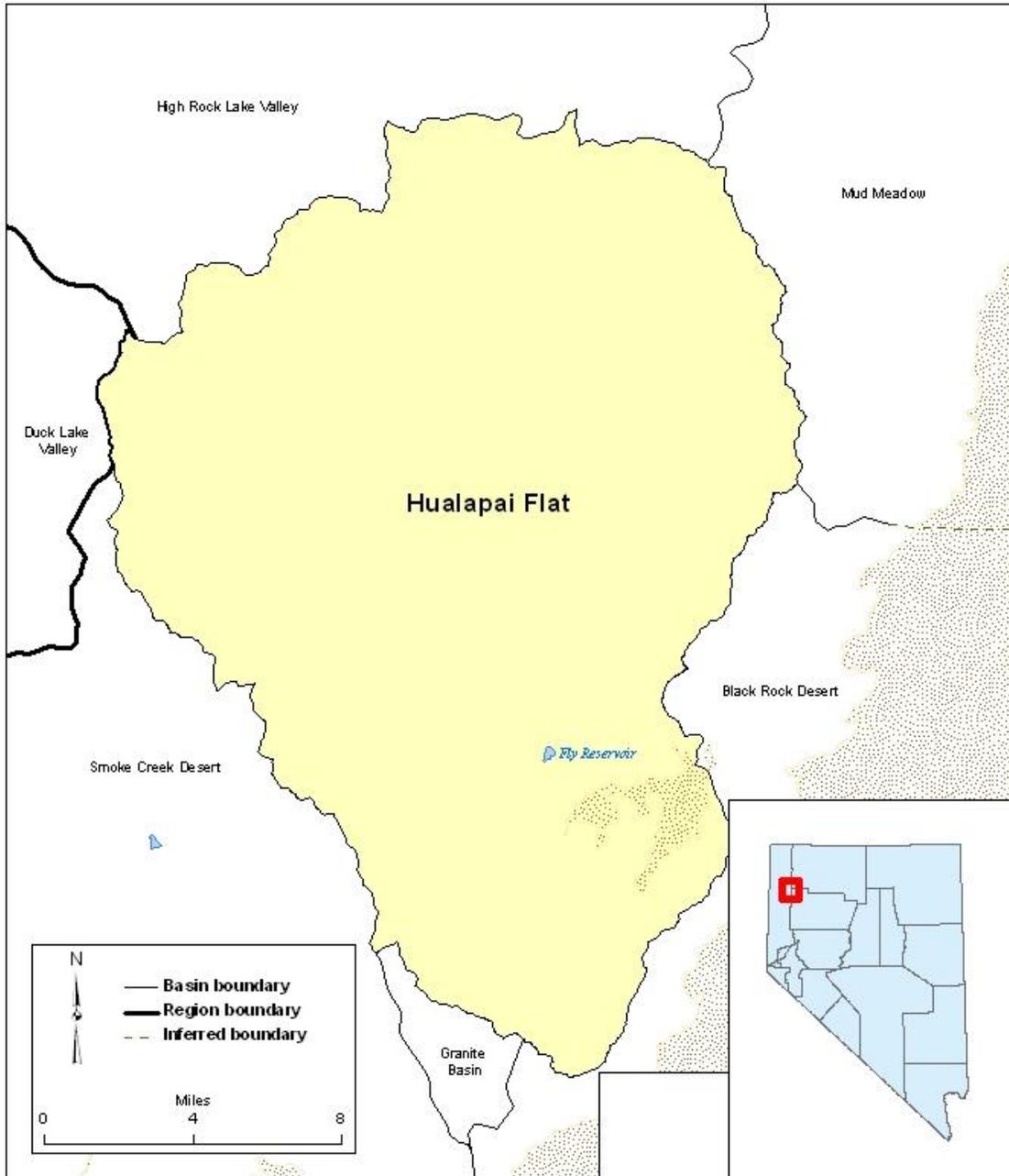
