

G. Subdivision Via Subsequent Or Contiguous Parcel Map(s): In order to prevent evasion or circumvention of Nevada Revised Statutes 278.320 through 278.460, inclusive, the following shall apply to subsequent or contiguous parcel maps:

1. Disapproval Of Applications: In order to protect the public health, safety and welfare; and in order to ensure proper consideration of school district needs, water quality and quantity, disposal of sewage, street alignment and construction, utility needs, proper consideration of available public facilities and services including fire protection and emergency responders, and other needs; submittal of parcel map applications seriatim, or one after another, or covering properties that are contiguous, by any party or parties; and when it is apparent to the Planning Commission that the purpose is to create more than four (4) parcels and avoid the subdivision requirements, the Planning Commission shall find that any such activity is in fact subdividing and shall disapprove all such applications.
2. Exception: Where the sole purpose of a new parcel map application is to provide for the public needs of the community (e.g., Nye County, Town of Pahrump, Nye County School District, Pahrump Community Hospital District, other nonprofit organizations serving the community, etc.) subsection G1 of this section shall not apply.

H. Form And Content Of A Parcel Map: A parcel map, at the time application is first made pursuant to this chapter, shall be in essentially the same form, and contain the same information as required pursuant to Nevada Revised Statutes 278.466.

1. Additional Requirements:

a. Water Rights: All water within the boundaries of the State of Nevada, whether above or beneath the surface of the ground, belongs to the public, and is subject to appropriation for beneficial use under the laws of the State.

b. For Parcel Maps Located Outside Of A Water Service District:

(1) Because of concerns over water in the Pahrump Regional Planning District, certificated water rights in the amount of three (3) acre-feet for each additional parcel created, regardless of the type of zoning or the size of the parcels created, excluding the existing parcel, shall be relinquished to the Nevada State Engineer's Office, Division of Water Resources. The one acre-foot is a surcharge, and only two (2) acre-feet of the three (3) acre-feet relinquished may be used for a domestic well or "small commercial use" (equal to or less than 2 acre-feet) if permitted by the State Engineer. For example, a twenty (20) acre parcel divided into four (4) parcels would require nine (9) acre-feet of water rights, which is calculated as follows: Three (3) additional parcels x three (3) acre-feet per additional parcel = total of nine (9) acre-feet of water rights. The costs associated with water rights transfers shall be borne by the applicant. Because of the costs involved with water rights transfers, this requirement shall be made a condition of approval of a parcel map.

c. For Parcel Maps Located Within A Water Service District:

(1) When a proposed parcel map is located within the boundaries of a water service district and it is the intent of the service district to provide water service, water rights shall be transferred to the district in an amount to be determined by such district. When the water service district does not intend to provide service to the new parcels, certificated or permitted water rights in the amount of three (3) acre-feet for each additional parcel created, regardless of the type of zoning on the property and regardless of the size of the parcels created, excluding the existing parcel, shall be relinquished to the Nevada State Engineer's Office, Division of Water Resources. The one acre-foot is a surcharge, and only two (2) acre-feet of the three (3) acre-feet relinquished may be used for a domestic well or "small commercial use" (equal to or less than 2 acre-feet) if permitted by the State Engineer. For example, a twenty (20) acre parcel divided into four (4) parcels would require nine (9) acre-feet of water rights, which is calculated as follows: Three (3) additional parcels x three (3) acre-feet per additional parcel = total of nine (9) acre-feet of water rights. The costs associated with water rights transfers shall be borne by the applicant. Because of the costs involved with water rights transfers, this requirement shall be made a condition of approval of a parcel map.

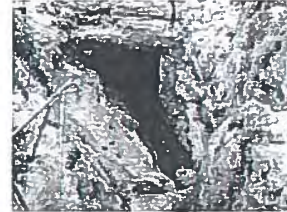
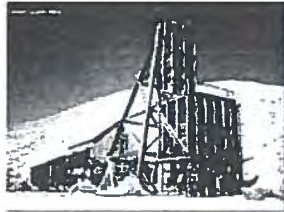
I. Parcel Size Requirements:

1. Outside Of Utility Service Area: An application for a parcel map located outside of a utility service area on a parcel of land zoned for single-family residential use, shall not be submitted for processing if the existing parcel is less than ten (10) gross acres in size.
2. Minimum Required Size Of New Parcels For Residential Properties: For parcels of land zoned for single-family residential use, no new parcels smaller than five (5) gross acres in size shall be created through the parcel map application process. (Ord. 520, 2017)

EXHIBIT 5

EXHIBIT 5

NYE COUNTY WATER RESOURCES PLAN



Department of Natural Resources
and Federal Facilities

AUGUST 2004



Prepared for Nye County by:

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89004

NYE COUNTY WATER RESOURCES PLAN

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APPENDICES

APPENDIX A - Public Comments and Questions from Water Planning Workshops

CHAPTER 1. OVERVIEW, GOALS, AND GUIDELINES

The Nye County Water Resources Plan is designed as a tool to help guide the development, management, and use of the County's water resources. The plan sets forth the goals and guidelines for planning, defines the water resources and issues related to those resources, and provides specific alternatives and recommendations for the long-term (50-year) management of those resources. This plan was developed in cooperation with the Nevada Division of Water Planning and the Nevada Division of Water Resources.

Introduction

In this chapter, the goals and objectives of the plan are presented along with the principles that guided its development. The legal and regulatory framework under which water resource development and use are governed a history, of the process that was used in developing the plan, and the relationship between this plan and other planning documents are also summarized. Subsequent chapters detail the socioeconomics, demographics and water resources of Nye County; the issues associated with the development and use of those resources; and specific plans and management practices aimed at addressing those issues.

Statement of Purpose and Goals

Underlying Philosophy - Nye County's water resources are its most precious natural resource and are basic to all efforts to preserve the environment and resident lifestyles, and to meet the needs of area citizens by providing for their economic well-being and improving their quality of life.

Goals and Objectives - The Nye County Water Resources Plan has been prepared to ensure that adequate supplies of water remain available in Nye County to maintain and enhance the quality of the environment; to improve the quality of life for residents and visitors to the County; and to expand and diversify the economy of the County. The implementation of this plan is in the best interest of the County and the State of Nevada and provides the framework for cooperative management of those resources.

By meeting the following objectives, these goals will be achieved:

- 1) Define the existing surface and ground water resources of the County
- 2) Identify existing water uses in the County
- 3) Identify forecasted growth and future water demands for the period 2000 to 2050
- 4) Identify water supply issues and management practices
- 5) Establish short and long-term strategies for the use of water resources in the County to benefit its environment and its citizens

In addressing these objectives, this plan has adopted many of the principles used to guide the 1999 Draft Nevada State Water Plan. The guiding principles that were adopted in the development of this plan are listed in Table 1.

Table 1. Guiding Principles for the Development of the Nye County Water Resources Plan

1. All of the water resources of Nye County, whether above or below ground, belong to the public.
2. The water resources needs of future generations of Nye County residents must be protected with a balanced approach that provides for the County's economic goals without detriment to the social, aesthetic, cultural, and ecological values of the County while addressing the needs of the State of Nevada as well.
3. The appropriation and beneficial use of Nye County's water resources are administered by the Nevada State Engineer in accordance with the requirements of Nevada Water Law, and by state and federal court decrees and regulations.
4. Public education and public input are vital aspects of water resources planning and all units of local government, water users, and interested parties should be allowed to participate in the planning process.
5. The Nye County Water Resources Plan must be aimed at accommodating planned growth within the various economic sectors of the County, not restricting it.
6. Water rights in Nye County are private property that may be bought, sold, or traded under free market conditions.
7. The Nye County Water Resources Plan should integrate water supply, water quality, water use, and environmental issues, and should be used to guide decisions that affect the water resources of the County.
8. All water resources development and use in Nye County should be conducted in a manner that is technically, environmentally, and economically sound, and consistent with state and federal laws.
9. The Nye County Water Resources Plan must be consistent with Nevada Water Law and the State Water Plan and must be prepared in consultation with the Nevada Divisions of Water Resources and Water Planning as well as stakeholders in the County.
10. Water conservation is an important component of the planning and management of Nye County's water resources.
11. The Nye County Water Resources Plan must be based upon sound science and water resources evaluation and management principles.
12. The Nye County Water Resources Plan shall be considered for adoption as an element to the Nye County Comprehensive Plan.

Institutional Framework

Water resources planning in Nye County must be consistent with County policies and with existing state and federal laws and regulations and any court decrees. In general, the State of Nevada governs the allocation, planning, and management of the water resources, while the federal government has enacted a number of laws and regulations that govern key environmental issues that must be carefully considered in the planning and development of the County's water resources. In this section, an overview of this institutional framework is provided.

County Policy - The Nye County Comprehensive Plan lists the County's goals, objectives, and specific policies regarding water resources:

Goal: Identify, develop, and maintain adequate water supplies throughout the County to maintain the existing environment and accommodate future economic development needs.

Objectives:

Develop accurate assessments of water supply and demand in each basin by participating in the Division of Water Planning's work program to assess water use, quality, and future water needs in each basin in the state.

Identify future water demand based on locally developed economic and population projections, produce an inventory of the County's natural resources, and formulate estimates of water necessary to develop those resources.

Policies:

Ensure that all area land use plans include projections of water demand to support future land use and economic development needs.

Research and develop possible water sources for future recreation potential.

Review the output of the Division of Water Planning's forecast models regarding Nye County to ensure that they are compatible with Nye County's demand forecasts and acceptable to the Nye County Board of County Commissioners.

Develop a conditional use permit process for all pipeline projects (excluding municipal, domestic, and agricultural pipelines within basins) including water transportation projects.

Investigate, develop, and implement other policies and mechanisms to ensure the availability of water supply for future Nye County economic and community development needs.

Established and granted state water rights shall continue to be recognized in support of state law. Water flow, even if originating on public land, even if originating in wilderness areas, shall be governed by the appropriate state laws. Water not currently under application shall not be granted to any federal, state, or local agency or any private entity without the express concurrence and approval of the Planning Commission.

Statutory Guides - All waters in Nye County belong to the public and are managed by the State of Nevada in accordance with the provisions of Nevada Water Law (NRS 533 and 534). The Nevada State Engineer determines the limit and extent of water rights including the quantity of appropriative right and any conditions that must be met for the water to be placed to a beneficial use. In ruling on a water right application, the State Engineer must consider four criteria:

1. Is there unappropriated water available for the proposed use?
2. Will the proposed use impair senior water rights?
3. Is the proposed water use in the public interest?
4. Is the proposed project feasible and not filed for speculative purposes?

The 1999 Nevada Legislature, through Senate Bill 108, amended Nevada Water Law to add additional criteria governing interbasin transfers of water by adopting the following revisions to the provisions of NRS 533.370:

In determining whether an application for an interbasin transfer of ground water must be rejected pursuant to the section, the state engineer shall consider:

- (a) Whether the applicant has justified the need to import the water from another basin;
- (b) If the state engineer determines that a plan for conservation of water is advisable for the basin into which the water is to be imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out;
- (c) Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported;
- (d) Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which water is exported; and
- (e) Any other factor the state engineer determines to be relevant.

Nye County concurs with these provisions regarding interbasin transfers and has adopted them in the development of this plan.

NRS 278 requires counties in Nevada to prepare and implement master plans. These master plans may include the management and use of water resources.

Regulatory and Legal Constraints - Federal law and policy establish standards for clean water, controlling growth in flood plains, and protecting the environment. While each of these goals is beneficial and consistent with the long term goals and values held by Nye County and its citizens, the immediate impact of the legislation is often limiting. The Safe Drinking Water Act and its amendments requires certain protection for sources of drinking water and the Clean Water Act establishes standards for surface and ground water protection.

The National Environmental Policy Act and Federal Land Policy Management Act determine how federal land management agencies can allow the lands they administer to be used. The Endangered Species Act protects certain species of plants, insects, fish, and birds that are native to Nye County. Some of the provisions of these acts impose mandates that are costly for the County to implement, often forcing them to reduce or eliminate other programs that benefit the citizens of the area but are not mandated. Other provisions may hinder development by imposing costly controls on private industry wishing to use federal lands for mining exploration, mining activity, or other business or industrial uses. Nye County maintains good working relationships through Memoranda of Understanding with the local offices of the Department of Energy, Bureau of Land Management and U.S. Forest Service, which helps to minimize the negative impacts while trying to achieve the goals outlined in the federal legislation.

Most of the policy statements outlined in the State Water Policy and state water law and policy reflect the philosophies of Nye County residents. They believe that the state should have primacy in issuing water rights, and they agree that there must be a balance in the appropriation of water resources to protect the interests of rural communities whose populations do not afford them political strength in the state legislature.

Development Process

Planning History - Nye County's Water Resources Plan was initiated and established by the Nye County Board of County Commissioners. The Board of Commissioners has recognized the need for long-term resource and development planning and has worked diligently to accomplish planning goals for several years.

Consultation with State Authorities - Preparation of the Nye County Water Resources Plan has involved close coordination with the Nevada State Engineer and the Nevada State Water Planner. Soon after initiating work, the planning team met with the State Engineer and State Water Planner to discuss the proposed outline for, and approach to, completing the final plan. Both the State Engineer and State Water Planner were very helpful in defining a scope for the final plan which would be responsive to both the needs of Nye County and the State of Nevada. Each state agency committed to provide (and have subsequently provided) invaluable information used in the preparation of this plan.

A second round of meetings was held with the State Engineer and staff of the Division of Water Planning to review draft projections of water supply and demand for hydrologic basins in Nye County. Input received from state agency staff have been considered in preparation of this final plan.

Public Participation - As noted previously, preparation of the preliminary draft Nye County water resources plan occurred with extensive public input through meetings with Town Boards, Regional Planning Commissions, and the County Commission. Preparation of this final plan has involved extensive interaction with members of the public. Public meetings and workshops were held in Amargosa Valley, Beatty, Pahrump, Tonopah, and Round Mountain. Comments and questions that were raised by the public are summarized in Appendix A to this plan.

Relationship to Other Plans

County and Community Plans - The goals and objectives, conclusions, and recommendations of the Water Resources Plan are consistent with the basic goals, objectives, and priorities established in the County's comprehensive planning efforts for industrial and business development, agriculture and mining, and tourism and recreation, as defined in the following:

Each of these County plans has been reviewed and the pertinent portions included in this plan, either through direct incorporation, or by reference.

- **Nye County Comprehensive Plan 1994**
- **Nye County Overall Economic Development Plan 1993**
- **Amargosa Valley Science and Technology Park Master Plan 1998**
- **Pahrump Regional Planning District Master Plan 1999**

State Water Plan - In 1999, the Nevada Division of Water Planning issued the Nevada State Water Plan. The State Water Plan provides a great deal of information on the water resources and their use in Nye County at the county-wide level. Thus the State Water Plan serves as a useful framework for the more detailed information presented in this plan. In fact, the State Water Plan specifically addresses the need for local water planning and encourages that this planning be done at the basin and watershed level, the approach used in the development of the Nye County Water Resources Plan. The State Water Plan was developed over a five-year period to serve as a guide to the development, management and use of Nevada's water resources. The State Water Plan made a number of recommendations concerning water resource issues. These recommendations are summarized in Table 2. Many of the issues identified in the State Water Plan are relevant to Nye County and are reiterated in the appropriate sections of this plan.

Other Resource Management Plans and Planning Documents - The various state and federal agencies that have stewardship over areas in Nye County have prepared a number of plans that must be taken into consideration in water resources planning:

U.S. Forest Service - Humboldt National Forest Land and Resource Management Plan, 1986

U.S. Department of Energy - Nevada Test Site Resource Management Plan, 1998

U.S. Department of Energy - Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada, 1996

U.S. Department of Energy - Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, 1999

National Park Service - Draft Environmental Impact Statement and General Management Plan, 1999

U.S. Air Force - Draft Environmental Impact Statement Proposed Fallon Range Training Complex

U.S. Air Force - Integrated Natural Resources Management Plan, Nellis Air Force Base/Nellis Air Force Range, 1997

U.S. Air Force - Water Requirement Study of the Nellis Air Force Range, 1998

Bureau of Land Management - Las Vegas Resource Management Plan and Final Environmental Impact Statement 1998

Bureau of Land Management - Tonopah Planning Area Resource Management Plan, 1998

State of Nevada - Water Conservation Planning Guide

As 93 percent of Nye County's lands are under the stewardship of federal agencies, these documents were important in formulating the issues and management practices contained in this plan. Information contained in these documents related to water resources was incorporated into the Nye County Water Resources Plan either through direct incorporation or by reference.

Table 2. 1999 Nevada State Water Plan - Issues and Recommendations

Issues	Recommendations
Water Conservation	Establish state Office of Conservation; revise plan requirements; formalize credits for conservation; technical assistance to farmers; fund demonstration projects; meter public supplies; increase reuse of water; start water measurement pilot program
Integrated Water Management	Refine perennial yield estimates; increase recharge/recovery projects; increase multiple source use
Basin and county Transfers	Recognize net value of transfers; ensure transfers are justified, environmentally sound, consistent with regional plans, and do not unduly limit growth; encourage mitigation plans; provide assistance to local government; additional research on water banking and water marketing
Water Use Measurement & Estimation	Develop and fund a comprehensive water use measurement and estimation program
Domestic Wells	Notify counties of impacts of parceling; inventory domestic wells; educate well owners; fund regional water supply and/or wastewater treatment where water quality is impaired
Non-point Source Pollution	Continue non-point source program
Comprehensive Groundwater Protection and Management	Support state groundwater protection program; develop monitoring network; support evaluation of gasoline additives; expand regional water supplies where septic tank pollution is an issue
Maintenance of Recreational Values	Continued resource evaluation and planning; continue acquisition of water rights for recreational purposes; increase watershed and water recreation research and management
Water for Wildlife and Environmental Purposes	Develop integrated plan for management; adopt policy encouraging acquisition of water rights for wildlife; establish incentive based restoration programs; establish working group of experts to study alternative water supplies for wildlife
Flood Management in Nevada	Develop modeling capability; develop plan to update flood maps; basin planning; review watershed management plans
Watershed Planning and Management	Develop planning strategy; support local planning; continue basin plans; fund planning
Water Resources Data Management	Develop GIS; establish water use, water level, and water quality monitoring networks; support research projects to update perennial yield estimates
Water Planning Assistance to Local Governments	Enhance assistance to local governments; improve water use measurements and estimates; improve data management and sharing; enhance management and planning
Water Education	Expand water education funding and staffing; increase program evaluation and coordination with water education activities

CHAPTER 2. SOCIOECONOMIC AND DEMOGRAPHIC ASSESSMENT

This chapter presents information on the historic, present, and future economy of Nye County, along with information on the population, growth trends, and demographics. As the future population of the County will determine the future demand for water, an understanding of past trends, current water use, and expected future conditions is an important consideration in water resources planning.

Socioeconomic Background

Nye County's Economic History - Nye County's economic prosperity has historically been tied to the fortunes of the mining industry, ranching and farming, and the government sector (most notably the U.S. Air Force and the U.S. Department of Energy). In its early history, the County's settlements were gold and silver boom towns such as Tonopah, Belmont, Manhattan, Beatty, and Rhyolite, and numerous mining camps. While many of the ore bodies have been mined out, mineral extraction remains an important sector of the Nye County economy with significant production of gold, silver, magnesite, and clay minerals along with industrial minerals including zeolites, cinders, and dimension stone. Nye County currently ranks third in gold production in Nevada, behind Eureka and Humboldt counties.

Ranching and farming have been important sectors of Nye County's economy since the Homestead Act of 1862 opened up western lands for development. By 1964, about 446,000 acres of farmland had been developed in Nye County and irrigated pasture and harvested cropland peaked at 47,270 acres in 1965. Since that time, irrigated agriculture has ranged between 24,000 and 34,000 acres in the County. Agriculture remains the single largest user of water in Nye County with almost 80 percent of the total water used in the County going towards irrigation in 1995, according to the Nevada Division of Water Planning.

Since the 1940s, Nye County has been the host to a number of important federal facilities including the Nevada Test Site, the Tonopah Test Range, and portions of the Nellis Air Force Range. Nye County also hosts portions of Death Valley National Park, Ash Meadows National Wildlife Refuge, Railroad Valley Wildlife Management Area, the Yomba and Duckwater Indian Reservations, and portions of the Toiyabe and Humboldt National Forests. In total, 92.7 percent of Nye County's total land area is administered by the federal government. Privately owned lands account for 7.1 percent and state and County owned lands account for less than one percent. Although the federal government administers the vast majority of lands within the County, there has only been limited economic benefit associated with these lands. In 1996, only 189 federal jobs were based in the county, only two percent of the total employment. Over the last decade the reduction of activities at the Nevada Test Site and Tonopah Test Range have resulted in corresponding decreases in employment at these federal facilities and the loss of service jobs in nearby communities.

Present Economic Conditions - The County's total work force during 1998 was estimated at 11,510 persons. The primary economic sectors, in terms of employment, are service industries with about 43 percent of the workforce, mining with about 16 percent, and local government with about 13 percent. Recent cutbacks at the Barrick mining operation at Beatty resulted in declines in employment in the mining sector in 1999.

Growth has been explosive in southern Nye County over the last decade with most of the new residents settling in the community of Pahrump. The phenomenal growth of Pahrump has

established Nye County as the fastest growing county in Nevada, on a percentage basis. This growth has resulted in an increase in the construction, trade, and service industry sectors of the economy. An emerging employment sector is related to telecommuters who are increasingly taking advantage of the low cost of living in Nye County, the proximity to Las Vegas and southern California, and the desert environment. Recreation and tourism have also become increasingly important to the economy of Nye County in recent years.

Demographics

Nye County has initiated aggressive programs to expand and diversify local economies. These initiatives are predicated on expectations of significant growth within the western region of the United States. Forecasts of the future population for western states prepared by the Census Bureau predict that the populations of Nevada and five bordering states will increase by almost 16 million people by 2025. While California will attract most of this growth (9 million), rapid growth is also projected for Nevada with an increase of 1 million people.

This regional demographic trend will likely result in increased demands for products, services, and opportunities within Nye County. With the advent of e-commerce, businesses in Nye County should have a greater capability to sell to a growing market for County-provided goods and services. In addition, tourism is expected to see increased demand as residents of this six-state region travel within and through the area. Nye County's strategic location in central and southern Nevada should be reflected by ever-increasing highway traffic through the area.

Table 3 shows population forecasts by the Nevada State Demographer, the Division of Water Planning, and Nye County through the year 2025. The State Demographer forecasts a larger population for Nevada in 2015 than the Census Bureau forecasts in 2025. If the Census Bureau forecasts are conservative, regional growth in the western states could be significantly greater than currently anticipated. The Division of Water Planning's forecast of Nye County's population in 2018 is 48% lower than the State Demographer's forecast. The Nye County forecast is 26% greater than the Division of Water Planning forecast but 17% less than the State Demographer forecast.

Table 3. Population Forecasts Source: Nevada State Demographer, April 1988; DWR June 1998; and PIC 1999.				
Area	1999	2000	2010	2018
State Demographer - Nye County	32,710	35,050	53,720	65,750
Div. of Water Planning - Nye County	29,482	30,417	39,182	44,399
Nye County estimate	35,820	37,990	54,254	56,030
Clark Co. (Demographer estimate)	1,393,760	1,722,630	2,031,500	2,389,340
Nevada (Demographer estimate)	2,034,020	2,421,020	2,783,700	3,212,260

Figure 1 and Table 4 show the historic population of Nye County and the forecasts that have been made. The State Demographer estimates only extended through the year 2010. Nye County extended the Demographer's forecasts using the REMI model. The approach used by the County in running the REMI model was based on active residential utility accounts rather than vacancy factors, and a housing unit method rather than an employment based approach. The housing unit method was used because of the number of DOE employees

Figure 1. Population Projections by DWP, State Demographer, and Nye County.

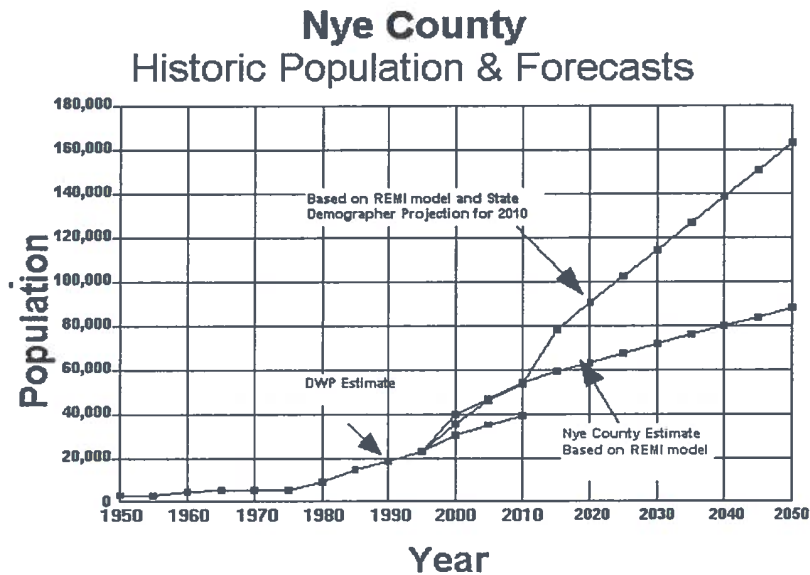


Table 4. HISTORIC NYE COUNTY POPULATION AND BASELINE FORECAST

YEAR	US Census Data	State Demo. Estimate	DWP 1998 Estimate	Nye County	Change (%)	Annual Change (%)
1920	6,504					
1930	3,989				-0.39	-0.04
1940	3,606				-0.10	-0.01
1950	3,101		3,101		-0.14	-0.01
1955		2,600	2,600			
1960	4,624	4,642	4,624		0.49	0.05
1965		5,453	5,453			
1970	5,599	5,459	5,459		0.21	0.02
1975		5,500	5,500			
1980	9,048	9,048	9,048		0.62	0.06
1985		14,570	14,570			
1990	17,781	18,190	18,190	18,190	0.97	0.10
1995		23,050	23,050			
2000		35,050	30,417	39,495	1.17	0.12
2005		45,750	34,988	46,800	0.18	0.04
2010		53,720	39,182	54,254	0.16	0.03

RESULTS OF REMI MODEL USING NYE AND STATE DEMOGRAPHER ESTIMATES TO 2010

YEAR	Nye County Estimate	Change (%)	Annual Change (%)	State Data Estimate	Change (%)	Annual Change (%)
2010	53,900			66,300		
2015	59,183	0.10	0.02	78,000	0.18	0.04
2020	63,131	0.07	0.01	90,100	0.16	0.03
2025	67,011	0.06	0.01	102,200	0.13	0.03
2030	71,341	0.06	0.01	114,300	0.12	0.02
2035	76,025	0.07	0.01	126,400	0.11	0.02
2040	79,665	0.05	0.01	138,500	0.10	0.02
2045	83,729	0.05	0.01	150,500	0.09	0.02
2050	88,000	0.05	0.01	162,700	0.08	0.02

that are in-commuters to Nye County work sites. As the County's approach only went through the year 2008, a constant annual growth rate of three percent was assumed for the period between 2005 and 2050. This assumption is consistent with the current trends in Pahrump Valley which suggest that the present explosive growth rate will not be sustained and that growth will slow appreciably after 2005. It should be noted that the of results the REMI model for such long-term extrapolations simply project future populations on the basis of a trend over a selected period of time. The use of different trends based on longer (or shorter) periods of time will yield varying results.

Because of the wide range in various forecasts of growth in Nye County, an alternative, land-based approach was used. This alternative acknowledges that long-term population projections are, at best, tenuous for regions such as southern Nevada. Table 5 lists the approximate distribution of privately owned lands in Nye County from the 1993 Nye County Overall Economic Development Plan and the 1999 Pahrump Regional Planning Commission Master Plan. There are 51,000 lots or parcels within the eight communities. Of these, the vast majority are located in Pahrump (more than 45,000 lots).

Table 5. Private Land Uses in Nye County		
Community	Land Uses	Comments
Amargosa Valley	1,300 residential lots 732 acres agricultural	
Beatty	741 parcels 1,624 acres agriculture	
Crystal	95± parcels	parceling planned
Gabbs/Reese Valley	265 parcels in Gabbs	no inventory for Reese Valley
Pahrump	2,500 acres agriculture 8,915 residential 591 commercial 36,109 vacant 255 under development	Since this inventory, agriculture has declined further and less than 1,000 acres are probably still irrigated.
Manhattan	497 parcels	
Round Mountain	420 parcels	
Tonopah	1,767 total housing units	no inventory for Tonopah

Given the forecasts for significant population growth in the western region and related potential for economic opportunity, assumptions about economic growth in Nye County through the Year 2050 have been made. These assumptions are based upon currently planned and approved developments, proposed but as yet unapproved developments, and forecasts of reasonably foreseeable developments.

There are a number of planned or potential developments that are not included in the baseline population projection. The proposed developments that have been identified are summarized in Table 6 along with their locations, hydrographic basin, and current status. Most of the major proposed developments are in Pahrump and ground has already been broken on some of the projects. As not all of these developments have been given final approval, the

Table 6. Planned and Proposed Developments in Nye County.

Type	Location	Basin	No. of units	Status
tial/commercial	South Pahrump	Pahrump Valley	8,300 homes, casinos, golf course	started
esidential	North Pahrump	Pahrump Valley	181 lots	started
esidential	South Pahrump	Pahrump Valley	898 lots	started
ercial/residential	Clark/Nye County line	Pahrump and Sandy Valleys	shooting range, 171 lots, 228 condos	started
ural/commercial	Railroad Valley	Railroad Valley		planning
use/educational, commercial, industrial	Amargosa Valley	Jackass Flats, Amargosa Desert Oasis Valley, Sarcobatus Flat Ralston Valley	Space museum, technology park 210 mile corridor, 800 acres	planning
ommercial	Clark County line	Pahrump Valley	15 acres	planning
tial/recreational		Pahrump Valley		approved
ndustrial	Nevada Test Site	Mercury Valley	512	planning
ndustrial	north of Lathrop	Jackass Flats		planning
esidential	Amargosa Valley	Amargosa Desert	64 lots	approved
esidential	North Pahrump	Pahrump Valley	1,246 lots	started
tial/commercial	Scotty's Junction	Sarcobatus Flat	unknown	started
te repository	north of Amargosa Valley	Jackass Flats and Crater Flat	repository and support facilities	planning

growth associated with them is not included in the population forecasts in Figure 1 and Table 4. However, because of the magnitude of some of these projects, they must be accounted for in estimating future water demands in the County. In total, these new developments will result in an additional 11,000 new residential lots in Nye County and will bring the total number of residential lots to almost 59,000. Assuming a full build-out of all available land by the year 2050 and an occupancy rate of 2.5 persons per residence (from the 1990 census) and assuming 1,000 multi-unit lots, then the County's population would be at least 150,000 by the year 2050. The results of this land-based approach agree within 8 percent with the REMI model extrapolations based upon the State Demographers high estimate. Therefore, for planning purposes, the results shown on Figure 1 and Table 4 for the REMI model projections using the State Demographer data are considered the baseline population forecast for Nye County through the year 2050.

In some instances (for example the Science and Technology Corridor and the Desert Rock Sky Park), the exact nature of the land uses have not been well defined. Nonetheless, these developments may result in significant new water demands in some basins. Both direct and indirect increases in population are anticipated as a result of these projects. These increases will be additive to the baseline population forecast.

In addition to the developments listed in Table 6, there are a number of other developments that may be expected to result from the continued expansion and diversification of the Nye County economy over the next 50 years. While not proposed or planned at this time, such developments could result in increases above the baseline population forecasts. The following reasonably foreseeable activities have been identified that may result in additional growth beyond that currently included in the County baseline population forecast:

- Development of 2 destination resorts
- Increased U.S. Air Force activities at Tonopah Test Range
- Increased acreage under irrigation in Railroad and Hot Creek valleys
- Development of agricultural commodity processing and support industries
- Increased tourist visitation to Nye County
- Expansion of hotel/casino operations at the Nevada/California border
- Increased telecommuters locating in Nye County
- Increased semi-retired and retired persons locating in Nye County
- Development of one or more additional oil fields
- Development of one or more large mining projects
- Investment by the State of Nevada in back office facilities in Nye County
- Development of a four-year educational institution in Nye County
- Expanded air service between Pahrump and Las Vegas and Reno
- Other industrial development

It must be noted that forecasting future growth and population in a rapidly changing region such as southern Nevada is difficult and inexact. Any of a number of external factors can result in a significant impact on Nye County's future. However, water planning must be based upon the best available estimates of future demographics and the magnitude and distribution of water demands. With time, the projections and forecasts presented in this plan should be reviewed and the plan modified accordingly to reflect new information and developments.

CHAPTER 3. WATER RESOURCE ASSESSMENT AND ISSUES

This chapter contains a summary of the surface water and groundwater resources of Nye County and projected water demands and trends. The summary provides information on the sources, quantity, and quality of those resources, the committed and applied-for water rights and the issues associated with the management and use of the water resources of the County.

Topography

The general topographic expression of Nye County is shown in Figure 2. The topography is typical of the Great Basin physiographic province and is characterized by a number of generally north-south trending mountain ranges separated by broad valleys. Total relief in the basin is more than 9,000 feet, ranging from 11,949 feet above mean sea level at Mt. Jefferson in the Toiyama Range to less than 2,300 feet in the lowland portions of Amargosa Valley.

Climate

The general climate of Nye County depends upon the location. In the northern mountain ranges, sub-humid continental conditions occur, characterized by cold winters and moderate precipitation. The intervening valleys and the region as far south as about Highway 95 exhibit mid-latitude steppe and mid-latitude desert conditions characterized by cold winters, hot summers, and semi-arid to arid conditions. To the south, Pahrump Valley and most of Amargosa Desert have a typical low-latitude desert climate with very hot summers and arid conditions. Up-to-date climate data for each weather station in Nye County can be accessed at: <http://www.wrcc.dri.edu/summary/mapnv.html>.

Figure 3 shows the distribution of precipitation over Nye County. Most of the County is situated in the South Central climatological division with an average annual precipitation rate of only about 6.25 inches. The southernmost part of the County is in the Extreme South climatological division with an average annual precipitation rate of only about 4.5 inches. At higher elevations, precipitation is much greater and snow accumulates to considerable depths, with more than 80 inches per year of snowfall at the higher elevations of the Toiyabe, Toiyama, and Monitor ranges.

Precipitation during the course of a year typically has a bi-modal distribution with most precipitation occurring during either a winter rainy season or during the late summer months. During the winter months, high pressure conditions predominate resulting in west-to-east trending winds and precipitation patterns. During the summer months, low pressure conditions predominate, resulting in southwest-to-northeast trending precipitation patterns. Winter storm events tend to last longer and produce more precipitation than the summer events which tend to produce widely scattered showers of short duration. Drought is common and expected, especially in the southern part of the County where droughts of more than 100 days occur.

In a mid-latitude, dry climate like Nye County's, the average potential evaporation rate exceeds the average annual precipitation, with actual average evaporation ranging from 51 to 72 inches. On an annual basis, as much as 90 to 95 percent of the total annual precipitation is lost through evaporation and transpiration; only an estimated 5 to 10 percent recharges the groundwater regime.

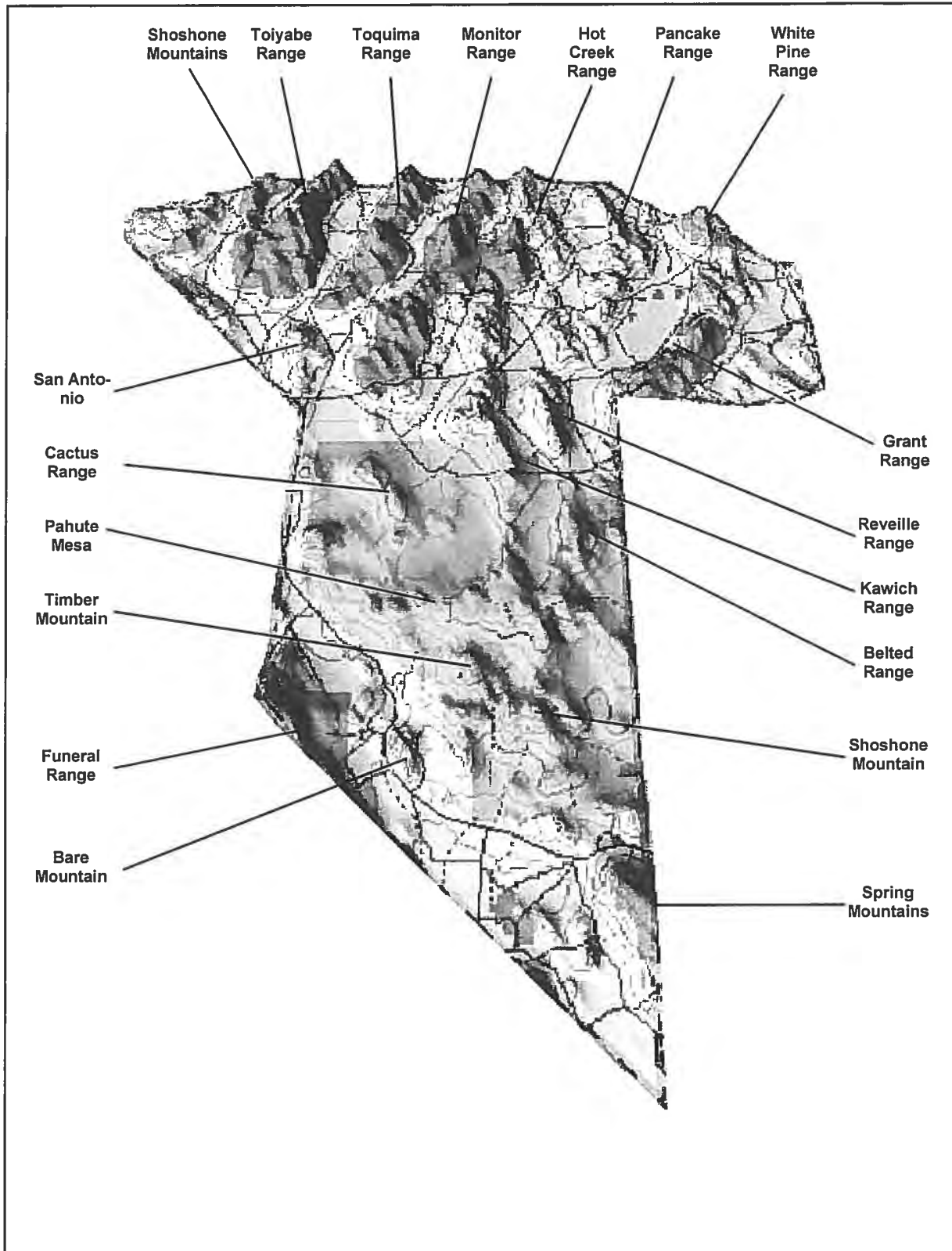


Figure 2. Nye County Topography and Major Physiographic Features.
(30° inclination north view from 3-D TopoQuads® Copyright 1999 DeLorme)

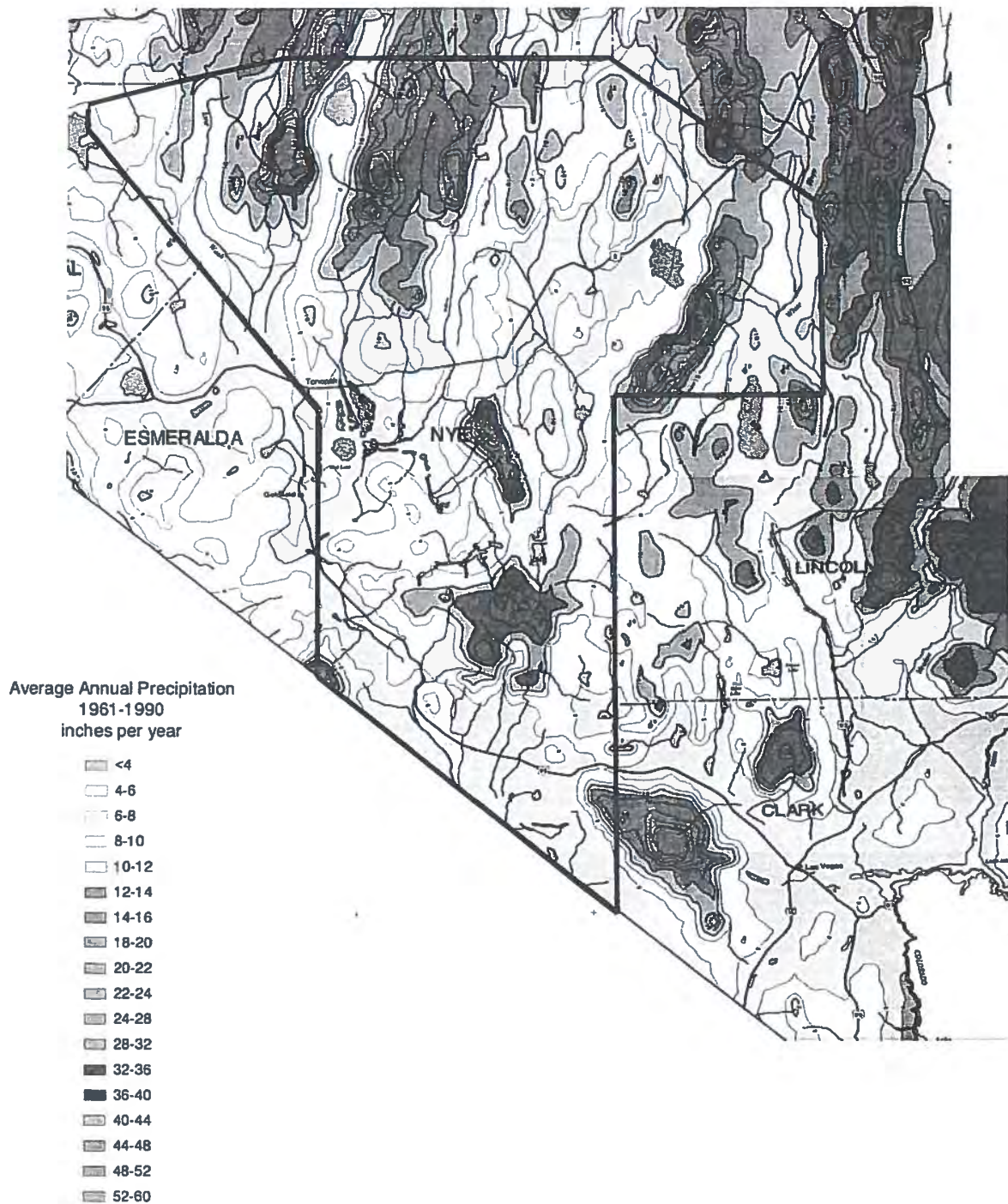


Figure 3. Distribution of precipitation over Nye County and adjacent areas.

Source: USDA Natural Resources Conservation Service Nevada Annual Precipitation Map 1998. Note that the published map does not have a contour interval for 16-18 inches.

Surface Water Resources

Although Nye County has no major lakes, reservoirs, or rivers, there are important surface water resources in many locations. Surface water flows are important sources of irrigation water in the agricultural areas such as White River Valley. Groundwater that discharges to the surface at springs is also an important surface water resource. Many springs in Nye County have been developed for irrigation, livestock watering, municipal and domestic water supplies, and the mining industry. The surface water resources of Nye County are also used for recreational purposes including fishing, hunting, boating and skiing, swimming, camping, picnicking, and relaxation. Finally, but of no less importance, wildlife cannot thrive without a dependable source of water and the springs, streams, and lakes in Nye County support the habitat for many desirable species.

All of the surface water resources (and groundwater resources as well) are derived from the precipitation that falls over the County or adjacent recharge areas. Figure 4 shows a conceptual representation of the interrelationships between the precipitation that falls over the mountainous areas and the surface and groundwater regimes. In this section, information is presented on the surface water resources of Nye County and the issues associated with their protection and use.

Lakes - A complete inventory of all lakes and reservoirs has not been completed for Nye County. Table 9 lists the 22 lakes and reservoirs which are identified in various published sources and the files of the Nevada Division of Water Resources. The largest reservoirs in Nye County are located in White River Valley at the Wayne Kirch Wildlife Management Area (Adams-McGill Reservoir, Hay Meadows Reservoir, and Tule Field Reservoir). This wildlife management area is popular and is widely fished for rainbow trout, black bass, and other game fish. In addition to their importance for fish, these reservoirs also provide habitat for a number of bird species including Western Snowy Plover, Long-billed Curlew, and White-faced Ibis.

Streams - Although there are no major rivers in Nye County, there are many streams that drain the upland areas. These streams derive their flow from three main sources: spring discharges, groundwater discharge along the stream channel, and snow melt. The U.S. Geological Survey has published discharge records for the 16 gaging stations listed in Table 10. The discharge rates for most of these streams are seasonal with peak flows following the spring snow melt in the upland areas.

The streams of Nye County provide the aquatic habitat for many types of fishes including two types of trout (rainbow and brook), native species such as the Railroad Valley Springfish and Railroad Valley Tui Chub, and many other types of fishes. The primary streams that contain game fish populations are Cherry Creek, Cottonwood Dreek, Deep Creek, Hooper Canyon Creek, Pine Creek, and Troy Canyon Creek.

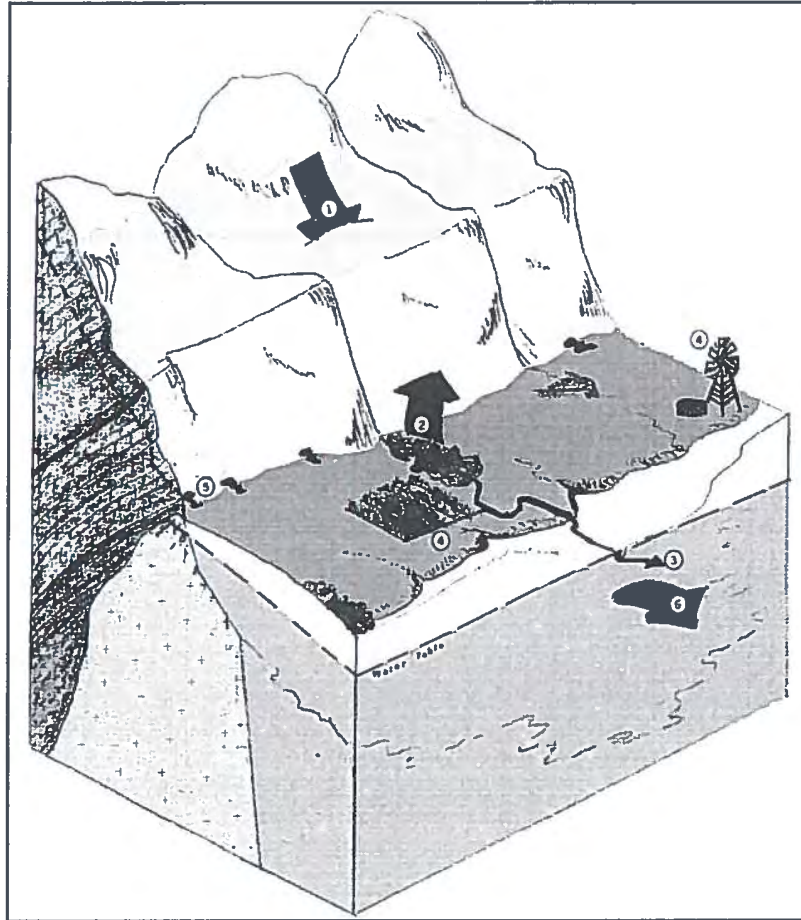
The streams also support extensive riparian and wetland areas. According to Bureau of Land Management documents, there are at least 20 streams in Nye County that support more than 25 miles of riparian habitat. The riparian areas of Nye County provide not only habitat for the fishes listed above and other aquatic species, they provide nesting for a number of bird species including the White-faced Ibis and a number of important raptors including the Bald Eagle, Ferruginous Hawk, and several species of owls.

(Text continues on page 21)

Figure 4. Conceptual Hydrogeologic Model for Nye County

1. The water resources of Nye County originate as the rain and snow that falls over the upland areas of the County and adjacent areas. Rain and snowmelt run off into the channels and into the fractures in the rock. Some of this water is consumed by the plants and some infiltrates downward to the water table, a process known as *recharge*. Most of the recharge occurs at elevations above 6,000 feet.

2. The streams in Nye County are important water resources. The streams are fed by runoff from the mountains and by springs that discharge in the upland areas. The streams often support riparian areas and wildlife. Along the mountain front, additional recharge occurs through the channels that drain the upland areas. The vegetation that is supported by the streams and springs consume a considerable amount of water through *evapotranspiration*.



3. Surface water flows year round in some springs and streams, but the amount of flow is often quite variable. Following the snowmelt in the late spring, there is usually a surge of discharge in the streams and springs that drain the mountain areas. This surge of flow is also referred to as *rejected recharge* as it represents the excess water that the rocks are not able to intake. Streams that are fed by springs with seasonal flow may dry up completely in the dry months. Streams and springs that flow year round are called *perennial* and seasonal flows are referred to as *ephemeral*.

4. The water that is used by man for irrigation, stockwater, and quasi-municipal purposes is not completely consumed. Water stored in ponds and irrigation canals leaks back into the groundwater system. Some portion of the irrigation water (about 25 percent) infiltrates back into the ground. Even domestic septic systems may return a small quantity of water back into the ground. Collectively, the infiltration of water from these sources is called *secondary recharge*. Secondary recharge can be a large component of the water budget in basins where irrigation is widespread.

5. Spring lines often occur where geologic controls such as faults or contacts are present. These controls cause groundwater to rise to the surface and discharge. In some of the more water-rich basins of Nye County, there are spring lines that are tens-of-miles long.

6. In most basins, the water that recharges the aquifers ultimately flows from up-gradient basins to down-gradient basins. Basins that are hydraulically linked in this manner are referred to as *flow systems*.

Table 7. Lakes and Reservoirs of Nye County. (Modified from: Scott et al, 1971 and the dam safety records of the Nevada Division of Water Resources; excludes reservoirs related to mining operations.)

Lake or Reservoir	Hydrographic Basin	Surface Area (acres)	Storage Capacity (acre feet)
Wayne Kirch Wildlife Management Area			
Adams-McGill Reservoir	White River Valley	> 791	4,040
Dacey Reservoir	White River Valley	215	784
Hay Meadow Reservoir	White River Valley	203	1,120
Tule Field Reservoir	White River Valley	> 218	875
Angleworm Ranch	Railroad Valley		5
Cold Springs Dam	Penoyer Valley		1,210
Crystal Springs Dam	Amargosa Desert		2,300
Little Fish Lake	Little Fish Lake Valley	80	160
Lake C	Amargosa Desert	70	618
Lake No 2	Amargosa Desert		10
Lake No 3	Amargosa Desert		1,200
Lake No 4	Amargosa Desert		650
Lake No 5	Amargosa Desert		3,000
Lake No 6	Amargosa Desert		300
Lake No 7	Amargosa Desert		300
Lake No 8	Amargosa Desert		450
Lower Crystal Marsh Dam	Amargosa Desert		400
Manzonie Reservoir	Railroad Valley	40	250
Old Place Dike #3	White River Valley		57
Spring Meadows Lake #1	Amargosa Desert		300
Upper Crystal Marsh Dam	Amargosa Desert		50

Table 8. Selected Stream Discharge Measurements in Nye County (Source: U.S. Geological Survey)				
Station Name USGS ID #	Period of Record	Range in Mean Annual Discharge (CFS)	Maximum Discharge (CFS)	Minimum Discharge (CFS)
Pine Creek Near Belmont 10245900	1977-present	5.77 to 13.8	340	0.24
Mosquito Creek Near Belmont 10254910	1977-1982 1983-present	2.41 to 7.87	119	0.04
South Twin River Near Round Mountain 10249300	1965 - present	2.40 to 20.1	510	0.35
Andrews Creek Near Belmont 10245901	1998	not available	10	0.18
Corcaran Creek Near Belmont 10245602	1998	not available	1.2	0.60
Barley Creek Near Belmont 10245905	1998	not available	89	2.6
Morgan Creek Near Belmont 10245905	1998	not available	3.1	0.61
Big Creek Near Warm Springs 10247200	1991-1994	1.70 to 2.19	22	0.05
Amargosa River at Beatty 10251217	1993-1996	0.63	1000	0.12
Amargosa River at Highway 95 10251218	1963-1968 1991-1995	0.46 to 1.72	16000	0.00
Fortymile Wash at Narrows, NTS 10251250	1983-1996	0.00 to 0.69	3000	0.00
Fortymile Wash Near Amargosa Valley 10251258	1983-1996	0.00 to 0.49	1430	0.00
Cason Slough at Ash Meadows 10251275	1983-1996	0.59 to 1.59	689	0.00
Little Currant Creek Near Currant 10246846	1964-1981 1983-1986 1990-1994	3.32 to 9.65	366	0.00
Willow Creek Near Warm Springs 10245190	1977-1992	1.16 to 5.91	92	0.00
Sixmile Creek Near Warm Springs 10246930	1967-1968 1984-1991	0.67 (1985-1991)	104	0.00

CFS = cubic feet per second

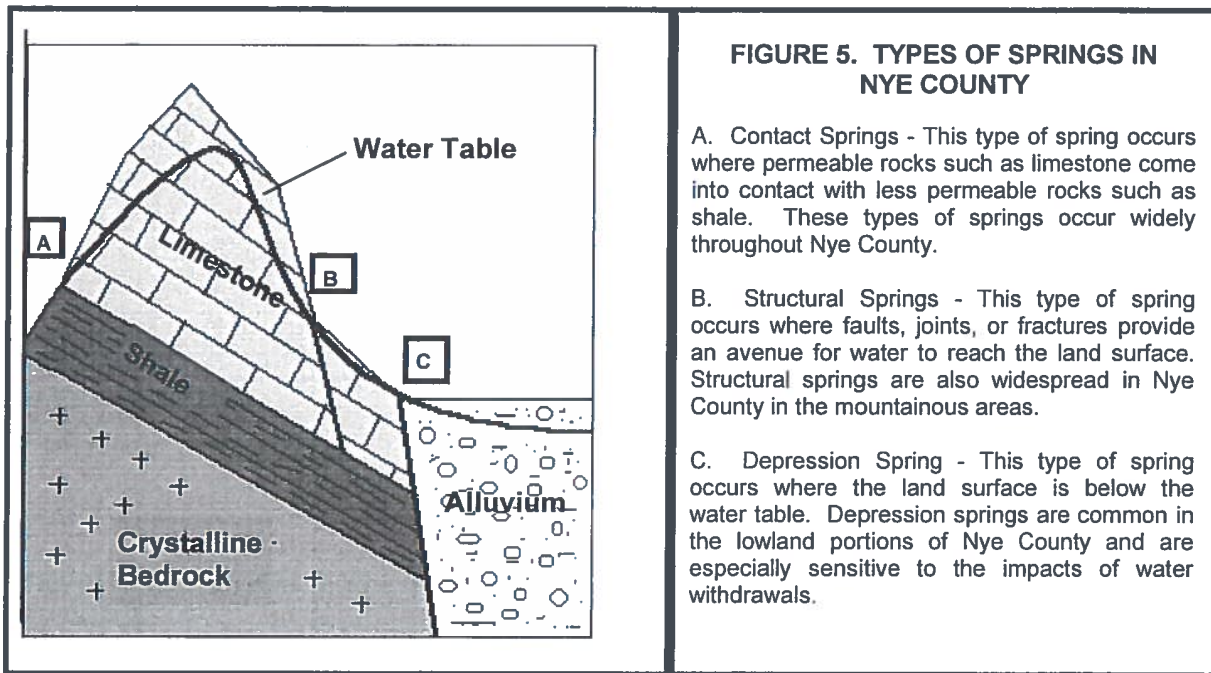
Springs - Nye County is blessed with hundreds of springs that support a number of uses including ranching, mining, and wildlife management. Springs occur wherever groundwater intercepts the land surface and discharges water to the surface water regime. Figure 5 shows the types of springs in Nye County and lists the springs that have measured discharge rates of 450 gallons per minute or more (one cubic foot per second, or cfs, is equal to 449 gallons per minute). The most significant springs in Nye County are located at Ash Meadows National Wildlife Refuge, located east of the community of Amargosa Valley. More than 30 springs and seeps discharge to the land surface at the refuge including Fairbanks Springs, Rogers Springs, School Spring, Point of Rocks Springs, Jackrabbit Springs, Big Spring, Bole Springs, and Grapevine Spring. The refuge was established in 1984 to protect the spring-fed wetlands that support more than 25 plant and animal species found nowhere else in the world. Ash Meadows is touted by the U.S. Fish and Wildlife Service as having the highest concentration of endemic species in North America. Almost 13,000 acres of land have been purchased to eliminate the potential threats to the wetlands that might occur as a result of development.

Adjacent to Ash Meadows National Wildlife Refuge is Devils Hole, a spring pool that is part of Death Valley National Park. Devils Hole is essentially the surface expression of a cavern system in the limestone rocks of the area. The spring pool is the habitat for the Devils Hole pupfish. On June 7, 1976, the U.S. Supreme Court ruled that state-permitted water withdrawals in the vicinity of Devils Hole must be limited to a level necessary to maintain water levels in Devils Hole above a determined level. This ruling followed a National Park Service appeal of a decision by the Nevada State Engineer to permit water withdrawals in the vicinity for irrigation purposes. As a consequence of the Court's ruling, the owners of the farm involved in the legal action were forced into bankruptcy resulting in the shutdown of a 12,000 acre ranch and the loss of more than 80 jobs with an annual payroll of more than \$340,000. Because of the Supreme Court ruling and subsequent National Park Service actions, it is no longer feasible to obtain and develop new water rights for lands in the vicinity of Devils Hole.

Since the Court's ruling on Devils Hole, many endemic species at Ash Meadows have been identified resulting in an expanded area of protection. The U.S. Fish and Wildlife Service acquired more than 12,000 acre feet of water rights at Ash Meadows, establishing the federal government as the single largest water right holder in the Amargosa Desert hydrographic basin. The need to protect the wildlife values associated with Devils Hole and Ash Meadows has effectively eliminated a large area up gradient from Devils Hole and the refuge as a source of groundwater for other purposes.

The acquisition of water rights for wildlife is based on the assumption that wildlife values are higher than the value of agricultural productivity or residential development. In practice (at least in southern Nye County), it appears that this assumption is valid. It has already been demonstrated that the wildlife values associated with Ash Meadows and Devils Hole are higher, in pure economic terms, than the values associated with other types of productivity. These values benefit society as a whole, but the cost of the policy that provides these benefits falls on a small fraction of society, in the case of Ash Meadows, the economy of Nye County. The farmer in Amargosa Valley may not increase his productivity so that another individual, organization, or society in general may enjoy the benefit of the preservation of Ash Meadows.

Nye County recognizes the need to preserve the important wildlife values at Ash Meadows and Devils Hole and is committed to working with the federal and state agencies to protect these values. However, it must be noted that preservation is not without a price. In this instance, the cost to County includes a loss of productivity and associated revenues.



MAJOR SPRINGS IN NYE COUNTY (> 450 gpm Discharge)

BASIN	SPRING NAME	DISCHARGE (GALLONS PER MINUTE)		LATEST MEASUREMENT
		ELEV.	MAXIMUM	MINIMUM
137B	CHARNOCK SPRINGS		450 EST	1913
137B	DARROUGHS HOT SPRING		450 EST	UNK
140A	DIANA'S PUNCH BOWL		900 EST	1964
156	HOT CREEK SPRING		4000 EST	UNK
162	BENNETTS SPRINGS		3350	0
162	MANSE SPRINGS		2700	0
162	POTTS RANCH SPRING		450 EST	1964
173B	BIG SPRING	4820	539	539
173B	BLUE EAGLE SPRINGS	4765	2514	2065
173B	LITTLE WARM SPRING	5590	1527	1212
173B	BIG WARM SPRING	5605	6735	6286
207	HOT CREEK SPRING	5225	9200	1527
207	BUTTERFIELD SPRING	5320	1530	1482
207	FLAG SPRING #1	5290	1570	943
207	FLAG SPRING #2	5280	1570	1020
207	FLAG SPRING #3	5290	1260	539
230	FAIRBANKS	2265	1500	1400
230	CRYSTAL POOL	2195	2245	2155
230	BIG SPRING	2240	1400	
230	ROGER'S SPRING	2275	627	494
230	LONGSTREET SPRING	2310	943	943
230	POINT OF ROCKS		1100	

1 Discharge at Bennetts Spring was estimated at 3,350 gallons per minute in 1875. In 1940 the discharge was measured at 2,540. By 1956, the discharge had dropped to 2,540 gallons per minute and by 1959, the spring was dry.

2. Manse Spring was estimated 2,700 gallons per minute in 1875, 1100 gallons per minute in 1958-1960 and was dry during the summer months in 1975 with seasonal discharge since that time.

Value of Surface Water Resources - In addition to their direct value as water rights, the surface water resources have significant indirect economic benefits. According to the 1973 State of Nevada Water Planning Report, more than 28,000 visits were made to Nye County's streams, lakes and reservoirs, and springs in 1970, with an estimated total value of about \$137,000, and it was projected that visits by 2020 would exceed 480,000. Based on 1970 dollars, this projected level of visitation would have an estimated total value of \$2.4 million.

Water Quality - The quality of Nye County's surface water is in compliance with the 1972 Clean Water Act; however, surface water quality is subject to impacts from human activities and natural causes. The vulnerability assessments conducted for public water supply systems did not identify any contamination of surface water drinking sources in the County.

Committed Resources - The total quantity of surface water resources in Nye County is not known and the quantity of committed resources is not known with precision. Table 11 lists surface water right data obtained from the Nevada Division of Water Resources. These data have not in all cases been supplementally adjusted, and may, therefore, include water rights that are used with groundwater rights or with multiple points of diversion. The reader is referred to the notes on Table 14 regarding the accuracy and validity of these estimates.

In total, approximately 157,000 acre feet per year of surface water rights are outstanding in the basins that are wholly or in part located in Nye County. An additional 15,000 acre feet of applications are currently either ready for action or ready for protest. Of the 157,000 acre feet of surface water rights, more than 80 percent are located in four individual basins, about 44,000 acre feet in Big Smoky Valley, almost 37,000 acre feet in Amargosa Valley, about 30,000 acre feet in Monitor Valley, and almost 22,000 acre feet in Pahrump Valley. The bulk of the applications and applications that are ready for protest or action are also limited to a few basins, Big Smoky Valley, Alkali Spring Valley, and Hot Creek Valley.

Surface Water Issues - The key issues related to the surface water resources are the protection of spring and stream discharge rates, the management and use of riparian areas, and the maintenance of surface water quality. Spring and stream discharges in Nye County may be reduced by diversions for beneficial use (a permitted activity), drought (a natural condition), or the effects of groundwater pumping that is located too near to surface water bodies. Figure 6 shows how springs may be affected by groundwater pumping. The potential for impacts on springs depends upon the proximity of the pumping, the hydraulic characteristics of the aquifer, and the magnitude and duration of pumping.

Historic impacts on springs in Pahrump Valley have been well documented. Discharge at Bennett Spring was measured at 3,350 gallons per minute (7.5 cfs) in 1875, and more than 2,500 gallons per minute (5.6 cfs) in 1940, but was dry by the end of 1959. At Manse Spring discharge dropped from a historic high of 2,700 gallons per minute (6.09 cfs) in 1885 to 1,400 gallons per minute in 1940, and was dry during the summer months by 1975. In the late 1990s, Manse Spring began to flow again, reflecting wetter than normal climatic conditions and a decrease in agricultural water withdrawals in the vicinity of the spring.

The reduction of spring discharges in Pahrump Valley has resulted in the loss of an endemic fish species, the Pahrump killifish, as well as other fish species that depended on the spring pools for habitat. The U.S. Fish and Wildlife Service had to save the endemic species from extinction by relocating the remaining population to a site in White Pine County.

(Text continues on page 26)

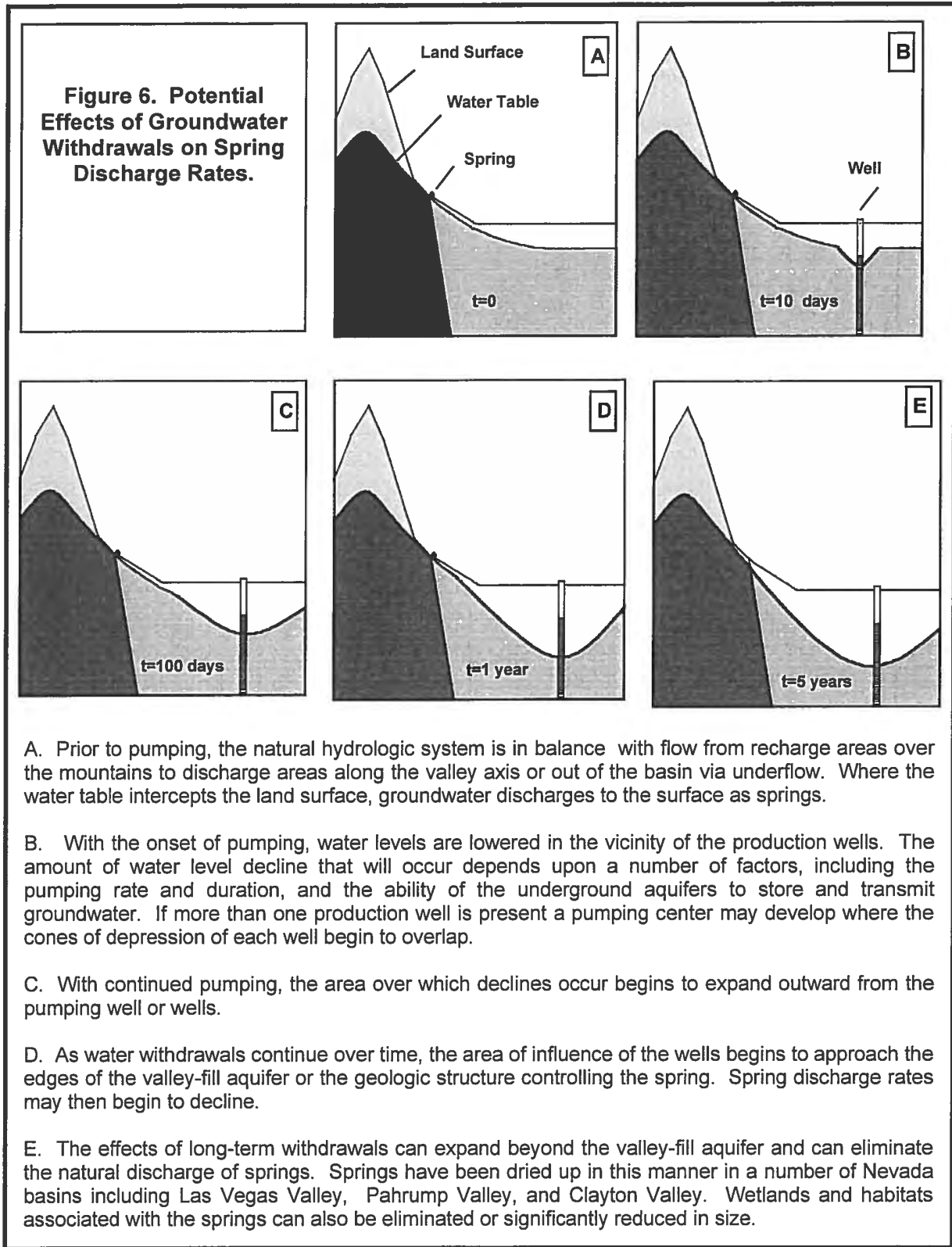
Table 9. Summary of Surface Water Rights and Applications In Basins of Nye County.

All figures in acre feet. Source: Division of Water Resources Files. *Note: Only basins with DWR data are listed.*

BASIN	Applied For	Certificated	Permitted	Reserved	Vested	Ready for Action	Ready for Protest	Total Allocated	Total Demand
Alkali Spring Valley		199						199	199
Amargosa Desert		36,998	0				2,800	36,999	39,799
Antelope Valley (Eureka & Nye)		142		543	11			696	696
Big Smoky Valley								0	0
Big Smoky Valley - Northern Part		18,198	9,481	236	5,631	1,280	8,330	33,546	43,156
Big Smoky Valley - Tonopah Flat		9,049		155	1,237		5	10,441	10,447
Buckboard Mesa								0	0
Cactus Flat		151						151	151
Coal Valley								0	0
Crater Flat		9		2				11	11
Eagle Valley								0	0
Emigrant V. - Groom Lake Valley		11			0	18	0	11	29
Emigrant V. - Papoose Lake Valley								0	0
Frenchman Flat		4						4	4
Gabbs Valley		820	3	7	293			1,123	1,123
Garden Valley								0	0
Gold Flat		11						11	11
Grapevine Canyon								0	0
Hot Creek Valley		1,796	239	412	373	0	1,684	2,820	4,504
Indian Springs Valley		6,018	275		360			6,652	6,652
Ione Valley		206		54	396	160		656	816
Jackass Flats		4						4	4
Kawich Valley		4						4	4
Lida Valley	4	2,623		8	0			2,631	2,635
Little Fish Lake Valley		50		139	40			228	228
Little Smoky Valley								0	0
Little Smoky Valley Central Part		30						30	30
Little Smoky Valley Southern Part								0	0
Mercury Valley								0	0
Middle Reese River Valley		1,339			1,524		0	2,863	2,863
Monitor Valley								0	0
Monitor Valley Northern Part		15	9	13	1,053		16	1,090	1,106
Monitor Valley Southern Part		5,608		40	23,135	0		28,783	28,783
Oasis Valley		1,863	1,158	28	1,024			4,073	4,073
Pahrump Valley		3,723	14,812		3,135	0		21,670	21,670
Penoyer Valley (Sand Spring Valley)								0	0
Railroad Valley Southern Part								0	0
Ralston Valley		149	40	40	5	8	7	235	250
Rock Valley								0	0
Sarcobatus Flat		77						77	77
Smith Creek		1,847			25	640		1,872	2,512
Stone Cabin Flat								0	0
Stonewall Flat				2				2	2
Yucca Flat		71						71	71

Demand = Sum of Applied For, Certificated, Permitted, Reserved, Vested, Ready for Action and Ready for Protest

Allocated = Sum of Certificated, Permitted, Reserved, and Vested



An issue of significance in northern Nye County centers around riparian areas. Figure 7 shows the general hydrologic characteristics of riparian areas and the management practices that can be employed for their protection. The use and management of riparian areas has become a source of increased awareness and conflict over the last decade. The goal of certain environmental groups and coalitions to remove cattle from all riparian areas in the western states is a threat to the livestock industry of Nye County. Conversely, the potential effects of cattle on riparian areas cannot be entirely discounted, and, if not properly managed, livestock grazing can adversely impact the sporting and tourism industries that also provide important sources of revenue to the County. Nye County does not believe that the goals of the ranching industry and sound environmental management are mutually exclusive. By adopting the appropriate management practices, the effects of livestock grazing on riparian areas can be minimized, if not entirely eliminated. Nye County has, and will continue to, promote cooperation between the diverse groups interested in the riparian areas within the County by coordinating resource management efforts with riparian and environmental enhancement coalitions.

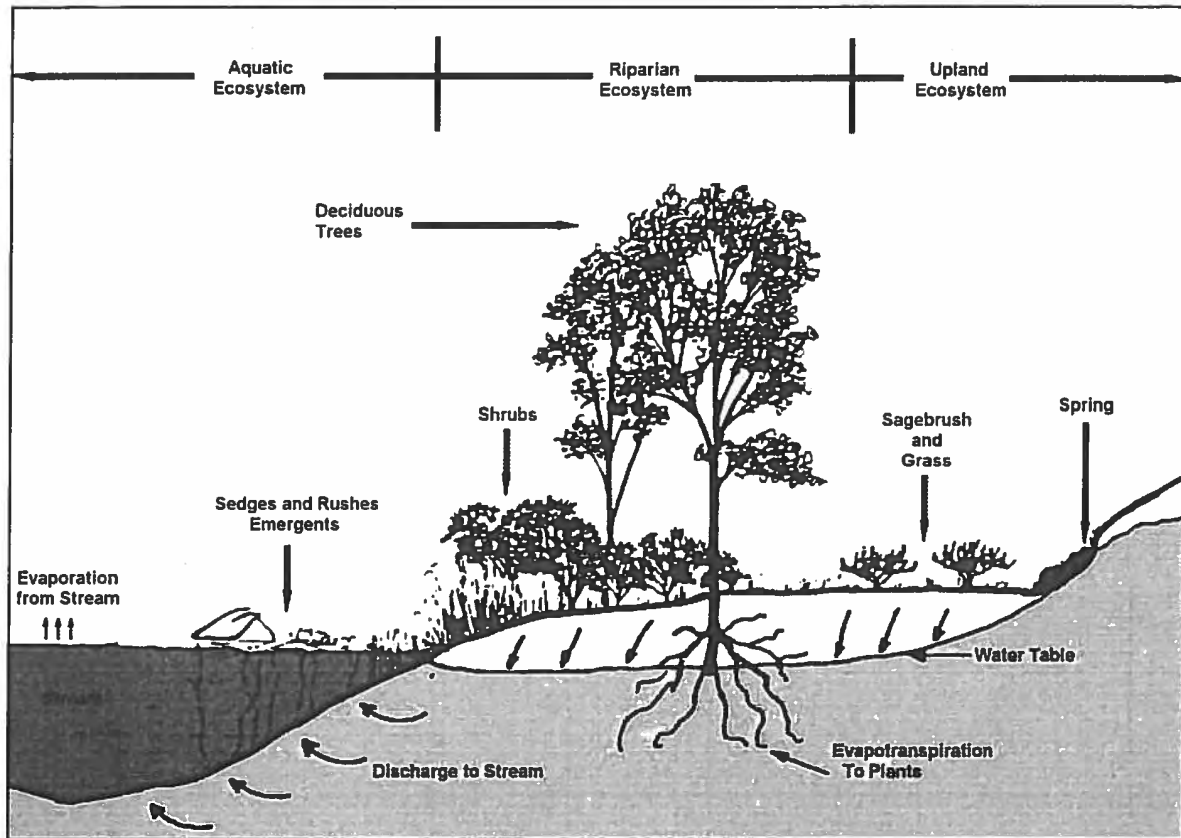
Several issues raised in the Nevada State Water Plan (Nevada Division of Water Planning, 1999) are relevant to surface water resources in Nye County. According to the State Water Plan, surface water accounted for 47 percent of total water use in the County during 1985. By 1990, surface water had dropped to 13 percent of the total water use in Nye County but by 1995 had risen to 17 percent of the total. The majority of surface water use is for agriculture.

Key surface water management issues in Nye County include:

- **Conservation**
- **Relationships between surface and ground water uses**
- **Interstate and intercounty management and use**
- **Water use measurement and estimation**
- **Nonpoint source pollution**
- **Meeting recreational demands**
- **Maintenance of instream flows**
- **Flood hazard reduction**

These issues are addressed in following sections to this plan.

Figure 7. Riparian Area Issues & Management Practices



ISSUES

- o Livestock production is an important economic sector in northern Nye County.
- o The ranching industry, in accordance with Nevada Water Law, has obtained the legal right to divert water from streams and springs and to withdraw groundwater for livestock watering.
- o Livestock and wildlife may trample vegetation and overgraze forage in riparian areas.
- o Livestock and wildlife may disturb the soils in riparian areas.
- o Wildlife may be trapped and drowned in troughs and spring developments.
- o Livestock and wildlife may impact water quality in riparian areas.

MANAGEMENT PRACTICES

- o Convey water from streams to watering sites away from riparian areas.
- o Move salt blocks away from riparian areas.
- o Fence selected riparian areas in National Forests
- o Monitor impacts of grazing on riparian areas.
- o Install walkways to prevent trapping and drowning.
- o Promote cooperation between the ranching industry and federal land management agencies for the long-term management of range lands.

Groundwater Resources

In addition to its surface water resources, Nye County has considerable groundwater resources. Groundwater occurs at various depths under the entire county and has been developed for municipal, agricultural, and mining supplies as well as for other purposes. In recent years, the demand on the groundwater resources has grown significantly, in part reflecting the growth of the various economic sectors of the County, and in part reflecting the interest in exporting water from Nye County through large-scale interbasin transfers of water. Because most of the surface water resources of Nye County have already been appropriated, the groundwater resources represent the only remaining source of water that is available to support the future well-being of the County, through diversification and expansion of the economy.

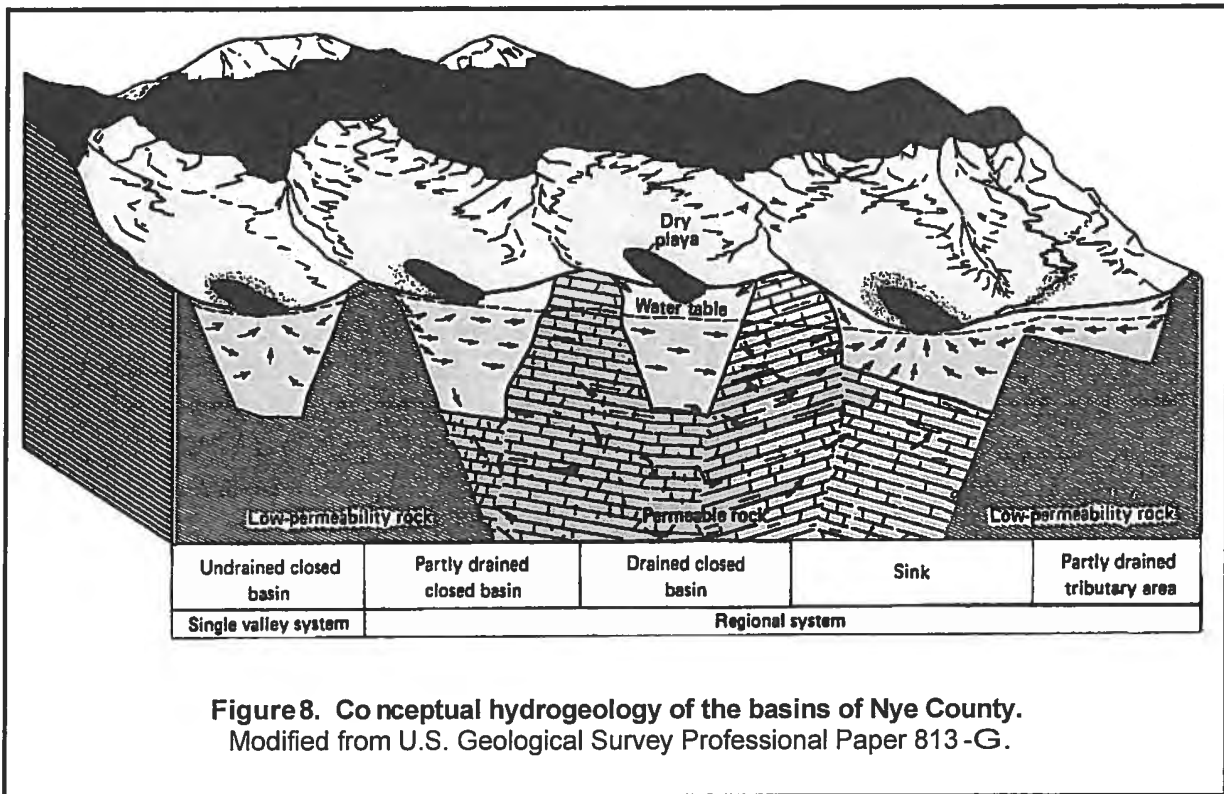
In this section, an overview of the groundwater resources of Nye County is presented. This overview includes a description of the hydrologic conditions and sources of water, the quantity of water that is present, the quality of that water, the committed groundwater resources, and the issues associated with their development and use.

General Geologic Conditions - With respect to their significance to groundwater, the geologic units of Nye County may be grouped into seven categories: 1) valley-fill deposits, comprising mixtures of gravel, sand, silt and clay that include the alluvial and playa deposits; 2) younger volcanic rocks, comprising ash-flow tuff and basalt; 3) older volcanic rocks, comprising dacite, latite, andesite, and tuffs; 4) Triassic sediments, comprising freshwater limestone, conglomerate, sandstone, siltstone, and tuff; 5) intrusive rocks, comprising granitic plutons; 6) upper Paleozoic carbonate rocks, comprising predominantly limestone and dolomite, but with inter-bedded shale and siltstone aquitards; and 7) lower Paleozoic and older rocks, comprising predominantly clastic rocks including shale and quartzite, but with some inter-bedded carbonate units. For more detailed descriptions of the geologic units present, the reader is referred to Nevada Bureau of Mines and Geology Bulletin 77, Geology and Mineral Resources of Southern Nye County, Nevada, 1972, by Henry R. Cornwall, and Bulletin 99A, Geology of Northern Nye County, Nevada, 1985, by Frank J. Kleinhampl and Joseph I. Ziony.

In general, the geologic units of Nye County can be divided into three major aquifer systems, the valley-fill aquifers, the volcanic aquifers, and the regional carbonate aquifer. The regional carbonate aquifer is divided into six systems: an upper carbonate system, an upper clastic aquitard, a lower carbonate system, a Cambrian aquitard, a middle Cambrian carbonate aquifer, and a lower clastic aquitard.

The ability of the aquifer systems of Nye County to store and transmit groundwater, and to yield water to wells, depends upon the type of aquifer and its characteristics. Typically, the alluvial deposits are more productive where they comprise coarse-grained gravels and sand deposits, but exhibit low well yields in the playa areas where clay predominates. The production of the consolidated volcanic and carbonate aquifers depends largely on the degree of faulting and fracturing. The limestone and dolomite units, where fractured, can be quite productive aquifers, with yields of 3,000 gallons per minute reported for some wells drilled into similar units in Clark County.

Some geologic units have little or no productivity because of their fine-grained nature. These units include shale, quartzite, and granite. If fractured, these units may be capable of producing



low to moderate well yields (a few tens of gallons per minute), but generally act as aquitards (units that tend to retard the movement of water horizontally and vertically between aquifers).

The distribution of geologic units and the relationships between aquifers and aquitards is quite variable because of the past geologic history of Nye County. The carbonate and other sedimentary rock units that were originally deposited as flat lying sediments on the ocean floor have since been faulted, folded, fractured, and in some instances, intruded by granitic rocks. Low-angle faults have resulted in older rocks being thrust over younger rocks while high-angle basin and range faults have resulted in significant offsets in geologic units. The intrusion of plutons has further disturbed the rocks and aquifers. The net result of this deformation is that the aquifers in Nye County are not continuous. Rather, they are broken into discrete compartments that are usually bounded either by fault zones or contacts between rocks with contrasting hydraulic properties. This compartmentalization is an important, but poorly understood, aspect of the regional hydrologic conditions. The regional carbonate aquifer, for example, is commonly perceived as a continuous aquifer while in reality, it has been broken up both horizontally and vertically into dozens, and perhaps hundreds, of individual compartments. A better understanding of how these compartments interact can only be achieved through further testing and study.

Groundwater Occurrence and Flow - Figure 4 shows the conceptual hydrogeologic conditions in Nye County. Recharge derived from precipitation over the upland areas replenishes the groundwater reservoir each year. Groundwater flows from the upland areas toward the valley floors. In undrained basins, all of the groundwater stays within the basin where the recharge fell and is discharged to the surface or consumed by plants (a process referred to as evapotranspiration).

Where two or more basins are hydraulically connected, they form a flow system. Figure 10 and Table 12 summarize the groundwater flow systems that underlie Nye County. The Railroad Valley system and the Death Valley system are the two major flow systems in the County, but recharge over Nye County provides appreciable water to the Northern Big Smoky Valley system, the Diamond Valley system, the White River system, and the South Central Marshes system. The hydraulic connection between individual basins in each of these systems is usually the carbonate rocks that underlie the valley-fill deposits and crop out in the mountains. These rocks are commonly referred to as the regional carbonate aquifer.

The sources of groundwater in these flow systems include recharge from precipitation, mountain runoff, and regional inflow from carbonate rock aquifers. The regional carbonate aquifer stores hundreds of millions of acre feet of water. However, the U.S. Geological Survey has estimated that if the water stored in the upper 100 feet were extracted, the central carbonate aquifer could yield about six million acre feet of stored water. It is important to note, however, that the extraction of such huge volumes of water, and the subsequent lowering of water levels, could have significant adverse impacts on the groundwater regime of the basins where extraction occurs. The issues associated with this type of groundwater development are discussed in a later chapter.

From a water planning perspective, the recognition of flow system sources and discharge areas is important. As an illustrative example, the Death Valley flow system is of particular note as it includes 20 hydrographic basins that are located wholly, or partially, in Nye County. Within this flow system, recharge derived from Clark County and northern Nye County provides the source of most of the groundwater in southern Nye County. The groundwater in Pahrump Valley and eastern Amargosa Desert is derived primarily from precipitation that falls over the Spring Mountains. The groundwater in central Amargosa Desert is derived primarily from recharge from the Sheep Range, in north-central Clark County.

Much of the groundwater in the eastern and central Death Valley system discharges at the springs and evapotranspiration areas in the Nevada portions of Amargosa Desert and Pahrump Valley. Some discharges in California at the springs at Tecopa and the playa area south of Death Valley Junction. Some portion of the groundwater discharge at the springs and saltpan at Death Valley may also be derived from the underflow of groundwater from Nye County that originated as recharge over Clark County (or even portions of Lincoln County). Thus, much of southern Nye County's groundwater resources are dependent upon recharge in Clark County and some areas in California are dependent upon the portion of this recharge that crosses the state line from Nye County into Inyo County. This situation points to the need for cooperative water planning across county and state lines to insure that developments in one part of a flow system do not result in unacceptable impacts in other portions of the flow system.

General Basin Hydrology - Nye County has all, or portions, of 43 individual hydrographic basins. Figure 11 shows the locations of these basins and Table 13 provides summary information concerning the water budget parameters for each of these basins. The water budget in its simplest form is an accounting of the inputs to and outputs from a basin. The water budget is a balance where the groundwater recharge from all sources equals the total discharge. Recharge to the groundwater system in each basin is derived primarily from the precipitation that falls above an elevation of about 6,000 feet above mean sea level. In the northern part of the County, the bulk of the recharge over the County occurs over the Toiyabe Range, Toquima Range, Hot Creek Range, and Grant Range. Lesser recharge in the north is contributed over the White Pine Range and Shoshone Mountains.

(Text continues on page 34)

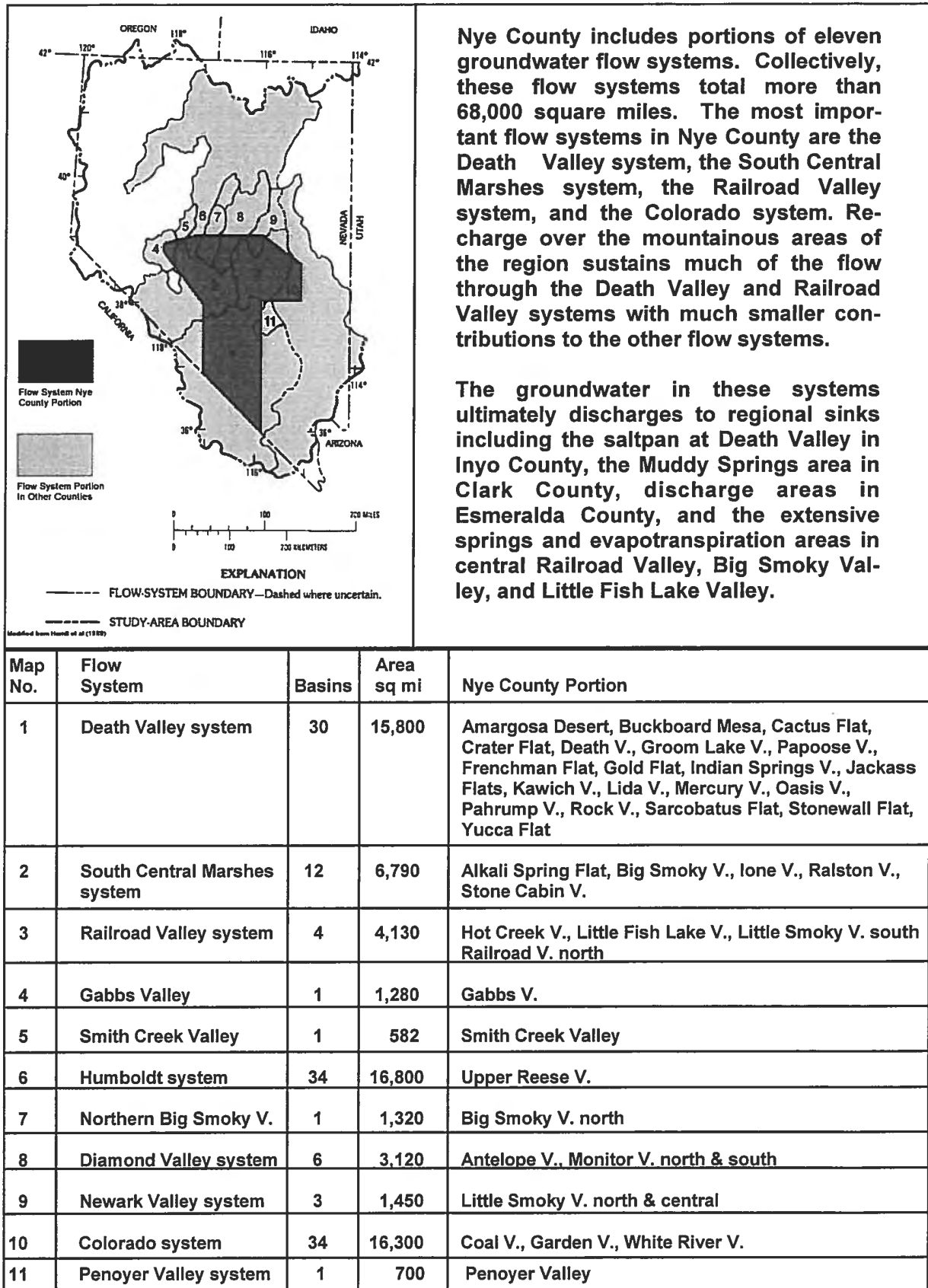


Figure 9 and Table 10. Flow Systems of Nye County.

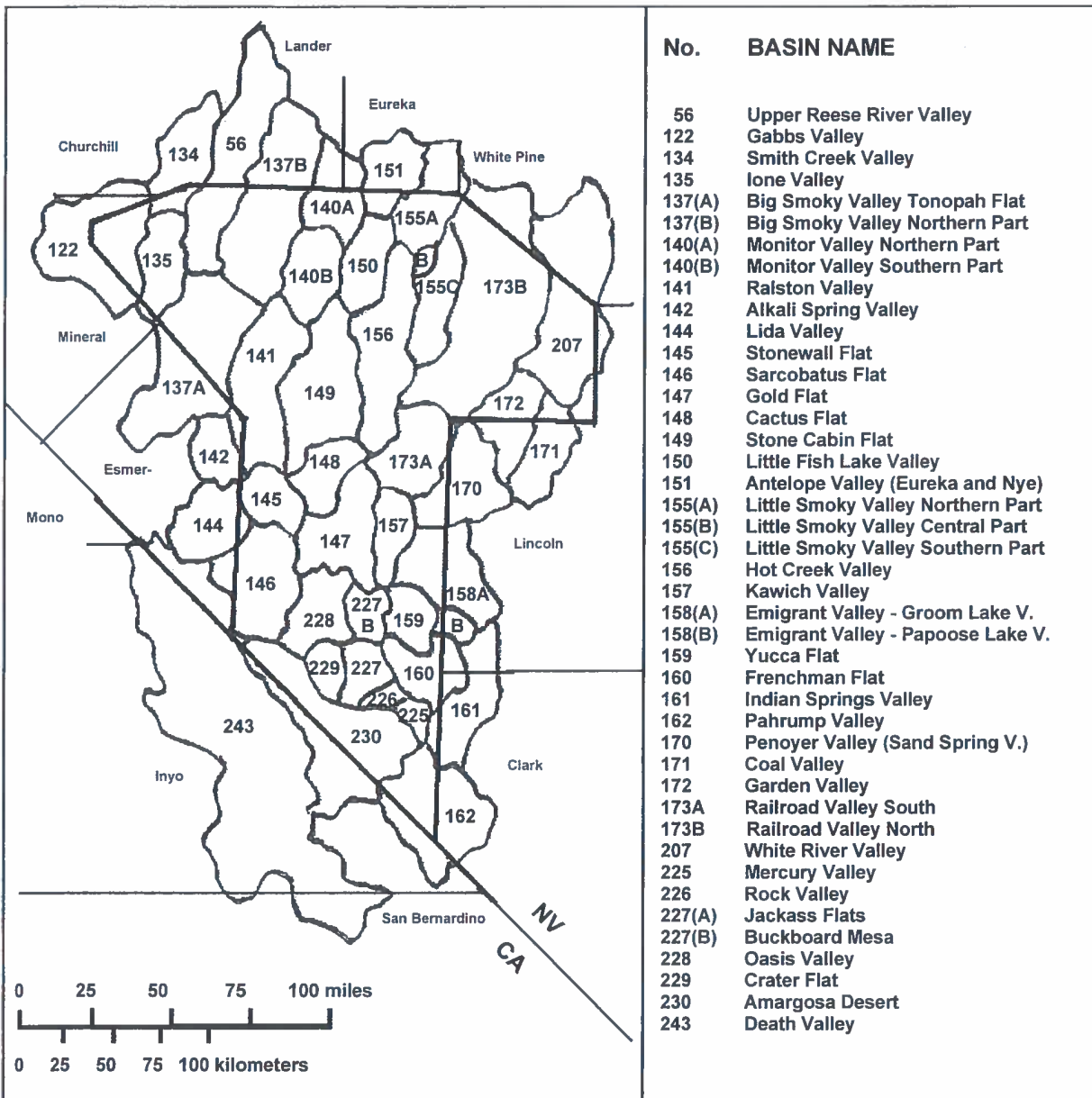


Figure 10. Hydrographic Basins of Nye County. There are 43 hydrographic basins that are located in, or partially in, Nye County. Only about 20 of these basins are located almost entirely within the County boundaries; the remainder are shared basins. Nye County shares hydrographic basins with eight counties in Nevada and two counties in California. For example, although most of the developed areas in Pahrump Valley (Basin 161) are located in Nye County, the basin includes areas in Clark County, Nevada and Inyo County, California. Such political subdivisions within hydrographic basins can hamper water planning efforts.

Table 11. Water Budget Parameters for the Basins in Nye County.

All values are in acre feet per year.

Basin	Recharge	Inflow	Evapotranspiration	Outflow	Perennial Yield	Water Budget
Alkali Spring Valley	100	5,500	400	5,000	3,000	
Amargosa Desert	600	44,000	24,000	19,000	34,000	
Antelope Valley (Eureka & Nye)	17,000	500	4,000	13,500	4,000	17,500
Big Smoky Valley - Northern Part	65,000	0	64,000	0	65,000	
Big Smoky Valley - Tonopah Flat	12,000	2,000	6,000	8,000	6,000	
Buckboard Mesa	1,400	5,800	0	7,200	3,600	
Cactus Flat	600	0	0	300	300	
Coal Valley	2,000	8,000	Minor	10,000	6,000	
Crater Flat	220	1,500	0	1,700	900	
Eagle Valley	1,100	0	290	0	300	
Emigrant Valley - Groom Lake Valley	3,200	0	0	3,200	2,800	
Emigrant Valley - Papoose Lake Valley	<10	0	0	<10	<10	
Frenchman Flat	100	33,000	0	33,000	16,000	
Gabbs Valley	5,000	0	>3,700	0	5,000	
Garden Valley	10,000	0	2,000	8,000	6,000	
Gold Flat	3,800	0	0	3,800	1,900	
Grapevine Canyon	50	500?	Minor	400	400	
Hot Creek Valley	5,800	0	5,000	800	5,500	5,800
Indian Springs Valley	10,000	22,000	Minor	32,000	500	
Ione Valley	8,000	0	1,300	2,000	2,500	
Jackass Flats	900	7,200	0	8,100	4,000	
Kawich Valley	3,500	1,000	0	4,500	2,200	
Lida Valley	500	200	0	700	350	
Little Fish Lake Valley	9,700	0	9,700	0	10,000	9,700
Little Smoky Valley (Northern)	4,000	Some	1,900	1,000	5,000	
Little Smoky Valley Central Part	200	0	0	200	100	
Little Smoky Valley Southern Part	1,400	Some	0	Some	1,000	
Little Smoky Valley (Total)	13,000	0	6,000	7,000		13,000
Mercury Valley	250	16,000	0	17,000	8,000	
Monitor Valley Northern Part	6,300	2,000	2,000	6,000	8,000	
Monitor Valley Southern Part	15,000	0	9,200	2,000	10,000	
Oasis Valley	1,000	2,500	2,000	1,500	2,000	
Pahrump Valley	22,000	0	10,000	13,000	12,000	
Penoyer Valley (Sand Spring Valley)	4,300	0	6,400	0	5,000	
Railroad Valley Northern Part	61,000	24,000	85,000	0	50,000	85,000
Railroad Valley Southern Part	6,000			1,000	with RR North	
Ralston Valley	5,000	3,000	2,500	5,500	6,000	
Rock Valley	30	17,000	0	17,000	8,000	
Sarcobatus Flat	1,200	1,300	3,000	500	3,000	
Smith Creek	12,000	0	6,600	0	10,000	
Stone Cabin Flat	5,000	0	2,000	3,000	2,000	
Stonewall Flat	100	Some	0	200	100	
Upper Reese River Valley	37,000	0	37,000	500	37,000	
Yucca Flat	700	0	0	700	350	

Note: Values shown in bolded text are from Nichols (2000) U.S. Geological Survey Professional Paper 1628, Table C15.

All other values are from Water for Nevada, Report No. 3, Nevada's Water Resources, State Engineer's Office, Nevada Department of Conservation and Natural Resources, October 1971.

In the southern part of the County, little recharge is derived from precipitation that falls over Nye County. Rather, as noted previously, the aquifers in Pahrump Valley and Amargosa Valley are recharged primarily by precipitation over the Spring Mountains and Sheep Range in Clark County.

The quantity of recharge that is contributed each year is not known. Reconnaissance level estimates of recharge have been developed based on estimates of discharge, climate data, and the topography of the landscape. In addition to this natural recharge, activities by man can result in additional recharge to the groundwater reservoir, a process referred to as secondary recharge. Secondary recharge occurs where water infiltrates to the water table from irrigated cropland or pastures; leakage from canals, ditches, and natural stream channels; and even from septic systems. Secondary recharge can total several thousand acre feet per year in some basins.

Groundwater flows from the upland recharge areas to discharge areas at springs and areas where shallow groundwater is discharged to evapotranspiration. The largest areas of evapotranspiration in Nye County are in Railroad Valley and Big Smoky Valley. Lesser but still significant evapotranspiration occurs in Amargosa Desert, Little Fish Lake Valley. Significant discharge once occurred in Pahrump Valley but has been diminished over the last five decades by groundwater development.

In recent years, Nye County has been the focus of studies by the U.S. Geological Survey to better define evapotranspiration rates. These studies have found that the quantity of groundwater being discharged to evapotranspiration is generally more than double that estimated in the old reconnaissance evaluations in the northern part of the County, but not significantly greater than historic estimates in the southern part of the County. The results of these studies suggest that the recharge over northern Nye County is significantly greater than previously thought. There is still considerable uncertainty, however, in these estimates, and a greater understanding of both recharge and discharge is needed to help guide water resources evaluations and planning in the region.

Groundwater Quantity and Availability - Nye County has significant groundwater resources but they are poorly defined. The perennial yields listed in Table 13 offer only a first order approximation of how much water can actually be drawn on an annual basis. As noted in the previous discussion, the U.S. Geological Survey is revising the estimates of evapotranspiration upward, suggesting that the perennial yield of the basins in the northern part of the County may be appreciably higher than historic published values indicate. However, until such time as the evaluations have been completed and a more complete understanding of the groundwater regime is available, the existing perennial yield values must serve as the basis for planning.

