

**STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES**

**DIVISION OF WATER RESOURCES**

**JASON KING, P.E.  
STATE ENGINEER**



**QUINN RIVER VALLEY - MCDERMITT SUBAREA  
HYDROGRAPHIC BASIN 2-033B**

**CROP INVENTORY**

**2013**

By:  
Shannon McDaniel  
Steve DelSoldato

## Table of Contents

	Page
<b>ABSTRACT</b> .....	<b>1</b>
<b>HYDROGRAPHIC BASIN SUMMARY</b> .....	<b>2</b>
<b>PURPOSE AND SCOPE</b> .....	<b>3</b>
<b>DESCRIPTION OF THE STUDY AREA</b> .....	<b>3</b>
<b>GROUNDWATER LEVELS</b> .....	<b>3</b>
<b>METHODS TO ESTIMATE IRRIGATED ACREAGE</b> .....	<b>3</b>
<b>METHODS TO ESTIMATE PUMPAGE</b> .....	<b>4</b>
<b>TABLES</b> .....	<b>5</b>
<b>FIGURES</b> .....	<b>6</b>
<b>APPENDIX A. 2013 QUINN RIVER VALLEY (MCDERMITT SUBAREA) CROP INVENTORY.</b> .....	<b>9</b>

## List of Tables

	Page
Table 1. Historical pumpage and irrigated acreage data for Quinn-River Valley – McDermitt Subarea. Note that these data are modified from previously published data.....	5

## List of Figures

	Page
Figure 1. Physiographic map of Quinn River - McDermitt Subarea. ....	6
Figure 2. Quinn River – McDermitt Subarea irrigated acreage and water level measurement sites. Base image is 2013 National Agriculture Imagery Program. ....	7
Figure 3. Graph showing Quinn River – McDermitt Subarea historical irrigated acreage and pumpage. Note: Historical pumpage data modified from previously published data.....	8

## ABSTRACT

This inventory represents the status and usage of all permitted and certificated groundwater rights for irrigation purposes located within Quinn River Valley - McDermitt Subarea, Hydrographic Basin 2-033B, for the year 2013. **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 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 continuing basis.

For the year 2013, the permitted and certificated groundwater rights for irrigation purposes totaled **1,615 acres** with a total duty of 6,332 acre-feet within Quinn River Valley - McDermitt Subarea. An estimated **732 acres** were irrigated and 2,928 acre-feet were pumped during 2013.

## HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER	033B, REGION 2
HYDROGRAPHIC BASIN NAME	QUINN RIVER VALLEY – MCDERMITT SUBAREA
COUNTIES	HUMBOLDT
MAJOR COMMUNITIES	MCDERMITT
DESIGNATED BASIN	PARTIALLY
DENIALS BASED UPON WATER AVAILABILITY	IRR
ESTIMATED IRRIGATION PUMPAGE 2013 (ACRE-FEET)	2,928*
STATE ENGINEER’S ORDERS	
<a href="#"><u>NO. 285 – DESIGNATION (PORTION) OF BASIN</u></a>	April 28, 1965
COMMITTED GROUNDWATER RESOURCE FOR IRRIGATION PURPOSES: 6,332 ACRE-FEET DATE: JANUARY 2014	

NOTE: Committed groundwater resource data are accurate for January 2014. 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 manners of use 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 Quinn River Valley - McDermitt Subarea Hydrographic Basin (2-033B) for the year 2013.

## DESCRIPTION OF THE STUDY AREA

The Quinn River Valley - McDermitt Subarea Hydrographic Basin is located in north central Nevada (Figure 1), occupying approximately 592 square miles in Humboldt County. The adjacent hydrographic basins are Little Owyhee River Area (3-034) to the east, Little Humboldt Valley (4-067) and Hardscrabble Area (4-068) to the south and east, Paradise Valley (4-069) and Quinn River Valley – Orovida Subarea (2-033A) to the south and Kings River Valley – Rio King Subarea (2-030A) to the west.

Quinn River Valley - McDermitt Subarea is bounded to the north by the State of Oregon and the Oregon Canyon Mountains, to the east by the Santa Rosa Range, to the south by Long Canyon and Jordan Meadow Mountain, and to the west by The Granites and the Montana Mountains. The valley is approximately 43 miles wide by 23 miles long with basin elevations ranging from approximately 4,100 feet above mean sea level on the valley floor to approximately 9,800 feet in the surrounding mountains. Irrigation occurs primarily in the southern part of the basin (Figure 2).