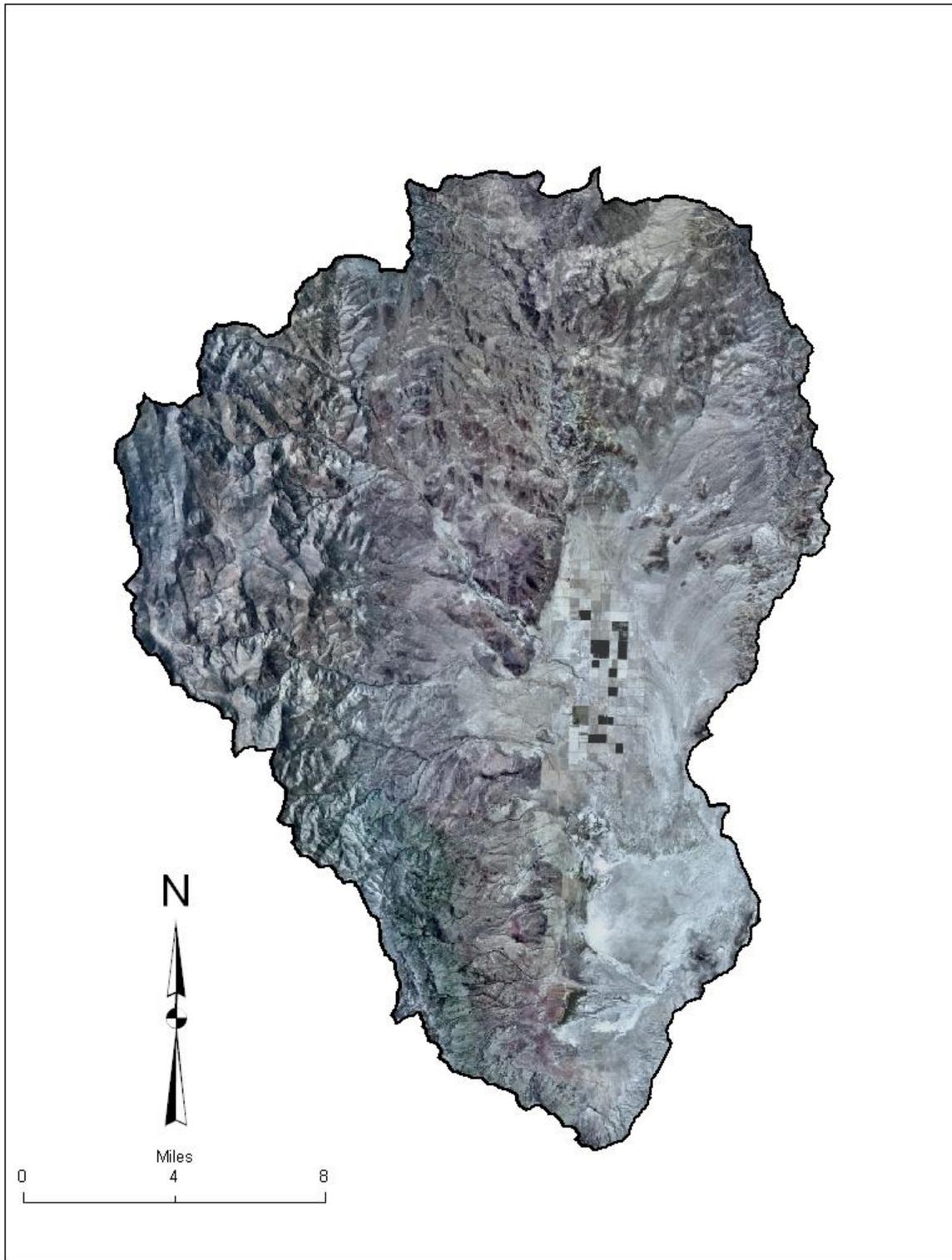