Determining the quantity of water available within Nye County is further complicated by the fact that only 16 hydrographic basins are wholly situated within the County. In the north, Nye County shares two hydrographic basins with Churchill County, three basins with Lander County, three basins with Eureka County, and three basins with White Pine County. On the east, seven basins are shared with Lincoln County and three basins are shared with Clark County. On the west, two basins are shared with Mineral County and six basins are shared with Esmeralda County. To the south, in California, Nye County shares three basins with Inyo County.

Because of the rural development of the counties in Nevada and California that share hydrographic basins, there have not been conflicts in the past over groundwater commitments and use. This situation may change, however, as growth is expected to occur across the entire region and a number of entities are looking at the water resources of the shared basins as

sources of water for exportation to urban areas. For example, water development in Clark County may result in direct competition with Nye County and developments in Nye County may result in direct competition with Inyo County for the shared groundwater resources.

The estimated committed groundwater resources in Nye County are large and the estimated totals are summarized in Tables 14 and 15. Table 14 lists the water rights by status in each basin and Table 15 lists the water rights by type of use category. The values shown are only estimates and the reader is referred to the notes on Table 14 concerning the accuracy and validity of these estimates. In all, about 271,000 acre feet of groundwater have been appropriated in the basins that are located wholly or partially in Nye County. The valleys with the largest committed groundwater resources are Pahrump Valley with over 68,000 acre feet committed, Big Smoky Valley - Northern Part with about 38,000 acre feet committed, Middle Reese Valley with over 37,000 acre feet committed, Amargosa Desert with more than 28,000 acre feet committed, and Big Smoky Valley - Tonopah Flat with almost 27,000 acre feet committed.

In addition to the water resource commitments shown in Table 14, there are large water right filings in some basins that are ready for action by the Division of Water Resources. In all, applications are outstanding for more than 333,000 acre feet in the basins that are located wholly or partially in Nye County (as of March 1999). Foremost are those associated with the Southern Nevada Water Authority's plans to export water from Nye County and other rural Nevada counties to metropolitan Las Vegas. In 1989, the Las Vegas Valley Water District filed 32 groundwater permit applications with points of diversion in Nye County. Six of these applications have been withdrawn but the remaining 26 applications, totaling more than 140,000 acre feet in Railroad Valley (North and South), Garden Valley, and Coal Valley, are ready for protest.

Numerous water right applications associated with Carey Act and Desert Land Entry applications are outstanding in Railroad Valley (North and South) with more than 112,000 acre feet requested, Big Smoky Valley North (14,000 acre feet), Hot Creek Valley (13,760 acre feet), Monitor Valley South (7,680 acre feet), Smith Creek Valley (2,560 acre feet), and Lone Valley (640 acre feet). A number of applications are also ready for action for water rights for irrigation. Applications for irrigation total more than 21,000 acre feet in Big Smoky Valley - Northern Part, 640 acre feet in Smith Creek Valley, and 200 acre feet in Oasis Valley.

Since March 1999, a number of new applications have been filed that have significantly increased the demand for water in some parts of Nye County. In September 1999, CSS Company filed 50 irrigation water right applications for 5.4 cfs each in Railroad Valley (34 applications in Railroad Valley North and 16 in Railroad Valley South). In February 2000, the Nye County Board of County Commissioners filed 10 water right applications totaling over 33,000 acre feet per year in the basins of the Nevada Test Site (Yucca Flat, Mercury Valley, Rock Valley, Jackass Flats, and Crater Flat).

Existing groundwater allocations (vested rights plus permits plus certificated rights) exceed the perennial yield in six basins (Alkali Spring Valley, Amargosa Desert, Crater Flat, Gabbs Valley, Middle Reese Valley, and Pahrump Valley). The demand for water, as defined by the sum of existing water rights, applications that are ready for action, and implied federally reserved water rights, exceeds the perennial yield in three additional basins (Hot Creek Valley, Railroad Valley North, and Railroad Valley South). The demand for water equals the perennial yield in four more basins (Yucca Flat, Mercury Valley, Rock Valley, and Jackass Flats).

Table 12. Summary of Underground Water Rights in Nye County Basins Through March 1999

Source: Division of Water Resources Files. Note: Only basins with DWR data are listed.

BASIN	-----WATER RIGHTS IN ACRE FEET BY STATUS-----						Total	Total
	VEST	APPL	RFA	PER	REL	CERT	Rights	Demand
Alkali Spring Valley				1,209		12,378	13,587	13,587
Amargosa Desert		116	32,780	7,276		16,261	23,537	56,317
Antelope Valley (Eureka & Nye)			0	0		1,746	1,746	1,746
Big Smoky Valley - Northern Part			35,721	26,166		11,871	38,037	73,758
Big Smoky Valley - Tonopah Flat				5,423		21,300	26,724	26,724
Buckboard Mesa				7			7	7
Cactus Flat						248	248	248
Crater Flat				1,094		144	1,239	1,239
Frenchman Flat							0	0
Gabbs Valley	94		11	8,654		10,298	19,046	19,056
Gold Flat				423		34	457	457
Hot Creek Valley	23		13,760	1,204		1,412	2,639	16,399
Indian Springs Valley				692		631	1,323	1,323
Ione Valley			640	18		130	147	787
Jackass Flats			2,150	444		58	502	2,652
Lida Valley				1		26	27	27
Little Fish Lake Valley			33				0	33
Little Smoky Valley Central Part						4	4	4
Middle Reese River Valley				1,664		36,170	37,834	37,834
Monitor Valley Northern Part				443		184	627	627
Monitor Valley Southern Part	101		7,696	13		431	545	8,241
Oasis Valley			200	319		932	1,251	1,451
Pahrump Valley	695	1,120	3,943	29,667	5,090	29,093	64,545	69,608
Railroad Valley North			190,467	8,076		16,248	24,324	214,791
Ralston Valley				996		971	1,967	1,967
Sarcobatus Flat				100		1,104	1,204	1,204
Smith Creek			0	2,481		1,104	3,585	3,585

Note: Total Rights = Vested + Permits + Certified

Total Demand = Vested + Permitted + Certified + Applications + Ready for Action

APPL = Applications, RFA = Ready for Action, PER = Permitted, REL = Relinquished, CERT = Certified

Note: Values shown are from the Nevada Division of Water Resources water rights database. These values represent estimated resources committed as of March 1999. The database is still under development and all committed resource numbers presented in this, and other tables in this report, are approximate. The values are preliminary and intended to be used for planning purposes only. There are a number of limitations in the use of these estimates:

1. The values shown represent the estimated maximum committed groundwater, not the actual groundwater withdrawal and consumption, which are significantly less.
2. Some groundwater rights are supplemental with surface water rights. A groundwater right that is pumped only as needed to augment low surface water flows is a supplemental right that is usually not put to full use each year.
3. Some groundwater rights are supplemental with other groundwater rights. Withdrawals may be distributed among multiple wells with a combined annual pumpage for the entire well field. The NDWR database does not account for these supplemental rights; NDWR staff have made adjustments for about 35% of the basins in Nevada.
4. Some groundwater rights may not be exercised to their full appropriative right each year. Municipal water rights often far exceed the actual use, providing communities with available water for future use.
5. Irrigation and mine dewatering may be supplemental in some instance where mine effluent is used to irrigate crops while the irrigation rights are idle.
6. The values are time-sensitive and subject to change due to pending water right applications, and possible cancellations.
7. Nye County does not warrant the validity of these values.

UNDERGROUND WATER RIGHTS ABSTRACT SUMMARY BY TYPE OF USE FOR NYE COUNTY BASINS.

-----WATER RIGHTS IN ACRE FEET BY TYPE OF USE CATEGORY -----

COM	DOM	ENV	IND	IRR	M&M	MUN	POW	QM	REC	STK	WILD	OTHER
				16	8,403	4,923		286		15		
154	3			22,444	4,618			1,048			298	
				1,013						8		
8	4			34,972	1,077			1,773	21	157		46
				11,797	12,683	1,507		14		864		
			7									
								243		5		
					1,239							
				9,656	8,835	307				248		
								423		34		
31	1			215				1,076				
				61	15					71		
			7									
					8					19		
										4		
				37,734						100		
				175	434					18		
13					414			6		112		
11				75		1,163				2		
389	62		65	48,740	2	19,815		2,228	25	53		48
			134	21,978	69				1,994	145		
				32		1,554		36	240	104		
				982	33			114		76		
				1,828	7					18		

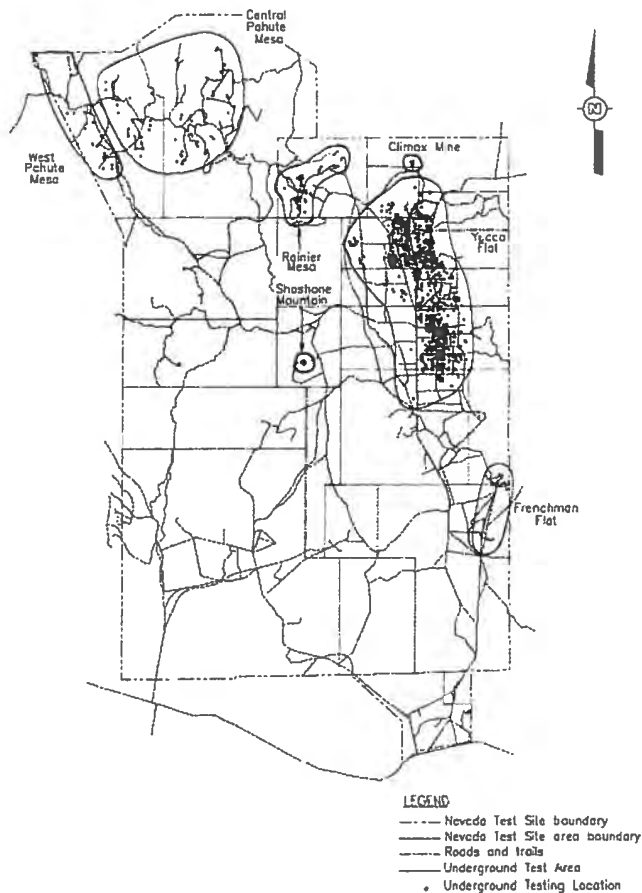
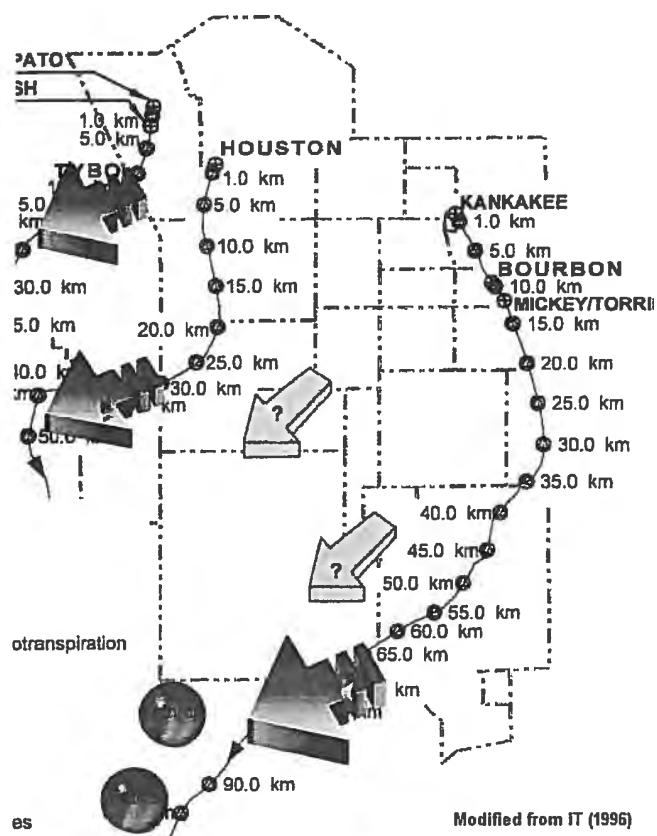
Municipal POW = Power QM = QuasiMunicipal REC = Recreation STK = Stock Water WILD = Wildlife Water

Groundwater Quality - With the exception of the areas used for underground nuclear testing on the Nevada Test Site, the general quality of the groundwater in Nye County is suitable to marginally suitable with limited exceptions based on specific locations and proposed uses. Naturally occurring fluoride and uranium concentrations in Oasis Valley and Crater Flat exceed drinking water standards. The total dissolved solids concentration of groundwater in portions of Alkali Spring Valley, Big Smoky Valley, Gold Flat, Monitor Valley, Railroad Valley (North and South), Sarcobatus Flat, and Stone Cabin Valley exceed state or federal drinking water standards. In these basins, the total dissolved solids are elevated because of the natural process of salt buildup by evaporation in areas of shallow groundwater. With the recent lowering of the drinking water standard for arsenic from 50 to 10 parts per billion, community water systems in Beatty, Round Mountain, and Manhattan are faced with additional (and costly) treatment requirements.

The activities of man have resulted in the contamination of significant volumes of groundwater in Nye County. First and foremost, of course, is the remaining radioactivity on the Nevada Test Site. About 250 square miles at this facility are contaminated with radioactivity as a result of historic underground nuclear weapons testing. This testing was conducted in six hydrographic basins (Yucca Flat, Frenchman Flat, Gold Flat, Kawich Valley, Oasis Valley, and Buckboard Mesa). Figure 12 shows the locations of the underground nuclear testing areas and the possible paths that this contamination might take. These paths are based upon a regional numerical model prepared by the U.S. Department of Energy as part of its ongoing investigations of the underground testing areas. According to this simulation, radionuclide contamination in the groundwater underlying the Nevada Test Site may migrate off of the facility toward the communities of Beatty and Amargosa Valley, and ultimately to the regional discharge areas in California in Death Valley and southernmost Amargosa Desert.

According to the U.S. Department of Energy, more than 295 million curies of radioactivity remain in the deep subsurface at the Nevada Test Site, of which an estimated 112 million curies are under or within 100 meters (328 feet) of the water table. This federal agency has long emphasized that the majority of this contamination is tritium, a short-lived isotope of hydrogen (with a total activity of 100.6 million curies remaining as of January 1994). There are, however, a number of longer-lived radionuclides of concern that are also present in appreciable quantities. Specific radionuclides of concern include isotopes of americium (11,500 curies), plutonium (37,000 curies), strontium (2,733,000 curies), and uranium (1,200 curies). These radionuclides exhibit half-lives ranging from 28 years for strontium to 4.4 billion years for some uranium isotopes. Also of concern are the daughter isotopes that result from the decay of these radionuclides, especially neptunium and technetium. One of the legacies of the nation's nuclear weapons program has been the contamination of an estimated five million acre feet or more of groundwater in Nye County. For all practical purposes, the water resources under the testing areas have been destroyed as a result of nuclear testing, and are lost to the County in perpetuity.

Contamination of groundwater with radionuclides in Nye County is not limited to only the Nevada Test Site. Tritium has been detected in the upper aquifer underlying portions of the U.S. Ecology disposal site near Beatty. Between 1962 and 1992, wastes with a total activity of about 715,000 curies were disposed of at this site (except for a period in 1976-1979 during which the operator's license was suspended for improper waste handling and disposal). Elevated activities of gross alpha, gross beta, and tritium have been detected in groundwater sampled from on-site monitoring wells since about 1973, but have significantly decreased since maximum levels were detected in the early 1980s.



of underground nuclear tests at the Nevada Test Site, and regional paths for contaminant from: U.S. Department of Energy, 1997, Regional Groundwater Flow and Tritium Transport Model-ent of the Underground Testing Area, Nevada Test Site. Note: Since these maps were originally st boundary of the Nevada Test Site has been changed.

**IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA**

1183

**ORDER
FOR DOMESTIC WELL CREDIT IN THE
PAHRUMP VALLEY HYDROGRAPHIC BASIN (162)**

WHEREAS, this order is adopted under the procedure set forth in Chapter 534.350 of the Nevada Revised Statutes for the establishment of a program that allows a public water system to receive credits for the addition of new customers to its system.

WHEREAS, this order covers a portion of the Pahrump Valley Hydrographic Basin (162) more specifically described as being:

T.19S., R.52E. (MDB&M)

All of Sections 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36 and those portions of Sections 1, 3, 10, 11, and 12 within the Pahrump Valley Drainage.

T.19S., R.53E. (MDB&M)

All.

T.20S., R.52E. (MDB&M)

East half.

T.20S., R.53E. (MDB&M)

All.

T.20S., R.54E. (MDB&M)

West half and all of Sections 25, 26, 27, 34, 35, and 36.

T.21S., R.52E. (MDB&M)

All of Section 1.

T.24N., R.08E. (SBM)

Those portions of Sections 14, 15, 22, 23, 24, 25, 26, and 36 within the state of Nevada.

T.21S., R.53E. (MDB&M)

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, and 36 and those portions of Sections 17, 18, 20, 21, 27, 28, 34, and 35 within the state of Nevada.

T.21S., R.54E. (MDB&M)

All.

T.22S., R.53E. (MDB&M)

Those portions of Sections 1, 2, and 12 within the state of Nevada.

T.22S., R.54E. (MDB&M)

All of Sections 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, and 36 and those portions of Sections 7, 17, 18, 20, 21, 27, 28, 34, and 35 within the state of Nevada.

WHEREAS, this order proposes that a public water system that provides water for municipal purposes within the area described above receive a credit for each customer who is added to their system provided:

- a. A single family dwelling which is presently utilizing a domestic well on a lot established as a separate lot before July 1, 1993, and voluntarily ceases to draw water from that well located within the described area; or
- b. Any owner of a lot with the ability to drill a domestic well and utilize water from that well meets the following conditions:
 - (1) That the described lot is located within the area described; and
 - (2) That the lot was established as a separate lot before July 1, 1993; and
 - (3) That the lot was approved by a local governing body or planning commission for service by an individual domestic well before July 1, 1993; and
 - (4) A written agreement is entered between the owner of the lot and the public water system, wherein, the owner agrees not to drill a domestic well on the lot, and the public water system agrees that it will provide water service to that lot. Any such agreement must be acknowledged and recorded in the same manner as conveyances affecting real property are required to be acknowledged and recorded pursuant to Chapter 111 of NRS.

WHEREAS, the State Engineer may require each new customer who voluntarily ceases to withdraw water from a domestic well to plug that well at such time as notification of service from the public water system is made.

WHEREAS, a credit granted to the public water system under this order:

- a. Will be for domestic uses as defined by NRS 534.013.
- b. May not exceed the increase in water consumption attributable to the additional service connection or 1,800 gallons per day, whichever is less. The amount of water provided to each service will be reported by each public utility on a yearly basis, in addition to the amount pumped under any permitted water right.
- c. Cannot be converted to an appropriative right.
- d. May only be used at the location of the lot for which credit is being sought.
- e. Will only be from a water purveyor who pumps ground water within the same ground water basin as covered by this order.

WHEREAS, this order does not:

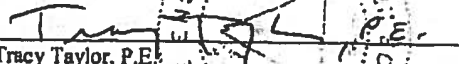
- a. Require the public water system to extend its service area unless approved by the Nevada Public Utilities Commission.
- b. Authorize any increase or the potential increase in the total amount of ground water pumped in the Pahrump Valley Hydrographic Basin.
- c. Affect any rights of an owner of a domestic well who does not voluntarily bring himself within the provisions of this order.
- d. Interfere with the State Engineer's authority to possibly restrict the drilling of a domestic well for domestic use, as defined in this order, in the described area of this order where water can be furnished by an entity presently engaged in serving water within the said area.

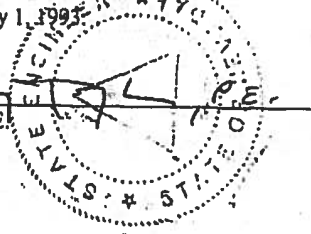
WHEREAS, any such request for a credit under the order shall be made to the State Engineer on the form made available by him.

WHEREAS, for the purposes of this order:

- a. "Domestic well" means a well used for 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, if the amount of water drawn does not exceed 1,800 gallons per day (NRS 534.013 and 534.180).
- b. "Lot" has the meaning ascribed to it in NRS 278.0165.
- c. "Public Water System" has the meaning ascribed to it in NRS 445A.840.

NOW THEREFORE, pursuant to the authority in NRS 534.350, the State Engineer hereby establishes a program in that portion of Pahrump Valley as heretofore described for a public water system to receive credits for new customers who are now served by domestic wells or who could drill a domestic well on a lot created prior to July 1, 1993.


Tracy Taylor, P.E.
State Engineer



Dated at Carson City, Nevada this

19th day of April, 2007.

**IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA**

**ORDER
#1252**

ORDER

**EXTENDING THE DESIGNATED AREA, LIFTING THE PROHIBITION
OF MOVEMENT OF WATER RIGHTS TO THE PAHRUMP AND MANSE
FANS, AND FURTHER CURTAILMENT OF GROUNDWATER
APPROPRIATION WITHIN THE PAHRUMP VALLEY HYDROGRAPHIC
BASIN (10-162) IN CLARK AND NYE COUNTIES, NEVADA**

EXTENDING DESIGNATED AREA

WHEREAS, the State Engineer partially designated the Pahrump Valley Hydrographic Basin, located within portions of Clark and Nye Counties, Nevada, as provided under the provisions of Nevada Revised Statute (NRS) § 534.030, by the following Orders:

1. Order No. 176, dated March 11, 1941.
2. Order No. 193, dated January 15, 1948, extending the boundary of the designated area of the Pahrump Valley Hydrographic Basin.
3. Order No. 205, dated January 23, 1953, extending the boundary of the designated area of the Pahrump Valley Hydrographic Basin.

WHEREAS, the State Engineer finds that conditions warrant the extension of the designated boundaries to include the entire extent of the Pahrump Valley Hydrographic Basin.

NOW THEREFORE, the State Engineer, pursuant to NRS § 534.030, designates the following described areas of land in need of administration:

T.17S., R.52E., Mount Diablo Base & Meridian (M.D.B.&M.)

That portion of Section 36 within the Pahrump Valley drainage basin.

T.17S., R.53E., M.D.B.&M.

All of Sections 25, 26, 27, 32, 33, 34, 35 and 36 and those portions of Sections 13, 14, 21, 22, 23, 24, 28, 29, 30 and 31 within the Pahrump Valley drainage basin.

T.17S., R.54E., M.D.B.&M.

All of Section 31 and those portions of Sections 19, 29, 30, 32 and 33 within the Pahrump Valley drainage basin.

T.18S., R.52E., M.D.B.&M.

All of Sections 12 and 25 and those portions of Sections 1, 2, 11, 13, 14, 23, 24, 26, 35 and 36 within the Pahrump Valley drainage basin.

T.18S., R.53E., M.D.B.&M.

All sections.

T.18S., R.54E., M.D.B.&M.

All of Sections 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36 and those portions of Sections 3, 4, 10, 11, 13, 14, 15 and 23 within the Pahrump Valley drainage basin.

T.18S., R.55E., M.D.B.&M.

All of Sections 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36 and those portions of Sections 8, 9, 14, 15, 16, 17, 18, 23, 24 and 25 within the Pahrump Valley drainage basin.

T.18S., R.56E., M.D.B.&M.

Those portions of Sections 30, 31 and 32 within the Pahrump Valley drainage basin.

T.19S., R.51E., M.D.B.&M.

All of Sections 22, 23, 24, 25, 26, 27, 35 and 36 and those portions of Sections 13, 14, 15, 16 and 21 within the Pahrump Valley drainage basin and the State of Nevada.

T.19S., R.52E., M.D.B.&M.

All of Sections 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36 and those portions of Sections 1, 3, 4, 7, 8, 9, 10, 11, 12, 17 and 18 within the Pahrump Valley drainage basin.

T.19S., R.53E., M.D.B.&M.

All sections.

T.19S., R.54E., M.D.B.&M.

All sections.

T.19S., R.55E., M.D.B.&M.

All sections.

T.19S., R.56E., M.D.B.&M.

All of Sections 6, 7, 8, 17, 18, 19, 20, 29, 30, 31, 32 and 33 and those portions of Sections 4, 5, 9, 16, 21, 22, 27, 28, 34 and 35 within the Pahrump Valley drainage basin.

T.20S., R.51E., M.D.B.&M.
All sections.

T.20S., R.52E., M.D.B.&M.
All sections.

T.20S., R.53E., M.D.B.&M.
All sections.

T.20S., R.54E., M.D.B.&M.
All sections.

T.20S., R.55E., M.D.B.&M.
All sections.

T.20S., R.56E., M.D.B.&M.
All of Sections 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36 and those portions of Sections 1 and 2 within the Pahrump Valley drainage basin.

T.20S., R.57E., M.D.B.&M.
All of Sections 7, 17, 18, 19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34 and 35 and those portions of Sections 5, 6, 8, 9, 15, 16, 22, 23, 24, 25 and 36 within the Pahrump Valley drainage basin.

T.21S., R.52E., M.D.B.&M.
All sections.

T.21S., R.53E., M.D.B.&M.
All sections.

T.21S., R.54E., M.D.B.&M.
All sections.

T.21S., R.55E., M.D.B.&M.
All sections.

T.21S., R.56E., M.D.B.&M.
All sections.

T.21S., R.57E., M.D.B.&M.
All of Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32 and 33 and those portions of Sections 1, 12, 25, 34, 35 and 36 within the Pahrump Valley drainage basin.

T.21S., R.58E., M.D.B.&M.

Those portions of Sections 7, 18, 19 and 30 within the Pahrump Valley drainage basin.

T.22S., R.53E., M.D.B.&M.

All sections.

T.22S., R.54E., M.D.B.&M.

All sections.

T.22S., R.55E., M.D.B.&M.

All sections.

T.22S., R.56E., M.D.B.&M.

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32 and 33 and those portions of Sections 25, 26, 34 and 35 within the Pahrump Valley drainage basin.

T.22S., R.57E., M.D.B.&M.

All of Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19 and 20 and those portions of Sections 3, 10, 15, 21, 22, 28, 29 and 30 within the Pahrump Valley drainage basin.

T.23S., R.54E., M.D.B.&M.

All sections.

T.23S., R.55E., M.D.B.&M.

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22 and 28 and those portions of Sections 13, 23, 24, 26 and 27 and the Pahrump Valley drainage basin.

T.23S., R.56E., M.D.B.&M.

All of Sections 5 and 6 and those portions of Sections 3, 4, 7, 8, 9 and 18 within the Pahrump Valley drainage basin.

T.25N., R.7E., San Bernardino Base & Meridian (S.B.B.&M.)

All of sections 10, 14, 15, 23, 24 and 25 and those portions of Sections 8, 9, 16, 17, 21, 22, 26, 27, 35 and 36 within the Pahrump Valley drainage basin and the State of Nevada.

T.25N., R.8E., S.B.B.&M.

All sections.

T.24N., R.7E., S.B.B.&M.

That portion of Section 1 within the Pahrump Valley drainage basin and the State of Nevada.

T.24N., R.8E., S.B.B.&M.

All of Sections 4, 5, 9, 10, 14, 15, 23, 24 and 25 and those portions of Sections 6, 7, 8, 16, 17, 21, 22, 26, 27, 35 and 36 within the Pahrump Valley drainage basin and the State of Nevada.

T.23N., R.8E., S.B.B.&M.

That portion of Section 1 within the Pahrump Valley drainage basin and the State of Nevada.

The designated Pahrump Valley Hydrographic Basin is depicted and defined on Nevada Division of Water Resources, State Engineer's office maps.

**LIFTING THE PROHIBITION ON MOVEMENT OF WATER RIGHTS TO THE
PAHRUMP AND MANSE FANS**

WHEREAS, by Order No. 955, dated October 26, 1987, the State Engineer ordered that applications filed to appropriate water from the Pahrump and Manse alluvial fans be denied within the Pahrump Valley Hydrographic Basin.

WHEREAS, Order No. 955 noted a continual decline in water levels in the basin, with the greatest declines noted along the base of the Pahrump and Manse fans located in the east side of the basin.

WHEREAS, Order 955 ordered that all applications filed to appropriate water from the Pahrump Valley Hydrographic Basin in the east side of the basin on the Pahrump and Manse fans be denied.

WHEREAS, the State Engineer has historically interpreted Order No. 955 to also exclude the transfer of existing water rights from the Pahrump Valley floor to the Pahrump and Manse fans.

WHEREAS, the denial of applications, and their subsequent groundwater pumping, in the east side of the basin on the Pahrump and Manse fans was intended to slow and/or reverse declining water levels, particularly on the valley floor where the greatest declines in water levels were observed.

WHEREAS, hydrographic data collected since the issuance of Order No. 955 demonstrates that water levels in the eastern part of the basin along the Pahrump and Manse fans have significantly recovered but that, contrary to what was anticipated, the water levels on the valley floor continue to decline, indicating that the hydrologic connectivity between the fans and the valley floor is poor.

WHEREAS, the Pahrump Valley Hydrographic Basin is over-appropriated, and a groundwater management plan is being contemplated by water users in the basin.

WHEREAS, the State Engineer has determined that by allowing the movement of water rights, subject to NRS Chapters 533 and 534, from "off-the-fan" to the Pahrump and Manse fans would provide appropriators increased flexibility in the management of water resources in the basin.

NOW THEREFORE, it is ordered that there no longer exists a prohibition from moving existing water rights from "off-the-fan" to the Pahrump and Manse fans subject to the requirements of NRS Chapters 533 and 534 and other Orders of the State Engineer.

FURTHER CURTAILMENT

WHEREAS, by Order No. 206, dated May 4, 1953, the State Engineer ordered the installation of suitable measuring devices on all permitted wells (excluding domestic wells) within the Pahrump Valley Hydrographic Basin.

WHEREAS, by Order No. 381, dated June 1, 1970, the State Engineer designated preferred uses of groundwater and gave notice that no further appropriations would be approved for irrigation purposes within the Pahrump Valley Hydrographic Basin.

WHEREAS, by Order No. 955, dated October 26, 1987, the State Engineer ordered that applications filed to appropriate water from the Pahrump and Manse fans be denied and declared that new appropriations off the fans be limited to a maximum of 5,000 gallons per day for commercial purposes as a preferred use within the Pahrump Valley Hydrographic Basin.

WHEREAS, by Order No. 1107, dated November 8, 1994, the State Engineer ordered that applications filed to appropriate water from the Pahrump Valley Hydrographic Basin be denied except for commercial (non-living units) or industrial purposes off the fan seeking to appropriate a maximum of 1,800 gallons per day and where property is zoned for such purposes and for environmental permits filed pursuant to NRS § 534.437.

WHEREAS, NRS § 534.120 provides that within an area that has been designated by the State Engineer where, in his judgment, the groundwater basin is being depleted, the State Engineer in his administrative capacity is empowered to make such rules, regulations and orders as are deemed essential for the welfare of the area involved.

WHEREAS, the State Engineer recently revised the perennial yield of the Pahrump Valley Hydrographic Basin from 12,000 to 20,000 acre-feet on the basis of numerous hydrologic studies supporting groundwater recharge of at least 20,000 acre-feet per year from precipitation in the basin.

WHEREAS, the committed groundwater rights of record in the Office of the State Engineer total approximately 60,500 acre-feet annually, which greatly exceeds the perennial yield.

WHEREAS, the State Engineer finds that conditions warrant the further curtailment of new appropriations of groundwater within the Pahrump Valley Hydrographic Basin.

WHEREAS, the State Engineer finds that a public hearing as required under NRS § 534.030, in the matter of the designation of Pahrump Valley Hydrographic Basin was held in Pahrump, Nevada, on April 14, 2015. Based on information received at the hearing and other data and information available to the State Engineer, it is determined that this groundwater basin is in need of additional administration under the provisions of NRS Chapter 534.

NOW THEREFORE, it is ordered that, with the following exceptions, any application to appropriate groundwater pursuant to NRS Chapters 533 and 534 within the designated Pahrump Valley Hydrographic Basin will be denied.

EXCEPTIONS:

1. Those applications for environmental permits filed pursuant to NRS §§ 533.437 to 533.4377, inclusive.
2. Those applications for temporary appropriations of groundwater for stockwater purposes during drought declarations filed pursuant to NRS § 533.504.
3. Those applications for temporary appropriations of groundwater for establishing fire-resistant vegetative cover filed pursuant to NRS § 533.436.
4. Those applications filed to increase diversion rate only, with no corresponding increase in duty of water.



Jason King, P.E.
State Engineer

Dated at Carson City, Nevada this

29th day of April, 2015.

EXHIBIT 2

EXHIBIT 2



Estimated Effects of Water Level Declines in the Pahrump Valley on Water Well Longevity

**Prepared by
John Klenke
January 2017**

Disclaimer

Although every effort has been made to insure accuracy, the nature of this analysis includes several sources of error, and as such this analysis should be used only as a guideline. Results presented are preliminary and the methodology provides a rough approximation of the broad effects of water level declines on shallow aquifer wells. This report is NOT to be used on an individual well basis, but rather in a geographic manner to observe trends. The numbers of wells predicted to fail in any section are estimates only – based on the method presented.

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Acknowledgments

The author wishes to thank the Nye County Water District Board for the time and funding necessary to make this report possible. Additional thanks go out to Oz Wichman, Manager of the Nye County Water District, for his support and patience. Jamie Walker, Mary Ellen Giampaoli, and Joe Leising reviewed the report and provided invaluable input based on their years of expertise and practical knowledge.

John Klenke

Abstract

A method to project water level declines in the Pahrump Valley was developed and used to predict future shallow well failures due to declining water levels. Water level data from the Nye County Water District (NCWD) Water Level Measurement Program (WLMP) were used to document existing conditions and the trends in declines (and rises) in water levels over a 17-year period (GWMPC, 2015). Using these data, the rates of decline across the entire Pahrump Valley were estimated and used to constrain the analysis to only those wells having a projected decline greater than 10 feet in 50 years, or an average rate of decline greater than 0.2 ft per year. Using current rates of water level declines and projecting into the future for 20 years (2035), and 50 years (2065) and intersecting those future levels with existing wells constructed in the shallow aquifer, an estimate of the number of wells that will fail due to these projected declining water levels was made. Well construction data from Nevada Division of Water Resources (NDWR) database (WLOG) and ground elevation information developed from Google Maps API utility and WLMP GPS survey were used to determine the elevation for the bottom of well. Wells with the bottom-of-screen elevation above a projected declining water table will certainly “fail”; wells in areas where water levels are not declining will not be impacted; wells with screens within the declining water table could be impacted. The method predicts a range of outcomes that are dependent upon the vertical distance between declining water table and bottom-of-screen elevations for the nearly 10,000 wells that were included. Four distances above the bottom of screen elevation, where the declining water table would impact well operation, were considered. The method reasonably estimates and bounds the percentages of wells that will be impacted for each of the various bottom-of-screen elevation (submergence) values used. Values of 10, 20, 30 and 40 feet above the bottom-of-screen elevation were analyzed providing results (predictions) that between 18% and 57% of the nearly 10,000 wells will fail in 50 years. In the shorter 20-year timeframe, predictions indicate that 2% to 19% of the wells are predicted to fail. This analysis assumes all conditions affecting the aquifer system will remain constant throughout the 50 year period.

Introduction

Since 2014, the Nye County Water District (NCWD) has overseen the Water Level Measurement Program (WLMP), originally established in 1999 by the Nye County Nuclear Waste Repository Project Office (NWRPO) to monitor water levels in basins downgradient of Yucca Mountain and Pahrump Valley. The WLMP has collected water levels across the Pahrump Valley on a regular basis for the past 17 years and maintains these measurements in a water level database (RGED.6.0.acddb). The areas of water level decline in the Pahrump Valley have been defined using the WLMP water level data (NCWD, 2015).

The WLMP program has reported on levels and trends in the water table wells in Pahrump Valley for several years. This analysis used data and maps generated from the WLMP to examine the longevity of existing shallow wells (mostly domestic wells) in areas of measured and sustained water table declines. Water level data were used to make a map of the potentiometric surface and a map of the rates of water level change (decline and rise). A total of 116 control points consisting of 83 monitored wells and 33 springs were gridded using Kriging methods to make the starting “current” potentiometric surface map (7-15-2015) (Figure 1), and a map showing the distribution of rate of water level changes (declines and rises, Figure 2). Nine of these wells and thirty one of the springs were located outside of the immediate area of interest, but were used to help constrain the contouring results. As declining water tables are of concern, additional maps, based on an assumption of linear declines, were constructed to depict the predicted potentiometric surfaces at 20 years (7-15-2035) and 50 years (7-15-2065) into the future (Figure 7 and Figure 8).

Only wells within the geographic areas where estimated rates of water level decline are greater than 10 feet over 50 years (average rate of decline ≥ 0.2 ft/yr, Area of Appreciable Decline (AAD)) were analyzed in this study (see Figure 2). Areas where the estimated rate of water level decline are greater than 10 feet over 20 years (average rate of decline 0.5 ft/yr) will be referred to as the Area of Rapid Decline (ARD). The AAD include some 10,497 wells but only 9,774 wells were used after eliminating wells with missing, spurious or conflicting data. Well location and elevation data for 103 of the wells were improved by positioning wells based on local parcel number and/or address, and eliminating several errors introduced by the WLOG dataset. The bottom-of-screen elevation (or bottom of well when bottom-of screen was not available), was determined for each of the 9,774 wells. By subtracting the elevation of the potentiometric surface, at well locations, from the ground elevation it was possible to make a map that estimates the depth-to water across the valley (see Figure 4).

Predictions of the intersection of the declining water table elevations with the fixed well-bottom elevation at a point through time was conducted using Surfer[®] 11 grids and Microsoft Excel[®]. Four sets of predictions were conducted by varying the height of the water table above the bottom-of-screen, for simplicity, called submergence. Submergence can be defined as the amount of saturated screen (in feet) in a well. For this analysis, 10-, 20-, 30- and 40- foot intervals were used to simulate the range of likely well submergences that would exist at well failure.

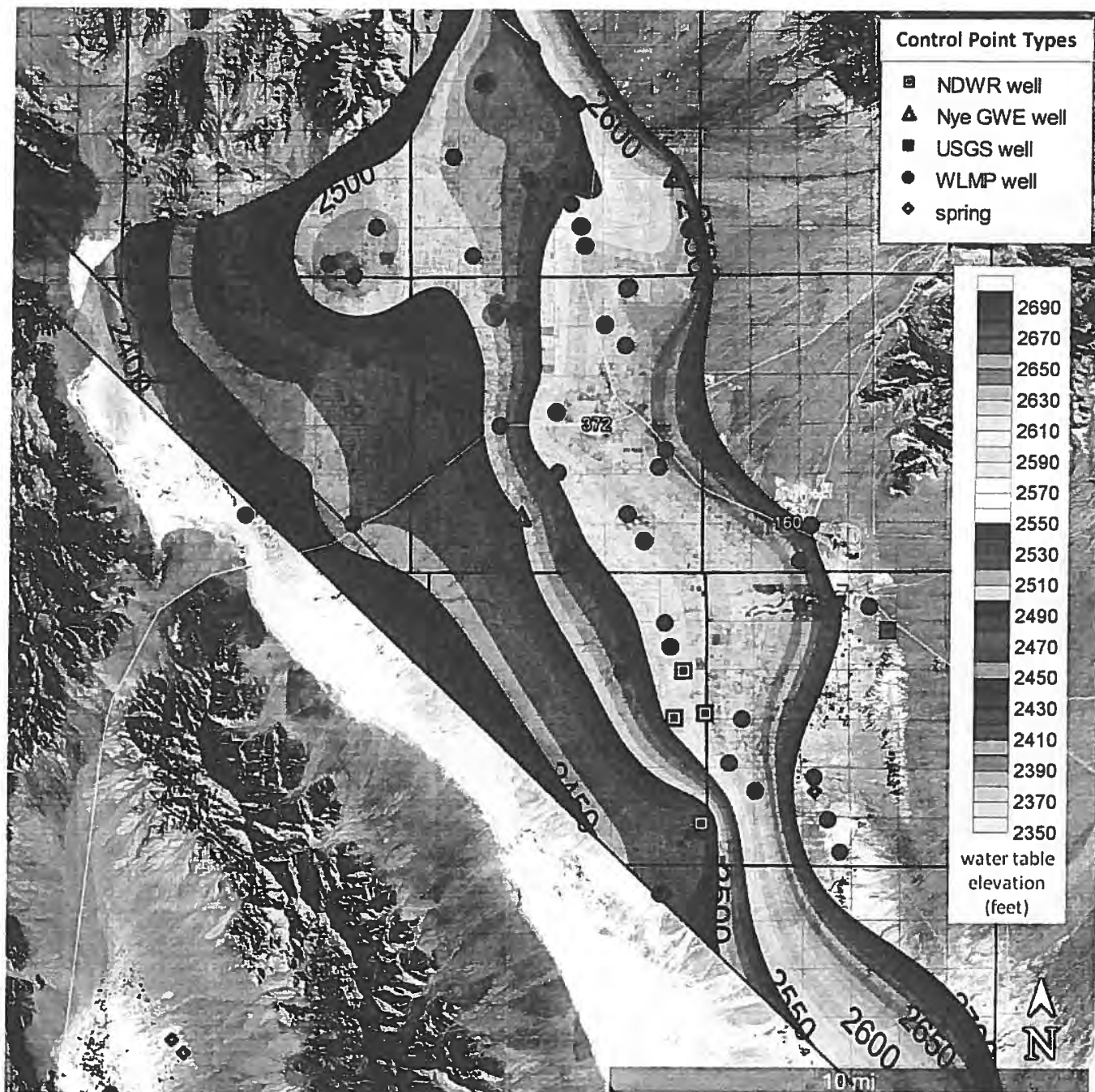


Figure 1. Potentiometric map showing water table elevations across the Pahrump Valley for the starting or "current" potentiometric surface (7-15-2015). Elevations are contoured at 10 foot interval. The control points used to create the potentiometric surface are shown.

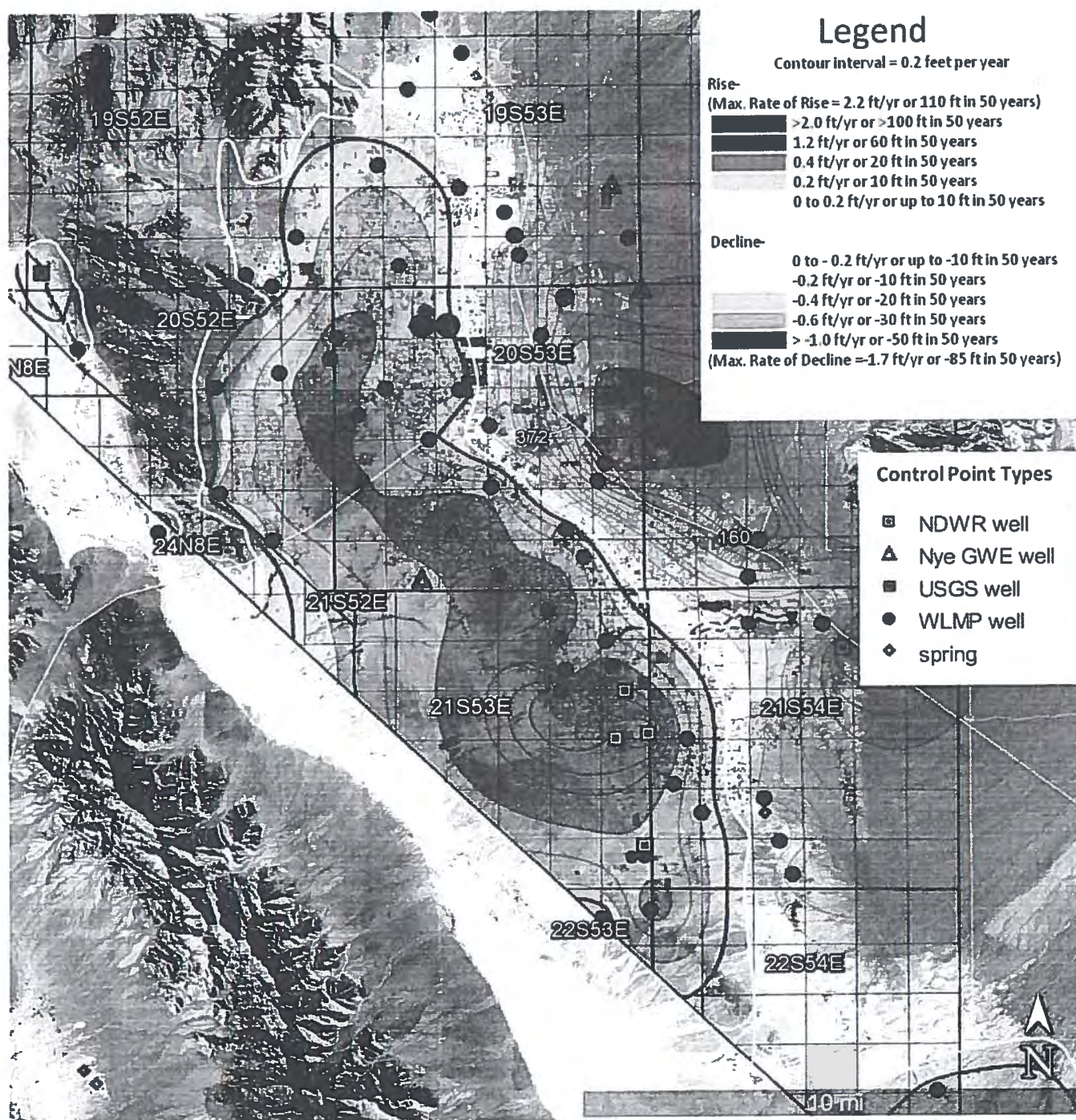


Figure 2. Contour map showing the areal distribution of rates of water table elevation change. Two contour intervals are highlighted. The area enclosed by the lower rate of decline (yellow polygon), of 10 feet in 50 years (average decline of ≥ 0.2 ft/yr), referred to as the Area of Appreciable Decline (AAD), bounds the aerial extent used for further analysis. The area enclosed by the higher rate of decline (red polygon) of 10 feet in 20 years (average decline of ≥ 0.5 ft/yr), referred to as the Area of Rapid Decline (ARD), and bounds the aerial extent of area of relatively rapid decline. These highlighted contours will be repeated for reference on subsequent maps. Map was clipped at the California border to remove areas not supported by the original data.

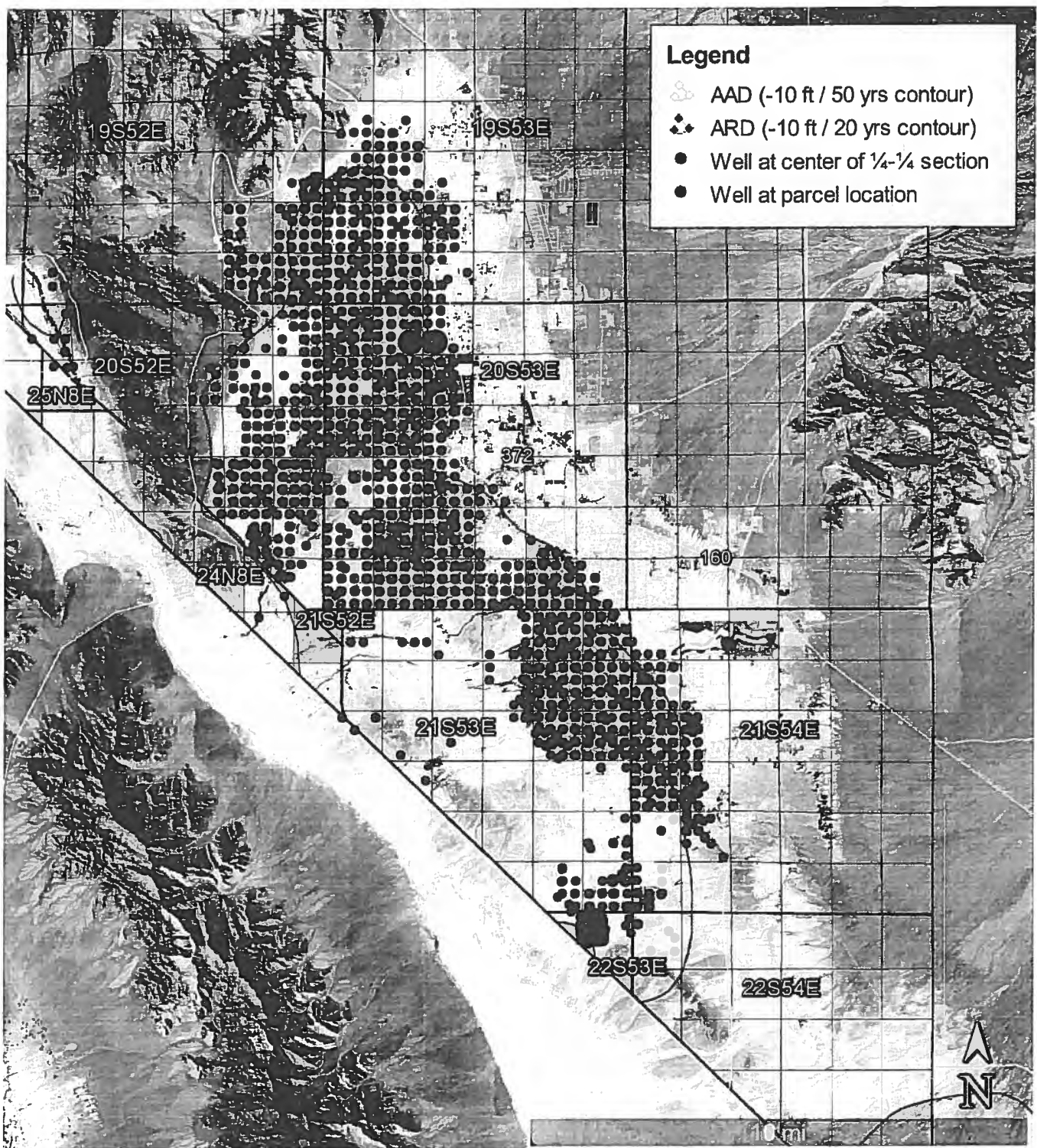


Figure 3. Map showing all 9,774 wells in the Pahrump Valley located within the AAD. Wells are plotted to the center of the 1/4-1/4 section and are "stacked". Blue circles show the 103 wells that were located to parcel locations.

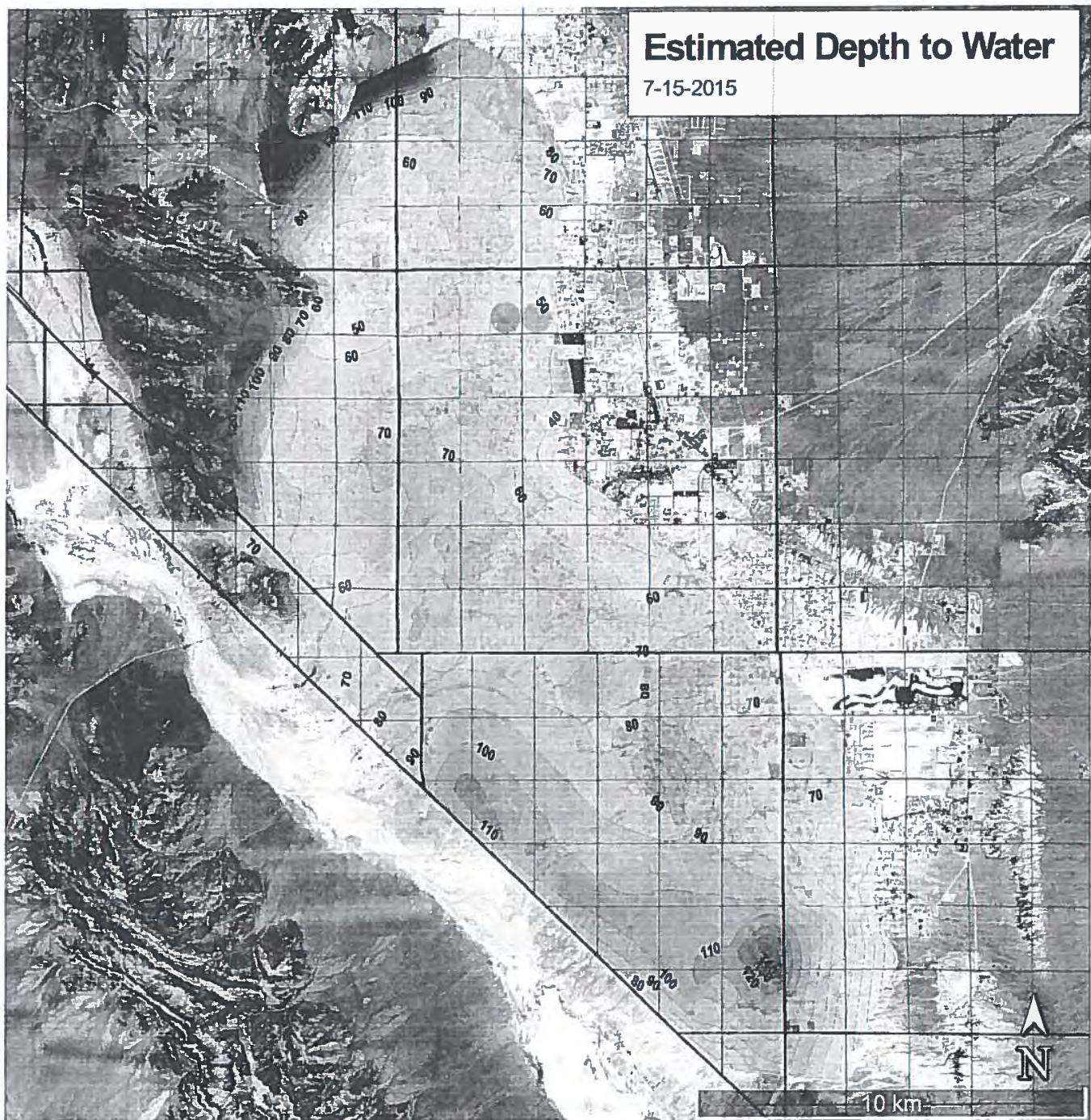


Figure 4. Map showing the estimated depth to water within the Area of Appreciable Decline (AAD) where estimated rates of water level decline are greater than 10 feet over 50 years (average decline of ≥ 0.2 ft/yr) across the Pahrump Valley. Contour interval is 10 feet. Data were contoured using the Natural Neighbor method, and clipped at the California border to remove areas not supported by the original data.

Methodology

Hydrographs of 83 control point wells were constructed and analyzed to determine (1) water table elevations, and (2) the rate of decline (or rise). These derived water table elevations are relatively accurate because they are based on WLMP well surveys using a high-accuracy Trimble GeoXH GPS unit with less than 1 foot error vertically and horizontally (Trimble, 2016). Water level measurement data from the previous 10 years (where possible) to present (7-15-05 to 7-15-15) were used to conduct linear regressions using a least square method (Excel 2007, built-in function) to determine a rate of decline or rise (see Appendix A for limitations on data periods used for hydrographs). The linear regression line was projected into the future years to predict water levels and water table elevations in each of the control wells (See Figure 5). The slope of the regression line provides a linear rate of decline/rise used further to predict impacts to existing wells within the AAD in Pahump Valley. The results are presented at both 20 and 50 year increments into the future (7-15-2035, and 7-15-2065). This method and analysis assumes all conditions affecting the aquifer system will remain constant throughout the 50-year period.

Both the water table elevation (potentiometric map) and the rate of change in water table elevation (declines) were constructed using the Kriging method subroutine in Surfer[®] 11, with a 1000 x 690 node grid (230 ft x 229 ft). The Kriging was constrained by 116 control points (83 wells) based on the 70 WLMP wells, five (5) NWRPO-GWE wells, four (4) USGS-NWIS wells, and four (4) Nevada DWR wells. Thirty-three springs with constant heads (zero declines) were also used as “control points”, however only two of these were in the immediate study area. The water table elevations determined by the hydrograph interpretations were applied to the control points and gridded using Kriging methods and contoured to produce a potentiometric map as shown in Figure 1. The linear rate of change in water table elevation, as determined by regression, was applied to the control points. The rates were then gridded by Kriging, and contoured as shown in Figure 2. A sample hydrograph illustrating the linear regression method is shown in Figure 5. Using the regression method it was also possible to make predicted potentiometric surface for 20 years (7-15-2035) and 50 years (7-15-2065) into the future (see Figures 7 and 8). To predict the number of wells that are likely to be impacted by declining water levels, well construction data from existing wells in Pahump Valley were captured from the Nevada DWR WLOG water well database (NDWR-WLOG database dated 8-3-2015). These records are derived from standardized State-required Well Driller’s Reports. Positional errors are well-recognized in well data from the WLOG database. These errors are discussed under the heading Estimate of Error. The NDWR WLOG database included 159 well records that did not contain a value for the bottom of perforation (screen depth) but were used in the analysis by substituting in either the depth cased, or if not available depth drilled (usually the same depth) from the NDWR-WLOG database. Eleven wells were removed from the analysis because the drillers log did not show a value for the bottom of perforation, depth cased, or depth drilled.

To limit the analysis to only areas of declining water levels, the well dataset was limited to include only those wells within the Areas of Applicable Decline (AAD, average decline of ≥ 0.2 ft/yr, Figure 2). Initially this area included 10,497 wells. 712 of these wells were located in PLSS sections where the water level is declining, but outside of the 10ft/50 year contour line and were removed from the dataset. An additional 11 wells were removed for quality reasons, for a total of 9,774 well included in the analysis.

The ground elevations for all 9,774 wells were estimated by assuming all wells in a common $\frac{1}{4}$ - $\frac{1}{4}$ section have identical ground elevations. Assigning ground elevation from Google Maps API to these wells, the submergence elevation at the bottom of each well (screen) was then calculated by subtracting the submergence depth [depth to bottom of perforation from WLOG + length of saturated screen (either 10-,20-,30-, or 40- foot alternative)] from

the API calculated ground elevation. A starting point water table elevation was assigned to each well location by using the 7-15-15 potentiometric map (grid in Surfer®, Figure 1), and a rate of decline was similarly assigned from the of rate water table change map (Figure 2). The rate was multiplied by number of years (20 and 50) then subtracted from the starting point water table elevation. This predicted water table elevation is compared against the submergence at the four alternatives and provides a test to whether the water table elevation has declined below the submergence and hence a simulated fail. This method is a summary of the direct solution algebraically. Elevation error is calculated in the Estimate of Error section. Methods to qualify records are described in Appendix A – Hydrographs and Control Point Elevations.

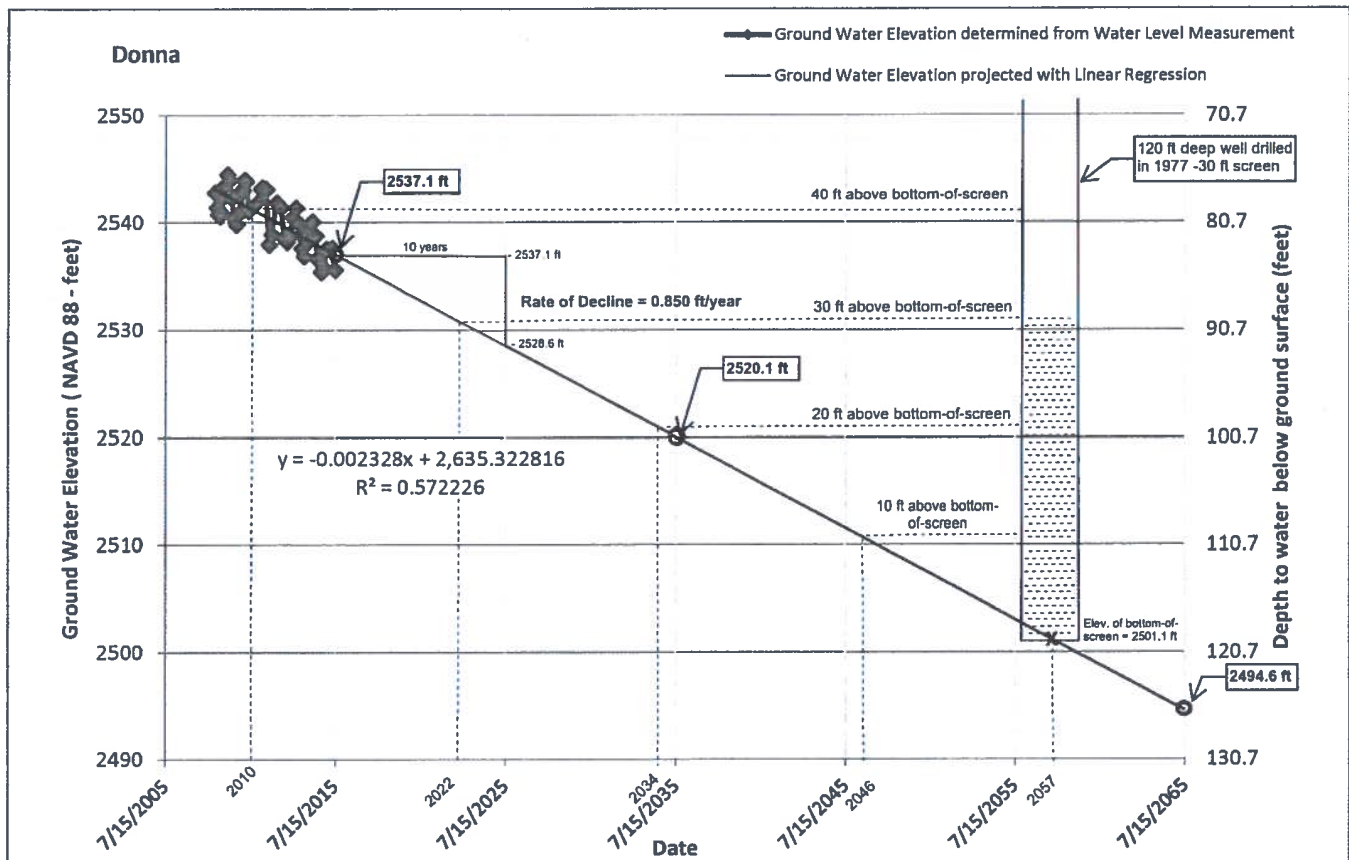


Figure 5. Actual (2007-2015) and projected (2016-2065) hydrographs for selected well “Donna” showing application of linear regression method to predict decline in ground water elevation. Blue diamonds are ground water elevation (water table elevation) periodically measured as part of the Water Level Measurement Program (WLMP). Black sloping line is the projected regression line based on the approximately 7 years of water level measurements. A diagrammatic well construction with 30 foot well screen is shown in blue. Also shown are the derived values used for: 1) elevation of water table on 7-15-2015 or starting point elevation (black circle); 2) linear rate of decline; and 3) predicted ground water elevations at 20 years (7-15-2035) and 50 years (7-15-2065) (red circles). Dashed lines show years in which water table elevation will pass 40, 30, 20 and 10 feet above bottom of screen. “X” symbol shows date when water table declines below well. Equation of regression line given in X=days since 1-1-1990 and slope in feet per day.

Results

The method produces four types of results 1); a cumulative frequency plot of “failing” wells vs. time, 2); predictive potentiometric surfaces, 3); maps showing location and number of wells “failing” at specific locations at discrete times, and 4) and predictive maps showing depths-to -water.

The cumulative frequency plot of the number of wells that will “fail” through time based on the distance of the water table above the well screen or submergence, for the 9,774 wells used in this analysis, is shown in Figure 6. The graph was produced by accumulating the predicted failing wells at 1-year intervals. The range of results predicts that at 20 years (2035) and a submergence of 10 feet that 1% of the wells will “fail”, and at 40 feet 19% will “fail”. Similarly, at 50 years (2065) the results predict that a submergence of 10 feet predicts 18% of the wells will “fail”, and at 40 feet 57% will “fail”. This analysis emphasizes the sensitivity of outcomes to the submergence. Empirically, twenty feet of submergence is considered as a minimum amount of submergence that would reasonably be needed to maintain well function. For simplicity, further analysis in this report only presents results from the 20-foot submergence alternative

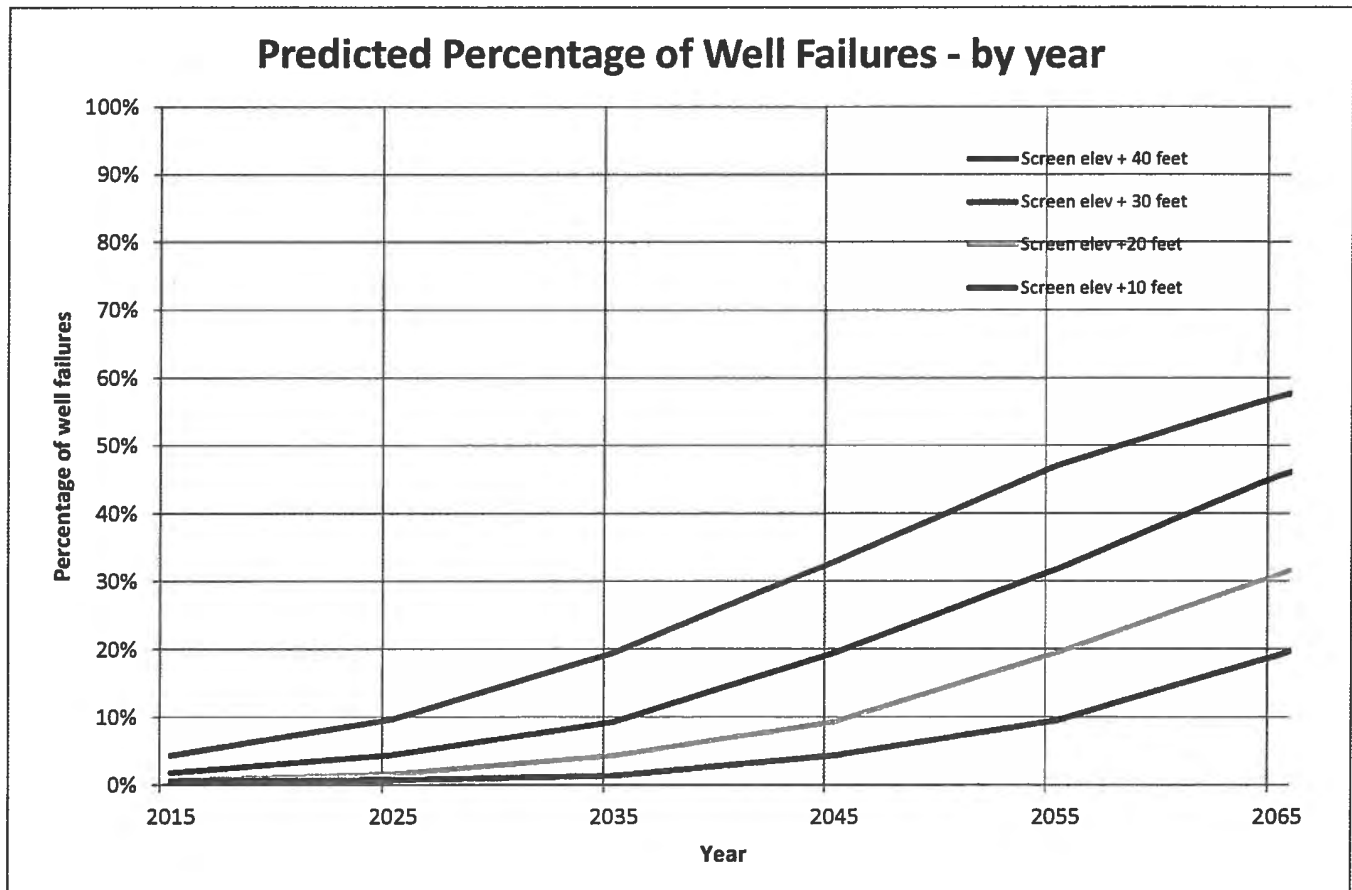


Figure 6. Cumulative frequency plot showing the percentage of the 9,774 wells within the AAD that are predicted to “fail” over the next 50 years varying the well submergence at 10-, 20-, 30- and 40-foot distances above the bottom-of-well screen elevation.

Predicted potentiometric maps for both the 20-year (2035) and 50-year (2065) projections were created by Kriging the projected water level elevations at the control points as obtained from the regression lines (see Appendix A). Elevation errors are expected to increase the farther locations are from control points and are larger in the southwest portion of the maps where control points are lacking (western portion of T21SR53E), however there are less than 30 wells that have been drilled in this area (See Figures 7 and 8).

Maps showing location and number of wells “failing”, using the 20- foot submergence alternative, in specific PLSS sections, at both the 20-year and 50-year time projection are shown in Figures 9 and 10. The study predicts that 438 wells will have “failed” by 7-15-2035 (20 years), and 3085 wells will have “failed” by 7-15-2065 (50 years).

Maps depicting the predicted depth to water across the AAD, for the 20-year (2035) and 50-year (2065) time frames were created by subtracting predicated water table elevations (potentiometric maps) from API derived ground elevations from ¼-¼ sections (See Figures 11 and 12).

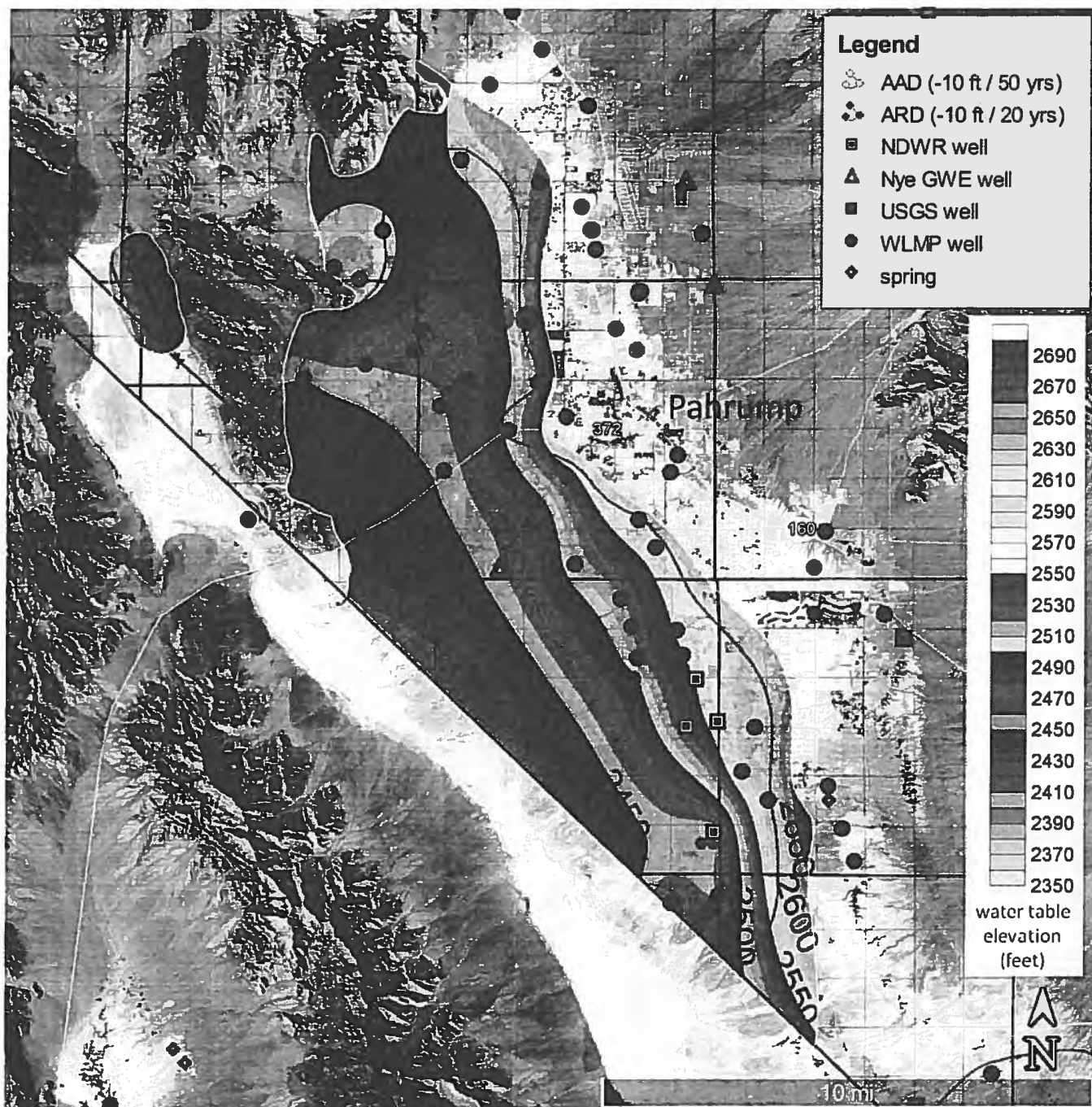


Figure 7. Potentiometric map showing predicted water table elevations within the AAD, for 7-15-2035. Elevations are contoured at 10 foot intervals.

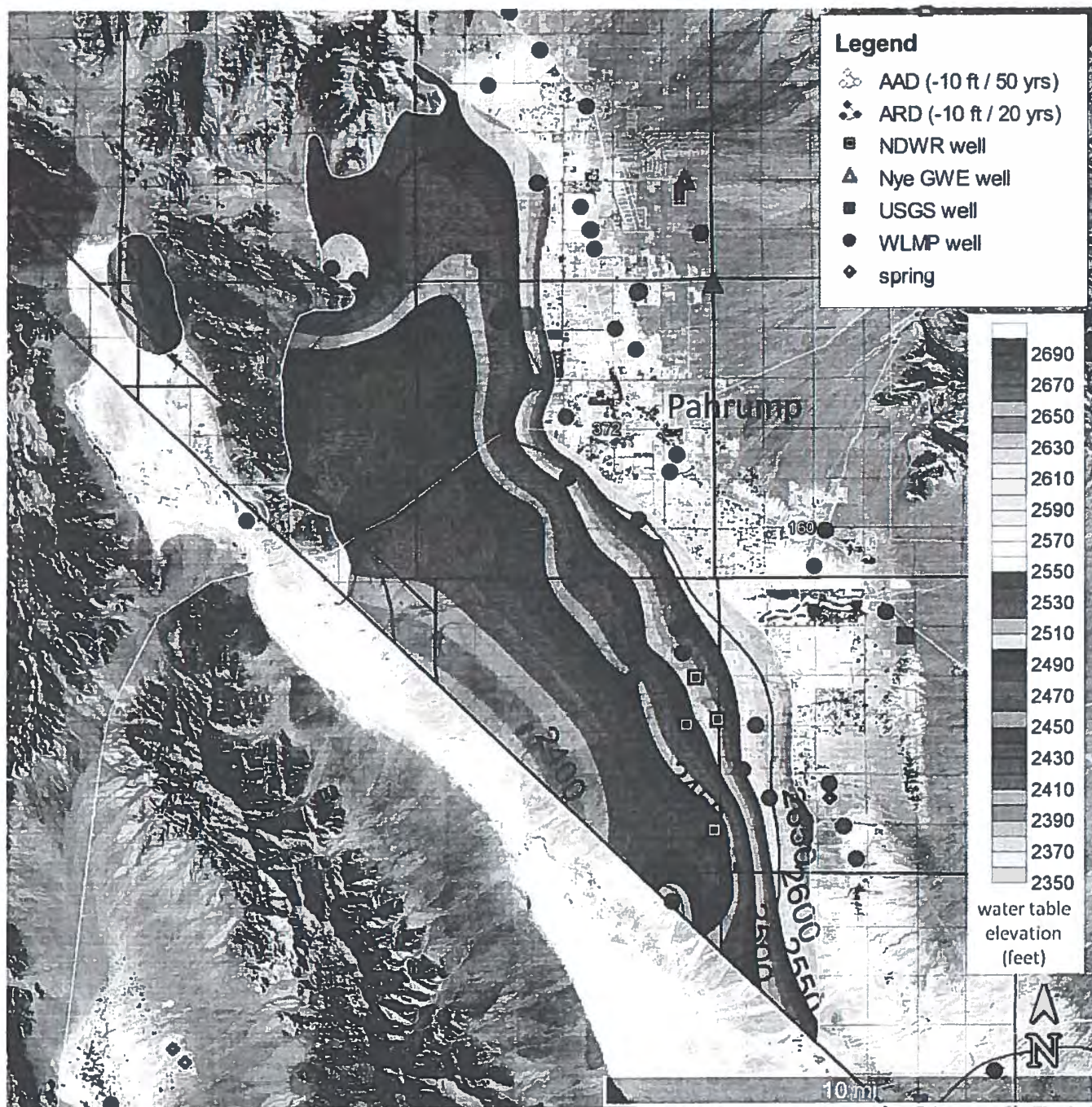


Figure 8. Potentiometric map showing predicted water table elevations within the AAD, for 7-15-2065. Elevations are contoured at 10 foot intervals.

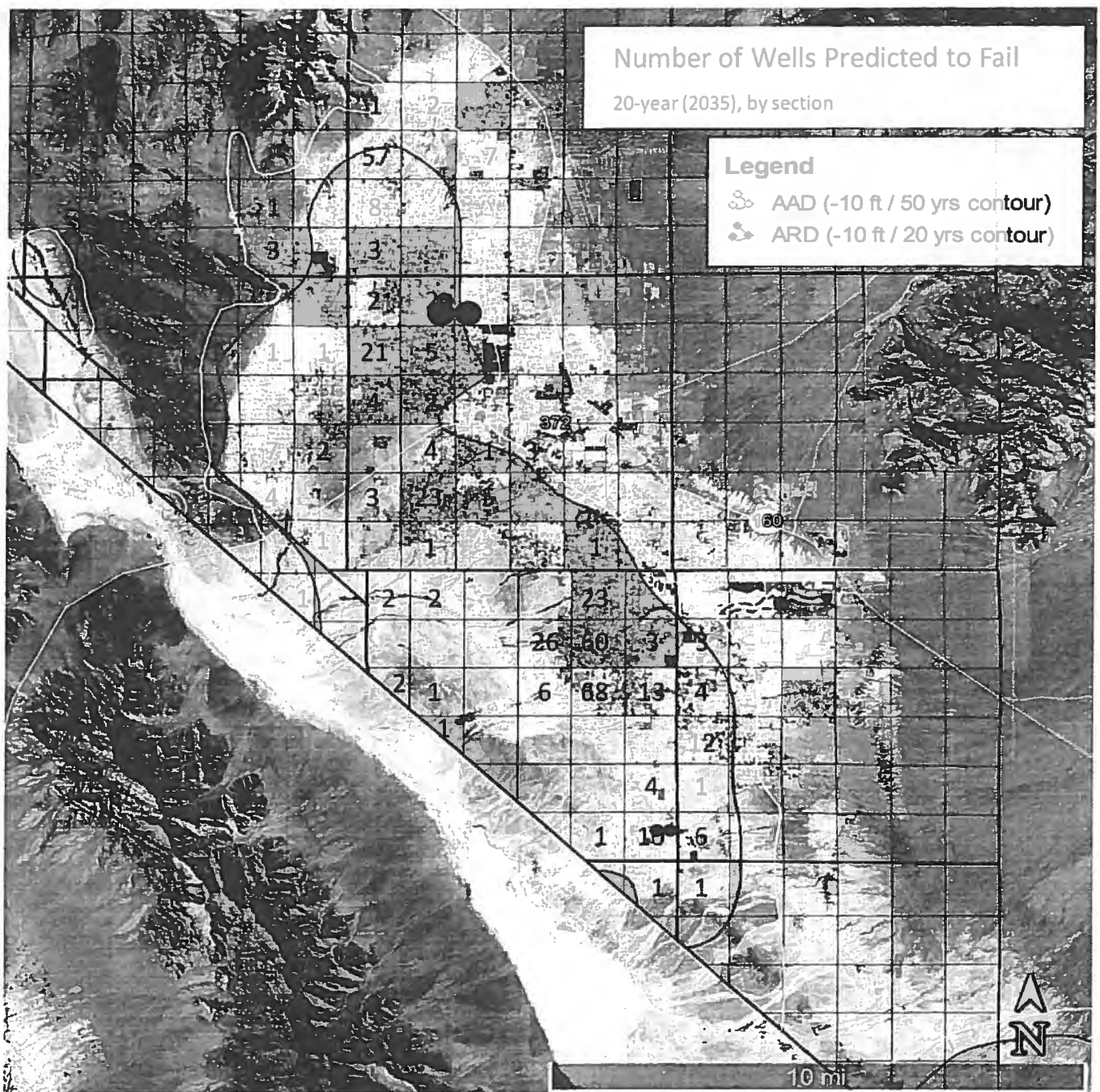


Figure 9. Map showing the locations of the 438 wells predicted to “fail” by 7-15-2035 using the 20 foot submergence alternative. Note the 10 foot decline contour for both 20 years (ARD) -red, and 50 years (AAD) - yellow.

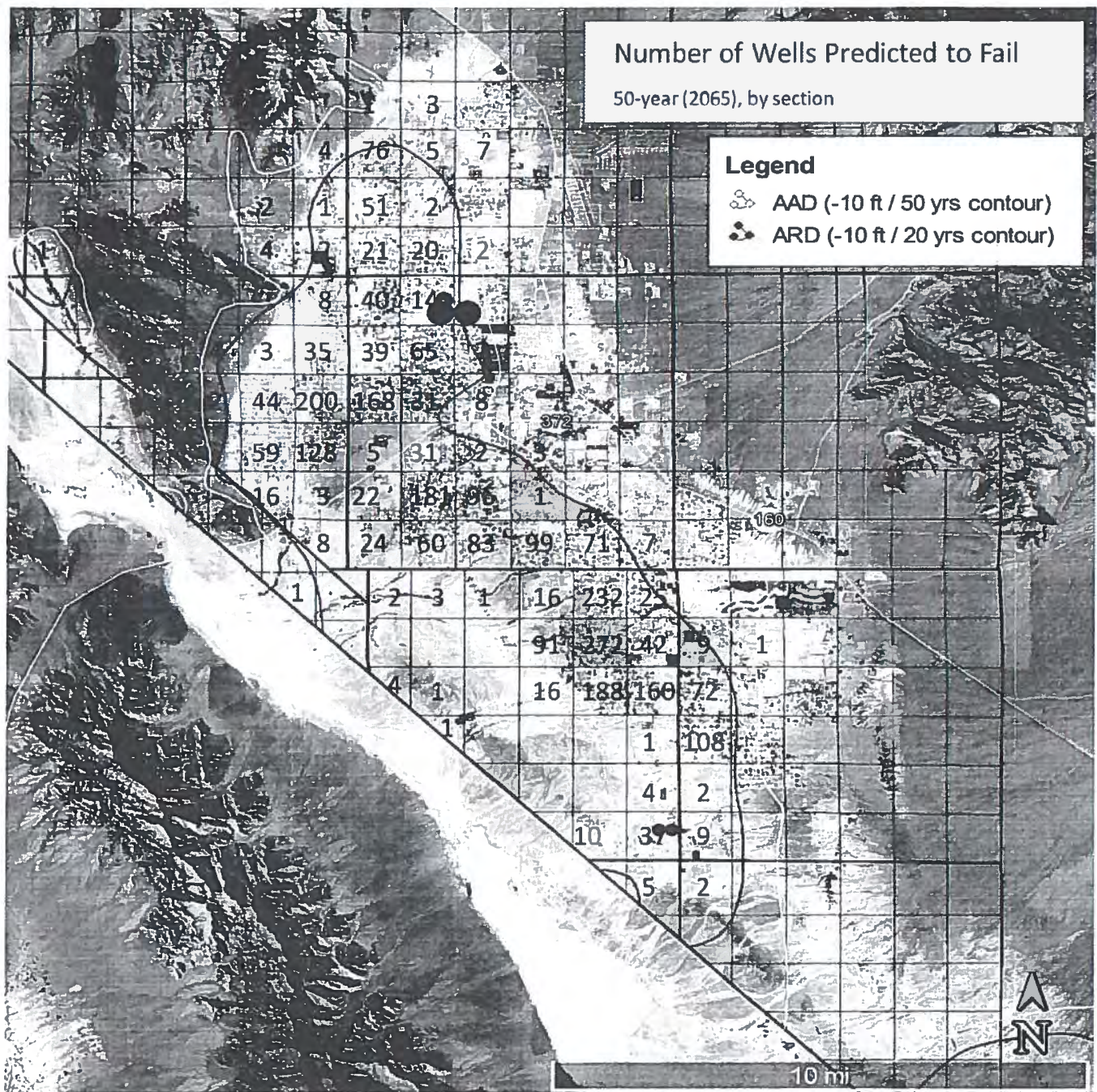


Figure 10. Map showing the locations of the 3,085 wells predicted to “fail” by 7-15-2065 using the 20 foot submergence alternative. Note the 10 foot decline contour for both 20 years (ARD) -red, and 50 years (AAD) - yellow.

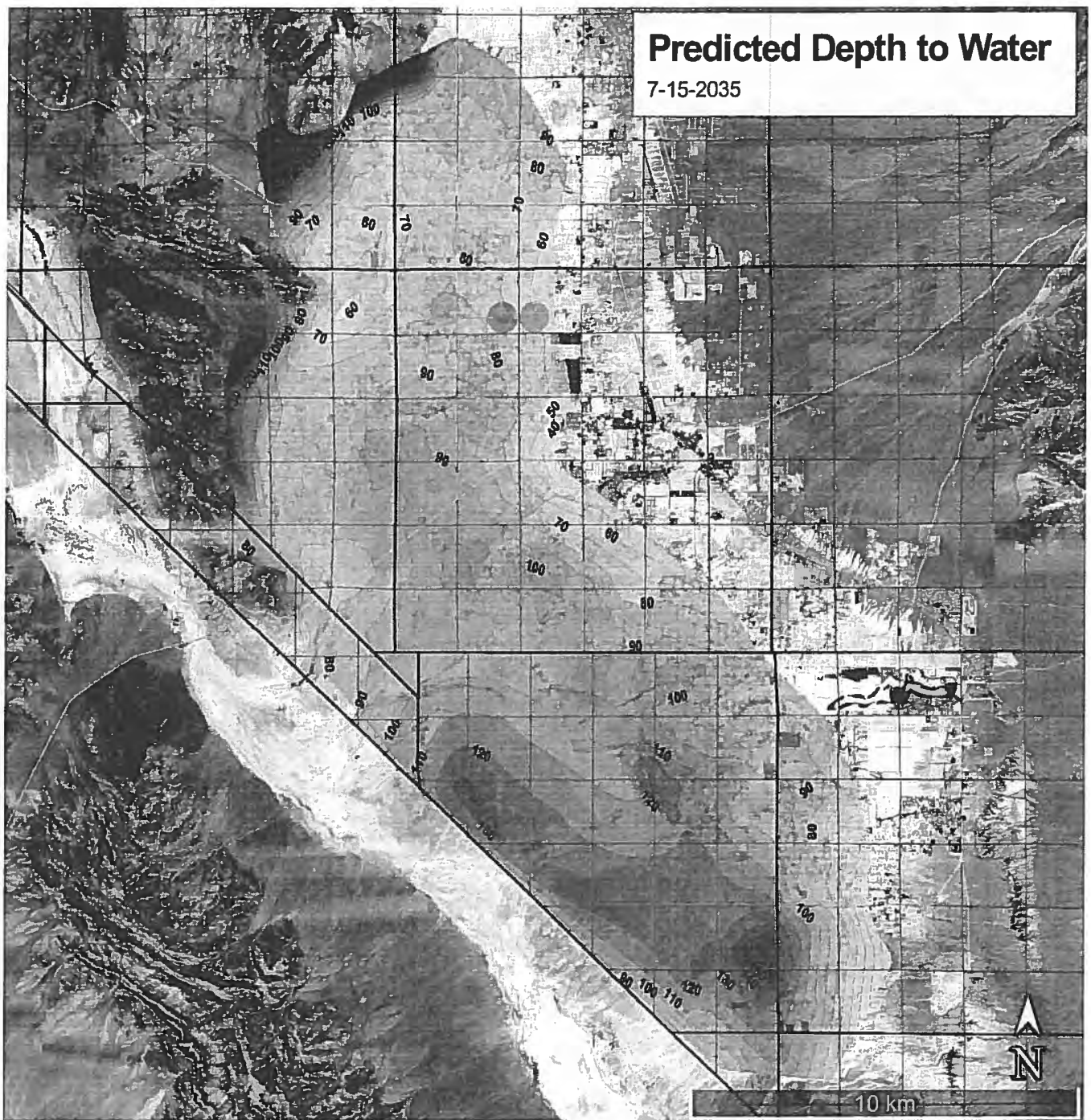


Figure 11. Map showing the predicted depth to water for the AAD within the Pahrump Valley for 7-15-2035 (20-year prediction). Contour interval is 10 feet. Data were contoured using the Natural Neighbor method, and clipped at the California border to remove areas not supported by the original data.

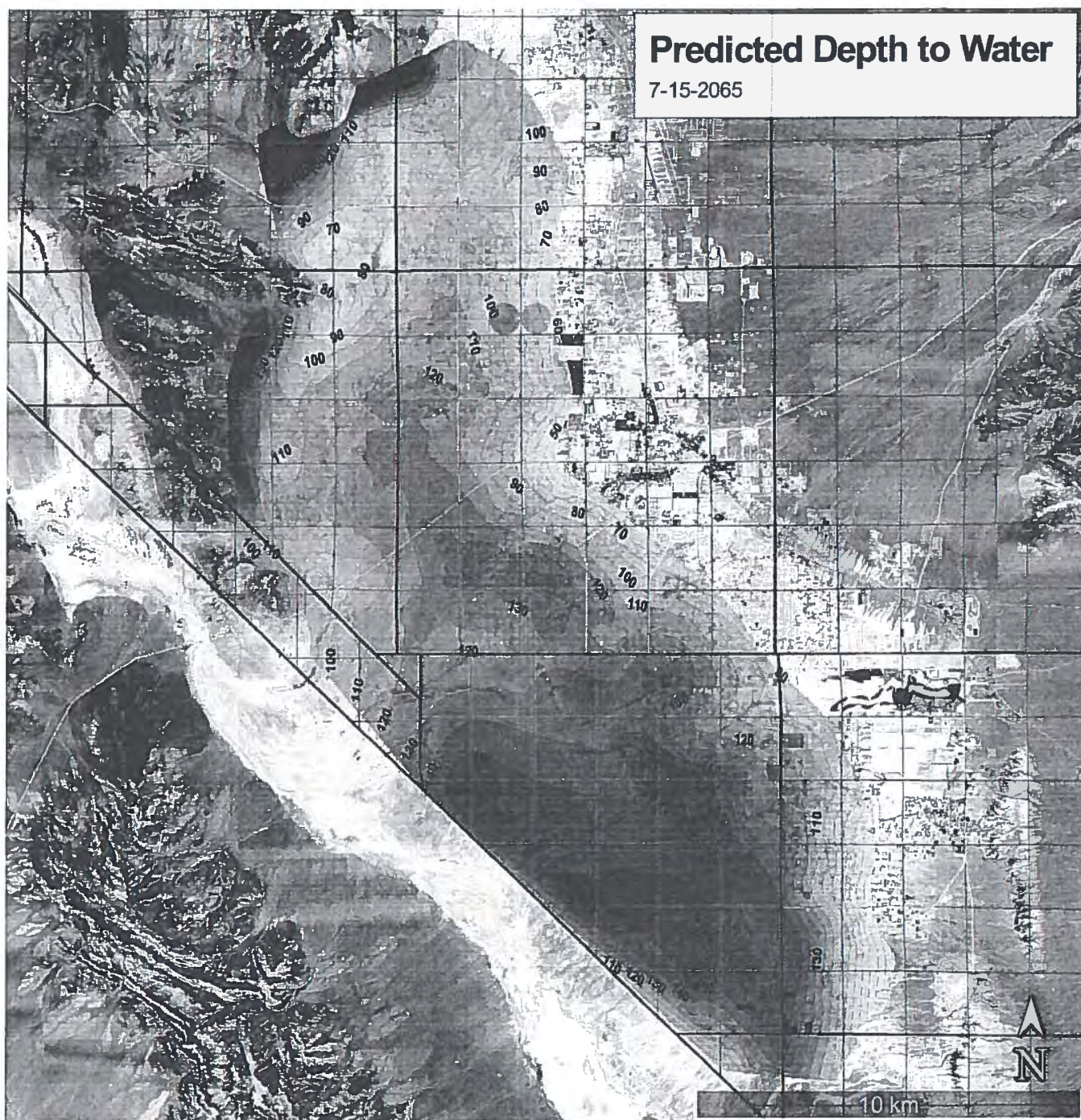


Figure 12. Map showing the predicted depth to water for the AAD within across the Pahrump Valley for 7-15-2065 (50-year prediction). Data were contoured using the Natural Neighbor method, and clipped at the California border to remove areas not supported by the original data.

Assumptions and Constraints on Methodology

This analysis should be used only as a general guideline to aid in identifying areas where wells are expected to fail under continued conditions. Foremost in this analysis is the assumption that wells in this analysis tap the shallow aquifer underlying the Pahrump Valley as a single unconfined homogeneous aquifer, and conditions affecting the aquifer system will effectively be constant throughout the 50-year period under consideration (groundwater withdrawals and water table declines, precipitation, evapotranspiration, etc). Additionally, this analysis assumes that spatial projection of geostatistical estimates from “control well data” do not contain significant errors, and information supplied by well drillers to the WLOG database are reasonably accurate. This method also assumes that predicted well failure is due only to inadequate submergence of the well screen and does not consider other real world factors, such as screen/perforation fouling, degradation of well gravel pack, pump location and condition.

Estimate of Errors

There is a systemic error associated with the difference between the actual ground elevation for a well and the estimated and assigned ground elevation based on the center of the $\frac{1}{4}$ - $\frac{1}{4}$ section. Well locations from the NDWR database (WLOG), and hence this study, also carry locational errors of up to 933 feet by plotting them to the center of $\frac{1}{4}$ - $\frac{1}{4}$ sections. The spatial error also has an associated vertical error due to variations of ground elevation changes within the $\frac{1}{4}$ - $\frac{1}{4}$ section. This in turn introduces an error in the calculated elevation at the bottom of each well. This vertical error is approximated by: one-half of the difference in elevation across the center each $\frac{1}{4}$ - $\frac{1}{4}$ section in an east-west direction divided by the rate of decline at the center of the $\frac{1}{4}$ - $\frac{1}{4}$ section. This assumes that the change in elevation across any individual $\frac{1}{4}$ - $\frac{1}{4}$ section of the valley floor can be approximated by taking the elevation difference across the center of the $\frac{1}{4}$ - $\frac{1}{4}$ section from east to west. Errors also occur in Well Driller’s Reports supplied to the NDWR. Positional errors can also be due to incorrect PLSS locations, and incorrect parcel or lot number (if location is updated from WLOG location). Errors in well depth, as shown on Well Drillers Report, will substantially impact well failure predictions. Additionally, well casing stick-up “raises” the screen elevations relative to the ground elevation.

To estimate the impact of the vertical errors recognized as a result of the generalized well locations, the magnitude of the error was estimated for 872 $\frac{1}{4}$ - $\frac{1}{4}$ sections within the AAD. This showed that vertical error of 57% of the wells were ≤ 5 feet, and 92% were ≤ 10 feet. It should be noted that the east-west direction is sub-parallel to the direction of the ground water gradient (WSW), and was not factored into the error estimate, but would have reduced the estimated error to some extent if it had been incorporated. To estimate the error (in years) for when a well is predicted to “fail” in each $\frac{1}{4}$ - $\frac{1}{4}$ section, the total elevation error estimate was divided by the decline rate (in years). The result was then divided by 2 to translate the error into \pm years since we assumed a constant elevation change across the $\frac{1}{4}$ - $\frac{1}{4}$ sections and half of the elevations would be above that of the center (fail at an earlier time than predicted), and half would be below (fail at a later time than predicted). Figure 13 is a map showing the distribution of the estimated error, and shows that the magnitude of the error is generally $\leq \pm 5$ years for much of the Pahrump Valley floor (within the AAD) except for the fringe zones, most notably to the northwest.

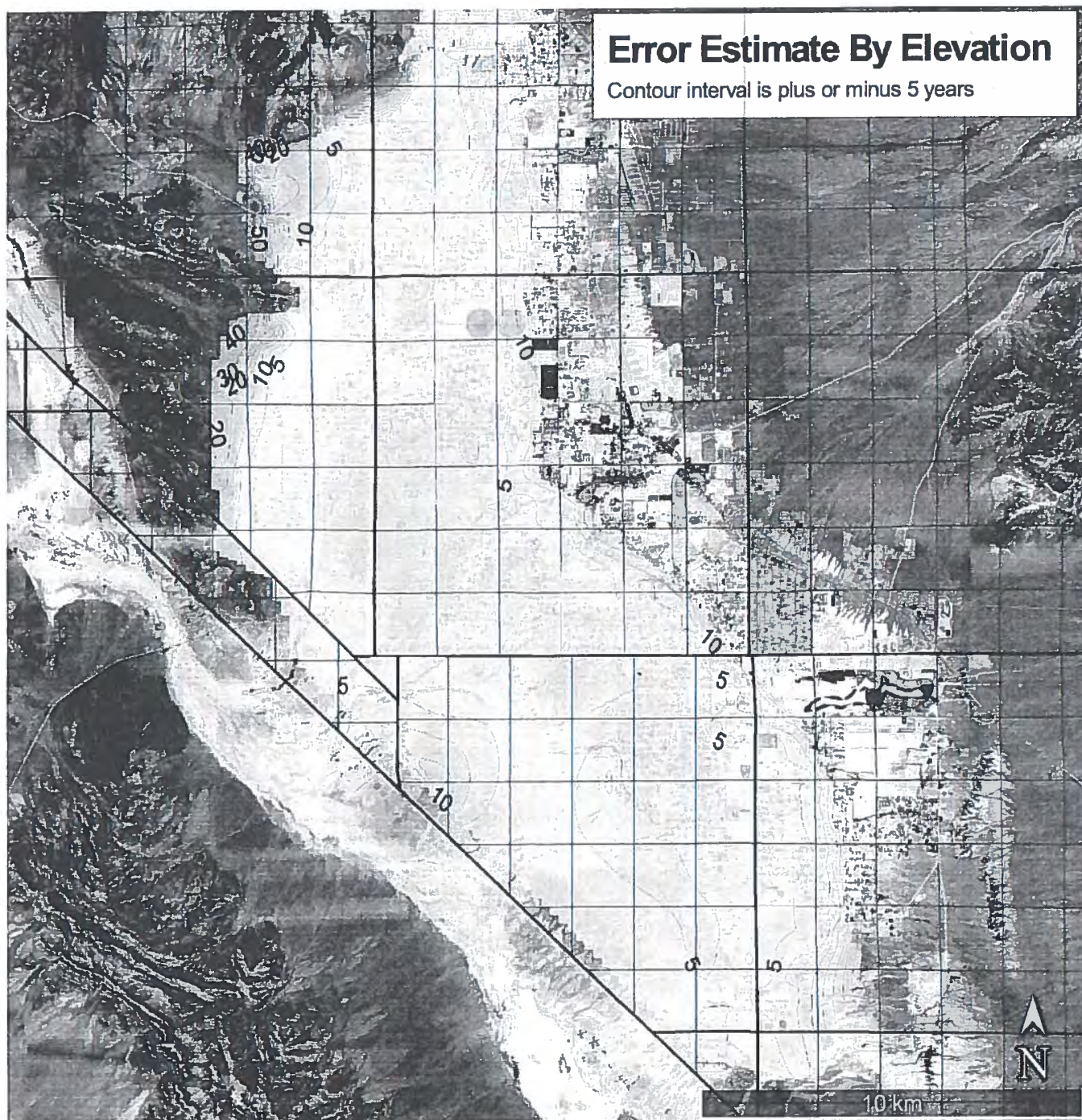


Figure 13. Contour map of the AAD showing error estimates (by ¼-¼ section) associated with “Number of Wells Predicted to Fail” measured in years. Contour interval is ± 5 years.

Vertical accuracy for all control wells is very high, and has been demonstrated to be less than 1 foot vertically and horizontally (NCWD TP-9.8, 2015). This was achieved by surveying the wells using a resource grade Trimble GeoXH GPS unit. The high accuracy wellhead locations along with a QA approved and standardized Nye County Water District water level meters also allowed for high accuracy water levels to be taken in the control wells (NCWD TP-9.9, 2015, and NCWD WP-10, 2015). A comparison of the ground elevation for the 34 control point wells, within the AAD, from the API utility to those obtained from the high accuracy Trimble GeoXH GPS unit is shown in Figure 14. The comparison showed the API utility elevations averaged 0.19 ft higher than the Trimble elevations with a standard error of 3.32 feet.