## GROUNDWATER LEVELS

Depths to groundwater in Quinn River Valley - McDermitt Subarea are measured by NDWR on an annual basis. Sites at which water level measurements are made by or reported to NDWR include:

[033B N45 E37 14ADAC1](#)    [033B N45 E38 07CDCC1](#)    [033B N46 E38 09DDDC1](#)  
[033B N46 E38 21CCBB1](#)    [033B N46 E38 31CBBC1](#)    [033B N47 E37 16DBAC1](#)  
[033B N47 E37 24BAAA1](#)    [033B N47 E37 24BABB2](#)    [033B N47 E37 24BACB2](#)  
[033B N47 E38 05AACD1](#)    [033B N47 E38 17DAAA1](#)

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

## 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. Table 1 and Figure 3 present the current and historic irrigated acreage and pumpage; Appendix A presents estimates detailed by certificate, permit, or vested claim number. 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 was not practical, aerial and/or satellite imagery were 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.

## TABLES

Table 1. Historical pumpage and irrigated acreage data for Quinn-River Valley – McDermitt Subarea. Note that these data are modified from previously published data.

Year	2009	2010	2011	2012	2013
Acres Irrigated	698	671	631	732	732
Acre-Feet Pumped	2,793	2,684	2,524	2,916	2,928

## FIGURES

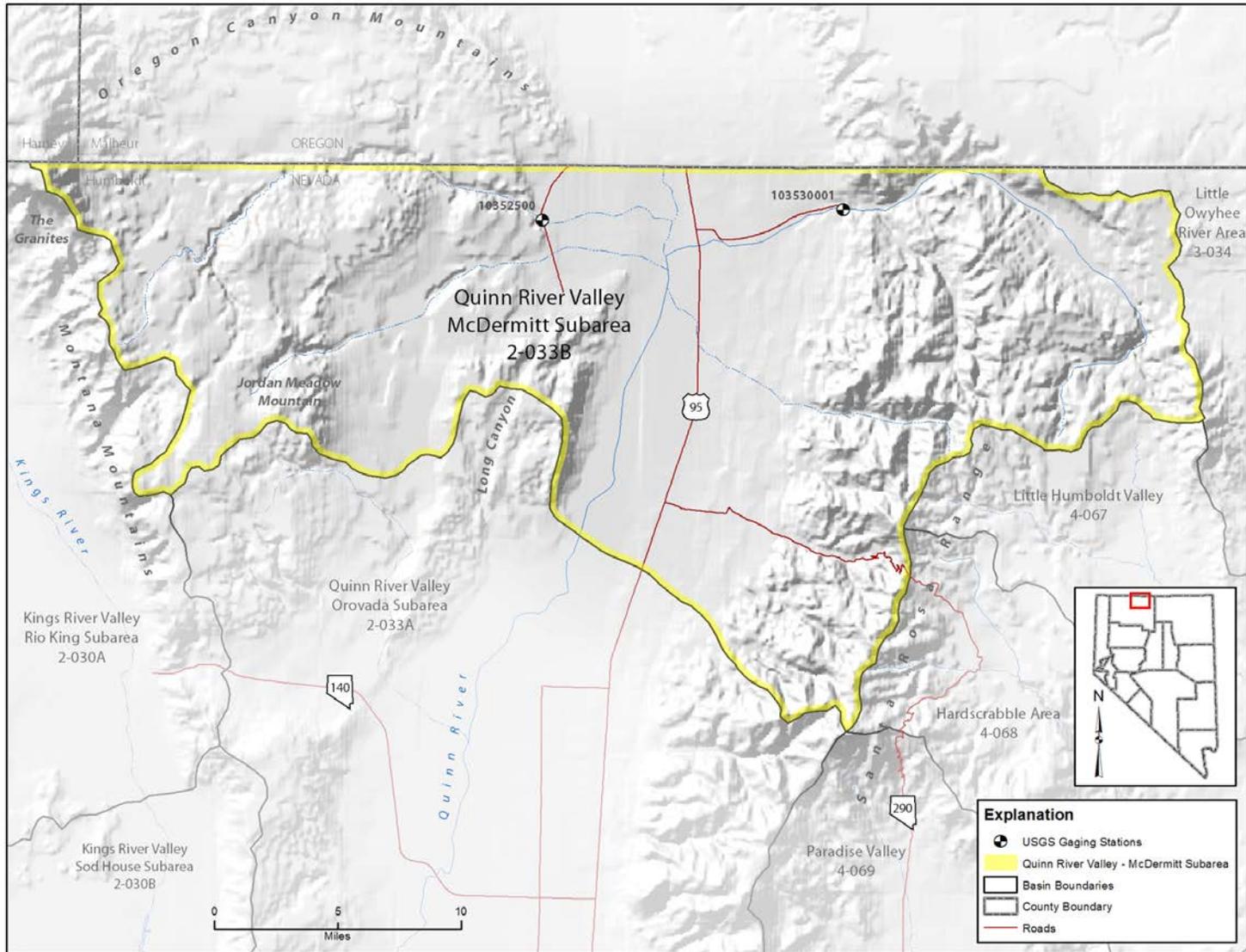


Figure 1. Physiographic map of Quinn River - McDermitt Subarea.