FIGURE 2: MAP OF HUALAPAI FLAT VALLEY IRRIGATED ACREAGE



NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP) 2010

METHODS TO ESTIMATE IRRIGATED ACREAGE

This report estimates the number of acres irrigated by the groundwater pumped under permits and certificates issued by the State Engineer. The following methods were used to arrive at the estimated acreage:

- Field inspection of the place of use was conducted to estimate the number of acres under cultivation.
- In cases where field inspection of the place of use is not practical, aerial and/or satellite imagery are analyzed to determine acreages.

METHODS TO ESTIMATE PUMPAGE

This report estimates the amount of groundwater pumped under permits and certificates issued by the State Engineer. The following methods were used to arrive at the estimated use:

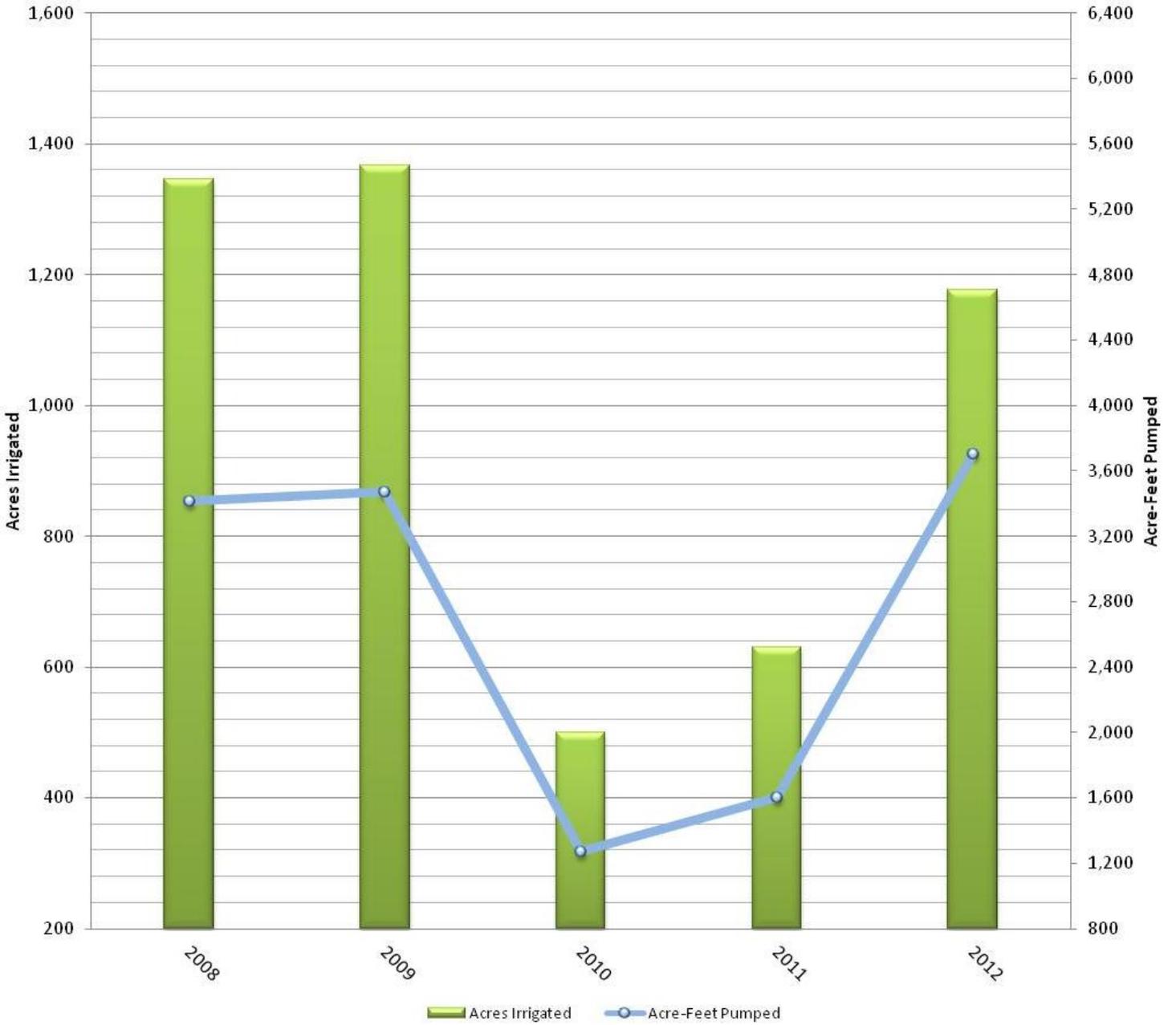
- Where totalizing meters were in place, meter readings were taken and compared with previous data (if available).
- Where meters were not in place, the place of use was inspected to estimate the amount of acreage under cultivation. The number of acres under cultivation was then multiplied by certificated or permitted duty rate associated with that acreage.
- If there were no acres under cultivation, zero pumpage was recorded.