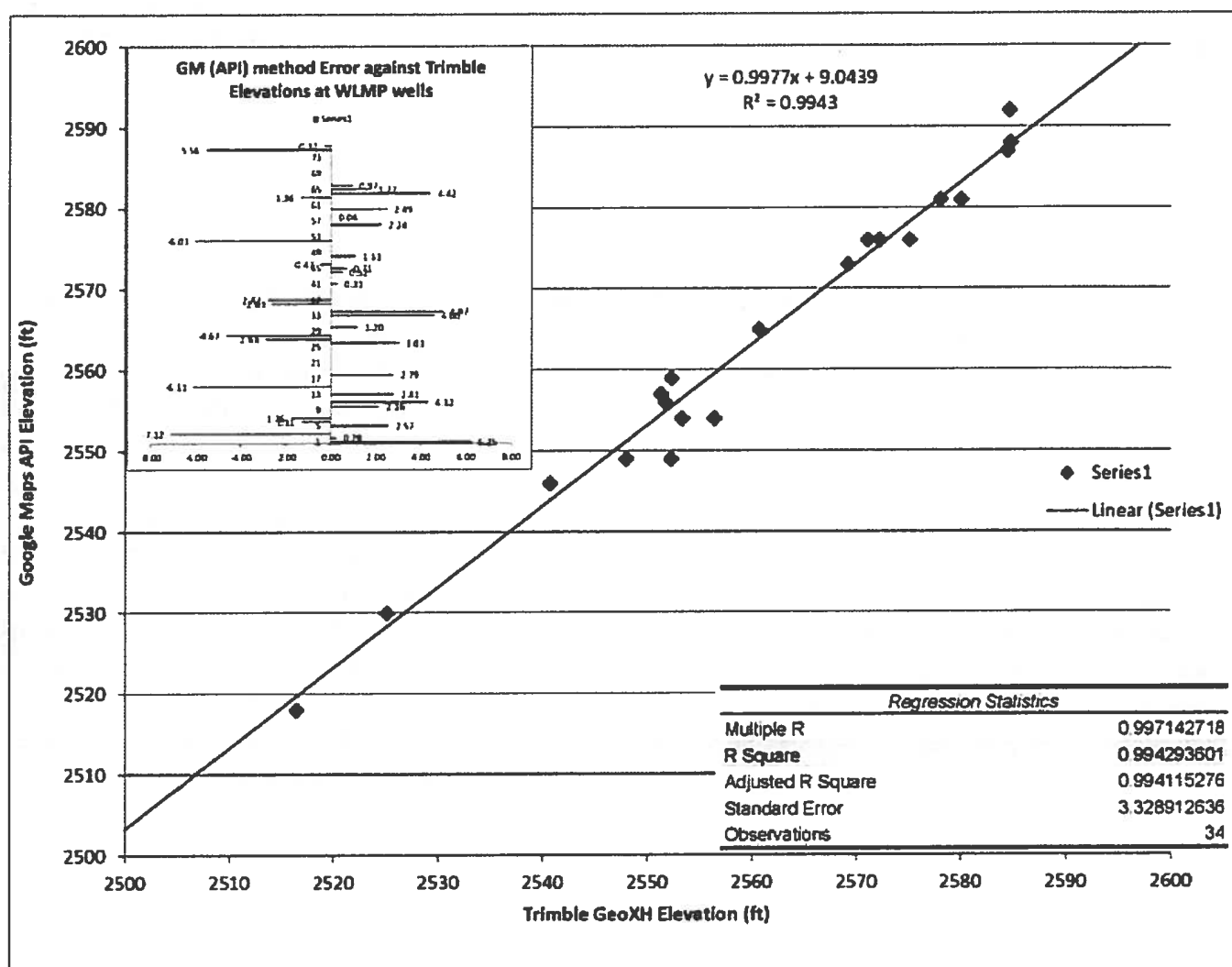


Figure 14. Graph showing the Google Map API utility derived elevations for the 34 control wells within the AAD (decline of ≥ 0.2 ft/yr) as compared to the Trimble GeoXH derived elevations. The API elevations averaged 0.19 ft higher than the Trimble elevations with a standard error of 3.32 feet.

Summary

The method presented has produced reasonable approximations as to the timing of well “failures” within the Area of Appreciable Decline. More importantly geographic areas have been identified along with the relative magnitude of impacts which can be expected if future water table declines in the valley remain unchanged. Limitations associated with this study have been recognized and discussed as well as advice on how to improve any future updates. Future data collection by the Water District’s Water Level Measurement Program and the locating of new index wells are major components to understanding the impacts of water level declines in the Pahrump Valley.

Recommendations

The method used in this preliminary study produced reasonable results, but can potentially be improved. Of the 9,774 wells used in this analysis, 6,798 have a parcel number associated with them (original Well Drillers Report). If these wells were repositioned to the actual parcel locations within the ¼-¼ PLSS section, elevation errors could be substantially reduced. Of the remaining 2,976 wells it is expected that a large portion of these have a physical address or a block and lot number associated with them, and could be repositioned and an improved ground elevation assigned, again reducing vertical error. Although the estimates of ground elevation using the Google Maps API utility worked well for this study, it is felt that more accurate ground elevations could be obtained by using either currently available or soon to be available higher resolution Digital Elevation Maps (DEM’s). To verify the results of this study, ground truthing is recommended. A study similar to this one, but using more sophisticated non linear techniques could also potentially produce more accurate predictions. This analysis should be updated within 5 to 10 years to incorporate: 1) new information derived from wells drilled within the AAD, 2) additional water level measurements, and 3) any new index wells which may become available from the WLMP. Further understanding the hydrology of the Pahrump Valley is crucial to proactively address future concerns. Continued data acquisition and analysis are critical to understanding the hydrology of the Pahrump Valley.

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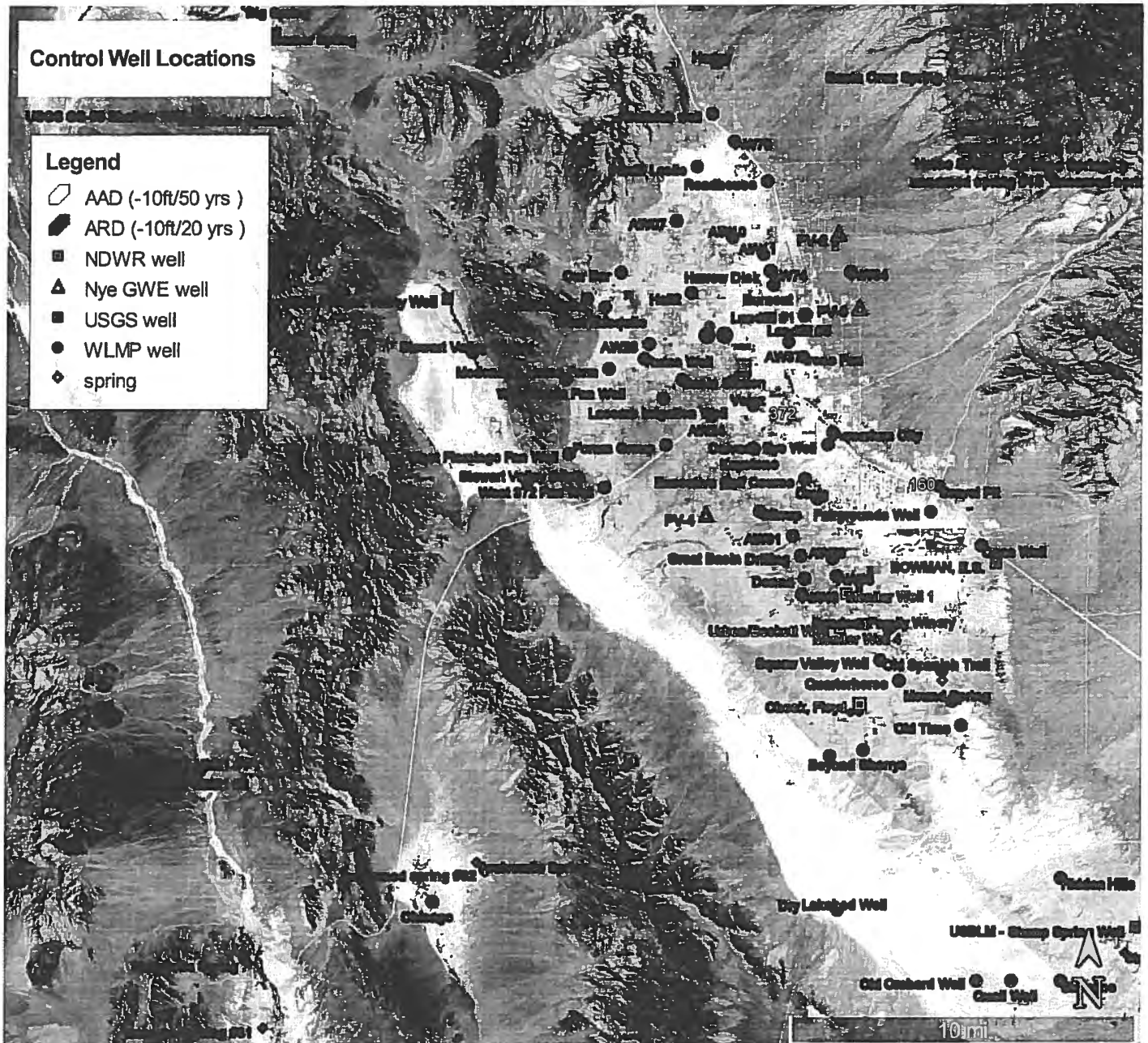
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Appendix A - Hydrographs and Control Point Elevations

Data used to determine potentiometric (water level) surfaces.

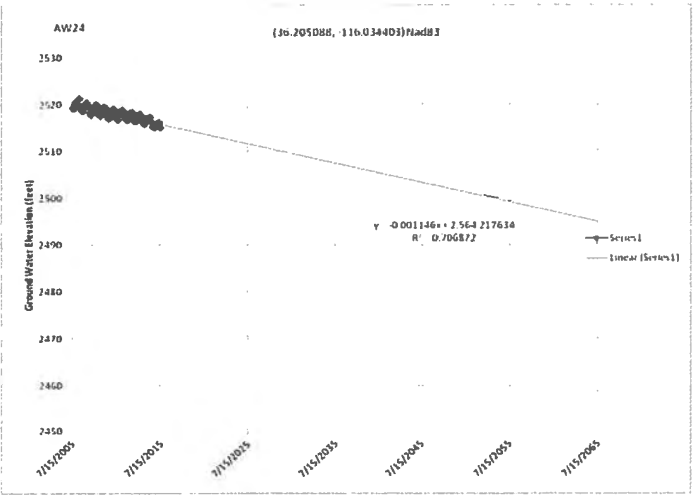
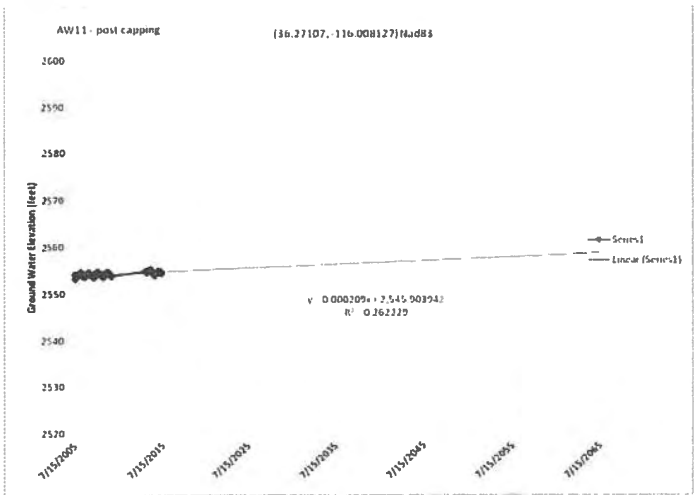
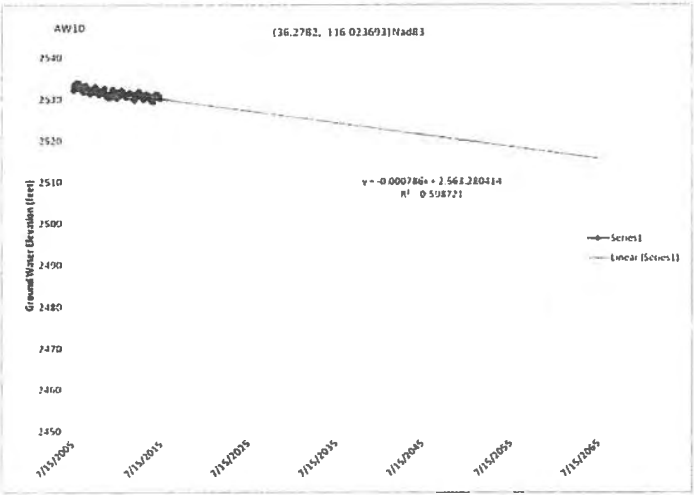
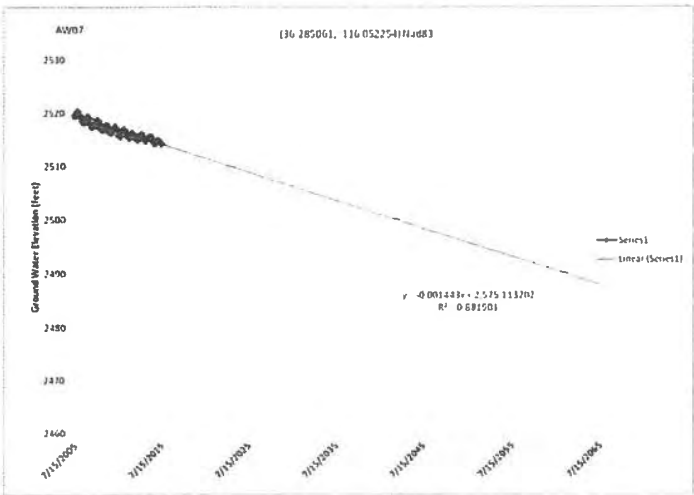
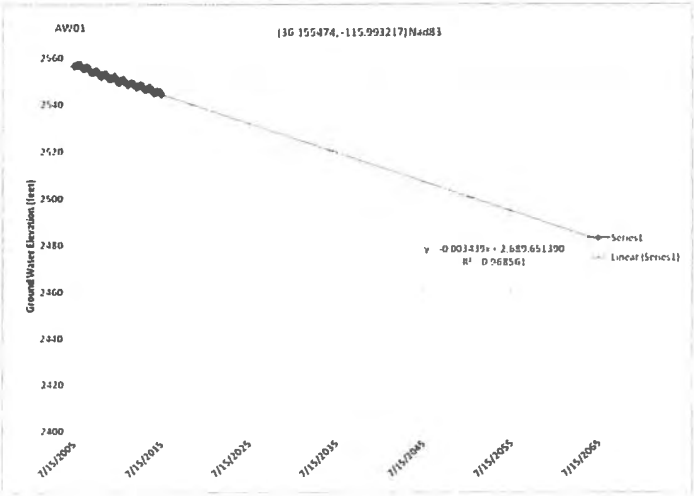
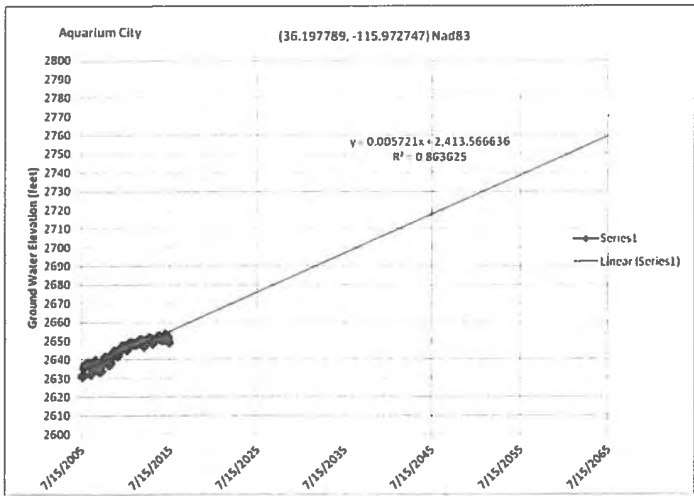
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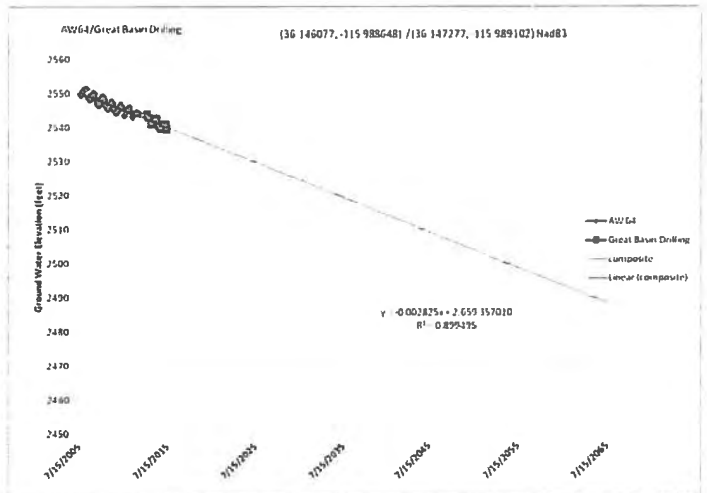
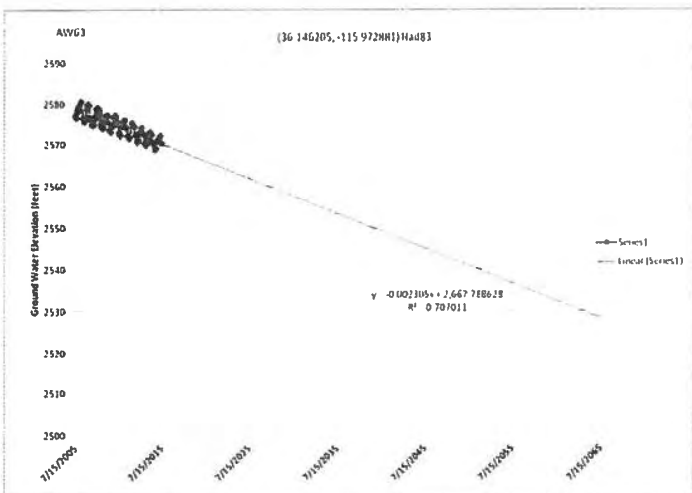
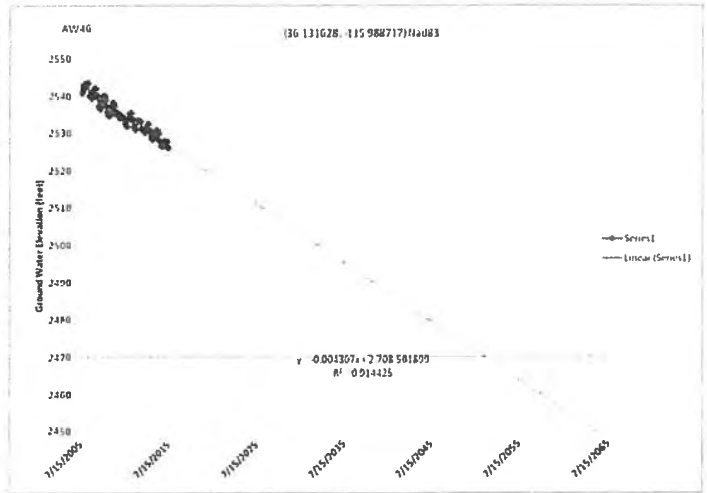
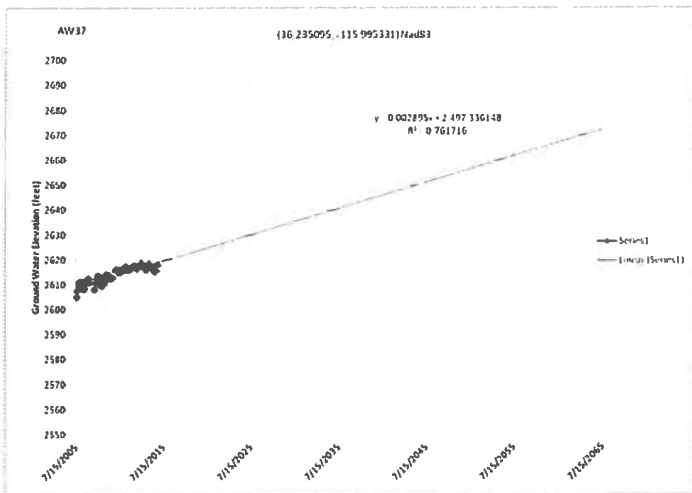
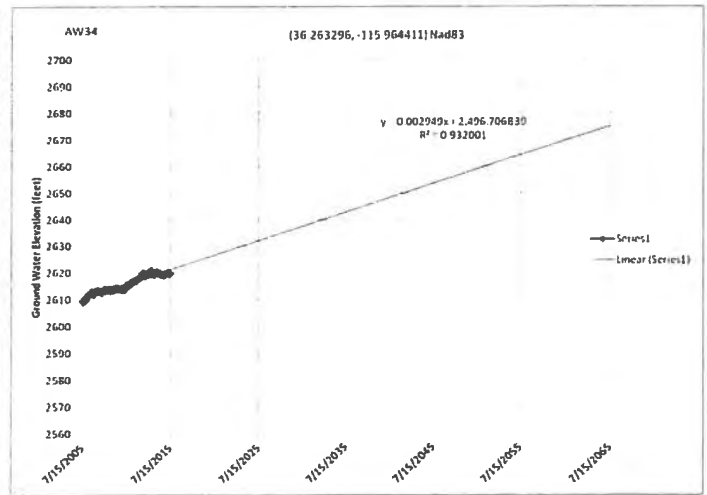
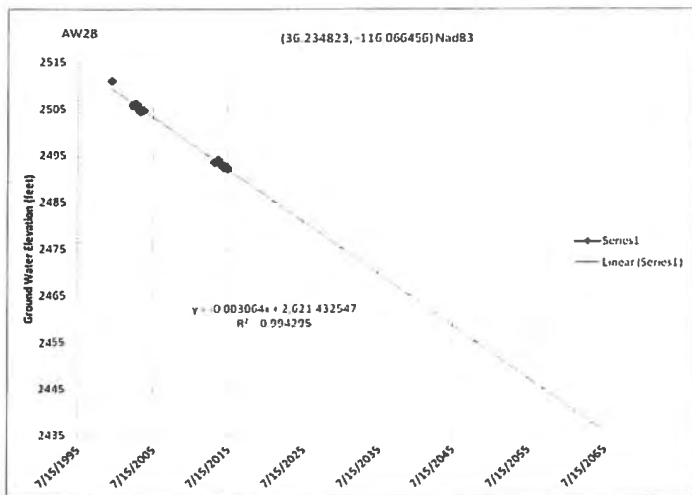
In developing the Water Level/ Potentiometric map Water level data for some wells do not go back as far as 7-15-05 (10 years for regression analysis) but were still used in the analysis (Craig, Donna, Hall2, Harrow Disk, Landfill#1, Landfill#2, Landfill#3, Stewart Valley South, Veloz, PV-1, PV-2, PV-3, PV-4, PV-5, Monitor Well 1, Monitor Well 4, and Urbon/Beckett Well). Water Level data for Donna and Hall2 is contained in the WLMP database previous to 7-15-05, but these wells were reactivated, a therefore only the water level data after 7-15-05 were used in the regressions. Note: Water level data from 12-27-99 to 7-15-15 were used in the regression for well AW28 to insure sufficient data points to better define the regression line. Individual water level measurements that were not stable (pumping and recovering wells) were removed, and not used in the regressions.

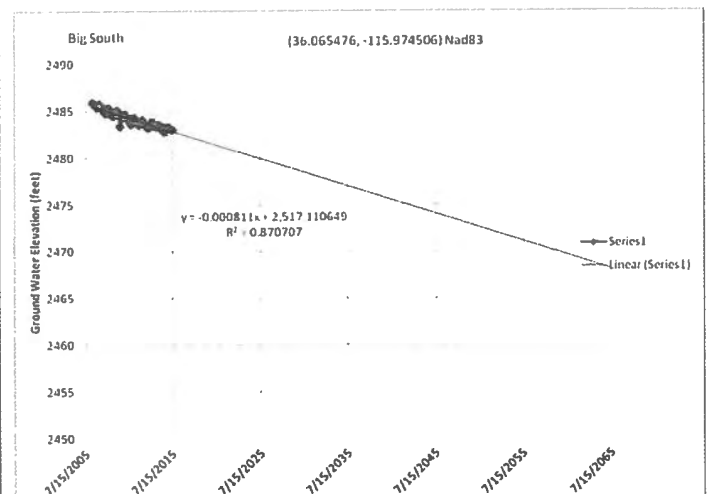
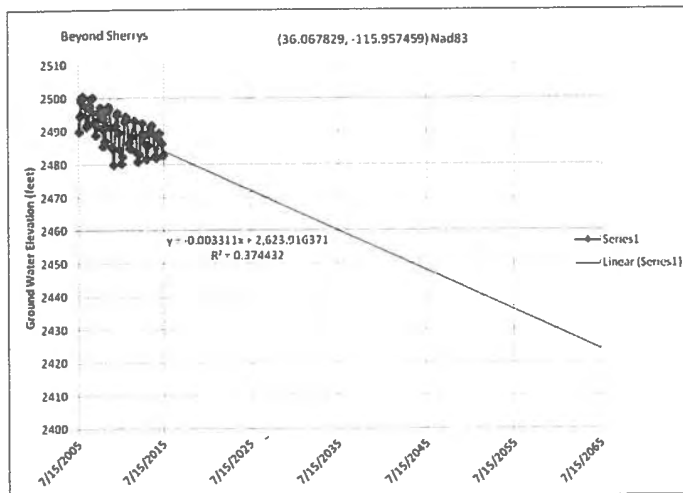
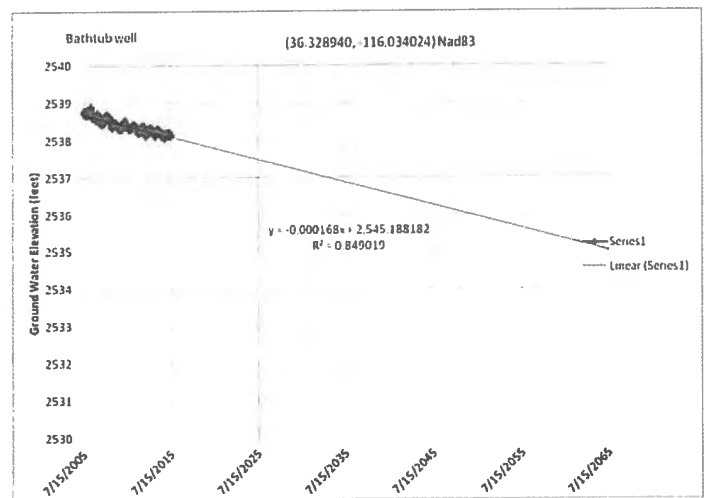
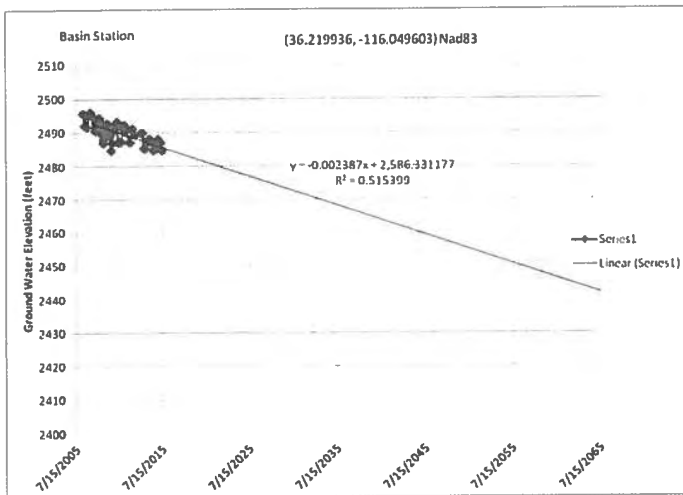
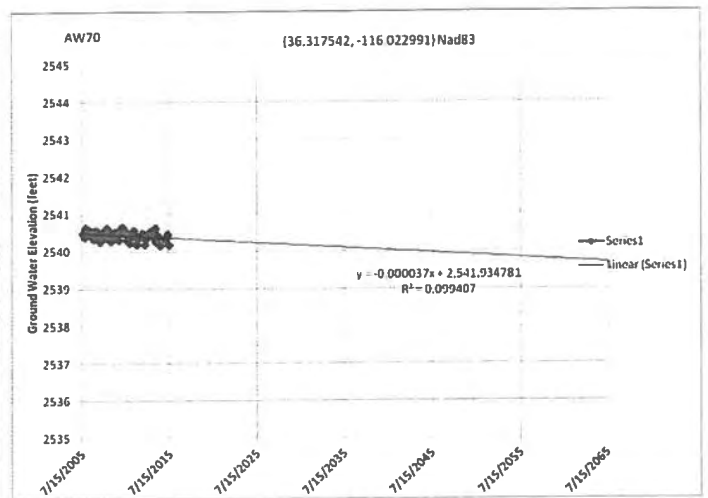
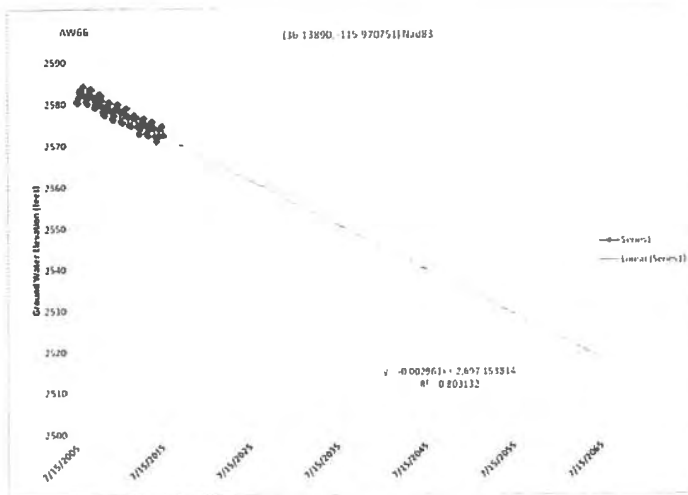


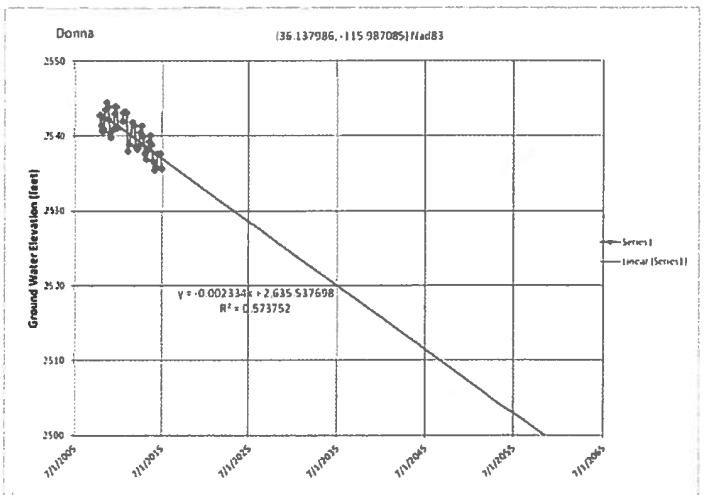
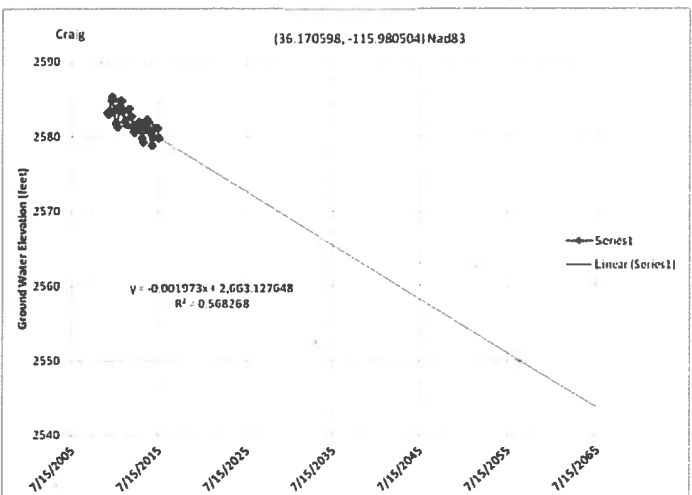
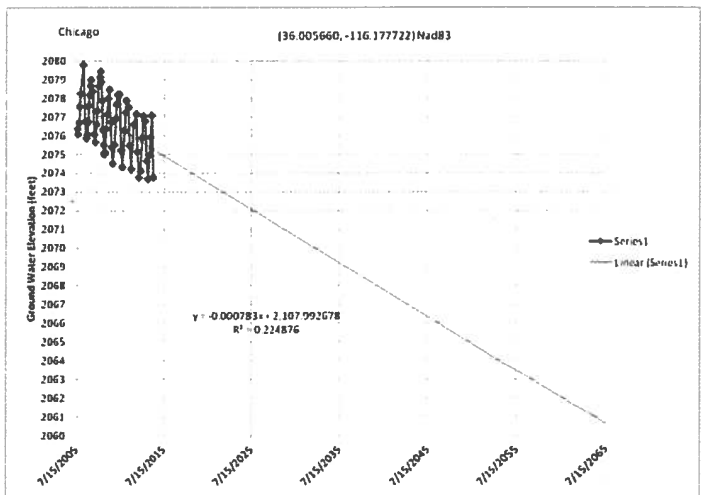
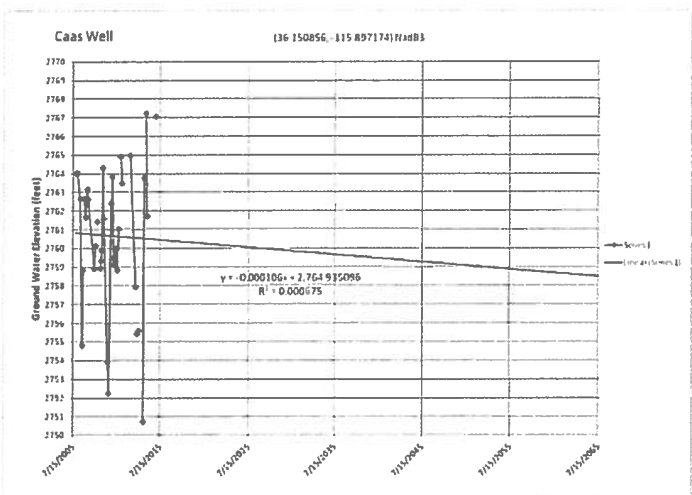
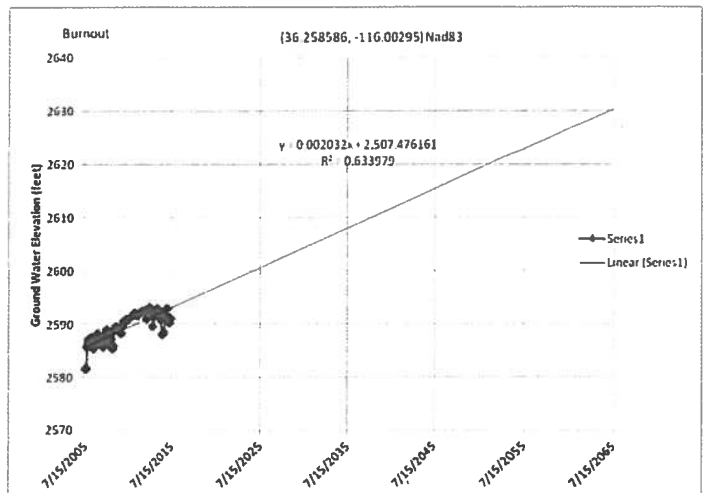
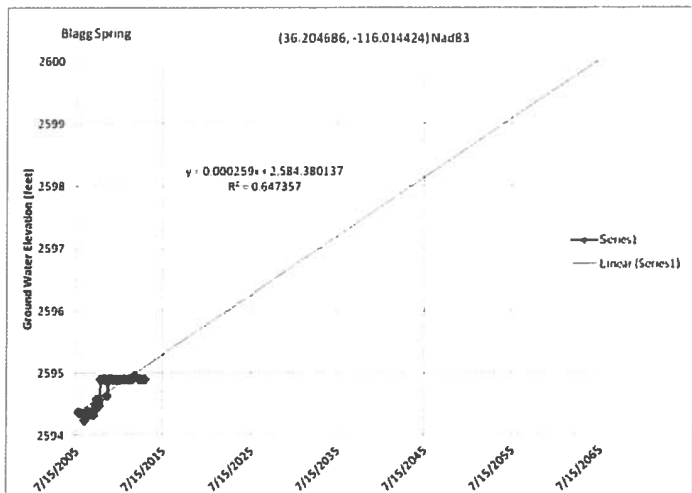
FigureA1. Showing the location of control points used to make hydrographs to define the potentiometric surfaces for the starting “current” potentiometric surface map (7-15-2015), 20-year surface (7-15-2035), and 50-year (7-15-2065). The area enclosed by the lower rate (AAD- yellow polygon) of -10 feet in 50 years (average decline of ≥ 0.2 ft/yr) bounds the aerial extent used for further analysis. The area enclosed by the ARD-orange polygon of -10 feet in 20 years (average decline of ≥ 0.5 ft/yr) bounds the aerial extent of area of relatively rapid decline. The following 7 wells were used to help constrain the contouring of the potentiometric surfaces, but are outside the limits of this view: Jeep Trail Well, NDOT, Eagle Mtn North, Eagle Mtn South, NDOT South, Pit Wall (USGS GA-08E), and USGS GS-03 Shallow Well.

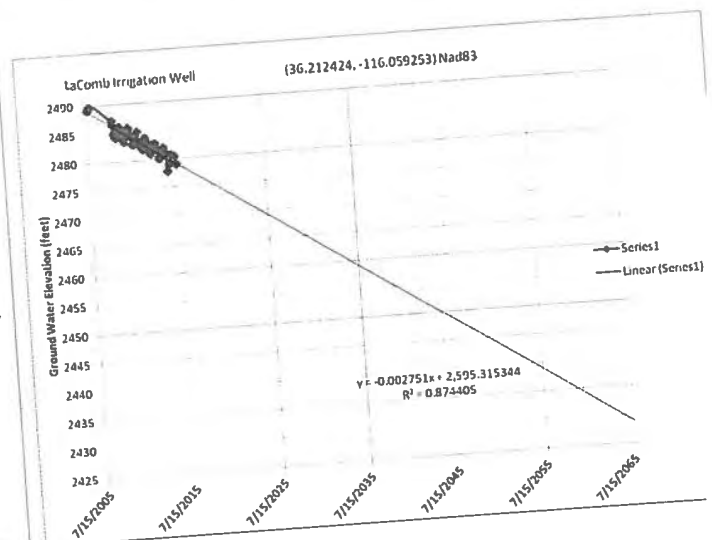
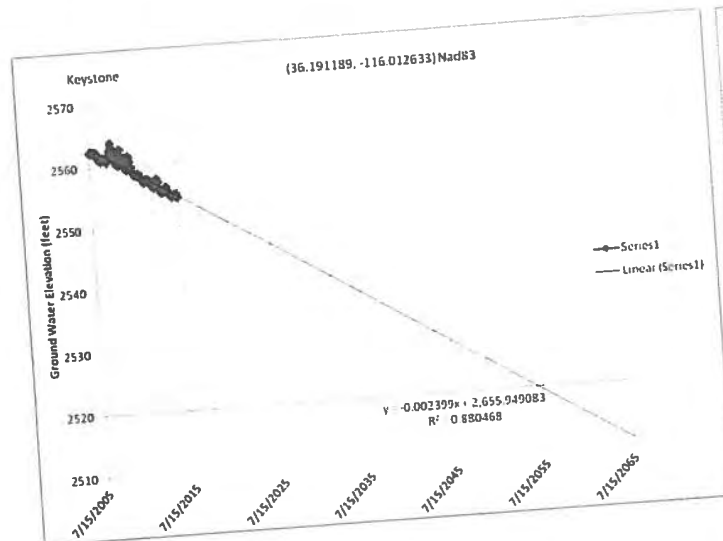
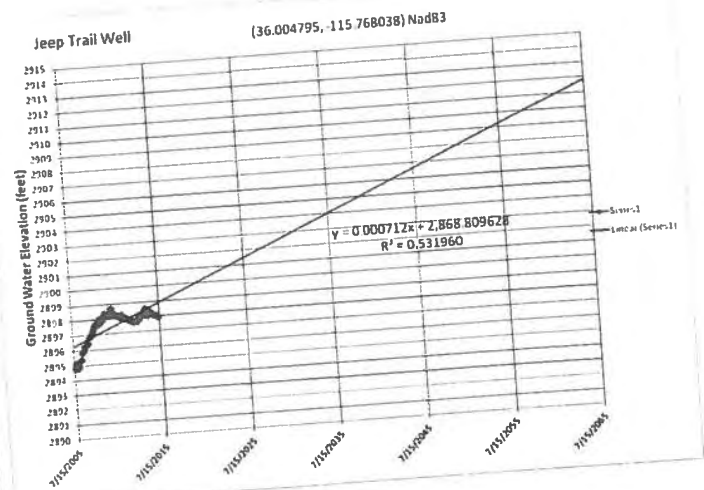
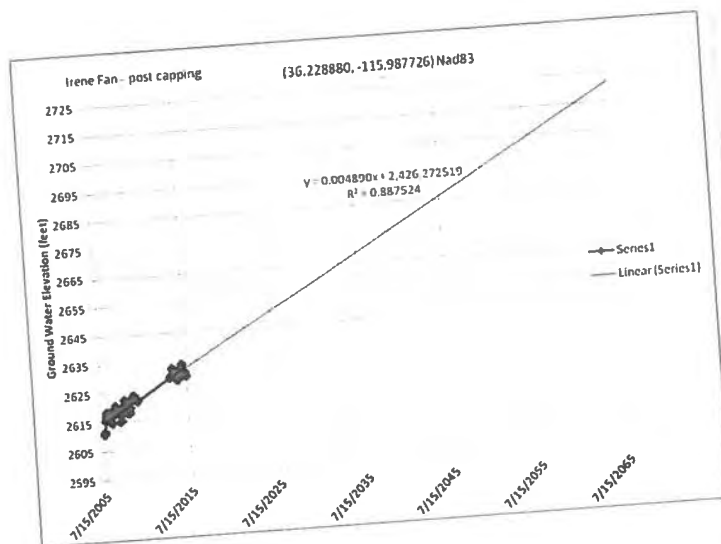
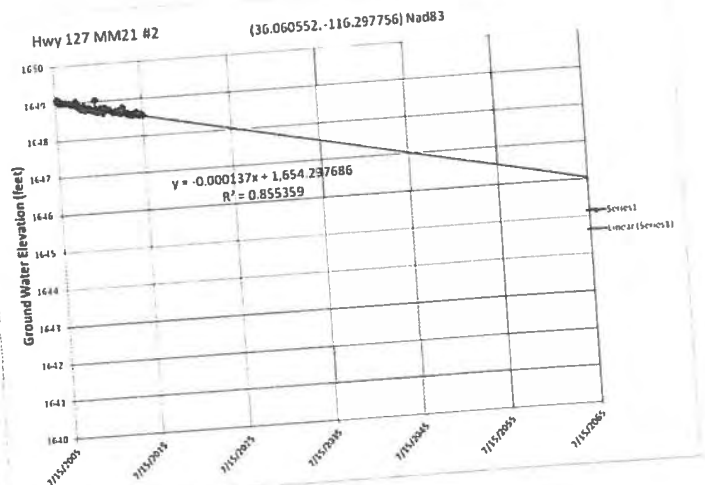
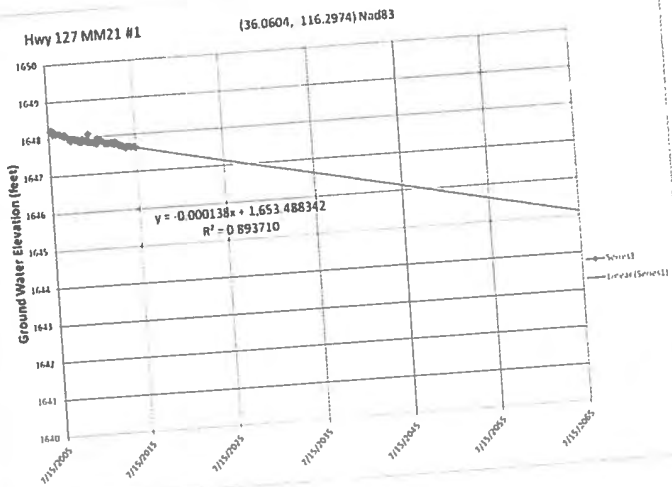
WLMP wells



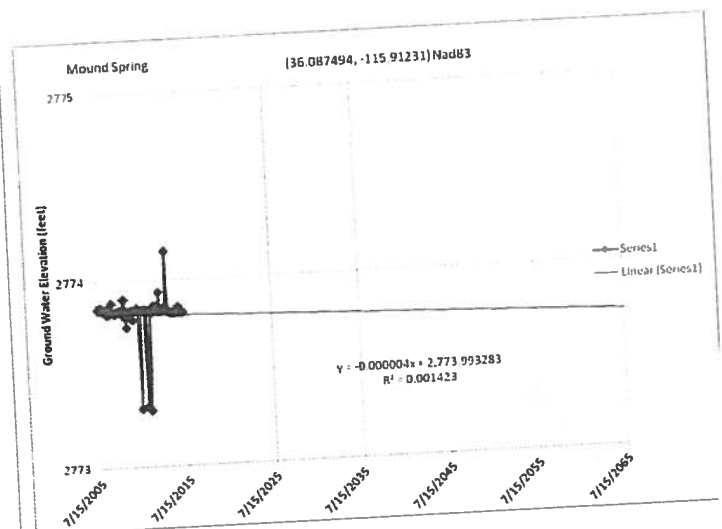
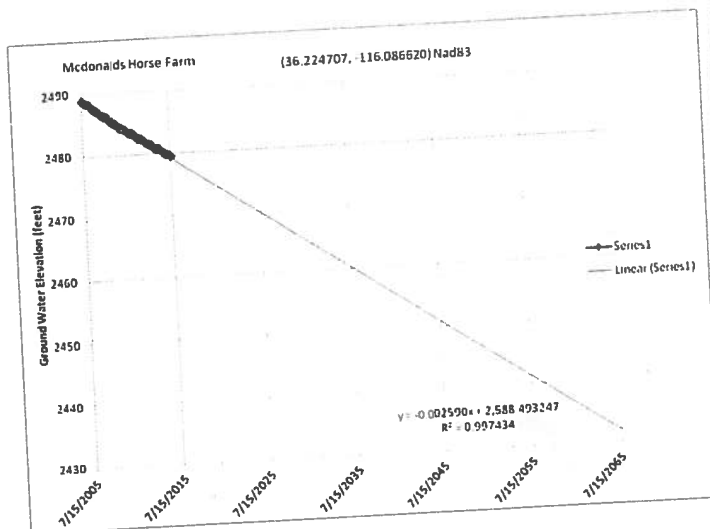
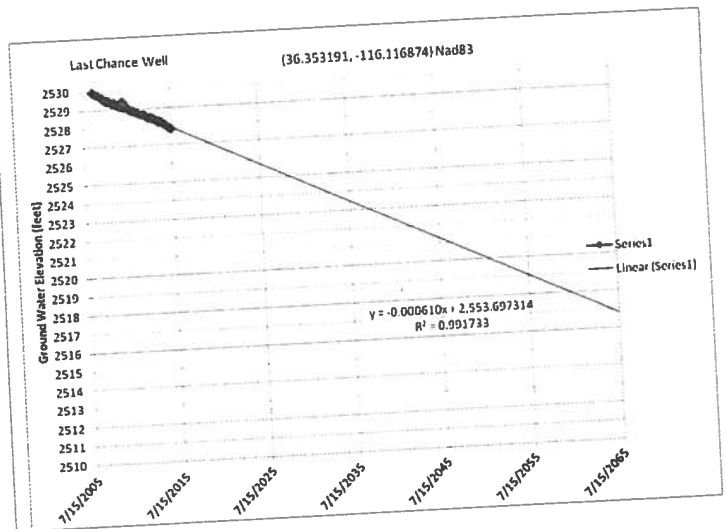
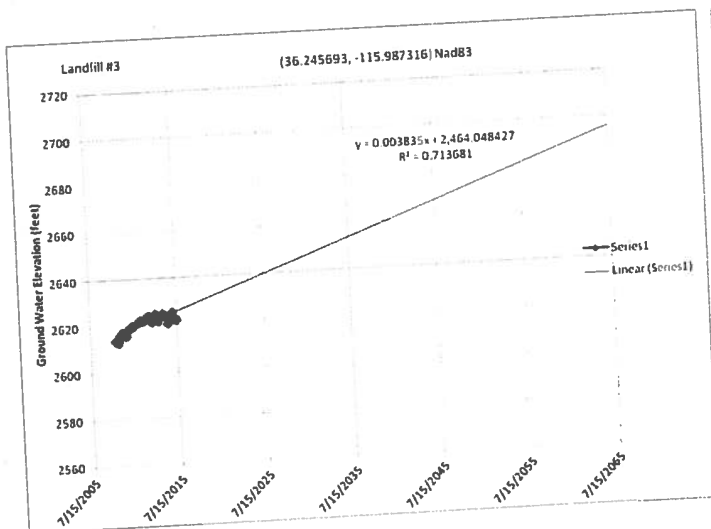
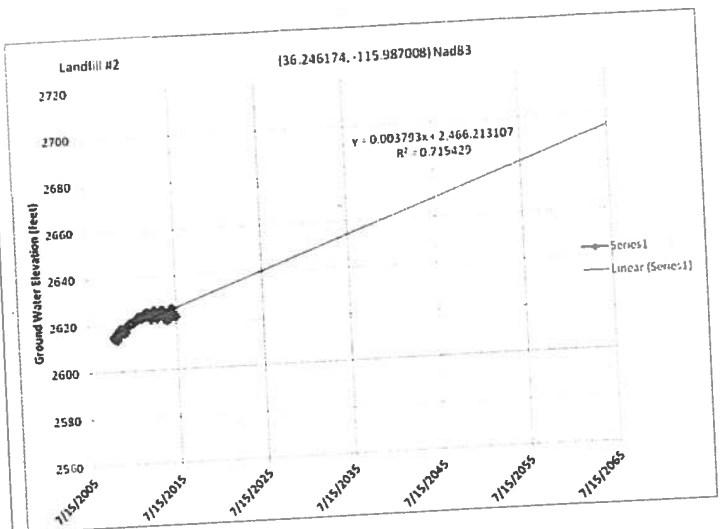
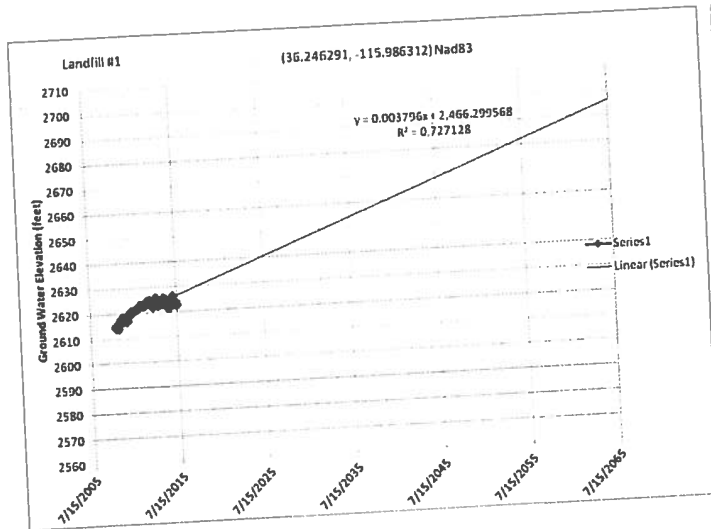


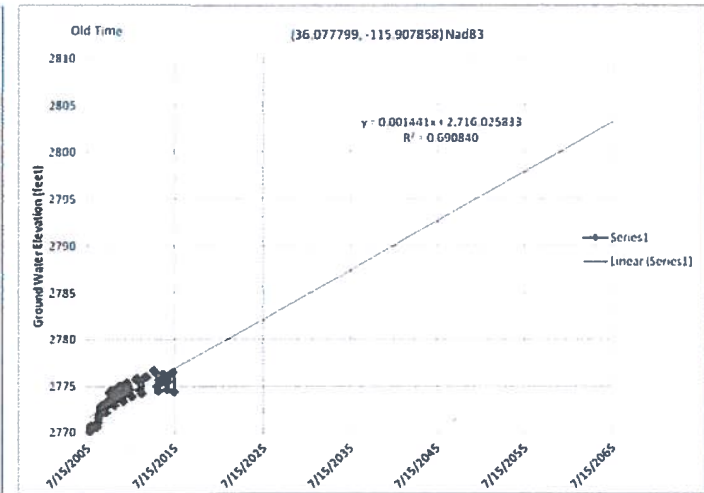
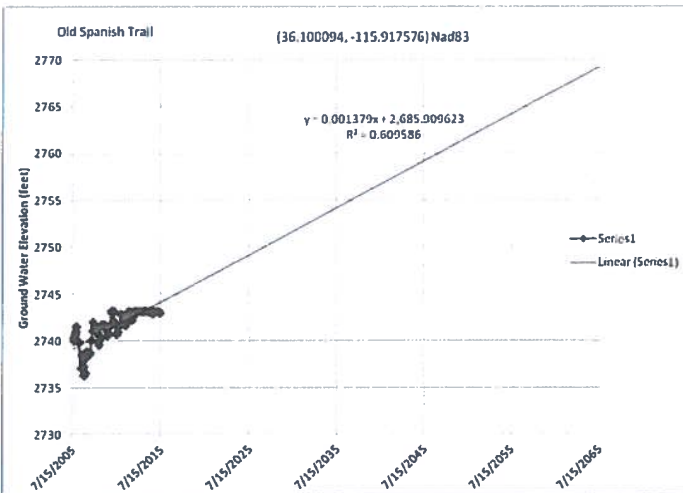
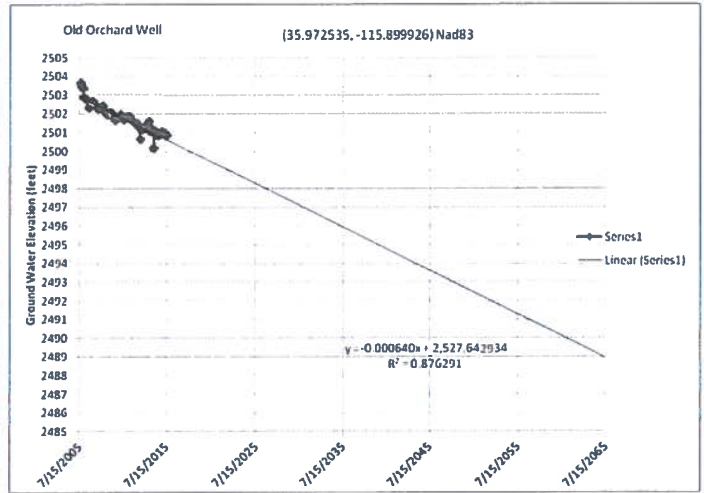
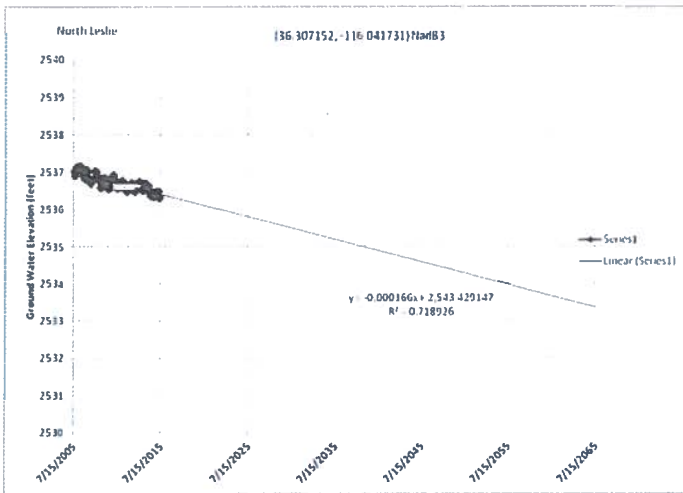
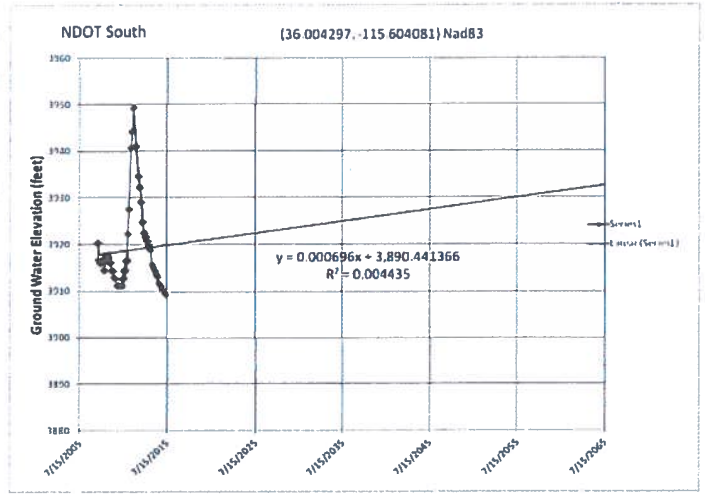
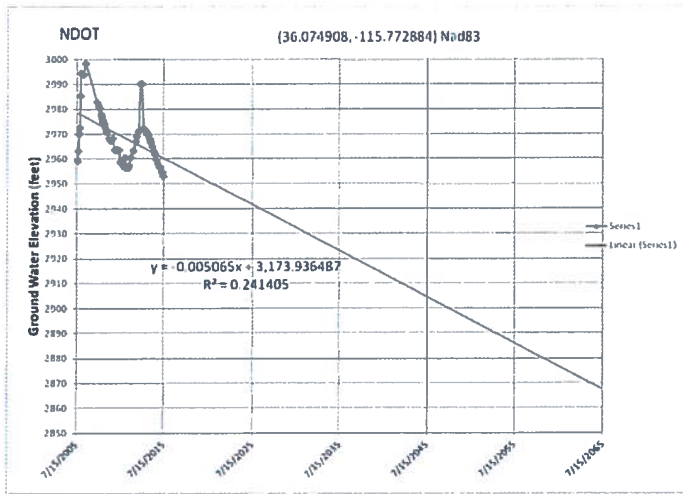


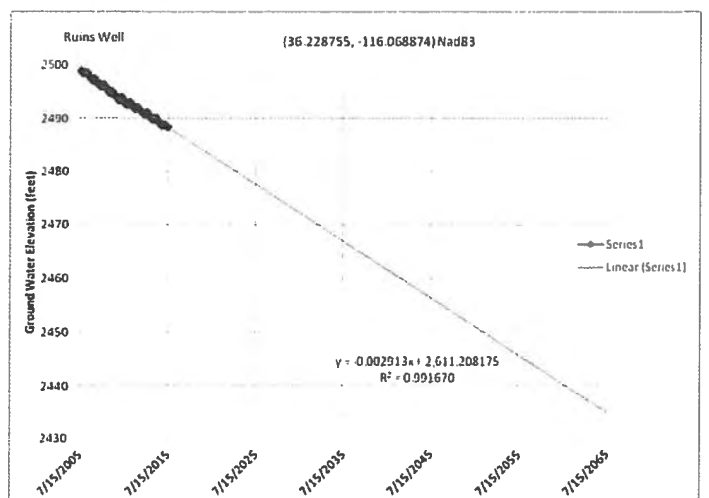
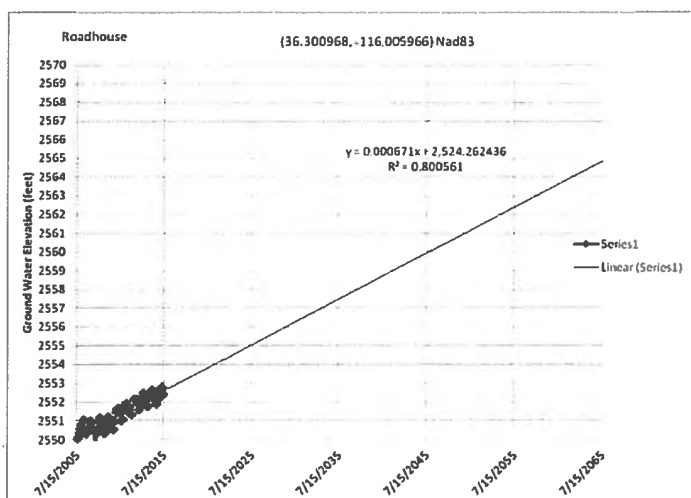
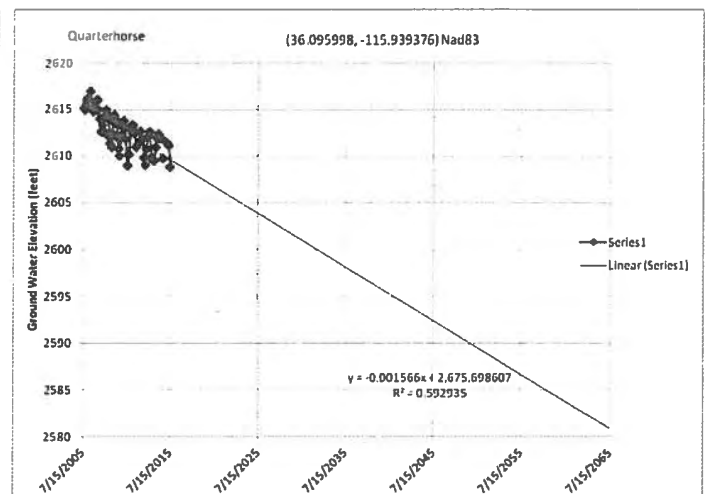
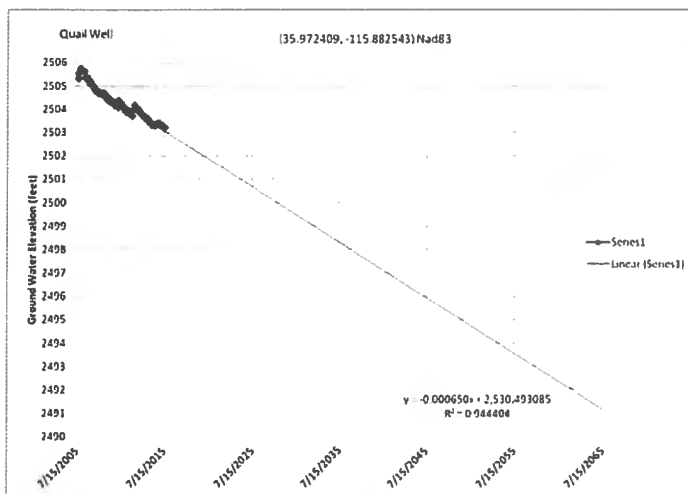
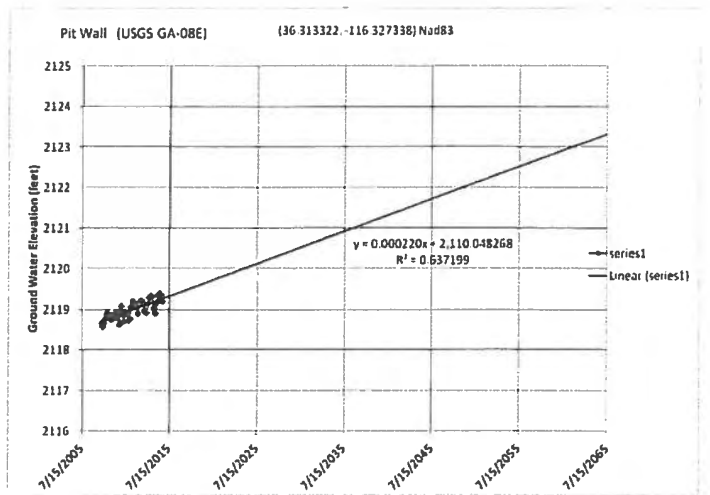
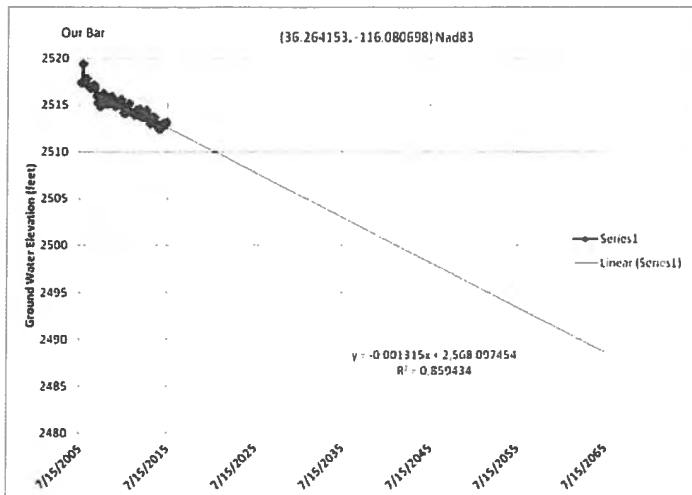


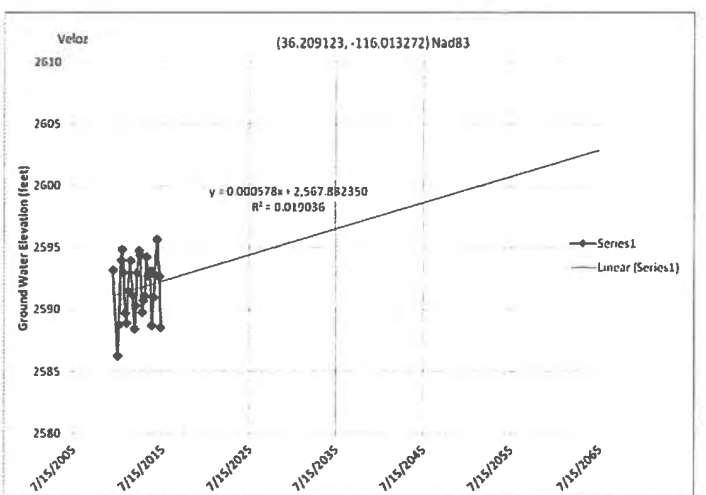
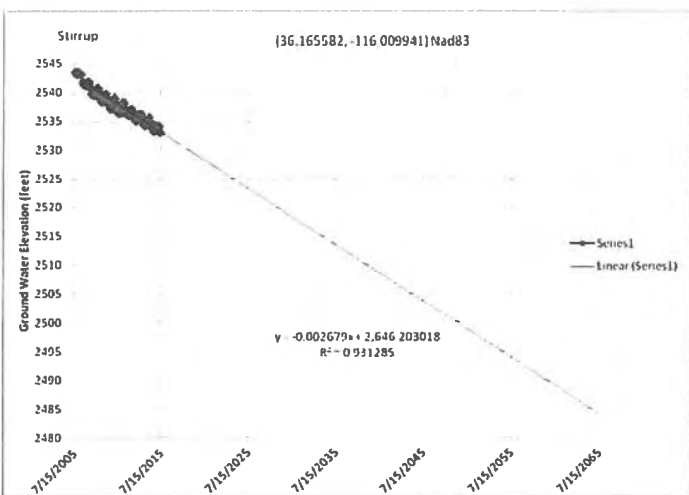
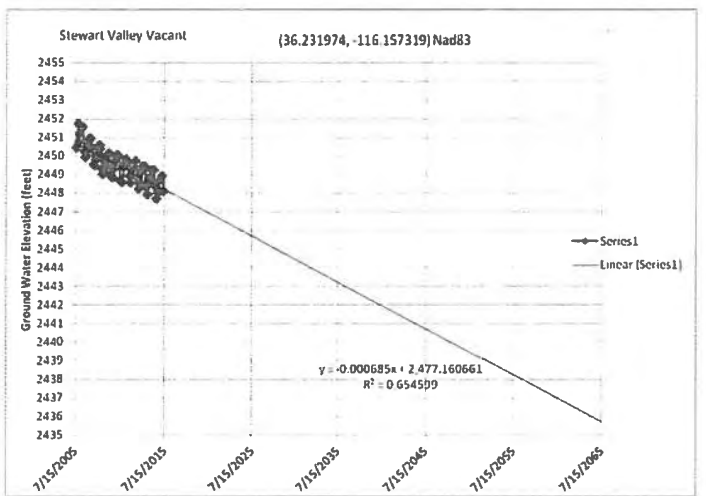
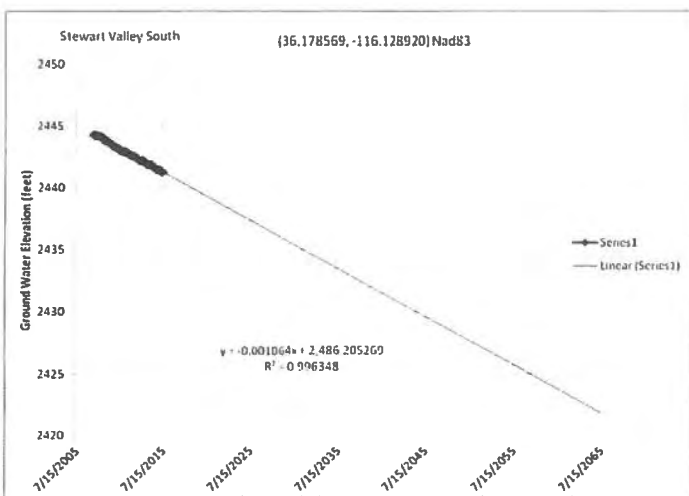
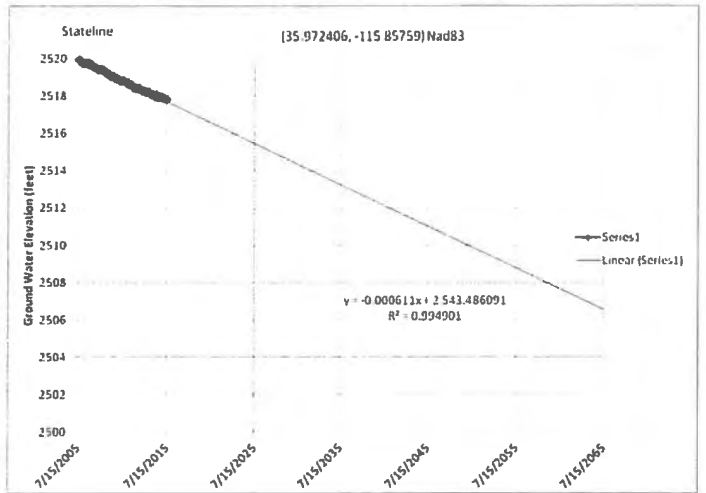
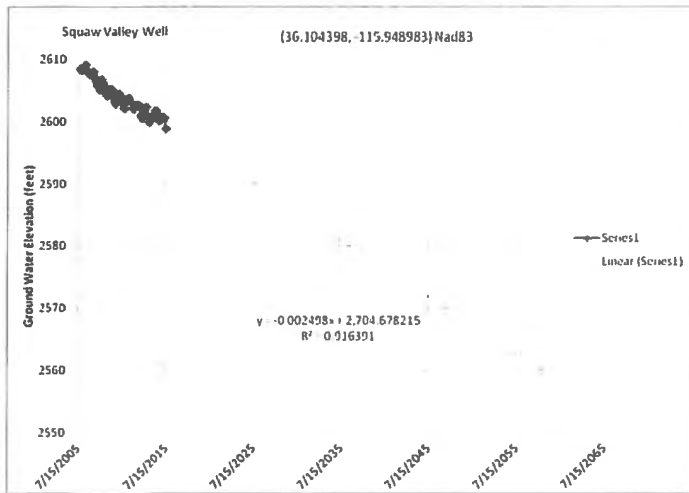


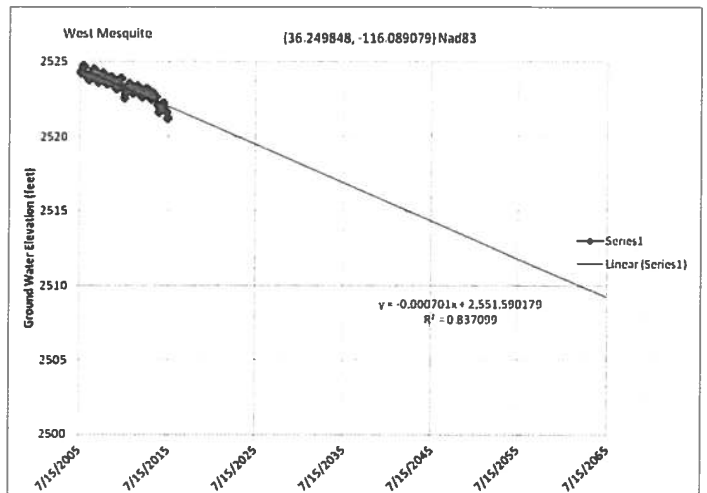
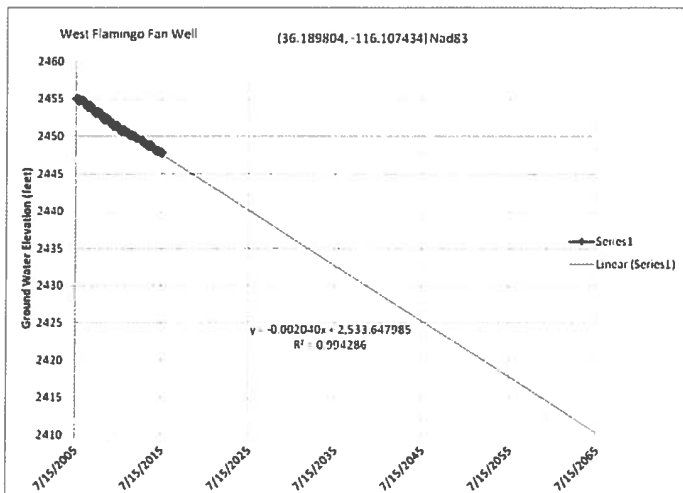
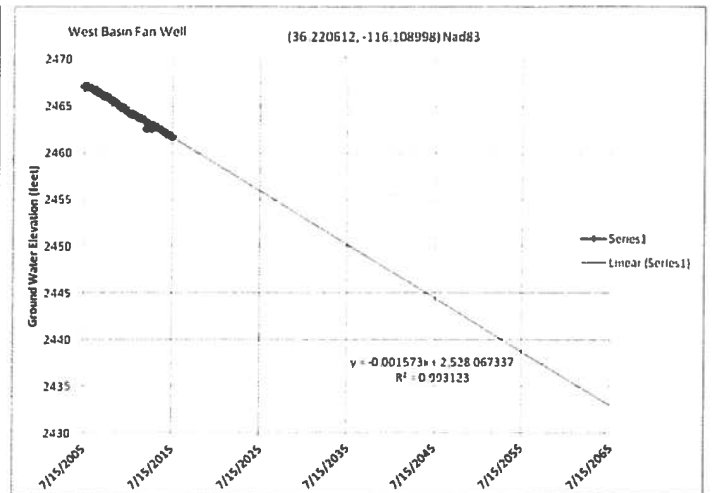
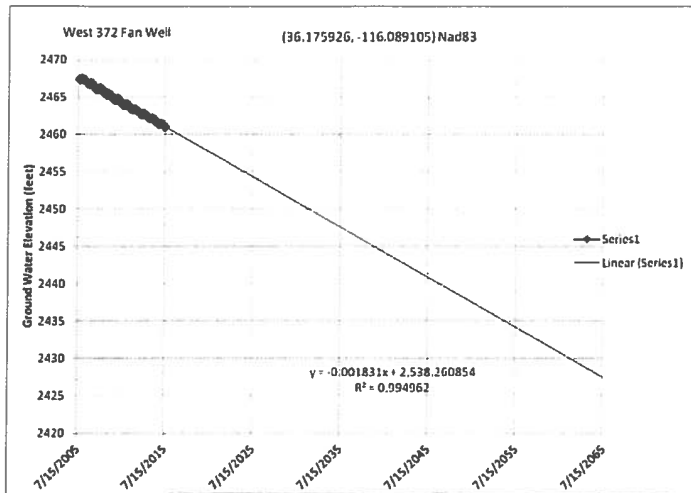
AA-9



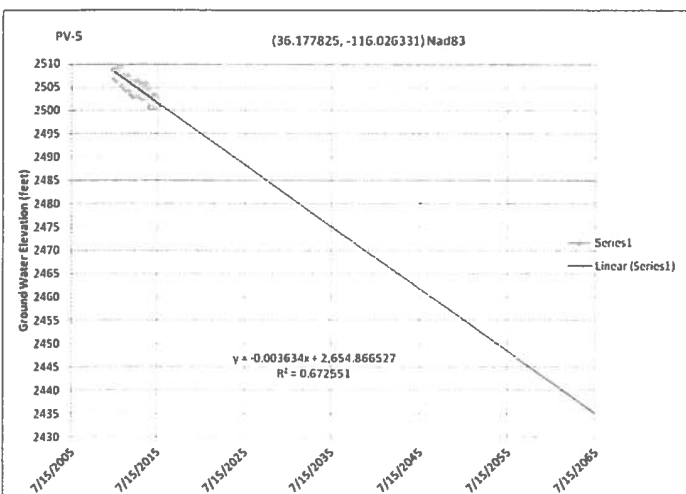
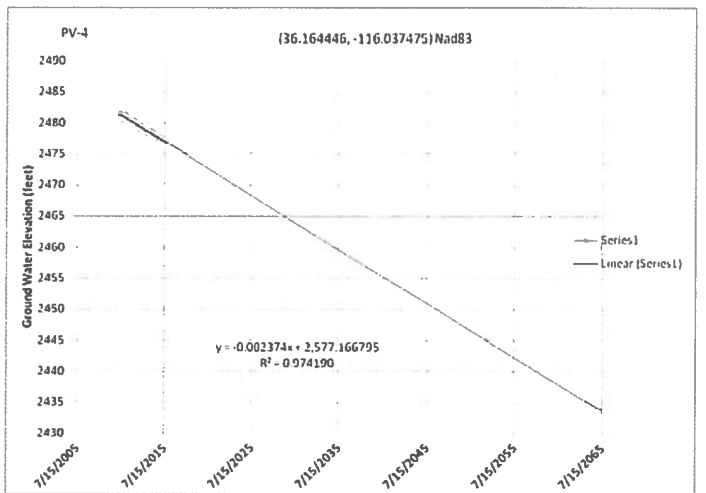
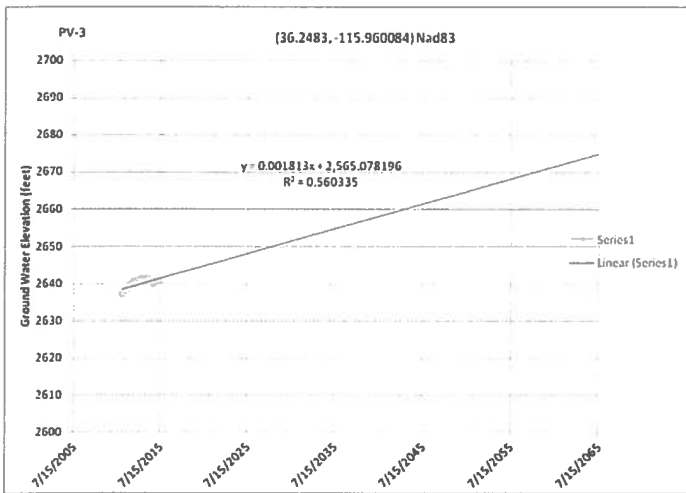
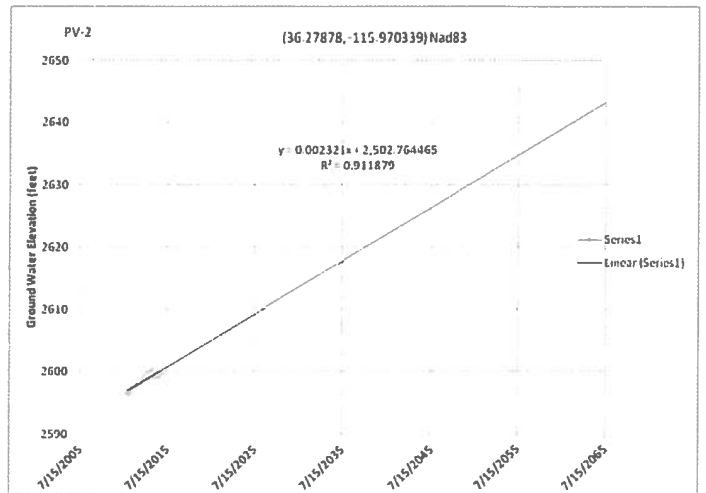
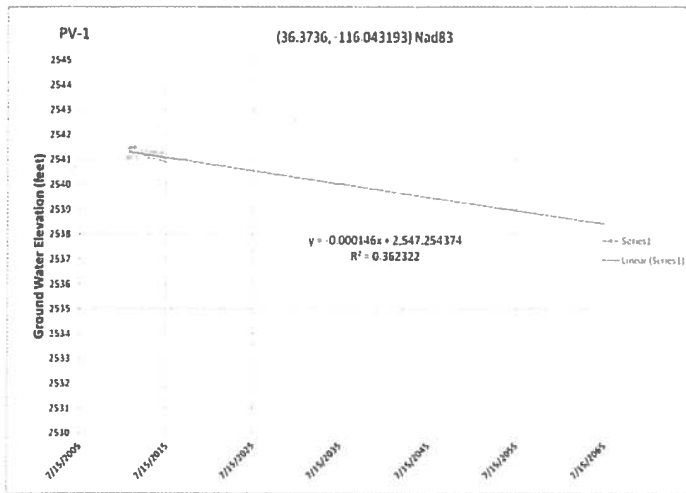




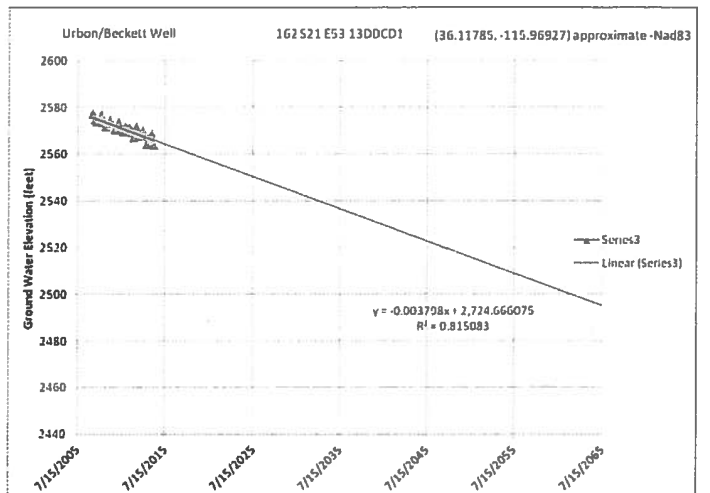
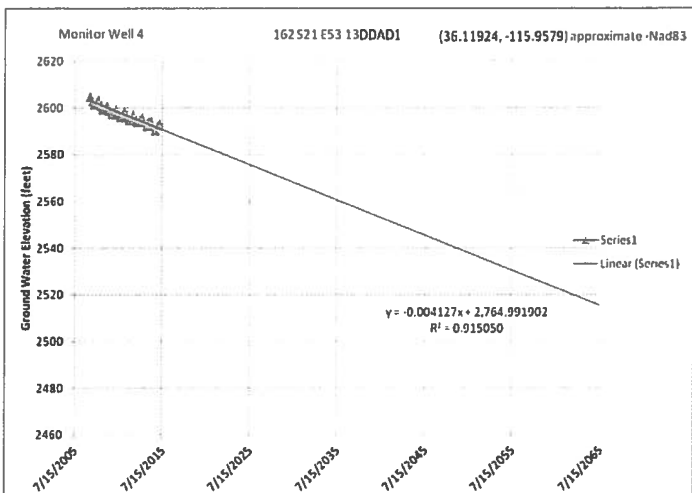
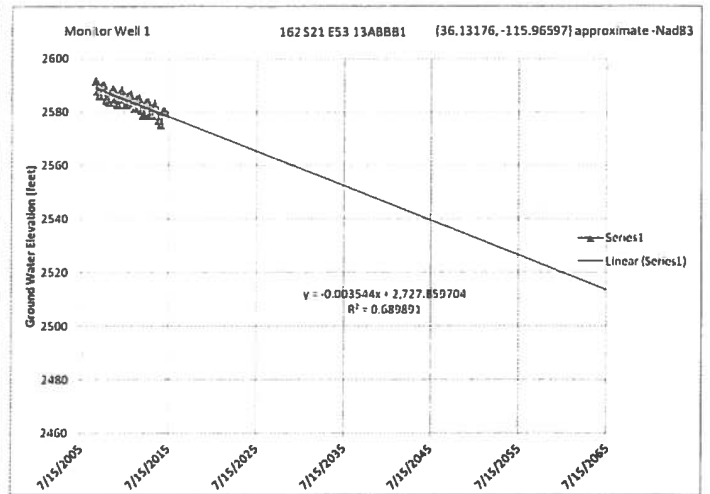
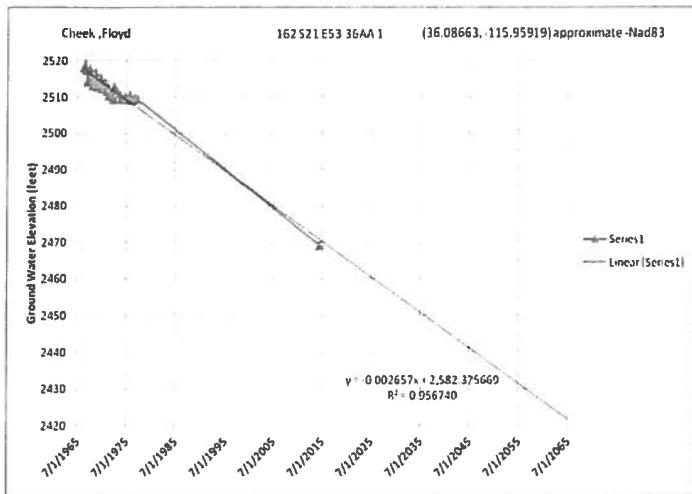




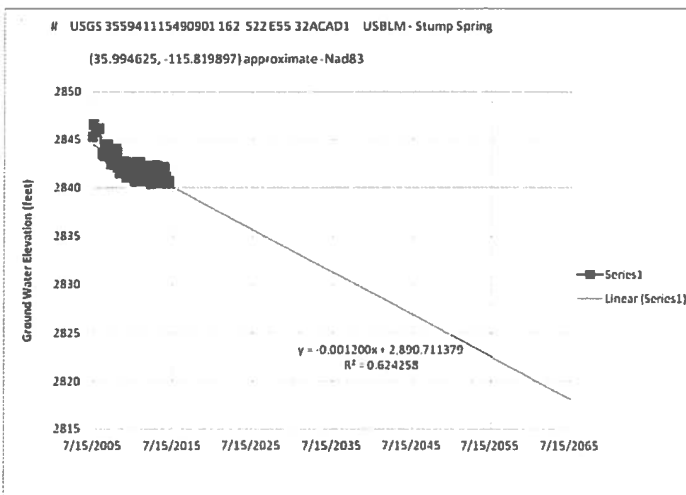
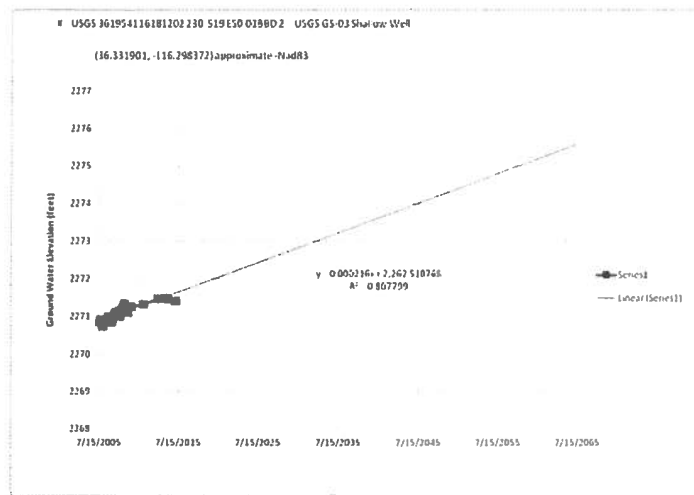
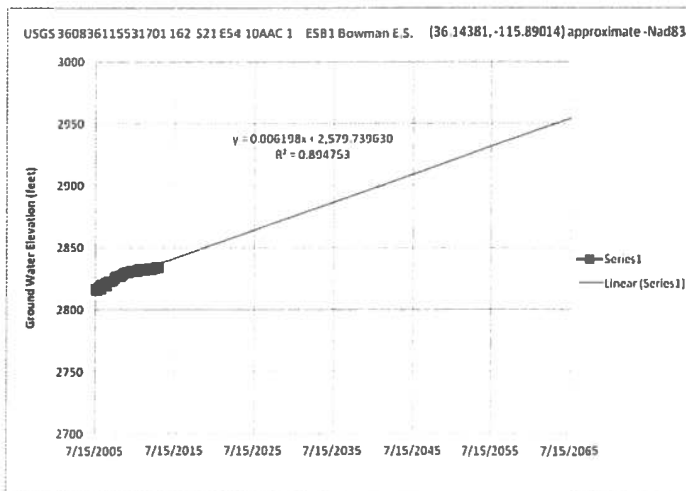
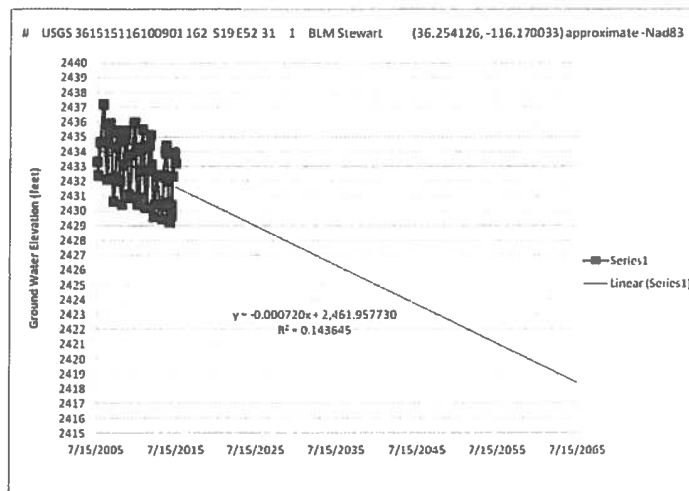
GWE wells



NDWR wells



USGS wells



Control Point Elevations:

Table used to generate potentiometric surfaces for the starting “current” potentiometric surface map (7-15-2015), 20-year surface (7-15-2035), and 50-year (7-15-2065). Data for “Estimated Water Table Elevations” was generated using the regression line equation where X is the number of days since 1/1/1990 and slope is in feet per day.

Well Name	Easting/X: State Plane NV cent 2702	Northing/y: State Plane NV cent 2702	Latitude (NAD 83)	Longitude (NAD 83)	Water Table Elevation 7-2015 (feet)	Estimated Water Table Elevation 7-15-35 (feet)	Estimated Water Table Elevation 7-15-65 (feet)	Slope used in calculations	Intercept used in calculations
Aquarium City	1845154	20212684	36.197789	115.972747	2649.09	2696.78	2759.48	0.005721	2413.57
AW01	1839221	20197238	36.155474	115.993217	2544.34	2519.40	2481.72	-0.003439	2689.65
AW07	1821494	20244294	36.285061	116.052254	2514.34	2503.68	2487.87	-0.001443	2575.11
AW10	1829928	20241851	36.278200	116.023693	2530.25	2524.37	2515.76	-0.000786	2563.28
AW11	1834534	20239287	36.271070	116.008127	2554.29	2556.25	2558.54	0.000209	2545.90
AW24	1826945	20215216	36.205088	116.034403	2515.09	2507.48	2494.93	-0.001146	2564.22
AW34	1847441	20236548	36.263296	115.964411	2619.75	2642.70	2675.01	0.002949	2496.71
AW37	1838396	20226217	36.235095	115.995331	2617.72	2640.65	2672.38	0.002895	2497.33
AW46	1840610	20188566	36.131628	115.988717	2526.13	2495.28	2448.09	-0.004307	2708.50
AW63	1845249	20193906	36.146205	115.972881	2570.55	2553.68	2528.42	-0.002305	2667.79
AW64	1840456	20194262	36.147277	115.989102	2539.46	2519.51	2488.55	-0.002825	2659.36
AW66	1845896	20191251	36.138900	115.970751	2572.37	2550.57	2518.12	-0.002961	2697.15
AW70	1830040	20256174	36.317542	116.022991	2540.19	2540.10	2539.70	-0.000037	2541.93
Basin Station	1822426	20220592	36.219936	116.049603	2484.67	2468.11	2441.90	-0.0023913	2586.49
Bathtub well	1826762	20260302	36.328940	116.034024	2538.13	2536.87	2535.03	-0.000168	2545.19
Beyond Sherrys	1850010	20165409	36.067829	115.957459	2482.85	2460.01	2423.72	-0.003311	2623.92
Big South	1844978	20164516	36.065476	115.974506	2483.09	2476.96	2468.08	-0.000811	2517.11
Blagg Spring	1832840	20215109	36.204686	116.014424	2594.90	2597.20	2600.04	0.000259	2584.38
Burnout	1836091	20234753	36.258586	116.002950	2591.19	2608.07	2630.34	0.002032	2507.48
Caas Well	1867587	20195767	36.150856	115.897174	2752.05	2759.70	2758.54	-0.000105	2764.89
Chicago	1785028	20142378	36.005660	116.177722	2074.40	2069.23	2060.65	-0.000783	2107.992
Donna	1841076	20190884	36.137986	115.987085	2535.64	2519.99	2494.42	-0.002334	2635.54
Dry Lakebed Well	1846335*	20141296*	36.001665	115.970475	2405.66	2404.71	2403.07	-0.000150	2412.14
Executive Golf Course	1841063	20205728	36.178763	115.986775	2590.14	2578.97	2561.91	-0.001557	2656.05
Floyd Farm Basin	1830075	20220434	36.219365	116.023676	2533.33	2521.27	2501.18	-0.001834	2612.07
Forum Group	1820056	20210847	36.193206	116.057845	2472.99	2452.66	2422.34	-0.002767	2589.64
Graffiti Well	1807966	20232611	36.253194	116.098387	2520.59	2516.33	2509.03	-0.000666	2549.30
Gravel Pit	1861119	20204605	36.175273	115.918851	2705.58	2744.42	2799.30	0.005008	2496.50
Harley	1827258	20267752	36.349396	116.032175	2538.21	2536.62	2534.31	-0.000211	2547.07
Hidden Hills Irrigation Well	1879642	20146335	36.014801	115.857735	2673.52	2667.54	2659.58	-0.000727	2703.53
Hwy 127 MM21 #1	1749556*	20162148*	36.060400	116.297400	1647.66	1646.66	1645.14	-0.000138	1653.49
Hwy 127 MM21 #2	1749451*	20162202*	36.060552	116.297756	1648.55	1647.52	1646.01	-0.000137	1654.30
Irene Fan	1840655	20223970	36.228880	115.987726	2629.59	2668.35	2721.94	0.004890	2426.27
Jeep Trail Well	1906202	20142925	36.004795	115.768038	2897.91	2904.06	2911.86	0.000712	2868.81
Keystone	1833402	20210199	36.191189	116.012633	2554.42	2537.19	2510.90	-0.002399	2655.95
LaComb Irrigation	1819597	20217840	36.212424	116.059253	2479.03	2459.13	2428.98	-0.002751	2595.32

Well Name	Easting/X: State Plane NV cent 2702	Northing/y: State Plane NV cent 2702	Latitude (NAD 83)	Longitude (NAD 83)	Water Table Elevation 7-2015 (feet)	Estimated Water Table Elevation 7-15-35 (feet)	Estimated Water Table Elevation 7-15-65 (feet)	Slope used in calculations	Intercept used in calculations
Last Chance Well	1802308	20268981	36.353191	116.116874	2527.88	2523.50	2516.81	-0.000610	2553.70
Mcdonalds Horse Farm	1811497	20222262	36.224707	116.086620	2479.39	2460.28	2431.89	-0.002590	2588.49
Mound Spring	1863297	20172667	36.087494	115.912310	2773.82	2773.80	2773.75	-0.000004	2773.99
NDOT	1904535	20168435	36.074908	115.772884	2953.03	2923.19	2867.69	-0.005065	3173.94
North Leslie	1824543	20252356	36.307152	116.041731	2536.31	2535.21	2533.39	-0.000166	2543.43
Old Orchard Well	1867286*	20130849*	35.972535	115.899926	2500.85	2495.96	2488.95	-0.000640	2527.64
Old Spanish Trail	1861706	20177242	36.100094	115.917576	2743.02	2754.18	2769.29	0.001379	2685.91
Old Time	1864640	20169148	36.077799	115.907858	2774.40	2787.36	2803.15	0.001441	2716.03
Our Bar	1813157	20236632	36.264153	116.080698	2513.23	2503.00	2488.59	-0.001315	2568.10
Quail Well	1872430*	20130844*	35.972409	115.882543	2503.23	2498.31	2491.19	-0.000650	2530.49
Quarterhorse	1855277	20175702	36.095998	115.939376	2608.85	2598.17	2581.01	-0.001566	2675.70
Roadhouse	1835096	20250175	36.300968	116.005966	2552.43	2557.48	2564.83	0.000671	2524.26
Ruins Well	1816722	20223767	36.228755	116.068874	2488.47	2467.00	2435.08	-0.002913	2611.21
Squaw Valley Well	1852416	20178738	36.104398	115.948983	2598.92	2581.01	2553.64	-0.002498	2704.68
Stateline	1879813*	20130903*	35.972406	115.857590	2517.82	2513.24	2506.54	-0.000611	2543.49
Stewart Valley Vacant	1790631	20224790	36.231974	116.157319	2448.11	2443.25	2435.74	-0.000685	2477.16
Stirrup	1834259	20200883	36.165582	116.009941	2533.09	2513.58	2484.22	-0.002679	2646.20
West 372 Fan Well	1810870	20204500	36.175926	116.089105	2460.97	2447.62	2427.55	-0.001831	2538.26
West Basin Fan Well	1804906	20220732	36.220612	116.108998	2461.75	2450.20	2432.96	-0.001573	2528.07
West Flamingo Fan Well	1805431	20209520	36.189804	116.107434	2447.79	2432.66	2410.30	-0.002040	2533.65
West Mesquite	1810717	20231409	36.249848	116.089079	2521.21	2516.89	2509.21	-0.000701	2551.59
Aw28	1817422	20225980	36.234823	116.066456	2492.18	2469.75	2436.17	-0.003064	2621.43
Craig	1842935	20202769	36.170598	115.980504	2579.86	2565.45	2543.83	-0.001973	2663.13
Eagle Mtn North	1724703	20219619	36.218511	116.380916	1977.53	1976.95	1975.59	-0.000124	1983.09
Eagle Mtn South	1724776	20219506	36.218202	116.380669	1977.09	1976.33	1974.73	-0.000146	1983.56
Hall2	1823775	20233604	36.255656	116.044748	2507.10	2488.34	2460.27	-0.002561	2615.12
Harrow Disk	1835726	20236823	36.264279	116.004141	2553.85	2556.58	2560.11	0.000323	2540.59
Landfill #1	1841027	20230311	36.246291	115.986312	2622.62	2654.22	2695.82	0.003796	2466.30
Landfill #2	1840823	20230267	36.246174	115.987008	2622.42	2653.99	2695.55	0.003793	2466.21
Landfill #3	1840733	20230092	36.245693	115.987316	2621.98	2653.90	2695.92	0.003835	2464.05
NDOT South	1954699	20143232	36.004297	115.604081	3909.34	3924.90	3932.52	0.000696	3890.44
Pit Wall (USGS GA-08E)	1740386	20254183	36.313322	116.327338	2119.19	2120.94	2123.35	0.000220	2110.05
Stewart Valley South	1799114	20205395	36.178569	116.128920	2441.31	2433.49	2421.82	-0.001065	2486.21
Veloz	1833169	20216726	36.209123	116.013272	2588.50	2596.49	2602.83	0.000578	2567.88
PV-1	1823956	20276542	36.373600	116.043193	2541.04	2540.02	2538.42	-0.000146	2547.25
PV-2	1845652	20242171	36.278780	115.970339	2599.95	2617.67	2643.10	0.002321	2502.77
PV-3	1848756	20231098	36.248300	115.960084	2640.63	2654.83	2674.70	0.001813	2565.08
PV-4	1826134	20200416	36.164446	116.037475	2477.00	2459.64	2433.62	-0.002374	2577.17
PV-5	1829392	20205307	36.177825	116.026331	2500.70	2474.97	2435.14	-0.003634	2654.87
BLM Stewart Valley Well	1786840	20232834	36.254126	116.170033	2433.03	2426.31	2418.42	-0.000720	2461.96

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Well Name	Easting/X: State Plane NV cent 2702	Northing/y: State Plane NV cent 2702	Latitude (NAD 83)	Longitude (NAD 83)	Water Table Elevation 7-2015 (feet)	Estimated Water Table Elevation 7-15-35 (feet)	Estimated Water Table Elevation 7-15-65 (feet)	Slope used in calculations	Intercept used in calculations
USBLM - Stump Spring Well	1890896	20139086	35.994625	115.819897	2841.00	2831.31	2818.16	-0.001200	2890.71
USGS GS-03 Shallow Well	1748894	20260977	36.331901	116.298372	2279.09	2273.20	2275.57	0.000216	2262.51
BOWMAN, E.S.	1869684	20193219	36.143810	115.890140	2837.40	2886.57	2954.49	0.006198	2579.74
Monitor Well 1	1847327	20188662	36.131760	115.965970	2575.00	2552.41	2513.58	-0.003544	2727.86
Monitor Well 4	1849743	20184122	36.119240	115.957900	2590.70	2560.68	2515.46	-0.004127	2764.99
Urbon/Beckett Well	1846389	20183592	36.117850	115.969270	2564.00	2536.65	2495.03	-0.003798	2724.67
Cheek, Floyd	1849448	20172249	36.086630	115.959190	2468.50	2450.84	2421.73	-0.002657	2582.38
Appaloosa Spring a	1915463	20180694	36.108302	115.735511	3809	3809	3809	0	3809
Appaloosa Spring b	1915349	20180698	36.108316	115.735897	3805	3805	3805	0	3805
Big Spring	1755908	20276542	36.374582	116.274344	2247	2247	2247	0	2247
Bole Spring	1756652	20272452	36.363338	116.271873	2265	2265	2265	0	2265
Bramer Spring	1759298	20272454	36.363315	116.262885	2278	2278	2278	0	2278
Buck Spring	1902890	20266204	36.343503	115.775409	7316	7316	7316	0	7316
Chappo Spring	1781653*	20121243*	35.947645	116.189482	1971	1971	1971	0	1971
Clark Spring	1918793	20258168	36.321016	115.721684	8527	8527	8527	0	8527
Grapevine Springs	1745711	20260315	36.330116	116.309187	2281	2281	2281	0	2281
Horse Springs a	1871693	20251549	36.303991	115.881738	5303	5303	5303	0	5303
Horse Springs b	1871390	20251397	36.303581	115.882768	5231	5231	5231	0	5231
Horse Springs c	1871014	20250641	36.301512	115.884066	5167	5167	5167	0	5167
Kuip Spring	1918329	20201491	36.165351	115.725125	5341	5341	5341	0	5341
Last Chance Spring	1756034	20270313	36.357471	116.274003	2251	2251	2251	0	2251
Lee Spring	1921190	20223297	36.225170	115.714711	8212	8212	8212	0	8212
Mound Spring	1861712	20175617	36.095632	115.917597	2754	2754	2754	0	2754
Santa Cruz Spring	1860963	20264499	36.339797	115.917810	4763	4763	4763	0	4763
Shoshone Spring	1756863*	20132854*	35.979848	116.273078	1609	1609	1609	0	1609
Stump Spring	1889341	20135054	35.983586	115.825273	2824	2824	2824	0	2824
Twelvemile Spring	1791597*	20148328*	36.021914	116.155407	2209	2209	2209	0	2209
unnamed spring #10	1871025	20249592	36.298631	115.884057	4983	4983	4983	0	4983
unnamed spring #11	1868847	20248784	36.296461	115.891470	4690	4690	4690	0	4690
unnamed spring #12	1871534	20248753	36.296316	115.882353	4978	4978	4978	0	4978
unnamed spring #13	1874656	20249047	36.297052	115.871753	5315	5315	5315	0	5315
unnamed spring #15	1875248	20248933	36.296727	115.869746	5332	5332	5332	0	5332
unnamed spring #17	1915551	20200698	36.163246	115.734564	4668	4668	4668	0	4668
unnamed spring #29	1913892	20178894	36.103398	115.740885	3712	3712	3712	0	3712
unnamed spring #31	1759096*	20122828*	35.952280	116.265672	1509	1509	1509	0	1509
unnamed spring #32	1792885*	20146872*	36.017894	116.151078	2226	2226	2226	0	2226
unnamed spring #6	1871007	20255266	36.314217	115.883964	5640	5640	5640	0	5640
unnamed spring #7	1871102	20255096	36.313749	115.883645	5614	5614	5614	0	5614
unnamed spring #8	1866215	20251860	36.304968	115.900319	4647	4647	4647	0	4647
unnamed spring #9	1866712	20251756	36.304670	115.898636	4655	4655	4655	0	4655

* indicates Nevada State Plane coordinates for California locations.