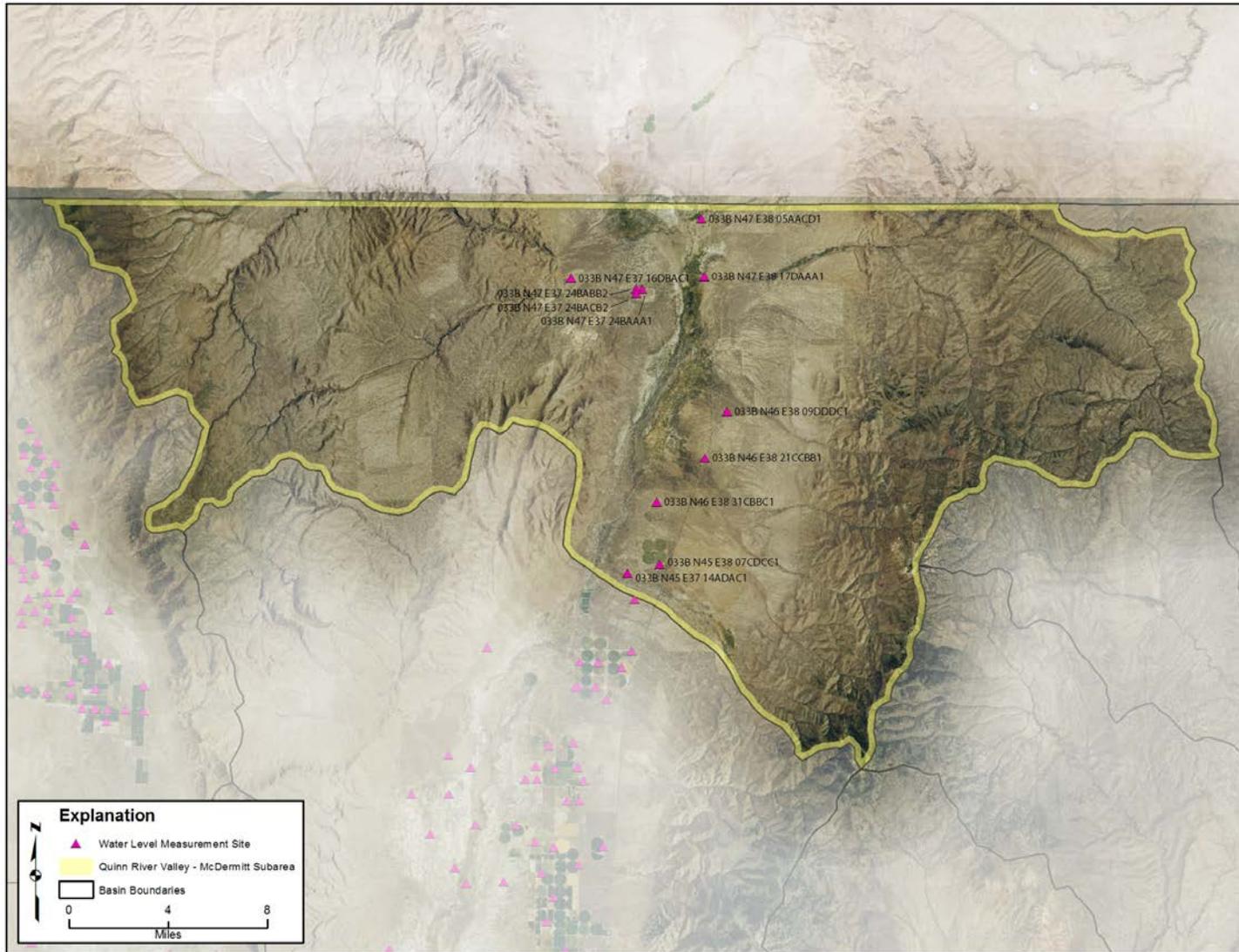


Figure 2. Quinn River – McDermitt Subarea irrigated acreage and water level measurement sites. Base image is 2013 National Agriculture Imagery Program.