APPENDIX A

HUALAPAI FLAT HISTORICAL CROP INVENTORY

HISTORICAL CROP INVENTORY

Year	2008	2009	2010	2011	2012
Acres Irrigated	1,345	1,367	500	631	1,176
Acre-Feet Pumped	3,415	3,471	1,270	1,603	3,702



APPENDIX B

2012 HUALAPAI FLAT CROP INVENTORY

EXPLANATION OF COLUMN HEADINGS

BASIN	The hydrographic basin in which the water right resides.
APP	The file number of the Application to Appropriate/Change Water or the Claim of Vested of Right.
CERT	The certificate number that was issued under the Application to Appropriate/Change Water.
FILE DATE	The date when the Application to Appropriate/Change Water or the Claim of Vested Right was filed in the Office of the State Engineer.
SOURCE	States the source of water: underground (UG), stream (STR), or spring (SPR).
STATUS	Indicates the status of an application: Permit (PER), Certificated, or a Claim of Vested Right (VST).
QTR	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.
TWN	The Township in which the point of diversion is located.
RNG	The Range in which the point of diversion is located.
SUP	Indicates whether the groundwater right is part of a group of groundwater rights used to irrigate all or a portion of the same acreage (supplemental). A “Y” in this column signifies the groundwater right is supplemental.
SUP PERMIT NO.	The application number(s) of the water right(s) that are supplemental.
PERMITTED ACRES	The number of acres defined by the permit or certificate that are eligible to be irrigated.
DUTY	The amount of water that may be pumped in a given year, or season, as defined by the permit, certificate, or claim of vested right. If there is a supplemental group, the total combined duty may be listed at the end of the supplemental group in bold .
UNITS	The units associated with the duty, expressed as acre-feet annually (AFA) or acre-feet per season (AFS).
COUNTY	The County in which the point of diversion is located.

OWNER OF RECORD	The owner of the water right as recorded in the records of the State Engineer. A water right may have more than one owner of record. Only the first, alphabetically, is listed in this table.
CROP Y/N	Indicates whether or not a crop was in production during the water year. A “Y” in this column signifies a crop was in production while a “N” signifies no crop was in production.
TYPE	The common name description of the plants under cultivation (e.g. alfalfa).
IRR	The method by which the water is applied to the crop and ground (e.g. pivot).
IRR ACRES	The estimate of the number of acres irrigated associated with a particular water right.
DUTY USED/ PUMPAGE	The estimate of the amount of water pumped under a particular water right, expressed in acre-feet. One acre-foot equals 325,851 gallons.