Appendix B – Table showing Sections Affected

TableB1. Showing well density for each section and number of wells predicted to fail, using the 20 foot submergence case, for the 20 and 50-year projection.

Sections affected (Nevada only)					-10 feet/20 years contour			-10 feet/50 years contour		
Township and Range	Section	Estimated Area of Section (mi ²)	Total Number of Wells in Section	Number of Wells in Section within -10 ft/50 yr contour	Estimated Area affected (mi ²) -10ft/20yrs	% Section affected -10ft/20yrs	Number of well failures by 2035 -10ft/20yrs	Estimated Area affected (mi ²) -10/50yrs	% Section affected -10ft/50yrs	Number of well failures by 2065 -10ft/50yrs
19S 51E	36	0.82	0**	0**	0.13	15.9	0**	0.18	22.0	0**
19S 52E	12	1.00	0**	0**	N/A	N/A	N/A	0.06	6.0	0**
19S 52E	13	1.00	0**	0**	N/A	N/A	N/A	0.18	18.0	0**
19S 52E	22	1.00	0**	0**	N/A	N/A	N/A	0.18	18.0	0**
19S 52E	23	1.00	0**	0**	N/A	N/A	N/A	0.30	30.0	0**
19S 52E	24	1.00	106	104	0.65	65.0	0	0.81	81.0	4
19S 52E	25	1.00	109	109	0.59	59.0	0	1.00	100.0	1
19S 52E	26	1.00	20	20	N/A	N/A	N/A	1.00	100.0	2
19S 52E	27	0.99	0**	0**	N/A	N/A	N/A	0.14	14.1	0**
19S 52E	31	0.96	3	3	0.77	80.20	0	0.79	82.3	1
19S 52E	32	1.00	0**	0**	N/A	N/A	1	0.01	1.0	0**
19S 52E	35	1.00	78	78	N/A	N/A	3	0.88	88.0	4
19S 52E	36	1.00	92	92	0.66	66.0	0	1.00	100.0	2
19S 53E	7	0.99	0**	0**	N/A	N/A	N/A	0.14	14.1	0**
19S 53E	16	1.00	215	0**	N/A	N/A	N/A	0.001	0.1	0**
19S 53E	17	1.00	52	42	N/A	N/A	2	0.39	39.0	3
19S 53E	18	1.00	11	10	N/A	N/A	1	0.62	62.0	1
19S 53E	19	1.00	151	151	0.51	51.0	57	1.00	100.0	76
19S 53E	20	1.00	70	70	0.22	22.0	0	1.00	100.0	5
19S 53E	21	1.00	19	9	N/A	N/A	7	0.44	44.0	7
19S 53E	28	1.00	218	170	0.03	3.0	0	0.74	74.0	0
19S 53E	29	1.00	79	79	0.93	93.0	0	1.00	100.0	2
19S 53E	30	1.00	205	205	1.00	100.0	8	1.00	100.0	51
19S 53E	31	1.00	172	172	1.00	100.0	3	1.00	100.0	21
19S 53E	32	1.00	281	281	1.00	100.0	0	1.00	100.0	20
19S 53E	33	1.00	114	54	0.10	10.0	0	0.60	60.0	2
20S 51E	1	0.11	0**	0**	0.006	5.5	0**	0.08	72.7	0**
20S 52E	1	1.00	160	160	0.96	96.0	0	1.00	100.0	8
20S 52E	2	1.00	5	5	0.22	22.0	0	0.63	63.0	0
20S 52E	3	1.00	0**	0**	N/A	N/A	N/A	0.15	15.0	0**
20S 52E	5	1.10	0**	0**	N/A	N/A	N/A	0.22	20.0	0**
20S 52E	6	0.87	8	8	0.40	46.0	0	0.87	100.0	0

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Sections affected (Nevada only)					-10 feet/20 years contour			-10 feet/50 years contour		
Township and Range	Section	Estimated Area of Section (mi ²)	Total Number of Wells in Section	Number of Wells in Section within -10 ft/50 yr contour	Estimated Area affected (mi ²) -10ft/20yrs	% Section affected -10ft/20yrs	Number of well failures by 2035 -10ft/20yrs	Estimated Area affected (mi ²) -10/50yrs	% Section affected -10ft/50yrs	Number of well failures by 2065 -10ft/50yrs
20S 52E	7	0.08	2	2	N/A	N/A	N/A	0.08	97.0	0
20S 52E	8	0.83	1	1	N/A	N/A	N/A	0.06	7.2	0
20S 52E	10	1.00	16	10	0.14	14.0	1	0.62	62.0	4
20S 52E	11	1.00	35	35	0.98	98.0	1	1.00	100.0	3
20S 52E	12	1.00	94	94	1.00	100.0	1	1.00	100.0	35
20S 52E	13	1.00	320	320	1.00	100.0	0	1.00	100.0	200
20S 52E	14	1.00	225	225	1.00	100.0	0	1.00	100.0	44
20S 52E	15	1.00	3	3	0.25	25.0	2	0.70	70.0	2
20S 52E	22	0.79	16	16	0.28	35.4	0	0.59	74.7	0
20S 52E	23	1.00	228	228	1.00	100.0	7	1.00	100.0	59
20S 52E	24	1.00	275	275	1.00	100.0	2	1.00	100.0	128
20S 52E	25	1.00	30	30	1.00	100.0	0	1.00	100.0	3
20S 52E	26	0.77	99	99	0.73	94.8	4	0.77	100.0	16
20S 52E	27	0.06	2	2	0.06	100.0	0	0.06	100.0	0
20S 52E	35	0.05	1	1	0.05	100.0	1	0.05	100.0	1
20S 52E	36	0.81	22	22	0.81	100.0	1	0.81	100.0	8
20S 53E	4	1.00	125	35	0.1	10.0	0	0.59	59.0	0
20S 53E	5	1.00	106	106	1.00	100.0	2	1.00	100.0	14
20S 53E	6	1.00	247	247	1.00	100.0	2	1.00	100.0	40
20S 53E	7	0.96	99	99	0.96	100.0	21	0.96	100.0	39
20S 53E	8	1.00	351	351	1.00	100.0	5	1.00	100.0	65
20S 53E	9	1.00	260	239	0.34	34.0	5	0.77	77.0	7
20S 53E	16	1.00	118	78	0.18	18.0	0	0.69	69.0	8
20S 53E	17	1.00	471	471	0.91	91.0	2	1.00	100.0	31
20S 53E	18	0.98	289	289	0.98	100.0	4	0.98	100.0	168
20S 53E	19	0.99	17	17	0.99	100.0	0	0.99	100.0	5
20S 53E	20	1.00	111	111	0.96	96.0	4	1.00	100.0	31
20S 53E	21	1.00	125	122	0.57	57.0	1	0.94	94.0	2
20S 53E	22	1.00	13	8	0.10	10.0	3	0.30	30.0	3
20S 53E	25	1.00	81	0	N/A	N/A	N/A	0.002	0.2	0
20S 53E	26	1.00	9	3	0.21	21.0	0	0.46	46.0	0
20S 53E	27	1.00	5	5	0.86	86.0	0	0.99	99.0	1
20S 53E	28	1.00	196	196	1.00	100.0	5	1.00	100.0	96
20S 53E	29	1.00	328	328	1.00	100.0	23	1.00	100.0	181
20S 53E	30	1.00	66	66	1.00	100.0	3	1.00	100.0	22
20S 53E	31	1.00	91	91	1.00	100.0	0	1.00	100.0	24
20S 53E	32	1.00	207	207	1.00	100.0	1	1.00	100.0	60
20S 53E	33	1.00	137	137	1.00	100.0	3	1.00	100.0	83

Sections affected (Nevada only)					-10 feet/20 years contour			-10 feet/50 years contour		
Township and Range	Section	Estimated Area of Section (mi ²)	Total Number of Wells in Section	Number of Wells in Section within -10 ft/50 yr contour	Estimated Area affected (mi ²) -10ft/20yrs	% Section affected -10ft/20yrs	Number of well failures by 2035 -10ft/20yrs	Estimated Area affected (mi ²) -10/50yrs	% Section affected -10ft/50yrs	Number of well failures by 2065 -10ft/50yrs
20S 53E	34	1.00	239	239	1.00	100.0	0	1.00	100.0	99
20S 53E	35	1.00	241	241	0.97	97.0	1	1.00	100.0	71
20S 53E	36	1.00	213	119	0.13	13.0	0	0.47	47.0	7
21S 52E	1	0.25	0**	0**	0.25	100.0	0**	0.25	100.0	0**
21S 53E	1	0.94	150	146	0.57	60.6	0	0.92	97.9	25
21S 53E	2	1.00	344	344	1.00	100.0	23	1.00	100.0	232
21S 53E	3	1.00	24	24	1.00	100.0	0	1.00	100.0	16
21S 53E	4	1.00	1	1	1.00	100.0	0	1.00	100.0	1
21S 53E	5	1.00	3	3	1.00	100.0	2	1.00	100.0	3
21S 53E	6	0.82	2	2	0.82	100.0	2	0.82	100.0	2
21S 53E	7	0.80	0**	0**	0.80	100.0	0**	0.80	100.0	0**
21S 53E	8	1.00	0**	0**	1.00	100.0	0**	1.00	100.0	0**
21S 53E	9	1.00	0**	0**	1.00	100.0	0**	1.00	100.0	0**
21S 53E	10	1.00	100	100	1.00	100.0	26	1.00	100.0	91
21S 53E	11	1.00	388	388	1.00	100.0	60	1.00	100.0	272
21S 53E	12	0.97	124	124	0.97	100.0	3	0.97	100.0	42
21S 53E	13	0.97	213	213	0.97	100.0	13	0.97	100.0	160
21S 53E	14	1.00	283	283	1.00	100.0	68	1.00	100.0	188
21S 53E	15	1.00	31	31	1.00	100.0	6	1.00	100.0	16
21S 53E	16	1.00	1	1	1.00	100.0	0	1.00	100.0	0
21S 53E	17	0.99	1	1	0.99	100.0	1	0.99	100.0	1
21S 53E	18	0.38	4	4	0.38	100.0	2	0.38	100.0	4
21S 53E	20	0.35	1	1	0.35	100.0	1	0.35	100.0	1
21S 53E	21	0.98	0**	0**	0.98	100.0	0**	0.98	100.0	0**
21S 53E	22	0.99	0**	0**	0.99	100.0	0**	0.99	100.0	0**
21S 53E	23	1.00	0**	0**	1.00	100.0	0**	1.00	100.0	0**
21S 53E	24	0.97	4	4	0.97	100.0	0	0.97	100.0	1
21S 53E	25	0.98	11	11	0.98	100.0	4	0.98	100.0	4
21S 53E	26	1.00	0**	0**	1.00	100.0	0**	1.00	100.0	0**
21S 53E	27	0.98	0**	0**	0.98	100.0	0**	0.98	100.0	0**
21S 53E	28	0.31	0**	0**	0.31	100.0	0**	0.31	100.0	0**
21S 53E	34	0.27	0**	0**	0.27	100.0	0**	0.27	100.0	0**
21S 53E	35	0.96	27	27	0.96	100.0	1	0.96	100.0	10
21S 53E	36	1.00	73	73	1.00	100.0	10	1.00	100.0	37
21S 54E	6	0.98	6	2	N/A	N/A	N/A	0.27	27.6	0
21S 54E	7	0.99	95	95	0.46	46.5	3	0.96	97.0	9
21S 54E	8	0.98	56	24	N/A	N/A	N/A	0.19	19.4	1
21S 54E	17	1.00	62	48	0.05	5	0	0.51	51.0	0

AB-3

Sections affected (Nevada only)					-10 feet/20 years contour			-10 feet/50 years contour		
Township and Range	Section	Estimated Area of Section (mi ²)	Total Number of Wells in Section	Number of Wells in Section within -10 ft/50 yr contour	Estimated Area affected (mi ²) -10ft/20yrs	% Section affected -10ft/20yrs	Number of well failures by 2035 -10ft/20yrs	Estimated Area affected (mi ²) -10/50yrs	% Section affected -10ft/50yrs	Number of well failures by 2065 -10ft/50yrs
21S 54E	18	0.99	156	156	0.95	96.0	4	0.99	100.0	72
21S 54E	19	0.99	296	296	0.99	100.0	12	0.99	100.0	108
21S 54E	20	0.96	322	161	0.10	10.4	0	0.50	52.1	0
21S 54E	29	1.00	138	69	0.11	11.0	0	0.70	70.0	0
21S 54E	30	0.97	3	3	0.97	100.0	1	0.97	100.0	2
21S 54E	31	0.99	56	56	0.99	100.0	6	0.99	100.0	9
21S 54E	32	1.00	0**	0**	0.20	20.0	0**	0.88	88.0	0**
22S 53E	1	1.00	77	77	0.92	92.0	1	1.00	100.0	5
22S 53E	2	0.24	0**	0**	0.13	54.2	0**	0.24	100.0	0**
22S 53E	12	0.13	0**	0**	0.13	100.0	0**	0.13	100.0	0**
22S 54E	5	1.11	0**	0**	0.18	16.2	0**	0.96	86.5	0**
22S 54E	6	1.11	14	14	1.11	100.0	1	1.11	100.0	2
22S 54E	7	0.85	0**	0**	0.46	54.1	0**	0.85	100.0	0**
22S 54E	8	0.99	0**	0**	0.001	0.1	0**	0.95	96.0	0**
22S 54E	16	1.00	0**	0**	N/A	N/A	N/A	0.01	1.0	0**
22S 54E	17	0.84	0**	0**	N/A	N/A	N/A	0.84	100.0	0**
22S 54E	18	0.10	0**	0**	N/A	N/A	N/A	0.10	100.0	0**
22S 54E	20	0.08	0**	0**	N/A	N/A	N/A	0.08	100.0	0**
24N 8E	10	0.05	0**	0**	0.01	20.0	0**	0.05	100.0	0**
24N 8E	14	0.04	0**	0**	0.00	0.0	0**	0.04	100.0	0**
24N 8E	15	0.76	0**	0**	0.029	3.8	0**	0.32	42.1	0**
24N 8E NV only	16*	0.72	0**	0**	0.019	2.6	0**	0.13	18.1	0**
24N 8E NV only	22*	0.68	0**	0**	N/A	N/A	N/A	0.006	0.9	0**
24N 8E	23	0.75	1	1	0.11	14.7	0	0.62	82.7	0
24N 8E	24	0.05	0**	0**	0.05	100.0	0**	0.05	100.0	0**
24N 8E	25	0.75	0**	0**	0.7	93.3	0**	0.75	100.0	0**
24N 8E NV only	26*	0.64	1	1	0.01	1.6	1	0.55	85.9	1
24N 8E NV only	35*	0.008	0**	0**	N/A	N/A	N/A	0.008	100.0	0**
24N 8E NV only	36*	0.57	0**	0**	0.55	96.5	0**	0.57	100.0	0**
25N 7E	25	0.71	0**	0**	N/A	N/A	N/A	0.18	25.4	0**
25N 7E	36*	0.78	0**	0**	N/A	N/A	N/A	0.03	3.8	0**
25N 8E	30	0.03	0**	0**	N/A	N/A	N/A	0.03	100.0	0**
25N 8E	31	0.47	0**	0**	N/A	N/A	N/A	0.14	29.8	0**
Total	95	120.38	10750	9774	72.51	60.23	438	94.88	78.8	3085

* Indicates section both in Nevada and California, and estimate of total area of the section only for Nevada part.

** Indicates no wells are present in section.

EXHIBIT 3

EXHIBIT 3

Pursuant to NRS a joint meeting of the Nye County Board of Commissioners, Nye County Board of Highway Commissioners, Nye County Licensing and Liquor Board, as the Nye County Board of Health, as the Governing Body of the Unincorporated Town of Pahrump, as the Governing Body of the Unincorporated Towns of Beatty, Belmont, Gabbs, Manhattan, and Railroad Valley, and as the Board of Trustees for the Pahrump Pool District, was held at 10:00 a.m. in the Commissioners' Chambers, 101 Radar Road, Tonopah, Nevada 89049.

John Koenig, Chair
Dan Schinhofen, Vice-Chair
Lorinda Wichman, Commissioner
Butch Borasky, Commissioner
Donna Cox, Commissioner
Sandra L. Merlino, Ex-Officio Clerk of the Board
Angela Bello, District Attorney
Sharon Wehrly, Sheriff
Tim Sutton, County Manager

Also present: Kelly Sidman, Deputy Clerk; Samantha Tackett, Administrative Manager; Ronni Boskovich, Deputy District Attorney

1. Pledge of Allegiance

The Pledge was recited.

2. GENERAL PUBLIC COMMENT (Three-minute time limit per person.) Action will not be taken on the matters considered during this period until specifically included on an agenda as an action item (first).

Wade Hinden said the Albertson's parking plaza on Highway 160 had its sprinkler heads going and he wondered why they were watering after an inch and a half of rain. He was also told Mountain Falls had its sprinkler heads on. Mr. Hinden thought conserving water should start with the big boys in town.

Robert Adams said on January 16, 2018, the BLM would have a public comment meeting in Pahrump at the Nugget. He said this was more than a rehash of the 2014 resource management plan (RMP) as the 2018 RMP grabbed another nearly million acres of wilderness in Clark and southern Nye Counties. Mr. Adams asked everyone to attend the meeting.

Rich Lauber stated self-protection was the mission of everyone here today. Realtors needed stable property values to support commissions and keep buyers and sellers happy. One acre landowners needed to be able to drill wells.

Commissioner Koenig interrupted Mr. Lauber and asked him to wait to comment until that agenda item was opened.

2. GENERAL PUBLIC COMMENT (Three-minute time limit per person.) Action will not be taken on the matters considered during this period until specifically included on an agenda as an action item (first).-Cont'd.

Tina Trenner said quite a few years ago she was watching Nightline and a fellow named T.B. Pickens was on. He talked about water and how he was going to buy up all kinds of water rights and anything that dealt with water because he felt water would be a commodity in the future. Ms. Trenner did not think water was a commodity when it came to life and asked everyone to think about water as life and a human right that absolutely had to be had.

Richard Goldstein advised tomorrow was the monthly meeting of the American Veterans Foundation of Pahrump and anyone interested in learning about the banner program was welcome to come. The application process had been re-opened for the next 90 days. The meeting was at 1:30 p.m. at the Nye Community Coalition.

Tim Sutton added that item would come before the Board first to approve the reopening of the deadline.

Walt Turner thanked Commissioners Schinhofen and Koenig for showing up at the 4-H fundraiser last night.

Dennis Hof said he was a well owner and supported the well owners. He implored the County to protect their interests.

John Zurovski listed his ideas for ways to save the community which included, among other things, increasing water distribution coverage; metering wells; reducing domestic wells; and cutting down remaining salt cedar trees. Mr. Zurovski said members of a governmental body who had commercial or private interest in water rights beyond a domestic well should recuse themselves from any governmental enterprise regarding water rights and distribution.

SITTING AS THE GOVERNING BODY OF UNINCORPORATED TOWN OF PAHRUMP

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.

Commissioner Koenig cautioned everyone on their behavior during this item and said per the Open Meeting Law he could have them removed.

Commissioner Wichman read a disclosure statement. She was elected in District I to represent Nye County. If people believed a Commissioner should only have a loyalty to their district then she still represented her district as it took in everything north of Bell Vista Avenue. The Nye County Water District (NCWD) is a separate subdivision of the State of Nevada created by a legislative action. This Board of County Commissioners

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.-Cont'd.

had no authority to direct their work or approve their contracts. While her husband was under a contract with the NCWD, Commissioner Wichman stated neither item on this agenda would have any impact on her household and therefore she would vote as she was elected to do.

Darrell Lacy, Planning Director, explained this was in response to Order 1293 from the State Engineer's Office which primarily focused on restricting future domestic wells. The order stated that water rights were required for new domestic wells on lots that did not already have water dedicated to them. From the best Mr. Lacy could tell at least half the lots in the valley were formed with water rights so to say this made all lots unbuildable was definitely misleading. For lots that did not have water rights already dedicated to them there were other ways to develop them without domestic wells, like community wells and central water systems which were cheaper options than domestic wells even before this went into effect. Mr. Lacy agreed this was a major issue, and a big policy issue, but said it was not at the level some people had been discussing it in the valley.

Don Cox said one way to solve the water problem was to not allow developers to come in and build hundreds of homes and felt there should be a moratorium on development when it came to track homes.

Kenny Bent said it was important that everybody understood that the State Engineer did not have the authority to do this. When Jason King got on the phone Mr. Bent said the question would be who to appeal this too. He thought it was an administrative appeal that the District Attorney or Tim Sutton could file to make the deadline.

Walt Turner said this order was for new wells and in all reality it provided no relief to the water basin in any form. It simply cleaned up over-allocated water rights and encouraged everyone who purchased water rights to use it all. It also raised the price to build a home on an acre. He asked the Board to not entertain community wells either as it was still the same amount of homes using the same amount of water.

Commissioner Schinhofen pointed out one of the things the NCWD worked on was a conservation plan with the RPC which was approved and became effective June 5, 2017.

Dwight Lilly said he was against this item as he thought a lawsuit should be the last step taken in civil discourse. He would prefer to see a delegation of the private well owners sent up to meet with Jason King to try to come up with a solution.

John Bosta stated his objection to the County governing board sitting as the Pahrump Town Board spending the town's money on lawsuits to oppose the order.

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.-Cont'd.

Debra Gaylord-Thomas said the County would lose tax money and services due to Order 1293 and suggested a moratorium on subdivisions until the core problem was solved.

Assessor Sheree Stringer asked the taxpayers to please direct their frustration to the NCWD instead of her employees as the Assessor had nothing to do with this. She said taxpayers were stating their vacant properties were worthless, but according to NAC 361.1182(3)(b) her office had to use three years of sales values to determine value of vacant land and could not just randomly remove values. As a taxpayer herself, Mrs. Stringer said severe reductions in land values equated to less taxes which lead to budget reductions and less services.

Commissioner Schinhofen asked what the value of a bare acre was.

Mrs. Stringer said it was about \$100.00 or \$120.00.

Harley Kulkin said the real problem was density and it needed to be controlled. He totally supported taking legal action, but was concerned about the Town of Pahrump paying for it as this was a County issue.

Attorney Dave Rigdon from Taggart & Taggart said this was difficult for him to do because normally when he sat down to consult with a client it was done in an attorney-client privilege setting and he could not do that in this setting. He offered being retained, without charging the County, for the limited purpose of having an attorney-client briefing so he could outline the process.

Horace Carlyle hoped the governing board for Pahrump did not support litigation against the State Water Engineer as he acted to try to protect the status quo.

Michael Lach stated his opinion that the order was issued out of frustration as it conserved no actual water in Basin 162. Charging money for paper to drill a well versus drilling a well did not save water, unless the intent was to make it cost prohibitive to drill a well, which the order did. The idea of a conservation well was suggested as an option, not a State order, to give the landowner a choice. Mr. Lach said the order was not equitable or defensible.

Norma Jean Opatik said anyone living in a desert community realized that water needed to be conserved and the consensus here today was that Order 1293 did not conserve water. With respect to the Assessor, Ms. Opatik understood there were ways they did things, but on average she said a bare acre of land was about \$100.00 of tax base money. Building a home on it increased the value of that rapidly so now that tax base had been stopped.

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.-Cont'd.

Yvette Chevalier explained this was not litigation. This was the remedy that the statutes provided to contest an order unwelcomed by a town. She thought an unintended consequence of this could be that the owners of the parcels would try to build the wells themselves, which was a hazard to the health, safety and wellbeing of the community. Looking at it from a constitutional point of view, Ms. Chevalier said making this ruling retroactive was a taking and that was not allowed, particularly against domestic water use.

Patricia Rippie did not think the onus for conservation should be put on the acre owners. The other problem with requiring water rights was it sucked up the water rights and the cost would be burdensome to people trying to do commercial development.

Ralph Hushbeck discussed proofing. Certificated water rights had to be proven every five years and Mr. Hushbeck suggested telling the large holders of water rights that they could retain their certificates if they just agreed to non-use for five or ten years to conserve quickly. He felt proofing was an absolute waste of a lot of water.

Commissioner Koenig said the Board could not control that and it was controlled by the State. He added there was a bill in the last legislative session that tried to do that, but it did not pass and met with a lot of opposition from Pahrump residents.

Rich Lauber thought the Board should send a letter to the State Engineer addressing the concerns about the economic strain the decision put on the community. He discussed the loss of property tax revenue that would occur during the next few years. He suggested either reducing the current well owners to 1.5 acre feet with no meters unless there was a reason to suspect overuse, or a half acre conservation well with the ability to purchase one acre to be equivalent to existing wells. Those suggestions would reduce the over-allocation more than the order and people would be allowed to drill, there would be increased tax revenue, and the well owners would be protected better.

Gerald Schulte, owner of Factory Home Center, said he represented low-income housing, which hardly existed anymore especially if thousands of dollars were added for a well. He told the Board they were affecting his business because if this went through there was no longer a reason for low income housing here. He said he could put a house on an acre and a quarter with the well, the septic and everything for \$120,000.00, which was good for people on a fixed income.

Lou Baker said this act had restricted the growth in Pahrump and wondered if all the land surrounding Pahrump would sit in waste because there was no water. He thought there were things that could be done to make this work for the community.

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.-Cont'd.

Debra Strickland said the reason hiring an attorney needed to be considered was because that was the only remedy to find out legislatively if this action was taken for the citizens' protection or if it was something the State Engineer did that arbitrarily affected everyone. She then polled the audience about hiring an attorney, the majority of which raised their hands.

Wendy O'Neal said she recently purchased land in Pahrump and was denied a well on December 19, 2017, because the order was signed that day. When she spoke to Jason King he said he felt sorry for her situation but that he needed to do what he needed to do. Mrs. O'Neal said she did not have the money to purchase two acre feet of water rights so her only option was to uproot her family again and go back to Las Vegas to live. She asked for a suggestion as to what she should do as a property owner that had no water and could not get water to the land.

Andrea Finkler opposed Order 1293. The order did not conserve water and while Pahrump would continue to grow, people would buy half acres instead of acres and would live in congested subdivisions.

Henry Neth thought this was a long-term problem and was going to take a long-term solution. He did not think Order 1293 was the answer, but the water engineer took the only steps he could take, which he had the absolute right to take based on the designation of the basin. Mr. Neth felt there had to be a way to curtail the wells that would be drilled until such time as the conservation plan was in place.

Judith Holmgren said water rights seemed to be the problem with the over-allocation. She realized water rights were ruled to be private property, but they also appeared to be an item of speculation. She wanted a legal opinion as to whether water rights were an uncontrolled commodity that the Securities and Exchange Commission should be looking into. If that required an attorney's opinion Mrs. Holmgren wanted the Commissioners to go forward with hiring the attorney.

Gene Hobson felt this was taking his water rights. He had no problem with conserving, but he saw that the Board was willing to let people grow marijuana which took more water than his grass which made no sense to him. He felt the Board needed to start looking at the industries that wanted to come in to see what their water usage would be.

Dawn Murphy suggested a moratorium on subdivisions.

Jason King, the State Engineer, was present via telephone along with Deputy Attorney General Micheline Fairbank, Levi Kryder, and Kristen Geddes, Chief of the Hearing Section of the Department of Water Resources. Mr. King said he was happy to discuss

3. For Possible Action – Discussion and deliberation to consider hiring an attorney to take legal action in opposition of Order #1293 that was issued by the Office of the State Engineer of the State of Nevada on December 19, 2017.-Cont'd.

issues related to Order 1293, but he wanted to restrict his comments to that with no philosophical discussions or what-if scenarios.

Commissioner Schinhofen asked Mr. King when he started to write this order.

Mr. King said the genesis of this thought of prohibiting domestic wells was probably a couple of years old. In terms of when they started drafting it, Mr. King stated they had been drafting it for months.

Commissioner Schinhofen said he knew the NCWD when they started the committee to study Basin 162 had at least 100 public meetings. He noted that in 2015 and 2017 the idea of conservation wells was floated and asked if some of the same people here today testified against that.

Mr. King said that was correct. His recollection of the 2015 legislature was that there was a bill draft that did not get much traction over the session. This last session there were two bill drafts that were trying to do something with this issue, one of which was a conservation well, and it went down in flames. He said they tried to do something for domestic well owners and based on opposition that did not pass either.

Commissioner Schinhofen said some of the data the NCWD brought forward showed that over the last 30 years on average there were about 50 acre feet of water a year the State Engineer was removing from the books.

Mr. King explained that was an analysis and estimate put together by the NCWD and the State worked closely with them. Based on a review of the history that was the best guess of what was either cancelled or forfeited in the valley. He said if they did not see a steady application of effort to put the water to beneficial use then they were going to call people on it.

Commissioner Borasky made a motion to talk to the attorney that was present contingent upon possibly representing Nye County, the Town of Pahrump in particular, and go into a closed session to do so.

* Angela Bello clarified the motion would be to retain Taggart & Taggart for purposes of consultation only. If that passed, they would be hired and it would be a litigation meeting (a non-meeting) and the Board would then make a motion to retain them.

* Commissioner Cox seconded the motion to retain Taggart & Taggart for purposes of consultation only; 2 yeas. Commissioners Wichman, Schinhofen and Koenig voted no. The motion failed.

EXHIBIT 4

EXHIBIT 4

PREFACE

The Nye County Code, originally published by Book Publishing Company in 1984, has been kept current by regular supplementation. In 2000, Sterling Codifiers began providing supplement service for the County Code.

This County Code of Nye County, as supplemented, contains ordinances up to and including ordinance 524, passed September 5, 2017. Ordinances of the County adopted after said ordinance supersede the provisions of this County Code to the extent that they are in conflict or inconsistent therewith. Consult the County office in order to ascertain whether any particular provision of the Code has been amended, superseded or repealed.

Sterling Codifiers
Coeur d'Alene, Idaho

16.28.170: PARCEL MAP PROCEDURE:

- A. Application: Any applicant requesting approval of a "parcel map" as defined by this chapter and Nevada Revised Statutes 278.461 to 278.469, inclusive, shall submit to the administrative officer the materials required in the document entitled "Document Submittal Requirements for Planning Applications Within the Pahrump Regional Planning District".
- B. Approval: Should the Planning Commission fail to take action within sixty (60) days after the administrative officer or its representative accepts the map as a complete application pursuant to Nevada Revised Statutes 278.464 the parcel map shall be deemed approved.
- C. Expiration Of Approval: Approval of a parcel map shall expire, with no possibility of an extension of time, if not recorded in the Office of the Nye County Recorder within a period of two (2) years after the date of approval. Any zoning requirements or land use designated by an applicant upon which parcel map approval was granted shall not be changed for a period of two (2) years after the date of recording of the parcel map.
- D. Minor Parcel Map(s): The administrative officer shall have the authority to take action on minor parcel maps when street improvements including improvements to flag lot accessways, water or sewer line improvements or other public improvements are not required pursuant to the requirements of this chapter.
- E. Major Parcel Map(s): Where a parcel map application requires the creation of a road or street, whether public or private; water/sewer line improvements; or where a parcel map application includes a flag lot, action of the Planning Commission is required.
- F. Parceling Multiple Existing Parcels Via One Parcel Map: Only one existing parcel shall be the subject of a parcel map. Where two (2) or more parcels are proposed to be divided via one parcel map the applicant must first have approved a map of reversion in accordance with the provisions of this chapter and Nevada Revised Statutes 278.490 through 278.4965, inclusive.

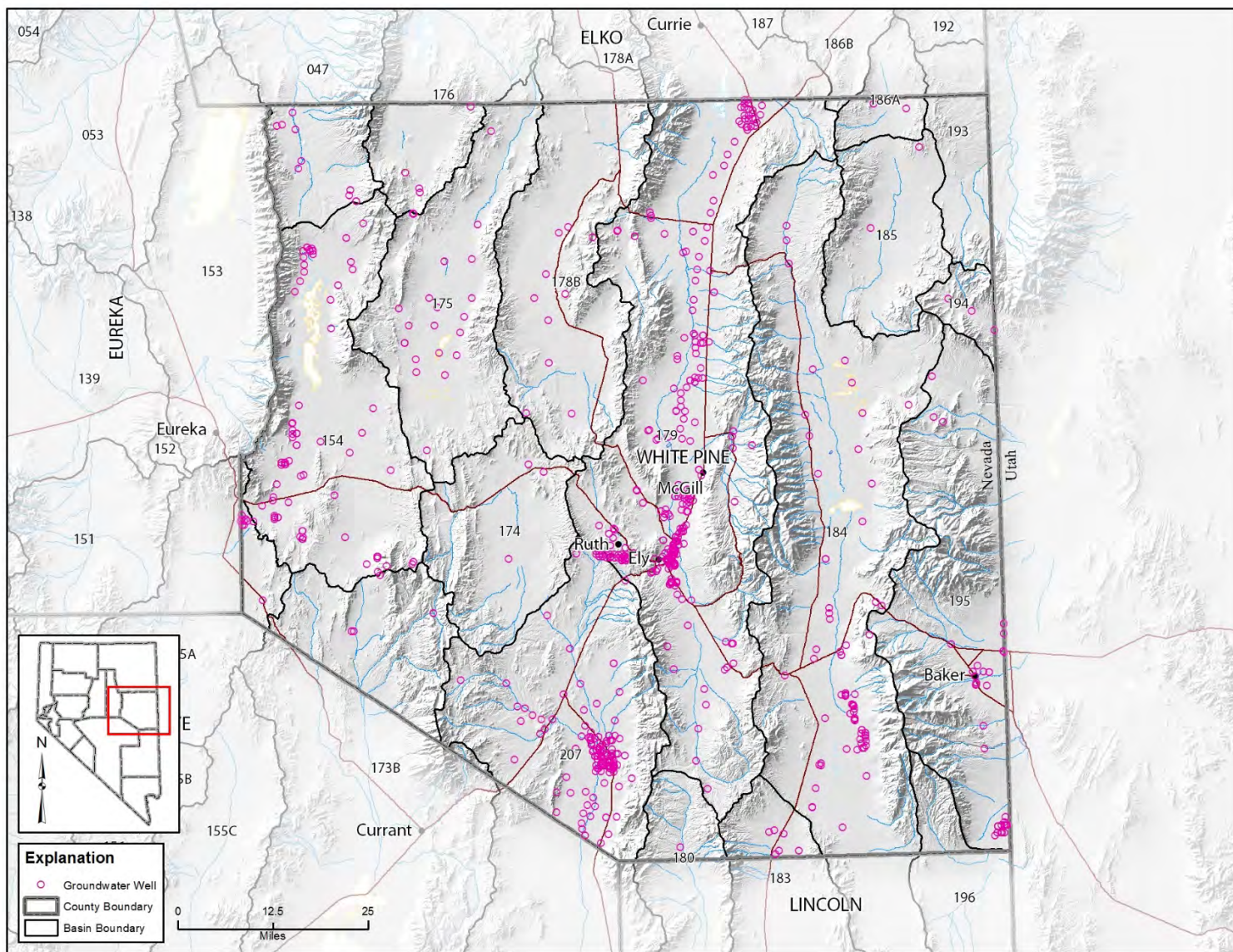


Figure 15. Groundwater wells in White Pine County.

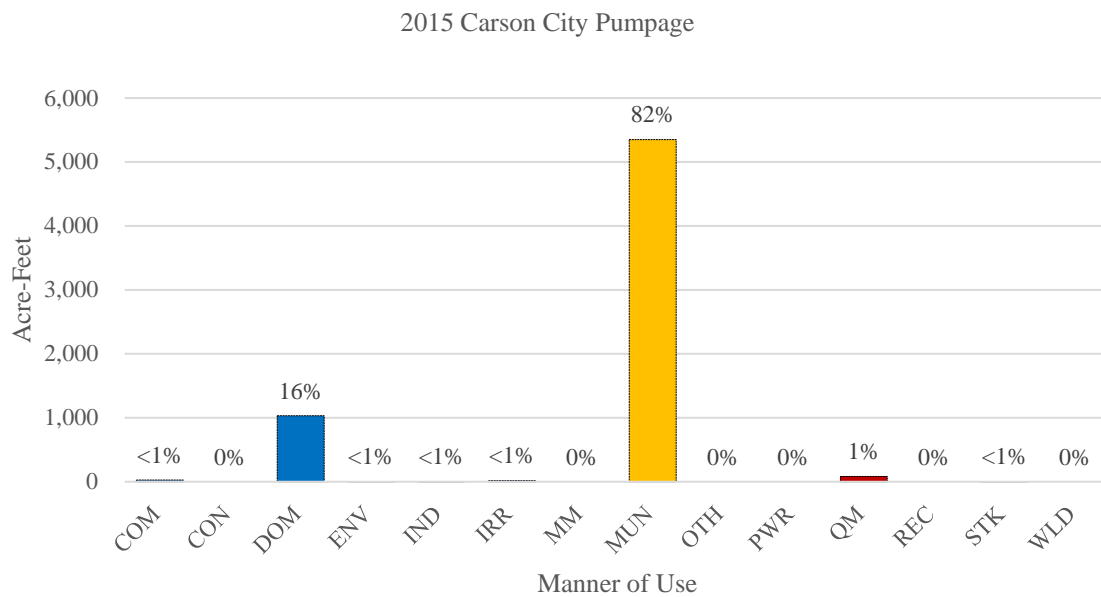


Figure 16. Carson City pumpage by manner of use.

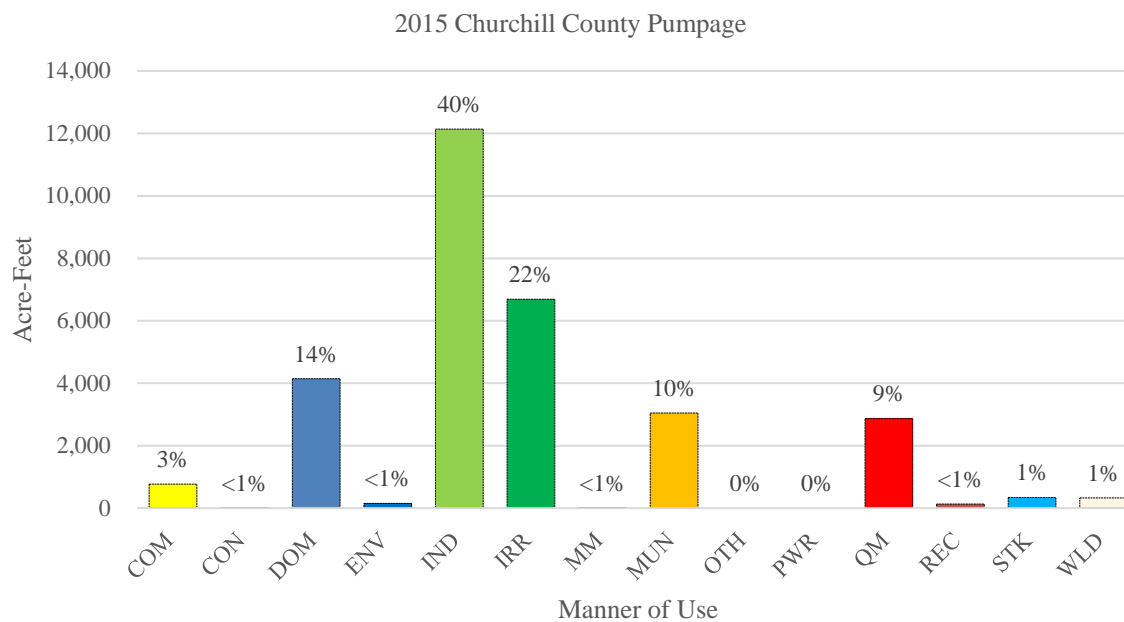


Figure 17. Churchill County pumpage by manner of use.

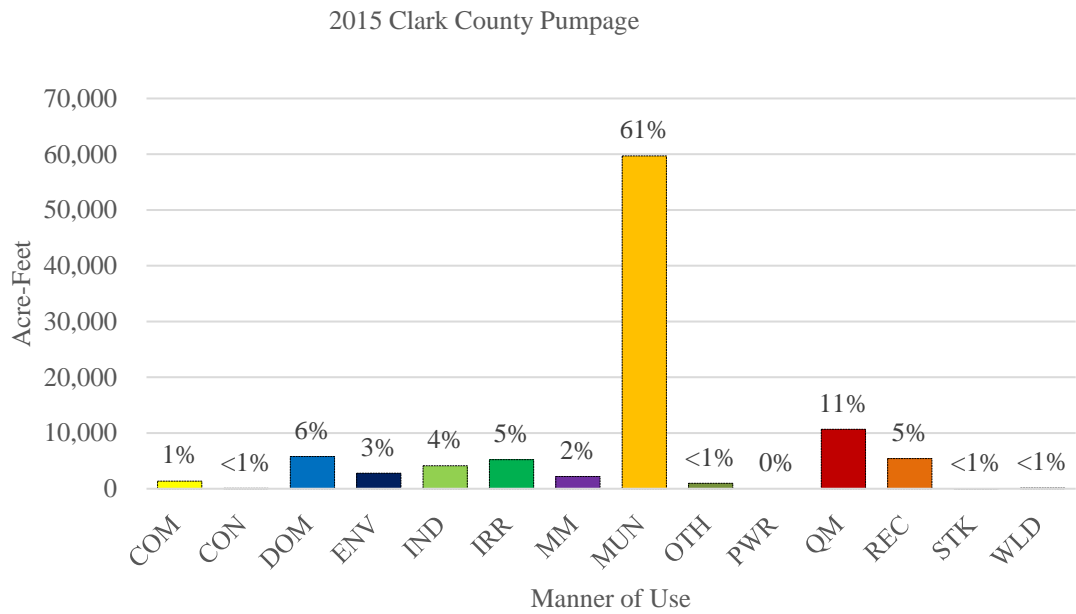


Figure 18. Clark County pumpage by manner of use.

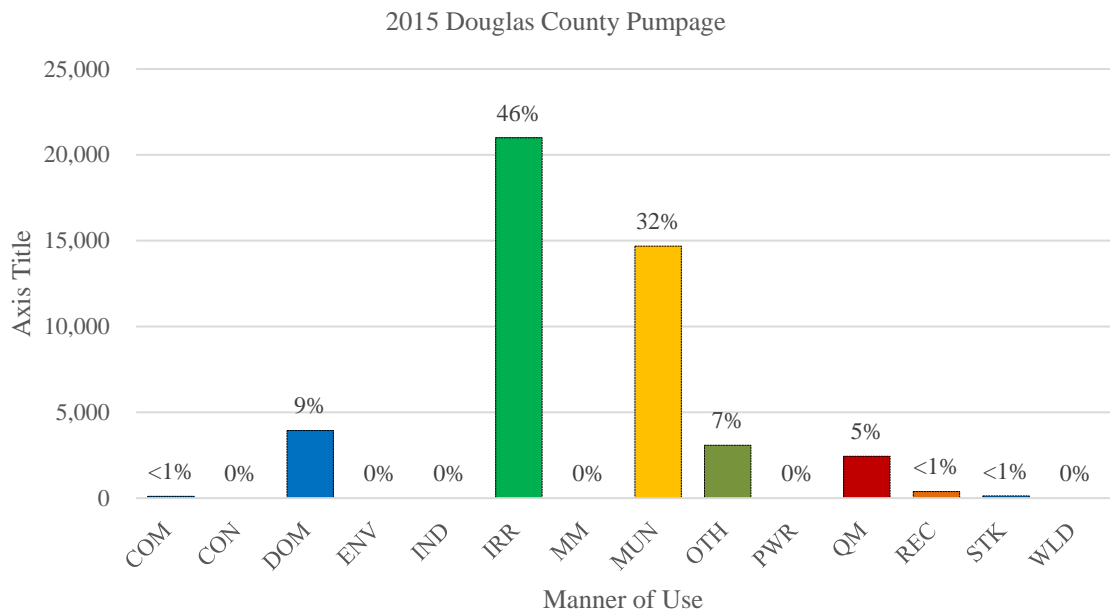


Figure 19. Douglas County pumpage by manner of use.

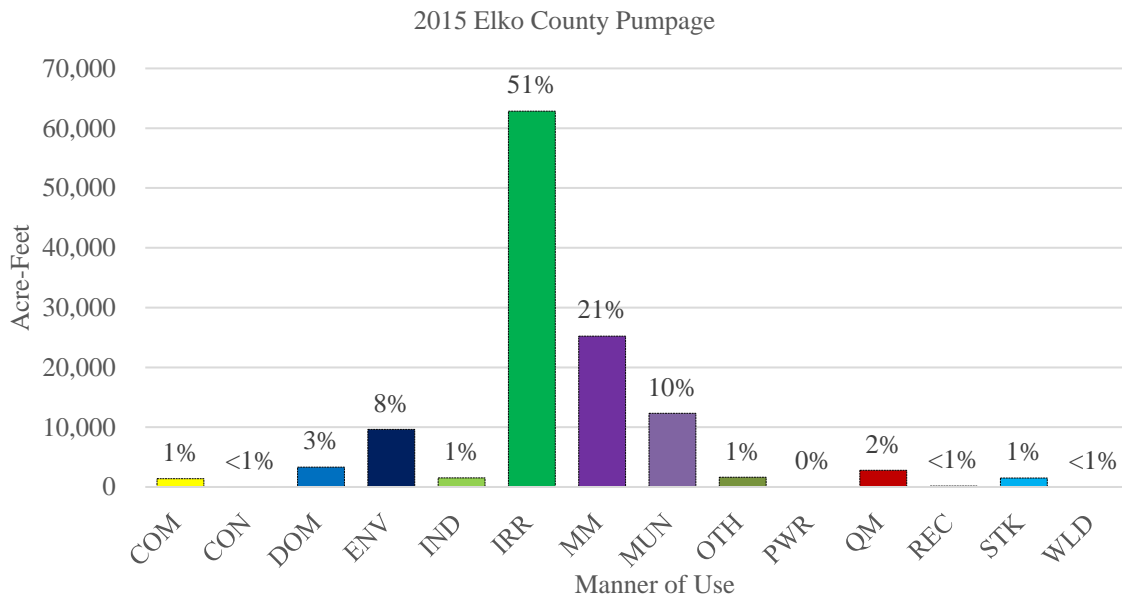


Figure 20. Elko County pumpage by manner of use.

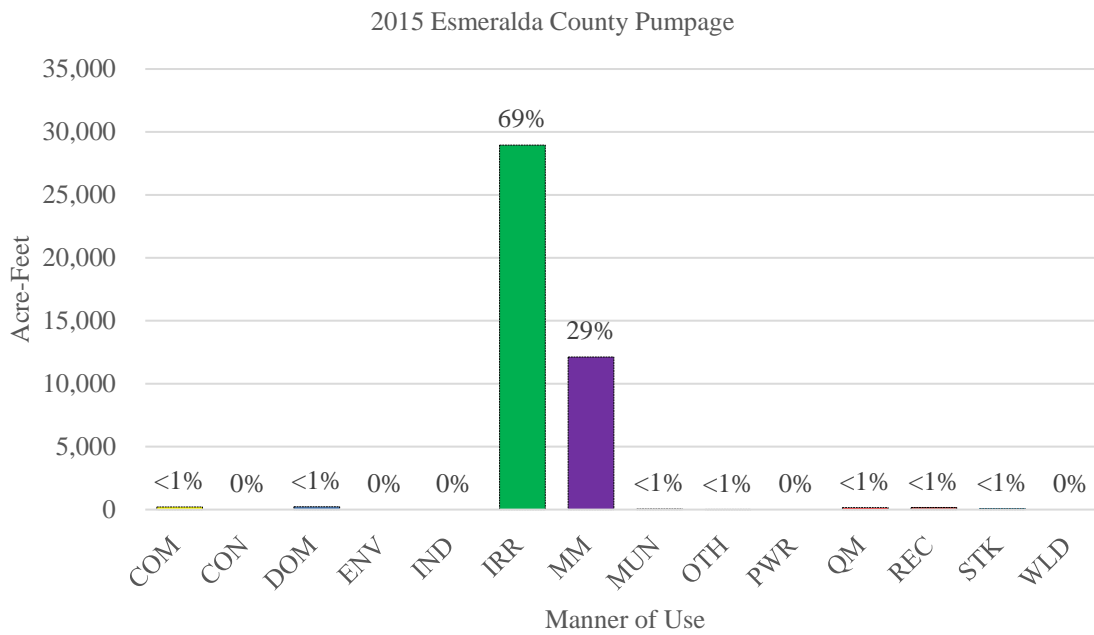


Figure 21. Esmeralda County pumpage by manner of use.

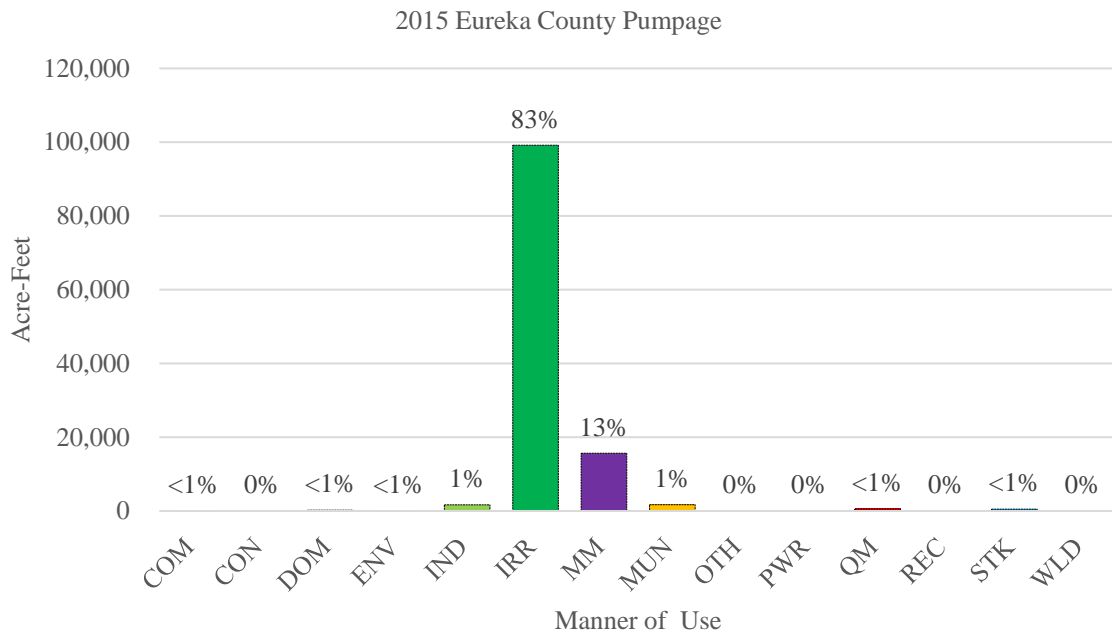


Figure 22. Eureka County pumpage by manner of use.

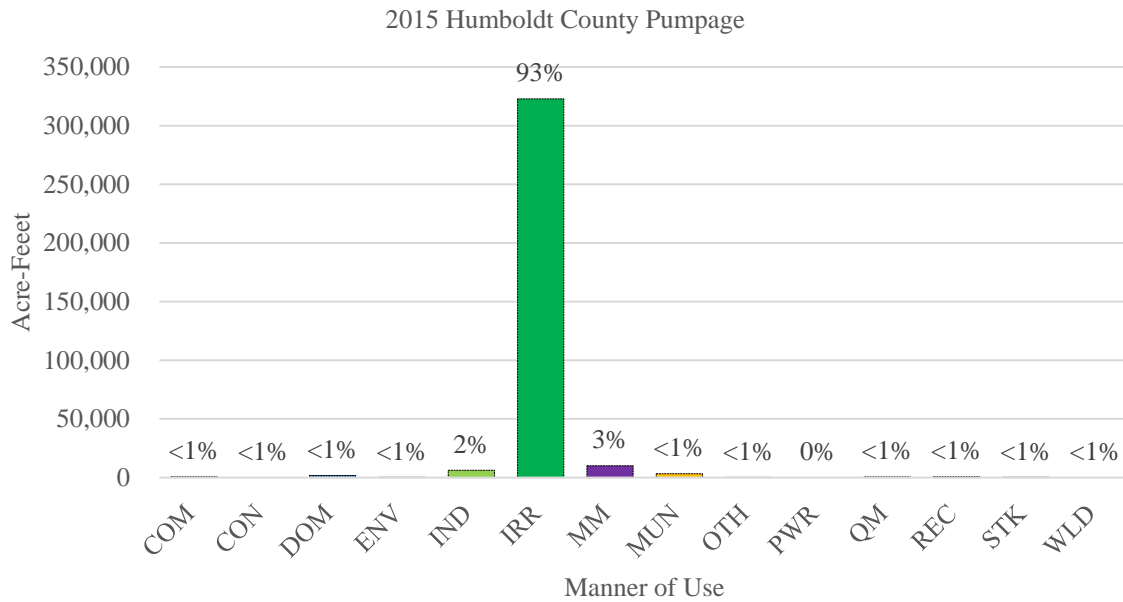


Figure 23. Humboldt County pumpage by manner of use.

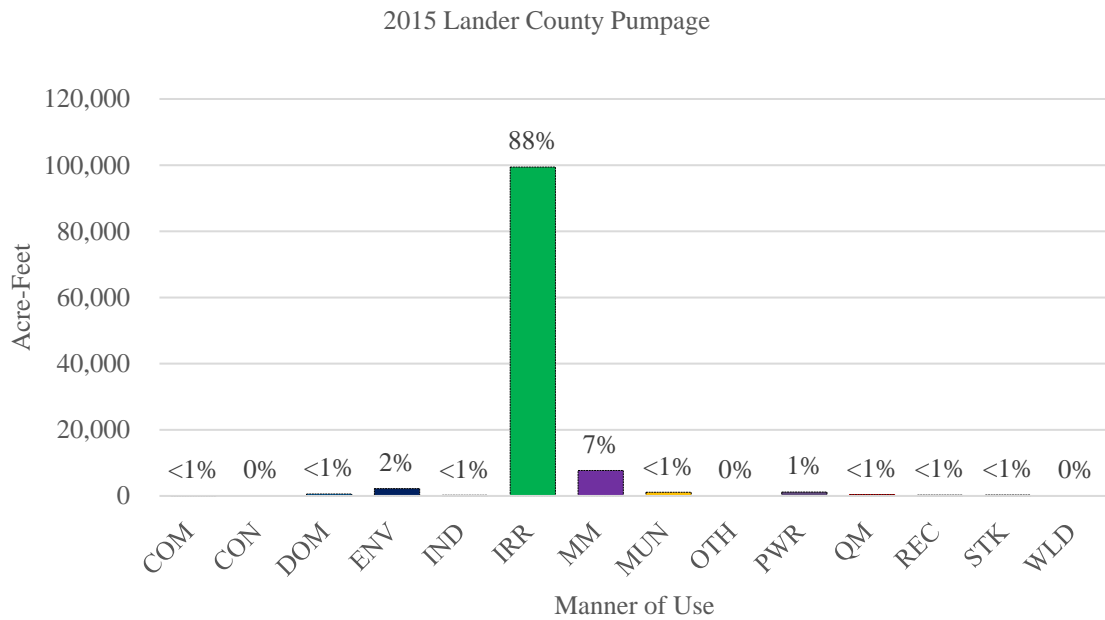


Figure 24. Lander County pumpage by manner of use.

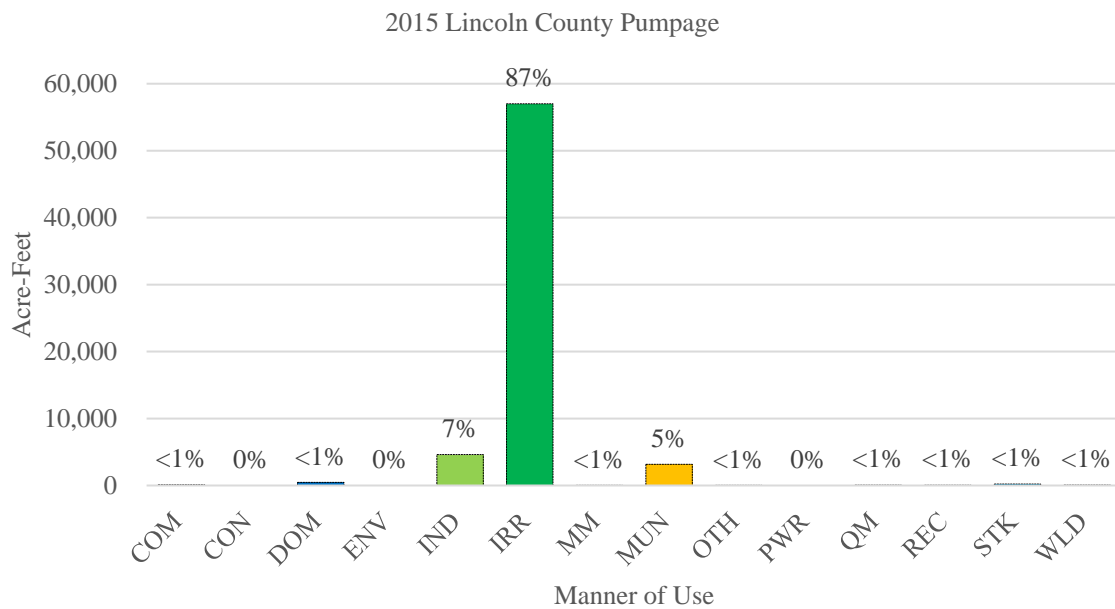


Figure 25. Lincoln County pumpage by manner of use.

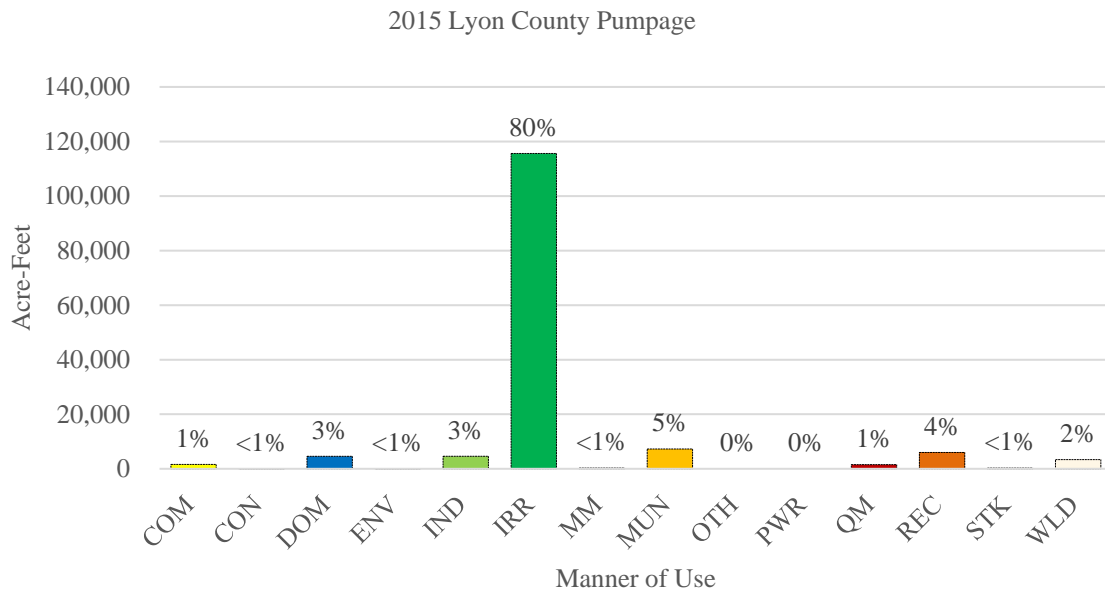


Figure 26. Lyon County pumpage by manner of use.

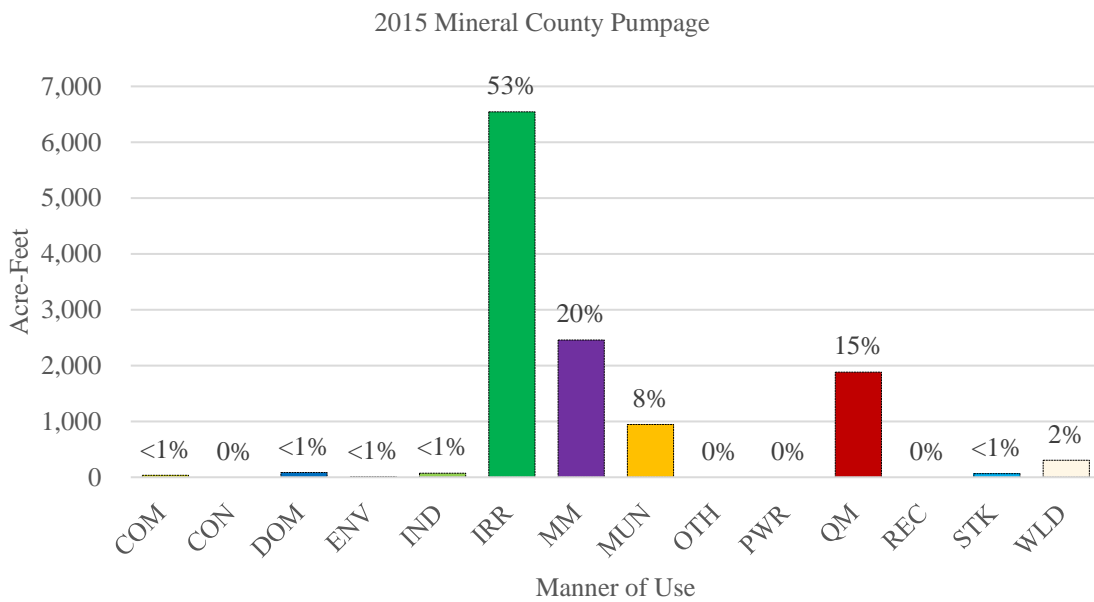


Figure 27. Mineral County pumpage by manner of use.

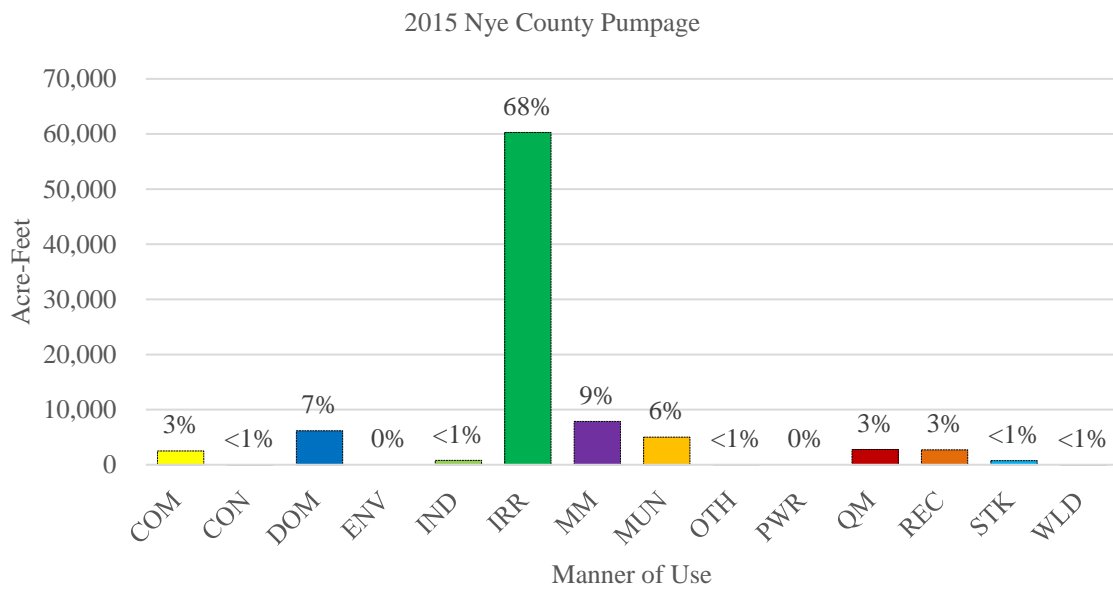


Figure 28. Nye County pumpage by manner of use.

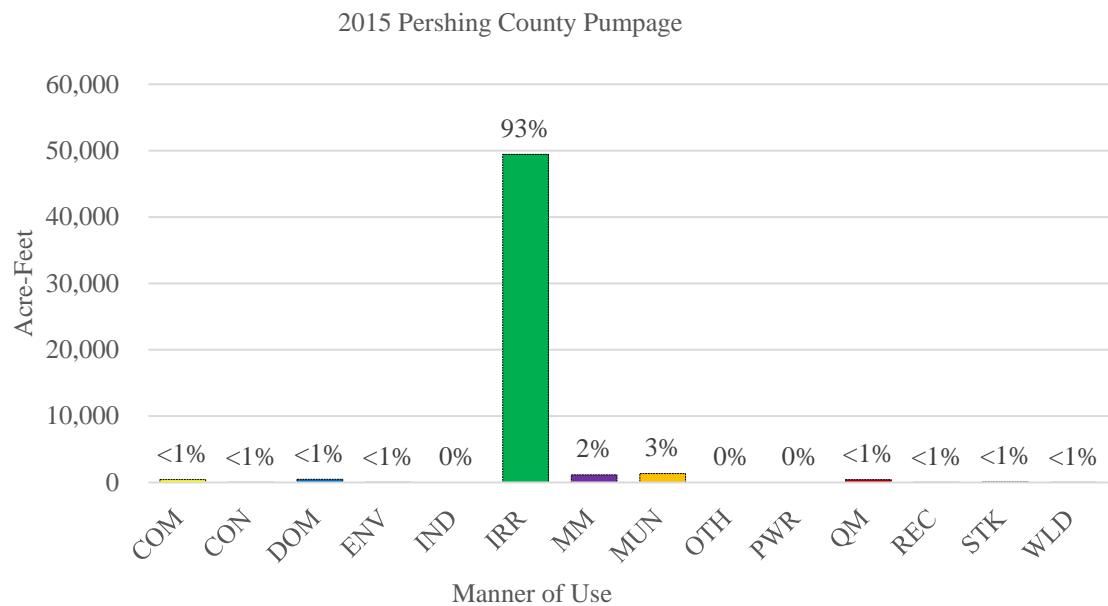


Figure 29. Pershing County pumpage by manner of use.

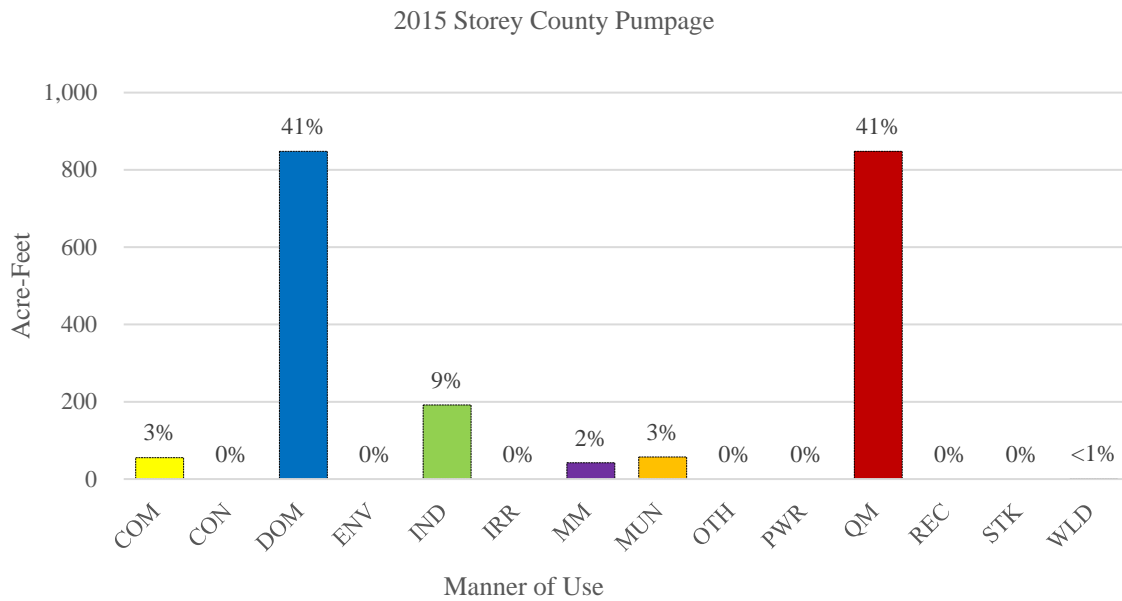


Figure 30. Storey County pumpage by manner of use.

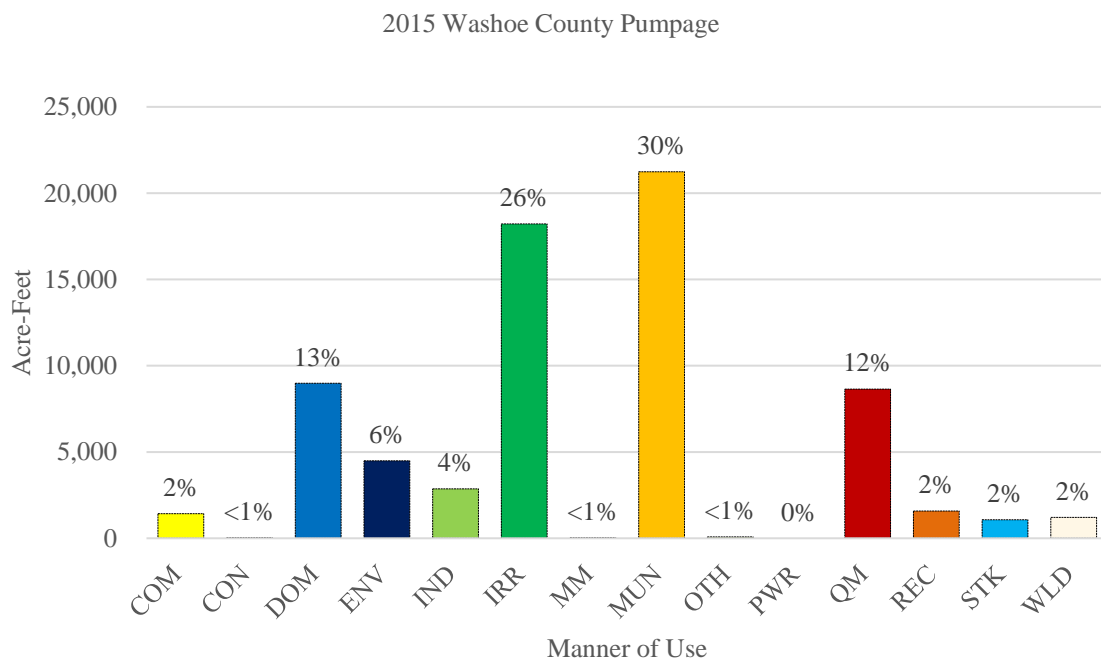


Figure 31. Washoe County pumpage by manner of use.

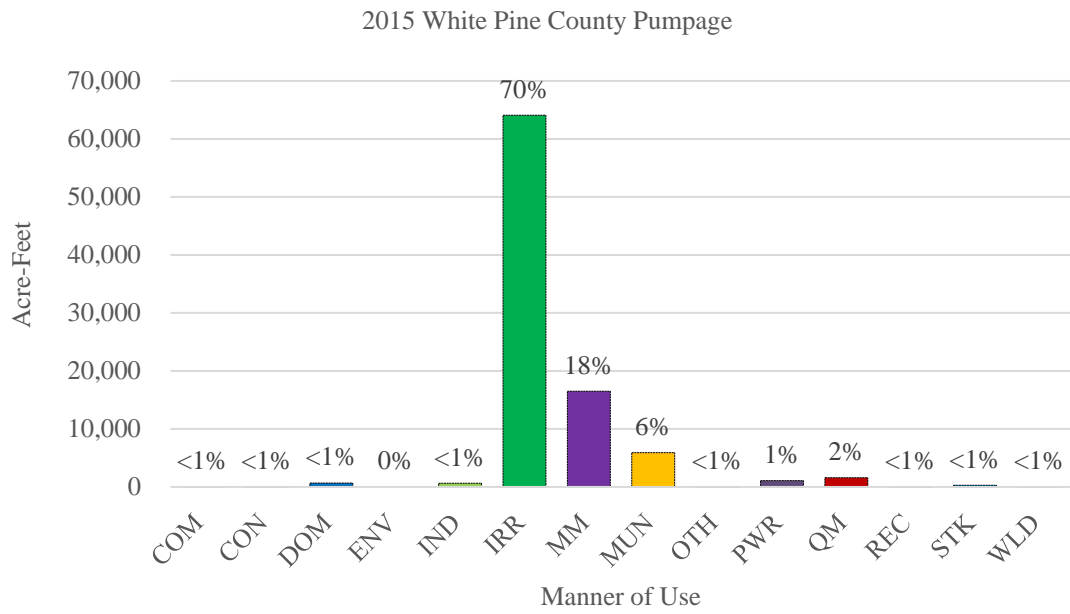


Figure 32. White Pine County pumpage by manner of use.

APPENDIX A. GROUNDWATER PUMPAGE BY BASIN AND MANNER OF USE.

Explanation of Column Headings for Groundwater Pumpage by Basin and Manner of Use

Basin Number	Assigned administrative groundwater basin number
Sub	Identifier for a basin subarea
Basin Name	Assigned administrative groundwater basin name
County	Name of county in which the groundwater basin is located
Inventory Type	Inventory type, if 2015 crop (C) or pumpage (P) inventory was conducted; blank if no inventory was conducted

Manner of Use

COM	Commercial
CON	Construction
DOM	Domestic
ENV	Environmental
IND	Industrial
IRR	Irrigation
MM	Mining and Milling
MUN	Municipal
OTH	Other
PWR	Power
QM	Quasi-Municipal
REC	Recreation
STK	Stock
WLD	Wildlife

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
001		Pueblo Valley	Humboldt	C	11	0	20	0	0	4,146	0	0	0	0	4	0	3	0	4,184
002		Continental Lake Valley	Humboldt		0	0	2	0	0	2,879	0	0	0	0	0	0	19	0	2,900
003		Gridley Lake Valley	Humboldt		0	0	0	0	0	4,218	0	0	0	0	0	0	84	0	4,302
004		Virgin Valley	Humboldt		0	0	10	0	0	0	0	0	0	0	7	0	0	0	17
005		Sage Hen Valley	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
006		Guano Valley	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
006		Guano Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
007		Swan Lake Valley	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
007		Swan Lake Valley	Washoe		0	0	1	0	0	0	0	0	0	0	0	0	43	0	44
008		Massacre Lake Valley	Washoe		0	5	0	0	0	0	0	0	0	0	0	0	86	0	91
009		Long Valley	Washoe		0	0	6	0	0	1,103	0	0	0	0	0	0	136	0	1,245
010		Macy Flat	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
011		Coleman Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	23	0	23
012		Mosquito Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
013		Warner Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	68	0	68
014		Surprise Valley	Washoe		0	0	0	0	0	463	0	0	0	0	0	0	36	0	499
015		Boulder Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
016		Duck Lake Valley	Washoe		69	0	2	0	0	1,944	0	0	0	0	0	0	63	0	2,078
017		Pilgrim Flat	Washoe		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
018		Painter Flat	Washoe		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
019		Dry Valley	Washoe		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
020		Sano Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
021		Smoke Creek Valley	Washoe		8	0	12	0	0	1,966	0	0	0	0	0	0	84	449	2,520
022		San Emidio Desert	Washoe		0	0	7	0	1,342	4,077	31	0	0	0	86	0	1	0	5,544
023		Granite Basin	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
024		Hualapai Flat	Washoe	C	4	0	4	0	0	1,592	0	0	0	0	4	0	3	0	1,608
025		High Rock Lake Valley	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
025		High Rock Lake Valley	Washoe		0	0	2	0	0	0	0	0	0	0	0	0	2	0	4
026		Mud Meadow	Humboldt		0	0	0	0	0	2,197	0	0	0	0	0	0	0	0	2,197
027		Summit Lake Valley	Humboldt		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
028		Black Rock Desert	Humboldt		0	0	9	0	0	9,931	2,371	0	0	0	6	0	15	0	12,332
028		Black Rock Desert	Pershing		0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
028		Black Rock Desert	Washoe		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
029		Pine Forest Valley	Humboldt	C	4	0	17	0	0	22,326	0	0	0	0	6	0	19	0	22,373
030	A	Kings River Valley - Rio King Subarea	Humboldt	C	112	0	18	0	0	50,373	0	0	94	0	1	0	26	0	50,624
030	B	Kings River Valley - Sod House Subarea	Humboldt		0	0	1	0	0	232	0	0	0	0	0	0	5	0	238
031		Desert Valley	Humboldt	C	2	0	11	0	2,872	26,216	6	0	65	0	2	772	13	0	29,959
031		Desert Valley	Pershing	C	0	0	2	0	0	0	0	0	0	0	0	0	2	0	4
032		Silver State Valley	Humboldt	C	0	0	15	0	0	18,378	0	0	0	0	2	0	18	0	18,413
033	A	Quinn River Valley - Orovada Subarea	Humboldt	C	80	0	51	0	0	62,038	0	3	0	0	0	0	18	0	62,190
033	B	Quinn River Valley - McDermitt Subarea	Humboldt	C	0	0	42	0	0	3,124	0	59	0	0	47	0	20	0	3,292

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
034		Little Owyhee River Area	Elko		0	0	2	0	0	0	0	0	0	0	0	0	6	0	8
035		South Fork Owyhee River	Elko		0	0	6	0	0	1,270	0	0	0	0	7	0	99	0	1,382
036		Independence Valley	Elko		0	0	19	0	1,399	3,006	9	18	0	0	2	0	20	0	4,473
037		Owyhee River Area	Elko		0	0	90	0	0	0	0	0	113	0	26	4	2	0	235
038		Bruneau River Area	Elko		0	0	2	0	0	0	0	0	0	0	0	0	3	0	5
039		Jarbridge River Area	Elko		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
040		Salmon Falls Creek Area	Elko		745	0	21	0	0	3,957	0	208	40	0	352	0	74	0	5,397
041		Goose Creek Area	Elko		0	0	1	0	0	769	0	0	0	0	0	0	53	0	823
042		Marys River Area	Elko		208	0	154	0	0	9,463	0	588	1,448	0	15	0	220	9	12,105
043		Starr Valley	Elko		0	0	59	0	0	2,298	0	0	0	0	0	0	77	0	2,434
044		North Fork Area	Elko		3	0	416	8,886	93	4,692	938	0	0	0	67	0	145	0	15,240
045		Lamoille Valley	Elko		17	0	347	0	0	2,117	0	0	0	0	69	0	50	0	2,600
046		South Fork Area	Elko		0	0	45	0	0	0	0	0	0	0	7	0	14	0	66
047		Huntington Valley	Elko		243	0	51	0	0	1,552	99	0	18	0	0	0	61	19	2,044
048		Dixie Creek - Ten Mile Creek Area	Elko	C	86	3	521	0	7	435	463	2,251	12	0	6	101	60	0	3,946
049		Elko Segment	Elko	C	36	0	1,164	22	21	189	1	6,965	0	0	348	45	40	0	8,831
050		Susie Creek Area	Elko		0	0	20	0	2	189	0	0	0	0	26	0	60	0	298
051		Maggie Creek Area	Elko		0	0	12	0	0	777	22,711	0	0	0	0	0	61	0	23,561
051		Maggie Creek Area	Eureka		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
052		Marys Creek Area	Elko		0	0	13	724	0	105	0	281	0	0	0	0	3	0	1,126
052		Marys Creek Area	Eureka		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
053		Pine Valley	Elko		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
053		Pine Valley	Eureka		0	0	17	0	0	8,408	71	0	0	0	39	0	63	0	8,598
054		Crescent Valley	Eureka	C	0	0	62	0	0	0	0	164	0	0	0	0	79	0	305
054		Crescent Valley	Lander	C	0	0	15	0	0	4,373	3,583	0	0	0	0	0	35	0	8,006
055		Carico Lake Valley	Lander		0	0	4	0	0	1,234	135	0	0	0	0	0	24	0	1,397
056		Upper Reese River Valley	Lander	C	0	0	22	0	0	11,528	0	44	0	0	299	0	30	0	11,923
056		Upper Reese River Valley	Nye	C	0	0	41	0	0	578	0	0	0	0	200	0	3	0	822
057		Antelope Valley	Lander	C	0	0	8	0	0	23,466	0	0	0	0	5	0	22	0	23,501
058		Middle Reese River Valley	Lander	C	0	0	12	0	0	28,852	0	0	0	0	0	0	16	0	28,880
059		Lower Reese River Valley	Eureka	C	1	0	1	0	0	0	0	0	0	0	2	0	0	0	4
059		Lower Reese River Valley	Lander	C	0	0	334	0	0	12,569	386	1,067	0	0	16	0	33	0	14,405
060		Whirlwind Valley	Eureka		0	0	1	0	0	0	0	0	0	0	0	0	3	0	4
060		Whirlwind Valley	Lander		0	0	1	0	70	0	0	0	0	1,177	0	0	1	0	1,249
061		Boulder Flat	Elko		0	0	3	0	0	0	132	0	0	0	0	0	1	0	136
061		Boulder Flat	Eureka		9	0	10	17	1,669	15,401	14,563	0	0	0	9	0	90	0	31,768
061		Boulder Flat	Lander		0	0	5	0	136	582	0	0	0	0	0	0	52	0	775
062		Rock Creek Valley	Elko		0	0	1	0	0	0	428	0	0	0	0	0	5	0	434
062		Rock Creek Valley	Lander		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
063		Willow Creek Valley	Elko		0	0	5	0	0	1,944	406	0	0	0	56	0	5	0	2,416
064		Clovers Area	Elko	C	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
064		Clovers Area	Humboldt	C	0	0	19	0	753	0	1,193	0	0	0	21	0	28	0	2,014
064		Clovers Area	Lander	C	0	0	140	89	0	9,050	266	0	0	0	0	248	1	0	9,794
065		Pumpnickel Valley	Humboldt	C	0	0	4	0	0	2,097	241	0	0	0	0	0	1	0	2,343
065		Pumpnickel Valley	Pershing	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
066		Kelley Creek Area	Humboldt	C	0	0	7	217	18	6,598	6,279	0	0	0	0	0	0	0	13,119
067		Little Humboldt Valley	Elko	C	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
067		Little Humboldt Valley	Humboldt	C	0	0	3	0	0	7,237	0	0	0	0	0	0	1	0	7,241
068		Hardscrabble Area	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
069		Paradise Valley	Humboldt	C	240	0	388	0	10	66,897	0	0	11	0	14	3	6	0	67,569
070		Winnemucca Segment	Humboldt	C	283	0	704	24	1,459	27,552	0	889	13	0	533	64	1	0	31,522
071		Grass Valley	Humboldt	C	31	0	519	0	1,122	6,390	0	2,308	0	0	9	0	0	0	10,379
071		Grass Valley	Pershing	C	0	0	219	0	0	20,416	0	0	0	0	241	0	1	0	20,877
072		Imlay Area	Pershing		120	8	82	8	0	1,841	430	0	0	0	5	0	1	0	2,494
073		Lovelock Valley	Churchill		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
073		Lovelock Valley	Pershing		273	0	53	0	0	4,382	49	19	0	0	0	2	10	0	4,788
073	A	Lovelock Valley - Oreana Subarea	Pershing		38	0	73	0	0	303	0	1,324	0	0	184	3	0	0	1,925
074		White Plains	Churchill		43	0	3	0	0	0	0	0	0	0	8	0	0	0	54
075		Brady Hot Springs	Churchill		0	0	0	0	21	0	8	0	0	0	0	0	2	0	31
075		Brady Hot Springs	Lyon		0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
076		Fernley Area	Churchill		0	0	16	0	0	0	0	0	0	0	0	0	0	0	16
076		Fernley Area	Lyon		26	0	472	0	1,210	389	0	3,770	0	0	0	0	3	0	5,869
076		Fernley Area	Washoe		0	0	22	0	0	0	0	0	0	0	0	0	0	0	22
077		Fireball Valley	Churchill		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
078		Granite Springs Valley	Churchill		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
078		Granite Springs Valley	Pershing		0	0	2	0	0	4,056	0	0	0	0	0	0	11	7	4,076
079		Kumiva Valley	Pershing		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
080		Winnemucca Lake Valley	Pershing		0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
080		Winnemucca Lake Valley	Washoe		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
081		Pyramid Lake Valley	Churchill		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
081		Pyramid Lake Valley	Lyon		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
081		Pyramid Lake Valley	Washoe		15	0	49	0	0	0	0	0	0	0	0	0	2	0	66
082		Dodge Flat	Washoe		453	0	20	0	0	0	0	0	0	0	175	0	5	0	653
083		Tracy Segment	Lyon		0	0	15	0	0	0	0	0	0	0	0	0	0	0	15
083		Tracy Segment	Storey		55	0	611	0	192	0	0	57	0	0	846	0	0	0	1,761
083		Tracy Segment	Washoe		134	0	82	0	609	0	0	33	0	0	177	0	3	0	1,038
084		Warm Springs Area	Washoe	P	19	0	641	556	0	2,682	0	0	0	0	65	9	31	0	4,003
085		Spanish Springs Valley	Washoe		171	28	387	0	0	0	0	971	0	0	975	600	3	0	3,136
086		Sun Valley	Washoe		0	0	230	1	0	14	0	0	0	0	0	0	0	0	245
087		Truckee Meadows	Washoe	P	309	0	1,988	3,891	908	353	0	16,230	6	0	2,347	119	1	1	26,153
088		Pleasant Valley	Washoe	P	13	0	722	0	0	215	0	867	72	0	772	0	0	0	2,661
089		Washoe Valley	Washoe	P	58	0	1,573	0	0	2,202	0	1,260	2	0	83	785	431	760	7,154

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
090		Lake Tahoe Basin	Carson City	P	0	0	2	0	0	0	0	357	0	0	0	0	0	0	359
090		Lake Tahoe Basin	Douglas	P	17	0	81	0	0	380	0	2,027	0	0	2,133	377	0	0	5,014
090		Lake Tahoe Basin	Washoe	P	0	0	34	0	0	4	0	0	0	0	947	29	0	0	1,014
091		Truckee Canyon Segment	Washoe		124	0	457	32	0	17	0	552	0	0	551	3	32	0	1,768
092	A	Lemmon Valley - Western Part	Washoe	P	2	0	631	0	4	6	0	0	0	0	620	24	0	0	1,287
092	B	Lemmon Valley - Eastern Part	Washoe	P	31	0	1,237	0	1	2	0	0	0	0	140	12	0	0	1,422
093		Antelope Valley	Washoe		0	0	193	0	0	0	0	0	0	0	53	0	1	0	247
094		Bedell Flat	Washoe		9	0	73	0	0	0	0	368	0	0	0	0	6	0	456
095		Dry Valley	Washoe		0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
096		Newcomb Lake Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
097		Honey Lake Valley	Washoe		0	0	32	0	0	981	0	958	0	0	21	0	11	0	2,003
098		Skedaddle Creek Valley	Washoe		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
099		Red Rock Valley	Washoe		5	0	374	0	0	303	0	0	0	0	0	0	1	0	683
100		Cold Springs Valley	Washoe		1	0	169	9	0	294	0	0	0	0	1,334	0	0	0	1,807
100	A	Cold Springs Valley - Long Valley	Washoe		0	0	5	0	0	0	0	0	0	0	296	0	0	0	301
101		Carson Desert	Churchill		714	1	4,060	151	1,087	3,239	1	3,046	0	0	2,637	131	219	64	15,351
101		Carson Desert	Lyon		0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
101	A	Carson Desert	Pershing		0	0	5	0	0	0	4	0	0	0	0	0	1	0	10
102		Churchill Valley	Churchill	P	0	0	27	0	0	0	0	0	0	0	0	0	0	0	27
102		Churchill Valley	Douglas	P	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
102		Churchill Valley	Lyon	P	9	0	1,319	0	5	487	0	0	0	0	471	13	1	0	2,305
102		Churchill Valley	Storey	P	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
103		Dayton Valley	Carson City	P	0	0	187	0	1	0	0	1,192	0	0	0	0	1	0	1,382
103		Dayton Valley	Lyon	P	147	1	1,084	0	270	2,793	10	2,131	0	0	720	0	0	0	7,155
103		Dayton Valley	Storey	P	0	0	232	0	0	0	42	0	0	0	2	0	0	1	277
104		Eagle Valley	Carson City	P	26	0	759	1	2	18	0	3,483	0	0	82	0	1	0	4,372
104		Eagle Valley	Douglas	P	0	0	103	0	0	0	0	0	0	0	55	0	0	0	158
104		Eagle Valley	Washoe	P	0	0	13	0	0	0	0	0	0	0	0	0	0	0	13
105		Carson Valley	Carson City	P	0	0	84	0	0	0	0	318	0	0	0	0	0	0	402
105		Carson Valley	Douglas	P	43	0	3,430	0	0	18,320	0	12,654	3,080	0	0	0	113	0	37,640
106		Antelope Valley	Douglas	P	45	0	302	0	0	2,293	0	0	0	0	251	5	0	0	2,896
106		Antelope Valley	Lyon	P	0	0	13	0	0	0	0	0	0	0	0	0	0	0	13
107		Smith Valley	Douglas	P	0	0	16	0	0	0	0	0	0	0	0	0	17	0	33
107		Smith Valley	Lyon	P	516	0	802	0	31	28,653	0	0	0	0	47	54	159	0	30,262
108		Mason Valley	Lyon	P	933	0	847	0	3,081	75,301	255	1,360	0	0	285	5,923	79	3,372	91,436
109		East Walker Area	Lyon		0	0	19	0	0	7,989	0	0	0	0	0	0	11	0	8,019
109		East Walker Area	Mineral		0	0	3	0	0	724	56	0	0	0	0	0	6	0	789
110	A	Walker Lake Valley - Schurz Subarea	Churchill		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
110	A	Walker Lake Valley - Schurz Subarea	Lyon		0	0	2	0	0	0	0	0	0	0	0	0	1	0	3
110	A	Walker Lake Valley - Schurz Subarea	Mineral		4	0	49	0	0	0	0	0	0	0	3	0	0	0	56
110	B	Walker Lake Valley - Walker Subarea	Mineral		24	0	6	0	0	0	0	0	0	0	1,876	0	0	0	1,906

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
110	C	Walker Lake Valley - Whiskey Flat Subarea	Mineral		0	0	18	2	72	1,797	0	588	0	0	2	0	0	0	2,480
111	A	Alkali Valley - Northern Part	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	B	Alkali Valley - Southern Part	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112		Mono Valley	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113		Huntoon Valley	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
114		Teels Marsh Valley	Mineral		1	0	1	0	0	0	362	0	0	0	1	0	1	0	366
115		Adobe Valley	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116		Queen Valley	Mineral		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
116		Queen Valley	Esmeralda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117		Fish Lake Valley	Esmeralda	P	23	0	215	0	0	28,954	1	0	1	0	3	167	21	0	29,385
118		Columbus Salt Marsh Valley	Esmeralda		0	0	3	0	0	0	184	0	0	0	32	0	1	0	220
119		Rhodes Salt Marsh Valley	Mineral		0	0	1	0	0	0	0	0	0	0	0	0	0	300	301
120		Garfield Flat	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	A	Soda Spring Valley - Eastern Part	Mineral		6	0	4	6	0	0	968	357	0	0	0	0	2	0	1,343
121	B	Soda Spring Valley - Western Part	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122		Gabbs Valley	Nye		0	0	8	0	0	0	2,540	66	0	0	61	0	30	0	2,705
122		Gabbs Valley	Mineral		0	0	1	0	0	4,023	1,072	0	0	0	0	0	42	0	5,138
123		Rawhide Flats	Churchill		0	0	1	0	0	0	0	0	0	0	0	0	27	0	28
124		Fairview Valley	Churchill		0	0	1	0	0	0	0	0	0	0	4	0	8	0	13
125		Stingaree Valley	Churchill		0	0	1	0	0	0	0	0	0	0	0	0	7	0	8
126		Cowkick Valley	Churchill		0	0	1	0	0	0	0	0	0	0	0	0	5	0	6
127		Eastgate Valley Area	Churchill		0	0	1	0	0	14	0	0	0	0	0	0	9	0	24
128		Dixie Valley	Churchill		0	0	18	0	11,030	131	0	0	0	0	218	0	20	262	11,679
128		Dixie Valley	Lander		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
128		Dixie Valley	Pershing		0	0	2	0	0	5,210	0	0	0	0	0	0	14	0	5,226
129		Buena Vista Valley	Pershing	C	8	0	37	0	0	8,436	665	0	0	0	0	0	16	0	9,162
130		Pleasant Valley	Pershing		0	0	3	0	0	1,719	0	0	0	0	0	0	10	0	1,732
131		Buffalo Valley	Humboldt		0	0	0	0	0	0	0	0	0	0	0	0	16	0	16
131		Buffalo Valley	Lander		0	0	1	2,128	0	0	3,314	0	0	0	0	0	6	0	5,449
131		Buffalo Valley	Pershing		0	0	0	0	0	3,083	0	0	0	0	0	0	11	0	3,094
132		Jersey Valley	Lander		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132		Jersey Valley	Pershing		0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
133		Edwards Creek Valley	Churchill		11	0	6	0	0	3,307	0	0	0	0	0	0	44	0	3,368
134		Smith Creek Valley	Churchill		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134		Smith Creek Valley	Lander		0	0	3	0	0	1,381	0	0	0	0	0	0	7	0	1,391
134		Smith Creek Valley	Nye		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
135		Ione Valley	Mineral		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
135		Ione Valley	Nye		0	0	3	0	0	0	0	0	0	0	53	3	9	0	68
136		Monte Cristo Valley	Mineral		0	0	0	0	0	0	0	0	0	0	0	0	3	4	7
137	A	Big Smoky Valley - Tonopah Flat	Esmeralda		0	0	0	0	0	0	0	0	0	0	13	0	42	0	55
137	A	Big Smoky Valley - Tonopah Flat	Nye		0	0	49	0	608	5,361	13	0	0	0	0	0	8	0	6,039

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
137	B	Big Smoky Valley - Northern Part	Lander	C	2	0	33	0	0	2,618	0	0	0	0	29	0	7	0	2,690
137	B	Big Smoky Valley - Northern Part	Nye	C	28	0	117	0	0	8,577	4,793	0	46	0	389	0	3	0	13,953
138		Grass Valley	Eureka		0	0	1	0	0	126	0	0	0	0	0	0	0	0	127
138		Grass Valley	Lander		0	0	3	0	0	2,801	10	0	0	0	0	0	24	0	2,838
139		Kobeh Valley	Eureka	C	0	0	6	0	0	81	0	0	0	0	0	0	36	0	123
139		Kobeh Valley	Lander	C	0	0	1	0	0	963	0	0	0	0	0	0	11	0	975
140	A	Monitor Valley - Northern Part	Eureka		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	A	Monitor Valley - Northern Part	Lander		0	0	1	0	0	0	0	0	0	0	0	0	5	0	6
140	A	Monitor Valley - Northern Part	Nye		0	0	3	0	0	0	0	0	0	0	0	0	1	0	4
140	B	Monitor Valley - Southern Part	Nye		0	0	11	0	0	0	4	0	0	0	0	0	6	0	21
141		Ralston Valley	Nye		0	0	22	0	8	11	0	273	0	0	36	0	21	0	372
142		Alkali Spring Valley	Esmeralda		0	0	0	0	0	0	0	6	0	0	43	0	5	0	54
143		Clayton Valley	Esmeralda		0	0	1	0	0	0	11,708	40	0	0	42	0	6	0	11,797
144		Lida Valley	Esmeralda		183	0	3	0	0	0	0	0	0	0	26	0	3	0	215
144		Lida Valley	Nye		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
145		Stonewall Flat	Nye		0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
146		Sarcobatus Flat	Esmeralda		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
146		Sarcobatus Flat	Nye		0	0	13	0	0	0	0	420	0	0	25	0	11	0	469
147		Gold Flat	Nye		0	0	0	0	0	0	0	0	0	0	380	0	11	0	391
148		Cactus Flat	Nye		0	0	0	0	0	0	0	0	0	0	243	0	5	0	248
149		Stone Cabin Valley	Nye		0	0	3	0	0	5,035	0	0	0	0	630	0	400	0	6,068
150		Little Fish Lake Valley	Nye		0	0	0	0	0	1,118	0	0	0	0	0	0	50	0	1,168
151		Antelope Valley	Eureka		0	0	0	0	0	0	0	0	0	0	0	0	177	0	177
151		Antelope Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152		Stevens Basin	Eureka		0	0	0	0	0	0	0	0	0	0	0	0	27	0	27
153		Diamond Valley	Elko	C	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
153		Diamond Valley	Eureka	C	4	0	107	0	0	73,879	1,021	1,540	0	0	493	0	20	0	77,064
154		Newark Valley	Eureka	C	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
154		Newark Valley	White Pine	C	0	0	11	0	14	8,777	1	0	0	0	8	0	6	2	8,819
155	A	Little Smoky Valley - Northern Part	Eureka		0	0	2	0	0	1,279	0	0	0	0	0	0	2	0	1,283
155	A	Little Smoky Valley - Northern Part	Nye		0	0	0	0	0	38	0	0	0	0	0	0	3	0	41
155	A	Little Smoky Valley - Northern Part	White Pine		0	0	2	0	0	2,306	0	0	0	0	0	0	1	0	2,309
155	B	Little Smoky Valley - Central Part	Nye		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
155	C	Little Smoky Valley - Southern Part	Nye		0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
156		Hot Creek Valley	Nye		0	0	5	0	22	2,252	0	0	0	0	0	0	3	0	2,282
157		Kawich Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	A	Emigrant Valley - Groom Lake Valley	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	A	Emigrant Valley - Groom Lake Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
158	B	Emigrant Valley - Papoose Lake Valley	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159		Yucca Flat	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160		Frenchman Flat	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
161		Indian Springs Valley	Clark	P	4	0	76	0	0	82	0	285	0	0	175	0	0	0	622
162		Pahrump Valley	Clark	P	0	0	10	0	0	0	0	0	0	0	169	0	0	0	179
162		Pahrump Valley	Nye	P	561	5	5,510	0	86	4,477	2	3,800	0	0	464	658	0	0	15,563
163		Mesquite Valley (Sandy Valley)	Clark	P	18	0	436	0	0	45	3	0	0	0	126	0	0	0	628
164	A	Ivanpah Valley - Northern Part	Clark		12	0	93	0	119	0	0	0	0	0	405	0	1	0	630
164	B	Ivanpah Valley - Southern Part	Clark		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165		Jean Lake Valley	Clark		0	0	1	0	0	0	165	0	0	0	0	0	0	0	166
166		Hidden Valley	Clark		0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
167		Eldorado Valley	Clark		0	71	6	0	0	0	198	0	0	0	0	0	0	0	275
168		Three Lakes Valley - Northern Part	Lincoln		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
169	A	Tikapoo Valley - Northern Part	Lincoln		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
169	B	Tikapoo Valley - Southern Part	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170		Penoyer Valley (Sand Spring Valley)	Lincoln	P	13	0	36	0	0	11,317	0	0	0	0	1	0	61	0	11,428
170		Penoyer Valley (Sand Spring Valley)	Nye	P	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
171		Coal Valley	Lincoln		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
171		Coal Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172		Garden Valley	Lincoln		0	0	2	0	4,589	232	0	0	0	0	0	0	4	0	4,827
172		Garden Valley	Nye		0	0	6	0	0	166	0	0	0	0	0	0	1	0	173
173	A	Railroad Valley - Southern Part	Nye		0	0	1	0	0	4,322	0	0	0	0	0	0	31	0	4,354
173	B	Railroad Valley - Northern Part	Lincoln		0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
173	B	Railroad Valley - Northern Part	Nye		1	0	30	0	72	12,997	0	0	0	0	0	1,994	21	0	15,115
173	B	Railroad Valley - Northern Part	White Pine		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
174		Jakes Valley	White Pine		0	0	1	0	0	0	0	0	0	0	0	0	3	0	4
175		Long Valley	Elko		0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
175		Long Valley	White Pine		0	0	1	0	0	0	430	0	0	0	0	0	27	0	458
176		Ruby Valley	Elko		4	0	108	0	0	11,386	0	0	0	0	24	0	91	1	11,615
176		Ruby Valley	White Pine		0	0	0	0	0	0	109	0	0	0	0	0	2	0	111
177		Clover Valley	Elko	C	34	0	53	0	0	7,692	0	0	0	0	25	0	31	0	7,835
178	A	Butte Valley - Northern Part	Elko		0	0	2	0	0	0	0	0	0	0	0	0	15	0	17
178	B	Butte Valley - Southern Part	Elko		0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
178	B	Butte Valley - Southern Part	White Pine		0	0	0	0	0	0	0	0	0	0	0	0	23	0	23
179		Steptoe Valley	Elko	C	0	0	9	0	0	729	0	0	0	0	0	0	3	0	741
179		Steptoe Valley	White Pine	C	50	0	435	0	623	26,327	15,944	5,908	0	1,086	1,380	32	26	2	51,813
180		Cave Valley	Lincoln		0	0	4	0	0	0	0	0	0	0	0	0	8	0	12
180		Cave Valley	White Pine		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
181		Dry Lake Valley	Lincoln		0	0	4	0	0	0	0	0	0	0	0	0	4	0	8
182		Delamar Valley	Lincoln		0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
183		Lake Valley	Lincoln	C	0	0	19	0	0	13,751	0	0	0	0	13	0	33	0	13,816
184		Spring Valley	White Pine		0	0	22	0	0	1,507	20	0	0	0	79	0	41	58	1,727
185		Tippett Valley	White Pine		0	0	0	0	0	306	0	0	0	0	0	0	1	0	307
186	A	Antelope Valley - Southern Part	Elko		0	0	0	0	0	0	4	0	0	0	0	0	2	0	6

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
186	A	Antelope Valley - Southern Part	White Pine		0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
186	B	Antelope Valley - Northern Part	Elko		0	0	1	0	0	0	0	0	0	0	11	0	18	0	30
187		Goshute Valley	Elko		0	0	8	0	0	0	0	2,012	0	0	1,720	0	57	0	3,797
188		Independence Valley (Pequop Valley)	Elko		0	0	17	0	0	3,758	6	0	0	0	26	0	45	0	3,852
189	A	Thousand Springs Valley - Herrill Siding Area	Elko		0	0	14	0	0	110	0	0	0	0	0	0	34	0	158
189	B	Thousand Springs Valley - Toano Area	Elko		0	0	8	0	0	0	0	0	0	0	5	0	65	6	85
189	C	Thousand Springs Valley - Rocky Butte Area	Elko		0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
189	D	Thousand Springs Valley - Montello Area	Elko		8	0	50	0	0	6,413	0	0	0	0	0	0	51	0	6,522
190		Grouse Creek Valley	Elko		0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
191		Pilot Creek Valley	Elko		0	20	86	0	0	0	28	0	0	0	0	0	13	0	147
192		Great Salt Lake Desert	Elko		0	0	3	0	0	0	0	0	0	0	0	0	1	0	4
193		Deep Creek Valley	White Pine		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194		Pleasant Valley	White Pine		0	0	0	0	0	227	0	0	0	0	0	0	0	0	227
195		Snake Valley	White Pine		10	0	39	0	0	6,889	0	0	0	0	60	0	5	0	7,002
196		Hamlin Valley	Lincoln		0	0	1	0	0	0	0	0	9	0	0	0	39	0	49
197		Escalante Desert	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
198		Dry Valley	Lincoln	P	0	0	31	0	0	5,241	0	0	0	0	0	5	7	0	5,284
199		Rose Valley	Lincoln	P	0	0	7	0	0	663	0	0	0	0	0	0	0	0	670
200		Eagle Valley	Lincoln		0	0	33	0	0	281	0	0	0	0	4	0	0	0	318
201		Spring Valley	Lincoln		0	0	7	0	0	764	0	0	0	0	10	0	0	0	781
202		Patterson Valley	Lincoln		0	0	30	0	0	3,862	0	317	0	0	4	0	4	1	4,219
203		Panaca Valley	Lincoln	P	54	0	129	0	0	13,760	3	262	0	0	17	0	3	0	14,228
204		Clover Valley	Lincoln		0	0	10	0	33	751	0	0	0	0	2	11	22	0	829
205		Lower Meadow Valley Wash	Clark		4	0	11	0	0	735	0	0	0	0	0	0	0	0	750
205		Lower Meadow Valley Wash	Lincoln		3	0	23	0	0	650	0	431	0	0	0	3	2	0	1,112
206		Kane Springs Valley	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207		White River Valley	Lincoln		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
207		White River Valley	Nye		0	0	40	0	0	1,897	0	0	0	0	10	0	113	0	2,060
207		White River Valley	White Pine		5	20	157	0	0	17,751	0	0	0	0	64	2	149	0	18,147
208		Pahroc Valley	Lincoln		0	0	2	0	0	0	0	0	0	0	0	0	4	0	6
208		Pahroc Valley	Nye		0	0	1	0	0	0	0	0	0	0	0	0	5	0	6
209		Pahranagat Valley	Lincoln	P	35	0	116	0	0	5,163	0	287	0	0	1	0	12	59	5,673
210		Coyote Spring Valley	Clark	P	0	0	0	0	0	0	0	1,494	0	0	0	0	0	0	1,494
210		Coyote Spring Valley	Lincoln	P	0	0	2	0	0	568	0	0	0	0	0	0	0	0	570
211		Three Lakes Valley - Southern Part	Clark		300	0	8	0	0	0	0	0	0	0	1,582	0	0	0	1,890
212		Las Vegas Valley	Clark	P	836	0	4,981	2,697	350	2,552	784	49,937	977	0	7,042	5,276	0	114	75,546
213		Colorada River Valley	Clark		6	0	25	0	0	0	58	3	0	0	610	134	3	0	840
214		Piute Valley	Clark		10	0	20	0	0	0	313	206	0	0	261	0	10	0	820
215		Black Mountains Area	Clark	P	0	0	1	0	1,448	0	253	0	0	0	6	0	0	0	1,708
216		Garnet Valley	Clark	P	21	0	0	0	516	0	194	759	0	0	30	0	0	0	1,520
217		Hidden Valley (North)	Clark		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

Basin Number	Sub	Basin Name	County	Inventory Type	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
218		California Wash	Clark		0	0	16	0	343	0	0	411	0	0	0	0	0	0	771
219		Muddy River Springs Area	Clark		37	0	44	0	1,349	251	0	2,487	0	0	5	0	0	0	4,173
220		Lower Moapa Valley	Clark		116	0	29	87	0	1,551	220	0	0	0	0	0	0	0	2,003
221		Tule Desert	Lincoln		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
222		Virgin River Valley	Clark		0	0	22	0	0	0	0	4,115	0	0	252	0	7	0	4,396
222		Virgin River Valley	Lincoln		0	0	0	0	0	0	0	1,866	0	0	0	21	5	0	1,892
223		Gold Butte Area	Clark		0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
224		Greasewood Area	Clark		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225		Mercury Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226		Rock Valley	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	A	Forty Mile Canyon - Jackass Flat	Nye		0	0	2	0	0	0	0	0	0	0	0	0	2	0	4
227	B	Forty Mile Canyon - Buckboard Mesa	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228		Oasis Valley	Nye		6	0	26	0	0	194	1	286	0	0	0	50	1	0	564
229		Crater Flat	Nye		0	0	0	0	0	0	192	0	0	0	0	0	0	0	192
230		Amargosa Desert	Nye	P	1,907	0	269	0	0	13,259	315	160	0	0	277	0	0	5	16,192
231		Grapevine Canyon	Esmeralda		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
231		Grapevine Canyon	Nye		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
232		Oriental Wash	Esmeralda		0	0	0	0	0	0	228	0	0	0	0	0	0	0	228
TOTAL					10,892	162	43,353	19,550	39,679	1,017,338	101,305	146,139	6,008	2,263	38,285	17,680	5,869	5,499	1,454,020

EXHIBIT 5

EXHIBIT 5



RE: Order # 1293

1-31-2018

Escrows Harmed
Economic Impact

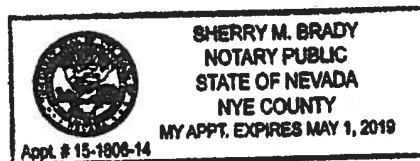
As a direct result of Order # 1293 signed on December 19, 2017 by the State Engineer Jason King, several escrows were impacted and several buyers and sellers were harmed by an action that had no grace period, no warning and no respect for those who had invested money for a future build. In addition, several Custom Home Builders have reported a halt on construction because the cost to put in a well on a 1.0 + acre lot had more than doubled and loans were adversely affected and now those people building with financing can't qualify with the added cost of the required 2 acre feet of water rights.