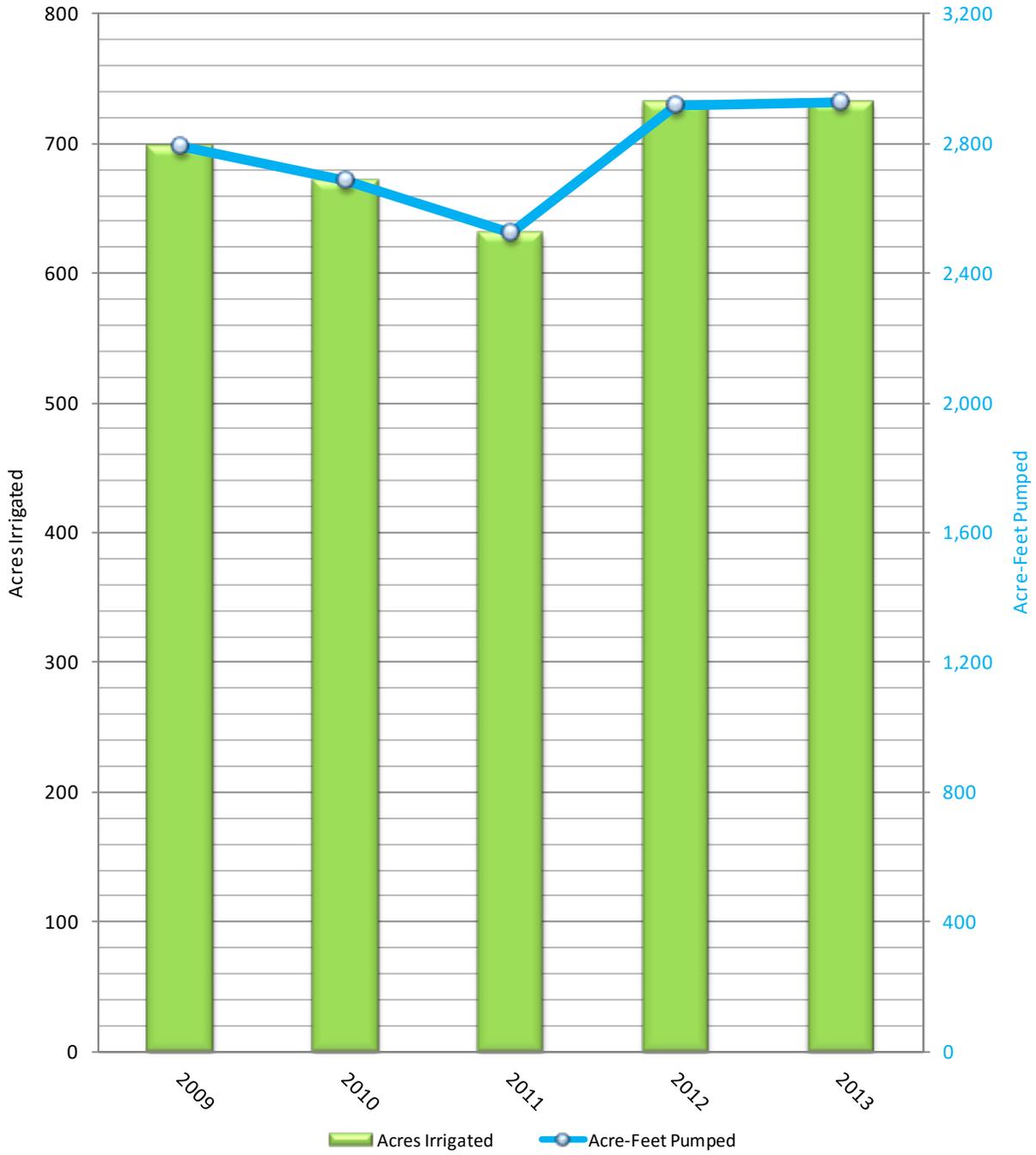


Figure 3. Graph showing Quinn River – McDermitt Subarea historical irrigated acreage and pumpage. Note: Historical pumpage data modified from previously published data.