Hualapai Flat Basin 24 Crop Inventory 2012

Basin	App	Cert	File Date	Status	Source	Qtr	Qtr	Section	Twn	Rng	Sup	Acres	Duty	Units	County	Owner of Record	Crop	Type	Irrigation	Irr Acre	A/F Pumped
24	18401	7426	10/30/59	CER	UG	NW	NE	31	35N	24E	Y	475.23	1,900.92	AFA	PE	JACKSON Family Supplemental to S. Willow Creek (Per.#20380)	N				
24	18951	6020	6/20/60	CER	UG	SE	NE	23	35N	23E		320.00	1,280.00	AFA	WA	Sonterra Development Co. LLC	Y	Alfalfa	wheel lines	80	259.17
24	18725	6555	4/15/60	CER	UG	SW	NE	25	35N	23E		159.30	637.20	AFA	WA	JACKSON Family Limited partnership	N	Cattle	Stockwater		3.00
24	66600	16354	7/20/00	CER	UG	NE	SE	1	35N	23E	Y	438.20	1,262.32	AFA	WA	Blackstone Realty Invest. LLC	Y				215.63
24	68977		7/22/02	PER	UG	NE	SE	1	35N	23E		0.00	496.00	AFA	WA	Blackstone Realty Invest. LLC					
24	66601		7/20/00	PER	UG		LT06	1	35N	23E	Y	0.00	1,232.00	AFA	WA	HIGH ROCK HOLDING LLC	N				0.00
24	66598		7/20/00	PER	UG		LT06	1	35N	23E	Y	0.00	352.16	AFA	WA	Blackstone Realty Invest. LLC					
24	23494	6569	11/14/66	CER	UG	NW	NE	11	35N	23E	Y	320.00	1,280.00	AFA	WA	Blackstone Realty Invest. LLC	Y	Alfalfa	wheel lines	50	174.33
24	24645	7115	8/19/68	CER	UG	NE	NW	12	35N	23E	Y	319.00	636.00	AFA	WA	Blackstone Realty Invest. LLC	Y				0.28
24	66597	16353	7/20/00	CER	UG	NW	NW	12	35N	23E	Y	438.20	978.24	AFA	WA	Blackstone Realty Invest. LLC	Y	Grain	wheel lines	80	181.13
24	25599	7632	5/8/70	CER	UG	SW	SE	12	35N	23E	Y	305.00	1,220.00	AFA	WA	Blackstone Realty Invest. LLC	Y	Alfalfa	wheel lines	120	418.93
24	23168	6820	6/7/66	CER	UG	SE	NE	13	35N	23E		320.00	1,280.00	AFA	WA	Blackstone Realty Invest. LLC	N				0.00
24	62249	15500	6/21/96	CER	UG	SW	NW	13	35N	23E		300.00	1,200.00	AFA	WA	HIGH ROCK HOLDING LLC	Y	Alfalfa Grain	Wheel lines Wheel lines	40 80	132.00 224.00
24	18763	6612	4/27/60	CER	UG	NW	SE	13	35N	23E		310.90	1,243.60	AFA	WA	Blackstone Realty Invest. LLC	N				0.00
	19579	7179	2/20/61	CER	UG	NW	SE	13	35N	23E		310.90	1,242.80	AFA	WA	Blackstone Realty Invest. LLC					
24	66800		8/31/00	PER	UG	SW	SE	24	35N	23E	Y	0.00	1,252.00	AFA	WA	Blackstone Realty Invest. LLC	N				0.00
24	66802		8/31/00	PER	UG	SW	SE	24	35N	23E						Blackstone Realty Invest. LLC					
24	66707		8/14/00	PER	UG	NW	NE	24	35N	23E	Y	0.00	1,447.94	AFA	WA	Blackstone Realty Invest. LLC	Y	Alfalfa	wheel lines	60	196.92
24	66705		8/14/00	PER	UG	NW	NE	24	35N	23E	Y	0.00	248.00	AFA	WA	Blackstone Realty Invest. LLC					
24	66805		8/31/00	PER	UG	NW	NW	25	35N	23E	Y	0.00	635.20	AFA	WA	Blackstone Realty Invest. LLC	Y	Alfalfa	wheel lines	80	276.22
24	66801		8/31/00	PER	UG	NW	NW	25	35N	23E	Y	0.00	626.00	AFA	WA	Blackstone Realty Invest. LLC					
24	22659	6298	6/21/65	CER	UG	NW	NE	26	35N	23E		320.00	1,280.00	AFA	WA	Sonterra Development Co. LLC	Y	Alfalfa	wheel lines	140	560.51
24	22658	6297	6/21/65	CER	UG	NE	SE	26	35N	23E		158.00	632.00	AFA	WA	Sonterra Development Co. LLC	Y	Alfalfa	wheel lines	140	392.79