Sierra Settlement, Fidelity National Title and Cow County Title are the three local Title and Escrow companies in Pahrump and they have reported an estimated total of 10 escrows that were canceled and 13 escrows that were extended and may not close until or if the issue is resolved.

In addition, there has been an economic impact to the Town of Pahrump that includes Well Drillers, Home Builders, Developers, Real Estate Agents, Title and Escrow Companies, tax revenue to Nye County, as well as Building and Safety, Planning and Zoning Permits. The trickle-down effect goes all the way to local businesses. This order does not save a drop of water and ultimately harms current and future residents, business owners and the Town of Pahrump and stifles growth and development.

Lisa Bond
Broker/Owner
LBRE

Lisa Bond Real Estate LLC
3130 S. Hwy 160, Pahrump, NV 89048



01/31/18



Affidavit

January 26, 2018

RE: Order #1293, Prohibiting the Drilling of New Domestic Wells in the Pahrump Artesian Basin (10-162), Nye County, Nevada

To Whom It May Concern,

My name is Gerald Schulte, and I am the owner of Factory Home Center in Pahrump, NV. We are the last remaining Manufactured Home Dealer left in Southern Nevada. We are the only ones selling "affordable housing".

The State Engineer Order #1293 has negatively impacted my business. At the time the order was issued, December 19, 2017, my company had 4 customers purchasing new manufactured homes that had to cancel their deal due to the impact Order #1293 requiring the additional purchase of 2 acre feet of water rights in order to drill a domestic well. This order has made it virtually impossible to get an appraisal that customers need in order to finance a home, due to the added expense of \$20,000 or more to acquire additional water rights.

Order #1293 has caused a ripple-effect, killing the possibility for consumers to purchase affordable housing. We were projecting to sell 40 new homes this year. Now, we'll be lucky to sell 5. This order will effectively put me out of business, and force me to close my doors in Pahrump. I am now being forced to look into the possibility of moving my business to Arizona, negatively impacting my 12 employees, as well as other local business we utilize to prepare the land, build garages, etc.

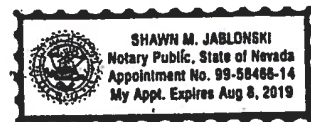
I have heard talk of the possibility of a conservation well and would be in favor of them, as they would not negatively impact and add any additional financial burden to the homeowner. It is unfathomable that I am the only remaining dealer in Southern Nevada after 30 others have went out of business during the recession. I was able to battle through the recession and survive, and now with the stroke of a pen, the state engineer will put me out of business and remove affordable housing for those in Southern Nevada. This order is unjust. This order clearly discriminates against those that cannot afford to live in a higher end subdivision. The state should look long and hard into Order #1293, which has no impact on water conservation, which is the reason it was supposedly imposed.

Respectfully,

Gerald Schulte

President

GDS Enterprises, Inc.



State of Nevada

County of Nye

This instrument was acknowledged before me on January 26, 2018 by Gerald Schulte.

Shawn M. Jablonski, Notary Public

1361 S. Hwy. 160 ~ Pahrump, NV. 89048

Office: (775) 751-5566 Fax: (775) 751-5563

JT APP 4006

11/2

Lands of Nevada, LLC PO Box 5801, Pahrump NV 89041

775-513-2600

AFFIDAVIT

January 26, 2018

TO WHOM IT MAY CONCERN:

I have been a developer in Pahrump since 2002. At the time Order 1293 came out I had two properties under contract that fell out of escrow because of the prohibitive cost of acquiring additional water rights to drill a well.

My purchasers had heard the State Engineer state in numerous open forums and meetings that the problem in Pahrump was that 8,000 lots had the right to drill a well. How then can the State Engineer turn around and say to those 8,000 lot owners – you don't have the right to drill a well unless you buy water rights for \$20,000.00? Isn't a right something that can't be stripped away? He essentially lured them in and then pulled the rug out from under them.

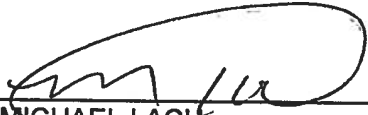
Transferring paper solely for the benefit of having cash change hands does not save one drop of water. Order's don't save water – conversation does. Never in the history of Nevada has a parcel that was previously created, some of them 40 years ago, been taxed so aggressively with an order that strips the parcel from the ability to be used as was originally intended, as is zoned by the County, and as the owner has the right to. This is simply a regulatory taking of land.

If the State Engineer believed Pahrump was at such a tipping point, he should have made Pahrump a critical management area five years earlier, which would have prevented the creation of new parcels and new subdivisions, yet he chose not to do so.

This order is not law written into the NRS, this order is a state employee clearly overstepping his authority. This order which doesn't solve the problem needs to be immediately rescinded and a solution to the problem; like a conversation well that uses less than 500 gallons a day and is metered is what the town of Pahrump needs. It is not only what the town of Pahrump needs but allows those that have legally owned land to use the land as the 5th amendment intended.

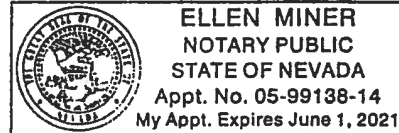
JT APP 4007

242


MICHAEL LACH

State of Nevada }
 }
County of Nye }

This instrument was acknowledged before me
on this 26th day of January, 2018 by MICHAEL
LACH



Signature: 
Notary Public

Stamp Notary seal inside this box

Statement from Steven Peterson

Subject: Impact of NV Sate Engineer Order #1293 on Property 2830 N David, Pahrump, NV

Date: Jan 25, 2018

My wife (Susan Peterson) and myself have been looking for retirement property for the past 5 years, of which we selected property at 2830 N David, Pahrump, NV which is .82 of an acre parcel. During our review, Strickland Reality was used as our agent. After several reviews with the Nye County there in Pahrump, conformation was given that water rights were available at the time of sale. As such we purchased this lot in April 2017. With the intent of construction shortly, as this will be an owner-builder process. Then in May 2017 started our preliminary home design after discussions with the local well driller and soil report engineering company.

I supplied copies of our home design in July 2017 to the Nye County Building and Safety for our initial review and permitting process, however Nye County Building and Safety required a NV approved design. Subsequently we have hired Morales Construction (a Pahrump company) to complete our design requirements on our home, that will be made available to Nye County Building and Safety for all applicable permits. This work is currently underway and at a 90% completion rate.

Civilwise Engineering (a Pahrump engineering company) was hired in Oct 2017 to complete the Soil Report and Pert Testing as required by the Nye County Building and Safety before issuance of building permits. These reports have been completed and are available. However; these reports are time sensitive and are valid for one year from date of issuance. These reports also show the location on the proposed well location, thus was needed to be completed before well drilling was started.

During the design review and as the garage will house our 5th Wheel trailer walls must be of an extended height that required additional structural substantiation and design. Civilwise has been hired in Oct 2017 to complete the structural wall design for the garage to meet Nye County Building and Safety requirements. These designs are near completion and will be subsequently ready for release for an Las Vegas, NV company to build.

Our start construction date has been 1 Oct 2018, this date will allow subsequent sub-contractors to be on site due to the heightened building cycle being experienced in the Pahrump valley.

This last Dec 2017, the State of Nevada Engineer issued order #1293 and now impacted us as not allowing the well to be drilled. We have a finite building budget that does NOT allow an additional \$25,000.00 to \$30,000.00 to be spent on a purchase of an annual 2-acre foot of water.

Currently, we have spent thousands of dollars in the preparation to start our retirement home. We are on a limited income, social security and our retirement investments. We do not have the additional funds needed to purchase this additional requirement that was NOT required at time of purchase.

My name is: Wendy O'Neal
My current mailing address is:
3650 Twilight Ave
Pahrump, NV 89048

The affected parcel address is:
3751 Twilight Ave
Pahrump, NV 89048
041-122-08

The order has negatively affected me and my family already. Our permit to drill our well was denied on 12/19/17.

I had recently transferred my job to Pahrump. I found a lot to buy and spent my savings on the purchase. I obtained a loan to drill the well and put a septic tank in on the lot. I applied for the permit and was denied. There is no municipal watering options.

I now literally have a piece of useless dirt. I can't even clear the weeds and sage brush off of it because it would require me to get a dust permit and can't get the well in order to keep the dust down.... so at this time, it's a sitting fire hazard.

Due to the order, water rights have increased so much. I can't afford to pay an extra 20k for what is needed in order to get the newly required 2acre feet of rights in order to be able to dig the well.

I have since put in for a transfer back to Vegas since there are no other options for me at this time because of my savings being depleted on useless dirt.

This order has caused us to not be able to afford to live in Pahrump which was affordable just a few weeks ago.

There should have been a plan in place prior to this happening to be able to supply the citizens of Pahrump with municipal water if they didn't want to allow us to dig a well and there should have been a public notice given to out of town people that was purchasing property that was going to be useless!

They should definitely take off the frequently asked questions section on their web site that a permit is NOT required by NRS for domestic wells, since it is!

Sincerely,

Wendy O'Neal

DREAMLAND RANCH LLC

January 25, 2018

Debra Strickland
5801 South Homestead Road
Pahrump, NV 89048

Debra,

Regarding the drilling moratorium there in Pahrump; on December 14th 2017 I purchased two lots for immediate development. Unbeknownst to me, on the 19th of that month the State water engineer filed a moratorium on future domestic well drilling! For three weeks I negotiated on the purchase of these properties with the direct intent of installing utilities to the lots in preparation to build them out. I came across a news item a few weeks later explaining the moratorium. I had already talked to one local drilling company regarding costs and scheduling the month preceding so I called them and they explained nothing could be done until I was given the go ahead by the State. After much research I was given the contact, Levi Kryder. I emailed Mr. Kryder and below is a excerpt of that email and his response (see end of letter).

As it stands now I am able to begin development on the one approved parcel, but the second parcel will apparently require me to find and buy 2 acre feet of water rights! I have not found anyone willing to sell water rights and I am told the price per acre foot IF I find them will be in excess of \$10,000.00 per acre foot!

I am now left with an undeveloped piece of property that cannot be improved unless I find someone willing to take \$20,000.00+ for water shares that were not required at the time I purchased the property. The whole point of my investment in Pahrump was to find self sustaining property capable of having a well, septic tank solar power and backup city power. This moratorium order has stopped me dead in my tracks and I have suffered at the very least \$20,000.00+ in additional costs and who knows how much lost time to come!

Bear in mind I am even hesitate to provide this letter for fear I may be singled out and the rules will change yet again and cost me everything I put into these two lots because of the inability to develop them. I purchased in Pahrump for the beauty, the freedom and the independent spirit I found there over my Thanksgiving vacation this past year. I wanted to

5931 South Stratler Street Murray, Utah 84107

develop and revitalize a part of a town I see great promise in, only to be shut down by a dictatorial order four days after my purchase!

I would also mention Mr. Kryder never did confirm there were NO water rights surrendered for the property in question, only that "the subdivision was recorded prior to **this** office having authority to approve subdivisions". Well who on earth approved subdivisions before Mr. Kryder's office did? Were water rights relinquished to that office or planning commission? You would certainly think so! How am I to know what was or was not surrendered? I was going by the very well known and long standing policy that every property owner had a right to a private domestic well without any need to surrender water rights.

I would hope there is a quick resolution to this matter and those of us who were property owners prior to this order being made are able to develop our land with the intent that has always been in place regarding domestic wells. Thank you.

Kevin W. Winsness

Kevin W. Winsness - Manager

Dreamland Ranch LLC

Attachment:

"Mr. Kryder,

I purchased two lots in Pahrump this past December and title was recorded on Dec. 14th, 2017. On or about the 19th of December your department issued an order which has prevented my drilling contractor from beginning improvements. Both of these lots are part of subdivisions formed back in the early 70's and both my drilling contractor and others in the area say they are not affected by the order due to how water rights were surrendered at the time the subdivisions were formed with Nye Co./Pahrump township planning and zoning. Below is the

parcel information for both lots. I would like you to tell me definitively if I may proceed with drilling on these lots.

Parcel #1: Rock -N-Horse estates; APN #028-513-09 (1261 S. Meier Drive Pahrump, NV)

Parcel #2: Green Saddle Ranch; APN #045-284-17 (4030 E. Savoy Boulevard Pahrump, NV)

I look forward to your quick response concerning this issue. Thank you, Kevin Winsness - manager Dreamland Ranch LLC"

That email was responded to by Mr. Kryder as follows:

"Kevin,

Per our telephone discussion this morning, here are the results of research on the APNs you sent.

028-513-09 - Rock-N-Horse Estates, no record of relinquishment (this subdivision was recorded prior to this office having authority to approve subdivisions).

045-284-17 - Green Saddle Ranch, water was relinquished. No additional water dedication is required in order to be able to drill a domestic well.

If you have any additional questions, please contact me using the information below.

Best,

Levi

Levi Kryder

Water Use Specialist

Nevada Division of Water Resources - Hydrology Section"

142

From: Bernard Hoffman bernard90210@yahoo.com
Subject: Re: Affidavit
Date: January 24, 2018 at 6:47 PM
To: Pahrump Fair Water fairwater@landandmore.com



My name is Bernard Hoffman.

My Mailing address is: PO Box 480425, Los Angeles, CA 90048
My Office Address is 2210 Santa Monica Blvd. Suite E, Santa Monica, CA 90404

I have attached a list of properties that I believe are affected by Order 1293. In comprising the list, I first ascertained from the Division of Water Resources in writing (Levi Kryder, whom I believe works in same office as Jason King, Engineer, as Jason King was copied on the email I received) which properties from a very comprehensive list had Water Rights Relinquished and could at the present time still drill a Domestic Well, despite Order 1293. There were a total of 6 properties that had water rights relinquished and as such were not affected by Order 1293. **The attached list represents those properties that I believe were affected by the Order and exclude 6 properties that had Water Rights Relinquished to the State.**

Order 1293 will adversely affect me and the effect is not trivial or diminutive. I have been buying property in Pahrump since 1995. I believed in Pahrump from the beginning. There were articles in Nevada Review Journal, Wall Street Journal, Builder Magazine and the Los Angeles Times touting Pahrump. I have been buying property based on the representations of the Division of Water Resources, Brokers in the Community and County Offices that I would be able to drill a Domestic Well on these properties and be able to access 2 Acre Feet per year of Water. I was always told that there is an abundance of Water in Pahrump due to the Huge Aquifer. During the course of time since 1995, besides the initial investment I made into the Land that was purchased, I have spent about \$400,000 in property taxes. I have spent a few hundred thousand dollars on airline tickets, hotels, rent a cars and Mortgage payments on homes in Las Vegas, in order to monitor my investments, participate in Public Meetings, Volunteer my time in the Community (Was on Master Plan Land Use Committee For First Master Plan) and meet Brokers.

If Order 1293 is allowed to be upheld, it will adversely affect me in the following ways:

1. The money I have spent will have been spent in vain. The loss is even larger than it appears on its face. Property taxes, business expenses and costs of owning the land cannot be written off for

expenses and costs of owning the land cannot be written off for Income Tax purposes until the time of sale, as these are **unimproved properties**. Under IRS guidelines, only upon the sale of a property, can the associated expenses of owning the property be written off to offset any gain. I would have to sell my properties to even be able to utilize all the expenses I have incurred over the years since 1995. In other words, there has been zero economic benefit connected with the ownership of these properties, including a tax deduction. Order 1293 adversely affects the values of these properties. I have not had an appraisal to ascertain the value of the detriment suffered as a result of Order 1293, but I would estimate that the detriment would be in excess of what I paid for these properties. After up to 23 years of ownership, that is unconscionable.

2. The properties will take a huge hit in value and may not be marketable. My investments in Pahrump will be practically a total loss. In addition to spending money on the acquisitions and above referenced expenses, the immense effort and expenditure of time will have been a total waste. When this is coupled by the sneaky way this Order was implemented, by not giving notice, not giving time for people to perform, not providing any advanced warning, not notifying the owners of properties in writing of public meetings and not publishing notices in the Newspaper, it reeks of being deprived of due process and equal protection under the law. It also is a taking of my properties for which I have not received compensation, did not have a chance to oppose, did not have a chance to file a law suit and was deprived of my private property rights and due process under the law. The measure implemented by Jason King was Draconian, considering there was a more fair and balanced way to handle this, whereby all citizens would be treated equally.

3. I will not be able to develop these properties without the further expenditure for Water Rights, which may exceed what I paid for the properties.

Bernard Hoffman 310-704-2974

On Wednesday, January 24, 2018 4:54 PM, Pahrump Fair Water <fairwater@landandmore.com> wrote:

Hi Bernard,

Yes, the attorney is requesting the facts and once he receives what you wrote, he will put it in affidavit form and then send it back to have you notarize it.

Owned by Bernard Hoffman

- 8. APN 041-482-26 4700 West Retread_1 Acre
- 9. APN 041-441-06 4171 West Jasmine 1 Acre
- 13. APN 028-613-18 4211 West Tiger 1 Acre
- 14. APN 028-611-17 4351 West Jessee_ 1 Acre
- 15. APN 028-591-24 4420 Cody 1 Acre
- 16. APN 027-061-06 1131 Bat Rd. 20 Acres
- 24. APN 028-601-02 4380 West Elvira Rd. 2 Acres gross
- 27. APN 038-242-09 1750 East Wahkiakum Ave. 1 Acre
- 30. APN 045-113-03 5400 South Sunland Ave. 1 Acre
- 31. APN 045-113-04 5350 South Sunland Ave. 1 Acre
- 32. APN 045-461-57 9221 South Winston Court North 2.7 Acres
- 33. APN 045-151-13 5600 East Kellogg Rd. 5+ acres
- 34. APN 027-261-32 701 East Lock Way 2.5 Acres
- 35. APN 028-602-03 4420 Venus (2 Acres/2 Parcels)
- 36. APN 028-701-16 3610 Windson(2 Acres/2 Parcels)
- 40. APN 041-261-13 3920 South Lookout Ave.(1AC)
- 42. APN 027-101-41 420 West Pascoe Ave. 10.58 Acres
- 43. APN 027-201-16 7771 Koala Rd. 5 Acres
- 44. APN 027-201-25 7650 Koala Rd. 5 Acres
- 45. APN 027-211-21 680 East Miriam 10 Acres
- 46. APN 027-391-16 3260 North Woodchips 4.93 Acres
- 23. APN 028-121-04 1281 W Garnet Rd. Pahrump 2.2 Acres
- 24. APN 036-381-24 1530 W Nevada Hwy 372 Pahrump 4.4Acres
- 25. APN 027-331-04 4370 N Nevada Hwy 160 75.5 Acres
- 26. APN 027-421-05 2251 E Bell Vista Ave. Pahrump 151.5 Acres
- 27. APN 027-101-01 9871 N Linda St. Pahrump 82.1 Acres
- 28. APN 027-331-13 350 E. Desert Trails Blvd. Pahrump 38.5 Acres
- 35. APN 035-256-04 2281 E Kelly Way Pahrump 2.5 Acres
- 36. APN 038-011-03 900 N Corral St. Pahrump 1.8 acres
- 47. APN 027-461-22 3050 East Tortoise Hill Lane 1 Acre
- 52. APN 032-512-15 1200 East Simkins 1 Acre

Total Acreage= Approximately 441 Acres.....+-

Jan. 24, 2018

To: All concerned,

On 5/31/2017, we, Paul and Geneva Peck, completed a cash purchase of an approximate 1 acre parcel of land in Pahrump, Nevada.

The physical address of the property is: 1200 W. Geoffrey St. Pahrump, Nevada 89060.

The Parcel # is 041-572-26.

We currently live in our Pahrump home at 2600 W. Blosser Ranch Rd. Pahrump, Nevada 89060. Home Phone # (775) 432-0904, Cell Phone # (702) 592-3537.

We both will be 70 years old next year. The reason we purchased the land on Geoffrey St., was to possibly down-size from 2 1/2 acres, to a smaller and more managable piece of property, as our property now may be too much for us to maintain in the future.

On or about December 19, 2017 we saw in our local newspaper, The Pahrump Times, that the Nevada State Engineer had changed the requirements for having a well on suitable Pahrump properties. This change was unexpected by us, AND DONE WITH NO NOTICE. When we first considered buying the Geoffrey St. property, we confirmed with our Realtor, Marty Daffer, that the property could have a water well and septic system at the pre-vailing affordable installation costs.

We now have been advised by local Realtors and friends that the new state requirements would be that we would have to buy 2 water right shares at an approximate cost of \$10,000 or more for each water right, and that the rights would be relinquished to the State of Nevada, for a well to be installed on the property. This would cost \$20,000 or more, just for the water rights.

We believe that this new state requirement is, or will be, a severe hardship on not only us, but on all who want to move to Pahrump and build a home.


We also believe that this new requirement will drive away so many businesses, which may include Realtors, Construction Companies and workers, Mobile Home Sales businesses, and their installers etc., and many many more.

This new requirement will drive away businesses and jobs, in a community where they are the most critical.

We are very aware of the water shortages in various areas of this country, and we always do our part to keep water use to a minimum, and hope and pray that others do the same, but this new regulation is "NOT THE ANSWER".

We strongly suggest that this new State Regulation be rescinded, and other proper water saving proposals be considered, that do not have such a negative effect on so many people.

Respectfully submitted:


Paul and Geneva Peck

Attached you will find two refund checks from the State of Nevada Office of the Controller. The refund checks are for fees paid to the Division of Water Resources for Notice of Intent (NOI) to Drill Cards.

What I find interesting is the Las Vegas Office of the Division of Water Resources was told; after they had received our NOIs and CASHED THE CHECKS that they were directed by Jason King to deny the NOIs.

This flies in the face of Contract Law. To the point of obstruction.

Respectfully,

Debra Strickland, President
Strickland Construction Co., Inc.

DESCRIPTION	VOUCHER NUMBER	VOUCHER DATE	INVOICE NUMBER	INVOICE AMOUNT
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40077	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40078	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40079	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40080	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40081	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40082	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40083	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40084	25.00
EXCESS REMIT - NOI	70500001630669	01/23/18	E-NOI 40085	25.00

Division of Water Resources - Contact Julie Sermeno at (775) 684-2850
Your Ck #24531, refer to letter dated 12/29/17.

4ISC 705

STRICKLAND CONSTRUCTION CO INC

CHECK TOTAL:

\$225.00

THIS DOCUMENT HAS A VOID PANTOGRAPH, MICROPRINTING AND AN ARTIFICIAL WATERMARK.



3334145



STATE OF NEVADA
OFFICE OF THE CONTROLLER
CARSON CITY NV. 89701
(775) 684-5750

WELLS FARGO BANK, N.A.

VOID IF NOT PRESENTED FOR PAYMENT
TO STATE TREASURER WITHIN 180 DAYS
FROM THE DATE HEREON:

ACCOUNTS PAYABLE
WARRANT

DATE	WARRANT AMOUNT
01-24-18	*****\$225.00

Two hundred twenty five and 00/100 Dollars

PAY TO THE ORDER OF:
MISC 705
STRICKLAND CONSTRUCTION CO INC
5801 SOUTH HOMESTEAD ROAD
PAHRUMP NV 89048

Ronald L. Knecht
RONALD L. KNECHT - STATE CONTROLLER

Daniel M. Schwartz
DANIEL M. SCHWARTZ - STATE TREASURER

⑈0003334145⑈ ⑆041203824⑆ 9600171772⑈

STATE OF NEVADA
OFFICE OF THE CONTROLLER
CARSON CITY NV 89701

REMITTANCE ADVICE
705-00-DIV WATER RESOURCES

3333211

DESCRIPTION	VOUCHER NUMBER	VOUCHER DATE	INVOICE NUMBER	INVOICE AMOUNT
EXCESS REMIT - NOI	70500001629534	01/17/18	E-NOI 40075	25.00
EXCESS REMIT - NOI	70500001629534	01/17/18	E-NOI 40076	25.00
Division of Water Resources - Contact Julie Sermenio at (775) 684-2850				
Our Ck #24527 & 24528, refer to letter dated 12/29/17.				

ISC 705

STRICKLAND CONSTRUCTION CO

CHECK TOTAL:

\$50.00

THIS DOCUMENT HAS A VOID PANTOGRAPH, MICROPRINTING AND AN ARTIFICIAL WATERMARK.

3333211



STATE OF NEVADA
OFFICE OF THE CONTROLLER
CARSON CITY NV 89701
(775) 684-5750

56-382/412
WELLS FARGO BANK, N.A.

ACCOUNTS PAYABLE
WARRANT

VOID IF NOT PRESENTED FOR PAYMENT
TO STATE TREASURER WITHIN 180 DAYS
FROM THE DATE HEREON:

DATE	WARRANT AMOUNT
01-18-18	*****\$50.00

ifty and 00/100 Dollars

PAY TO THE ORDER OF:
MISC 705
STRICKLAND CONSTRUCTION CO
5801 SOUTH HOMELAND ROAD
PAHRUMP NV 89048

Ronald L. Knecht
RONALD L. KNECHT - STATE CONTROLLER

Daniel M. Schwartz
DANIEL M. SCHWARTZ - STATE TREASURER

0003333211 041203824 9600171772

Antonio Ruelas
1921 E Gamebird
Pahrump NV 89048
01/30/2018

whom it cocerns

Dear whom it cocerns:

I purchased a 2.1 acre parcel in October 27th of 2017 with the understanding that I could drill a domestic well. Now I'm told I have to purchase water rights witch I cannot afford the extra expense, my land has now lost value and I would take a great loss to sell it. So if I have to purchase water right I will use them by putting tree's etc.

My property is located 2161 E. Gamebird the APN# 044-121-17.

Sincerely,

A handwritten signature in black ink that reads "Antonio Ruelas". The script is cursive and fluid, with the first name "Antonio" being more prominent than the last name "Ruelas".

Antonio Ruelas

January 29, 2018

To whom it may concern:

We purchased this property in 2004 while we were both still working with plans to build a small retirement home.

In December 2017 we paid off our property and applied for a permit to drill a well. We were denied the permit.

This has caused a severe hardship for us. It has also rendered our property useless to resell or build on.

Robert and Joyce Harris
1361 Jornada Street
Pahrump, NV 89048

Property Location:

1130 West Huracan
Pahrump, Nv89048

Description: Lot number 20 in Block 26 of Calvada Valley Unit Number 5



Glenyce Berchtold <gsberchtold@gmail.com>

FAIR WATER

1 message

Derek Menard <dpmenard@msn.com>

Mon, Jan 29, 2018 at 9:04 AM

To: Derek Menard <dpmenard@msn.com>, Glenyce Berchtold <gsberchtold@gmail.com>

Derek Menard
2308 SE 20TH PL
Cape Coral, FL 33990

January 29, 2018

Pahrump Fair Water LLC

Access realty

To Whom It May Concern,

regarding parcel numbers

041-471-25 4730 W HORN RD.
041-472-30 4580 W DONNER ST.
041-482-11 4831 W WILSON RD
041-621-11 4430 W GRUBSTAKE LN

We bought these four lots with the idea of selling two and building homes on the other two quite a few years ago and we paid between \$35,000 and \$40,000 for them. For various reasons we were unable to move to Pahrump so we have been trying to sell them for quite a few years. we have been trying to get around \$12,000 each for them and aren't really finding any buyers, now you want to make it impossible to sell them at all. We were already looking at a over a \$100,000 loss. This new law would make them virtually worthless. We were hoping to recoup some of our loss. This new law would create even a larger hardship than we already are experiencing, the wilson lot is financed with Bank of America and we still owe around \$15,000 on it. They are still many lots in the neighbor hood in Pahrump, that are one acre or less that also would become worthless and wouldn't be improved. This would cause a blight for the people already in these areas to have nothing but empty foreclosed on lots.

When we bought these lots we were led to believe there was a large aqua fir in the valley so large in fact, Las Vegas was looking to buy water from Pahrump

Sincerely

Derek Menard

Christian Menard

Judy and James Snow
8553 W. Pool Court
Garden City, ID 83714

January 29, 2018

To Whom it May Concern:

Re: Well Drilling in Pahrump

We recently learned about Order 1293 restricting well drilling in Pahrump. We own vacant land that will need a well drilled in order to become usable property for a home. The lot is in a subdivision with many other homes. Restricting well drilling effectively makes this lot unsalable. It is useless without water.

The property in question is located at 4170 Jaybird, Parcel # 028-611-06, .9 acres in the subdivision Vegas Acres.

Please rescind this Order so that we may sell our lot.

Very truly yours,

Judy A. Snow
James E. Snow

From: Douglas Stine wrench395@gmail.com
Subject: Fwd:
Date: January 30, 2018 at 9:33 AM
To: fairwater@landandmore.com

DS

----- Forwarded message -----

From: Douglas Stine <wrench395@gmail.com>
Date: Sun, Jan 28, 2018 at 11:39 AM
Subject:
To: fairwater@landmore.com

Hi ! Norie Dinger said I need to let you know where we stand with our properties in Pahrump. Jennifer and I are Retired and I am Disabled from an injury in Afghanistan. We bought two pieces of property. One is APN 41-483-03 AKA 4581 W. Retread and APN 29-283-01 AKA 5220 N. Michelle Ave. We have had approval from the county for the michelle property since they approved our plot plan on 11/21/2017. We signed the contract to drill our well and septic on the michelle property with Jim Pike on 11/13/2017. Jason King denied our well permit on 12/19/2017. If you need copies of the plot plan and the contracts let me know. Jennifer and I have the power installed on the michelle property and the power line to the what would be the well head is in. The total expenses we are out on the michelle property if we cannot get a well is around \$20,000 less anything we could re-coup if sold. The Retread property we have a new driveway in with a culvert so were into that one \$9,000 less anything we could re-coup if sold. NO Water then WE CANNOT BUILD OUR RETIREMENT HOME HERE ! AND NO FURTHER INVESTMENT OR CONSTRUCTION. LOSS OF LAND VALUE AND REVENUE FOR EVERYONE... Yell that in their ear please SIR. We will have to sell and take my 1.3 million dollar retirement pay with me. This is screwing us bad. That's our position Sir. Pass that on Please :) Don't hesitate to invite us to any meetings. We are right here in town till we settle this. My Cell 541-213-8195. TY Douglas and Jennifer Stine

EXHIBIT 6

EXHIBIT 6

IN THE SUPREME COURT OF THE STATE OF NEVADA

EUREKA COUNTY; DIAMOND
NATURAL RESOURCES
PROTECTION & CONSERVATION
ASSOCIATION; AND JASON KING,
P.E., NEVADA STATE ENGINEER,
DIVISION OF WATER RESOURCES,
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES,

Petitioners,

vs.

THE SEVENTH JUDICIAL DISTRICT
COURT OF THE STATE OF NEVADA,
IN AND FOR THE COUNTY OF
EUREKA, and THE HONORABLE
GARY D. FAIRMAN, DISTRICT
COURT JUDGE,

Respondents,

and

SADLER RANCH, *et al.*,
Real Parties in Interest.

Electronically Filed
May 10 2017 02:44 p.m.
Elizabeth A. Brown
Clerk of Supreme Court

Case No. 72317

NEVADA STATE ENGINEER'S REPLY

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Pursuant to this Court's March 16, 2017, April 4, 2017, and April 25, 2017, Orders Jason King, P.E., Nevada State Engineer, Division Of Water Resources, Department Of Conservation And Natural Resources (hereafter "State Engineer") hereby submits this Reply to the Answers to the Verified Petition for Writ of Prohibition, or, in the Alternative, Writ of Certiorari or Mandamus filed by the Real Parties in Interest Roger B. and Judith B. Allen and Sadler Ranch, LLC. The State Engineer joins the legal arguments set forth in Eureka County and Diamond Natural Resource Protection & Conservation Association's (hereafter "DNRPCA") Reply in Support of Verified Petition for Writ of Prohibition or in the Alternative, Writ of Certiorari or Mandamus, as well as the additional points and authorities attached hereto.

I. INTRODUCTION

Real Parties in Interest, Sadler Ranch, LLC ("Sadler"), Roger B. and Judith B. Allen (collectively "the Allens"), and the Seventh Judicial District Court (hereafter "District Court") ignore the basic tenants of Nevada water law in their proposition that due process is not required at the initial stage of this action, when the District Court determines

whether curtailment is required in the Diamond Valley Hydrographic Basin No. 153 (hereafter “Diamond Valley”). In order to ensure that due process has been afforded to all interested and impacted parties, when curtailment is at issue, notice and the opportunity to be heard must be afforded to all appropriators of the relevant water source in a basin. That notice must be had when the decision of *whether* curtailment is necessary is being made. Unlike a traditional curtailment where the State Engineer has already predetermined the threshold priority date, which will determine which water rights may be subject to curtailment, as part of the decision of whether to curtail, the pertinent priority date in Diamond Valley has not been determined and will not be determined before this initial hearing. However, in Nevada, as a prior appropriation state, the *who* will be curtailed is already predetermined by their priority date. The only question left, is what that date will be. Furthermore, contrary to the arguments advanced by Sadler, in a prior appropriation system like Nevada, there is no authority to deviate from the priority system if straight curtailment is ordered, regardless of *why* a water right holder thinks their specific water rights should not be curtailed. Prior appropriation is

straightforward, if a water right holder has a water right with a priority date after the cutoff date; prior appropriation requires that those junior rights be curtailed.

Waiting until after that decision has been made violates the rights of those water right holders, who have not been provided notice and an opportunity to participate in the initial decision to determine *whether* curtailment will be ordered, to a full and fair hearing on the matter, a rule rooted in due process. *Eureka Cnty v. State Eng'r*, 131 Nev. Adv. Op. 84, 359 P.3d 1114, 1120 (2015) (citing *Revert v. Ray*, 95 Nev. 782, 787, 603 P.2d 262, 264 (1979)). If the State Engineer independently decided to issue a curtailment order in Diamond Valley, the State Engineer is statutorily obligated to first provide notice to all appropriators in the basin by giving them an opportunity to be heard and allowing them to review the evidence upon which a proposed order was made. This allows all parties, whether supporting or opposing curtailment, with due process. Incorrectly, Sadler, the Allens and the District Court assume that the District Court may hold a hearing, to determine *whether* curtailment will be ordered in Diamond Valley, *without* providing notice and an opportunity to be heard, and that the

absence of notice does not violate due process rights. The District Court's refusal to provide the required due process notice to all appropriators within the Diamond Valley Hydrographic Basin can only be remedied through this writ proceeding.

II. ARGUMENT

A. The Writ Of Prohibition Or In The Alternative Writ Of Certiorari Or Mandamus Is A Proper Method To Ensure Due Process Has Been Afforded To Those Affected By Curtailment Before The Decision Of *Whether* Curtailment Will Be Ordered Is Made, Not Afterward

Extraordinary writ relief is warranted in this case. The State Engineer, Eureka County, and the DNRPCA should not have to wait until the District Court holds a week-long evidentiary hearing and issues an order determining *whether* or not he will order the State Engineer to begin curtailment proceedings, before they can seek relief from this Court to correct that error. *See Humphries v. Eighth Jud. Dist. Ct.*, 129 Nev. Adv. Op. 85, 312 P.3d 484, 486–87 (2013); *Lund v. Eight Judicial Dist. Court*, 127 Nev. 358, 363, 255 P.3d 280, 284 (2011) (citing *In re Simons*, 247 U.S. 231, 239–40, 38 S. Ct. 497, 62 L. Ed. 1094 (1918) (concluding that extraordinary writ relief was warranted because a legal error affected the course of the litigation and the party aggrieved

should not have to wait until the final judgment was entered to correct the error)).

1. Prior appropriation does not allow the District Court or the State Engineer to provide relief from curtailment

Nevada follows the doctrine of prior appropriation. *Desert Irr., Ltd. v. State*, 113 Nev. 1049, 1051, 944 P.2d 835, 837 (1997). As a state following the doctrine of prior appropriation, water rights are arranged in priority based upon the type of water right, for example, for a pre-statutory vested water right it is either the date the water was placed to beneficial use or in some cases, under the doctrine of relation back, the date the works of appropriating were initiated, the date of the appropriation for the federal reclamation project; the date the application was filed with the State Engineer, or the date the domestic well was completed. NRS 533.085-090; NRS 533.037; NRS 534.080(3) & (4). During times of curtailment, the water right holders with the lowest priority, *i.e.*, the most recent date in time upon which the water was appropriated, will be the first appropriators to be curtailed. NRS 534.110(6). Unlike other states that have exemptions from proceeding with strict priority, Nevada does not exempt any

category of water use from curtailment. *Cf.* Idaho Code Ann. § 42-111; Idaho Code Ann. § 42-1401(A)(12); IDAPA Rule 37.03.11.20.11 (Idaho exempts domestic and stock water from curtailment, *i.e.*, delivery calls). When curtailment is determined to be necessary under NRS 534.110(6), “the State Engineer may order that withdrawals, including, without limitation, withdrawals from domestic wells, be restricted to conform to priority rights.” NRS 534.110(6). Based upon curtailment under Nevada’s strict priority system, all water rights and users, including domestic wells, will be curtailed based solely upon their priority date.

As such, the District Court’s finding that:

At this future proceeding due process rights would necessarily attach and all possibly affected appropriators would have a constitutional right to receive notice of the action. Possibly affected appropriators could then appear and argue *why their specific water rights should not be curtailed*. October 26, 2016, Order at 4.

is an inaccurate statement of Nevada law. Once the decision *whether* to curtail is made, the *who* will have already been determined by the priority date of the water right. There is no legal authority to permit either the District Court, or the State Engineer, to consider *why* certain water rights should not be curtailed or to permit certain appropriators

to argue that, irrespective of their priority date, their water right should not be curtailed. Curtailment by straight priority does not permit either the District Court or the State Engineer to deviate from curtailing all groundwater rights by priority.

2. All water rights are entitled to due process, not merely senior water rights as asserted by Sadler

There is no question that water rights in Nevada are treated as real property. *See Application of Filippini*, 66 Nev. 17, 22, 202 P.2d 535, 537 (1949). As real property, water rights are subject to the Fourteenth Amendment of the United States Constitution and Article 1, Section Eight of the Nevada Constitution, which protects individuals against the deprivation of their property by the government without due process. U.S. Const. amend. XIV, § 1; Nev. Const. art. 1, § 8(5). The fundamental requisite of due process is notice and the opportunity to be heard. *Browning v. Dixon*, 114 Nev. 213, 217, 954 P.2d 741, 743 (1998) (citing *Grannis v. Ordean*, 234 U.S. 385, 394, 34 S. Ct. 779, 783, 58 L. Ed. 1363 (1914)). “This right to be heard has little reality or worth unless one is informed that the matter is pending and can choose for himself whether to appear or default, acquiesce or contest.” *Id.* (citing *Mullane v. Central Hanover Bank & Trust Co.*, 339 U.S. 306,

314, 70 S. Ct. 652, 657, 94 L. Ed. 865 (1949). *See also Marvin v. Fitch*, 126 Nev. 168, 177, 232 P.3d 425, 431 (2010) (“Notice is a fundamental requisite of due process that is employed as a procedural safeguard in any judicial action.”)); *Nicoladze v. First Nat. Bank of Nevada*, 94 Nev. 377, 378, 580 P.2d 1391, 1391 (1978) (citing *Clark Co. Sports Enterprises v. Kaighn*, 93 Nev. 395, 566 P.2d 411 (1977) (“Fundamental due process requires that a person against whom a claim is asserted in a judicial proceeding have an opportunity to be heard and present his defenses.”)).

As water rights are considered real property, and due process is required, a fundamental principal found throughout Nevada water law is the requirement to provide notice. *See* NRS 533.095, 533.110, 533.305, 533.425, 534.035, 534.080, 534.125. Nevada water law requires these notices to ensure that water right holders’ due process rights are protected and they are granted a full opportunity to be heard before any action is taken that may affect their rights. *Revert*, 95 Nev. at 787, 603 P.2d at 264. Nevada water law also allows for the right and ability to challenge the evidence upon which the State Engineer’s

decision may be based before a final decision. *Id.*, *See also Eureka Cnty. v. State Eng’r*, 131 Nev. Adv. Op. 84, 359 P.3d 1114, 1120 (2015).

In the *Eureka County* decision, this Court found that the State Engineer could not preliminarily grant an application, but leave a determination on a monitoring, management, and mitigation plan (“3M”) to a later day. *Id.* In order to ensure due process was afforded to those affected by not only the application, but also a subsequent 3M plan, this Court held the State Engineer could not approve the underlying applications, without first addressing what the 3M plan would entail. “In other words, challenging the sufficiency of a later developed mitigation plan cannot undo a decision to grant applications for a proposed use or change that may have been erroneous.” *Id.*

Here, the question of *whether* curtailment will be ordered is similar to the initial granting of the application in Eureka County. The District Court is being asked to answer that question, without full participation of those who will be affected by the decision. Furthermore, including those individuals who may be affected by the decision, after the fact, will not allow them to undo the decision to curtail water rights in Diamond Valley. Those individuals will be

stripped of their ability to appeal any decision of the District Court, as they are not parties to this action. “In Nevada, a person or entity is not a party within the meaning of NRAP 3A(a) unless that person or entity has been served with process, appeared in the court below and has been named as a party of record in the trial court.” *Valley Bank of Nevada v. Ginsburg*, 110 Nev. 440, 448, 874 P.2d 729, 735 (1994) (citing *Garaventa Co. v. Dist. Court*, 61 Nev. 350, 354, 128 P.2d 266, 267–68 (1942)). Furthermore, unlike an appeal of the State Engineer’s decision, NRS 533.450 will not apply. The appropriate course of action to ensure due process has been afforded to all appropriators in Diamond Valley, by requiring notice be given to them and grant an opportunity for them to be heard, before the ultimate decision of *whether* curtailment will be ordered is made.

All appropriators need to be noticed, as the second question the District Court has bifurcated for a potential later proceeding, what extent curtailment will occur, cannot be answered at this time. In recent years, the State Engineer has issued mitigation groundwater rights to Sadler and other pre-statutory vested surface-water right holders, whose surface-water flows have declined pursuant to the State

Engineer's March 26, 2013, Order No. 1226. Domestic well information must be included as NRS 534.110(6) was amended in 2011 to explicitly include them in times of curtailment. A.B. 419, ch. 265, § 3, 2011 Nev. Stat. 1386-1387.

Furthermore, the State Engineer is still engaged in processing proofs of pre-statutory vested water right claims which have been submitted to his office as a part of the full adjudication of the Diamond Valley Hydrographic Basin. The State Engineer cannot finalize the priority list until all mitigation rights, domestic wells, and vested water rights have been determined. Therefore, at this point in time, all water right holders must be afforded notice and an opportunity to be heard, before the District Court decides the question before it—*whether* curtailment of groundwater pumping within the Diamond Valley Hydrographic Basin will be ordered. This ensures that those objecting to or those supporting curtailment are afforded their due process right to notice, opportunity to be heard, and an opportunity to review the evidence before the decision is rendered.

Sadler, the Allens and the District Court have ignored the fact regardless once the District Court determines *whether* curtailment has

been ordered, and the threshold curtailment date is set, anyone who has a priority date junior to that cutoff date, will have no recourse to challenge the District Court order if it determined *whether* curtailment was required. Priority means just that, water rights with a priority date after the curtailment determination will be cut off. NRS 534.110(6). The notice and opportunity to be heard must be given before a decision is made on *whether* curtailment is ordered; not after the fact when *who* will be curtailed is decided.

Furthermore, due process is required regardless of whether the water right has a junior or senior priority. There is no support for Sadler's claim that, as junior water right holders, these individuals are not entitled to due process before curtailment has been ordered. Waiting until after curtailment has been ordered, renders any notice or an opportunity to be heard meaningless, regardless of whether a water right is considered a junior or a senior water right.

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3. The District Court must provide the same due process protection to all water right holders that the State Engineer would be required to provide notice before he issued an order determining whether to curtail a basin

This Court has clearly found that the State Engineer is required to provide notice and an opportunity to be heard, including the right and ability to challenge the evidence upon which the State Engineer's decision may be based, before the final decision. *Revert v. Ray*, 95 Nev. 782, 787, 603 P.2d 262, 264 (1979). If the State Engineer decided to issue an order curtailing water rights in Diamond Valley, which he has not done in light of the Critical Management Area designation for the basin, the State Engineer would provide notice to all water right holders within Diamond Valley, and would provide an opportunity to be heard and to examine or challenge the evidence presented in support of curtailment, all before the State Engineer issued a curtailment order in the basin. NRS 533.360; NRS 534.110(6). That order would also be subject to an appeal and the State Engineer's discretionary decision whether to curtail or not would be subject to appellate review. NRS 533.450.

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There is no exception to due process protection. The District Court, is being asked to make the decision in lieu of the State Engineer and should be required to comply with these due process protections before it determines *whether* to order curtailment in Diamond Valley, even though the request to curtail has come in the form of a writ petition.

B. Although The Allens Are Correct That Due Process And Statutory Interpretation Are “Pure Questions Of Law,” The District Court Has Nevertheless Ordered An Evidentiary Hearing

The District Court is holding a week-long evidentiary hearing, not oral arguments on a pure question of law. The parties in this action are preparing to provide testimony and evidence through witnesses as part of the Order to Show Cause. For example, through its appendix, Sadler has provided this Court with most, if not all of the evidence it provided the District Court as part of its amended petition for curtailment. The Allen’s portrayal of this week-long hearing, being subject merely to a question of law, but ignoring the fact that the Court is nevertheless holding an evidentiary hearing, is disingenuous.

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C. Sadler's Answer Attempts To Avoid The True Issue, Lack Of Due Process To Those Groundwater Right Holders Who Will Be Affected By The Potential Order By Asserting That The State Engineer Has Unclean Hands

Sadler's Answer has inappropriately tried to expand the writ filed by Eureka County and DNRPCA and joined by the State Engineer, by including arguments and exhibits made in the underlying case in its Sadler Ranch, LLC's Appendix. Sadler's arguments and exhibits distract this Court from the actual subject matter of the Writ Petition; that is, whether due process requires the groundwater right holders in Diamond Valley to be given notice and an opportunity to be heard.

Since Sadler purchased its property in 2011, Sadler has filed four, on-going, actions against the State Engineer, including the underlying petition for curtailment in Diamond Valley. *See Sadler Ranch, LLC v. State Engineer*, Seventh Judicial District Court, Case No. CV 1409-204 (mitigation water rights case); *Sadler Ranch, LLC v. State Engineer, et al.*, Nevada Supreme Court Case No. 72534, Seventh Judicial District Court, Case No. CV 1409-213 (request for private adjudication of Sadler's springs); *Sadler Ranch, LLC v. State Engineer*, First Judicial District Court, Case No. 17 OC 00018 1B) (writ of mandate for public

records); *Sadler Ranch, LLC v. State Engineer*, Seventh Judicial District Court, Case No. CV 1409-518 (Petition for Curtailment in Diamond Valley). Throughout these various cases, Sadler portrays itself as a victim of the actions of the State Engineer. However, Sadler has asked for specific relief from the State Engineer numerous times and has been granted many of its requests.

This begs the question, why did Sadler not directly seek curtailment from the State Engineer before filing the petition for curtailment in the District Court? Had Sadler done so, the State Engineer would have entertained its request as he has Sadler's other requests. The State Engineer would have potentially held hearings to determine whether curtailment was warranted as he has done with Sadler's other requests. The State Engineer would have issued a decision, which could have led to an appeal under NRS 533.450. However, the State Engineer would have provided notice and an opportunity to be heard to all affected appropriators in Diamond Valley before doing so, notice and an opportunity to be heard that Sadler does not want to give its neighbors.

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Unlike the individuals whose water rights Sadler wishes to curtail, Sadler has not and is not being deprived of its due process. Sadler has been granted mitigation water to offset the loss of its claimed springs rights, which is presently under a second petition for judicial review before the District Court to determine if the amount of water allocated by the State Engineer is correct. Sadler's vested water right claims are being adjudicated through an adjudication re-initiated pursuant to State Engineer's Order No. 1263. Sadler's ability to use its surface water, groundwater and mitigation water rights has not and will not be impacted if due process rights are afforded to those that will be affected by the District Court's decision on *whether* curtailment will be ordered. Sadler is not the victim which it seeks to portray itself. And it is not the State Engineer who has deprived Sadler or its recently acquired historic ranch of water, contrary to Sadler's representations.

The current State Engineer is being diligent in the management of the Diamond Valley Hydrographic Basin. The State Engineer issued Order No. 1226 allowing for mitigation water rights in direct response to issues raised by Sadler; Order No. 1263 reinstating the full adjudication of Diamond Valley; and Order No. 1264 designating

Diamond Valley as a Critical Management Area under NRS 534.110(7), and has actively participated in the groundwater management plan process through senior staff. These actions alone refute Sadler's claim that the State Engineer is knowingly and consciously failing to protect senior vested rights in Diamond Valley. Sadler's attempt to manipulate the facts to elicit sympathy from this Court and distract the focus from the actual issue raised by means of the writ petition should be disregarded.

III. CONCLUSION

The State Engineer respectfully requests this Court grant the petition and issue a writ prohibiting the District Court from proceeding until all Diamond Valley appropriators are provided constitutionally sufficient notice and an opportunity to be heard at the show cause hearing.

RESPECTFULLY SUBMITTED this 10th day of May, 2017.

ADAM PAUL LAXALT
Attorney General

By: /s/ Justina A. Caviglia
JUSTINA A. CAVIGLIA
Deputy Attorney General

CERTIFICATE OF SERVICE

I certify that I am an employee of the Office of the Attorney General and that on this 10th day of May, 2017, I served a copy of the foregoing NEVADA STATE ENGINEER'S REPLY, by electronic service to:

Karen A. Peterson, Esq.
Willis M. Wagner, Esq.
ALLISON MACKENZIE, LTD.

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
Rachel L. Wise, Esq.
TAGGART & TAGGART, LTD.

Theodore Beutel, Esq.
EUREKA CO. DIST. ATTORNEY

Alex J. Flangas, Esq.
HOLLAND & HART LLP

Robert William Marshall, Esq.
Gregory H. Morrison, Esq.
PARSONS BEHLE & LATIMER

Debbie A. Leonard, Esq.
Michael A. T. Pagni, Esq.
MCDONALD CARANO WILSON

and by placing said document in the U.S. Mail, postage prepaid, addressed to:

Gary D. Fairman, District Judge
SEVENTH JUDICIAL DISTRICT COURT
Post Office Box 151629
Ely, Nevada 89315

/s/ Dorene A. Wright

1 Case No. CV38972

2 Dept. No. 2

3

4

5

6

IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA

7

IN AND FOR THE COUNTY OF NYE

8

9

PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

10

Petitioner,

11

vs.

12

JASON KING, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

13

14

15

16

Respondent.

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Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer, Department of Conservation and Natural Resources, Division of Water Resources (hereafter "Nevada State Engineer"), by and through counsel, Nevada Attorney General Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy Justina A. Caviglia and Petitioner Pahrump Fair Water, LLC., by and through counsel Paul G. Taggart and David H. Rigdon of Taggart & Taggart do hereby stipulate and agree to extend the time for the State Engineer to file his response to Petitioner's Motion for Stay of Nevada State Engineer Order No. 1293 until February 23, 2018.

///

///

///

///

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

AFFIRMATION

The undersigned does hereby affirm that the preceding Stipulation to Extend Time to Oppose Motion for Stay does not contain the social security number of any person.

Dated this 15th day of February, 2018.

Dated this 15th day of February, 2018.

TAGGART & TAGGART, LTD.

ADAM PAUL LAXALT
Attorney General

By: 

By: 

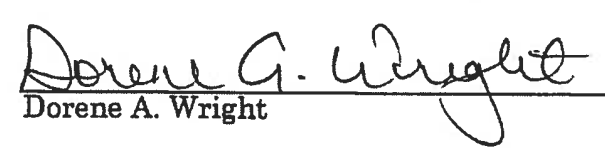
PAUL G. TAGGART
Nevada Bar No. 6136
DAVID H. RIGDON
Nevada Bar No. 13567
108 North Minnesota Street
Carson City, Nevada 89703
T: (775) 882-9900
F: (775) 883-9900
E: paul@legaltnt.com
david@legaltnt.com
Attorney for Petitioner,
Pahrump Fair Water, LLC

MICHELINE N. FAIRBANK
Senior Deputy Attorney General
Nevada Bar No. 8062
JUSTINA A. CAVIGLIA
Deputy Attorney General
Nevada Bar No. 9999
100 North Carson Street
Carson City, Nevada 89701-4717
T: (775) 684-1225
F: (775) 684-1108
E: mfairbank@ag.nv.gov
jcaviglia@ag.nv.gov
Attorney for Respondent,
Nevada State Engineer

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 15th day of February, 2018, I served a true and correct copy of the foregoing STIPULATION TO EXTENSION TIME TO OPPOSE MOTION TO STAY, by placing said document in the U.S. Mail, postage prepaid, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

1 Case No. CV38972

2 Dept. No. 2

3

4

5

6 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF NYE

8

9 PAHRUMP FAIR WATER, LLC.,
10 a Nevada limited-liability company,

Petitioner,

11 vs.

12 JASON KING, P.E., Nevada State
13 Engineer, DIVISION OF WATER
14 RESOURCES, DEPARTMENT OF
15 CONSERVATION AND NATURAL
16 RESOURCES,

Respondent.

PROPOSED
ORDER GRANTING
STIPULATION TO EXTEND TIME
TO OPPOSE MOTION FOR STAY

17 Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer,
18 Department of Conservation and Natural Resources, Division of Water Resources
19 (hereafter "Nevada State Engineer"), by and through counsel, Nevada Attorney General
20 Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy
21 Justina A. Caviglia, hereby files this Proposed Order Granting Stipulation to Extend
22 Time to Oppose Motion for Stay. The Proposed Order is attached hereto as Exhibit 1.

23 ///

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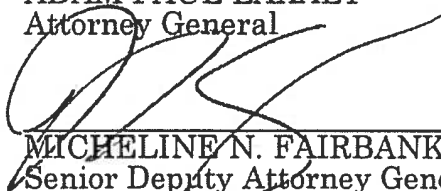
AFFIRMATION

The undersigned does hereby affirm that the preceding Proposed Order Granting Stipulation to Extend Time to Oppose Motion for Stay does not contain the social security number of any person.

DATED this 15th day of February, 2018.

ADAM PAUL LAXALT
Attorney General

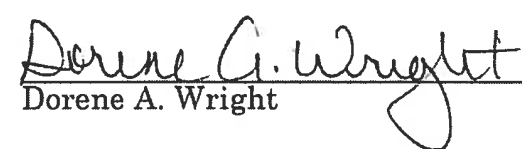
By:


MICHELINE N. FAIRBANK
Senior Deputy Attorney General
Nevada Bar No. 8062
JUSTINA A. CAVIGLIA
Deputy Attorney General
Nevada Bar No. 9999
100 North Carson Street
Carson City, Nevada 89701-4717
T: (775) 684-1225
F: (775) 684-1108
E: mfairbank@ag.nv.gov
jcaviglia@ag.nv.gov
Attorney for Respondent,
Nevada State Engineer

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 15th day of February, 2018, I served a true and correct copy of the foregoing PROPOSED ORDER GRANTING STIPULATION TO EXTEND TIME TO OPPOSE MOTION FOR STAY, by placing said document in the U.S. Mail, postage prepaid, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

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INDEX OF EXHIBITS

EXHIBIT No.	EXHIBIT DESCRIPTION	NUMBER OF PAGES
1.	Order Granting Stipulation to Extend Time to Oppose Motion for Stay	1

EXHIBIT 1

EXHIBIT 1

1 Case No. CV38972

2 Dept. No. 2

3

4

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6

IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA

7

IN AND FOR THE COUNTY OF NYE

8

9

PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

10

Petitioner,

11

vs.

12

13

JASON KING, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

14

15

Respondent.

16

17

Pursuant to the Stipulation to Extend Time to Oppose Motion for Stay submitted
by the Parties,

18

19

IT IS HEREBY ORDERED that the State Engineer shall have until February 23,
2018, to file his response to Petitioner's Motion for Stay of Nevada State Engineer Order
No. 1293.

20

21

22

ORDERED this _____ day of February, 2018.

23

24

DISTRICT JUDGE

25

SUBMITTED BY:
ADAM PAUL LAXALT

26

Attorney General
MICHELINE N. FAIRBANK
Senior Deputy Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

27

28

T: (775) 684-1225
E: mfairbank@ag.nv.gov

FEB 16 2018

Nye County Clerk
DEBRA BENNETT Deputy

IN THE FIFTH JUDICIAL DISTRICT COURT OF
THE STATE OF NEVADA, IN AND FOR NYE COUNTY

PAHRUMP FAIR WATER, LLC, a
Nevada limited-liability company,

Petitioner,

vs.

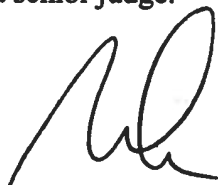
Jason King, P.E., Nevada State Engineer,
DIVISION OF WATER RESOURCES,
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

Respondent.

ORDER OF RECUSAL

On January 18, 2018, Petitioner filed a Petition for Judicial Review in the above matter. After review of the file, the Court finds that it should recuse in order to avoid an appearance of bias and impartiality. Judge Lane has been a resident of Pahrump for many years and has friends and family members who will be affected by the outcome of this litigation. While Judge Lane has no actual bias in this matter, to avoid the appearance of any bias or impropriety, and to promote the integrity and independence of the judicial system, the Court hereby assigns this matter to a senior judge.

DATED this 16th day of February, 2018.



ROBERT W. LANE
DISTRICT COURT JUDGE






CERTIFICATION OF SERVICE

The undersigned hereby certifies that on the 16th day of February, 2018, he mailed copies of the foregoing Order of Recusal to the following:

PAUL G. TAGGART, ESQ.
108 North Minnesota Street
Carson City, NV 89703

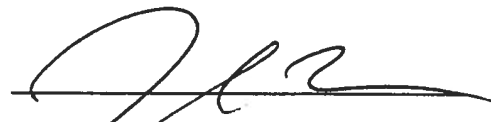
JASON KING, P.E.
NEVADA DIVISION OF WATER RESOURCES
901 South Stewart Street, Suite 2002
Carson City, NV 89701

MICHELINE N. FAIRBANK, ESQ.
Nevada Attorney General's Office
100 N. Carson St.
Carson City, NV 89701


Jared K. Lam, Esq.
Law Clerk to Judge Robert W. Lane

AFFIRMATION

The undersigned hereby affirms that this Court Order does not contain the social security number of any person.


Jared K. Lam, Esq.
Law Clerk to Judge Robert W. Lane

FILED
FIFTH JUDICIAL DISTRICT

FEB 20 2018

FIFTH JUDICIAL DISTRICT COURT
NYE COUNTY, NEVADA

Nye County Clerk
Deputy

Pahrump Fair Water, LLC, a Nevada limited-
liability company,
Petitioner,
VS
Jason King, P.E., Nevada State Engineer,
Division of Water Resources, Department of
Conservation and Natural Resources,
Respondent

Case No. CV38972
Dept. No. 2

NOTICE OF DEPARTMENT
REASSIGNMENT

NOTICE IS HEREBY GIVEN that the above-entitled action has been
reassigned from the Honorable Judge of Department No. 2 Robert W. Lane to Honorable
Judge of Department No. 1, Kimberly A. Wanker.

This case has been reassigned for the following reason:

- (X) Peremptory Challenge of Judge: Case No. CV38972
() Recusal
() Companion
() Other

Please reference case number as CV38972A and Department No. 1 for all future filings.

Dated this 20th day of February.

Sandra L. Merling, County Clerk

By: _____

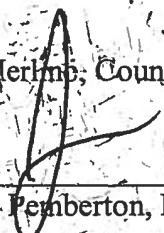
Deputy Clerk

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4 I hereby certify that on May 26, 2017, the parties were given a copy of this Notice by:

5 (X) U.S. Mail
6 () Via Email
7 () Fax
8 () Hand Delivery

9 Paul G. Taggart, ESQ
10 108 N. Minnesota Street
11 Carson City, NV 89703

12
13 Sandra L. Merlino, County Clerk

14 By: 
15 Terri Pemberton, Deputy Clerk
16
17
18
19
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FEB 20 2018

Nye County Clerk

~~Terri Pemberton~~ Deputy

1 PAUL G. TAGGART, ESQ.
Nevada State Bar No. 6136
2 DAVID H. RIGDON, ESQ.
Nevada State Bar No. 13567
3 TAGGART & TAGGART, LTD.
108 North Minnesota Street
4 Carson City, Nevada 89703
5 (775) 882-9900 – Telephone
(775) 883-9900 – Facsimile
6 Attorneys for Petitioner

7 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA

8 IN AND FOR THE COUNTY OF NYE

9 * * *

10 PAHRUMP FAIR WATER, LLC, a Nevada
limited-liability company,

11 Petitioner,

12 vs.

13 JASON KING, P.E., Nevada State Engineer,
14 DIVISION OF WATER RESOURCES,
DEPARTMENT OF CONSERVATION AND
15 NATURAL RESOURCES,

16 Respondent.
17

CASE NO.: CV38972

DEPT. NO.: 2

18 **PEREMPTORY CHALLENGE OF JUDGE**

19 COMES NOW, PAHRUMP FAIR WATER, LLC (hereinafter "PFW"), by and through its
20 counsel of record, PAUL G. TAGGART, ESQ. and DAVID H. RIGDON, ESQ., of the law firm of
21 TAGGART & TAGGART, LTD., and hereby files for a change of District Judge, Robert W. Lane, by
22 Peremptory Challenge, pursuant to S.C.R. 48.1.

23 ///

24 ///

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27
28

Taggart & Taggart, Ltd.
108 North Minnesota Street
Carson City, Nevada 89703
(775) 882-9900 – Telephone
(775) 883-9900 – Facsimile

Taggart & Taggart, Ltd.
108 North Minnesota Street
Carson City, Nevada 89703
(775) 882-9900 - Telephone
(775) 883-9900 - Facsimile

AFFIRMATION
Pursuant to NRS 239B.030

The undersigned does hereby affirm that the preceding document does not contain the social security number of any persons.

DATED this 15th day of February, 2018.

TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703
(775) 882-9900 - Telephone
(775) 883-9900 - Facsimile

By: 

PAUL G. TAGGART, ESQ.
Nevada State Bar No. 6136
DAVID H. RIGDON, ESQ.
Nevada State Bar No. 13567
Attorneys for Petitioner

Taggart & Taggart, Ltd.
108 North Minnesota Street
Carson City, Nevada 89703
(775)882-9900 ~ Telephone
(775)883-9900 ~ Facsimile

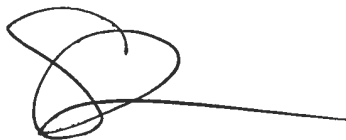
CERTIFICATE OF SERVICE

Pursuant to NRCP 5(b) and NRS 533.450, I hereby certify that I am an employee of TAGGART & TAGGART, LTD., and that on this date I served, or caused to be served, a true and correct copy of the foregoing, as follows:

[X] By U.S. POSTAL SERVICE: I deposited for mailing in the United States Mail, with postage prepaid, an envelope containing the above-identified document, at Carson City, Nevada, in the ordinary course of business, addressed as follows:

Micheline N. Fairbank, Esq.
Justina A. Caviglia, Esq.
Nevada Attorney General's Office
100 N. Carson St.
Carson City, NV 89701

DATED this 16th day of February, 2018.



Employee of TAGGART & TAGGART, LTD.



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Case No. CV 38972
Dept. 1

FILED
FIFTH JUDICIAL DISTRICT
FEB 21 2018

Nye County Clerk
Juanita Torres Deputy

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF
THE STATE OF NEVADA, IN AND FOR THE COUNTY OF NYE

PAHRUMP FAIR WATER, LLC.,
a Nevada Limited Liability
Company,

Petitioner,

vs.

JASON KING, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

Respondent.

**ORDER OF RECUSAL
AND REASSIGNMENT**

On February 16, 2018, Judge Lane filed an Order of Recusal and assigned this case
to a Senior Judge.

Judge Wanker is a landowner with a domestic well, and is directly impacted by the
Order 1293.

Therefore, Judge Wanker hereby recuses herself from this matter and requests a
Senior Judge be assigned to this case.

DATED this 21 day of February 2018.


KIMBERLY A. WANKER
DISTRICT COURT JUDGE



CERTIFICATION OF SERVICE

The undersigned hereby certifies that on the 21 day of February 2018, she sent
via U.S. mail copies of the foregoing **ORDER** to the following:

Micheline N. Fairbank,
Senior Deputy Attorney General
100 N. Carson St.
Carson City, NV 89701

Paul Taggart, Esq.
108 N. Minnesota St.
Carson City, NV 89703

Christel Raimondo
CHRISTEL RAIMONDO, Clerk to
DISTRICT COURT JUDGE

AFFIRMATION

The undersigned hereby affirms that this Court Order does not contain the social
security number of any person.

Christel Raimondo
CHRISTEL RAIMONDO, Clerk to
DISTRICT JUDGE

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-FILED-
Administrative Office of the Courts
Date: 02/22/18

By: Deborah C. [Signature]

**SUPREME COURT OF THE STATE OF NEVADA
ADMINISTRATIVE OFFICE OF THE COURTS**

IN THE MATTER OF THE ASSIGNMENT OF
A SENIOR JUDGE

Order No. 18-00607

MEMORANDUM OF TEMPORARY ASSIGNMENT

WHEREAS all district judges in the Fifth Judicial District have recused themselves from hearing any and all matters in *Pahrump Fair Water v. Jason King, P.E., Nevada State Engineer, Division of Water Resources, Department of Conservation and Natural Resources*, Case Number CV 38972, now therefore,

IT IS HEREBY ORDERED that the Honorable Steven Elliott, Senior Judge, is assigned to hear any and all matters in *Pahrump Fair Water v. Jason King, P.E., Nevada State Engineer, Division of Water Resources, Department of Conservation and Natural Resources*, Case Number CV 38972, and he shall have authority to sign any orders arising out of this assignment. The Court shall notify the parties of the assignment and provide Steven Elliott, Senior Judge with any assistance as requested.

Entered this 22 day of February 2018.

NEVADA SUPREME COURT

By: [Signature], Justice

Copy: The Honorable Steven Elliott, Senior Judge
The Honorable Robert W. Lane, District Judge, Fifth Judicial District Court
The Honorable Kimberly A. Wanker, District Judge, Fifth Judicial District Court

1 Case No. CV38972A

2 Dept. No. 1

3
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6 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF NYE
8

9 PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

10 Petitioner,

11 vs.

12 JASON KING, P.E., Nevada State
13 Engineer, DIVISION OF WATER
14 RESOURCES, DEPARTMENT OF
15 CONSERVATION AND NATURAL
16 RESOURCES,

Respondent.

**RESPONDENT'S EX PARTE MOTION
FOR ENLARGEMENT OF TIME**

17 Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer,
18 Department of Conservation and Natural Resources, Division of Water Resources
19 (hereafter "State Engineer"), by and through counsel, Nevada Attorney General
20 Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy
21 Justina A. Caviglia, hereby files this Ex Parte Motion for Enlargement of Time pursuant
22 to NRCP 6(b). This motion is based upon the attached Points and Authorities and the
23 pleadings and papers on file herein.

24 **POINTS AND AUTHORITIES**

25 **I. LEGAL DISCUSSION**

26 On February 1, 2018, Petitioner filed its Motion for Stay of State Engineer Order
27 No. 1293 ("motion for stay"). Pursuant to a Stipulation to Extend Time to Oppose the
28 Motion for Stay dated February 15, 2018, Respondent's opposition is due February 23,

1 2018. Pursuant to NRCP 6(b), the court may, for good cause, extend the time in which an
2 act must be done if a request is made before the original time or its extension expires.
3 The proper procedure, when additional time for any purpose is needed, is to present a
4 request for extension of time before the expiration of the time for the opposition to be
5 filed. Extensions of time may always be asked for, and usually are granted on a showing
6 of good cause if timely made under subdivision (b) of the Rule.

7 Respondent asserts good cause exists to grant this requested extension of time.
8 Respondent, through counsel, has been diligently working on preparing its opposition to
9 the motion to stay State Engineer Order No. 1293. Both of the attorneys assigned as
10 counsel for the Respondent have experienced illness causing both to be absent from the
11 office and unable to work on this matter for multiple days since the filing of this motion.
12 A fact Counsel informed Petitioner when originally seeking a two-week extension of time
13 to respond to the motion for stay. Despite being informed of these unavoidable and
14 disruptive circumstances, Petitioner was only willing to extend time for one additional
15 week, citing the fact that a longer extension would be detrimental to its desire to
16 prosecute this case expeditiously. See Exhibit 1. Ironically, Petitioner filed a peremptory
17 challenge against Judge Lane the same day, which through its very nature, delays a case.

18 Respondent asserts that this enlargement of time is brought in good faith and not
19 for the purpose of delay and is only sought because of the time necessary in addressing
20 the complex, tedious and voluminous claims asserted by the Petitioner in the motion for
21 stay. Respondent is exercising diligence, and as counsel for Petitioner was informed,
22 additional time may be necessary and if so, the Respondent would seek an extension from
23 the Court. Despite this diligence and every effort being made to meet the stipulated
24 deadline, Respondent requests a three-day enlargement of time, until February 28, 2018,
25 to file and serve the opposition to motion for stay. The opposition will be deposited with
26 FedEx for overnight service no later than Tuesday, February 27, 2018, and is anticipated
27 to be delivered no later than Wednesday, February 28, 2018. Accordingly, a three-day
28 enlargement of time is requested in this matter.

1 III. CONCLUSION

2 Respondent asserts that good cause exists to grant this extension of time. Based
3 upon the foregoing, Respondent respectfully requests an enlargement of time to file the
4 opposition to Petitioner's motion for stay.

5 AFFIRMATION

6 The undersigned does hereby affirm that the preceding Respondent's Ex Parte
7 Motion for Enlargement of Time does not contain the social security number of any
8 person.

9 DATED this 22nd day of February, 2018.

10 ADAM PAUL LAXALT
11 Attorney General

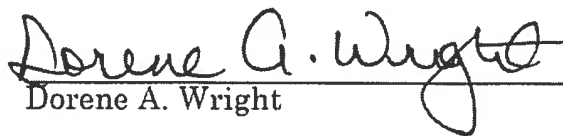
12 By:

13 MICHELINE N. FAIRBANK
14 Senior Deputy Attorney General
15 Nevada Bar No. 8062
16 JUSTINA A. CAVIGLIA
17 Deputy Attorney General
18 Nevada Bar No. 9999
19 100 North Carson Street
20 Carson City, Nevada 89701-4717
21 T: (775) 684-1225
22 F: (775) 684-1108
23 E: mfairbank@ag.nv.gov
24 jcaviglia@ag.nv.gov
25 Attorney for Respondent,
26 Nevada State Engineer
27
28

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 22nd day of February, 2018, I served a true and correct copy of the foregoing RESPONDENT'S EX PARTE MOTION FOR ENLARGEMENT OF TIME, by placing said document in the U.S. Mail, postage prepaid, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

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INDEX OF EXHIBITS

EXHIBIT No.	EXHIBIT DESCRIPTION	NUMBER OF PAGES
1.	Email Exchange Between Micheline Fairbank, Senior Deputy Attorney General, and David Rigdon, Esq.	2

EXHIBIT 1

EXHIBIT 1

RE: Pahrump Fair Water - Extension of time

Micheline N. Fairbank

Wed 2/14/2018 5:06 PM

To: 'David Rigdon' <David@legalnt.com>;

David,

Thank you. We will endeavor to meet that deadline. As I told you, I am out of the office Wednesday through Friday. Should additional time be imperative, we will again reach out to you and your office, and if necessary the Court.

I will prepare the stipulation and have it delivered for your signature in the morning.

Micheline

Micheline N. Fairbank
Senior Deputy Attorney General
Office of the Nevada Attorney General
Bureau of Gaming & Government Affairs
Government & Natural Resources Division
100 N. Carson Street
Carson City, NV 89701-4717
Tele: 775.684.1225 Fax: 775.684.1108
Email: mfairbank@ag.nv.gov

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From: David Rigdon [mailto:David@legalnt.com]
Sent: Wednesday, February 14, 2018 4:37 PM
To: Micheline N. Fairbank
Cc: Paul Taggart
Subject: Pahrump Fair Water - Extension of time

Micheline,

Per our phone conversation today, I spoke with my client and conveyed your request for an extension of time to file your opposition to our motion for stay. As predicted, the client is not thrilled with delaying action on the motion for stay. The way they look at it is that Jason did not extend them any courtesy or provide any grace period or time to adjust before enforcing the order, so why should he get extra time to respond to the motion for a stay (please keep in mind that the way the order was sprung on people created real hardships for many individuals and engendered some deep resentment).

Despite this, I was able to get the client to agree to extend the deadline to file an opposition until Friday, February 23. This provides you an additional 5 business days (8 days total). They are not willing to extend the time to respond any farther than that due to the fact that every day the order remains in place, they are being damaged.

If this works for you, send over a stipulation and I'll sign it.

Thanks

David H. Rigdon, Esq.

Attorney at Law
TAGGART & TAGGART, LTD
108 N. Minnesota Street
Carson City, Nevada 89703
(775) 882-9900 – Telephone
(775) 883-9900 – Facsimile

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Case No. CV38972

Dept. No. 1

IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
IN AND FOR THE COUNTY OF NYE

PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

Petitioner,

vs.

JASON KING, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

Respondent.

PROPOSED
ORDER GRANTING
RESPONDENT'S EX PARTE MOTION
FOR ENLARGEMENT OF TIME

Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer, Department of Conservation and Natural Resources, Division of Water Resources (hereafter "State Engineer"), by and through counsel, Nevada Attorney General Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy Justina A. Caviglia, hereby files this Proposed Order Granting Respondent's Ex Parte Motion for Enlargement of Time. The Proposed Order is attached hereto as Exhibit 1.

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Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

AFFIRMATION

The undersigned does hereby affirm that the preceding Proposed Order Granting Respondent's Ex Parte Motion for Enlargement of Time does not contain the social security number of any person.

DATED this 22nd day of February, 2018.

ADAM PAUL LAXALT
Attorney General

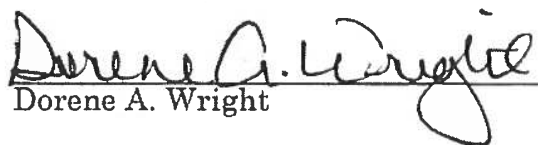
By:

MICHELINE N. FAIRBANK
Senior Deputy Attorney General
Nevada Bar No. 8062
JUSTINA A. CAVIGLIA
Deputy Attorney General
Nevada Bar No. 9999
100 North Carson Street
Carson City, Nevada 89701-4717
T: (775) 684-1225
F: (775) 684-1108
E: mfairbank@ag.nv.gov
jcaviglia@ag.nv.gov
Attorney for Respondent,
Nevada State Engineer

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 22nd day of February, 2018, I served a true and correct copy of the foregoing PROPOSED ORDER GRANTING RESPONDENT'S EX PARTE MOTION FOR ENLARGEMENT OF TIME, by placing said document in the U.S. Mail, postage prepaid, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

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INDEX OF EXHIBITS

EXHIBIT No.	EXHIBIT DESCRIPTION	NUMBER OF PAGES
1.	Proposed Order Granting Respondent's Ex Parte Motion for Enlargement of Time	1

EXHIBIT 1

EXHIBIT 1

1 Case No. CV38972A

2 Dept. No. 1

3
4
5
6 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF NYE
8

9 PAHRUMP FAIR WATER, LLC.,
10 a Nevada limited-liability company,

11 Petitioner,

12 vs.

13 JASON KING, P.E., Nevada State
14 Engineer, DIVISION OF WATER
15 RESOURCES, DEPARTMENT OF
16 CONSERVATION AND NATURAL
17 RESOURCES,

18 Respondent.

**ORDER GRANTING
RESPONDENT'S EX PARTE MOTION
FOR ENLARGEMENT OF TIME**

19 Pursuant to the Ex Parte Motion for Enlargement of Time filed by Respondent,
20 IT IS HEREBY ORDERED that the State Engineer shall have until Wednesday,
21 February 28, 2018, to file his response to Petitioner's Motion for Stay of Nevada State
22 Engineer Order No. 1293.

23 ORDERED this _____ day of February, 2018.

24 DISTRICT JUDGE

25 SUBMITTED BY:
26 ADAM PAUL LAXALT
27 Attorney General
28 MICHELINE N. FAIRBANK
Senior Deputy Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717
T: (775) 684-1225
E: mfairbank@ag.nv.gov

1 Case No. CV38972A

2 Dept. No. 1

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6 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF NYE
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9 PAHRUMP FAIR WATER, LLC.,
10 a Nevada limited-liability company,

11 Petitioner,

12 vs.

13 JASON KING, P.E., Nevada State
14 Engineer, DIVISION OF WATER
15 RESOURCES, DEPARTMENT OF
16 CONSERVATION AND NATURAL
17 RESOURCES,

18 Respondent.

REQUEST FOR SUBMISSION

17 Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer,
18 Department of Conservation and Natural Resources, Division of Water Resources
19 (hereafter "State Engineer"), by and through counsel, Nevada Attorney General
20 Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy
21 Justina A. Caviglia, respectfully requests that the above-referenced matter be submitted to
22 the Court for decision upon Respondent's Ex Parte Motion for Enlargement of Time. This
23 request is based upon the provisions of Rule 13(4) of the Rules of Practice of the District
24 Courts of the State of Nevada. Accordingly, the instant matter may be submitted upon the
25 pleadings and other documents on file in this matter.

26 ///

27 ///

28 ///

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

AFFIRMATION

The undersigned does hereby affirm that the preceding Request for Submission does not contain the social security number of any person.

DATED this 22nd day of February, 2018.

ADAM PAUL LAXALT
Attorney General

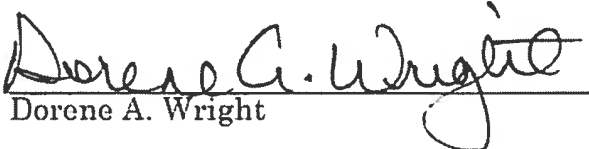
By:

MICHELLE N. FAIRBANK
Senior Deputy Attorney General
Nevada Bar No. 8062
JUSTINA A. CAVIGLIA
Deputy Attorney General
Nevada Bar No. 9999
100 North Carson Street
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T: (775) 684-1225
F: (775) 684-1108
E: mfairbank@ag.nv.gov
jcaviglia@ag.nv.gov
Attorney for Respondent,
Nevada State Engineer

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 22nd day of February, 2018, I served a true and correct copy of the foregoing REQUEST FOR SUBMISSION, by placing said document in the U.S. Mail, postage prepaid, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

Taggart & Taggart, Ltd.
108 North Minnesota Street
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(775) 882-9900 ~ Telephone
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1 PAUL G. TAGGART, ESQ.
Nevada State Bar No. 6136
2 DAVID H. RIGDON, ESQ.
Nevada State Bar No. 13567
3 TAGGART & TAGGART, LTD.
108 North Minnesota Street
4 Carson City, Nevada 89703
(775) 882-9900 – Telephone
5 (775) 883-9900 – Facsimile
6 Attorneys for Petitioner

FILED
FIFTH JUDICIAL DISTRICT

FEB 26 2018

Nye County Clerk
DEBRA BENNETT Deputy

7
8 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
9 IN AND FOR THE COUNTY OF NYE

* * *

10 PAHRUMP FAIR WATER, LLC, a Nevada
11 limited-liability company,

12 Petitioner,

13 vs.

14 Jason King, P.E., Nevada State Engineer,
DIVISION OF WATER RESOURCES,
15 DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES,

16 Respondent.
17

CASE NO.: CV38972A

DEPT. NO.: 1

18 **LIMITED OPPOSITION TO**
19 **RESPONDENT'S EX PARTE MOTION FOR ENLARGEMENT OF TIME**

20 COMES NOW, PAHRUMP FAIR WATER, LLC (hereinafter "PFW"), by and through its
21 counsel of record, PAUL G. TAGGART, ESQ. and DAVID H. RIGDON, ESQ., of the law firm of
22 TAGGART & TAGGART, LTD., and hereby files this Limited Opposition to Respondent's Ex Parte
23 Motion for Enlargement of Time ("Limited Opposition"). This Limited Opposition is based upon the
24 attached Memorandum of Points and Authorities, the pleadings and paper already on file in the above-
25 captioned case, and any oral argument or testimony the Court may allow.

26 ///

MEMORANDUM OF POINTS AND AUTHORITIES

BACKGROUND

On December 19, 2017, without any prior notice, the State Engineer issued Order 1293 (“Order”) which restricts the drilling of new domestic wells within the Pahrump basin. As noted in Petitioner’s Motion for Stay of Nevada State Engineer Order No. 1293 (“Motion for Stay”), the State Engineer enforced Order 1293 retroactively to individuals who had already filed a Notice of Intent to Drill a domestic well and who had paid significant deposits to licensed well drillers. In other words, Order 1293 was sprung on an unsuspecting populous without warning and enforced in a draconian fashion that caused significant injury and hardship to numerous individuals. Every day that Order 1293 remains in effect compounds the harm.

On January 9, 2018, individuals aggrieved by the State Engineer’s action banded together and formed PFW for the sole purpose of appealing the issuance of the order. At great personal expense they secured counsel to represent them in this matter and, pursuant to NRS 533.450, on January 18, 2018, PFW timely filed its Petition for Judicial Review with the Court. Also in accordance with the requirements of NRS 533.450, on February 1, 2018, PFW timely filed the Motion for Stay. The Motion for Stay was served on the State Engineer and his counsel by hand delivery on that same date.

On February 14, 2018, just one day before the deadline to file an Opposition to the Motion for Stay was set to expire, counsel for the State Engineer contacted counsel for PFW and requested an extension of time to March 6, 2018. After consulting with the members of PFW, counsel for PFW agreed to stipulate to an extension of time to February 23, 2018. Counsel for PFW informed counsel for the State Engineer that, due to the ongoing hardship imposed by the Order, PFW would not agree to any additional extensions of time. With the stipulated extension of time voluntarily granted by PFW, counsel for the State Engineer has had more than three full weeks since the filing of the Motion for Stay to prepare and file an opposition.

On February 23, 2018, the State Engineer filed the instant Ex Parte Motion for Enlargement of Time (“Ex Parte Motion”) through which he requests that the Court grant the State Engineer an

1 additional three business days to file his opposition. If the Court grants the Ex Parte Motion, the State
2 Engineer will have been provided a full month's time in which to file his opposition.

3 **STANDARD OF REVIEW**

4 NRCP 6(b)(1) authorizes a Court, upon motion of a party, to extend the time to take an action
5 required by the rules if (1) the motion is filed before the expiration of the prescribed period and (2) the
6 party filing the motion demonstrates "good cause" for why the motion should be granted.

7 **ARGUMENT**

8 Every day that the Order remains in effect, the members of PFW are suffering harm. The State
9 Engineer issued the Order just four days before the start of the Christmas and New Year's holiday
10 season. Because of NRS 533.450's jurisdictional deadline of 30 days to appeal a State Engineer
11 decision, the members of PFW were forced to interrupt their holiday plans so they could organize, hire
12 counsel, and file an appeal of the order. After the appeal was filed, PFW had just 10 business days to
13 prepare its "complex" and "voluminous" Motion for Stay.¹ This required PFW to fully research the
14 Order, and the evidentiary documents on which the Order was based, within an extremely short period
15 of time.

16 The State Engineer claims that he needs extra time to respond to PFW's Motion for Stay
17 "because of the time necessary in addressing the complex, tedious and voluminous claims asserted by
18 the Petitioner in the motion for stay."² Putting aside the issue of why the State Engineer was not already
19 prepared to defend an order that he knew in advance would cause a great deal of controversy, if PFW
20 was able to fully research and prepare the "complex" and "voluminous" Motion for Stay within the ten
21 business days prescribed by statute, it is not clear why the State Engineer needs an entire month to
22 prepare an opposition.

23 Despite this, PFW is willing to agree to the State Engineer's three-day request for an extension
24 of time but, at the same time, the scheduling of a hearing in this matter should also be expedited. An

25 _____
26 ¹ Respondent's Ex Parte Motion for Enlargement of Time at 2.

27 ² *Id.* The State Engineer also asserts that PFW's peremptory challenge, by its very nature, caused a delay in the case. The
28 State Engineer is wrong. PFW filed its peremptory challenge on February 20, 2018. The case was reassigned to Department
1 on that same day. Accordingly, the filing of the peremptory challenge did not result in any delay in these proceedings.

1 expedited hearing date will ensure that the harm being inflicted on PFW by the State Engineer's delay
2 is minimized. The members of PFW were given no notice or opportunity to raise objections to the Order
3 before it was issued. They have now been waiting more than two months to have their day in court.
4 While sympathetic to the personal needs of opposing counsel, the members of PFW have suffered far
5 greater personal and financial impositions as a result of the State Engineer's surprise issuance and
6 ongoing enforcement of the Order. Accordingly, if the Court is inclined to grant the State Engineer's
7 request, PFW respectfully requests that the Court schedule a teleconference to set a hearing date in this
8 matter as soon as possible.

9 **CONCLUSION**

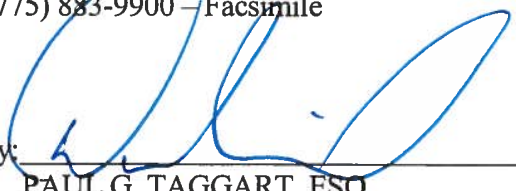
10 Because time is of the essence in deciding PFW's Motion for Stay, PFW respectfully requests
11 that, if the Court is inclined to grant the State Engineer additional time to file his opposition, the Court
12 also expedite the scheduling of a hearing to consider the Motion for Stay.

13 **AFFIRMATION**
14 **Pursuant to NRS 239B.030**

15 The undersigned does hereby affirm that the preceding document does not contain the social
16 security number of any persons.

17 DATED this 23rd day of February, 2018.

18 TAGGART & TAGGART, LTD.
19 108 North Minnesota Street
20 Carson City, Nevada 89703
21 (775) 882-9900 - Telephone
22 (775) 883-9900 - Facsimile

23 By: 
24 PAUL G. TAGGART, ESQ.
25 Nevada State Bar No. 6136
26 DAVID H. RIGDON, ESQ.
27 Nevada State Bar No. 13567
28 Attorneys for Petitioner

CERTIFICATE OF SERVICE

Pursuant to NRCP 5(b) and NRS 533.450, I hereby certify that I am an employee of TAGGART & TAGGART, LTD., and that on this date I served, or caused to be served, a true and correct copy of the foregoing, as follows:

[X] BY **HAND-DELIVERY**, by placing a true and correct copy of the above-identified document in an envelope, addressed as follows:

Micheline N. Fairbank, Esq.
Justina A. Caviglia, Esq.
Nevada Attorney General's Office
100 N. Carson St.
Carson City, NV 89701

DATED this 23rd day of February, 2018.