**APPENDIX A. 2013 QUINN RIVER VALLEY (MCDERMITT SUBAREA) CROP  
INVENTORY.**

## EXPLANATION OF COLUMN HEADINGS

App No	The file number of the Application to Appropriate/Change Water
Status	Indicates the status of an application: Permit (PER), Certificated, or a Claim of Vested Right (VST). If an application has been certificated, the Certificate number will be listed in the column.
QQ	The quarter quarter of the Section in which the point of diversion is located.
Q	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.
Supplemental Application Number	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.
Permitted Duty Acre-Feet	The amount of water that may be pumped in a given year, or season, expressed in acre-feet as defined by the permit or certificate.
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 Type	The common name description of the plants under cultivation (e.g. alfalfa).
Irrigation Method	The method by which the water is applied to the crop and ground (e.g. pivot).
Irrigated Acres	The number of irrigated acres associated with a particular water right.

Acreage Estimation Method	The method by which the number of acres irrigated was determined. F - Field inspection. I - Aerial or satellite imagery.
Acre-Feet Pumped	The estimate of the amount of water pumped under a particular water right, expressed in acre-feet. One acre-foot equals 325,851 gallons.
Pumpage Estimation Method	The method used to estimate the amount of water pumped. M - Totalizing meter readings. D - The estimate was made by multiplying the number of irrigated acres by the acre-foot per acre duty rate, as defined in the permit of certificate.
Remarks	Description of circumstances pertaining to the well, the acreage, or the use of the water that are not accommodated by the other fields in the table.

**Crop Inventory and Groundwater Pumpage for Irrigation - Quinn River McDermitt Subarea - Basin 033B, 2013**

App No	Status	QQ	Q	Sec	Twn	Rng	Sup	Supplemental	Supplementally	Permitted	Supplementally	Owner of Record	Crop Type	Irrigation Method	Irrigated Acres	Acreage	Acre-Feet	Pumpage	
								Application Number	Permitted Acres	Adjusted Permitted Acres	Duty Acre-Feet					Adjusted Duty Acre-Feet	Estimation Method	Pumped	Estimation Method
58518	PER	NW	SE	16	47N	37E	Y		170.55	170.55	667.51	667.51	MAHER, STEVE AND AMORITA	Pasture	Flood	15.00	I	60.00	D
23449	CER	NW	SE	20	47N	37E			11.66	11.66	46.64	46.64	MENTABERRY BROTHERS	None					
30944	CER	NE	NW	24	47N	37E	Y	30945	89.21	89.21	356.84	356.84	MENTABERRY, JOHN	None					
30945	CER	NE	NW	24	47N	37E	Y	30944	89.21		356.84		MENTABERRY, JOHN	None					
46821	CER	NE	NW	24	47N	37E			24.00	24.00	96.00	96.00	MENTABERRY, JOHN	None					
25089	CER	NE	NW	24	47N	37E	Y	18724	59.55	153.12	238.19	612.48	MENTABERRY, JOHN	None					
18724	CER	NE	NW	24	47N	37E	Y	25089	153.12		612.48		MENTABERRY, JOHN	None					
15673	CER	NE	NE	5	47N	38E			97.72	97.72	390.88	390.88	ALBISU, JOHN A. & ROSIE	Pasture	Flood	81.00	I	324.00	D
13605	CER	NE	SE	17	47N	38E	Y		215.97	215.97	863.90	863.90	NOUQUE FAMILY TRUST	Pasture	Flood	70.00	I	280.00	D
17650	CER	SE	SW	7	45N	38E	Y	17615, 28816	284.40	588.68	1,087.50	2,354.70	BRINKERHOFF, DENNIS	Alfalfa	Pivot	134.00	I	536.00	D
													BRINKERHOFF, DENNIS	Alfalfa	Pivot	134.00	I	536.00	D
28816	CER	SE	SW	7	45N	38E	Y	17615, 17650	586.46		2,345.84		BRINKERHOFF, DENNIS	Alfalfa	Pivot	134.00	I	536.00	D
													BRINKERHOFF, DENNIS	Alfalfa	Pivot	10.00	I	40.00	D
17615	CER	SE	SE	12	45N	37E	Y	17650, 28816	316.80		1,267.20		BRINKERHOFF, DENNIS	Alfalfa	Pivot	134.00	I	536.00	D
													BRINKERHOFF, DENNIS	Alfalfa	Pivot	20.00	I	80.00	D
17172	CER	NE	NE	34	45N	37N			264.22	264.22	942.90	942.90	WOODWARD, ALFRED ET UX						

**Total Supplementally Adjusted Permitted/Certificated Acreage** 1,615.13  
**Total Supplementally Adjusted Permitted/Certificated Pumpage** 6,331.85

**Total Estimated Acreage** 732.00  
**Total Estimated Pumpage** 2,928.00