Hualapai Flat Basin 24 Crop Inventory 2012

Basin	App	Cert	File Date	Status	Source	Qtr	Qtr	Section	Twn	Rng	Sup	Acres	Duty	Units	County	Owner of Record	Crop	Type	Irrigation	Irr Acre	A/F Pumped
24	68978		7/22/02	PER	UG	NW	SW	7	35N	24E		0.00	596.00	AFA	PE	Blackstone Realty Invest. LLC	Y	Alfalfa	wheel lines	110	379.76
24	71875		11/12/04	PER	UG	NW	SW	7	35N	24E		0.00	1,280.00	AFA	PE	Blackstone Realty Invest. LLC		Grain	wheel lines	76	
24	71876		11/12/04	PER	UG	NW	SW	7	35N	24E		0.00	1,220.00	AFA	PE	Blackstone Realty Invest. LLC					
24	62245	15294	6/21/96	CER	UG	NW	SW	7	35N	24E	Y	156.00	624.00	AFA	PE	Blackstone Realty Invest. LLC					
24	65190	16349	6/9/99	CER	UG	NW	SW	7	35N	24E	Y	160.00	640.00	AFA	PE	Blackstone Realty Invest. LLC					
24	66594	16350	7/20/00	CER	UG	NW	SW	7	35N	24E	Y	300.00	159.14	AFA	PE	Blackstone Realty Invest. LLC					
24	66595	16351	7/20/00	CER	UG	NW	SW	7	35N	24E	Y	71.44	285.76	AFA	PE	HIGH ROCK HOLDING LLC					
24	66596	16352	7/20/00	CER	UG	NW	SW	7	35N	24E	Y	38.03	152.12	AFA	PE	Blackstone Realty Invest. LLC					
24	41118	10775	4/17/80	CER	UG	SW	SW	8	35N	24E		199.22	637.66	AFA	PE	HIGH ROCK HOLDING LLC	N				0.00
24	66704		8/14/00	PER	UG	NW	NW	19	35N	24E	Y	0.00	640.00	AFA	PE	Blackstone Realty Invest. LLC	Y	Grain	wheel lines	40	112.00
24	66706		8/14/00	PER	UG	NW	NW	19	35N	24E	Y	0.00	1,852.00	AFA	PE	Blackstone Realty Invest. LLC					
24	74405		6/21/06	RFA	UG	SE	SW	19	35N	24E		0.00	1,100.00	AFA	PE	Blackstone Realty Invest. LLC	Y	Grain	wheel lines	80	149.85
24	66803		8/31/00	PER	UG	SE	SW	19	35N	24E	Y	0.00	634.40	AFA	PE	Blackstone Realty Invest. LLC					
24	66804		8/31/00	PER	UG	NW	NW	30	35N	24E	Y	0.00	1,112.40	AFA	PE	Blackstone Realty Invest. LLC	N				0.00
24	23235	9364	7/8/66	CER	UG	SE	SW	28	36N	23E	Y	162.31	427.14	AFA	WA	HIGH ROCK HOLDING LLC	N				0.00
24	38910	9501	9/4/79	CER	UG	NW	NE	33	36N	23E	Y	162.31	550.22	AFA	WA	HIGH ROCK HOLDING LLC	N				0.00
24	66599		7/20/00	PER	UG	NE	NW	36	36N	23E	Y	0.00	699.91	AFA	WA	Blackstone Realty Invest. LLC	N				0.00
24	66602		7/20/00	PER	UG	SE	SW	36	36N	23E	Y	0.00	755.20	AFA	WA	Blackstone Realty Invest. LLC	Y				0.00
24	74404		6/21/06	PER	UG	SE	SW	36	36N	23E	Y	0.00	534.88	AFA	WA	Blackstone Realty Invest. LLC					

Total Acres Irrigated = 1,176.00
Total Acre Feet Pumped = 3,676.52