Employee of TAGGART & TAGGART, LTD.

Taggart & Taggart, Ltd.
108 North Minnesota Street
Carson City, Nevada 89703
(775)882-9900 - Telephone
(775)883-9900 - Facsimile

1 Case No. CV38972

2 Dept. No. 2

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6 IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF NYE
8

9 PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

10 Petitioner,

11 vs.

12 JASON KING, P.E., Nevada State
13 Engineer, DIVISION OF WATER
14 RESOURCES, DEPARTMENT OF
15 CONSERVATION AND NATURAL
16 RESOURCES,

17 Respondent.

MOTION TO STRIKE
PETITIONER'S EXHIBIT 5
ATTACHED TO, AND ANY
REFERENCE OF SUCH WITHIN,
ITS MOTION FOR STAY OF
NEVADA STATE ENGINEER'S
ORDER NO. 1293

17 Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer,
18 Department of Conservation and Natural Resources, Division of Water Resources
19 (hereafter "State Engineer"), by and through counsel, Nevada Attorney General
20 Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and
21 Deputy Justina A. Caviglia, hereby files this Motion to Strike Petitioner's Exhibit 5
22 Attached to, and Any Reference of Such Within, its Motion for Stay of Nevada State
23 Engineer's Order No. 1293. This Motion to Strike is based upon the attached Points and
24 Authorities and the pleadings and papers on file herein.

25 **POINTS AND AUTHORITIES**

26 **I. INTRODUCTION**

27 Exhibit 5 to Petitioner Pahrump Fair Water, LLC.'s ("Petitioner") Motion for Stay
28 of Nevada State Engineer's Order No. 1293 (hereafter "Motion"), and any and all

reference thereto, is improper and must be stricken from the record. Exhibit 5 contains inadmissible hearsay statements contained in certain letters and other statements from purported Affected Property Owners and Other Interested Parties; however, these letters and statements are impertinent and immaterial. Petitioner, as a Nevada limited liability company, "is an entity distinct from its managers and members." NRS 86.201(3). A limited-liability company only represents the legal interests of the company itself, it cannot independent of its own legal interests, enforce the interests of rights of its members, except to "enforce the member's rights against or liability to the company." NRS 86.381. Further, these letters and other statements are per se "hearsay" as they consist of "out-of-court statement[s] offered to prove the truth of the matter asserted." *Mishler v. McNally*, 102 Nev. 625, 628, 730 P.2d 432, 435 (1986). See also NRS 51.035. As a matter of law, hearsay statements are inadmissible, unless the statement falls under an exception. NRS 51.065. The evidence relied upon by Petitioner does not fall within a hearsay exception. Any letters, statements, claims from this "affected property owners and other interested parties," which are separate and distinct from Petitioner, are prejudicial and should be stricken as inadmissible hearsay evidence which is irrelevant and immaterial.

Further, this case has been filed pursuant to NRS 533.450. Appeals of decision of the State Engineer are in nature of an appeal, and are strictly limited to the record upon which the State Engineer made his decision. *Revert v. Ray*, 95 Nev. 782, 786, 603 P.2d 262 (1979). Extrinsic evidence, such as these letters and statements, which are wholly outside of the record of the State Engineer, are not permitted and cannot be used in determining whether the order of the State Engineer is supported by substantial evidence. *Revert v. Ray*, 95 Nev. 782, 786, 603 P.2d 262 (1979).

II. ARGUMENT

Pursuant to NRCP 12(f), the court may strike any pleading that is "redundant, immaterial, impertinent, or scandalous." Petitioner's attempt to include letters and

///

1 statements from individuals who are not parties to this action, that are not part of the
2 record on appeal, should not be permitted.

3 When deciding whether to grant a stay under NRS 533.450, the court is required to
4 consider four factors: (1) "Whether any non-moving party to the proceeding may incur
5 any harm or hardship if the stay is granted"; (2) "Whether the *petitioner* may incur any
6 irreparable harm if the stay is denied"; (3) "The likelihood of success of *the petitioner* on
7 the merits; and" (4) "Any potential harm to the members of the public if the stay is
8 granted." NRS 533.450(5)(a)-(d). The determination is limited to the Petitioner's alleged
9 harm, not that of non-parties. In Nevada, "[a] limited-liability company is an entity
10 distinct from its managers and members." NRS 86.201(3). As a limited liability company,
11 Petitioner is distinct from any manger, member, or affected property owners and other
12 interested party and its interests are that of its own, not those of its members.
13 NRS 86.201(3), NRS 86.381.

14 Petitioner's Exhibit 5 contains letters and statements from affected property
15 owners and interested parties which should be stricken as it is irrelevant. Petitioner, as
16 its own legal entity, cannot assume the claims of its members or other individuals.
17 See NRS 86.381. The statements and letters by anyone other than Petitioner have no
18 bearing on any alleged injury to be sustained by the Petitioner should Order No. 1293 not
19 be stayed during the pendency of the petition for judicial review.

20 Moreover, pursuant to NRS 533.450(1), actions to review decisions of the State
21 Engineer are "in the nature of an appeal." The Nevada Supreme Court has interpreted
22 NRS 533.450 to mean that a petitioner does not have a right to de novo review or to offer
23 additional evidence at the district court. *Revert*, 95 Nev. at 786, 603 P.2d at 264; *see also*
24 *Kent v. Smith*, 62 Nev. 30, 32, 140 P.2d 357, 358 (1943) (a court may construe a prior
25 judgment, but cannot properly consider extrinsic evidence). As a result, the function of
26 the court is to review the evidence on which the State Engineer based his decision to
27 ascertain whether the evidence supports the decision, and if so, the court is bound to
28 sustain the State Engineer's decision. *State Engineer v. Curtis Park*, 101 Nev. 30, 32,

692 P.2d 495, 497 (1985). “[N]either the district court nor this court will substitute its judgment for that of the State Engineer: we will not pass upon the credibility of the witnesses nor reweigh the evidence, but limit ourselves to a determination of whether substantial evidence in the record supports the State Engineer’s decision.” *State Engineer v. Morris*, 107 Nev. 699, 701, 819 P.2d 203, 205 (1991). A motion to stay a decision pursuant to NRS 533.450(5) is subject to the same prohibition of extrinsic evidence.

Petitioner’s attempt to introduce this inadmissible extrinsic evidence in a proceeding under NRS 533.450 is improper. The State Engineer’s decisions set forth in Order No. 1293 must be reviewed based upon the record utilized by the State Engineer in reaching the conclusions set forth in the Order and based upon Petitioner’s alleged harm, not that of non-parties. *Revert*, 95 Nev. at 786, 603 P.2d at 264; *Kent*, 62 Nev. at 32, 140 P.2d at 358. Exhibit 5 includes statements and letters, all written after the State Engineer’s issuance of Order No. 1293 on December 19, 2017, by non-parties in this case.

Petitioner’s Exhibit 5, and all reference thereto, should be stricken as it is irrelevant, immaterial, inadmissible and contrary to established Nevada law. NRCP 12(f); *Revert*, 95 Nev. at 786, 603 P.2d at 264; *Kent*, 62 Nev. at 32, 140 P.2d at 358; *Curtis Park Manor*, 101 Nev. at 32, 692 P.2d at 497; *Morris*, 107 Nev. at 701, 819 P.2d at 205. Petitioner’s Petition for Judicial Review brought under NRS 533.450(1) and its Motion for Stay brought under NRS 533.450(7), precludes the introduction of extrinsic evidence.

III. CONCLUSION

The State Engineer requests that this Court strike Petitioner’s Exhibit 5 and all reference thereto within Petitioner’s Motion to Stay of Nevada State Engineer’s Order No. 1293.

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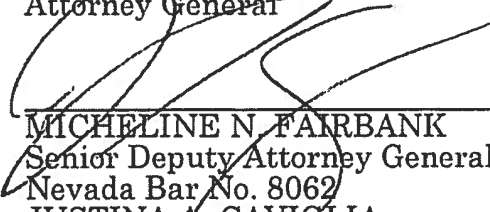
AFFIRMATION

The undersigned do hereby affirm that this Motion to Strike Petitioner's Exhibit 5 Attached to, and Any Reference of Such Within, its Motion for Stay of Nevada State Engineer's Order No. 1293 does not contain the social security number of any person.

DATED this 28th day of February, 2018.

ADAM PAUL LAXALT
Attorney General

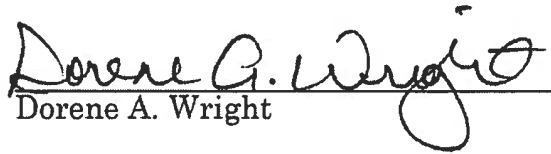
By:


MICHELINE N. FAIRBANK
Senior Deputy Attorney General
Nevada Bar No. 8062
JUSTINA A. CAVIGLIA
Deputy Attorney General
Nevada Bar No. 9999
100 North Carson Street
Carson City, Nevada 89701-4717
T: (775) 684-1225
F: (775) 684-1108
E: mfairbank@ag.nv.gov
jcaviglia@ag.nv.gov
*Attorney for Respondent,
Nevada State Engineer*

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 28th day of February, 2018, I served a true and correct copy of the foregoing MOTION TO STRIKE PETITIONER'S EXHIBIT 5 ATTACHED TO, AND ANY REFERENCE OF SUCH WITHIN, ITS MOTION FOR STAY OF NEVADA STATE ENGINEER'S ORDER NO. 1293, by hand delivery, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703


Dorene A. Wright

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

Case No. CV38972

Dept. No. 2

IN THE FIFTH JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
IN AND FOR THE COUNTY OF NYE

PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company,

Petitioner,

vs.

JASON KING, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

Respondent.

**OPPOSITION TO PETITIONER'S
MOTION FOR STAY OF NEVADA
STATE ENGINEER'S ORDER 1293**

Jason King, P.E., the State Engineer, in his capacity as the Nevada State Engineer, Department of Conservation and Natural Resources, Division of Water Resources (hereafter "State Engineer"), by and through counsel, Nevada Attorney General Adam Paul Laxalt, Senior Deputy Attorney General Micheline N. Fairbank, and Deputy Attorney General Justina A. Caviglia, hereby files this Opposition to Petitioner's Motion for Stay of Nevada State Engineer's Order 1293. This Opposition is based upon the attached Points and Authorities and the pleadings and papers on file herein.

POINTS AND AUTHORITIES

I. INTRODUCTION

Petitioner Pahrump Fair Water, LLC's, a Nevada limited-liability company ("Petitioner"), Motion for Stay of State Engineer Order 1293 (hereafter "Motion") lacks merit and will harm existing rights, the State Engineer, and the Pahrump Valley

1 Hydrographic Basin (hereafter the “Basin”) if the Motion is granted. It is factually
2 impossible for Petitioner to be irreparably harmed if a stay of Order 1293 is not issued as
3 it does not own any land or otherwise have any interest that is affected by the Order.
4 Petitioner does not have any legal interest in the Basin. The Court’s focus must be on the
5 irrefutable fact that staying Order 1293 will irreparably harm the public.

6 Nevada is a prior appropriation state—that is, first in time, first in right. Under
7 Nevada water law, domestic wells are not exempt from this provision and have an
8 assigned priority date of the date the well was completed. The Basin is over-allocated.
9 Allowing new domestic wells to be drilled in the Basin, without demonstrating that there
10 is water available to support those new wells, is detrimental to existing water right
11 holders and existing domestic well owners. A stay of Order 1293 will unquestionably
12 exacerbate the problem that the State Engineer has, within his lawful discretion, sought
13 to control by issuing Order 1293.

14 Further, Petitioner’s motion seeks the ultimate redress of its appeal (*i.e.*, allowing
15 the drilling of new wells) without the Court having the opportunity to examine the full
16 record of the State Engineer’s decision to issue Order 1293 and hearing briefing on the
17 merits. However, the fundamental fact remains—Petitioner cannot demonstrate a
18 likelihood of success on the merits. On judicial review, the State Engineer’s decision is
19 entitled to great deference. Petitioner absurdly argues this is a depraved decision;
20 however, the basis for the State Engineer’s decision is well founded in law and fact and
21 the paramount issue that cannot be ignored is that the State Engineer’s decision
22 maintains the status quo—limiting any further withdrawals from the Basin to those
23 existing at the time of the State Engineer’s decision.

24 Importantly, the Court must carefully consider the long-term implications should a
25 stay be issued, which would allow an additional untold number of domestic wells to be
26 drilled in the Basin. If a stay is issued, but the State Engineer succeeds on the merits
27 (holding that Order 1293 is based upon substantial, albeit overwhelming evidence), any
28 well drilled between the issuance of a stay and a final determination in this action will

1 result in an avoidable injury to those persons who may rely on the stay and proceed with
2 drilling a new domestic well. If Order 1293 is upheld, then each of those wells would be
3 required to be plugged, as they would have been drilled in contravention of Order 1293,
4 effective December 19, 2017. One cannot expect that the State Engineer's office would
5 not see a run on the filing of Notice of Intent to drill cards and a substantial number of
6 wells would be drilled while this matter is litigated should a stay be granted. It is
7 fundamentally flawed to set up the potential for numerous persons to be injured by
8 incurring the cost to drill a well and then being forced to incur the cost to plug the well if
9 they did not, or cannot relinquish water rights.

10 The law and logic demonstrate that preservation of the status quo, as it exists
11 today following the issuance of Order 1293, is appropriate. Any speculative injury
12 asserted by Petitioner is not sufficient to justify all the potential injury and real harm to
13 individuals, including existing water right holders who have a bona fide property interest
14 to protect. Petitioner cannot demonstrate a stay is warranted under NRS 533.450(5),
15 accordingly, the State Engineer respectfully requests that Petitioner's Motion be denied.

16 **II. BACKGROUND**

17 **A. The Pahrump Artesian Basin**

18 Nevada has 256 groundwater basins and the Pahrump Artesian Basin, Basin 162,
19 straddles southern Nye and Clark counties. *See* Motion, Exhibit 2 at pp. 1-5. The Basin
20 has historically been one of the highest regulated basins by the State Engineer.
21 Beginning in 1941, the State Engineer has issued numerous orders, which have given
22 increased scrutiny and focused groundwater management of the Basin. *See* Motion,
23 Exhibit 1 at p. 1. The State Engineer has already ceased new groundwater development
24 through water right permits or certificates issued in accordance with Chapter 533 of the
25 NRS. *See* Motion, Exhibit 1 at p. 1. Until the issuance of Order 1293, domestic wells
26 have been unregulated in the Basin. *Id.* It is well known and well documented that the
27 there is a domestic well problem in Pahrump that is unique within the state. The current
28 proliferation of domestic wells coupled with the potential of thousands more, demands

1 action by the State Engineer to require an active and widespread approach to ultimately
2 manage the resource for the benefit of the water users for the short-term and for
3 generations to come.

4 The State Engineer estimates the perennial yield of the Basin is 20,000 acre-feet
5 annually ("afa"). See Motion, Exhibit 1 at p. 2; Motion, Exhibit 3. Although not defined
6 under Nevada law, perennial yield is generally considered the amount of usable water of
7 a groundwater reservoir that can be withdrawn and consumed economically each year for
8 an indefinite period, without causing depletion of the groundwater reservoir. *Water*
9 *Words Dictionary* available at [http://water.nv.gov/programs/planning/dictionary/wwords-](http://water.nv.gov/programs/planning/dictionary/wwords-P.pdf)
10 [P.pdf](http://water.nv.gov/programs/planning/dictionary/wwords-P.pdf). The State Engineer has issued water rights, in the form of certificates and permits
11 that allow up to 59,175 acre-feet to be withdrawn from the Basin per year. See Motion,
12 Exhibit 1 at p. 2; Motion, Exhibit 3. This 59,175 acre-feet commitment of water rights
13 **does not** include domestic wells. *Id.*

14 Pahrump has the largest number and density of domestic wells in the State of
15 Nevada, comprising 22 percent of the total number of domestic wells drilled in the state.
16 See Motion, Exhibit 1 at p. 2. There are currently 11,280 known existing domestic wells.
17 *Id.* Pursuant to NRS 534.180, each existing domestic well is entitled to withdraw up to
18 2 acre-feet annually. *Id.* Thus, the total estimated quantity of water committed to
19 domestic wells in the Basin for domestic wells is 22,560 afa, a quantity of water greater
20 than the entire perennial yield of the Basin. Domestic wells in the Basin are not metered,
21 like other water rights in the Basin. *Id.*

22 There are approximately 8,000 parcels of land, which, prior to the issuance of
23 Order 1293, could potentially drill a domestic well. Motion, Exhibit 1 at p. 2. Under
24 Nevada law, these parcels represent an *additional* 16,000 afa of water commitment in a
25 basin having a mere 20,000 afa of recharge. As the State Engineer has already prohibited
26 the issuance of any new permitted water rights in the Basin, a remaining area left to
27 respond, to prevent further compounding of the over-appropriation, was to regulate new
28 domestic wells within the Basin. On December 19, 2017, State Engineer issued

Order 1293 Prohibiting the Drilling of New Domestic Wells in the Basin (10-162), Nye County, Nevada, without acquiring 2 acre-feet of permitted or certificated water rights.

B. Petitioner's Legal Existence

Petitioner is a limited liability company that did not come into existence until January 9, 2018.¹ A limited liability company is legally created at the time it files its articles of organization and pays its fee to the Nevada Secretary of State. NRS 86.201(1). "A limited-liability company is an entity distinct from its managers and members." NRS 86.201(3). Accordingly, a limited-liability company, such as Petitioner, is a legal "person" in the eyes of Nevada law. Further, a limited-liability company only represents the legal interests of the company itself, it cannot independent of its own legal interests, enforce the interests of rights of its members, except to "enforce the member's rights against or liability to the company." NRS 86.381. As of December 19, 2017, when the State Engineer issued Order 1293, Petitioner did not exist, did not own any property, or let alone possess permitted or certificated water rights or a domestic well in the Basin.

III. ARGUMENT

A. Petitioner Cannot Demonstrate that a Stay is Proper Under the Criteria Set Forth in NRS 533.450(5)(a)

When deciding whether to grant a stay under NRS 533.450, the Court must consider the following factors: (a) "Whether any non-moving party to the proceeding may incur any harm or hardship if the stay is granted"; (b) "Whether the petitioner may incur any irreparable harm if the stay is denied"; (c) "The likelihood of success of the petitioner on the merits; and" (d) "Any potential harm to the members of the public if the stay is granted." NRS 533.450(5)(a)-(d). Petitioner has not demonstrated that a stay is proper under these four factors; rather, the law and facts demonstrate that denial of Petitioner's motion is appropriate.

¹<http://nvsos.gov/SOSEntitySearch/CorpDetails.aspx?lx8nvq=y0nBCnQwMnkhFxTrGLQiaq%253d%253d&nt7=0> (last accessed February 14, 2018).

1 **1. The public will be harmed if a stay of Order 1293 is issued**

2 In exercising their sound discretion, courts should pay particular regard for the
3 public consequences in employing the extraordinary remedy of injunction. *Winter v. Nat'l*
4 *Res. Defense Council*, 555 U.S. 7, 24, 129 S. Ct. at 365, 377 (2008).² Failure to examine
5 the public interest, or giving the public interest element a cursory examination, may
6 constitute an abuse of discretion. *Id.* at 555 U.S. 24, 26, 129 S. Ct. 377, 378. Enjoining
7 action “should be done with caution, especially in cases affecting a public interest where
8 the court is asked to interfere with or suspend the operation of important works or control
9 the action of another department of government.” *Cementech, Inc. v. City of Fairlawn*,
10 849 N.E.2d 24, 27, 109 Ohio St. 3d 475, 477 (2006) (internal quotations omitted).
11 Accordingly, the factor of where public interest lies is considered separately from and in
12 addition to whether parties to the action will be irreparably injured absent a stay. *Golden*
13 *Gate Restaurant Ass’n v. City and County of San Francisco*, 512 F.3d 1112, 1116 (9th Cir.
14 2008) (“Further, we consider where the public interest lies separately from and in
15 addition to whether the applicant for stay will be irreparably injured absent a stay.”
16 (internal quotations omitted)). A preliminary injunction should be denied if it will
17 adversely affect the public or other interested parties for which, even temporarily, an
18 injunction bond cannot compensate. *Virginia Ry. Co. v. United States*, 272 U.S. 658, 674
19 (1926). Indeed, the Court should withhold such relief until a final determination of the
20 controversy, even though the delay may be burdensome to the Petitioner. *Yakus v. U.S.*,
21 321 U.S. 414, 440 (1944).

22 In Nevada, “[t]he water of all sources of water supply within the boundaries of the
23 State whether above or beneath the surface of the ground, belongs to the public.”
24 NRS 533.025. The right to use water in Nevada, is a usufructuary right. That is,
25 individuals holding certificated, vested, or permitted water rights do not own or acquire
26 title to water, they merely enjoy the right to beneficial use. *Desert Irr., Ltd. v. State*,

27
28 ² Although Petitioner’s Motion is required to be brought pursuant to NRS 533.450, rather than
NRCP 65, the elements between the tests are similar.

1 113 Nev. 1049, 944 P.2d 835 (1997). The Legislature has declared that existing domestic
2 wells have a “protectable interest” in their source of supply, NRS 533.024(1), which is also
3 a right of use. An owner of real property does not have an automatic right to appropriate
4 or use water in the state of Nevada. The public injury question necessarily involves two
5 concerns: (1) the general right of the “public” in its ownership of the sources of all water
6 within the state; and (2) the specific rights of those who have acquired a prior right of use
7 to water in the Basin.

8 **a. Order 1293 protects the health and welfare of the public**

9 The Legislature has recognized that water is a limited resource in Nevada and it
10 belongs to the public. *Preferred Equities v. State Engineer*, 119 Nev. 384, 75 P.3d 380
11 (2003). Whenever the general public morals, health, safety, or welfare demand it, it
12 becomes the duty of the state to exercise its police power of regulation and control of its
13 waters, so that an individual may be restrained from exercising rights of ownership or
14 possession to the substantial injury of others, or to the detriment of the community.
15 *Bergman v. Kearney*, 241 F. 884 (D. Nev. 1917). Indeed, “[w]ater rights, like all other
16 rights, are subject to such reasonable regulations as are essential to the general welfare,
17 peace, and good order of the citizens of the state, to the end that the use of water by one,
18 however absolute and unqualified his right thereto, shall not be injurious to the equal
19 enjoyment of others entitled to the equal privilege of using water from the same source,
20 nor injurious to the rights of the public.” *Vineyard Land and Stock Co. v. Fourth Jud.*
21 *Dist. Ct.*, 42 Nev. 1, 171 P. 166 (1918) (quoting *In Re Willow Creek*, 144 Pac. 505, 146 Pac.
22 475 (Or. 1914)); see also *Town of Eureka v. State Engineer*, 108 Nev. 163, 826 P.2d 948
23 (1992) (water rights are subject to regulation under the police power as is necessary for
24 the general welfare) (citing *V.L. & S. Co. v. District Court*, 42 Nev. 1, 171 P. 166 (1918)).

25 As stated above, the State Engineer estimates that 20,000 afa is the amount of
26 groundwater that can be withdrawn and consumed each year for an indefinite period of
27 time without depleting the groundwater reservoir. Simply stated, the Basin is severely
28 over-allocated even without the potential drilling of new domestic wells. See Motion,

1 Exhibit 1 at p. 2; Exhibit 3. *See also State Engineer v. Morris*, 107 Nev. 699, 819 P2d 203
2 (1991) (The potential pumping of 80,000 acre-feet in light of the perennial yield clearly
3 amounts to over-appropriation of the Pahrump Valley Groundwater Basin and is a proper
4 basis for the State Engineer's finding that the basin is currently over-allocated).

5 There are nearly 82,000 acre-feet of demand presently allowed under Nevada law.
6 Motion, Exhibit 1 at p. 2; Exhibit 3. This includes the permitted and certificated water
7 rights in the amount of 59,175 acre-feet and 22,560 acre-feet committed to the 11,280
8 existing domestic wells presently serving single family homes. *Id.* If Order 1293 is not
9 affirmed and each of the additional 8,000 parcels drill a domestic well, the groundwater
10 commitment for the Basin may reach nearly 100,000 afa, practically **five times** the
11 perennial yield.³ *See Id.*

12 Recognizing that the supply and demand of water within the Basin is severely out
13 of balance, over the past 70 years, the State Engineer has been issuing orders restricting
14 water use and appropriations within the Basin. Exhibit 1. In the recent order issued in
15 2015, prior to Order 1293, the State Engineer ceased issuing all new permitted rights
16 within the Basin except for narrow statutorily provided-for emergencies or where there is
17 no additional draft on the Basin. The remaining primary, and significant, manner of use
18 that the State Engineer had yet to impose any conditions on, was the drilling of new
19 domestic wells. The State Engineer issued Order 1293 requiring a new domestic well
20 owner to demonstrate that water is available to serve the well by relinquishing an
21 existing water right. As will be addressed in more detail below, requiring that existing
22 rights serve new uses is consistent with law and legislative policy, which provide that
23 water should be available to serve new uses. *Infra.* Water is a finite resource.
24 Petitioner's assertion attempts to dismiss the reality, that thousands of new homes with

25
26 ³ There is an additional caveat to this number: pre-statutory vested rights in Pahrump basin have
27 not been adjudicated pursuant to the procedures set forth in NRS 533.090, *et seq.* Prior to 2017, there was
28 no requirement for a vested right claimant to file a claim of vested right until the State Engineer
commenced an adjudication. During the 2017 Legislature, S.B. 270 was passed, which requires claimants
of vested rights to file proof of their claims or before December 31, 2027. Thus, there are likely claims to
vested rights that are presently unfiled and unknown to the State Engineer, so the current committed
demand in the Basin is likely **even higher**.

1 thousands of new withdrawals from the Basin cannot continue with the expectation that
2 it will not jeopardize the supply of this finite water resource to the public in Pahrump.
3 The public has a vital interest in preserving the water resources of the state and adhering
4 to the correct rules for the allotment and administration of water. *Wadsworth v. Kuiper*,
5 193 Colo. 95, 98, 562 P.2d 1114, 1116 (1977). There is arguably no greater health, safety
6 and welfare concern than ensuring there continues to be an adequate supply of water.
7 Order 1293 promotes the public welfare by ensuring the over-appropriation in Pahrump
8 is not exacerbated while other measures to balance the Basin are undertaken.

9 **b. Continuing to drill thousands of new domestic wells**
10 **without regard to water availability will harm existing**
11 **rights**

12 Nevada has adopted the doctrine of prior appropriation. *Desert Irr., Ltd.*, 113 Nev.
13 at 1051 n.1, 944 P.2d at 837 n.1. An appropriative right “may be described as a state
14 administrative grant that allows the use of a specific quantity of water for a specific
15 beneficial purpose if water is available in the source free from the claims of others with
16 earlier appropriations.” *Id.* (quoting Frank J. Trelease & George A. Gould, *Water Law*
17 *Cases and Materials* 33 (4th ed. 1986)).

18 As detailed above, there are already at least 82,000 acre-feet of senior existing
19 rights. Vested rights have a priority date of when the water was first put to beneficial
20 use; appropriative rights have a priority date of the date the water right application was
21 filed in the State Engineer’s office (NRS 533.325); and domestic wells have a priority date
22 of the date that the well was completed. NRS 534.080(4). There is no doubt that all
23 existing rights and existing domestic wells in the Basin are senior to any not-yet-drilled
24 domestic wells, and Nevada law is clear that the State Engineer has a duty to protect
25 existing rights and existing domestic wells that have a protectable interest in their source
26 of supply. Presently, it is expected that 438 current domestic wells will fail by 2035 based
27 on existing groundwater pumping data and simulations of water usage within the Basin.
28 Exhibit 2, John Klenke, *Estimated Effects of Water Level Declines in the Pahrump Valley*
on Water Well Longevity, January 2017. The simulations assume that there is no increase

1 in pumping of water from the Basin. By 2065, that same data estimates that 3,085
2 additional domestic wells will fail. *Id.* Stated differently, if the status quo as it existed on
3 December 19, 2017, remains the same (no increase or decrease in water use (more than
4 25 percent of the domestic wells in the Basin will fail in the next 50 years based upon
5 groundwater depletion alone. These predictions do not include the demand that 8,000
6 additional wells would impose.⁴

7 Petitioner argues that new domestic wells should be allowed to be drilled
8 irrespective of the established property rights of existing water right holders, interests of
9 current domestic well owners, and irrespective of the negative impact on the Basin. *Id.*
10 Current water right holders and current domestic well owners will be adversely affected
11 by a stay of this order. If this Court issues an order staying Order 1293, clearly there are
12 detrimental impacts not only to the groundwater supply, but to the existing water right
13 holders and existing domestic well owners-interests which the State Engineer, though his
14 legal duty, seeks to protect through this Order.

15 **c. Returning to the uncontrolled drilling of thousands of**
16 **domestic wells may set the Basin down a path for**
17 **regulation by priority**

18 All water rights, including domestic wells, are subject to curtailment based upon
19 priority. NRS 534.110(6). Thus, if Order 1293 is stayed, a property owner who drills a
20 new domestic well (and that well was allowed to remain), if there were curtailment,
21 because these water rights would have a 2018 or later priority date, they will be curtailed
22 if curtailment is ordered. In fact, due to the over-allocation and depletion of the
23 groundwater in the Basin, any additional domestic wells allowed to be drilled due to a
24 stay of Order 1293 will be the first wells subject to potential curtailment.

25 Additionally, allowing further development of water through domestic wells harms
26 the interests of existing water right holders whom hold the superior interest in the Basin.
27 Specifically, every water right is subject to those water rights that exist prior to the

28 ⁴ Petitioner's speciously suggests that the lack of analysis concerning the effect of drilling thousands
of new wells is fatal to Order 1293. Clearly, allowing up to 8,000 new domestic wells using 16,000 acre-feet
in an already over-allocated basin will not *improve* the estimated number of wells predicted to fail.

1 issuance of the permit or certificate. NRS 533.430. Domestic wells are not exempt from
2 the management of Nevada's water resources in priority. *See, e.g.*, NRS 534.080 ("The
3 date of priority for the use of underground water from a well for domestic purposes where
4 the draught does not exceed 2 acre-feet per year is the date of completion of the well.");
5 NRS 534.110(6) ("Except as otherwise provided in subsection 7, the State Engineer shall
6 conduct investigations in any basin or portion thereof where it appears that the average
7 annual replenishment to the groundwater supply may not be adequate for the needs of all
8 permittees and all vested-right claimants, and if the findings of the State Engineer so
9 indicate, the State Engineer may order that withdrawals, **including, without**
10 **limitation, withdrawals from domestic wells**, be restricted to conform to priority
11 rights.") (emphasis added). Thus, because by definition "water already appropriated"
12 under NRS 533.324, "includes water for whose appropriation of the State Engineer has
13 issued a permit" regardless of whether it has been placed to its permitted beneficial use or
14 is subject to change application. NRS 533.324. On December 19, 2017, all existing water
15 right holders and domestic well owners maintained a superior interest than an individual
16 whom owned property but did not have an existing water right or domestic well. Those
17 existing rights, the rights of the public, must be maintained and not diminished by means
18 of a stay.

19 Granting a stay will harm the public. Order 1293 was issued to establish a floor
20 and to slow the proliferation of additional domestic wells and demands on the limited and
21 over-allocated water supply in the Basin. The public and this precious public resource,
22 the Basin, must not be harmed further through a stay of Order 1293.

23 **d. Petitioner lacks standing to assert arguments on behalf**
24 **of Nye County, whose Board of Commissioners voted to**
not challenge Order 1293

25 Petitioner argues that a stay of Order 1293 will benefit the public because the
26 Order will negatively affect the tax base in Pahrump and that these economic
27 consequences merit a stay. Motion, pp. 17-18. More specifically, Petitioner argues that to
28 the extent Order 1293 restricts new development of single family homes in Pahrump, it

1 will have negative impacts on future county finances. *Id.* The Pahrump Board of County
2 Commissioners held a special meeting on January 10, 2018. Exhibit 3. One agenda item
3 the Commission considered was whether to retain counsel to pursue an appeal of Order
4 1293. *Id.* The motion to retain counsel to challenge Order 1293 failed by a vote of 3-2.
5 *Id.* Clearly, the Pahrump Board of County Commissioners was capable of pursuing its
6 own legal challenge on issues such as impacts to county finances, yet the Board of
7 Commissioners voted against appealing Order 1293.⁵ It goes without saying that if the
8 State Engineer must curtail existing rights, the economic consequences of regulating by
9 priority would be far more devastating than what Petitioner may claim it will personally
10 suffer from Order 1293. Furthermore, Petitioner's statement that imposing a stay will
11 allow development to proceed at an "orderly pace" is exceedingly dubious in light of the
12 public attention given to Order 1293. Since the Order was issued a little over two months
13 ago, the State Engineer's office has received over 500 telephone calls from individuals
14 inquiring whether water had been relinquished for their vacant parcels in the valley.
15 While some parcel owners learned water had already been previously relinquished for
16 their parcels to support a new domestic well, many have been informed that there is no
17 record of water having been relinquished to serve their parcel. There is no doubt, if the
18 Order is stayed, an untold number of landowners who are aware they are required to
19 relinquish water will take advantage of a stay and will drill new domestic wells in the
20 interim until the merits of the petition for judicial review are heard.

21 A stay of Order 1293 could allow the potential drilling of as many as 8,000
22 additional domestic wells during the pendency of this proceeding. The State Engineer
23 has every reason to expect that there will be a rush to file Notice of Intent cards for the
24 drilling of domestic wells, and that practically every licensed well driller in the state will
25 recognize the economic opportunity and happily drill those domestic wells if the Order is

26
27 ⁵ Notably, it was Petitioner's counsel's firm that appeared at the Commission meeting and offered a
28 legal consultation to the County. Exhibit 3, p. 4. The County Commission voted not to retain Petitioner's
counsel's firm. Thus, Petitioner's arguments concerning the effects on the County or its tax base appear to
be a veiled attempt at representing the County Commission despite the failed motion to retain counsel to
pursue an appeal directly on behalf of the County.

1 stayed. Adding up to 8,000 additional domestic wells in an over-allocated basin will add
2 to the current depletion of the resource and will detrimentally affect current users.

3 **2. Petitioner has failed to demonstrate a likelihood of success on**
4 **the merits**

5 Petitioner does not enjoy a likelihood of success on the merits. As will be further
6 demonstrated by the briefing on the Petition, the findings made by the State Engineer in
7 Order 1293 are supported by substantial evidence. NRS 533.450 governs judicial review
8 of a decision of the State Engineer. Under this statute, “[t]he decision of the State
9 Engineer is prima facie correct, and the burden of proof is upon the party attacking the
10 same.” NRS 533.450(10). Decisions of the State Engineer are entitled to deference both
11 as to their factual basis and their legal conclusions. *Id.* This Court’s review in a judicial
12 review proceeding pursuant to NRS 533.450 is limited to a determination of whether the
13 State Engineer’s decision is supported by substantial evidence. *Revert v. Ray*, 95 Nev.
14 782, 786, 603 P.2d 262 (1979). The Nevada Supreme Court has explained that “an agency
15 charged with the duty of administering an act is impliedly clothed with power to construe
16 it as a necessary precedent to administrative action,” and therefore “great deference
17 should be given to the agency’s interpretation when it is within the language of the
18 statute.” *State v. State Engineer*, 104 Nev. 709, 713, 766 P.2d 263, 266 (1988) (*citing*
19 *Clark Co. Sch. Dist. v. Local Gov’t*, 90 Nev. 332, 446, 530 P.2d 114, 117 (1974)).

20 **a. Order 1293 does not deprive any individual of a property**
21 **right, nor is it a repeal of the right to drill a domestic**
22 **well**

23 Petitioner would have the Court believe that Order 1293 results in a deprivation of
24 a property right, or is a “repeal of NRS 534.180(1),” when it is neither of those things. At
25 present, any ability of an owner of vacant land to drill a domestic well is presently
26 unexercised, as demonstrated by the lack of a domestic well on their parcel. Order 1293
27 does not deprive anyone of the ability to drill a new domestic well, it only requires that
28 the landowner demonstrate, by relinquishing an existing right—that there is water
available to serve the new domestic well. Just like anyone else in the Basin that needs a

1 water right for their project, they are prohibited from obtaining a new appropriation from
2 the State Engineer and therefore must purchase an existing water right and file the
3 appropriate change application.

4 The Basin is over-allocated and already has the greatest proliferation of domestic
5 wells in the state of Nevada. Motion, Exhibit 1. Order 1293 prevents the exacerbation of
6 the conditions in the Basin by slowing new withdrawals of groundwater from additional
7 domestic wells in the over-allocated, depleted basin. The Order does not affect current
8 water right holders or current domestic well owners; but rather, was issued to protect
9 those individuals by conditioning the drilling of additional domestic wells upon a showing
10 that there is water available to serve any new wells. The conditioning of new domestic
11 wells on water availability is consistent with Nevada law and sound water policy as
12 discussed further. *See infra*.

13 **b. The statutory scheme is clear that the State Engineer**
14 **has authority over domestic wells**

15 Petitioner's argument that the State Engineer has no authority over domestic wells
16 is absurd. The Nevada Legislature has granted the State Engineer power to regulate
17 water, both above and below ground. *See* NRS 533.030 and 534.020. With respect to
18 groundwater, the Nevada Legislature has expressly granted the State Engineer power to
19 regulate the appropriation of water from both percolating and artesian sources.
20 NRS 534.080. The Nevada Legislature has also expressly extended this power to regulate
21 many aspects of domestic wells.

22 The 1939 Nevada Underground Water Act included the initial limitations on
23 domestic wells. Underground Water Act, ch. 178, 1939 Nev. Stat. 274 at § 3 (codified as
24 amended at NRS ch. 534.180). An initial restriction of 2 gallons per minute was placed on
25 domestic wells (approximately 3.228 acre-feet per year). *Id.* Then in 1955, that limitation
26 was reduced to 1,400 gallons per day (approximately 1.569 acre-feet per year). Act of
27 Mar. 24, 1955, ch. 212 § 2, 1955 Nev. Stat. 328. The limitation was amended again to
28 1,800 gallons per day in 1971 (approximately 2.018 acre-feet per year). Act of Apr. 23,

1 1971, ch. 448 § 2, 1971 Nev. Stat. 328. In 2007, the limitation language was amended to
2 reflect the terminology used by the State Engineer to 2 acre-feet per year. Act of May 31,
3 2007, ch. 246 § 4, 2007 Nev. Stat. 841 (codified at NRS 534.180).

4 Although domestic wells are traditionally exempt from the *permitting*
5 requirements when the water withdrawn is less than 2 acre-feet per year, the State
6 Engineer has clear authority to regulate wells, including domestic wells. NRS 534.180.
7 The State Engineer has authority to require domestic wells to become registered, or to be
8 plugged if water can be served by another source. *Id.* The State Engineer has complete
9 authority over well construction. *See generally* NAC Ch. 534. The State Engineer also
10 has the authority to **completely** curtail the water use by domestic wells if insufficient
11 water is available to serve all rights. NRS 534.110(6) and (7). The Nevada Legislature
12 unambiguously has granted authority to the State Engineer to regulate domestic wells.

13 Although domestic wells are traditionally exempt from the requirement that they
14 obtain a permit, certificate or vested claim, domestic wells, under the statutory scheme
15 are only protected if they currently exist. NRS 534.180. The Nevada Legislature has
16 enacted requirements that the State Engineer protect “existing rights or with protectable
17 interests in **existing** domestic wells” from conflict. NRS 533.024 (emphasis added). The
18 Legislature has also recognized “the importance of domestic wells as appurtenances to
19 private homes, to create a protectable interest in such wells and to protect their supply of
20 water from unreasonable adverse effects which are caused by municipal, quasi-municipal
21 or industrial uses and which cannot reasonably be mitigated.” NRS 533.024(b). Under
22 Nevada water law, the right to use water in a domestic well is protected in existing wells,
23 not in wells that have yet to be drilled. Petitioner’s argument is based upon a claim that
24 as undeveloped parcel owners, they have a legal entitlement to drill a domestic well in the
25 future.⁶ This argument is simply not supported by Nevada law. *See Bergman v. Kearney*,

26
27 ⁶ Of course, future conditions alone could prevent a domestic well from being drilled on these
28 parcels. A domestic well cannot be drilled on a parcel that is capable of being served by a water purveyor or
municipality. Hence, the passage of time alone, even without Order 1293 can result in the inability to drill
a domestic well if the parcel can be served water by other means when the parcel owner commences
construction.

241 F. 884 (D. Nev. 1917) (the idea that the individual has a vested right to enjoy the use of running water without public regulation or control is subversive of the sovereignty of the state).

c. Petitioner's reliance on dissimilar cases to argue a hearing was required, fails

There is no legal requirement for the State Engineer to hold a hearing and Petitioner's reliance on *Benson v. State Engineer*, 131 Nev. Adv. Op. 78, 358 P.3d 221 (2015), is misplaced. The Supreme Court's decision in *Benson* was limited to the exhaustion of administrative remedies concerning a cancelled permit. 131 Nev. Adv. Op. 78, 358 P.3d at 222, 224-227. Specifically, in *Benson*, the Court considered whether a permittee whose permit was cancelled was required to exhaust her administrative remedies by requesting a statutorily provided for hearing before the State Engineer, before commencing an action for judicial review. *Id.* NRS 533.395, provisions relating to the cancellation of a permit, affords a permittee 60 days to seek review by the State Engineer of a decision to cancel the permit. NRS 533.395(2). The *Benson* permittee argued that since NRS 533.395(3) would require a later priority date of 2013 rather than the original 1960 priority date if the State Engineer reinstated the permit, any petition to the State Engineer would be futile and result in a complete deprivation of a remedy. However, in *Benson*, the issue relating to hearings before the State Engineer was limited.

Specifically, the *Benson* Court found, in context to the cancellation of a water right where the remedy relates to a priority date of the water right that a hearing would be beneficial, but did not find it to be a requirement. 131 Nev. Adv. Op. 78, 358 P.3d at 226. Specifically, the Court found that a hearing would "place the district court in a better position, acting in an appellate capacity, to determine issues such as whether a party has proved adequate grounds for having a permit restored with its original appropriation date." *Benson*, 131 Nev. Adv. Op. 78, 358 P.3d at 226. Petitioner's argument that *Benson* somehow imposes a hearing requirement under these completely dissimilar facts is an

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1 incorrect application of the law and the Nevada Supreme Court's findings. Thus, on this
2 basis, Petitioner has not demonstrated a likelihood of success on the merits.

3 Petitioner has also argued that the State Engineer's position in a Reply Brief in
4 another matter, *Eureka County v. District Court*, requires the State Engineer to hold a
5 hearing. See Exhibit 6 to Motion. This assertion is completely incorrect. The protection
6 the State Engineer argued for in *Eureka County* is the same protection it is applying to
7 current **existing** water right holders and **existing** domestic well owners in this case.
8 *Eureka* deals with a senior water right holder who is seeking to curtail existing water
9 rights in the Diamond Valley Hydrographic Basin. See Exhibit 6 to Motion. Here, the
10 protectable interest in actual water right or existing domestic wells are not being affected
11 by a ruling or decision by the State Engineer or through the a request of a third party.

12 The arguments in *Eureka* urged that **existing** water right owners and **existing**
13 domestic well owners are entitled to receive notice and an opportunity to be heard before
14 a decision is made that affects their protectable interest. For purposes of Order 1293,
15 there is no protectable interest in the mere ownership of land not having a water right or
16 existing domestic well. It is notable that NRS 534.030 requires the State Engineer
17 to hold a public hearing before a basin is designated pursuant to Nevada law.
18 NRS 534.030(2) ("... in a groundwater basin which the State Engineer considers to be in
19 need of administration, the State Engineer shall hold a public hearing. . . ."). The State
20 Engineer has issued nine orders relating to partial and ultimately full designation of the
21 Basin. See Order No. 176, Order No. 193, Order No. 205, Order No. 206, Order No. 381,
22 Order No. 955, Order No. 1107, Order No. 1183, and Order No. 1252. Once a basin is
23 designated, the basin is assigned a certain protected legal status, including express
24 statutory prohibitions and limitations on further development of the water resources
25 within the basin. NRS 534.120 ("Within an area that has been designated by the State
26 Engineer, as provided for in this chapter, where in the judgment of the State Engineer,
27 the groundwater basin is being depleted, the State Engineer in his or her administrative
28 capacity may make such rules, regulations and orders as are deemed essential for the

1 welfare of the area involved.”). Thus, the need for further administrative hearings is
2 limited and the State Engineer is authorized to proceed with taking action he deems
3 necessary to protect the welfare of the public and the Basin.

4 Moreover, that order of curtailment would necessarily **prohibit** the drilling of any
5 new, junior in priority, domestic wells. Further, if the State Engineer issues a
6 curtailment order in the future in Pahrump, then the State Engineer agrees that the
7 same notice and hearing would be given that was advanced in *Eureka. Eureka County v.*
8 *Seventh Jud. Dist. Ct. in & for County of Eureka*, 133 Nev. Adv. Op. 111; 407 P.3d 755
9 (2017). However, those are not the facts existing in this case.

10 Here, the State Engineer has conditioned future, yet to be drilled domestic wells,
11 on parcels that have no independent legal entitlement to withdraw water. Similarly,
12 when the State Engineer prospectively curtails the additional allocation of water rights in
13 a basin, the State Engineer does not and is not required to hold a hearing before an Order
14 curtailing future users is issued.⁷ Only existing water right holders and existing domestic
15 well owners have a protectable interest that requires notice.

16 Finally, if this Court adopts Petitioner’s specious argument that the State Engineer
17 does not have specific authority to issue Order 1293, the ultimate result would limit the
18 State Engineer to two even more drastic options: (1) Wait and do nothing allowing the
19 problem to exacerbate until the basin is over pumped⁸ and then designate the Basin a
20 critical management area, which requires existing water rights and existing domestic
21 well owners to develop a groundwater management plan that is approved by the State
22 Engineer or face curtailment in ten years; or, (2) Immediately issue an order curtailing all
23 water rights, including the current domestic wells, to the 20,000 acre-foot perennial yield
24 of the Basin. NRS 534.110(6) & (7).

25 ⁷ See, e.g., State Engineer Order Nos. 176, 193, 205, 206, 381, 955, 1107, 1183 and 1252.

26 ⁸ While the current basin inventory for the Basin does not show that the Basin is being “over
27 pumped,” that is being pumped in excess of the 20,000 acre-foot perennial yield, the inventory estimates
28 current domestic well use at .5 acre-foot. As domestic wells are not metered, this is a conservative estimate
and the actual water use by existing wells may be in excess of this estimate. However, the basin
inventories are demonstrating an increasing trend of groundwater pumping and it is simply a matter of
time until the Basin is over pumped, even without including an additional 8,000 domestic wells.

1 Petitioner argues that these 8,000 additional parcels have no other ability to obtain
2 water for their residences. This is untrue. A property owner may acquire a permitted or
3 certificated water right in the quantity of 2 acre-feet to be relinquished to the Basin.
4 Motion, Exhibit 1. Further, as stated above, curtailment under NRS 534.110(7),
5 expressly includes domestic wells, there is no exception. If the State Engineer has to
6 curtail the Basin, most existing domestic wells and all of the yet to be drilled domestic
7 wells in addition to junior in priority water rights will be curtailed. *See* NRS 534.110(6).

8 **d. Order 1293 places regulation of new domestic wells**
9 **where it belongs**

10 Despite Petitioner's many assertions that Order 1293 is a ban on new domestic
11 wells, the Order is not a wholesale ban on the drilling of new domestic wells at all.
12 Additionally, Petitioner's claim that Order 1293 is both overbroad and is applied too
13 narrowly is belied by the Order itself and the exhibits to Petitioner's Motion. As already
14 discussed above, over many decades, the State Engineer has issued numerous orders
15 regulating water use under permits and certificates until 2015, when the State Engineer
16 ordered that no new permitted rights would be issued except for emergency situations or
17 where there is no additional draft on the Basin. Exhibit 1, p. 1; *and see* Order 1252.

18 The assertion that Order 1293 is applied too narrowly and "discriminates" against
19 domestic wells is manifestly false. The other types of wells Petitioner refers to
20 (*i.e.*, agricultural or municipal wells) must have permitted water rights associated with
21 those wells, and whenever a water right owner requests to move a water right to an
22 existing well or to a new proposed well, he is required to file an application to do so. *See*
23 NRS 533.325; 533.345. Through the water rights application process, the State Engineer
24 is required to examine whether a conflict with existing rights or domestic wells will be
25 caused by moving water rights to an existing well or a new proposed well. *See*
26 NRS 533.370(2); 534.110(5).

27 Because an existing domestic well is authorized by statute to withdraw up to
28 2 acre-feet per year without a permit, there is no application and conflict review process

1 similar to that for permitted rights. *See* NRS 534.180. In short, domestic wells are not
2 similarly situated to non-domestic wells, which have water rights associated with them.
3 There is no “discrimination” against domestic wells by the Order. Further, as domestic
4 wells are not metered, the Nevada Division of Water Resources State-wide Groundwater
5 Pumpage Inventory: Calendar Year 2015 (November 1, 2017), used by Petitioner as basis
6 to claim there is not an over-allocation or depletion of the aquifer is misleading. The
7 inventory includes an estimate of pumping in the Basin for domestic wells based upon an
8 average of one-half acre-foot per year. Motion, Exhibit 4 at p. 38.

9 Petitioner also claims the Order is overly broad, relying on a selective reading of
10 NRS 534.110(8). Motion at 14, n.72. Groundwater pumping in the 1960s was at an
11 all-time high around 47,000 acre-feet per year in 1968. Exhibit 1.⁹ The basin and
12 existing right holders experienced the consequences from over-pumping the basin
13 including declining water levels, in some areas up to 100 feet, springs drying up and land
14 subsidence. Through the conversion of many irrigation rights to other uses, the efforts of
15 permittees to reduce pumping and the State Engineer’s prior orders regulating water use,
16 water levels in *very* limited areas have experienced some recovery. This is a positive
17 result, yet Petitioner seeks to undo these efforts by having the Order stayed to allow the
18 return of the unrestrained drilling of new wells, which in turn will create new demands
19 on the Basin. Even if water levels have recovered in some areas, recovery is limited and
20 the overall trend is that water levels are continuing to decline even though pumping has
21 been reduced by more than half from the 1960s. Motion, Exhibit 2 at pp. 5-9 (long-term
22 water level trends); *and see* Motion, Exhibit 4. In any event, some limited recovery of
23 water levels is not a reason to allow more pumping by new wells to beckon a return to the
24 ill-effects of over-pumping in decades past. The proliferation of domestic wells is a
25 basin-wide issue and the wells predicted to fail will occur basin-wide. *See* Motion,
26 ///

27
28 ⁹ It is noteworthy that during this period the estimated perennial yield was established as
12,000 afa.

1 Exhibit 2 at pp. 5-14 (Figures 5-6 and 5-7 locations of predicted well failures). There is no
2 necessity or justification to apply Order 1293 to limited portion of the Basin.

3 e. Order 1293 does shift the burden to private property
4 owners to solve the problem because: (1) Petitioner's
5 reliance on a Nye County Ordinance is erroneous, and
6 (2) because Order 1293 creates parity with all other
7 water users and landowners/developers

8 Order 1293 does not purport to be a solution to the over-appropriation of the Basin.
9 Rather, the intention of the Order was to protect existing rights from impairment and to
10 prevent conditions in the Basin from worsening while other measures are undertaken to
11 address the over-appropriation problem. Petitioner's arguments that the solution to
12 over-appropriation being shouldered by new domestic wells is wrong.

13 (1) The court should not be deceived by Petitioner's
14 citation to a Nye County ordinance

15 Petitioner cites the updated Pahrump Water Resource Plan, arguing Order 1293
16 somehow amounts to a taking of private property. Motion, p. 16. A plain reading of
17 Nye County's Water Resource Plan makes clear that Nye County's Plan is discussing a
18 Nye County Ordinance. See Motion, Exhibit 2 at pp. 5-21; Exhibit 6. It is true that in
19 1998 Nye County enacted an ordinance that requires the over-relinquishment of water
20 rights for each new parcel created when land is subdivided. Exhibit 4 at p. 3. The
21 Nye County Ordinance requires the relinquishment of 3 acre-feet for each new parcel
22 created. *Id.* Any reference by Petitioner to Nye County's requirements has no place in
23 this appeal as the State Engineer's Order 1293 is neither controlled by nor bound to the
24 Nye County Ordinance. Rather, Nevada's statutes establish the State Engineer's
25 authority as applied in Order 1293. Specifically, Order 1293 does not require an
26 over-relinquishment and only requires relinquishment of the same amount of water that
27 a domestic well owner can currently divert under statute—2 acre-feet. Petitioner's
28 citation to the Nye County Water Resource Plan is manifestly misleading in that it
suggests Order 1293 requires the over-relinquishment of water rights when it does not.

///

1 Although Petitioner also relies on estimates of domestic use of less than 2 afa to
2 argue Order 1293 still requires and over-relinquishment, there is no prohibition on any
3 domestic well owner from using his full allocation of 2 acre-feet per year and there are
4 domestic well owners that use their full allocation. Absent a statutory change, the State
5 Engineer cannot require existing domestic wells owners to use less water, other than by
6 complete curtailment of out-of-priority rights. Order 1293 is not the Nye County
7 Ordinance, and the requirement that 2 afa be relinquished for new domestic wells is
8 consistent with the amount that existing domestic wells are authorized to pump pursuant
9 to NRS 534.180.

10 (2) Where the Legislature has commanded that water
11 rights and development be predicated on water
12 availability, Order 1293 creates parity with those
13 other rights

14 Any person seeking an appropriative right must demonstrate that water is
15 available to support the right. NRS 533.370. Any developer of a subdivision must
16 demonstrate that adequate water is available to support new subdivisions and
17 development. NRS 278.02521(1)(b)(2); 278.335; 278.377. Nye County's Ordinance passed
18 in 1998 required that new parcels created after the ordinance acquire and relinquish
19 water to support the creation of additional parcels.¹⁰ Only the thousands of still vacant
20 parcels subject to Order 1293 can drill new domestic wells and create additional demands
21 on this severely over-appropriated aquifer with absolutely no regard for whether water is
22 available to support the new wells. This is plainly contrary to the Legislature's intent
23 concerning water availability. Order 1293 creates parity with users in all other
24 circumstances whom are required to demonstrate water is available to support additional
25 withdrawals from the Basin. Ordinarily, the drilling of domestic wells is not problematic
26 due to the limited number of wells; however, the unfettered drilling of thousands of
27 domestic wells in Pahrump went on for decades, and the proliferation of domestic wells

28 ¹⁰ The State Engineer is also authorized to require relinquishment of water rights for approval of
parcel maps where parcels are proposed to be served by domestic wells. NRS 534.120(3)(e).

1 has been a well-known problem to Nye County and its Board of County Commissioners,
2 the State Engineer, the Nye County Water District Board and others. Motion, Exhibit 2
3 at pp. 6-15. Apparently, Petitioner's position of continuing to drill new domestic wells,
4 even where doing so will harm existing water rights and domestic wells, is a "good thing"
5 as long as new well owners, developers and well drillers can benefit economically from
6 doing so.

7 **f. The State Engineer acted timely to deny Notices of**
8 **Intent to Drill new wells, therefore there is no**
9 **retroactive application of the Order**

10 In a basin that has been designated pursuant to NRS 534.120, a well driller
11 proposing to drill any new well must file a Notice of Intent to Drill prior to drilling the
12 well. NAC 534.320(1). The Notice of Intent must be received at least three working days
13 before the well drilling rig is set up on site (NAC 534.320(4)), and the Notice of Intent
14 must be approved by the Division of Water Resources before drilling can commence.
15 NAC 534.320(1). The State Engineer interprets his own regulation (NAC 534.320(4)), as
16 providing three working days to act on a Notice of Intent. Contrary to Petitioner's claim
17 that it had a "vested" right to drill a well (despite not owning any property), when a
18 Notice of Intent was filed, no well driller who filed a Notice of Intent prior to the issuance
19 of Order 1293 had a right to do anything, including drilling a new well, by the filing of the
20 Notice of Intent. Any pending Notices of Intent were timely acted upon within the State
21 Engineer's three-working-day window, and there was no retroactive application of
22 Order 1293 because Petitioner did not have a right, absent approval of the Notice of
23 Intent, to do anything. In fact, Petitioner did not file a Notice of Intent card that was not
24 approved prior to the issuance of Order 1293. Petitioner's claim that Order 1293 was
25 applied retroactively is without merit.

26 Petitioner cannot demonstrate a likelihood of success on the merits because the
27 State Engineer fully examined the totality of the history of this basin, including, but not
28 limited to: the evidence of water rights and domestic well use in excess of the perennial
yield; evidence of the current depletion of the basin that does not include additional wells;

1 the Nye County Water Resources Plan; the Water Level Management Plan; and the
2 request by the Nye County Water District, in finding that some affirmative action must
3 be taken to stop any further injury and harm to the groundwater resource. Motion,
4 Exhibit 1 at pp. 4-6. The overwhelming evidence demonstrates that there is a need for
5 intensified management of the Basin. *Id.* Substantial evidence demonstrates that the
6 State Engineer's decision is not only supported by Nevada's water law, but is a correct
7 application of the law; thus, Petitioner has not demonstrated a likelihood of success on
8 the merits.

9 **3. Petitioner will not sustain irreparable harm if the stay is**
10 **denied**

11 As of the date of this Opposition, Petitioner does not own any property or possess
12 any water rights, whether permitted or certificated water rights, or a domestic well in the
13 Basin. The State Engineer's decision did not change or otherwise affect Petitioner's legal
14 rights or legal status. Petitioner, whom did not exist on the date of the issuance of
15 Order 1293, did not have a right or legal entitlement to withdraw water from the Basin
16 before the Order and would still not have a right or legal entitlement to withdraw water
17 from the Basin if the Order is stayed. Quite simply, Petitioner does not have any interest
18 affected by Order 1293.

19 As a matter of law, Petitioner cannot base its injury or alleged harm on that of its
20 managers, members or other individuals. NRS 86.201(3). *See also Excellence Cmty.*
21 *Mgmt. v. Gilmore*, 131 Nev. Adv. Op. 38, 351 P.3d 720, 723 (2015); *Beazer Homes Holding*
22 *Corp. v. Dist. Ct.*, 128 Nev. 723, 730-731, 291 P.3d 128, 133 (2012). A limited-liability
23 company only represents the legal interests of the company itself, it cannot, independent
24 of its own legal interests, enforce the interests of rights of its members, except to "enforce
25 the member's rights against or liability to the company." NRS 86.381. *See also Beazer*,
26 128 Nev. at 730-731, 291 P.3d at 133.

27 Here, Petitioner has no protectable property interest that is affected by Order 1293.
28 Petitioner did not legally exist at the time the Order was entered and does not own any

1 real property, which is affected by Order 1293. However, even if Petitioner own property,
2 the mere ownership of land in the State of Nevada does not entitle the owner automatic
3 access to water. *United States v. State Eng'r*, 117 Nev. 585, 591, 27 P.3d 51, 55 (2001)
4 ("Nevada's water law, like that of other western states, is exclusively based on the prior
5 appropriation doctrine, which recognizes water rights based on the time of use, as well as
6 actual use, of water without regard to the ownership of land contiguous to a water
7 course"). Petitioner has not been harmed by Order 1293 and will not be harmed if
8 Order 1293 remains in effect pending the outcome of the underlying Petition.

9 **4. If a stay is ordered, the State Engineer will incur hardship**

10 The State Engineer has the duty to ensure the health of the Basin and protect
11 existing water rights and uses. NRS 533.370(2). The State Engineer is already
12 sustaining harm as a result of Petitioner's senseless Motion. Rather than seeking to
13 expeditiously advance this matter to a decision on the merits of the underlying petition
14 for judicial review, the State Engineer has been diverted from the preparation of the
15 record on appeal in order to respond to this Motion. Petitioner's Motion is frivolous and
16 unreasonably demands the expenditure of the time and effort of the State Engineer's
17 office and his legal counsel. This matter, the review of Order 1293, should be afforded the
18 full opportunity to be decided on its merits, and Order 1293 should be examined upon the
19 record the State Engineer relied upon to support his decision. *Revert*, 95 Nev. at 786,
20 603 P.2d 262; *Bacher*, 122 Nev. at 1121, 146 P.3d at 800. Only, if after a full opportunity
21 for each interested party to be heard, the Court were to find that the State Engineer's
22 decision is not supported by substantial evidence, then a remand would be appropriate,
23 and the resulting hardship to the State Engineer would be legally justified.

24 **B. While NRS 533.450(5) Establishes the Basis for a Court to Consider a**
25 **Motion for Stay, Petitioner's Motion is an Ill-Conceived Effort to**
26 **Disrupt the Petition for Judicial Review Process Through its**
Inclusion of Inappropriate Extraneous Letters and Statements from
Non-Interested Parties

27 By means of its Motion, Petitioner seeks to ignore the body of law, which
28 establishes that decisions of the State Engineer are to be measured against the record

1 upon which he relied in rendering the decision. In this case, this Court is bound to make
2 the determination as to whether the State Engineer's record relied upon in rendering
3 Order 1293 consists of substantial evidence supporting Ruling No. 6391. *Revert*, 95 Nev.
4 at 786, 603 P.2d at 264; *Bacher*, 121 Nev. 1121, 146 P.3d 800.

5 Petitioner attempts to sensationalize letters from non-party property owners and
6 other non-parties to this proceeding. See Motion, Exhibit 5. These inadmissible hearsay
7 statements and letters are not part of the State Engineer's record on appeal and are
8 prohibited from being reviewed in deciding the merits of the underlying petition for
9 judicial review and deciding whether Order 1293 is supported by substantial evidence.
10 This extrinsic, and inadmissible, evidence has no bearing on whether the Petitioner itself
11 has been adversely affected by Order 1293. See, e.g., NRS 86.201. See also *Excellence*
12 *Cmty. Mgmt.*, 131 Nev. Adv. Op. 38, 351 P.3d at 723; *Beazer*, 128 Nev. at 730-731,
13 291 P.3d at 133. Petitioner cannot rely upon the alleged injury of its purported members
14 or other non-parties. This irrelevant, inadmissible and extrinsic hearsay evidence does
15 not support the issuance of a stay of Order 1293. Pursuant to NRS 533.450, this Court's
16 review of this decision is limited to making a decision as to whether the State Engineer's
17 decision is supported by substantial evidence. *Revert*, 95 Nev. at 786. Furthermore, the
18 granting of a stay is based upon alleged harm to the Petitioner, not alleged harm other
19 individuals in the community that Petitioner attempts to bootstrap to its specious claim of
20 injury. NRS 534.450(5).

21 Because the State Engineer's full record on appeal has yet to be filed, it is
22 premature for this Court to determine whether substantial evidence supports Order 1293.
23 Ultimately, the underlying petition for judicial review and the Court's determination as to
24 whether to grant or deny Petitioner's requested relief will rest upon whether the State
25 Engineer's record, and the information relied upon him in issuing Order 1293, is
26 supported by the yet-to-be-filed record consisting of overwhelming evidence. *Id.* This
27 matter must be permitted to proceed in the ordinary course, affording each of the parties,
28 and the Protestants, a full opportunity to be heard. NRS 533.450(2).

1 **C. If a Stay is Issued, it Should be Narrowly Tailored to Petitioner and**
2 **Petitioner Must File an Adequate Bond to Remedy Harm from**
3 **Staying the Order**

4 The State Engineer submits that Petitioner has not demonstrated that a stay is
5 warranted and the Motion should be denied. However, if the Court grants the Motion and
6 orders a stay, any stay of enforcement of the Order should be limited to Petitioner, as the
7 State Engineer has detailed the competing interest that will be harmed if the Order is
8 globally stayed.

9 In addition, NRS 533.450(6) requires that Petitioner post a bond if a stay is issued.
10 The State Engineer has identified overriding concerns regarding irreparable harm to the
11 public, including existing water rights, which are considered real property, and possibly
12 real property owners who drill a domestic well in reliance on the stay that may ultimately
13 ordered to be plugged as drilled in violation of Order 1293. If any stay is not limited to
14 Petitioner, the State Engineer requests that Petitioner be required to post a bond of not
15 less than \$1,000,000 (One Million Dollars). If any stay is limited to Petitioner, a lesser
16 bond amount as determined by the Court may be appropriate.

17 **IV. CONCLUSION**

18 The public, consisting of the public resources of the Basin, the current water right
19 holders and the existing domestic well owners will be harmed if this stay is granted. The
20 Basin is over-allocated. Any increase in the withdrawal of groundwater will affect the
21 current water right holders and the existing domestic well owners.

22 However, Petitioner has not, and cannot, demonstrate that it will sustain
23 irreparable harm if the stay is denied, as required by NRS 534.450(5)(b). For the
24 foregoing reasons, the State Engineer respectfully requests that Petitioner's Motion be
25 denied.

26 ///

27 ///

28 ///

 ///

Office of the Attorney General
100 North Carson Street
Carson City, Nevada 89701-4717

DATED this 27th day of February, 2018.

By:

CERTIFICATE OF SERVICE

I certify that I am an employee of the State of Nevada, Office of the Attorney General, and that on this 27th day of February, 2018, I served a true and correct copy of the foregoing OPPOSITION TO PETITIONER'S MOTION FOR STAY OF NEVADA STATE ENGINEER'S ORDER 1293, by **hand delivery**, addressed to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703

Dorene A. Wright
Dorene A. Wright

INDEX OF EXHIBITS

EXHIBIT No.	EXHIBIT DESCRIPTION	NUMBER OF PAGES
1.	State Engineer Orders, Basin 162	23
2.	John Klenke, <i>Estimated Effects of Water Level Declines in the Pahrump Valley on Water Well Longevity</i> , January 2017.	51
3.	Nye County Board of Commissioners Minutes, January 10, 2018	7
4.	Nye County Ordinance 16.28.170	4
5.	Nye County Water Resources Plan, 2004	136

EXHIBIT 1

EXHIBIT 1

State Engineer Orders Issued in the Pahrump Artesian Basin (162)		
Order No.	Order Date	Description
176	03-11-1941	Designating and describing the basin
193	01-15-1948	Extending the designated area
205	01-23-1953	Further extending the designated area
206	05-04-1953	Requiring the installation of measuring devices
381	06-01-1970	Declaring irrigation a non-preferred use, ordering that new applications for irrigation be denied
955	10-26-1987	Amending Order No. 381, denying applications on the Pahrump and Manse fans, restricting applications to small commercial uses and forfeiture re-filing provisions
1107	11-08-1994	Denying all new applications to appropriate except small commercial and environmental
1183	04-19-2007	Establishing a program for domestic well credits in the basin
1252	04-29-2015	Further extending the designated area, lifting the prohibition of water rights off the Pahrump and Manse fans, and curtailing all new appropriations except for very limited exceptions

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

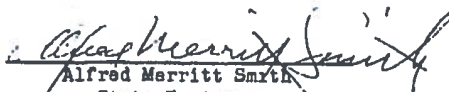
.....
ORDER

DESIGNATING AND DESCRIBING
THE PAHRUMP ARTESIAN BASIN

Pursuant to a petition signed by more than ten per cent of the legal appropriators of underground water in the Pahump Artesian Basin located in Pahump Valley, Nye and Clark Counties, Nevada, an Order is hereby made by the State Engineer and entered on the records of the State Engineer, at Carson City, Nevada, designating the following described area of land as an underground artesian water basin coming under the provisions of the Underground Water Law. (Chap. 178, Nevada Stats. 1939) The area is designated as follows by U. S. Land Survey and metes and bounds:

Commencing at the S.E. Corner of Section 26, T. 21 S., R. 54 E., thence northerly about 7 miles to the N.E. Corner of Section 26, T. 20 S., R. 54 E., thence westerly about 3 miles to the N.W. Corner of Section 28, thence northerly about 4 miles to the N.E. Corner of Section 5, T. 20 S., R. 54 E., thence westerly about 5 miles to the N.W. Corner of Section 3, T. 20 S., R. 53 E., thence southerly about 9 miles to the S.W. Corner of Section 15, T. 21 S., R. 53 E., unsurveyed, thence easterly about 3 miles to the S.W. Corner of Section 18, T. 21 S., R. 54 E., thence southerly about 2 miles to the S.W. Corner of Section 30, T. 21 S., R. 54 E., thence easterly about 5 miles to the S.E. Corner of Section 26, T. 21 S., R. 54 E., being the point of beginning, situated in Nye and Clark Counties, Nevada.

Dated this 11th day of March, 1941, at Carson City, Nevada.


Alfred Merritt Smith
State Engineer

IN THE OFFICE OF THE STATE ENGINEER OF THE STATE OF NEVADA

ORDERExtending the Designated Area of the
Pahrump Artesian Basin

On March 11, 1941, the State Engineer, by an official Order and pursuant to a petition signed by more than ten percent of the legal appropriators of underground water in the Pahrump Artesian Basin located in Pahrump Valley, Nye County, Nevada, designated a described area of land as an underground artesian water basin coming under the provisions of the underground water law (Chapter 178, Nevada Statutes 1939).

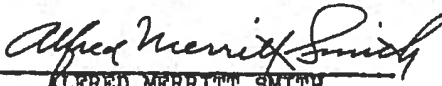
Recent development of water northerly from the area included by the 1941 Order has indicated the necessity of extending the designated area in that direction.

An Order is hereby made by the State Engineer and entered on the records of the State Engineer at Carson City, Nevada, designating the following described area of land as an extension to the already designated water basin, and coming under the provisions of the underground water law (Chapter 178, Nevada Statutes of 1939, as amended and supplemented):

Being that area contained in

T. 19 S., R. 53 E., M.D.B.&M.

Dated this 15th day of January, 1948, at Carson City, Nevada.


ALFRED MERRITT SMITH
State Engineer

IN THE OFFICE OF THE STATE ENGINEER OF THE STATE OF NEVADA

O R D E RExtending the Designated Area of the Pahrump
Artesian Basin

Pursuant to Chapter 178, Nevada Statutes of 1939, as amended and supplemented, the State Engineer on March 11, 1941 and January 15, 1948 by his Orders established the existing boundary of the Pahrump Artesian Basin.

This Order is issued to further extend the boundaries of the designated area so that adequate control of the ground-water development will be possible.

The following lands listed by Section and/or Township and Range are hereby designated as the area within the extended Pahrump Artesian Basin:

East Half ($E\frac{1}{2}$) Township 19 South, Range 52 East, M.D.B.&M.

East Half ($E\frac{1}{2}$) Township 20 South, Range 52 East, M.D.B.&M.

Section 1, Township 21 South, Range 52 East, M.D.B.&M.

Portions of Sections 14, 15, 22, 23, 24, 25, 26 and 36,
Township 24 North, Range 8 East, S.B.M.

All Township 19 South, Range 53 East, M.D.B.&M.

All Township 20 South, Range 53 East, M.D.B.&M.

All Township 21 South, Range 53 East, M.D.B.&M.

Portions of Sections 1, 2 and 12, Township 22 South, Range 53 E.,
M.D.B.&M.

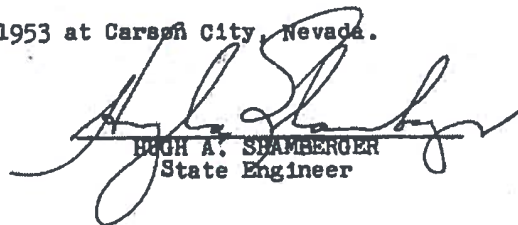
West Half ($W\frac{1}{2}$) Township 20 South, Range 54 East, M.D.B.&M.

Sections 25, 26, 27, 34, 35 and 36, Township 20 South, Range 54 East,
M.D.B.&M.

All Township 21 South, Range 54 East, M.D.B.&M.

All Township 22 South, Range 54 East, M.D.B.&M.

Dated this 23rd day of January, 1953 at Carson City, Nevada.


HUGH A. STAMBERGER
State Engineer

IN THE OFFICE OF THE STATE ENGINEER OF THE STATE OF NEVADA

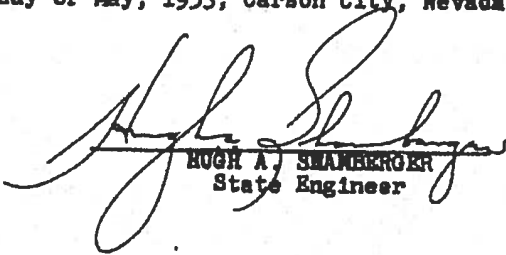
O R D E R

DIRECTING THE INSTALLATION OF MEASURING DEVICES
IN THE PAHRUMP ARTESIAN BASIN

Each and every permit to appropriate water granted by the State of Nevada requires the permittee to install a suitable measuring device at his point of diversion. Upon investigation by the State Engineer it has been found that in most instances in the Pahrump Valley Artesian Basin the provisions of the permit requiring a measuring device has been disregarded.

You are therefore ordered to install a suitable measuring device at your diversion within thirty (30) days of the date of this Order or your water will be turned off until such time as the Order is complied with.

Dated this 4th day of May, 1953, Carson City, Nevada.


HUGH A. SWANGER
State Engineer

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

ORDER

NOTICE OF CURTAILMENT OF WATER APPROPRIATION

Effective this date the State Engineer will not grant permits to appropriate ground water for IRRIGATION PURPOSES within the following area designated as the Pahrump Artesian Basin:

East Half ($E\frac{1}{2}$) Township 19 South, Range 52 East,
M.D.B.&M.

All of Township 19 South, Range 53 East, M.D.B.&M.

East Half ($E\frac{1}{2}$) Township 20 South, Range 52 East, M.D.B.&M.

All of Township 20 South, Range 53 East, M.D.B.&M.

West Half ($W\frac{1}{2}$) Township 20 South, Range 54 East, M.D.B.&M.

Sections 25, 26, 27, 34, 35, and 36, Township 20 South,
Range 54 East, M.D.B.&M.

Section 1, Township 21 South, Range 52 East, M.D.B.&M.

Portions of Sections 14, 15, 22, 23, 24, 25, 26, and 36,
Township 24 North, Range 8 East, S.B.M.

All of Township 21 South, Range 53 East, M.D.B.&M.

All of Township 21 South, Range 54 East, M.D.B.&M.

Portions of Sections 1, 2, and 12, Township 22 South,
Range 53 East, M.D.B.&M.

All of Township 22 South, Range 54 East, M.D.B.&M.

The U. S. Geological Survey estimates that 12,000 acre-feet of water are available as a perennial yield from the alluvial sands and gravels in the Pahrump Artesian Basin. Pumpage records for the last five years indicate the following

volumes of water were pumped from the Pahrump Artesian Basin:

	Irrigation	Other	Total
1969	40,506 acre-feet	388 acre-feet	40,894 acre-feet
1968	47,632 acre-feet	317 acre-feet	47,949 acre-feet
1967	41,324 acre-feet	177 acre-feet	41,501 acre-feet
1966	37,944 acre-feet	166 acre-feet	38,110 acre-feet
1965	36,514 acre-feet	N/A	36,514 acre-feet

A review of the water rights of record as of May 1, 1970, confirms that appropriations have been approved for 45,607 acre-feet under certificated rights and 45,416 acre-feet under permitted rights which could legally make a total demand of 91,023 acre-feet of water per year within the designated area of the Pahrump Artesian Basin. This condition results in an over-draft of water which will deplete the ground water reservoir.

The State Engineer has designated the Pahrump Artesian Basin as provided under NRS 534.010 to 534.190, inclusive, by the following Orders:

1. Order No. 176 dated March 11, 1941.
2. Order No. 193 dated January 15, 1948, extending the boundary of the Pahrump Artesian Basin.
3. Order No. 205 dated January 23, 1953, extending the boundary of the Pahrump Artesian Basin.

By the authority granted under the provisions of NRS 534.120, Section 1, when the ground water basin is being depleted, the State Engineer on January 19, 1965, instituted a regulation to the effect that permits to appropriate underground water for the development and irrigation of new land would not be allowed within the Pahrump Artesian Basin and, as regards appropriations for irrigation use, only applications to appropriate ground water to supplement existing water rights have been granted since that time.

Further, NRS 534.120, Section 2 directs the State Engineer, in the interest of public welfare, to designate preferred uses of water in acting on applications to appropriate ground water within the areas designated by him from which the ground water is being depleted within the following limits: Domestic, municipal, quasi-municipal, industrial, irrigation, mining, and stockwatering uses.

Therefore, the safeguarding of the limited ground water supply within the aforementioned designated area of the Pahrump Artesian Basin necessitates and demands that irrigation use be excluded from the preferred uses of the ground water resources within the above described area and that no additional permits be allowed within this area to appropriate ground water for the irrigation of lands.

This Order does not affect Applications to Appropriate ground water filed in the Office of the State Engineer prior to the date of this Order.


Roland D. Westergaard
State Engineer

Dated at Carson City, Nevada

this 1st day of June, 1970.

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

955 : f

ORDER

WITHIN THE PAHRUMP VALLEY ARTESIAN BASIN

WHEREAS, the State Engineer has designated the Pahrump Valley Artesian Basin as provided under NRS 534.010 to 534.190, inclusive, by the following Orders:

1. Order No. 176, dated March 11, 1941;
2. Order No. 193, dated January 15, 1948, extending the boundary of the Pahrump Valley Artesian Basin;
3. Order No. 205, dated January 23, 1953, extending the boundary of the Pahrump Valley Artesian Basin.

WHEREAS, NRS 534.120 provides that within an area that has been designated by the State Engineer where, in his judgment, the ground water basin is being depleted, the State Engineer in his administrative capacity is empowered to make such rules, regulations and orders as are deemed essential for the welfare of the area involved.

WHEREAS, the State Engineer issued Order No. 206 on May 4, 1953, directing the installation of measuring devices on all permitted wells (excluding domestic wells) within the Pahrump Ground Water Basin.

WHEREAS, the State Engineer issued Order No. 381 on June 1, 1970, giving notice that no further appropriations would be approved for irrigation purposes in Pahrump Valley Ground Water Basin.

WHEREAS, the United States Geological Survey estimates that 19,000 acre-feet annually is the maximum amount of natural discharge available for capture. The State Engineer has determined that the perennial yield of the Pahrump Valley Artesian Basin may be on the order of 12,000 acre-feet annually based on an outflow to the Amargosa-Ash Meadows area of some 7,000 acre-feet annually. Existing ground water rights of record in the State Engineer's office total over 80,000 acre-feet annually. Of this amount, approximately 60,000 acre-feet annually is for irrigation purposes and approximately 20,000 acre-feet annually represents municipal, quasi-municipal and commercial uses.

WHEREAS, the records and information available to the State Engineer's office indicate there are currently approximately 39,830 approved subdivision lots within the Nye County portion of Pahrump Valley.


WHEREAS, the State Engineer has maintained pumpage inventories in Pahrump Valley since 1962 and has found a continual depletion of the ground water which is the sole source of water for agriculture and other development in Pahrump Valley. During the period 1962-1985, ground water withdrawals increased from 29,000 acre-feet annually in 1962 to a maximum of 48,000 acre-feet annually in 1968 and then steadily declined from about 44,500 acre-feet annually in 1976 to 23,000 acre-feet annually in 1985. The decrease in pumpage is due primarily to the transitional change of agricultural land to real estate development.

WHEREAS, the State Engineer has found ground water levels in Pahrump Valley are declining with the greatest declines along the base of the Pahrump and Manse fans located in the east side of the basin.

NOW, THEREFORE, it is ordered that:

1. All applications filed to appropriate water from the Pahrump Valley Artesian Basin in the east side of the basin on the Pahrump and Manse fans be denied.
2. All applications filed to appropriate water from the Pahrump Valley Artesian Basin for all uses except small commercial uses on the valley floor will be denied. Small commercial uses will be considered a preferred use of the limited ground water resource under the authority of NRS 534.120.
3. All applications filed to appropriate water from the Pahrump Valley Artesian Basin for commercial uses which require water in the amount of 5,000 gallons per day or less will be considered for approval on an individual basis and on their own merits.
4. Order No. 381 issued by the State Engineer on June 1, 1970, be amended in the following manner:

All applications filed to appropriate water for irrigation purposes on lands in Pahrump Valley that have had a certificated water right forfeited where the forfeiture has occurred prior to January 1, 1988, will be considered for approval on an individual basis and on their own merits. Such applications will only be considered if filed with the State Engineer's office within 60 days of the date the right has been declared forfeited.


PETER G. MORROS
State Engineer

Dated at Carson City, Nevada, this

26th day of OCTOBER, 1987

ORDER

WHEREAS, NRS 534.120 provides that within an area that has been designated by the State Engineer where, in his judgment, the ground water basin is being depleted, the State Engineer in his administrative capacity is empowered to make such rules, regulations and orders as are deemed essential for the welfare of the area involved.

WHEREAS, the State Engineer has designated the Pahrump Artesian Basin as provided under NRS 534.010 to 534.190, inclusive, by the following Orders:

1. Order No. 176, dated March 11, 1941;
2. Order No. 193, dated January 15, 1948, extending the boundary of the Pahrump Valley Artesian Basin;
3. Order No. 205, dated January 23, 1953, extending the boundary of the Pahrump Valley Artesian Basin and;

WHEREAS, the State Engineer issued Order No. 206 on May 4, 1953, directing the installation of measuring devices on all permitted wells (excluding domestic wells) within the Pahrump Valley Artesian Basin.

WHEREAS, the State Engineer issued Order No. 381 on June 1, 1970, giving notice that no further appropriations would be approved for irrigation purposes in the Pahrump Valley Artesian Basin.

WHEREAS, the State Engineer issued Order No. 955 on October 26, 1987, denying new appropriations on the Pahrump and Manse alluvial fans and declared new appropriations for commercial uses, off the fan and requiring 5,000 gallons a day or less, preferred uses.

WHEREAS, the United States Geological Survey estimates that the perennial yield of the Pahrump Valley Artesian Basin is 19,000 acre-feet annually, and the State Engineer estimated the perennial yield may be on the order of 12,000 acre-feet annually. Existing ground water rights of record in the State Engineer's office exceeds 75,000 acre-feet. Irrigation water rights in the Pahrump Valley total approximately 55,000 acre-feet; and municipal, quasi-


municipal and commercial water rights total 20,000 acre-feet annually.

WHEREAS, the pumpage of ground water in the Pahrump Valley Artesian Basin is in excess of the perennial yield.

NOW THEREFORE, it is ordered that, with the following exceptions, applications filed to appropriate water from the groundwater source pursuant to NRS 534.120 within the designated Pahrump Valley Artesian Basin will be denied.

EXCEPTIONS:

1. Those applications filed for commercial (non-living units) or industrial purposes off the fan and only those applications which seek to appropriate 1,800 gallons per day or less and where the property zoned for such purposes shall be processed and subject to NRS 533 and 534.
2. Those applications for Environmental permits filed pursuant to NRS 533.437.


R/ MICHAEL TURNIPSEED, P.E.
State Engineer

Dated at Carson City, Nevada, this

8th day of NOVEMBER, 1994.

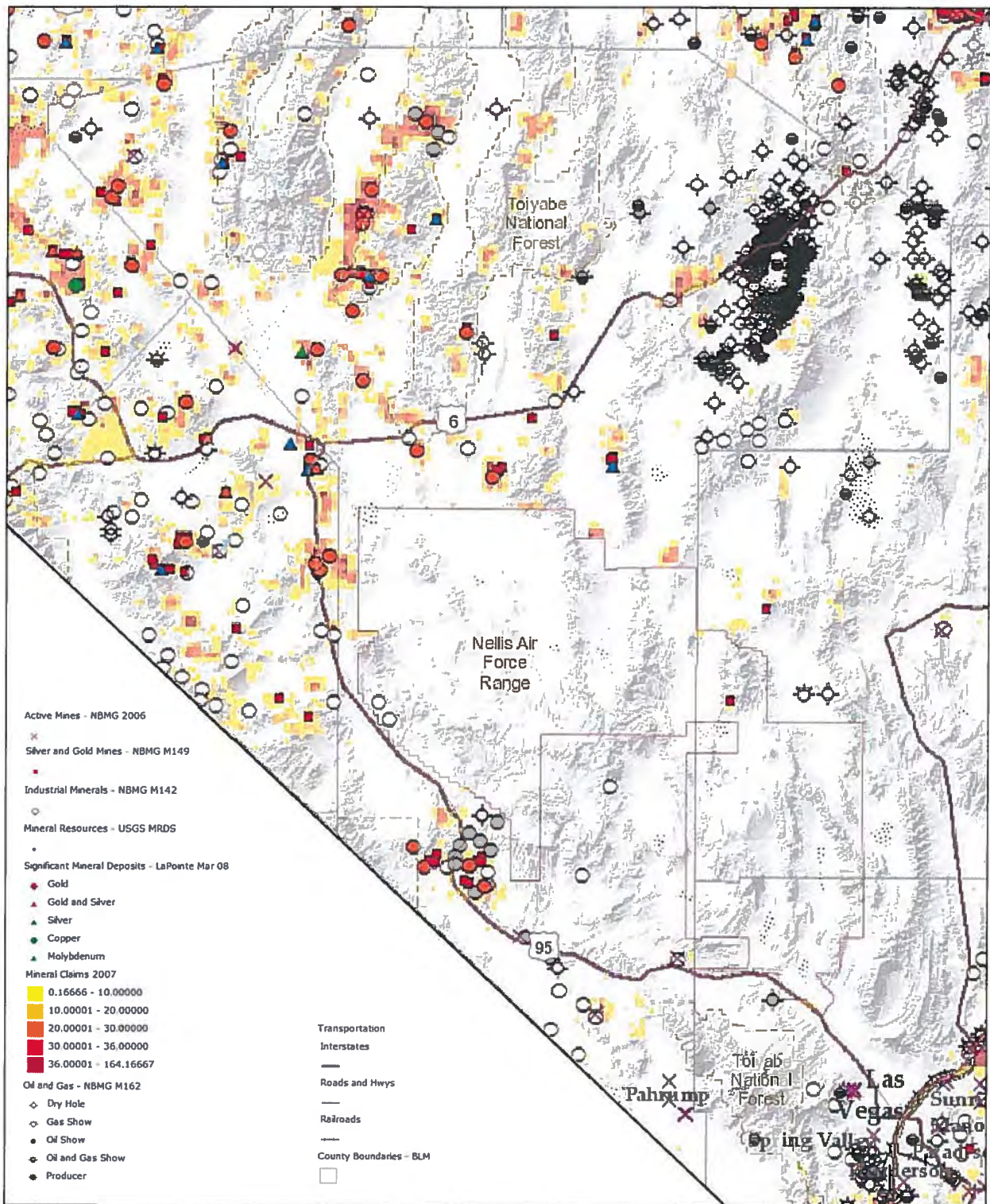


Figure A-1. Areas of active mineral, oil, and gas exploration and extraction in Nye County (NBMG, 2007, 2013).

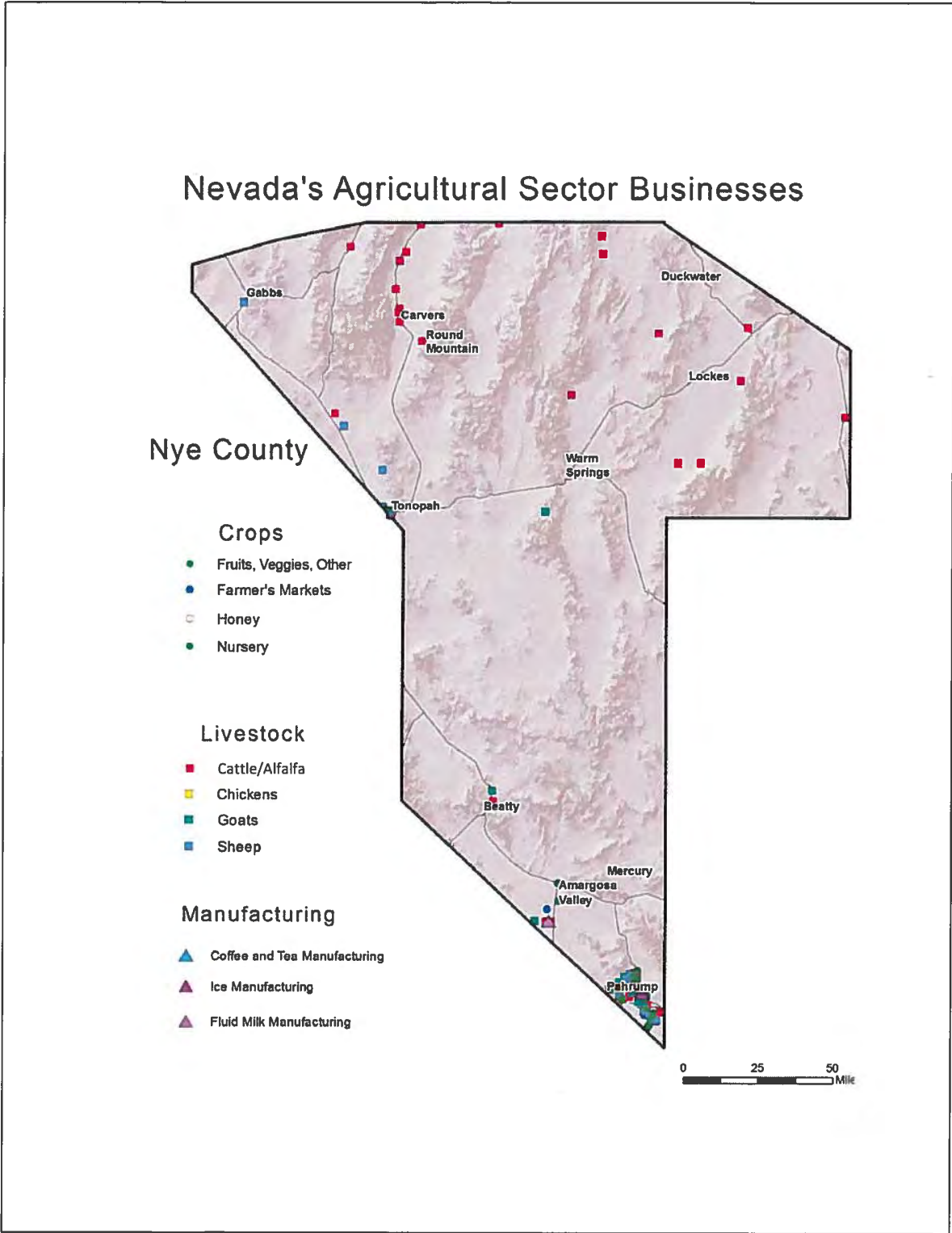


Figure A-2. Areas of active agriculture in Nye County by business sector (Nevada Department of Agriculture, 2015).

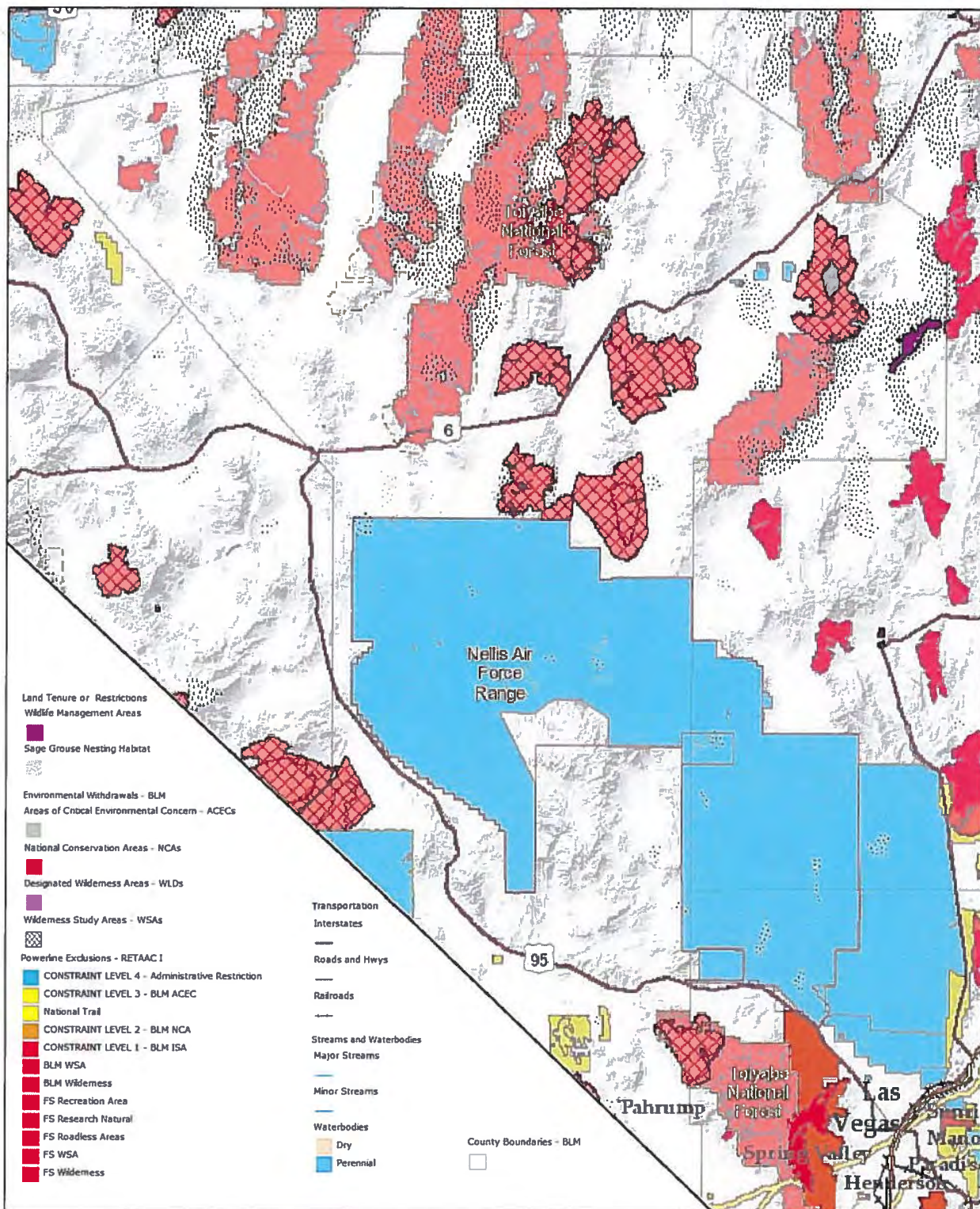


Figure A-3. Federal Land Use Constraints affecting public lands in Nye County (NBMG, 2007).

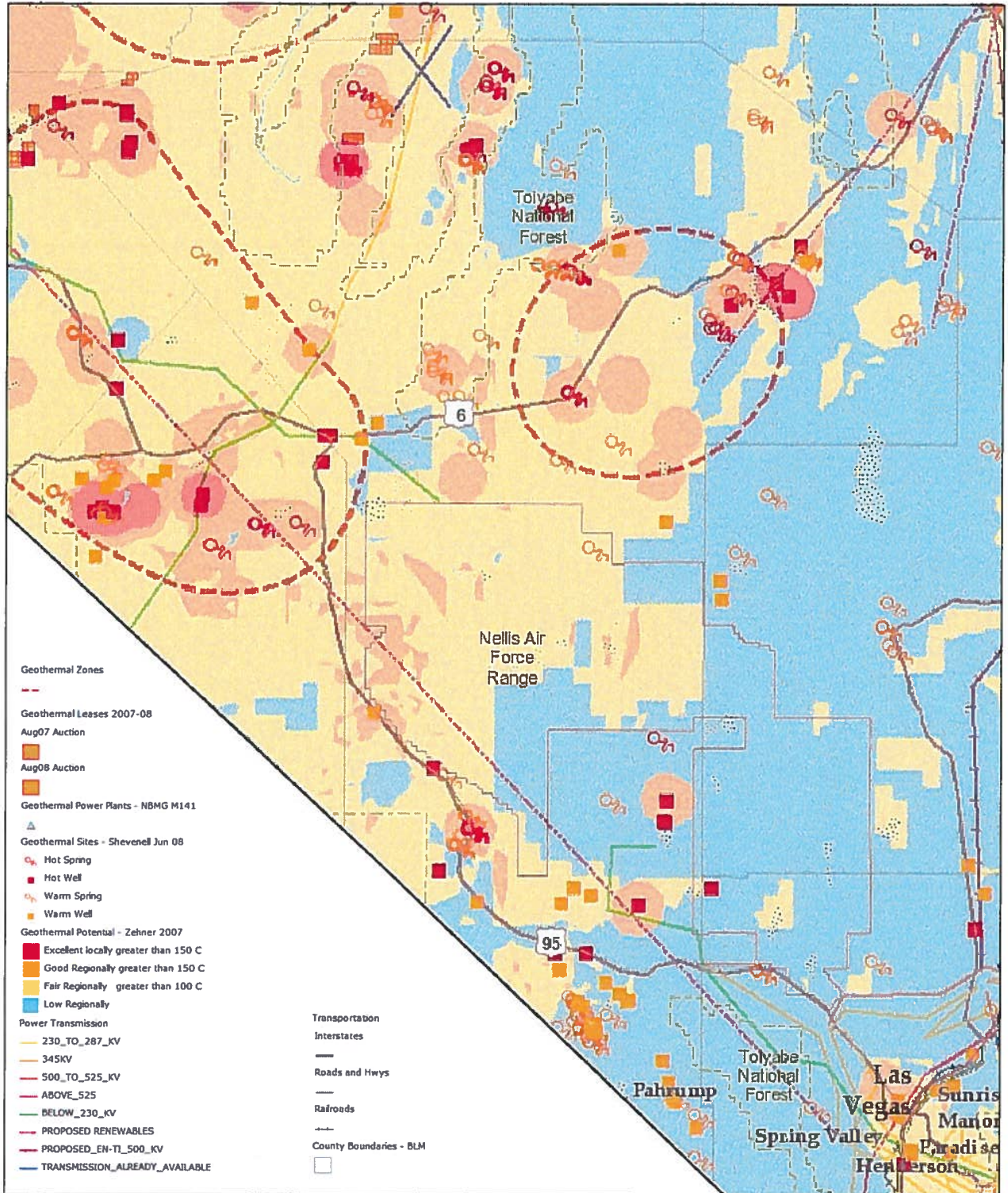


Figure A-4. Geothermal related activity in Nye County (NBMG, 2007).

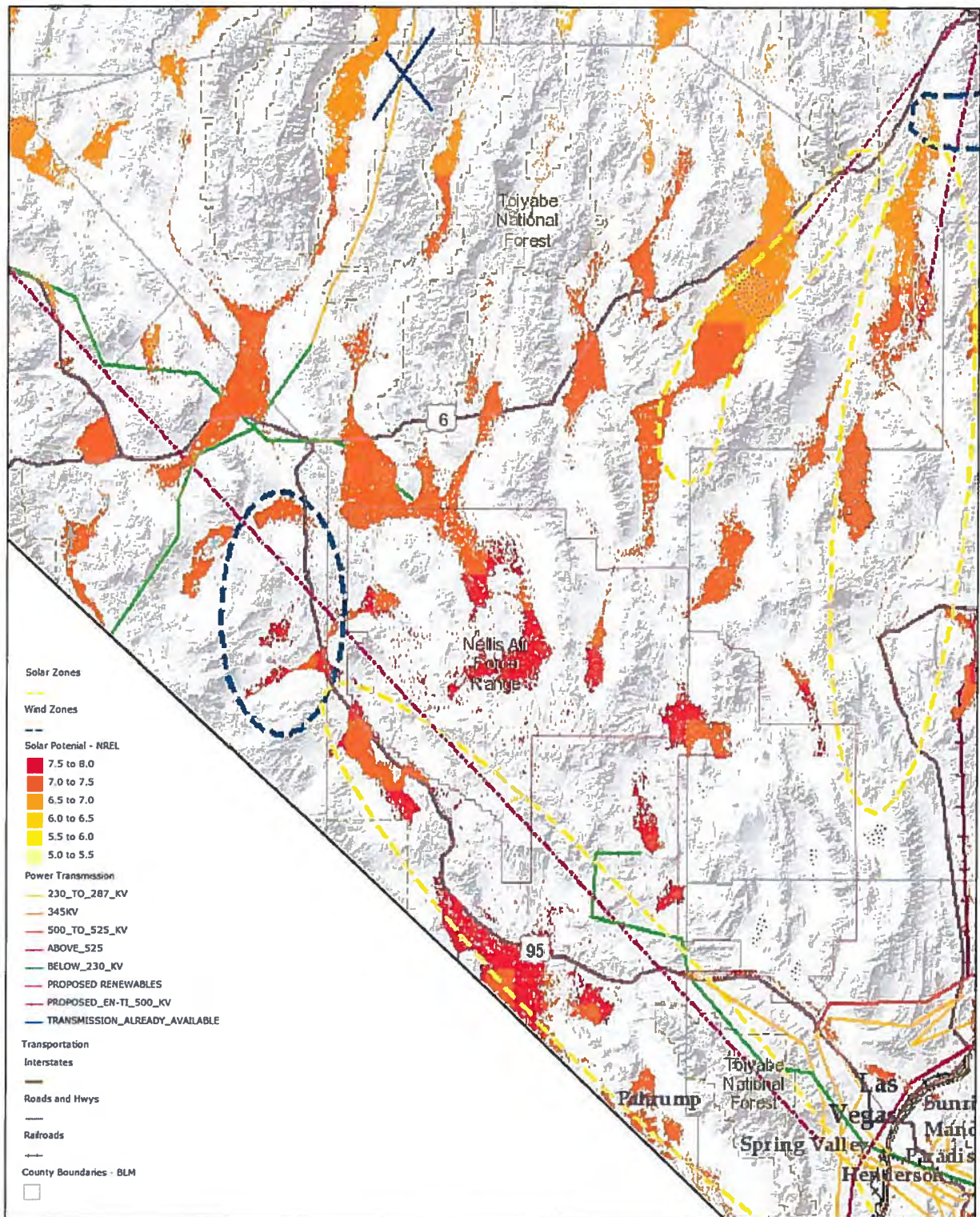


Figure A-5. Renewable energy related activity in Nye County (NBMG, 2007).

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Appendix B

PUBLIC COMMENTS

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WRPU Section /			Resolution
Name	Paragraph	Comment	
Public Outreach Meetings (Number of attendees)			
	General public comments	Board members and the public in the towns of Amargosa Valley, Beatty, Gabbs, Railroad Valley, Round Mountain, and Tonopah expressed strong support of retaining the Nye County Water District, as formed by the Nye County Water District Act of 2007. Members of the Town Boards, opposed the passage of SB 21, abolishing the Nye County Water District and sent letters to the Nevada Senate legislative Assembly Committee on Government Affairs. A member of the Tonopah Town Board noted that not a single governing board in Nye County was notified prior to the Bill Draft request by the Nye County Board of County Commissioners to abolish the Nye County Water District.	Text revised to reflect concern expressed in Public Comment.
Pahrump / Water District Meeting 3/27/17 (15)			
Ken Searles	Chapter 5.2.1 Growth-related Water Supply Issues	The verbiage in this section should be changed. The term, "over-pumpage" could be better defined because the residents are not pumping their full allocation of water. Change the verbiage to reflect a high concentration of wells in the area where pumping occurs.	Text revised to "areas of concentrated pumpage."
	Chapter 5-21: Basin Over Allocation and the Potential Future Shortfall of Groundwater Supplies	Question the validity of the statement: "Total permitted water appropriations currently exceed 60,000 acre-feet, and UNDER CURRENT WATER LAW, estimated domestic well use of 0.5 ACRE-FEET could allow for the withdrawal of an additional 4,250 acre-feet with no future parceling."	Text revised to clarify difference between legal entitlement and estimated usage.
John Bosta	Chapter 5.2.1	Not only is there a concentration of domestic wells in the area, but the utility companies are also pumping water from wells.	No change. Utility wells draw from deeper gravel aquifer.
	Chapter 6	Recommend separation of Amargosa from Crystal because the water problems in those two areas are different. The town of Amargosa set requirements of parceling and subdividing.	Additional information regarding Crystal had been added.

Appendix B—1

Nye County Water Resources Plan Update - 2017

Round Mountain/Hadley Town Board Meeting 3/28/17 (40+)			
	Chapter 6	Add information on the Round Mountain Gold Public Utilities Company water system.	Text revised per comment.
Beatty Town Advisory Board Meeting 4/10/17 (10)			
	Chapter 7	Asked about status of Water District Bill. Noted support for Water District.	No change.
Gabbs Town Advisory Board Meeting 4/12/17 (5)			
	Page 6-11	Three assumptions listed at top: 3rd assumption - "The proposed expansion of the Fallon Naval Air Station land withdrawal will eliminate the potential for future oil and geothermal development." Remove the word "geothermal." The geothermal potential expands beyond the boundaries of what NAS is proposing to take in. Simply remove that reference to geothermal development.	Text revised to reflect comment.
Tonopah Town Board Meeting 4/12/17 (20+)			
	Chapter 6	It was suggested that the WRPUP should assume 10 solar towers in the 50-year planning period as described by the press release.	Text revised to reflect information in Press Release. No changes made to water demand calculation.
Amargosa Valley Town Board Meeting 4/13/17 (10)			
Sid Redditch, Resident		Wanted to know if the WRPUP addresses the water law concept of "use it or lose it."	No change. Out of scope of WRPUP Update.
		Noted concerns about closed LLW site, and potential downgradient contamination.	Added recommendation for continued tritium monitoring.
Victor Fuente, Resident		Owns 40 acres in Ash Meadows on Carson Slough. Noted the WRPUP does not include discussion of U.S. Fish and Wildlife illegally diverting water. The case is pending in U.S. Supreme Court.	Text added to Amargosa Valley section.

Appendix B—2

John Bosta, Resident	U.S. Fish and Wildlife is not using its 18,000 afy appropriation. Water levels around Amargosa River have declined by 90'-120' as a result of dairy pumping. The water table at his house has declined 2 ½ afy. Most of the WRP is not about Amargosa Valley. Amargosa Valley/Crystal lands should be separate discussions in the WRP. WRP should address lack of science behind Order 1197.	No change. Issues generally addressed in WRP Update. Text regarding Crystal added to Amargosa Valley discussion. Text revised to include well data west of the gravity fault.
Currant - Railroad Valley Town Advisory Board Meeting 4/18/17 (6)		
Town Advisory Board	Chapter 6 Resolution 2017-RRV-01 passed 2-0 and resolved that any interest in water received by Nye County as a result of the SNWA filings shall be made available to the residents for Railroad Valley pursuant to Nevada Water Law.	Text revised per Resolution.
Pat Knight, Resident	Continue to oppose SNWA applications for water exportation to Clark County.	Text added to recommendations.
	Duckwater Shoshone Reservation increased by 31,000 acres in 2017. No firm development plans. Past Tribal Counsels have considered the need for residential area and new school.	Text added to Railroad Valley section.
	Noted elevated fluoride concentrations elevated in some wells.	Text added to Railroad Valley section.
Pahrump/Water District Meeting 4/24/17 (15)		
John Bosta, Resident	U.S. Fish and Wildlife is not using its 18,000 afy appropriation. Water levels around Amargosa River have declined by 90'-120' as a result of dairy pumping. The water table at his house has declined 2 ½ afy. Most of the WRP is not about Amargosa Valley. Amargosa Valley/Crystal lands should be separate discussions in the WRP. WRP should address lack of science behind Order 1197.	No change. Issues generally addressed in WRP Update. Text regarding Crystal added to Amargosa Valley discussion. Text revised to include well data west of the gravity fault.

Nye County Water Resources Plan Update - 2017

Dwight Lily, Resident	Public Comments Received	Eminent domain isn't discussed. His water rights are not addressed.	No change. Out of scope of WRP Update.
Walt Kuver	General	Provided tabulated crosswalk relating the Governor's Drought Plan to the elements of the Basin 162 Groundwater Management Plan.	Reference added to Chapter 5.
	General	Provided summary memo of recommended legislative actions; included community per capita daily water rates for Pahrump.	Reference added to Chapter 4.
	Page 5-5: List of "Issues Related to Growth"	Add a fifth issue as point #3: "Over-development in the Pahrump Basin with existing parcels and zoning that would allow growth requiring 3-4 times more water than the current perennial yield."	Text revised per comment.
	Page 5-6: In first paragraph under "Pahrump Valley"	Add a 3rd summary point as follows: "... (1) over-pumpage ... (2) over-allocation ... and (3) existing over-development way beyond what the perennial yield can support."	Text revised per comment.
	Page 5-7: Add a new 2nd paragraph referencing the Pahrump Master Plan Update:	Perhaps: "The Pahrump Master Plan Update approved in 2014 reduced the projected population figure at a theoretical 100% build-out from over 500,000 to about 330,000 people based on already existing land parcels, subdivision development agreements, and current zoning. This is still 3 or 4 times the amount of growth that can be supported by the basin's realistic perennial yield. A slow growth rate is not a supply/demand solution unless a population upper limit is formally acknowledged in the near future"	Text revised per discussion with C. Beeman, Nye County Planning Department.
		Note: Cheryl Beeman is the Pahrump Master Plan expert in the Planning Dept. Yes, the GWMP calls for Growth Control but it has not been faced up to yet. There will be many complex and expensive issues involved in denying existing property owners the right to build.	

Appendix B—4

	Page 5-14: Second paragraph "Buildout" statement is wrong!	Under present zoning there are way more than 8,000 lots and parcels to build out – there are 8,500 large domestic well based properties alone much less the 19,300 subdivision lots of already approved Development Agreements. Please get accurate info from Cheryl Beeman.	Text revised per comment.
	Page 6-16: "Graph of "Groundwater Use in Pahrump Valley 1959 to 2014"	Comment: Decline in usage since 2004 is partially due to the DWR reduction in the 2009 and subsequent years Pumpage Inventory Report of the average domestic well usage figure from 1.0 AFY to 0.5 AFY.	Text revised per comment.
	Page 6-33: Accordingly, suggest an addition in second paragraph to reflect the DWR change:	" . . . but average actual usage in Nye County is estimated by the State Engineer since 2009 to be about 0.5 AFY"	Text revised per comment.
	Page 6-20: "Water Sources", first paragraph (on Perennial Yield):	<p>Comment: At the time the State Engineer increased the Pahrump Valley perennial yield from 12K AFY to 20K AFY he specifically said it was in recognition of the estimated 8K of groundwater outflow through the Southeast Valley into the California portion of the basin. This area is not presently developed and includes the Nevada part of Basin 162 that is in Clark County.</p> <p>In fact, to intercept and actually use this 8K of outflow would require many tens of millions of dollars of infrastructure projects to capture it and move it to where it's needed in the Pahrump Valley to support population growth figures so casually based upon a 20K PY figure. If 8K AFY additional is allowed to be pumped from existing utility wells or from new "fill-in" domestic wells on the valley floor because of this inflated perennial yield figure, most of the outflow will likely continue - it is not responsible water management. Potential future use of the 8K AFY increase must be conditioned on the approval, funding, and construction of as yet undefined infrastructure projects needed to make it "real".</p>	Text revised to reflect information.
			No change.

	Page 6-20: "Water Sources", fifth paragraph (on Importation):	<p>"This alternative has been tabled indefinitely due to the estimated cost of implementation and concern over the estimated project's proposal for groundwater pumping immediately South of and down-gradient from the contaminated groundwater of the Nevada Test Range"</p> <p>Frightening Comment: The only viable source of importation would seem to be from the SNWA system in the Indian Springs area in return for giving SNWA access to Railroad Valley groundwater in Northern Nye County.</p> <p>"... a balance between supply and demand may be achieved if the GWMP can actually result in the Pahrump Regional Planning District implementing effective growth control measures for Pahrump."</p>	Text revised and clarified to reflect actual groundwater contamination risks from NNSS past activities.
	Page 6-21: "Water Sources", second paragraph:		Text revised per comment.

**RESOLUTION OF THE GOVERNING BODY
OF RAILROAD VALLEY ADVISORY BOARD**

RESOLUTION NO. 2017-RRV-01

IT IS HEREBY KNOWN THAT, the Railroad Valley Advisory Board was created by the Nye County Board of Commissioners in the early 2000's following the dissolution of the Railroad Valley General Improvement District to conduct business on behalf of the residents of Railroad Valley including Duckwater, Currant Creek, Railroad Valley and Nyala and appointed Board members thereof; and

WHEREAS, the present Board members have reviewed the Nye County Draft Water Resources Plan and met with the Environmental Compliance Specialist, MaryEllen C. Giampaoli who drafted said plan; and

WHEREAS, the Board members are aware that Southern Nevada Water Authority (SNWA) has filed 25 applications for water wells in Railroad Valley in order to export water to Clark County of which the Duckwater Tribe and individuals personally protested said applications to the State Water Engineer; and

WHEREAS, the State Water Engineer and SNWA have agreed that should he approve those applications that 30,000 acre feet of water will be given to Nye County for its use.

NOW THEREFORE IT BE RESOLVED THAT, the Railroad Valley Advisory Board goes on public record that they oppose the granting of all 25 applications by SNWA; however, should the State Water Engineer approve all 25 applications or any of them, and should any of the water under those permits be made available to Nye County for its use, that Nye County withdraw or cancel such permits to allow the water be available for appropriation by the residents, citizens and property owners in Railroad Valley including Duckwater, Currant Creek, Railroad Valley and Nyala to be used for irrigation, municipal and other purposes as identified.

BE IT FURTHER RESOLVED THAT, the Railroad Valley Advisory Board respectfully requests that MaryEllen Giampaoli include this resolution as part of the record in the Draft Nye County Water Resources Plan.

C-E-R-T-I-F-I-C-A-T-I-O-N

I, Patricia Knight, Chairman, hereby certifies that the above resolution was read and adopted on the 18th day of April, 2017, by a vote of the majority of the Board members present as follows: 2 FOR; 0 AGAINST; and 0 ABSTENTIONS.

SIGNED: 
PATRICIA KNIGHT, Chairman

RESOLUTION #2017-RRV-01

Appendix B—7



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EXHIBIT 3

EXHIBIT 3

Nevada Division of Water Resources

Hydrographic Area Summary

Hydrographic Area No.	162	Hydrographic Area Name	PAHRUMP VALLEY
Subarea Name			
Hydrographic Region No.	10	Hydrographic Region Name	CENTRAL
Area (sq. mi.)	789		
Counties within the hydrographic area	Clark, Nye		
Nearest Communities to Hydrographic Area	Pahrump, Las Vegas		
Designated (Y/N, Order No.)	Y, O-1252	For All or Portion of Basin	All
Preferred Use	O-1252 Preferred Uses Env, Temp Stk	For All or Portion of Basin	All
State Engineer's Orders:		For All or Portion of Basin	All
State Engineer's Rulings:			
Pumpage Inventory Status	Ongoing	Crop Inventory Status	None
Water Level Measurement?	Y		

Yield Values

Perennial Yield (AFY)	20000
System Yield (AFY)	
Yield Reference(s)	Numerous Studies
Yield Remarks	Recharge

Source of Committed Data:	NDWR Database	Supplementally Adjusted?
----------------------------------	---------------	---------------------------------

Manner of Use	Underground	Geothermal	Other Ground Water
Commercial	1,286.02	0.00	0.00
Construction	45.00	0.00	0.00
Domestic	7,811.95	0.00	0.00
Environmental	0.00	0.00	0.00
Industrial	181.64	0.00	0.00
Irrigation (Carey Act)	0.00	0.00	0.00
Irrigation (DLE)	700.00	0.00	0.00
Irrigation	9,560.08	0.00	0.00
Mining and Milling	10.00	0.00	0.00
Municipal	31,169.26	0.00	0.00

EXHIBIT 4

EXHIBIT 4

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

JASON KING, P.E.
STATE ENGINEER



STATEWIDE GROUNDWATER PUMPAGE INVENTORY

CALENDAR YEAR 2015

November 27, 2017

JT APP 3960

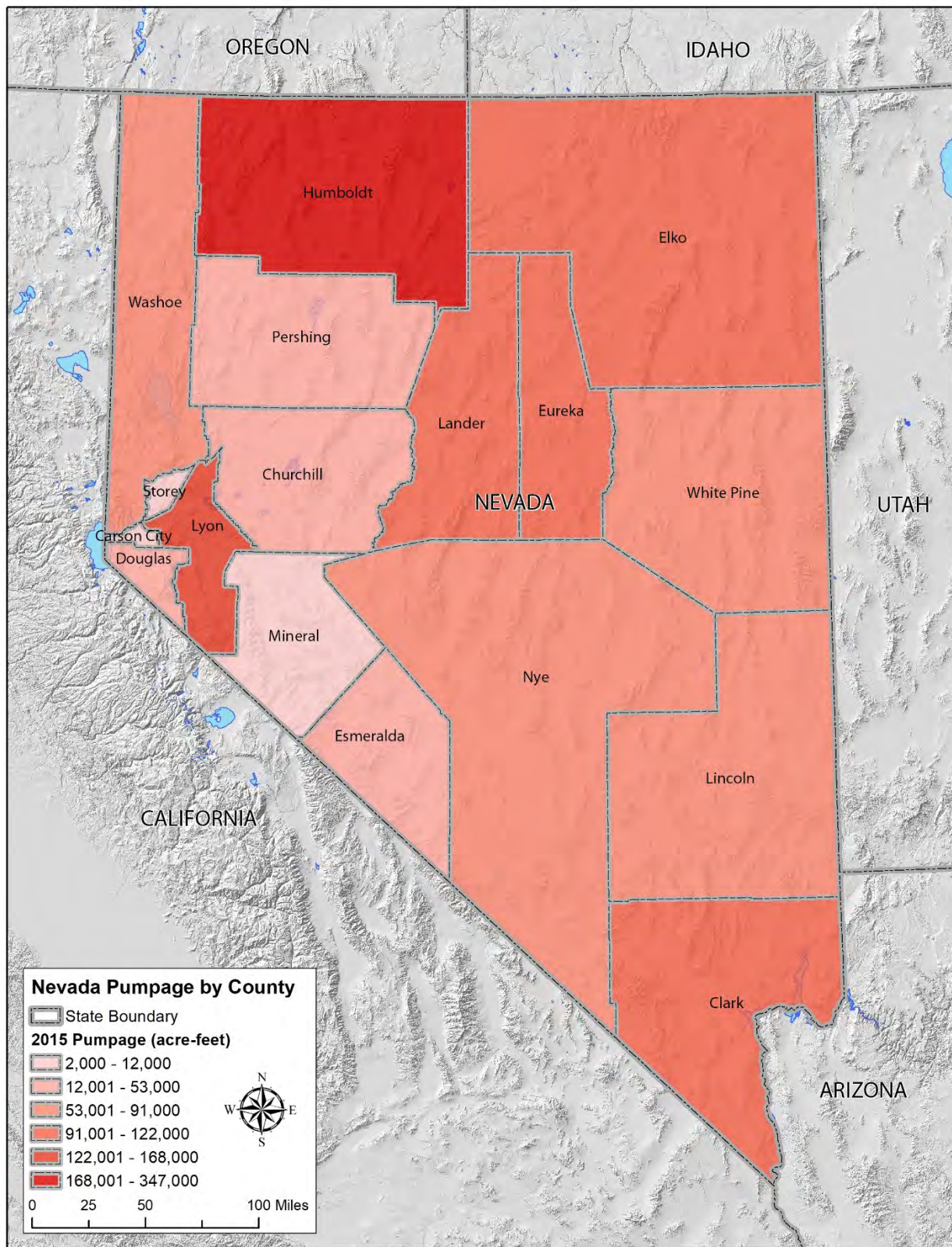


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ABSTRACT

This report presents an estimate of the total amount of groundwater pumped in the State of Nevada for calendar year 2015. The estimate includes pumpage of all public waters appropriated by permits and certificates issued by the State Engineer, by adjudicated and unadjudicated pre-statutory claims of vested right, and by domestic wells. Primary sources of data were existing inventories, pumpage records from water right owners, duty of water rights, and known irrigated acres. Methods to estimate pumpage from these data sources are described herein. The pumpage amounts are organized by manner of use and presented by county and hydrographic basin. Graphs showing the pumpage for each county are included in this report, as well as maps showing the location of groundwater wells within each county. Surface water use is not included in this report.

Total groundwater pumpage in Nevada for calendar year 2015 is estimated to be approximately **1,500,000 acre-feet**. The largest manner of use is irrigation at 70% of total statewide pumpage. Other large uses are municipal (10%) and mining and milling (7%). Pumpage by domestic wells is estimated to be approximately 3% of total statewide pumpage.

STATEWIDE SUMMARY

Committed water resource data for the state are summarized by manner of use below. Actual groundwater pumpage totals for calendar year 2015 are presented by manner of use in Figure 1.

COMMITTED GROUNDWATER RESOURCE: 3,070,390 ACRE-FEET, DATE: May 2016

COMMERCIAL	17,378	CONSTRUCTION	1,574	DOMESTIC ¹	99,856
ENVIRONMENTAL	23,374	INDUSTRIAL	116,668	IRRIGATION	1,852,257
MINING & MILLING	334,457	MUNICIPAL	470,480	OTHER	4,727
POWER	0	QUASI-MUNICIPAL	89,169	RECREATION	24,724
STOCKWATERING	24,056	WILDLIFE	11,670		

Note: Committed groundwater resource data are accurate for May 2016. Manner of use totals vary over time, as rights are not necessarily static. Individual rights may be subject to change applications, certification, withdrawals, and cancellations; each of these circumstances could affect 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, but does include groundwater supplemental to surface water.

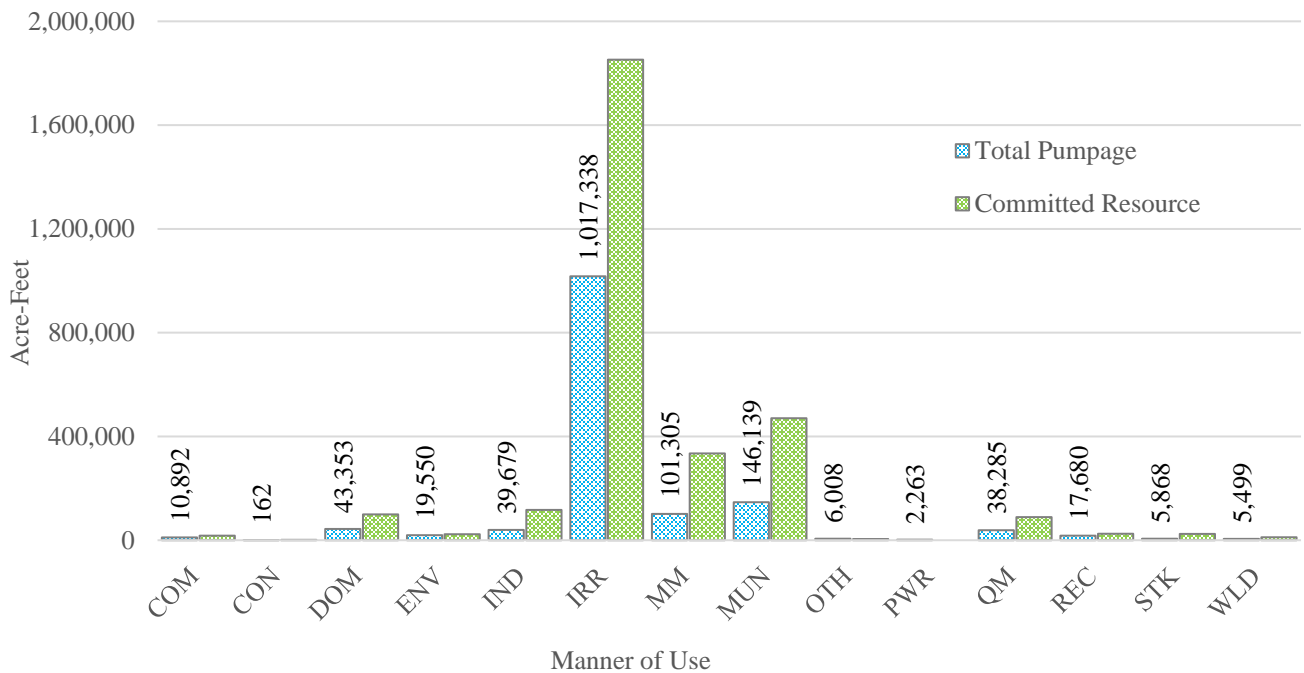


Figure 1. Comparison between committed water resources and pumpage for 2015 by manner of use.

¹ Committed domestic resource was calculated by multiplying the number of exempt domestic wells by 2 acre-feet per annum. The total number of domestic wells, determined by a query of the Nevada Division of Water Resources Well Log Database, is estimated to be 49,928.

PURPOSE AND SCOPE

The purpose of this report is to inventory all the groundwater resources allocated and described by the Office of the State Engineer, Nevada Division of Water Resources (NDWR). The estimated amount of groundwater pumped under permits, certificates, adjudicated and unadjudicated vested claims, and exempt domestic wells within the State of Nevada for calendar year 2015 is described in the following sections.

The U.S. Geological Survey (USGS) publishes groundwater use for all states at 5-year intervals. The most recent publication, USGS Circular 1405², was released in 2014 and summarizes pumpage in each state by county for the year 2010. The USGS is currently preparing water use estimates for 2015; these estimates will be presented by county and hydrologic unit code level 8. In general, the methods used by the USGS to estimate pumpage are different from the methods used by NDWR and therefore the reports are not directly comparable.

SOURCES OF DATA AND METHODS TO ESTIMATE PUMPAGE

NDWR conducts annual pumpage and crop inventories for numerous individual hydrographic basins throughout the State. All reported data were incorporated into this statewide assessment. Inventory data from 2014 were used if the 2015 inventory was not available and several prior inventories were reasonably consistent. If inventories were completed for water year instead of calendar year, then water year totals were used to estimate calendar year totals. Methods describing the estimation of water usage are contained in each of these inventory reports.

Pumpage totals are often recorded by water right owners and reported to NDWR as a condition of the permit under which the groundwater was appropriated. Where this data was available, it was accounted for in this statewide report. If 2015 reported pumpage was not available but reported pumpage from several prior years was reasonably consistent, then total pumpage data from the most recent year was used. For some permitted mine dewatering and geothermal development where a substantial volume of water was recharged into the aquifer and that volume was reported to the State Engineer, the recharged water was subtracted to obtain the total pumpage presented in this report. For purposes of allocating pumpage by county and hydrographic basin, all pumpage was assigned to its permitted point of diversion.

Supplemental group relationships were resolved prior to estimating groundwater pumpage for all manners of use. Where supplemental groups contained permits with multiple manners of use, the estimated pumpage was assigned to the manner of use associated with the senior permit in the group.

Table 1 and Figure 2 present statewide pumpage data, broken down by county and manner of use. Figures 3 to 15 present maps showing groundwater wells for individual counties; Figures 16 to 32 show manner of use data for each county.

IRRIGATION

Irrigation pumpage that was not inventoried or reported was estimated by using 2015 National Agriculture Imagery Program (NAIP) imagery and normalized difference vegetation index (NDVI) data. Maximum NDVI was used to determine where crops were irrigated between May 1 and September 30, 2015, using

² Maupin, M.A., Kenny, J.F., Hutson, S.S., Lovelace, J.K., Barber, N.L., and Linsey, K.S., 2014, Estimated use of water in the United States in 2010: U.S. Geological Survey Circular 1405, 56 p., <https://dx.doi.org/10.3133/cir1405>.

the web-based Climate Engine³ tool. Year 2015 NAIP imagery was used to determine the number of acres under cultivation and the method in which the water was applied (pivot, wheel line, flood). Assumed efficiencies were 0.85 for pivot, 0.75 for wheel lines, and 0.60 for flood. Pumpage was then determined by multiplying the number of acres by the net irrigation water requirement rate (either for low-managed pasture grass or alfalfa, depending on whether the crops appeared to be sparse or full-cover and well-watered)⁴, then dividing by the efficiency of the application method. If the resulting pumpage estimate exceeded the duty of the right, then duty was used as total pumpage. If the maximum NDVI indicated that irrigation occurred during the period of inquiry, it was assumed that irrigation occurred over the entire season.

Groundwater pumpage that was permitted or certificated as a supplemental right to surface water, and was not inventoried or reported, was estimated based on streamflow in 2015. In the Humboldt River system below Palisade, groundwater pumpage supplemental to decreed surface water was estimated to be 90% of the total duty. Elsewhere in the State, groundwater pumpage supplemental to streams was estimated to be 75% of duty. Groundwater pumpage supplemental to springs was assumed to be 50% statewide, except in the White River Valley where it was calculated to be 37% based on spring flow measurements. Note that 2015 was an exceptionally dry year across most of the west, and Nevada was no exception.

MINING AND MILLING

Groundwater use for mining and milling projects was estimated by basin and county primarily by reviewing reported pumpage and recharge data (where applicable). Where these data were not available, permits, records from the Nevada Division of Minerals, and NAIP imagery were examined to determine whether the project appeared to be operating. If the projects appeared operational, duty was assigned as pumpage. If the project did not appear operational, pumpage was estimated to be zero. Included in consumptive use estimates are evaporative or enhanced evapotranspiration losses due to discharge of groundwater pumped for dewatering to rapid infiltration basins, for irrigation, or to surface water, where these data were available.

STOCKWATERING

Stockwatering use estimates were provided at the county level by the USGS, based on animal unit numbers contained in the Nevada Agricultural Statistics Annual Bulletin – 2015 Crop Year⁵. These data were then used to estimate stockwater consumption at the basin level by determining the duty of stockwater permits in each basin (from a query of the NDWR Permits Database), dividing the duty of each permit by the total duty of permits in the county, and multiplying the result by the USGS's total county stockwater consumption number.

³ Huntington, J., Hegewisch, K., Daudert, B., Morton, C., Abatzoglou, J., McEvoy, D., and Erickson, T. (2017). Climate Engine: Cloud Computing of Climate and Remote Sensing Data for Advanced Natural Resource Monitoring and Process Understanding. Bulletin of the American Meteorological Society, <http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-15-00324.1>

⁴ Huntington, J.L., and Allen, R.G. 2010. Evapotranspiration and net irrigation water requirements for Nevada. Nevada Division of Water Resources; http://water.nv.gov/mapping/et/Docs/Evapotranspiration_and_Net_Irrigation_Requirements_for_Nevada_Compiled.pdf.

⁵ Rumberg, S. 2017. *Nevada Agricultural Statistics Annual Bulletin 2015 Crop Year*. United States Department of Agriculture; https://www.nass.usda.gov/Statistics_by_State/Nevada/Publications/Annual_Statistical_Bulletin/2010s/201702NVCropYr2015.pdf.

DOMESTIC

Domestic use was estimated based on the number of active domestic wells in each basin. This number was determined by querying the NDWR Well Log Database, and multiplying the resulting number of wells by the appropriate number of acre-feet per year. In most basins, the assumed annual pumpage for each well is one acre-foot; however, in some of the inventoried basins, the assumed annual pumpage is less than one acre-foot per well.

OTHER MANNERS OF USE

For all other manners of use that were not inventoried or reported, pumpage was estimated by a query of the NDWR Permits Database for water rights that were certificated, permitted with a proof of completion filed, or claimed as pre-statutory vested rights. If water rights were known to be inactive based on examination of the permit file or other records, it was assumed that no pumpage occurred. Otherwise, the water rights were assumed to be active and pumpage was estimated to be the annual duty associated with the certificate, permit, or claim.

TABLES

Table 1. Estimated 2015 groundwater pumpage (acre-feet) by county and manner of use.

Manner of Use	COM	CON	DOM	ENV	IND	IRR	MM	MUN	OTH	PWR	QM	REC	STK	WLD	Total
Carson City	26	0	1,032	1	3	18	0	5,350	0	0	82	0	2	0	6,515
Churchill	768	1	4,145	151	12,139	6,691	9	3,046	0	0	2,867	131	341	326	30,615
Clark	1,363	71	5,780	2,784	4,125	5,216	2,197	59,698	977	0	10,663	5,410	21	114	98,420
Douglas	105	0	3,934	0	0	20,993	0	14,681	3,080	0	2,439	382	130	0	45,743
Elko	1,386	23	3,320	9,632	1,522	62,851	25,225	12,323	1,631	0	2,792	150	1,499	37	122,391
Esmeralda	206	0	223	0	0	28,954	12,121	46	1	0	159	167	80	0	41,956
Eureka	14	0	215	17	1,669	99,174	15,655	1,704	0	0	543	0	497	0	119,488
Humboldt	765	0	1,841	241	6,235	322,829	10,089	3,259	184	0	652	838	295	0	347,228
Lander	2	0	584	2,217	206	99,417	7,695	1,111	0	1,177	350	248	275	0	113,283
Lincoln	105	0	465	0	4,622	57,003	3	3,163	9	0	53	40	213	60	65,735
Lyon	1,630	1	4,581	0	4,596	115,612	265	7,260	0	0	1,523	5,990	254	3,372	145,085
Mineral	35	0	85	9	72	6,544	2,458	945	0	0	1,882	0	64	304	12,399
Nye	2,502	5	6,167	0	795	60,282	7,860	5,006	46	0	2,769	2,705	746	5	88,888
Pershing	439	8	480	8	0	49,446	1,150	1,343	0	0	429	4	87	7	53,400
Storey	55	0	848	0	192	0	42	57	0	0	848	0	0	1	2,044
Washoe	1,426	33	8,984	4,489	2,864	18,218	31	21,239	80	0	8,644	1,580	1,075	1,211	69,875
White Pine	65	20	669	0	637	64,090	16,504	5,908	0	1,086	1,590	34	289	62	90,954
Total Pumpage	10,892	162	43,353	19,550	39,679	1,017,338	101,305	146,139	6,008	2,263	38,285	17,680	5,868	5,499	1,454,019

FIGURES

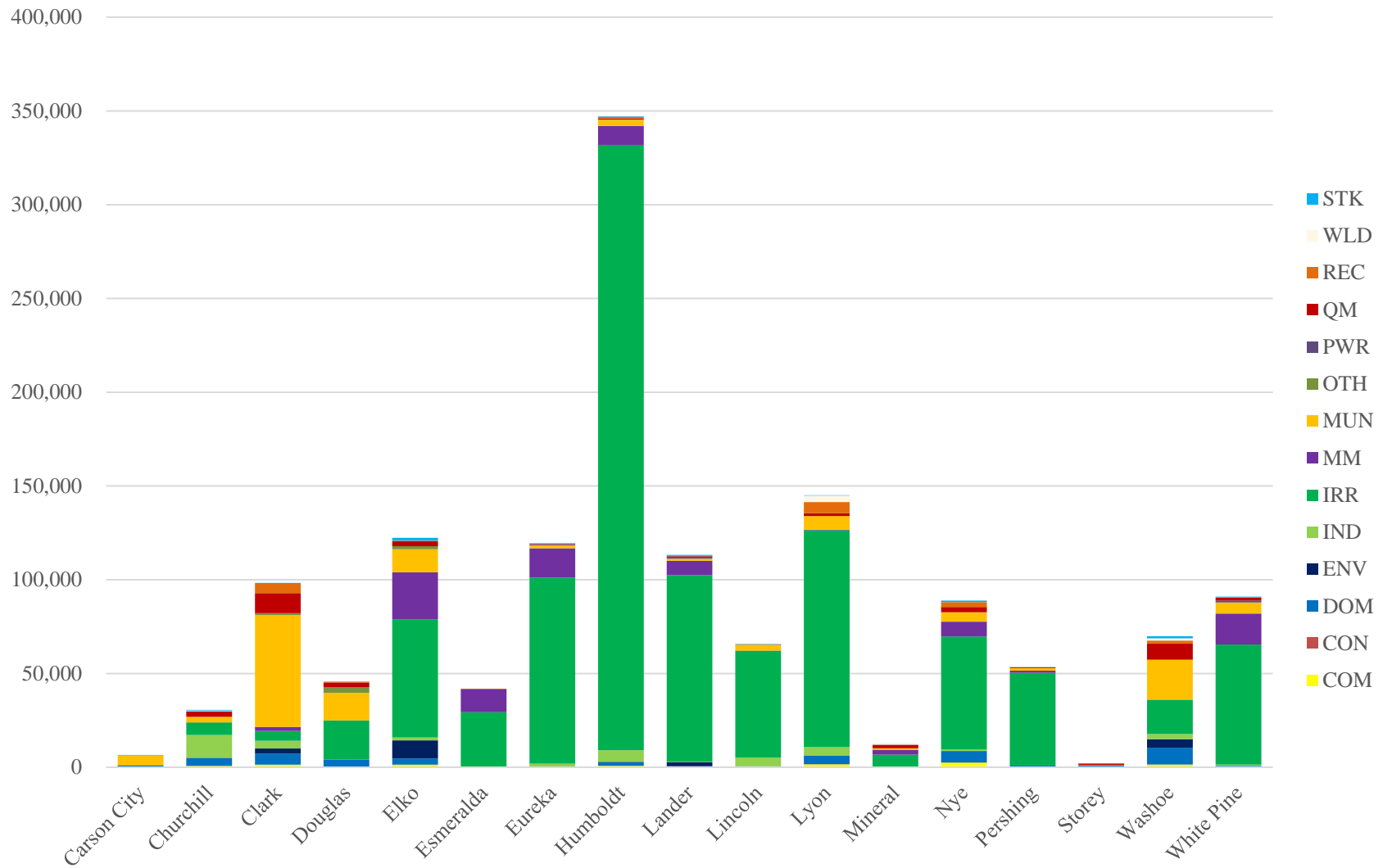


Figure 2. Estimated 2015 groundwater pumpage (acre-feet) graphed by county and manner of use.

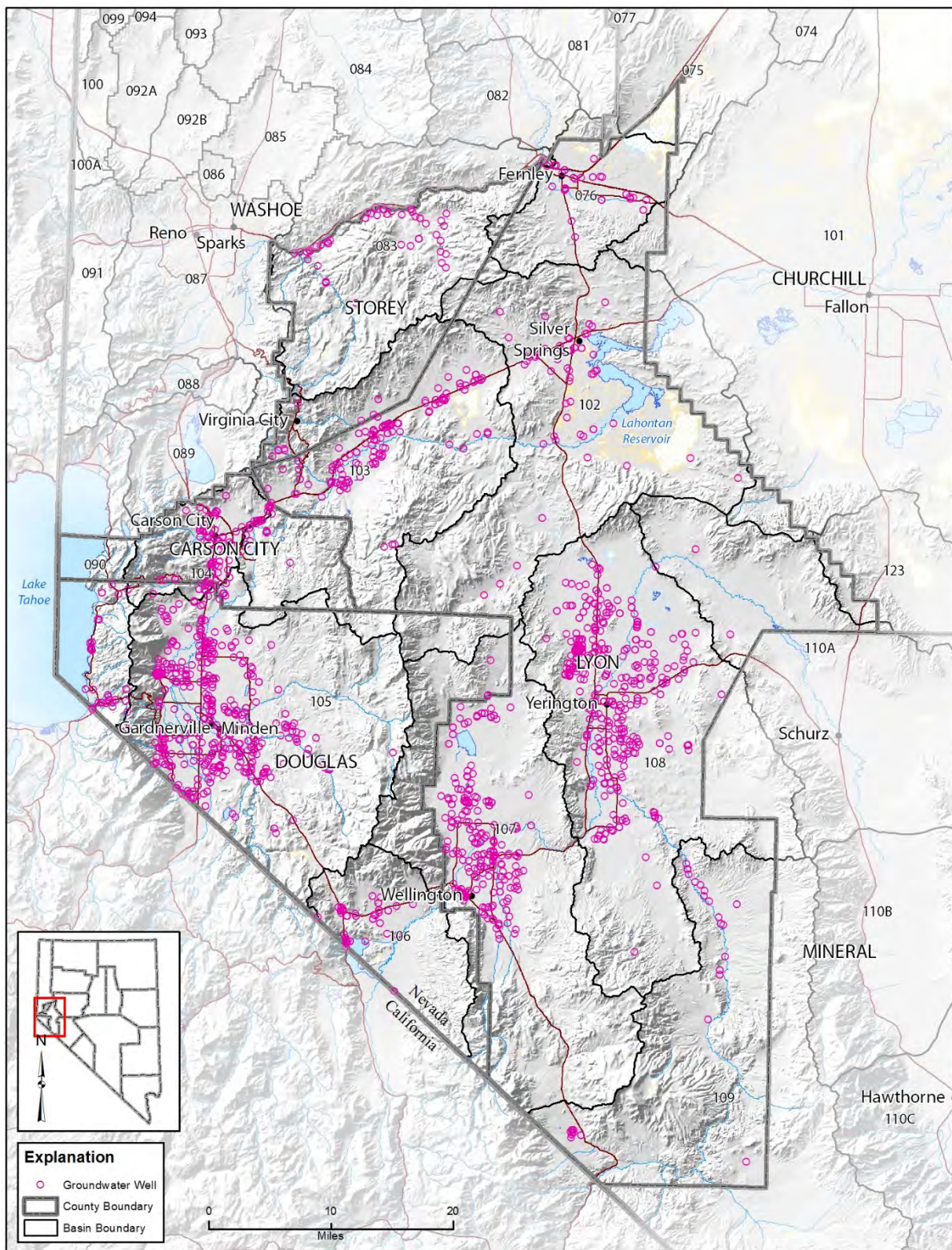


Figure 3. Groundwater wells in Carson City, Douglas, Lyon, and Storey Counties.

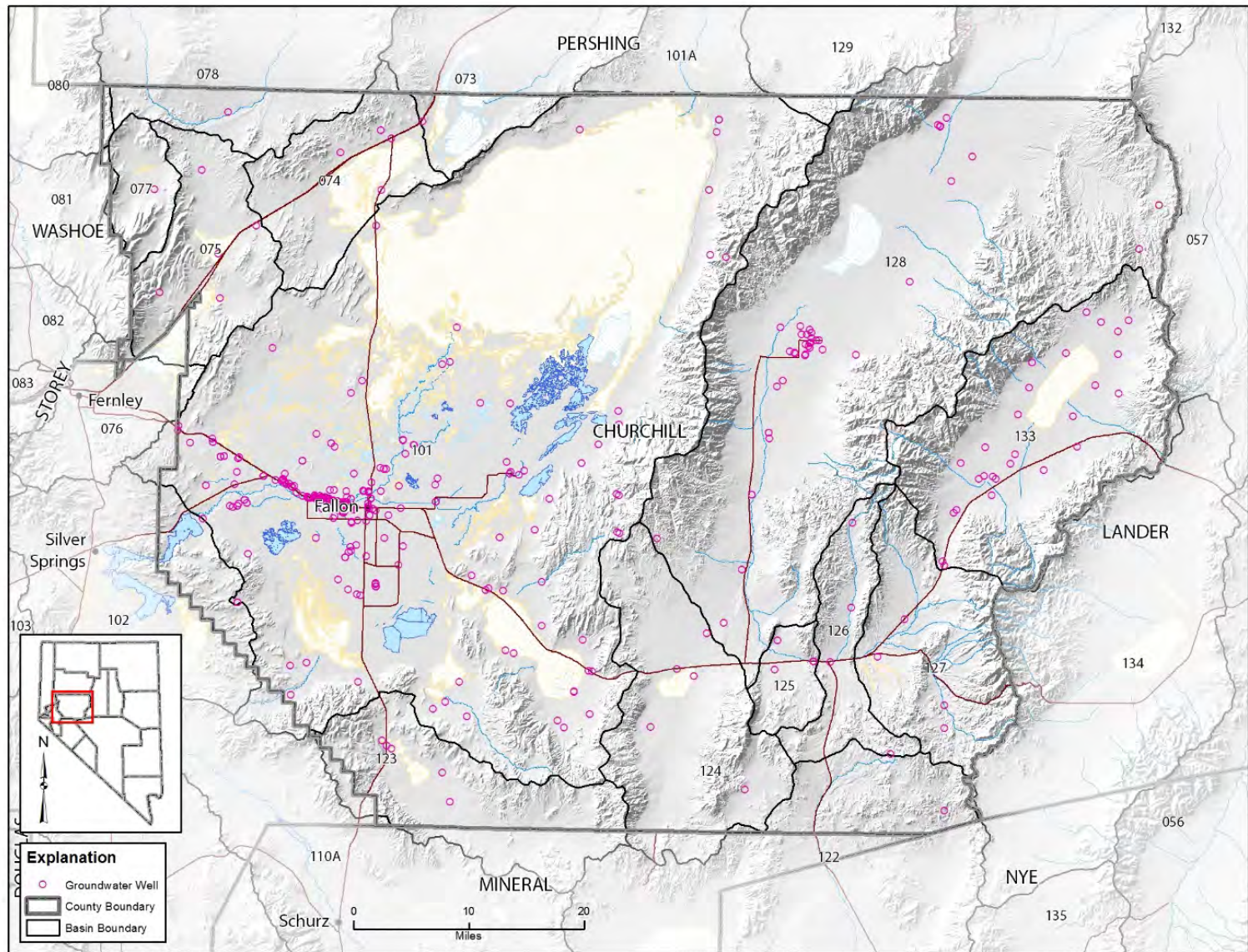


Figure 4. Groundwater wells in Churchill County.

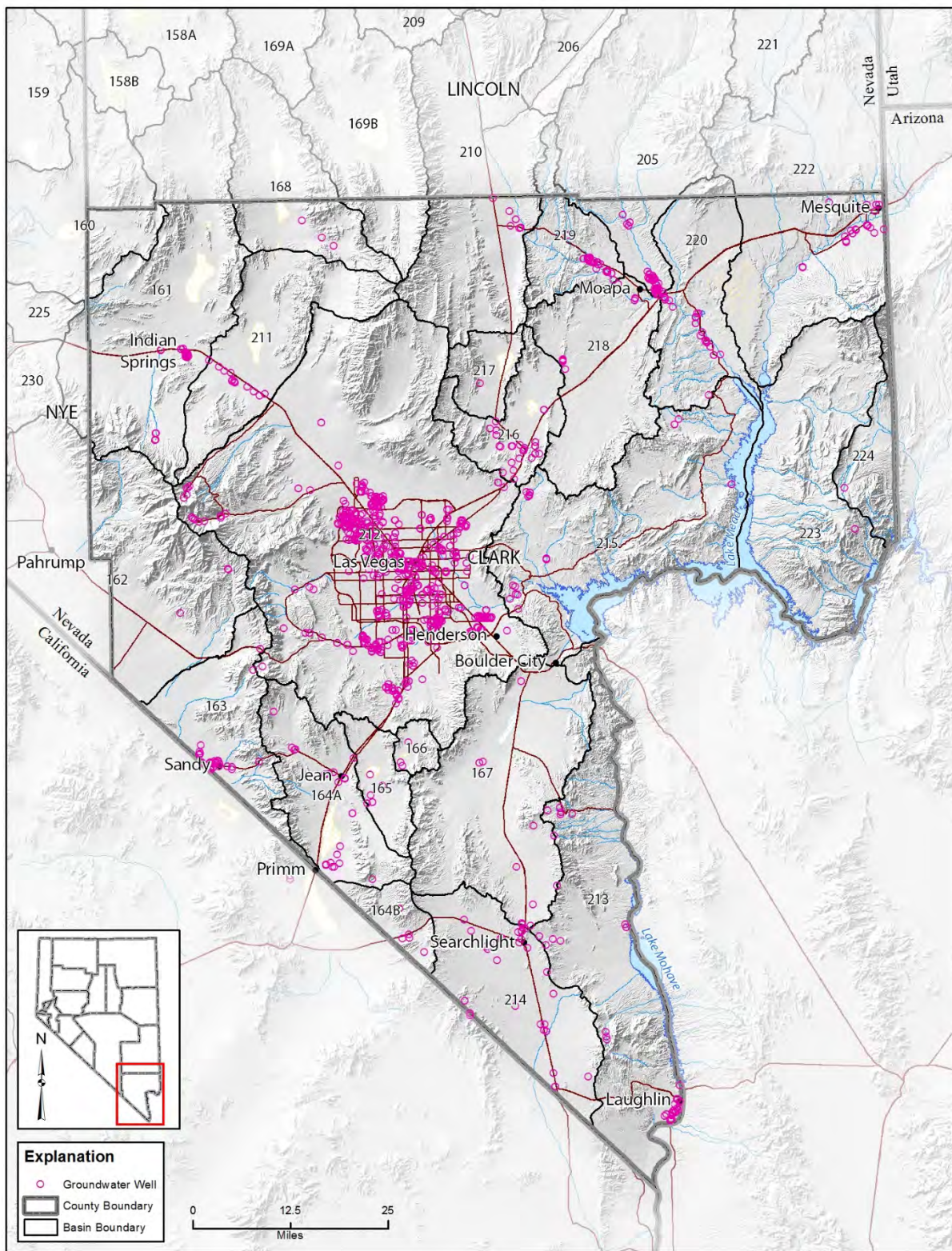


Figure 5. Groundwater wells in Clark County.

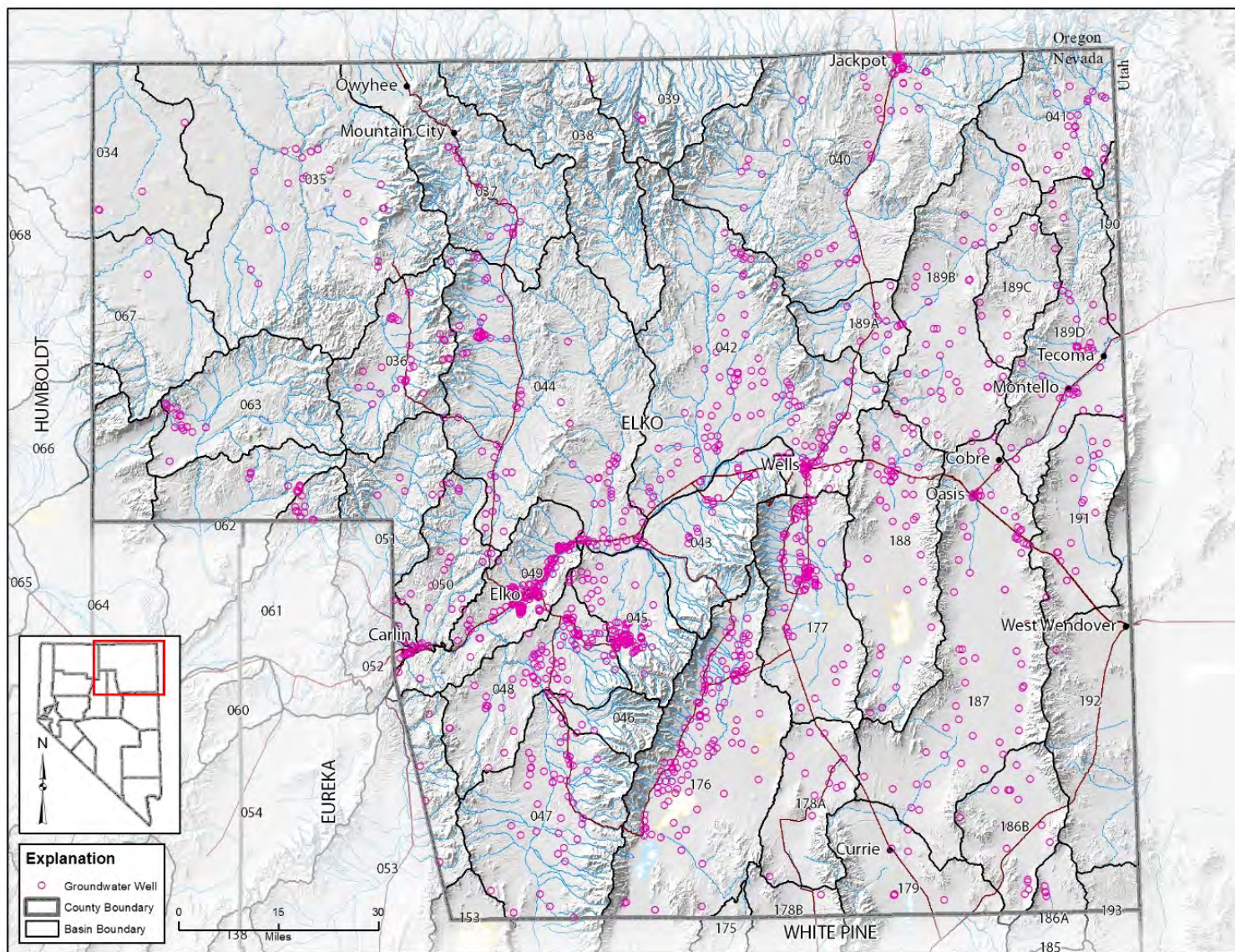


Figure 6. Groundwater wells in Elko County.

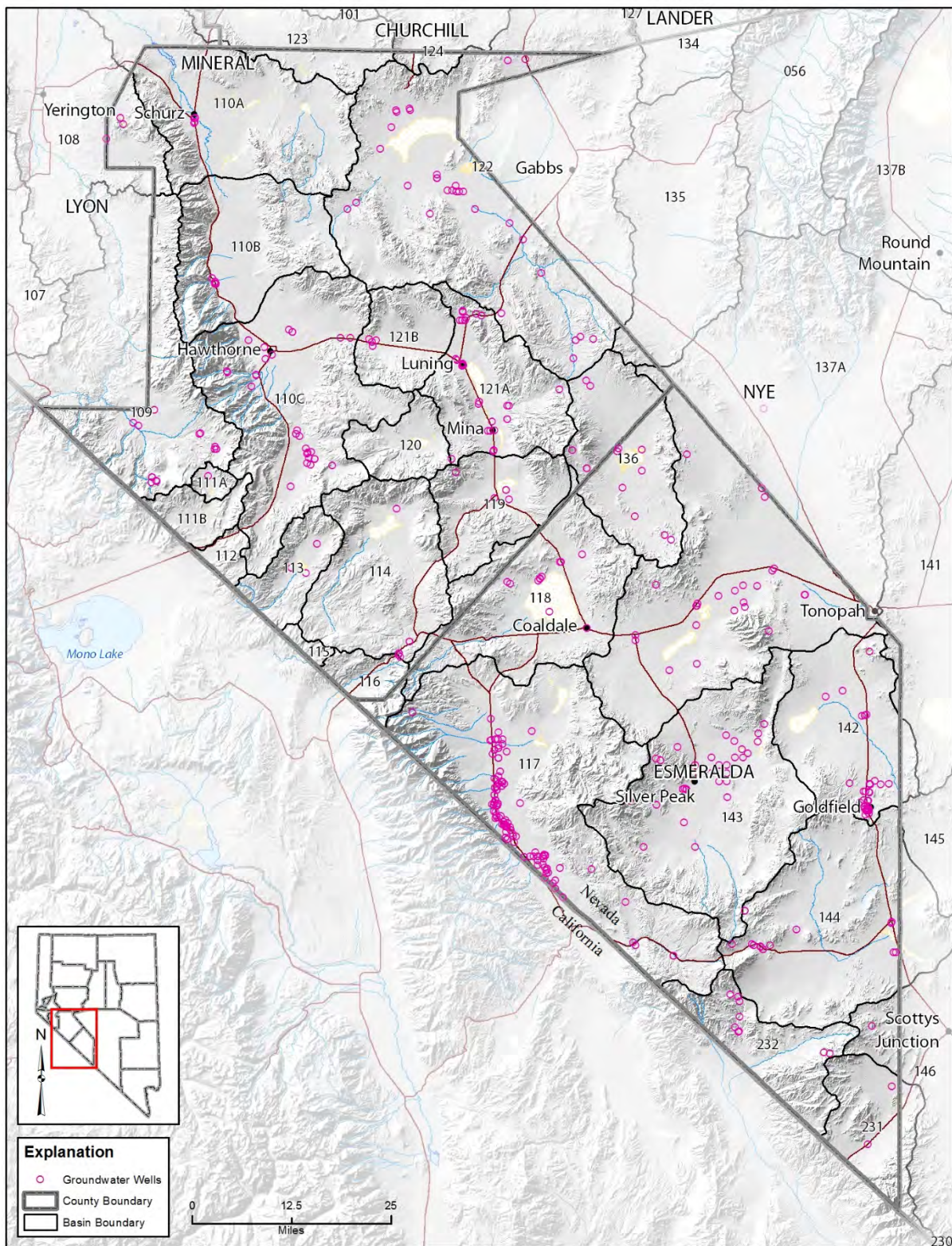


Figure 7. Groundwater wells in Esmeralda and Mineral Counties.

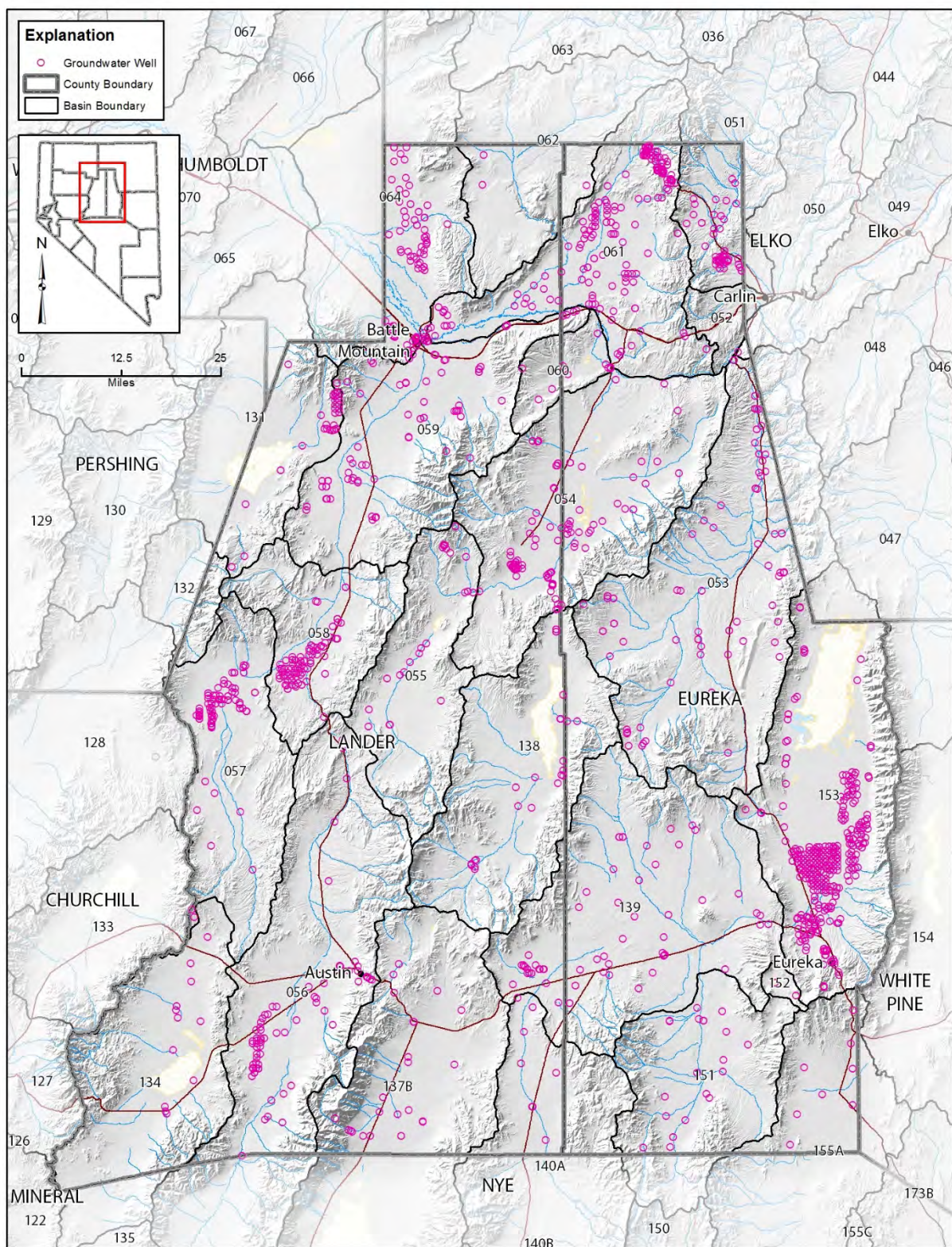


Figure 8. Groundwater wells in Eureka and Lander Counties.

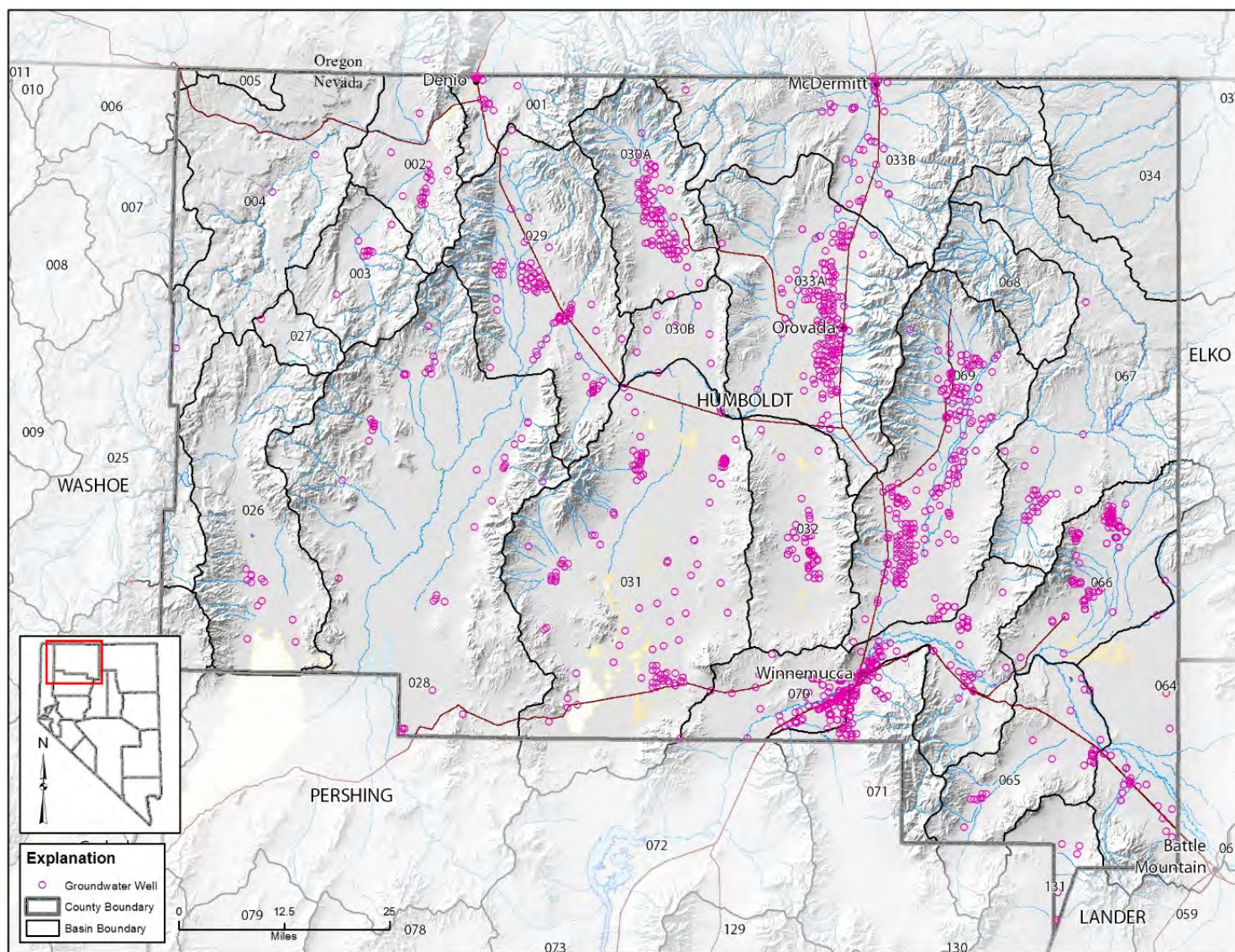


Figure 9. Groundwater wells in Humboldt County.

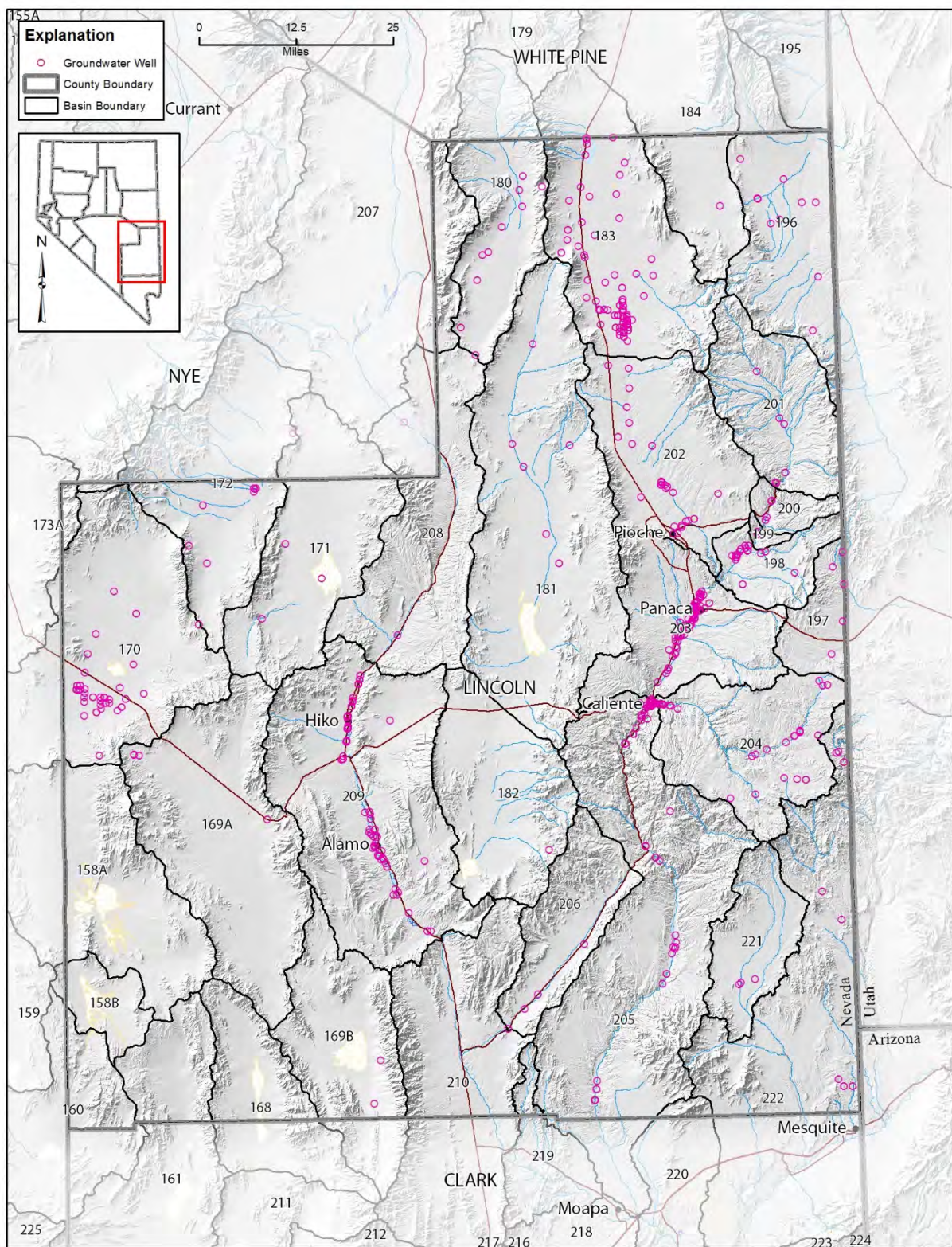


Figure 10. Groundwater wells in Lincoln County.

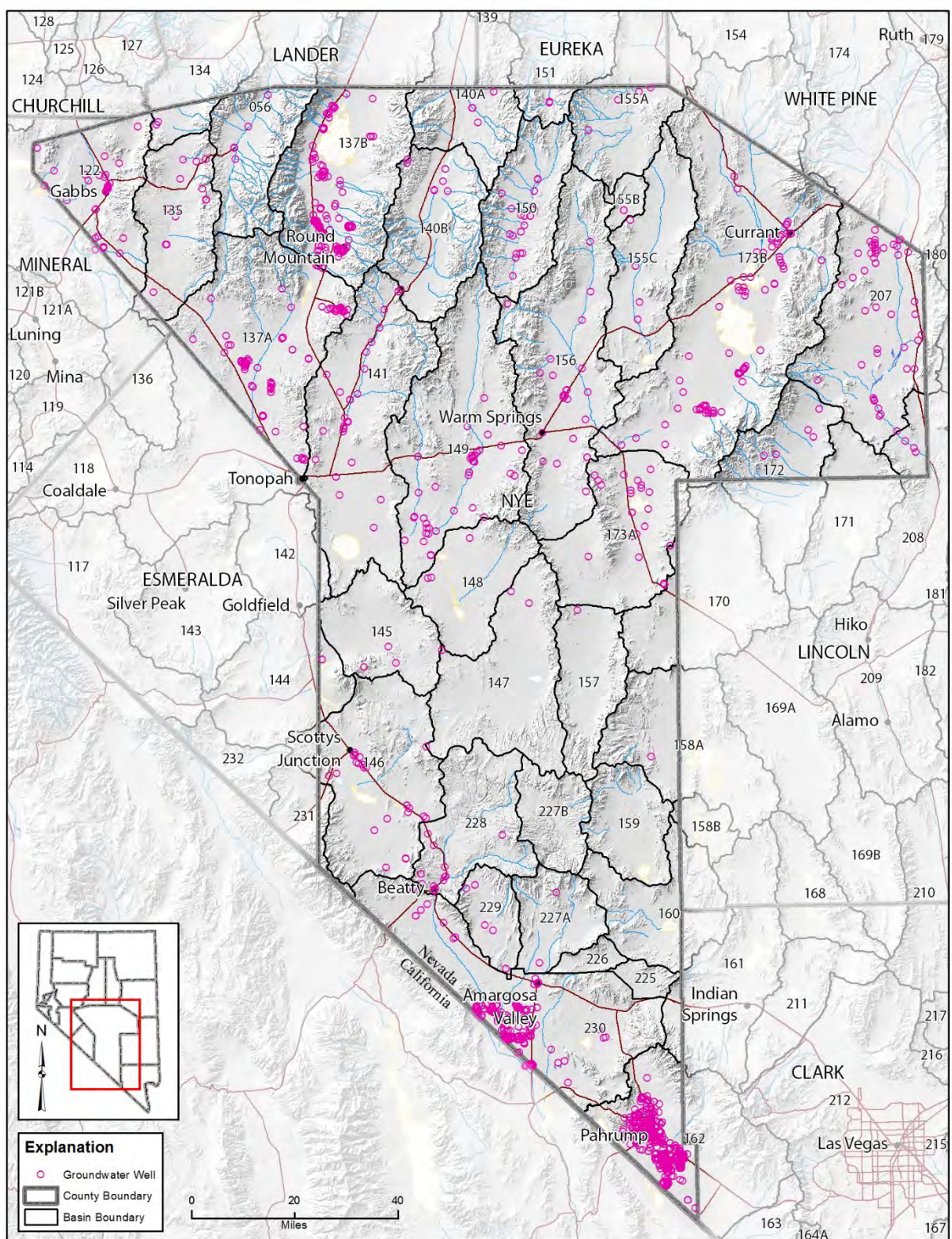


Figure 11. Groundwater wells in Nye County.

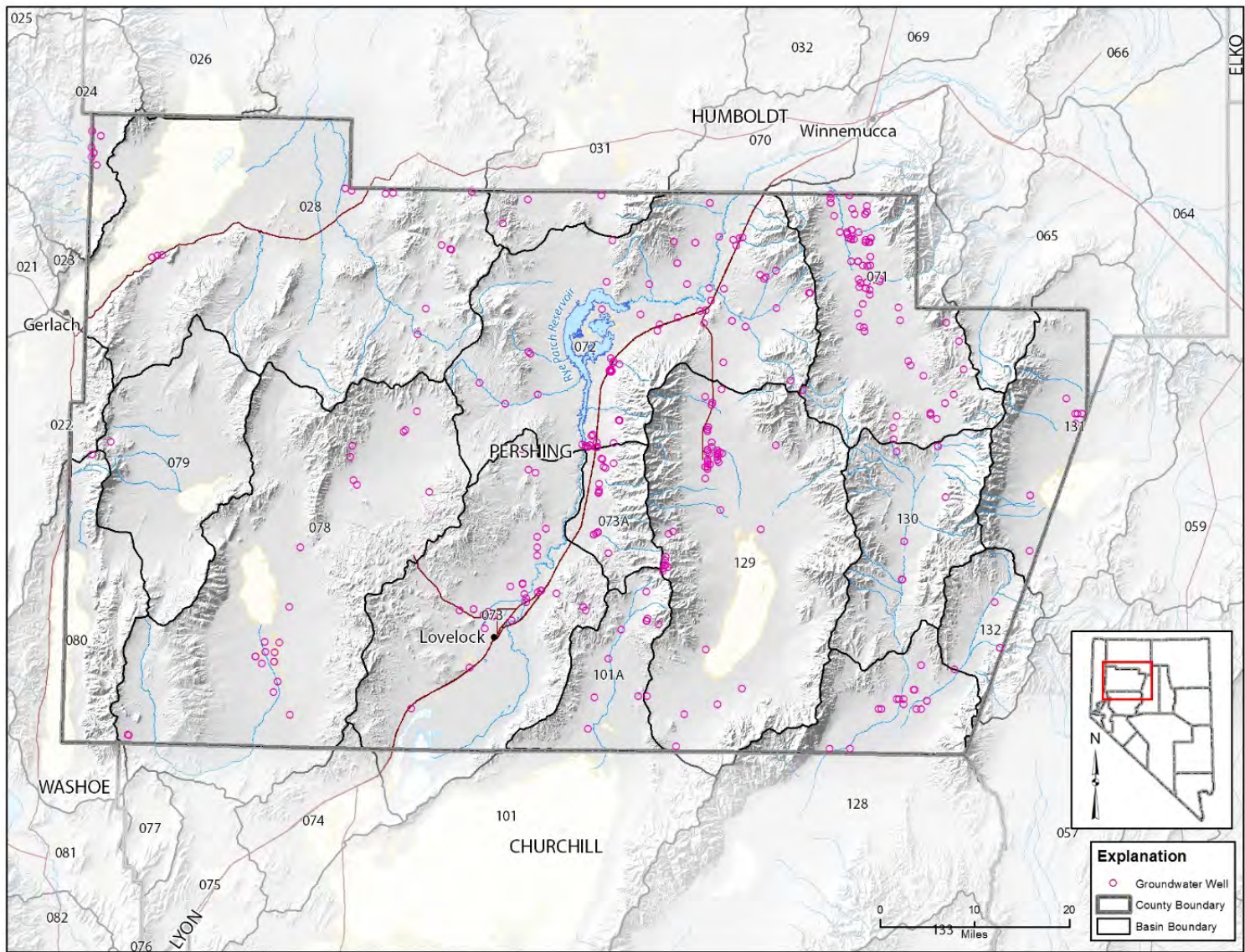


Figure 12. Groundwater wells in Pershing County.

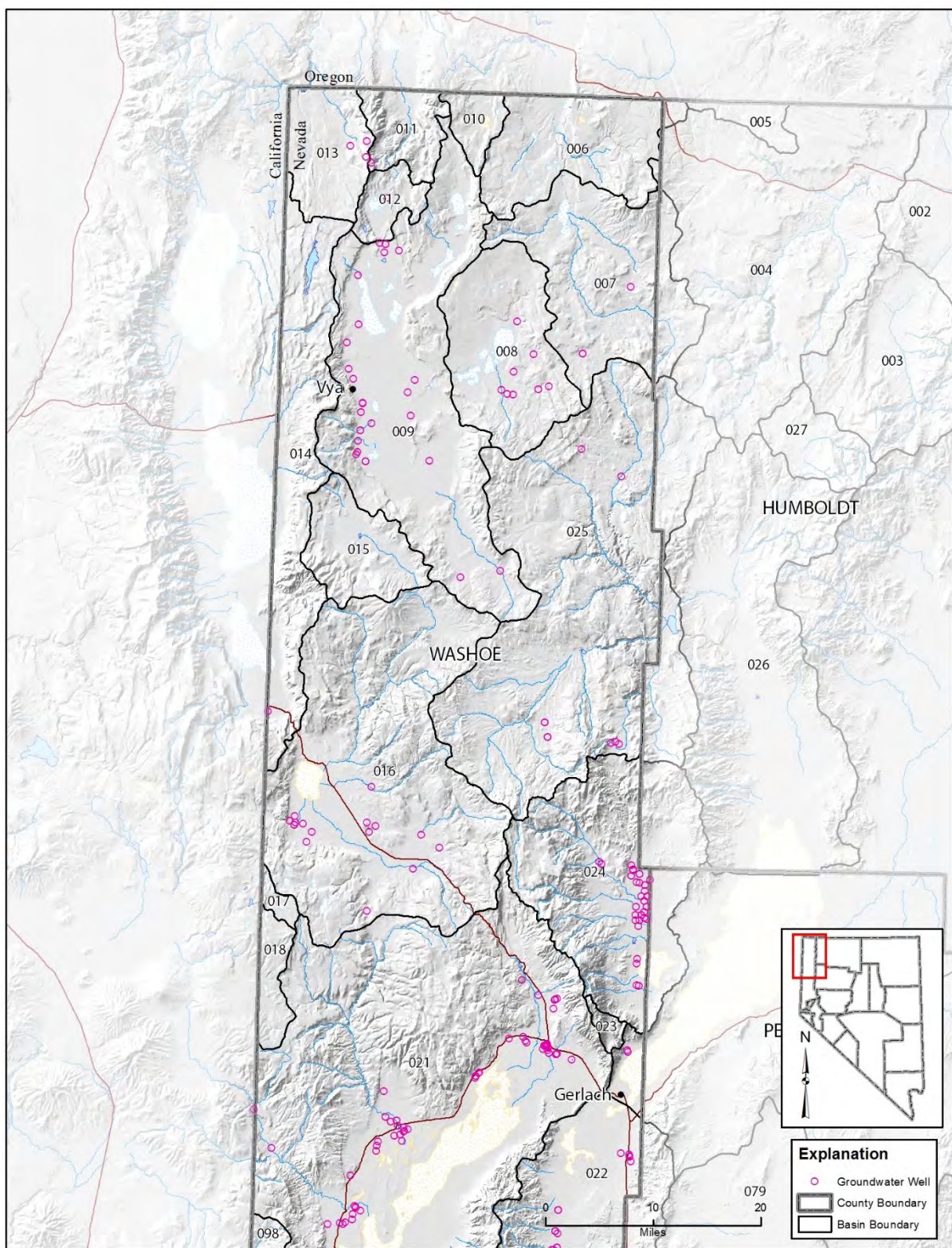


Figure 13. Groundwater wells in northern Washoe County.

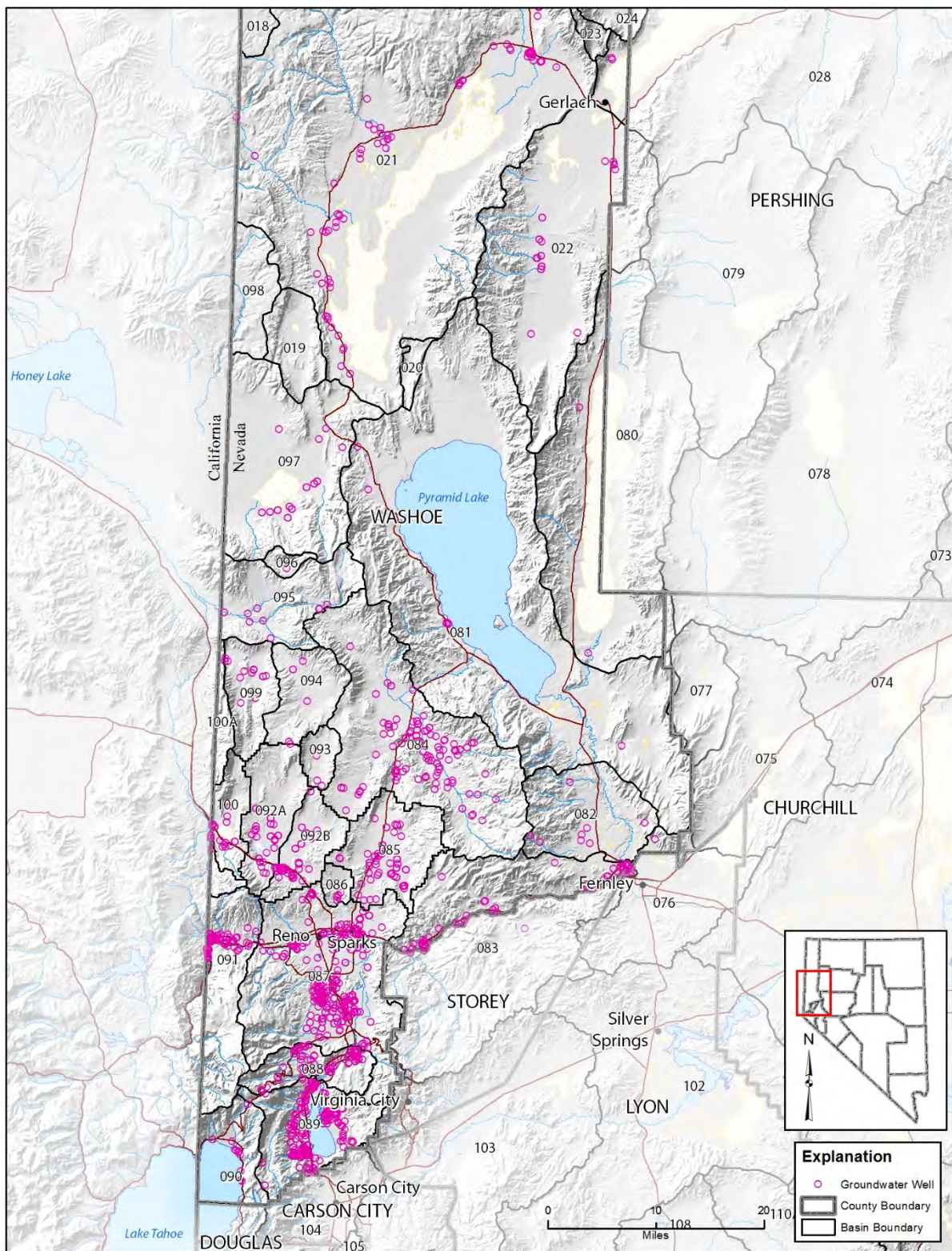


Figure 14. Groundwater wells in southern Washoe County.

IN THE SUPREME COURT OF THE STATE OF NEVADA

TIM WILSON, P.E., Nevada State
Engineer, DIVISION OF WATER
RESOURCES, DEPARTMENT OF
CONSERVATION AND NATURAL
RESOURCES,

Appellant,

vs.

PAHRUMP FAIR WATER, LLC.,
a Nevada limited-liability company;
STEVEN PETERSON, an
individual; MICHAEL LACH,
an individual; PAUL PECK,
an individual; BRUCE JABOUR,
an individual; and GERALD
SCHULTE, an individual,

Respondents.

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Elizabeth A. Brown
Clerk of Supreme Court

Case No. 77722

**JOINT APPENDIX
Volume XII of XIV, pages 3857–4252**

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DATE	DOCUMENT DESCRIPTION	VOLUME	PAGE NOS.
10/12/18	Answering Brief filed by State Engineer	XIV	4910–4945
12/10/18	Ex Parte Motion for Order Shortening Time on Motion for Stay of Order Granting Petition for Judicial Review and Reversing State Engineer’s Amended Order No. 1293A Pending Appeal	XIV	5474–5476
09/05/18	Letter from Court & Memorandum of Temporary Assignment (Steven Kosach)	XI	3628–3629
12/18/18	Letter from Nye County Clerk to Nevada Supreme Court re: submittal of appeal packet	XIV	5496–5497
09/18/18	Memorandum of Temporary Assignment (Steven Elliott)	XIV	4906
08/22/18	Memorandum of Temporary Assignment (William Maddox)	I	34–35
12/10/18	Motion for Stay of Order Granting Petition for Judicial Review and Reversing State Engineer’s Amended Order No. 1293A Pending Appeal on Order Shortening Time	XIV	5461–5473
12/10/18	Notice of Appeal filed by State Engineer	XIV	5442–5460
08/17/18	Notice of Appeal of Nevada State Engineer Amended Order 1293A	I	1–14
01/02/19	Notice of Entry of Order (Denying Motion for Stay)	XIV	5530–5539
12/07/18	Notice of Entry of Order (Granting Petition for Judicial Review)	XIV	5427–5441

DATE	DOCUMENT DESCRIPTION	VOLUME	PAGE NOS.
09/11/18	Notice of Transmittal of Record on Appeal	XI	3630–3631
09/11/18	Opening Brief filed by Pahrump Fair Water, LLC, <i>et al.</i> (“PFW”)	XI	3634–3655
12/18/18	Opposition to Motion for Stay of Order Granting Petition for Judicial Review	XIV	5498–5508
12/27/18	Order Denying Motion for Stay	XIV	5525–5529
12/06/18	Order Granting Petition for Judicial Review	XIV	5417–5426
08/31/18	Order Granting Stipulation and Order Regarding Briefing Schedule	XI	3622–3624
08/22/18	Order of Recusal (Robert Lane)	I	31–33
10/29/18	Order Setting Hearing	XIV	4946–4947
09/11/18	Peremptory Challenge of Judge (Steven Kosach) filed by State Engineer	XI	3632–3633
09/04/18	Peremptory Challenge of Judge (William Maddox) filed by PFW	XI	3625–3627
08/17/18	Petition for Judicial Review	I	15–30
11/08/18	PowerPoint Presentation by PFW re: Petition for Judicial Review	XIV	5137–5185
11/08/18	PowerPoint Presentation by State Engineer re: Petition for Judicial Review	XIV	4988–5136
12/27/18	[Proposed] Order Denying Motion for Stay filed by PFW	XIV	5515–5524

DATE	DOCUMENT DESCRIPTION	VOLUME	PAGE NOS.
12/10/18	[Proposed] Order Granting Motion for Stay of Order Granting Petition for Judicial Review and Reversing State Engineer's Amended Order No. 1293A Pending Appeal filed by State Engineer	XIV	5483–5493
11/26/18	[Proposed] Order Granting Petition for Judicial Review filed by PFW	XIV	5402–5416
11/26/18	[Proposed] Order Granting Petition for Judicial Review filed by State Engineer	XIV	5378–5401
12/10/18	[Proposed] Order Shortening Time on Motion for Stay of Order Granting Petition for Judicial Review and Reversing State Engineer's Amended Order No. 1293A Pending Appeal filed by State Engineer	XIV	5477–5482
11/01/18	Reply Brief filed by PFW	XIV	4955–4987
12/20/18	Reply in Support of State Engineer's Motion for Stay of Order Granting Petition for Judicial Review and Reversing State Engineer's Amended Order No. 1293A Pending Appeal	XIV	5509–5514
12/12/18	Request for Submission of Ex Parte Motion for Order Shortening Time	XIV	5494–5495
09/21/18	Request to Set Hearing Date (re: Petition for Judicial Review)	XIV	4907–4909
10/31/18	Stipulation and Order for Extension of Time (re: Reply Brief)	XIV	4948–4954

DATE	DOCUMENT DESCRIPTION	VOLUME	PAGE NOS.
08/30/18	Summary of Record on Appeal and Bates-stamped pages SE ROA 1–3574	I–XI	36–3621
09/11/18	Supplemental Record on Appeal and Bates-stamped pages SROA 1–1245 filed by PFW	XI–XIV	3656–4905
11/08/18	Transcript (re: Oral Arguments on Petition for Judicial Review)	XIV	5186–5377

RESPECTFULLY SUBMITTED this 15th day of February, 2019.

AARON D. FORD
Attorney General

By: /s/ James N. Bolotin
JAMES N. BOLOTIN
Deputy Attorney General
Attorney for Appellant,
State Engineer

CERTIFICATE OF SERVICE




I certify that I am an employee of the Office of the Attorney General and that on this 15th day of February, 2019, I served a copy of the foregoing JOINT APPENDIX, by electronic service to:

Paul G. Taggart, Esq.
David H. Rigdon, Esq.
TAGGART & TAGGART, LTD.
108 North Minnesota Street
Carson City, Nevada 89703

/s/ Dorene A. Wright

units are more widely distributed than the observed subsidence features. The observed extent of subsidence is more limited, suggesting other factors in addition to soil type are present.

Water table decline in areas of heavy withdrawals is thought to be a significant factor contributing to subsidence. On some areas of the valley floor, water levels have declined 40 ft to 60 ft since the early 1950s. Although the water table has dropped over a large area in the valley, observed subsidence has occurred in limited areas within the area of water-level decline. If water table decline was the only factor, then subsidence features would be observed only in the areas of water level decline and would likely be more distributed within that area.

Mapped Geologic Deposits		Subsidence Significance
Qbg eolian and alluvial silt and mud		Direct evidence of subsidence includes fissuring, and potholes. Thin-bedded to massive with no soil development
Qbf sandy silt, clayey silt, and clay		Extensive areas of subsidence and damaged structures. Irrigation/ponded water can result in severe fissuring and piping and, in some cases, catastrophic collapse
Qbs Unit F sandy silt, clayey silt, and clay		Direct evidence not observed but soils are collapsible. As water table declined, evaporites were dewatered. Subsequent dissolution by recharge may cause collapse.
Mapped geologic deposits and the significance of observed subsidence and soil collapse features observed during 2005 Nye County Subsidence Field Study. From Buqo (2005a).		




Figure 5-10: Classification of mapped geologic deposits and subsidence features from 2005 Nye County Study (Buqo, 2005a).

The 2013 Nye County reconnaissance study conducted by Klenke and Howard in 2013 (Klenke, 2016a) expanded the known areas of subsidence to the central and western portions of the Pahrump Valley. Subsidence related features were photo-documented and catalogued. Figure 5-11 shows the distribution of features that cluster in both central Pahrump Valley near Nevada Highway 372 and Red Rock Drive, and in the northwestern part of the valley. The 2013 Nye County study did not find as extensive fissuring and sinkholes as were observed in the area of earlier 2005 study. This may be due in part to the vehicle-based reconnaissance survey methods used in the 2013 study, but is more likely a result of some areas observed in the 2005 study area being subsequently regraded.

The 2013 study found an open fissure just to the south of Homestead and Dandelion that was not identified in the 2005 study. Since it is unlikely that the 2005 survey, which focused on the area immediately to the north, would have missed a feature this large – an approximately 100' long fissure – it is probable this particular subsidence feature has been expanding over time. Additional

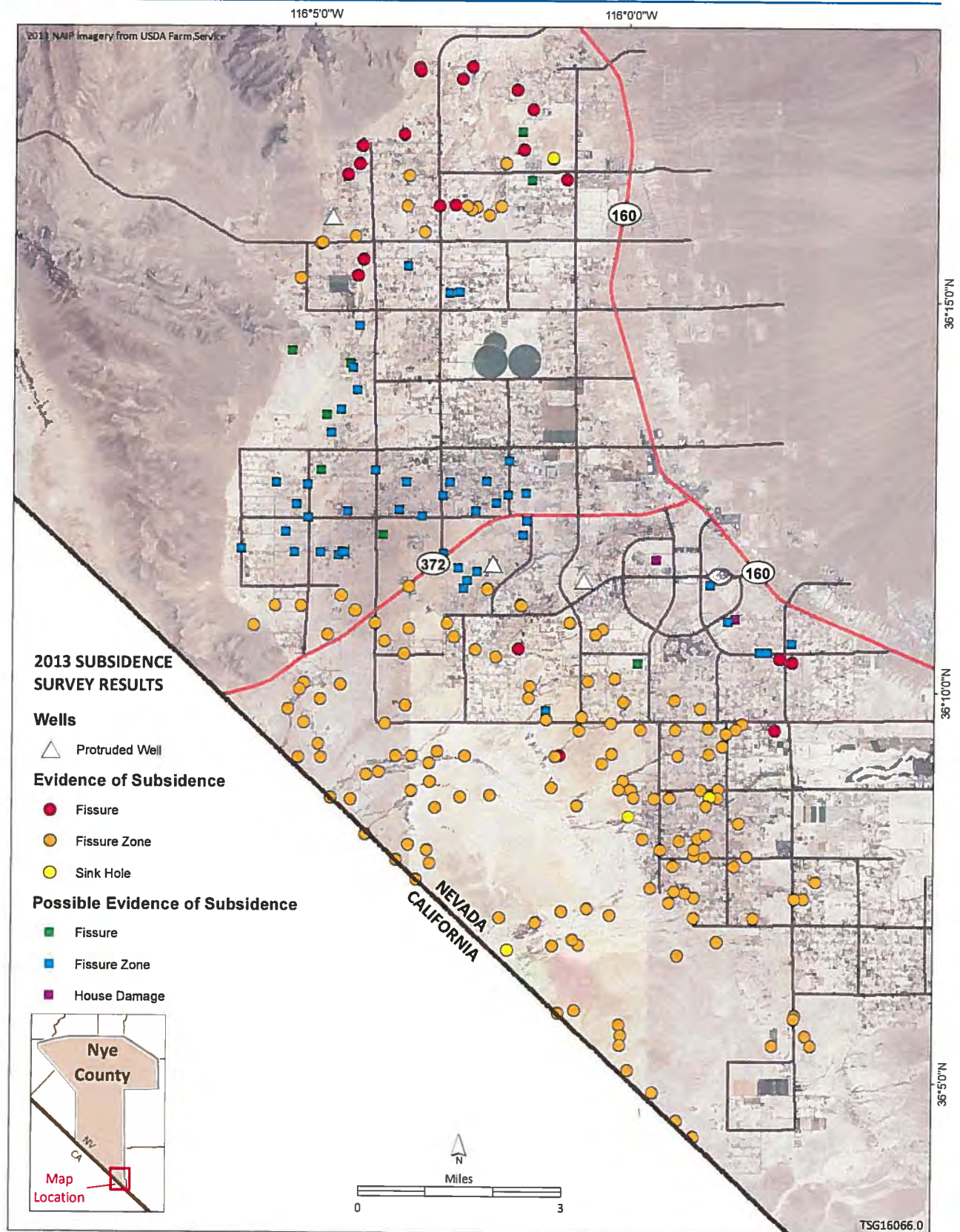


Figure 5-11. Evidence of subsidence from a field reconnaissance survey conducted in 2013 by the Nye County.

features were identified in areas of known Cenozoic faulting, such as edges of mesas, washes containing mesquite bosques, and edges of the valley where alluvium is juxtaposed against bedrock, as it is in the extreme west and northwest. This suggests either reactivation of faulting, or propagation of surface fissures along zones of weakness associated with Cenozoic faults that were not actually reactivated, are also contributing to observed subsidence-like features.

Comparing the locations of features to the 11-year water level change map indicates the southern fissure is an area of declining water levels, while the main area of interest in the 2005 study at Homestead and Dandelion is now in an area of rising water levels. This suggests that the subsidence in the Homestead and Dandelion area, if due solely to water declines, should no longer be active. A high elevation view of the Pahrump Valley showing the location of all subsidence features and the 11-year (2004 to 2005) Water Level change map shows that nearly all subsidence features occur within areas of water level decline (Klenke, 2016a).

Aquifer compaction due to groundwater withdrawals is probably the main cause of subsidence in the Pahrump Valley (Klenke, 2016a). Other factors, including vulnerable soil types that are the result of geologic history and extensional tectonic features have created an environment that is susceptible to impact by man's activities, as well as natural hydrologic processes. Thus, there are several factors including past and future irrigation practices, vertical changes in soil properties, and water level declines within the soil column that may contribute to subsidence and collapse in the Pahrump Valley.

All locations surveyed in the 2013 Field Study were recorded using a handheld GPS to ensure that revisiting and reevaluating these features could be easily accomplished in future studies. In future studies, satellite imagery could be used to better define subsidence. Update of the Utley report could be accomplished using InSAR imagery and resurveying the high-accuracy GPS locations. Previously established GPS network control points could be reoccupied and used to better define susceptible areas. The information would have other applications as well including providing refinements to Nye County flood control plans.

In 2005, Nye County completed its review and evaluation of subsidence problems, and reviewed proposals for various mitigating measures. By decision of, and at the direction of the BoCC, the Public Works Department developed a County Ordinance to require geotechnical testing of soils as part of the building permit process. County staff held workshops with the affected community including home-owners, realtors, developers, builders, and engineers. The BoCC passed County Ordinance in 2006 to require soil testing and characterization to protect the community from the risks posed by subsidence-related geotechnical hazards.

Pahrump Basin 162 Groundwater Management Plan

In 2011 the Nevada State Legislature passed into law Assembly Bill 419. Part of AB 419 discusses the submittal and approval (by the State Engineer) of a GWMP. Components of the plan are tailored to present and future conditions for a basin's unique physical character and demographic attributes such as available water supply versus present and future demands existing population and growth potential, physical geologic and lithologic conditions, land available for development, types of uses, permitted water rights, domestic well density, production well locations, water utility availability, economic factors and other conditions. Components of a GWMP include a variety of

actions and/or state and local regulations to force groundwater withdrawals to balance with the available groundwater supply.

To address the issue of over appropriation the Nye County Board of Commissioners, in concert with the Division of Water Resources, formed an advisory committee in January 2014 to make recommendations for a GWMP. The committee met from January 2014 to September 2015 to discuss the over-allocation of the basin, held public meetings and workshops, considered options, collected information and recommended many elements and actions to be included in the GWMP pursuant to AB419. The State Engineer and/or his staff attended most of the meetings and workshops to advise the GWMP Committee and Water District staff of the tools that are available under existing Nevada water law. DWR staff remains involved in the effort to assist in drafting a final GWMP for the community of Pahrump and the larger Hydrographic Basin 162. After much consideration, discussion, and debate, the committee identified the following items which form the foundation for a GWMP.

- Aggressive water education;
- Adopt a water conservation plan;
- Water importation;
- Require meters on new domestic wells;
- Limit new domestic well entitlements to 0.5 AFA;
- Educate domestic well owners regarding the option to supplement their water usage with permitted water rights;
- Construct rapid infiltration basins (RIB) and/or recharge basins;
- Aquifer Storage and Recovery;
- Allow utilities to put in backbone infrastructure with Public Utilities Commission approval to reach more lots;
- Create incentives to voluntarily connect to public water systems;
- Conservation Credit Program for water rights;
- Investigate existing and future development agreements and implement changes with the goal to require water mitigation; and
- Growth Control.

In addition to preparing the GWMP, Nye County and the NCWD have completed a number of measures to address the water supply shortfalls and over-allocation in the Pahrump Basin including:

- Master planning to include water efficient development standards;
- A mandated program of water rights dedication, over dedication and relinquishment;
- Geologic mapping of portions of Pahrump Valley;
- Geophysical surveys of the basin including gravity and low-altitude aeromagnetic surveys;
- Development of a water level baseline beginning in 1999;
- Study to evaluate cost and feasibility water importation to Pahrump Valley;
- Coordination with the Division of Water Planning and Division of Water Resources; and
- Development of the Basin 162 Groundwater Management Plan and implementation of selected recommendations.

Basin over-allocation and the potential future shortfall of groundwater supplies

The Pahrump Hydrographic Basin is one of the most over-allocated basins in Nevada, and has the highest density of domestic wells of any basin in the State. Total permitted water appropriations currently exceed 60,000 acre-feet, and under current water law estimated entitlement could be as high as 17,000 acre-feet per year. However, the State Engineer's estimated domestic well use of 0.5 acre-feet per year could result in the withdrawal of an additional 4,250 acre-feet with no future parceling. Based on available information from the Planning Department it is estimated that currently approved Development Agreements in the Pahrump Valley could accommodate up to an estimated additional 66,000 people, at full buildout. Using the 1.5 percent annual growth rate from Chapter 4, Pahrump will achieve that population by about 2050. At that point, groundwater withdrawals from the basin will consistently exceed the perennial yield.

In order to address such basin issues the NRS 534.120 authorizes the State Engineer to make rules, regulations and orders when groundwater is being depleted in designated area; including placing restrictions on certain wells. To implement this part, subsections of NRS 534.120 allow the State Engineer to require the dedication of any type of appropriative water right to a city, county, or their designee or, the relinquishment of such water rights directly to the State Engineer for any newly created parcel proposed to be served by a domestic well to ensure a sufficient supply of water for each new parcel. Water rights offered for relinquishment must be valid and in good standing. Once relinquished, the water right returns to the basin (the source), the status of the water right is changed by the State Engineer to *RELINQUISHED*, and compliance with permit milestones – also known as permit maintenance – is no longer required.

Both dedication and relinquishment ensure that appropriated water rights will be available for the newly created parcels to account for the domestic and residential use that will occur. Unlike relinquishment, however, managing a dedicated water right does not relieve the holder of permit maintenance, which can become time consuming and costly as the number of dedicated rights increases. For this reason, the Nye County Water District Governing Board recommended that Nye County relinquish its dedicated water rights to the State Engineer, and require that future dedicated water rights to be relinquished directly to DWR. Thus, Nye County no longer maintains dedicated water rights but instead requires water rights in support of new parcels that will be served by domestic wells to be relinquished directly to the State Engineer. These relinquished water rights are said to revert “back to the basin” to be managed by the State Engineer. The status of the right is changed to Relinquished, and the Manner of Use to Domestic. The annual duty of the relinquished right is deducted from total allocation of its prior manner of use category (Irrigation, Commercial, etc.), and it remains “on the books” for future domestic use and accounted in the basin's total appropriations.

The water rights dedication and relinquishment requirements to support future domestic use on newly created parcels in the Pahrump Valley are found at Nye County Code 16.28.170: Parcel Map Procedure. Additional measures approved by the Nye County Water District Governing Board on July 27, 2015 members would require new commercial or industrial projects to submit conservation and landscaping plans, and water rights mitigation plan. The NCWD asked that staff review codes, policies and procedures and bring recommendations for possible adoption to provide the best management practices, stewardship, protection and conservation of the Pahrump Basin.

Pursuant to NRS 534.120, when land to be parceled and served by domestic wells is within a Water Service District's service area and it is the intent of the service district to provide water service, Nye County Code identifies the Water Service District as the entity to receive dedicated water rights. Water rights are transferred to a service district or utility in an amount determined by the district or utility. The quantities of water required by utilities for dedication have been established by the State Engineer.

The quantity of water rights to be transferred for new lots or parcels created in a Utility's service area is currently based on the following Dedication Requirements; lots and parcels that can demonstrate compliance with a Water System District's Conservation Plan (i.e., water use restrictions implemented) may be eligible to receive an incentive, as demonstrated below:

Lot Size	Dedication Requirement
All lots without water use restrictions	1.12 acre-feet annually
Greater than 11,200 square feet	1.12 acre-feet annually
6,800 to 11,200 square feet	(square feet/10,000) acre-feet annually
Less than 6,800 square feet	0.68 acre-feet annually

When land is being subdivided for other than single family residential use, sufficient water rights are determined in accordance with NAC specified allowances, which are based on the numbers and types of fixtures to be constructed.

To date, the dedicated water rights associated with parcels in utility service areas remain under active permits, require permit maintenance, and are not relinquished to the State Engineer. While these rights are dedicated for use on the residential lots they are intended to serve, the long timelines associated with development and proof of beneficial use make difficult to account and allocate the water use on residential subdivision lots served by utilities and public water supply systems. This makes basin accounting problematic as it is not possible to quantify water use on a lot or parcel without proof of beneficial use because neither the quantity in beneficial use, nor the unused or excess water that returns to the source, can be determined. In 2016, the Nye County Water District Governing Board requested that the State Engineer disallow changes to the place of use of any previously, currently, or future excess dedicated water rights to ensure that they are not moved to support new development. The State Engineer is considering issuance of an Order to address this request.

County ordinances require more water be dedicated for a parcel than is expected to be used. Nevada Water Law entitles domestic wells to withdraw up to 2 acre-feet of groundwater per year, however, estimates by the State Engineer based on satellite and aerial imagery analysis, and data from metering, strongly suggest that domestic wells in Pahrump use an average of 0.5 acre-feet per year. The current dedication rate of 3 acre-feet per parcel can be said to "over-dedicate water" over both the maximum entitlement amount of 2 AFY, and the estimated usage of 0.5 AFY. The relinquished water rights that are excess of the actual usage will never be used beneficially and in fact return to the basin. Until recently, there were no reliable estimates of the total quantity of water rights dedicated to account for future domestic and residential use. The Nye County Water District undertook a review to resolve the quantity of dedicated water rights and to established an

accurate accounting of the number of parcels, and the dedicated and over-dedicated water rights recorded in the Pahrump Basin. The Water District Study used estimated usage rates of 0.324 AFY for single family dwelling served by water supply systems, and 0.5 AFY for domestic wells. Subtracting the total estimated parcel/lot usage from the total dedicated rights produced an “excess dedication amount.” The preliminary value of the “excess dedicated amount” was determined to be 11,484 AFY, or nearly 11,500 AFY of water rights “on the books” that will not be beneficially used.

Table 5-2, below is Table 3 from the GWMP that will be adjusted to reflect the quantities of dedicated and excess dedicated water rights. Water District Studies are also underway to quantify the recharge and return flow credits that could potentially be available from irrigation return flow, rapid infiltration basins, and septic systems during the 50-year planning period.

Table 5-2: Adjustment of over allocation by crediting reuse, recharge and over dedication of water rights.

PAHRUMP HYDROGRAPHIC BASIN	
PERENNIAL YIELD	20,000 AF
OVER ALLOCATION	50,166 AFY
REUSE CREDIT POTENTIAL	TBD AFY
RECHARGE CREDIT POTENTIAL	TBD AFY
OVER DEDICATION POTENTIAL – SUBDIVISIONS	TBD AFY
OVER DEDICATION POTENTIAL – DOMESTIC WELLS	TBD AFY
*ADJUSTED OVER ALLOCATION	TBD AFY
*Adjusted over allocation: 1.) Credits reuse and recharge water as usable water. 2.) Significantly reduces the over allocation total by accounting for over dedicated water rights (existing + future should be included). 3.) 1 and 2 combined would be subtracted from the 50,166 over allocation figure.	

From the Pahrump Basin 162 Groundwater Management Plan STAGE ONE Version Oct. 16, 2015.

These numbers will help to guide future water management decisions and will be a measure of the success of these mitigative actions.

These measures enacted by Nye County through BoCC-approved Area Plans and Land Division Ordinances are expected to help reduce the over-allocation of water rights in Pahrump and Amargosa Valleys. The measures, once implemented, reduce existing water rights allocated for irrigation and other uses by dedicating those rights for future residential use. Such measures may be considered in other Nye County basins that are over-allocated. Following a recently passed resolution by the Nye County Water District Governing Board, new planning ordinances are being considered that could require relinquishment of commercial or other water rights in an amount equal to or greater than amounts proposed to be placed into beneficial use as condition of planning approval.

Regardless of whether a dedicated water right is through a utility or relinquished to the State Engineer, the priority date runs with the water right. This means that a water right dedicated for

domestic use at a given parcel retains the priority date of the original dedicated right, and is not dependent upon when the owner actually drills the well and proves beneficial use. Thus, in areas where designations as Critical Management Areas fail to resolve over-pumpage problems, adjudications based on priority date will favor users whose domestic wells have dedicated rights with the most senior priority dates.

Currently the only Nye County basins requiring water rights dedication and relinquishment are Pahrump Valley and the Amargosa Desert Basin. Although several other Nye County basins are over-appropriated, the State Engineer has not required nor supported enactment of proposed Nye County ordinances for the dedication or relinquishment of water rights in those basins. Thus, Nye County codes requiring water rights dedication or relinquishment apply only in Amargosa Valley and Pahrump.

Circumstances could evolve in the Amargosa Desert basin, which is slightly over-allocated at 26,000 acre-feet versus a perennial yield of 24,000 acre-feet, which would result in a slight over-pumping of the basin. Pumpage in the basin is at nearly 18,000 acre-feet per year, including about 500 domestic wells, and there are a number of private parcels available for future additional build-out. Measures to mitigate the over-allocation have already been implemented. The quantity of water rights required to be relinquished to the State Engineer to account for future water use associated newly created parcels and lots in Amargosa Valley is currently 2 acre-feet per parcel (Nye County Code 16.20.190 Development Standards). The State Engineer Water Rights Database (June 30, 2016) on the DWR website shows 4.04 acre-feet of water rights in Amargosa Valley relinquished in support of new parcel maps. To date, there are no utilities offering water service in the Amargosa Valley.

Water Exportation and Multi-County Management Issues – The potential exportation of water from Nye County to serve the ever increasing demand for water in the urban areas of Clark County remains an issue with regard to water supply allocation. As a result in 1989, water filings by the Las Vegas Valley Water District (now SNWA), for about 95,000 acre-feet of water rights in Railroad Valley (both North and South hydrographic basins) remain ready for protest. The applications were filed to develop groundwater in rural areas of Nevada and convey the water to metropolitan Las Vegas. The applications in Hot Creek Valley were subsequently dropped, but the SNWA's applications for Garden and Coal Valleys, in basins shared with White Pine and Lincoln counties remain.

The water right filings raised strong concerns regarding the impact of the proposed water withdrawals on the quality of life, economies, and ecosystems of the targeted basins. The SNWA applications were protested by more than 1,000 individuals and entities, including Nye County, which expended considerable time and funds reacting to the filings. SNWA and the affected counties agreed to work cooperatively to address specific issues related to the applications.

In addition to applications by other entities to export water from Nye County basins, many of the basins in Nye County are shared with other counties, and some are shared with California. Basins that lie in multiple jurisdictions can complicate water planning efforts. For example, DWR data for many of Nye County's shared basins (Chapter 3, Table 3-8) show pending applications in several basins that, if approved, will result in over-allocation. The CNRWA continues to support Nye as well

as other counties efforts in formulating legal positions and policies needed to address these issues in the shared basins of the Central Hydrographic Region.

5.2.2 Water Quality and Environmental Issues

In Chapter 3, a number of key water quality related issues were identified.

- Naturally occurring arsenic and fluoride in groundwater in several Nye County Communities
- Elevated concentrations of nitrates in Pahrump Valley from historical practices and natural sources; nitrate management restrictions, and potential for future contamination from septic systems
- Contamination of groundwater resources beneath the Nevada National Security Site, and potential for migration of contaminants off of the Nevada National Security Site

Naturally Occurring Arsenic and Fluoride

The geology in many parts of Nye County that has provided a wealth of mineral resources has also set the stage for naturally-occurring groundwater contamination. Groundwater in aquifers associated with volcanic and evaporite deposits have elevated concentrations of naturally occurring arsenic and fluoride in the central and northern parts of Nye County. Since these aquifers may also be used to supply drinking water wells, the potential for contamination of drinking water is an important concern. The WSAI Report (GGI, 2013a) investigated the naturally occurring groundwater contaminants arsenic and fluoride for each community water system in Nye County; other naturally occurring contaminants such as uranium and radon, which are not well characterized in Nye County, were also briefly addressed.

Arsenic levels in groundwater have been problematic for water systems throughout Nye County. Beatty Water and Sanitation District, Manhattan Town Water, Tonopah Public Utilities, Carvers Smokey Valley RV & MHP, Shoshone Estates Water Company, and other community systems have undertaken engineering studies and/or completed system improvements to bring community water supplies into compliance with the deadlines of the revised arsenic standard. Of these, the Beatty Water and Sanitation District and Carvers Smokey Valley RV & MHP installed arsenic treatment systems in 2010 and since then have had no exceedances of the arsenic standard. Manhattan Town Water installed a new well in 2010 with an arsenic concentration below the standard, and the old well is designated as an emergency backup. Tonopah Public Utilities has sited and drilled two new production wells that have acceptable arsenic concentrations below the standard. The Shoshone Estates Water Company in Round Mountain has completed Preliminary Engineering Review (PER) to identify a treatment strategy. The PER concluded the best approach would be the installation of point-of-use treatment, however, these recommendations have not yet been implemented, and the system is not yet in compliance. The status of the water system is further discussed in Chapter 6.

Fluoride concentrations in Gabbs' prior water well were above the standard, but a new well completed in 2011 has a lower, acceptable concentration. Beatty blends water from different wells to keep the fluoride concentration below the drinking water standard (GGI, 2013a). No other fluoride issues have been identified.

While the maximum concentrations of naturally-occurring contaminants are regulated by the NDEP for water delivered through public supply systems, these concentrations in domestic, irrigation, and

industrial supply wells are usually unregulated. The basin with the highest concentration of domestic wells, Pahrump Valley, is not affected by the presence of naturally-occurring arsenic and fluoride.

Elevated Nitrates in the Pahrump Valley

Nitrates (NO₃) are an essential source of nitrogen (N) for plants. Nitrogen occurs naturally in soils, rainfall, and desert deposits, or it can be introduced into the environment by the use of nitrogen and ammonium fertilizers, the decomposition of plants and animal wastes, and disposal of human waste from septic systems and water wastewater treatment facilities. All of these sources can contribute to nitrate contamination of ground water.

The water supplies for Pahrump Valley are derived from a single source, the valley-fill aquifer. The valley-fill aquifer comprises a thick sequence of gravels, sands, and clays, and may have volcanic units and/or evaporate deposits at depth. The ability of these different materials within the aquifer to transmit water varies widely. Underlying the valley-fill aquifer (and cropping out in the mountains on either side of the basin) are rocks of Paleozoic age that include multiple carbonate aquifers. Under natural (pre-development) conditions there was also appreciable discharge within Pahrump Valley to numerous springs and wetland areas. Today, many of the springs are dry and the wetlands are almost entirely gone.

Both aquifers receive their recharge from precipitation that falls within the basin boundaries; the deep infiltration occurs in the mountain ranges that bound the margins of the valley, with the vast majority of this recharge derived from the on the east side of the valley from the Spring Mountains. The percolating water flows down through bedrock fractures and eventually moves into the valley-fill deposits. From there the groundwater moves through the paths of least resistance and flows predominantly southwestward under the valley. The final discharge point of this water is not known with certainty but hydraulic gradients exist toward both the Ash Meadows region of the Amargosa Desert and a discharge area in the vicinity of Tecopa, California (Buqo 2004).

The other source of recharge is derived from the infiltration of water used for irrigation and domestic purposes. This influx of water is referred to as secondary recharge and is a primary concern from the water quality point of view. The infiltration from the irrigation of farmland, parks, baseball fields, and even lawns can result in groundwater contamination with fertilizers, herbicides, and pesticides. The infiltration of septage effluents from domestic septic systems can also be a source of groundwater contamination.

There are presently more than 11,000 domestic water wells located in Pahrump Valley and most of the lots with domestic wells also have domestic septic systems. About 33 square miles in the lowland portions of the basin have septic system densities of more than 100 per square mile. Commercial establishments, which have larger septic systems, already include nitrate treatments, as required by the NDEP nitrogen restriction.

In addition to these existing septic systems, there is the potential for a great number of new domestic septic systems in the basin as the community of Pahrump continues to grow. Given the number of existing lots, there could be an additional 8,000 or more individual septic systems in the Pahrump Valley by the year 2060. While the larger subdivisions use package treatment works or

other engineered treatment, the high number of domestic septic systems, poses a significant potential for groundwater contamination that must be addressed and monitored.

In Pahrump, various studies have been conducted over the years to characterize the distribution of nitrates and establish the source or sources of elevated nitrates. Klenke (2016b) summarized and presented the data collected by these studies. His compilation shows that the aerial distribution of high nitrate concentrations across the Valley is still not well defined. While data collected to date suggest the areas of high concentrations are very localized, a consistent and systematic approach to defining the boundaries of these areas has yet to be undertaken. Figure 5-12 is a preliminary nitrate distribution map compiled from historical studies (Klenke, 2016b), which are summarized in this section.

Groundwater sampling in the early 1970's established the presence of excessive and elevated nitrates and broadly identified the areas of elevated nitrate concentrations. Historic nitrate values from 1964 through 2003 were reported sporadically by DOE in environmental baseline studies conducted by the nuclear testing and nuclear waste programs. DOE's sampling found two isolated occurrences of high nitrates in water supplies in rural parts of the valley, associated with livestock and wildlife watering areas. In 2005, Buqo reviewed several sources of nitrate data including historic nitrate levels from water quality analyses conducted by the Nevada Division of Health State Laboratory, results of the Southern Nye County Conservation District 2005 study, and water quality characterization for the Artesia Sewage Treatment facility, Buqo (2005b). Various nitrate analyses were also included in studies conducted from 2010 through 2015 by the Nye County Water District, the Nye County NWRPO and Glorieta Geosciences, Inc. The USGS studies provided data on a number of groundwater contaminants from wells of opportunity.

The earliest known nitrate investigation in Pahrump Valley was conducted in 1974 in support of litigation. Rosse, an Engineer with the Nevada Bureau of Environmental Health (and later with NDEP) conducted large-scale sampling of over 200 wells in the agriculturally developed areas of the Pahrump Valley to collect data on nitrate levels. His survey, which included wells in 29 sections, found nitrates present in shallow wells (less than 200 feet) at concentrations of up to 35 mg/L in areas of the valley associated with agriculture, and deeper wells (greater than 350 feet) had nitrate concentrations approaching 24 mg/L. At least 21 of the wells sampled had nitrates in excess of the Drinking Water Standard of 10 mg/L.

Rosse's 1975 letter to the Chairman of Nye County Board of Commissioners, outlined testimony given in a case before the Fifth District Court that found elevated nitrate levels in Pahrump Valley groundwater. The elevated nitrate levels were attributed to the agricultural application of ammonium fertilizers; the fertilizers had contaminated the upper, unconfined aquifer making it unsuitable for human consumption. Rosse's letter also cautioned that wells penetrating the deeper aquifer needed to be adequately isolated from the upper aquifer to prevent the spread of contamination. He noted that *community water supply systems* (emphasis added) would need to treat drinking water to the reduce nitrate concentrations to meet the applicable U.S. Public Health Service (now EPA) Drinking Water Standard for nitrate. No remedy was offered for potential exposure from the domestic wells, which totaled fewer than 500 at the time (1970 Pumpage Inventory; DWR, 1970). Additionally water quality standards were applicable to public water systems and not to domestic wells.

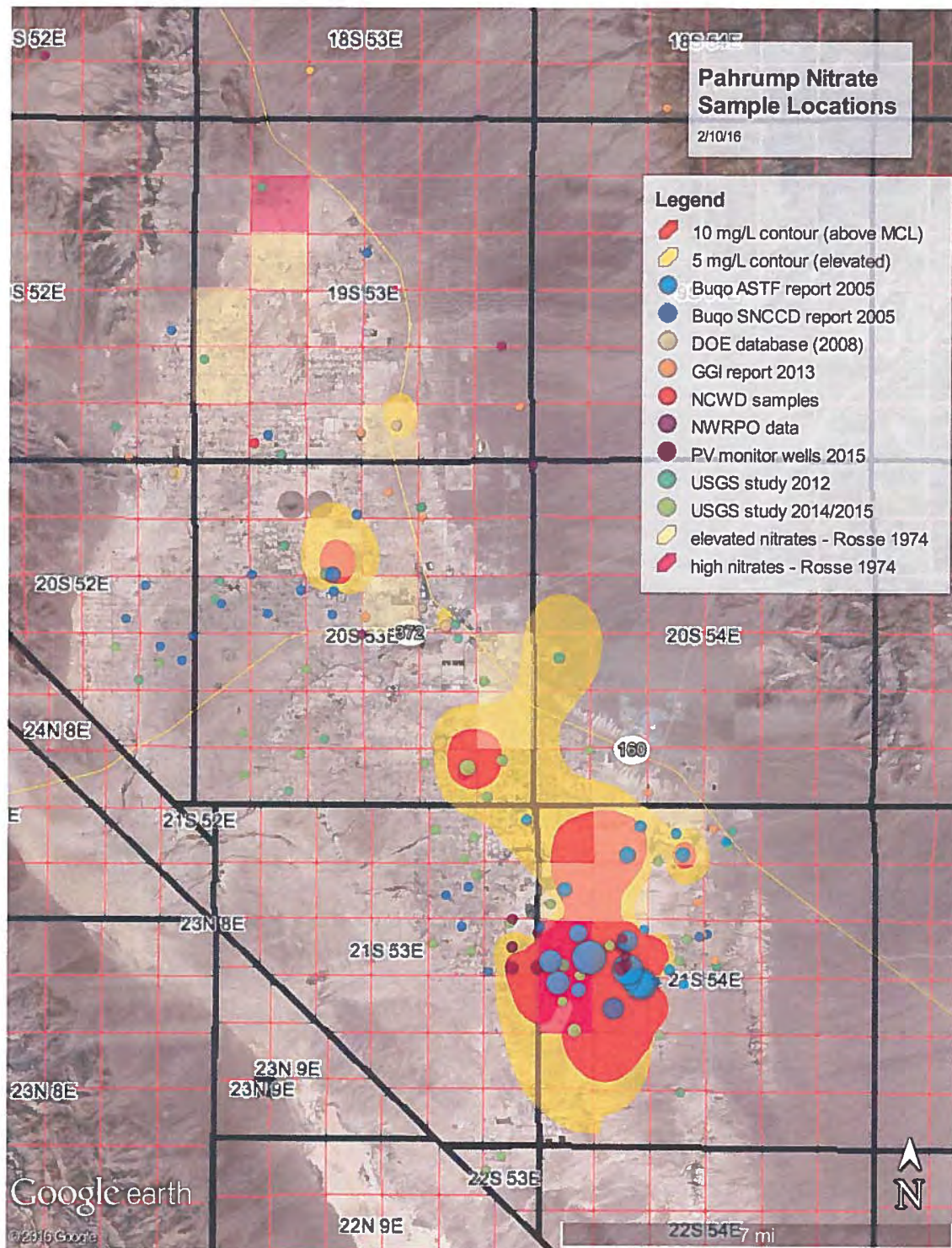


Figure 5-12. Preliminary nitrate distribution map including data from Rosse's 1974 report. Twelve sections highlighted in yellow indicate elevated nitrate areas, and three sections highlighted in magenta indicate high nitrate areas. From Klenke (2016b).

In 2005, the Southern Nye County Conservation District (Buqo, 2005c) conducted a study to investigate two areas in Pahrump considered to have the highest potential for groundwater contamination by nitrates. These two areas included neighborhoods with relatively high density of domestic wells and associated high density septic systems. The northern study area is bounded by Mesquite Avenue on the north, State Highway 372 on the south, Blagg Street on the east, and Bannavitch Street on the west encompassing approximately 12 square miles. According to DWR records, more than 2,400 domestic water wells had been drilled in the area through August 2001. The second study area, located in the southwest part of the valley encompassed nearly 8 square miles bounded by Gamebird Road on the north, Turner Boulevard on the south, Homestead Road on the east, and Pahrump Valley Boulevard on the west. Records of the DWR indicated that more than 1,100 domestic wells had been drilled in the second area.

These two most densely developed areas of Pahrump were sampled, and the results found no evidence of elevated or excessive nitrates in groundwater beneath areas with a high density of septic systems. The study also examined presence and concentration of other indicators of septic contamination including total dissolved solids, and phenols. These other indicators of septic contamination were absent, as well. Buqo (2005c) concluded that no evidence exists to suggest that the current distribution of elevated nitrates are associated with septic systems.

Prior to permitting and constructing RIBs, Pahrump Utilities Company, Inc. contracted Buqo (2005b) characterized groundwater conditions beneath and down-gradient of the proposed RIB facility. Based on this study and others, Buqo (2005b) concluded that, *"Nitrates [in the southern portion of the Pahrump Valley] are probably related to the Pleistocene lake in Pahrump Valley, specifically the decay of vegetation in bog and marsh deposits adjacent to the shoreline."* This suggests that soil nitrogen may be a source of the observed nitrate values in some areas. Buqo's sampling results also found that *"the groundwater down gradient of the proposed facility was naturally brackish with total dissolved solids concentrations of more than 2,000 ppm, sulfate concentrations of more than 1,000 ppm, and nitrate concentrations of more than 200 ppm, all well above the respective drinking water standards for these parameters..."* Thus, the treated effluent proposed for disposal would not degrade the existing groundwater quality.

In 2012, the USGS conducted a pilot study that sampled for nitrates in 20 wells, most of them domestic. Two of the 20 wells sampled had nitrates above the drinking water standard. From 2014 to 2015, the USGS sampled an additional 27 wells and resampled 4 wells from the pilot study. In all, a total of 37 unique wells were sampled to investigate possible sources of nitrates; three of the wells sampled had nitrate concentrations above the Federal Drinking Water Standard of 10 mg/L, and two additional wells had elevated nitrated concentrations above 5 mg/L but below the standard of 10 mg/L.

To further investigate the source of observed nitrates, the 2014/2015 USGS study also looked for the presence of wastewater-related compounds, or simply "manmade compounds" that are found in domestic septage or wastewater treatment effluents. The USGS tested for the presence of 46 compounds in 27 wells, and 32 wastewater-related compounds in 4 additional wells. Three of the selected compounds are commonly associated with human wastewater: caffeine, and two other conservative pharmaceutical compounds. None of these compounds were detected in any of the wells that were sampled. In all, there were 30 *detections* of wastewater-related compounds, only

five of those detections were at quantifiable levels; the others were so low that sample concentrations could only be estimated.

Water quality and chemistry analyte data (e.g., arsenic, fluoride, total dissolved solids, chloride, sulfates, etc.) are usually measured in the parts per million (ppm). Environmental data from samples collected to measure man-made wastewater contaminants must be detectable at much, much lower concentrations, usually in the parts per billion range. Because environmental data can be detected at the part per billion range; it is important to implement quality control measures to ensure and document a sample's integrity. Quality control measures include collection of field blanks, laboratory method spikes, and the use of other controlled sampling measures to establish that contamination has not been inadvertently introduced during sampling or the laboratory handling. Quality control data were not available for the USGS data set so no conclusions can be drawn regarding data quality.

Environmental data to assess the source and magnitude of contamination in groundwater are ideally collected using a gridded sample, or alternatively random sample. In reality data sets are frequently neither. The data set of contaminants in groundwater in the Pahrump Valley is neither gridded nor random, but instead is considered a *biased* sample because data can only be collected at locations where water wells already exist. Additionally, to determine if such low concentrations are real and not a statistical anomaly requires resampling of the wells through time to confirm the presence of a contaminant at such trace levels. Because the USGS data set has only one set of observations for each well sampled, neither temporal nor statistical comparisons can be made.

The following generalizations can be made, based on the USGS data wastewater compounds dataset:

4 wells were tested for 32 wastewater compounds (4x32 observations).

27 wells were tested for 46 wastewater compounds (27x46 observations).

In all there are a total of 1,370 observations. Of the 1,370 observations, 30 of the values were non-zero. Of these 30 non-zero observations, 18 were at the instrument limit, and 12 were "non-zero" detections that were not quantifiable because the contaminant was present below the instrument's quantitation limit. The 30 observed detections occurred in 13 wells of the 31 wells sampled, and were distributed as follows: six wells had one detection; two wells had two detections; one well had three detections; two wells had four detections; and one well had five detections. Thus, slightly over 50 percent of the detections are accounted by slightly more than 10 percent of the wells. This suggests that if the detections are found to be real (i.e., if the results are reproducible), then the contaminant sources are localized, rather than a basin-wide problem. The 30 detections represent 21 different compounds; the only compounds to occur more than once were the chemical constituent found in mothballs, and by-products of well disinfection and cleaning. Again it is emphasized that all 30 wastewater-related compounds detected were well below regulatory standards and levels of concern.

In addition to sampling for the presence of nitrates, wastewater compounds, and general hydrochemical parameters, the second phase of the USGS nitrate study also measured and plotted the ratios of specific isotopes of oxygen and nitrogen to try to establish the source of nitrate. Using

ratios of nitrogen to oxygen compiled by Kendall and McDonnell (1998), the Pahrump isotope data were plotted and compared to established ranges for precipitation, desert deposits, ammonia and nitrogen fertilizers, and soil nitrogen. Unfortunately, the established ranges of isotopic ratios for soil nitrogen, ammonia fertilizer, and rainfall also coincide in part or in total with the range for septic waste and manure, making it impossible to uniquely distinguish source on isotopic ratios alone.

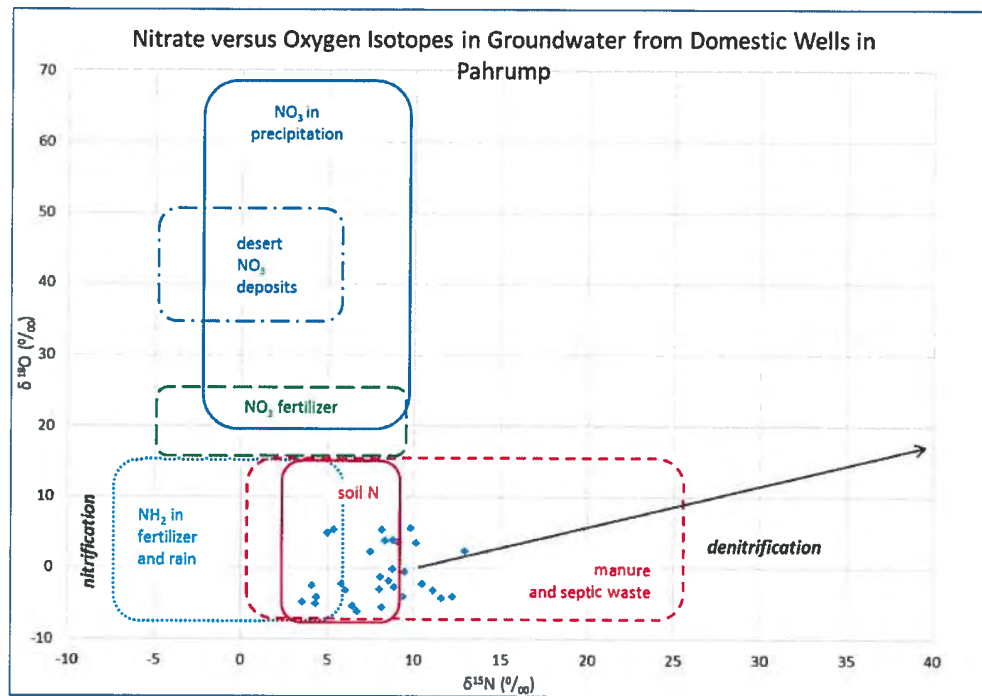


Figure 5-13: Ratios of isotopes of oxygen and nitrogen found in Pahrump groundwater suggest that areas of elevated and excessive nitrates are likely the result of past agricultural practices and existing greenspaces where fertilizers are applied.

While the isotopic data are inconclusive in establishing a unique source of nitrates, it is useful to compare the Pahrump data to similar datasets where nitrate sources are known. Wells (2012) used nitrogen-oxygen ratios to characterize groundwater contaminated by sewage effluents and septage. Plots of nitrogen-oxygen ratios presented by Wells (2012) showed that groundwater contaminated by effluents from up-gradient sewage lagoons had a much wider range of $\delta^{15}\text{N}$ values than those observed in the Pahrump data. Nitrogen values of the Wells' (2012) study plot between 10.0 and 22.0 ‰ compared to values of 3.0 and 12.0 ‰ found in Pahrump.

Wells (2012) also found the corresponding $\delta^{18}\text{O}$ values to be narrowly distributed between 3.0 and 8.0 ‰ compared to the wide range observed in the Pahrump Valley data, between -10.0 and 7.0 ‰. The isotopic ratios of groundwater contaminated with sewage effluents and domestic septage generally plotted in the manure and septic waste field nearer to the denitrification line, and Wells (2012) attributed those data points plotted in overlapping fields to sources other than manure and septic waste. This is in contrast to the Pahrump data where many of the data points cluster in the ranges of soil nitrogen and ammonia fertilizers. Those points

plotting exclusively within the manure and septic waste field may be derived from septic waste, and warrant further investigation.

Clark and Fritz (1997) summarized nitrogen-oxygen isotope ratios under a variety of conditions as reported by others. They found that while effluents and manure can have nitrogen values as low as 3.5 ‰, nitrogen values below 7.50 ‰ are reflective of ammonium fertilizers found in areas of agricultural land use. The clustering of the Pahrump isotope data suggests possible sources may be ammonium fertilizers and soil nitrogen. The absence of man-made compounds associated with sewage effluents and septage in wells exhibiting elevated nitrate concentrations further supports soil nitrogen and historic fertilizer uses as possible sources of nitrates in the Pahrump Valley. These results are consistent with the conclusions of previous studies and historic land uses.

The most recent nitrate sampling efforts in the Pahrump Valley found limited areas with nitrate concentrations at or above the Federal Drinking Water Standards. The NRS 445A.395 and the NAC 445A.955-9552 regulate discharges to groundwater to protect groundwater and prevent degradation of water quality. Based on measured concentrations in isolated parts of the Pahrump Valley, the NDEP designated the entire Pahrump Valley as a Nitrogen Restricted Area in 2009 (Lanza, 2009). Nitrogen restricted means that levels of nitrogen are at or approaching 10 milligrams per liter (mg/L) measured as total nitrogen in the groundwater or surface water. As a result of this designation, the NDEP requires that all non-domestic on-site septic disposal systems include nitrate treatment. Better definition of the areas of elevated nitrate concentrations could be used to require the footprint of the area requiring nitrate treatment. Klenke (2016) offered the following recommendations to better define the areas of elevated nitrates.

- Resample wells identified in historical reports with high or elevated nitrate levels to determine current nitrate levels;
- Sample wells in and around areas with high or elevated nitrates to better identify the magnitude and extent of the affected areas;
- Continue to sample new wells being added to the Volunteer Domestic Well Metering Program; and
- Sample in areas of the Pahrump Valley where nitrate data is lacking.

Resource Damages and Contaminant Migration at the Nevada National Security Site

The underground nuclear weapons testing areas at the NNSS are the most significant areas of groundwater contamination in the County, and the State of Nevada as well. In addition to the 23 million curies of tritium (2012 levels), which has a relatively short half-life of 12.5 years, there are 1.5 million curies of strontium (with a half-life of 28 years), and nearly 50,000 curies of very long half-lived radionuclides such as americium (458 years), plutonium (up to 24,400 years), and uranium (up to 4.4 billion years). This legacy of groundwater contamination has significantly reduced the water resources available for use in the County.

The maximum contaminant level for strontium in groundwater is only 8 picocuries per litre (pCi/L); 15 pCi/L for americium, plutonium, and uranium; and 20,000 pCi/L for tritium. Estimates of the quantity of groundwater necessary to dilute the activity levels remaining at the NNSS to drinking

water standards although somewhat reduced by radioactive decay since 2004, still remain staggering:

- About ~150 **billion** acre feet to dilute the 1.5 million curies of strontium to 8 pCi/L
- About ~25 **billion** acre feet to dilute the nearly 50 thousand curies of americium, plutonium, and uranium
- About ~1 **billion** acre feet to dilute the 23 million curies of tritium to 20,000 pCi/L

Alternately, the magnitude of contamination remaining at the underground testing areas on the NNSS can be estimated using a volumetric method:

(V)olume of contaminated water = (A)rea contaminated X (D)epth of contamination X aquifer (P)orosity

if A = 250 square miles = 160,000 acres
 D = 300 feet
 P = 0.10

then V = 4,800,000 acre feet

To estimate the value of the lost resource, assume water rights in Amargosa Desert have a fair market value of \$1,000 per acre foot and water rights in Pahrump Valley have a fair market value of \$7,000 per acre foot. Using an average value of \$4,000 per acre foot, the dollar value of the groundwater resources that have been destroyed at the NNSS is estimated to be on the order of 19 billion dollars. Groundwater that otherwise could be developed for use in southern Nye County has been sacrificed for national security purposes. The Department of Energy has cited those same security concerns as the basis for protesting Nye County's water right filings on the NNSS.

Key questions with respect to the groundwater contamination at the NNSS are (1) availability and half-life of the radionuclides for transport in groundwater; and (2) the directions and rates of groundwater flow. While it is not Nye County's role to define the contaminant transport from the NNSS, it is nonetheless of paramount concern. The NNSA has been studying the groundwater contamination resulting from underground nuclear testing since 1998. Historically, Nye County's participation in these studies has been limited to interactions through DOE's Environmental Management Community Advisory Board (now called the NNSA Advisory Board). In 2015, however, Nye County received a grant from the NNSA to participate in the technical reviews of characterization and modeling studies of the Underground Test Area Corrective Action process. Through this same grant, Nye County is also responsible for sampling and analysis of tritium as part of the NNSA's ongoing Community Environmental Monitoring Program, which is discussed in the next section.

Groundwater Protection and Monitoring Measures

The protection of the quality of Nye County's water resources and drinking water supplies is of paramount importance. The primary groundwater protection issues include sources of potential contamination. Sources of contamination include both point sources such as leaking underground tanks, landfills, and mine tailings, and non-point sources which are diffuse sources that can

collectively cause contamination of surface water supplies. Examples of non-point sources include runoff from agricultural or feedlots, mining and construction activities, and urban areas.

Non-point source pollution is best addressed by implementing Best Management Practices (BMPs). BMPs are methods, measures or practices designed to prevent or reduce water pollution, including, but not limited to structural and nonstructural controls, and including both operation and maintenance procedures. BMPs are the most effective, practical means of preventing or reducing the amount of water pollution from non-point sources to a level compatible with water quality goals. Soil conservation, restoration of disturbed areas, proper planning, storage, and use of fertilizers, pesticides, herbicides and other chemical agents, wetland protection and enhancement, stabilization of tailings piles, and storm water treatment. The cost of implementing Best Management Practices can be an obstacle and some federal grant money may be available to help implement them on private land, however, matching funds must be provided, typically from local agencies, organizations, and landowners.

Potential point sources of groundwater contamination include the infiltration of irrigation water over cropland, livestock feed lots, septic systems, storage tanks, mines, business and industry, and solid and hazardous waste disposal sites. The Nevada Bureau of Health Protection Services has conducted groundwater vulnerability assessments of each of the public water supply systems in Nye County. These assessments surveyed each water supply well or spring and defined any sources of contamination are present within the vicinity of the water supply source. The Community Source Water Protection Plan identifies measures taken with each community to protect the wellhead and springworks areas from local sources of contamination.

In 2014, NNSA expanded its support of offsite community-based monitoring of wells in Nye County in response to the County's request to be involved. As a result, the Nye County Tritium Sampling and Monitoring Program was initiated in 2015. The DOE Environmental Management office issued a five-year grant to Nye County for this program to monitor tritium in wells downgradient from the NNSS. The grant supports annual sampling of 10 wells in the first year and up to 20 wells every year thereafter. In 2015, Nye County selected and sampled ten wells. Sample locations were selected based upon groundwater flow paths off of the NNSS, proximity of wells to downgradient communities and recommendations provided by Community Environmental Monitors. Five of these wells are previously established Nye County monitoring wells. Nye County coordinates with Desert Research Institute, with the Community Environmental Monitor Program Monitors, and with Nye County citizens.

Federal Land Use Issues

With 98 percent of Nye County under federal stewardship, there are a number of water management issues associated with federal management policies and practices. Although the various federal agencies generally use small amounts of water directly, federal actions, federal land withdrawals, and federal land management policies impose significant constraints on water resource development and management. Other provisions hinder use and development by imposing costly controls on private interests leasing federal lands for ranching, mineral or energy exploration, mining activity, power production from both renewable and non-renewable resources or other, private, business, or industrial uses. In recent years, the Interior and Agriculture agencies (BLM, USFWS, USFS) have adopted more unified policies aimed at protecting species habitat – most

recently the Sage Grouse – that highly restrict other uses, including the exploration for and development of water resources. The impacts are essentially the same as those Special Nevada Report findings discussed below. These policies and practices vary from agency to agency, resulting in additional constraints to long-term water resource planning efforts. The following section addresses the Nye County water supply issues created by the presence of the federal lands, and the federal management plans and policies that affect both the land and water resources.

Federal Water Use – The total federal water use in Nye County is more than 15,000 acre feet per year. Most of this amount, almost 13,000 acre feet, is permitted by the U.S. Fish and Wildlife Service for spring discharges at Ash Meadows. The Department of Energy/NNSA has appropriations totaling 353 acre feet of groundwater and claims a reserved right of 4,175 acre feet. The U.S. Air Force holds rights to almost 1,700 acre feet but actually uses only about 160 acre feet a year. The National Park Service claims a federal reserved right for lands within Death Valley National Park but has not quantified this claim. Water rights and water use by the Bureau of Land Management and U.S. Forest Service are small.

The U.S. Forest Service has stewardship over 1.9 million acres of land in Nye County comprising portions of the Humboldt-Toiyabe National Forest. In essence, the Forest Service serves as the steward for most of the major recharge areas in Nye County. Permitted water use by the Forest Service is negligible, however, like BLM, it asserts unadjudicated reserved rights to many streams in northern Nye County.

Federal Actions – Federal actions that have directly impacted the water resources of Nye County include operations at the NNSS and NTTR, and management policies being implemented or proposed by the three agencies in the Interior Department, the National Park Service, the U.S. Fish and Wildlife Service, and the Bureau of Land Management. The federal actions have also resulted in a number of direct and indirect impacts. These impacts are listed in Table 5-3 and include widespread resource damages at the Nevada National Security Site, significant reductions in resource availability, and the corresponding adverse socioeconomic impacts on the tax base, growth, and productivity of Nye County's economy.

Land Withdrawals – More than two million acres of land have been withdrawn for federal reservations in Nye County including 1,290,000 acres for the NTTR (formerly the Nellis Air Force Range), the NNSS (formerly the Nevada Test Site; 864,000 acres), Death Valley National Park (106,961 acres), the Ash Meadows National Wildlife Refuge (23,000 acres), and the Basin and Range National Monument. Additionally, the Fish and Wildlife Service has co-use of a large area of the Nevada Test and Training Range and wildlife management areas in Railroad Valley, and the U.S. Forest Service manages more than 1,940,000 acres of National Forests. Smaller areas have been set aside for Indian reservations. The continuing impacts of federal land withdrawals and land - designations on the water resources of Nye County are listed in Table 5-4.

The Special Nevada Report concluded that the withdrawal of land from public access and/or the purchase of water rights by the Departments of Defense and Energy has the greatest potential for adverse effects on Nevada. The water resources associated with withdrawn lands, were they available, would increase the economic growth potential of southern Nevada. The designation of lands for special management or as buffer zones around protected areas also has impacts on the

water resources of the County. Subsequent Bureau of Land Management policies and management direction in its RMPs include federal actions to file for water rights for water sources that are not federally reserved, and to protect riparian areas and habitat by not allowing projects that might be perceived to adversely impact the water table supporting those areas or spring flows. The implementation of these policies continues to reduce access to and thus the quantity of water available for other uses, and restricts the area available for future water supply development. Indirect impacts of these management policies include increased water costs, decreased tax revenues and tax base growth, and decreases in the long-term productivity of the affected lands.

Land Disposals – The reduction in some areas, and near elimination in others of previously available disposal land, while considerably reducing uncertainty of future demand for water, will severely restrict Nye County’s economic future. If the lands were available to be developed, no new water will be appropriated as existing unused rights are purchased and dedicated in support of development. Given that Amargosa Desert is fully appropriated and Pahrump Valley is over-appropriated, additional disposals by federal agencies in these basins could beneficially contribute to basin management. Mitigation measures implemented by Nye County and the State, if applied consistently, can effectively help to reduce the beneficial use of over-allocated resources.

Interior and Agriculture Departments’ Agencies

The BLM has stewardship over 6.7 million acres of land in Nye County and the administration of these lands is divided between four district offices. The four offices have each prepared resource management plans with different objectives, goals, and management direction with respect to water resources. In general, the BLM objectives are to maintain water quality, maintain or reduce salt yields, and ensure the availability of adequate water to meet management objectives including the recovery and/or reestablishment of special status species.

In recent years, multiple use of public lands has become increasingly more limited by the designation of special status lands. The Draft 2014 Resource Management Plan for the Southern Nevada District Office identifies a number of Areas of Critical Environmental Concern (or ACECs) in southern Nye County that comprise a total of almost 70,000 acres. The Draft RMP also identifies management actions to acquire water rights to support management decisions, deny projects that might adversely impact groundwater conditions in the vicinity of resting/nesting habitat, such as riparian areas and mesquite/acacia woodlands. In Northern Nye County, the White River Valley ACEC encompasses over 10,000 acres.

Water rights that are appropriated or purchased by the federal government, and/or any federal water right claims for the protection of ACECs will reduce the availability of water for non-federal uses. In basins that are already fully appropriated such as Pahrump Valley and Amargosa Desert, the overdraft will be exacerbated as the federal rights are added to the over-appropriated basins. In other areas along the Amargosa River near Beatty, protection of the Amargosa Toad and its riparian habitat had the potential to significantly hinder growth and development through land use restrictions and Toad’s possible addition to the endangered species list. Cooperative efforts by federal agencies, the Nature Conservancy, Nye County, the Town of Beatty, and the Beatty General Improvement District worked to implement the Amargosa Toad Conservation Agreement that allows development for recreation and historic purposes while monitoring and protecting sensitive riparian habitat.

Another potential impact on water resources availability in Nye County results from the BLM's designation of land for disposal via public sale. BLM is considering amending their Draft RMP to eliminate nearly all disposal land in Amargosa Desert and greatly reducing available disposal land in Pahrump Valley. The BLM and other Interior agencies fear that additional water demand associated with land disposals could lead to over-draft of local groundwater basins and could potentially impact the Devils Hole Pupfish.

The Basin and Range National Monument was established by Proclamation in July 2015 by President Obama to preserve the objects of scientific and historic interest on the Basin and Range lands. These reserved Federal lands and interests in lands encompass approximately 704,000 acres in Nye and Lincoln Counties. All Federal lands and interests in lands within the boundaries of the monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or other disposition under the public land laws, from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument. This proclamation does not alter or affect the valid existing water rights of any party, including the United States. This proclamation does not reserve water as a matter of Federal law.

In September 2015, the BLM issued a Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region including the Greater Sage-Grouse Sub-Regions of Nevada. In the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment, 1,354,400 acres are designated as Acres of Greater Sage-Grouse Habitat. Of these 266,800 acres were designated as Priority habitat management area, 266,800 acres were designated as general habitat management area, and 770,700 acres were designated as other habitat management area. Designations of new water supplies in areas of Nye County designated as general habitat management areas will be complicated by additional restrictions imposed on land use.

The U.S. Fish and Wildlife Service manages the Ash Meadows National Wildlife Refuge, which has grown to include 23,000 acres of land. After several years of planning and construction, the new visitor center at Ash Meadows opened to the public on December 27, 2014. The new visitor center has increased visitation more than twofold in its first six months, attracting more locals and travelers than before. The state-of-the-art \$10 million facility was funded through public land sales in the Las Vegas Valley.

Adjacent to Ash Meadows National Wildlife Refuge is Devils Hole, a spring pool that is part of Death Valley National Park. Devils Hole is essentially the surface expression of a cavern system in the limestone rocks of the area. The spring pool is the habitat for the Devils Hole Pupfish. On June 7, 1976, the U.S. Supreme Court ruled that state-permitted water withdrawals in the vicinity of Devils Hole must be limited to a level necessary to maintain water levels in Devils Hole above a determined level. This ruling followed a National Park Service appeal of a decision by the Nevada State Engineer to permit water withdrawals in the vicinity for irrigation purposes. In 2008, the State Engineer issued Order 1197 to further curtail pumpage in the Amargosa Farms area and within 25 miles of Devils Hole. As a consequence of the Court's ruling, subsequent National Park Service actions, and State Engineer's Orders, it is no longer feasible to obtain and develop new water rights for lands in the vicinity of Devils Hole.

Since the Court's ruling on Devils Hole, many endemic species at Ash Meadows have been identified resulting in an expanded area of protection. The U.S. Fish and Wildlife Service now owns more than 19,000 acre feet of surface water rights at Ash Meadows, an increase of 7,000 acre-feet since 2004. The federal government remains the single largest water right holder in the Amargosa Desert hydrographic basin. The protection of the wildlife values associated with Devils Hole and Ash Meadows has eliminated a large area up-gradient from Devils Hole and the refuge as a source of groundwater for other purposes.

The preferred use of water resources for wildlife demonstrates that wildlife values are higher than the value of agricultural productivity or residential development. In practice (at least in southern Nye County), this assumption appears to be valid. It has already been demonstrated that the wildlife values associated with Ash Meadows and Devils Hole are higher in social terms than the values associated with other types of uses. While these values benefit society as a whole, the cost of the policy that provides these benefits falls on a small fraction of society, in the case of Ash Meadows, the economy of Nye County. The farmer in Amargosa Valley may not increase his productivity so that another individual, organization, or society in general may enjoy the benefit of the preservation of Ash Meadows.

Nye County recognizes the need to preserve the important wildlife values at Ash Meadows and Devils Hole and is committed to working with the federal and state agencies to protect these values. However, it must be noted that preservation is not without a price. The cost to County includes the loss of productivity and associated revenues; the indirect benefits derived from the presence of these wildlife habitats do not offset the county's lost economic opportunities.

The National Park Service has not developed any water supplies in Nye County, but the impacts of Park Service policies and practices have had a demonstrable impact on water resource availability in the County. The Park Service has stewardship for Death Valley National Park which includes two areas in Nye County, the "Nevada Triangle" (an area of about 105,000 acres in Nye County and about 4,000 acres in Esmeralda County), and Devils Hole, an area of 40 acres located adjacent to the Ash Meadows National Wildlife Refuge. The National Park Service operates in accordance with a General Management Plan for Death Valley National Park that identifies a number of water resources issues including:

- Identify as a federally reserved water right all unappropriated water from any water source identified on federal lands within the boundaries of the park;
- Vigorously defend federally reserved water rights through the state of California administrative process and in proceedings pursuant to Nevada Water Law that may authorize groundwater withdrawals that may impact water sources to which federally reserved or appropriated water rights are attached; and
- Pursue acquisition of water rights within the park. (NPS, 2002)

In 1989, in response to concerns over Las Vegas Valley Water District filings, the National Park Service began protesting numerous water right applications within the Death Valley Flow System, which encompasses all of southern Nye County. Since the issuance of Order 1197 in the Amargosa Desert Basin, DOI agency protests of water right applications in southern Nye County have decreased significantly. Nonetheless, DOI actions taken to fulfill their management objectives have

had, and continue to have, a number of demonstrable impacts upon the availability of water resources in Nye County. The direct impacts of DOI actions on the water resources of Nye County include the loss of agricultural jobs and productivity, a decrease in the water available for other uses in the region of influence, increased costs in water right acquisitions, increased operational costs, and a decrease in the rate of growth of the agricultural sector of the County's economy.

Energy and Defense Departments' Agencies

The NNSA has stewardship over 864,000 acres withdrawn for testing nuclear weapons and other stockpile activities supporting our national defense. The DOE has identified the agency's policy and goals for management of the water resources on its NNSS EIS. As a matter of policy, the Department has committed to follow the principles of ecosystem management in the utilization of water resources. To implement this policy, four goals were defined:

- Maintain an adequate water supply for existing and new uses on the Nevada National Security Site while ensuring a long-term sustainable supply of water for the NNSS and the surrounding ecosystem.
- Maintain the quality of waters that are presently clean.
- Minimize the impact to groundwater quality should resumption of underground nuclear testing be required.
- Manage groundwater resources to maximize the availability of water while minimizing the impacts to human health and the environment from contamination remaining from underground nuclear testing.

As discussed in Chapter 3 the historic nuclear weapons testing program has rendered millions of acre- feet of groundwater unusable. Although it is unlikely that additional testing will occur in the future, and new groundwater contamination may occur as a result of recharge through the test cavity and collapse chimney structure. In the unlikely event that a nuclear test were to occur in the future, the NNSA has established the following limitations to minimize the environmental insult:

- Future tests would use previously used areas of underground nuclear testing.
- Minimize tests with the working point (depth of detonation) at or below the water table.
- Place working point no closer than two cavity radii from the regional carbonate aquifer.
- Tests must be sited more than 1,500 meters (4,921 feet) from the boundary of the NNSS where groundwater exits the facility boundary.
- The borehole beneath the working point must be plugged to a minimum of one cavity radius beneath the working point.

As discussed previously, the Department of Energy/NNSA conducts the Underground Test Area Project to address the groundwater contamination at the NNSS. This program is aimed at characterizing the nature and extent of contamination, and monitoring the groundwater from selected wells on and off of the NNSS. This work is conducted in consultation with the Nevada Division of Environmental Protection. Progress toward achieving the goals of the program has been made and studies are ongoing to evaluate closure and monitoring activities to be selected and implemented.

The widespread groundwater contamination at the NNSS poses a major conundrum to water resource planning. The NNSS groundwater contamination was a result of testing done with the full knowledge of the State of Nevada, the United States Congress, and the regulatory agencies charged with environmental protection. Nye County recognizes that the groundwater contamination is a consequence of national security needs and policies. Nonetheless, extensive water resource damage has occurred and has resulted in the loss of significant resources and associated socioeconomic values to the County.

The NNSS is not the only location in Nye County where nuclear weapons testing has been conducted. The Central Nevada Test Site, located about 60 miles east of Tonopah was the site of a single nuclear test conducted in 1968. The Department of Energy also conducted a series of safety experiments on the NTTR. These experiments destroyed nuclear weapons using chemical explosives and resulted in almost 3,000 acres of soils contaminated with plutonium, americium, and other radionuclides.

At the direction of the Secretary of Energy, the Department of Energy suspended its work on Yucca Mountain high-level nuclear waste repository in 2009. Nye County's policy of active engagement with respect to the repository program and conducted its own scientific investigations of a number of key repository related issues. These studies have helped to further define the groundwater conditions in the region hydraulically down gradient of the proposed repository site through the installation of a number of monitoring wells, the collection of aquifer test data, and routine sampling and analyses of key water chemistry parameters.

Should the YMP move forward in the future, Nye County has formally documented its concerns with regard to the repository on key Department of Energy decisions and is a certified participant on the Nuclear Regulatory Commission's Licensing Support Network. The major concerns with respect to water resources are:

- Transportation accidents and the potential for contamination of public water supplies along routes used to haul the radioactive wastes;
- The loss of land suitable for groundwater development because of the permanent withdrawal of land for the repository;
- Potential for contamination of groundwater resources in Jackass Flats and Amargosa Desert because of a cask handling problem or leakage from the repository; and
- The cumulative consequences of Yucca Mountain related impacts with those from other past, present, and reasonably foreseeable future actions by both the federal and private sectors.

The Nuclear Waste Policy Act and its amendments provide the legislative mandate for the mitigation of impacts, direct compensation to the host county, and equity offsets. The guarantee of permanent uncontaminated water supplies for southern Nye County should remain a cornerstone of any mitigation, compensation, or equity agreements between the federal government and the County should work on the Yucca Mountain Project resume.

The U.S. Air Force has withdrawn 1,290,000 acres in Nye County for military training and bombing practice. These lands are closed to ranching, mining, grazing, water resources development, recreation, and other purposes. Although the Air Force has adopted an integrated natural resources management plan, the plan that was prepared provides only limited information on surface resources and no plans, goals, or objectives are related to groundwater. The ongoing impacts of Air Force actions were identified in the Final Legislative EIS for the Renewal of the Nellis Air Force Range Land Withdrawal (USAF, 1999), and the Special Nevada Report (SAIC, 1991). The Special Nevada Report identified the cumulative impacts associated with actions taken by the U.S. Air Force, the U.S. Navy, and the U.S. Department of Energy in compliance with the Military Lands Withdrawal Act of 1986.

Actions taken at the NTTR have resulted in: the dispersal of more than 40,000 tons of explosion debris, residues, and contamination (depleted uranium, beryllium, and explosive products) on alluvial fans and playas; the disposal of solid wastes, paint products, solvents, batteries, and petroleum products in landfills, pits, and explosive ordnance disposal pits; leaks from underground storage tanks; and the consumption of water in support of mission related activities.

According to historic reports, the dispersion of explosion debris may have resulted in the contamination of groundwater. The amount of groundwater that may have been contaminated as a result of these by products is not known and cannot be estimated on the basis of existing studies. Similarly, insufficient studies have been done to allow the definition of contamination that may have resulted from land filling of wastes, the operation of explosive ordnance disposal facilities, or leaking tanks. According to the final contamination report for the Final Legislative EIS for the Renewal of the Nellis Air Force Range Land Withdrawal (USAF, 1999), three sites in Nye County were found to have surface soils contaminated with arsenic and beryllium.

Subsequent evaluations indicated that contamination of surface soils is known to occur but the potential for groundwater contamination from this source is discounted because of the “low precipitation, high evaporation, generally low solubility of the contaminants of concern, and the considerable depth to groundwater across most of the range”. This more recent study identified two categories of contamination on the NTTR, ordnance residues and operations and maintenance spills. The study concluded that there was little potential for the contaminants to migrate vertically downward to an aquifer.

There have been impacts on the water resources of Nye County associated with the withdrawal of the lands that now comprise the Nevada Test and Training Range. These withdrawals have effectively removed large areas of Nye County from future development. There are areas on the range where groundwater resources could be developed however, their development is inconsistent with the mission of the facility and such development is considered at best to be highly unlikely. As a consequence, the water resources that would otherwise be available to Nye County have been withdrawn as well as the land. In the Special Nevada Report, the analysis of the effects of the land withdrawals noted that:

"The withdrawal of land from public access and/or the purchase of water rights by DOD and DOE has the greatest potential for effects on Nevada. ... The water resources associated with these lands could, if they exist and were available, play an important role in the continued growth of southern Nevada."

Possible mitigating measures identified in the Special Nevada Report included the provision of access for water resources evaluation and development (if possible and consistent with mission requirements); assistance in water resources evaluation on withdrawn lands; the provision of rights-of-way for water transmission facilities where such action would not limit, constrain, or deny the purpose of the withdrawal; and considering opportunities to cooperate with local agencies to enhance water supply sources and programs.

The appropriations associated with the U.S. Air Force-related water withdrawals reduce the legal availability of water in the basins and flow systems in which they occur, and are additive to the appropriations of all water right owners in the region of influence. Although the U.S. Air Force water right holdings in Nye County are appreciable (1,700 acre feet), the actual quantity of water being used is small, about 130 to 160 acre feet per year. The direct impacts of water use in support of U.S. Air Force actions are limited and include the localized effects of water withdrawals in the vicinity of water supply wells. The U.S. Air Force has recently announced plans to renew and expand its existing land withdrawal. Tables 5-3 and 5-4 show the impacts of these federal actions and withdrawals.

Table 5-3. Impacts of Federal Activities and Actions				
Agency	Actions	Direct Impacts	Indirect Impacts	Significance
Department of Energy National Nuclear Security Administration	NNSS Operations Past Actions; Implement EIS/ROD	Contamination of subsurface; physical damage to aquifers; water level perturbations; increased recharge down chimneys.	Contamination of recharge; removal of contaminated areas from future water development.	Significant resource injuries and constraints on water development.
U.S. Air Force	NTTR Update RMP Operations Past Actions	Surficial contamination; water level perturbations.	Increased water demand in employment centers.	Not significant.
Bureau of Land Management	Past Actions; Implement Resource Management Plan	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth; increased overdraft of Pahrump Valley.	Significant increased demand for water and overdraft in Pahrump and over-appropriation in Amargosa Valley.
National Park Service	Past Actions; Implement General Management Plan	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased appropriation time; increased appropriation cost; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth; increased overdraft of Pahrump Valley.	Significant losses of long-term productivity of private lands; increases in costs of obtaining water rights; decrease in tax revenues to County.
U.S. Fish & Wildlife Service	Past Actions	Reduced water availability; increased over-appropriation of Amargosa Valley; decreased long-term productivity.	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.
U.S. Forest Service	Land Use Plans	Reduced water availability; decreased long-term productivity	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.

Table 5-4. Cumulative Impacts From Federal Land Withdrawals and Public Land Use Designations

Agency	Withdrawal or Designation	Direct Impacts	Indirect Impacts	Significance
Department of Energy	Nevada National Security Site Land Withdrawal (864,000 acres \pm) Central Nevada Test Area	Restricted area for development.	Reduced water availability; increased water costs.	Significant reduction in water availability
U.S. Air Force	Nevada Test and Training Range Withdrawal (1,290,000 acres \pm)	Restricted area for development.	Reduced water availability; increased water costs.	Significant reduction in water availability
Bureau of Land Management	42,044 acres designated for disposal; 80,000 acres designated as Areas of Critical Environmental Concern; Designation of the Basin and Range National Monument	Reduced water availability; increased over-appropriation of Amargosa and Pahrump Valleys; restricted areas for development; increased water demand; restricted areas for mineral exploration.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth.	Significant increased demand for water and overdraft in Pahrump and increased demand in Amargosa Valley.
National Park Service	Death Valley National Park Land Withdrawals (106,961 acres)	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth.	Significant losses of long-term productivity of private lands, and decreased tax revenues to County.
U.S. Fish & Wildlife Service	Ash Meadows National Wildlife Refuge (23,000+ acres in Ash Meadows and land at Railroad Valley Wildlife Management Area and co-use of Nevada Test and Training Range lands)	Reduced water availability; increased over-appropriation of Amargosa Valley; decreased long-term productivity.	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.
U.S. Forest Service	Lands designated as National Forests (1,942,983 acres)	Reduced water availability; decreased long-term productivity	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.

Conservation and Preservation Measures

Groundwater conservation is a key issue with respect to future water supply in the Pahrump Valley and groundwater preservation is a key issue related to the protection of environmentally sensitive areas in Amargosa Desert and Oasis Valley in the south, and Railroad Valley, and White River Valley in the northern part of the County.

Conservation measures have been established to reduce the per capita demand for water in Pahrump and help mitigate the overdraft of the basin. Established conservation measures include zoning restrictions, building requirements for water conserving fixtures and appliances, education, and pricing of water supplies to encourage low water use. Zoning is continuing to mature in Pahrump, and is in its early stages in Amargosa Valley where it may be years before restrictions on landscape and landscape features are considered. In Pahrump, the Draft GWMP provides a detailed program for implementing and enforcing conservation that could help reduce per capita water rates. Because there is no single water purveyor in the valley and there are so many domestic water well users, the approach to conservation through pricing is likely to be of only limited success.

Public education offers the most effective method to “get the word out”. While the NCWD has budgeted about \$7,000 in 2016 – 2017 for water education (conservation), more work is needed in this area. As of this writing conservation measures for new construction proposed in the Basin 162 GWMP and supported by the Pahrump Regional Planning Commission, have been brought to the BoCC, but have not yet been heard. The Southern Nye County Conservation District continues to work with the school district in educating the public about water conservation measures.

The continued viability of healthy fish and wildlife conditions are of particular benefit to the northern basins of Nye County. Communities in this region are dependent in part upon the revenues generated through recreational fishing and hunting. Nye County’s continued involvement in the development of management plans for wildlife refuges, habitat conservation plans for specific areas or species, and resource management plans by the various federal agencies will help to insure that future generations of Nye County’s citizens will be able to enjoy the natural (and often unique) wildlife in the County while still having the opportunity to engage in recreational fishing and hunting.

The preservation of water quantity and quality at wildlife refuges and national parks is considered essential to their stewards, and recent management proposals have increased land use conflicts throughout Nye County. While Nye County recognizes that the goals of preservation in these areas are mandated by federal law, these federal water management policies continue to erode economic opportunities of multiple use. Nye County has fostered increased cooperation between the County, its citizens, and the federal agencies with stewardship over environmentally sensitive areas. As examples of these efforts the County has:

- Worked with and contributed funding to the DOI agencies on the Death Valley Regional Groundwater Flow System Numerical Modeling workshops;
- Worked with the BLM to mitigate the impact of recreation and water use on sensitive habitat in the Amargosa River near Beatty, and stands of natural mesquite bosques in Pahrump Valley; and
- Worked with the National Park Service to mitigate the impacts of water development on Devils Hole and Death Valley National Park by hosting and participating in Devils Hole workshops.



A spring pool at Ash Meadows. Photo Credit: Tom Buqo

Chapter 6 – COMMUNITY AND BASIN WATER ISSUES

Previous chapters discussed the water resources and the prevalent resource management issues on a county-wide basis. In this chapter, the current status of water supplies, water resource issues, and future needs are presented for the communities of Amargosa Valley, Beatty, Belmont and Gabbs, Manhattan, Pahrump, Railroad Valley-Currant, Round Mountain-Hadley Subdivision, and Tonopah. Other rural areas such as Carvers, as described as well. Access to water resources, and water issues related to the federal lands that make up most of the county are summarized. For the communities, the existing water uses and trends, future demands, water availability, special management areas, and management objectives are described and discussed. Next, the water supply requirements and issues at the basin level are discussed with respect to mining and milling, federal lands, and watershed maintenance and protection. Specific management alternatives are identified and discussed, and recommendations made for developing specific County policies with respect to water resources management.

Discussions with Water District Governing Board members and staff were an important element in identifying the local issues of concern. Draft copies of this plan were distributed for public review and comment, and public meetings were held at various locations in the county to obtain useful input from the citizens and organizations of Nye County. Comments and questions received during the public comment period were used to revise the Public Draft. Where appropriate, changes were made to the text, figures, and tables, and incorporated into the final WRP Update.

The 2011 Comprehensive Master Plan laid out extensive goals and objectives for the management of Nye County's waste resources. To achieve these planning goals, the County must balance the water resource needs for continued economic growth and the needs of the natural environment.

Water use to support the continued growth that is expected over the coming decades need not adversely impact springs, riparian areas, and associated wildlife habitat that require protection. With proper water planning and management, Nye County can improve its overall economic well being while maintaining environmentally sensitive areas and recreational values. Perhaps more importantly, the County can ensure that its future generations have adequate water supplies to meet the demands without adverse environmental effects.

Nye County has only limited authority to impose constraints on the management of water resources within its boundary. This authority resides with the State of Nevada, primarily the State Engineer and Nevada Division of Water Resources through Nevada Water Law. A review of the forefront issues such as basin over-allocation, localized drawdown, and long-term over-pumpage, indicate that water law, or the exercise of administrative options, has not evolved quickly enough to either prevent, or effectively mitigate the adverse effects of these problems in some cases. Existing water law lacks the tools needed by the State Engineer to effectively resolve many of the existing water conflicts. It is important that Nye County and the Nye County Water District continue to work with the State Engineer, as well as the Legislative Committee on Water Resources in the development of new legislative tools to aid in resolving the County's water resource conflicts. It is also critical that the County continue to engage and coordinate with the numerous federal agencies that manage the vast majority of land in Nye County.

6.1. AMARGOSA VALLEY AND CRYSTAL



Amargosa Desert Basin Combined Perennial Yield of Basins 225 thru 230: 24,000 acre-feet/year

Water Budget Parameters (acre-feet per year) from Table 3-7

Recharge	Inflow	Evapotranspiration	Outflow
600	44,000	24,000	19,000

Water Rights Status (acre-feet per year rounded) from Tables 3-4 and 3-8

	CERT	Permits	VST
Surface Water	21,375	3,630	2
Groundwater	20,940	6,379	0

Note: All water right figures are approximate CERT = Certificated, VST = Vested.

Assumptions

For the purposes of planning, the following assumptions were made:

1. The existing undeveloped private land in Amargosa Valley and Crystal is adequate to accommodate residential growth through 2060.
2. Future designations of land for disposal by the BLM will be eliminated, or will be limited to those needed for specific community purposes such as landfills, roads, etc., and these disposals will only result in negligible additional demands for water.
3. Agricultural operations will remain at current levels or decline; no new agricultural through 2060.
4. The U.S. Air Force will continue operations at Nevada Test and Training Range and the NNSA will continue operations at the Nevada National Security Site. Water use at these federal facilities may increase slightly over current levels but will exceed historic use.
5. There will be one new mining operation or expansion in the Amargosa Desert.
6. At least one new renewable energy power plant will be constructed in the Amargosa Desert.
7. No further expansions of Death Valley National Park will occur and no additional buffer zone will be established around the existing Park boundary.
8. The Amargosa Valley Science and Technology Park (AVSTP) near the Lathrop Wells intersection will be completed.
9. Four marijuana cultivation facilities will be established.

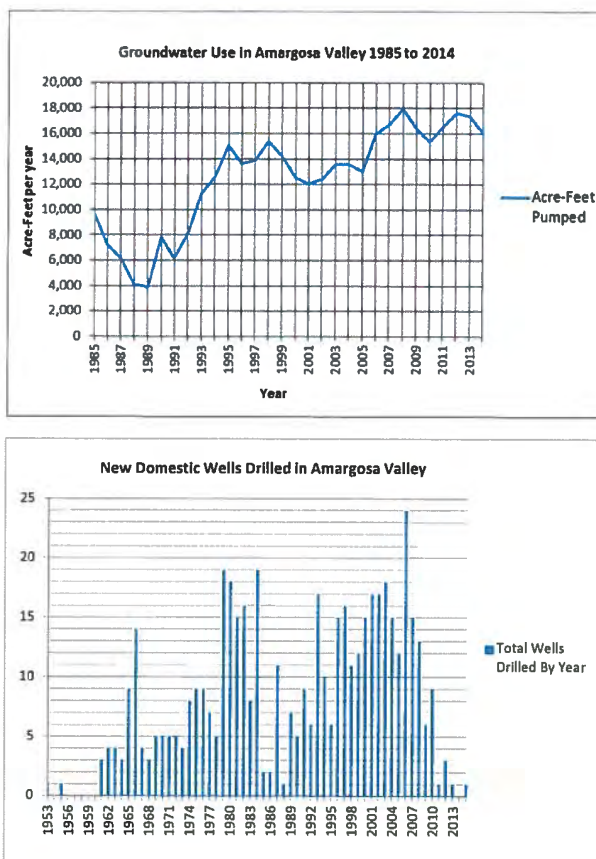
Water Resources Issues and Constraints

Water resource issues and constraints in Amargosa Desert include a number of factors related to water quantity and use, and the protection of environmentally sensitive areas. Water resources in the vicinity of Lathrop Wells intersection are high in naturally occurring arsenic and require treatments to meet the drinking water standard. The Town of Amargosa Valley is located downgradient from the U.S. Ecology facility and the Nevada National Security Site.

The small rural community of Crystal is located in the Amargosa Desert basin northeast of Devils Hole and the Ash Meadows National Wildlife Refuge. Water is supplied to homes by domestic wells, and a few businesses operate public water supply systems. Issuance of new water rights, as well as applications to change point of diversion, are constrained by the Nevada State Engineer's Curtailment Order 1197, which includes the community in its entirety. Water level data have

shown, however, that pumping wells to the west of the gravity fault have no effect on water levels in the carbonate aquifer that is home to the Devils Hole Pupfish.

Water Quantity and Use – While the existing allocated groundwater rights of about 26,000 acre-feet exceed the published perennial yield of 24,000 acre-feet; actual water use in the basin is far less. Total pumpage in 2015 was 16,000 acre-feet, nearly 2,000 acre-feet less than the high of nearly 18,000 acre-feet in 2008. Irrigation water use was at 13,000 acre-feet in 2014. Commercial and industrial water use has fluctuated significantly over the last decade between 1,000 and 4,700 AFY, but has remained steady since 2013 at about 1,800 AFY. Quasi-municipal use has remained fairly constant at slightly less than 300 AFY, while municipal use increased from 0 in 2000 to 160 AFY in 2015. Residential water use has grown only slightly over the last decade. In 2000, an estimated 378 acre-feet were used for domestic purposes; using a rate of 1 acre-foot per well. Between 2000 and 2013, 124 new domestic wells were drilled in the basin, or an average of 9 wells per year. Even with additional wells domestic use in 2015 was calculated at 269 acre-feet due to the State Engineer’s revised pumping rate of 0.5 AFY.



Environmentally Sensitive Areas - Spring pools at Ash Meadows provide the vital source of water and habitat for a number of threatened and/or endangered species, as well as numerous other fishes, birds, and mammals. The protection of Ash Meadows and Devils Hole from the impacts of water withdrawals in the basin remains a key issue in Federal water planning for Amargosa Valley.

In 2010, the USFWS diverted creek flows in Carson Slough away from a private church ministry located in the Ash Meadows National Wildlife Refuge. The USFWS cited the need to preserve endangered species, including the Ash Meadows speckled dace that inhabit the refuge. On Nov. 4, the DWR ordered the federal agency to cease diversion of water through the ministry’s parcel after the investigation found several USFWS violations of the terms of the ministry’s water permits. The diversion also resulted in repeated flooding of the church’s property. According to the order from the state, the U.S. Fish and Wildlife Service must return the water to its “historic path” traversing the church property, within 90 days, or face administrative fines up to \$10,000 per day until corrective action is taken.

The federal government has denied any liability for the flooding and has argued that the ministry had no rights to the water that had traversed its property. While the order from the DWR verified

the ministry's vested water rights were violated, the ministry continues to suffer "significant damage and constitutional violations."

Failure to take corrective action will result in the matter being referred for additional action available to the State Engineer. Possible penalties for noncompliance can include payment of an administrative fine not exceeding \$10,000 per day for each violation, replacement of not more than 200 percent of the water used, and payment of the costs of the proceeding, including investigative costs and attorney's fees. The case is currently pending in the U.S. Court of Federal Claims (Pahrump Valley Times, 2016). As of April 2017, the illegal diversion constructed by the USFWS has not been removed, and the ministry continues to suffer as a result of the loss of their water supplies.

While there is no question that the 1968 historic groundwater withdrawals in the immediate vicinity of Ash Meadows and Devils Hole resulted in unacceptable water level declines and spring discharge reductions, these withdrawals have ceased. Since that time, water levels in numerous wells in the basin have been monitored by Nye County, the U.S. Geological Survey, and others as part of studies related to Yucca Mountain and the Nevada National Security Site. Areas of concentrated groundwater pumpage in Amargosa Farms Area of the Amargosa Desert Basin has resulted in only localized drawdown. Figure 6-1 shows the long-term water level trends in Amargosa Desert. Although some water level declines have occurred around the pumping centers in the Amargosa Farms area, water levels over most of the basin have either remained stable or risen over the last two decades. In the environmentally sensitive area of Ash Meadows (and Devils Hole), water levels have increased since the cessation of pumping in the late 1970s and have recovered to their pre-pumping levels at several monitoring wells. In the northwest part of the basin, water levels have remained fairly constant over the last decade even though water use in the basin and its upgradient tributary basins has increased. Water levels continue to decline in the agricultural areas of the basin, reflecting the higher agricultural productivity and the transition of the water levels in the area to a new state of equilibrium as groundwater is recovered from transitional storage.

In response to continued protests filed by federal agencies of new and change applications, which allege potential for impacts on Devils Hole and the springs discharging in Death Valley National Park, in 2008, the State Engineer issued Curtailment Order 1197 for the Amargosa Desert Basin prohibiting the issuance of any new water rights and approval of any change applications within 25 miles of Devils Hole, with minor exceptions.

There is no scientific data on the Devils Hole water level or spring discharge rates in Death Valley as a result of the agricultural pumping centers in the Amargosa Farms area. If dramatic declines in water levels in the Amargosa Farms area were to occur, agricultural economics and the total thickness of the alluvial aquifer would dictate that pumping levels not be lowered to a depth below 500 feet. Even if this were to occur, the hydraulic heads in the area would still be about 1,800 feet above those in Death Valley. Further, the alluvial aquifer, the only aquifer used for irrigation, is isolated from the regional carbonate aquifer that supplies the springs in Death Valley by several thousand feet of clay-rich Tertiary sediments. Finally, should significant water level declines be observed in Devils Hole, the Supreme Court would order the Nevada State Engineer to take corrective action.

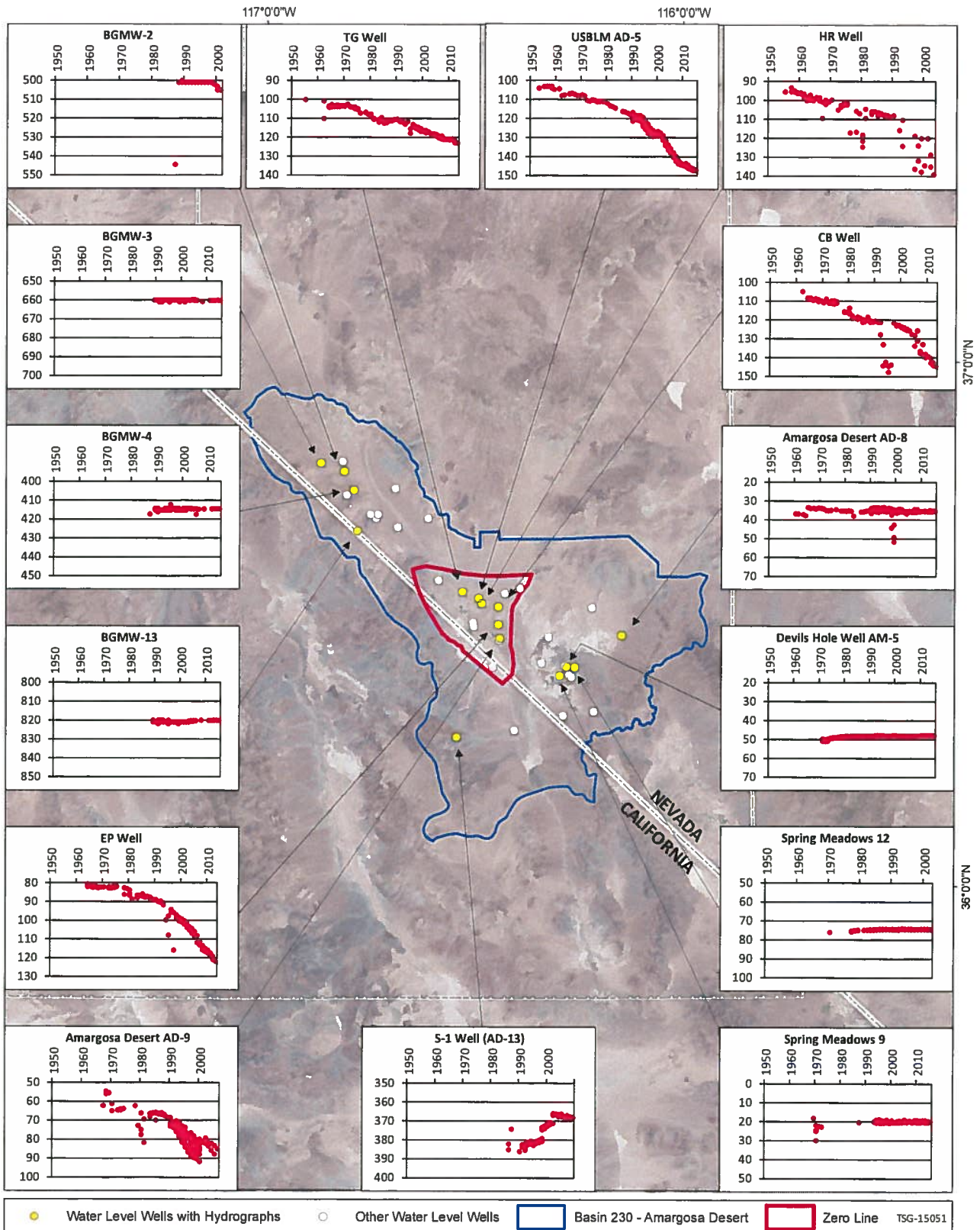


Figure 6-1. Long-Term Water Level Trends in Amargosa Desert. Zero Line is the boundary of the area of water level decline. Y-axis shows 50 foot interval depth to water. Water levels from USGS National Water Information System (March, 2015).

Water Supply Requirements

Groundwater will be needed in the future to provide for the expected new growth in renewable energy development and marijuana cultivation. The likely reduction in agricultural and dairy production will help to offset this new demand.

Future water demand for mining purposes is assumed through the development of one new mining property in the basin outside the area addressed in Order 1197 over the planning period. As water development for such an operation is likely to be moderate (1,000 AFY or less), temporary in duration, and in a remote location, it should be possible to develop the necessary water without detriment to existing or future water right holders or the environment.

It is likely that some agricultural water rights will continue to be converted to other uses to support growth of the community of Amargosa Valley. Conversion of irrigation to quasi-municipal or domestic use will help to reduce the over-allocation through the mandatory dedication and relinquishment of water rights during the development permitting process. Assuming that the future demand for water for irrigation will not exceed the 15,000 acre-feet of current demand, the total projected demand for all uses is 26,000 AFY with a consumptive use of about 22,000 acre-feet.

Water demand for renewable energy and marijuana cultivation is not expected to increase overall water demand in the Amargosa Desert. Water rights for these projects will be purchased from the existing irrigation rights, and converted and moved in accordance with the restrictions imposed by Order 1197. Water level declines in Amargosa Valley are centered on the existing agricultural pumping centers. Most of the basin water levels outside of agricultural areas are unaffected.

Water Sources

As described in Chapter 5, there is currently debate as to whether existing groundwater sources are adequate to provide for the current and future needs for the next fifty years based on the current committed water resources and established perennial yield value of 24,000 acre-feet. Several of Department of Interior agencies have asserted that the Amargosa Desert Basin is over-allocated and over-pumped, however groundwater withdrawals do not exceed the basin's established perennial yield. Water level monitoring in the basin shows only localized drawdown around agricultural pumping centers, as would be expected. No valley-wide water level decline has been observed.

The Amargosa Desert Basin is only slightly over-allocated (27,000 acre-feet committed versus perennial yield of 24,000 acre-feet); it is not over-pumped (24,000 acre-feet perennial yield versus 16,052 acre-feet pumped including domestic wells). Measures by Nye County to curtail parceling through BOCC-approved Area Plans and Land Division Ordinances are expected to contribute to the success of limiting the creation of new private parcels available for development and ensuring that all new parcels created will have dedicated water rights to account for future residential and domestic uses.

Curtailment Order 1197 issued by the Nevada State Engineer have virtually eliminated the approval of new permits and has limited the scope of change applications. The threat of litigation by federal agencies over the Devils Hole Pupfish continue to influence state water policies in this region. Nonetheless, to ensure the success of these mitigation measures, Nye County and the DWR should continue to track, monitor, and report committed water rights, pumpage, and water levels to

ensure continuing the trend of reducing committed groundwater resources through time. If it appears basin pumpage will exceed the perennial yield, Nye County should consider implementing additional measures, such as requiring the over-dedication of water rights for commercial and industrial uses.

All surface waters (springs) in the Amargosa Desert remain fully developed or appropriated for wildlife purposes; this will continue to impose a binding constraint on any other future development of surface water. Future groundwater development is constrained by both environmental and water quality considerations. Because of its location up gradient of Ash Meadows and Devils Hole and within the area of Curtailment Order 1197, it is unlikely that large-scale development in the Crystal area will occur. As noted in previous sections, access restrictions at Nevada National Security Site and the Nevada Test and Training Range impose severe constraints on the development of new water supplies in areas north of Highway 95 where unappropriated water resources exist. Similarly, the designation and expansion of new Areas of Environmental Concern by the BLM in the recently proposed RMP imposes future constraints on the location of water supply wells near these areas. In 2009, a 26-mile stretch of the Amargosa River in California was declared a Wild and Scenic River and is subject to special protection. On the Nevada side, Carson Slough in Amargosa Valley was deemed eligible for inclusion in the National Wild and Scenic River in the 1998 Las Vegas Field Office RMP, the 2014 Public Draft RMP determined it is no longer suitable for inclusion.

Recommendations

Based upon the current and projected water demands in Amargosa Valley, the issues related to additional development and the constraints on that development, the following recommendations are made:

Continue Tritium monitoring.

Continue groundwater level monitoring.

Continue to coordinate planning with local and federal water users, and the Nevada Division of Water Resources.

Continue to require dedication and relinquishment of water rights for future domestic uses for each new parcel created.

Continue the dialogue with the Department of Interior agencies (National Park Service, Fish and Wildlife Service, and BLM) concerning the establishment and results of mitigation measures implemented in the basin.

6.2. BEATTY – OASIS VALLEY



Oasis Valley Combined Perennial Yield of Basins 225 thru 230: 24,000 acre-feet/year

Water Budget Parameters (acre-feet per year) from Tables 3-7

Recharge	Inflow	Evapotranspiration	Outflow
1,000	2,500	2,000	1,500

Water Rights Status (acre-feet per year rounded) from Tables 3-4 and 3-8

	CERT	Permits	VST
Surface Water	1,908	2,130	1,558
Groundwater	1,246	50	0

Note: All water right figures are approximate CERT = Certificated, VST = Vested

Assumptions

For the purposes of planning, the following assumptions were made:

1. A full build-out of all private lands in Beatty will occur by the year 2060.
2. The U.S. Air Force will continue operations at Nevada Test and Training Range.
3. Mining operations will continue at current levels.
4. Three industrial or warehousing facilities will open operations near the Beatty airport.
5. Future designations of land for disposal by the BLM will be limited to those needed for specific community purposes such as landfills, air fields, roads, etc., and these disposals will only result in negligible additional demands for water.
6. Substantial marijuana cultivation/processing facilities will be developed near the Beatty Airport.

Water Resources Issues and Constraints

The significant water issues in Beatty involve the naturally occurring levels of arsenic and fluoride in the groundwater. In the past, fluoride has been managed by blending water from various sources. The groundwater sources for the Beatty Water and Sanitation District (BWSD) averaged less than 20 parts per billion (ppb) of arsenic after blending but exceeded the primary drinking water standard. Beatty's main production well, Well EW-4, exceeded the maximum contamination level for arsenic and Beatty operated under an arsenic exemption extension until January 2011. In 2009, the BWSD received a grant to construct central treatment for the removal of arsenic. The selected technology was coagulation/filtration with chemical addition. The total project cost was almost \$3 million with \$2,910,000 provided in state and federal funds in a principal forgiveness loan.

Water Supply Requirements

The BWSD has adequate water rights and wells to meet projected future demands. Total groundwater use in 2011 was estimated to be about 233 acre-feet, or 24 percent lower than the quantity pumped in 2004. At present, there are 450 service connections serving approximately 1,024 residents. Water use is estimated in the WSAI Report (GGI, 2013a) at 233 AFY based in the current number of service connections.

The BWSD water distribution system is sized for approximately three times the current population and therefore, will not need to be expanded with expected growth. The Nye County WSAI Report (GGI, 2013a) provides detailed description of individual system components and needs. BWSD received a Community Development Block Grant in 2011 to create a master plan including utility mapping, environmental assessments and a capital improvement plan.

Water Sources

The BWSD relies upon six water supply sources, Wells 1, 2, and 3, the Summit Well, the Indian Springs Well, and Well EW-4 for its potable water supplies. Well #1, the Summit Well, and the Indian Springs Well all meet safe drinking water standards. The groundwater at Well EW-4, which is located in Amargosa Desert Basin 230, had elevated concentrations of arsenic that exceed standards, and fluoride concentrations that are slightly over the drinking water standard.

Water treatment was identified as the only option to ensure compliance with the new arsenic standard. The construction of the treatment unit began in April 2010. A Hungerford and Terry coagulation-filtration treatment system was installed in a new facility near the BWSD's existing booster station. The treatment uses sodium hypochlorite oxidation of the arsenic in the water and ferric chloride for coagulation prior to filtering. An automated system was installed to assist in system control and data collection. The BWSD completed the project, and hosted an open house on March 16, 2011. Visitors enjoyed tours provided by the water system operators and the design engineer (<http://ndep.nv.gov/recovery/beattyarra.html>, 8/12/16).

Existing sources are adequate to meet projected future demand. Past constraints imposed by environmental concerns over several species of concern have been addressed through a multi-party conservation agreement between government, private, and public parties.

Recommendations

None

6.3. GABBS



Gabbs Valley		Perennial Yield: 5,000 acre-feet/year	
Water Budget Parameters (acre-feet per year) from Tables 3-7			
Recharge	Inflow	Evapotranspiration	Outflow
5,000	0	>3,700	0
Water Rights Status (acre-feet per year rounded) from Tables 3-4 and 3-8			
	CERT	Permits	VST
Surface Water	205	0	217
Groundwater	11,914	7,263	108
Note: All water right figures are approximate CERT = Certificated, VST = Vested			

Assumptions

For the purposes of planning, the following assumptions were made:

1. Industrial mining activities will continue at current levels during the planning period.
2. One new moderately sized gold mine will be developed and operated during the 50-year planning period.
3. The proposed expansion of the Fallon Naval Air Station land withdrawal will eliminate the potential for future oil development and will restrict future geothermal development.

Water Resources Issues and Constraints

Water resources issues and constraints in Gabbs include those related to water quantity and water quality issues. Groundwater in the area has elevated fluoride and arsenic concentrations.

Water Quantity and Use

The Gabbs Valley has a perennial yield of 5,000 AFY. Permitted, certificated, and vested groundwater rights totaled 19,285 AFY in 2015. Of that total, nearly 9,000 acre-feet are for mining and milling, a temporary use. The 9,000 acre-feet of irrigation rights are in the adjacent counties.

The Gabbs water system owns 234.34 AFY in municipal and quasi-municipal water rights and 361.98 AFY in milling, mining and domestic rights. The water system has a total of 140 active service connections, which includes 125 residential, 14 commercial and the school with irrigated ball fields. The population served by the water system is estimated to be 282 people. Prior to 2005, the community per capita water use was 800 gallons per day. Since that time, increased funding has been used to successfully find and fix system leaks. Because the proportion of water use by the school and commercial users is relatively high, the community per capita water use rate for Gabbs is 531 gallons per capita (GGI, 2013a).

Water Supply Requirements

The Gabbs Water system has sufficient water rights and with the new improvements will have sufficient water production of good water quality to supply a population increase of approximately

200 people. The system will need to continue its current policy of line and valve replacement and leak detection.

Several oil and gas exploration leases and geothermal projects have been proposed and approved northwest of Gabbs. Based on the locations of these projects, BLM indicates that there is little potential for operations or water demand of these projects impact to Gabbs water supplies (GGI, 2013a), should they go forward.

Water Sources

The Town of Gabbs water system, which is operated by Nye County Public Works, has one production well, one emergency well, and a new production well that was constructed and connected to the system in 2012. The emergency well has higher fluoride concentrations but can be used as a system back-up well. The newly constructed production well has acceptable concentrations of fluoride and arsenic and is capable of supplying all the water required for the water system demand.

The new well, located ½ mile southwest of the existing well, and the pipeline connecting the wells to the system, SCADA system and chlorination injection system were installed and became operational in 2012. The existing Well 1 is maintained as a back-up well; water from this well can be blended with the new well to meet demand and maintain water rights. A second project for re-lining the 500,000 gallon storage tank was funded through a Community Development Block Grant in 2012.

The Fallon Naval Air Station is proposing to expand its land withdrawal into Nye County very near the Town of Gabbs. If the proposed land withdrawal expansion occurs, the federal oil and gas, and geothermal leases discussed above will likely be cancelled, and those areas withdrawn from access for exploration for all resources, including water.

Recommendations

None

6.4. MANHATTAN – BIG SMOKY VALLEY TONOPAH FLAT



Big Smoky Valley Tonopah Flat (Manhattan) Perennial Yield: 6,000 acre-feet/year

Combined Water Budget Parameters (acre-feet per year) from Table 3-7

Recharge	Inflow	Evapotranspiration	Outflow
12,000	2,000	6,000	8,000

Combined Water Rights Status (acre-feet rounded) from Tables 3-4 and 3-8

	CERT	Permits	RFA	VST
Surface Water	8,379	1,020	0	1,205
Groundwater	17,106	6,951	322	0

Note: All water right figures are approximate **CERT** = Certificated, **RFA** = Ready for Action
RFP = Ready for Protest, **VST** = Vested RFA includes new water only.

Assumptions

For the purposes of planning, the following assumptions were made:

1. Up to four new concentrating solar power towers will be constructed and developed during the 50-year planning period.

Water Resources Issues and Constraints

The Big Smoky Valley-Tonopah Flat Basin has a perennial yield of 6,000 AFY and allocated groundwater rights of 23,000 acre-feet. The predominant uses for groundwater are mining, milling, and irrigation. The basin has less than 50 domestic wells. Although the basin is significantly over-allocated, almost 60 percent of the allocated rights are for mining and milling, which are generally considered temporary use by the State Engineer. Almost all but 1,000 AFY of the approximately 4,200 AFY of surface water rights are certificated or vested. The predominant uses of surface water are irrigation and stock watering.

Water Supply Requirements

The Manhattan Town Water system owns adequate water rights to serve their current customers and a future population increase, should it occur. The NDEP Drinking Water Branch website (<https://ndwis.ndep.nv.gov/>) lists Manhattan Town Water as having 101 service connections; the system is currently serving a population of 40 people. In 2016, Nye County certificated 14.608 acre-feet of the permitted 16.82 acre-feet water rights, and moved the remainder of the permitted rights to the back-up well. The 2011 per capita use was calculated in the WSAI report (GGI, 2013a) to be 72 gallons per day including some commercial use.

The Crescent Dunes Solar Energy Project, has a permit for about 600 AFY of industrial water rights for energy production, but expects to use less than the permitted amount. Recent press releases indicate that the company intends to pursue permits for an additional 10 towers. The WRP Update assumes 4 additional towers will be approved. Additionally, Round Mountain Gold and other mining exploration projects may expand in the near future, which could increase population in the Town of Manhattan. The water system operator indicated that the system does not have any major maintenance requirements in the near future.

Water Sources

The Manhattan Town Water public water supply system is located in the mountains between Smoky and Ralston Valleys. Water is supplied from one drilled well using a submersible pump. Aboveground storage consists of a 250,000 gallon water tank. The system is fully chlorinated. Manhattan Town Water put a new well into service in 2010 that has an arsenic concentration below the drinking water standard; the old well, which exceeds the arsenic standard, has been designated as an emergency backup well. The system has been upgraded to include a new water tank and replacement of all major transmission and distribution lines.

Recommendations

Monitor renewable energy projects and revise water demands, as necessary.

6.5. PAHRUMP



Pahrump Valley		Perennial Yield: 20,000 acre-feet/year			
Water Budget Parameters (acre-feet per year) from Table 3-7					
Recharge	Inflow	Evapotranspiration		Outflow	
22,000	0	10,000		13,000	
Combined Water Rights Status (acre-feet rounded) from Tables 3-4 and 3-8					
	CERT	Permits	RFA	RFP	VST
Surface Water	3,061	4,240	0	0	2,085
Groundwater	16,367	36,533	2,978	0	0

Note: All water right figures are approximate **CERT** = Certificated, **RFA** = Ready for Action **RFP** = Ready for Protest, **VST** = Vested RFA and RFP include new water only.

Assumptions

For the purposes of planning, the following assumptions were made:

1. Water rights will continue to be relinquished and dedicated at rates of two to three times the expected use for support of land subdivision or new development.
2. Land disposal by the BLM will be limited to those needed for specific community purposes such as landfills, air fields, roads, etc.; these disposals will not increase water rights allocations in the basin.
3. The Nevada State Engineer will not allow new water to be appropriated.
4. Irrigated agricultural will continue to decline and will be a minor component of total water use, about 2,000 AFY, by the year 2060.
5. Water for commercial development will be provided by utilities, or will be provided through changes to existing valid water rights.

Water Resources Issues and Constraints

Water resource issues and constraints in Pahrump include those related to both water quantity and water quality issues. Chapter 5 provided detailed discussions of these issues. Pahrump's issues are typical of basins where rapid urbanization of former agricultural land is changing the nature and distribution of water withdrawals and the types of contaminant threats to the water resources.

Water Quantity and Use

Accepted perennial yield values for the Pahrump Artesian Basin have ranged from a low of 12,000 acre-feet to the recently revised estimate of 20,000 acre-feet. The perennial yield is pumped from different layers or units within the alluvial aquifer. The alluvial aquifer is comprised of a variety of sediments that include highly transmissive gravel units - one in the fan and the other underlying the shallow, unconfined, fine-grained sediments of the valley floor. The shallow, fine-grained valley fill aquifer receives very little natural recharge; most recharge to this shallow unit is the moisture derived from infiltration from irrigation water and septic systems.

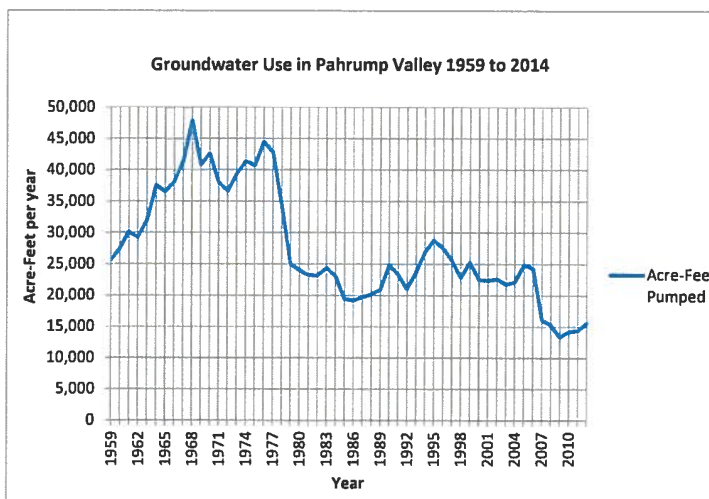
Deeper gravel units of the alluvial aquifer that underlay the valley between 500 and 850 feet are fed by recharge from Mount Charleston snowpack, and runoff through connectivity with fan gravels located higher up in the valley. Further from the fan margins, the lower gravel unit probably

receives upward leakage of higher pressure water through structural features, and allows some hydraulic communication with the deeper regional lower carbonate aquifer.

From the 1950s to the 1970s, artesian wells developed in the lower gravel unit were used to irrigate cotton and other crops. By 1967, 47,000 acre-feet of groundwater were being withdrawn for agricultural use from the deeper gravels primarily through artesian wells. This irrigation water provided significant recharge to the shallow, unconfined unit through secondary infiltration. As described in Chapter 3, water levels in the deeper gravel unit began declining in the 1980s, and many of the larger springs, like Manse, began to see decreased discharge, and some stopped flowing completely.

The graph (right) shows groundwater use in Pahrump Valley from 1959 to present. Irrigation pumpage accounted for nearly all water use until 1975. By 1980, agricultural cotton production had ceased and total basin pumpage decreased from 48,000 acre-feet to 25,000 acre-feet. From 1980 through 2004, annual groundwater pumpage averaged about 23,000 acre-feet. Since 2004, annual pumpage has continued to decline. Decline in usage since 2004 is partially due to the DWR reduction

in the 2009 and subsequent years Pumpage Inventory Report of the average domestic well usage figure from 1.0 AFY to 0.5 AFY. The average annual pumpage for 2011 thru 2015 was 14,600 acre-feet.



Changes in historic pumpage trends in the Pahrump basin have resulted in the water levels observed today. During the periods of heavy agriculture, pumpage was predominantly from the deeper gravel aquifer, and artesian heads in the area declined dramatically through the 1980s, while increasing the water levels in the shallow aquifer. With the decline of agriculture, heads in the deeper gravel aquifer gradually recovered, and artesian conditions and spring flows returned in many areas of the valley. With the reduction of agricultural irrigation, however, the largest source of secondary recharge to the shallow fine-grained aquifer was substantially reduced.

With urbanization in the 1990s, several areas in the Pahrump basin experienced a dramatic increase in the number of shallow, domestic wells completed in the upper fine-grained unit of the alluvial aquifer. As the number of domestic wells increased, rate of declines observed in the fine-grained unit also began to increase. Continued pumpage of the shallow fine-grained aquifer will draw down water levels at increasing rates in those sections with high densities of domestic wells.

The graph (at right) shows the number of new wells drilled by year. Since 2008, the total number of domestic wells in Pahrump Valley has remained relatively steady at about 11,000. The number of new domestic wells drilled from year to year was highly variable, but some trends are apparent during the last 20 years (1996 to 2016). In 1996, domestic well drilling was nearing its peak, which occurred in 1997 with 836 new domestic wells reported. By 2010, the Pahrump Valley saw a net reduction of 28 domestic wells with 12 new wells drilled, and 40 existing wells plugged. The number of new wells increased dramatically as national economic conditions from 2001 and 2005 fueled growth and development, but domestic well drilling rates did not surpass those seen in the late 1990s. In 2006, the number of new wells began to decline as growth slowed, and by 2008, only 36 new domestic wells were drilled. From 2009 through 2014 less than 15 new domestic wells have been drilled annually reflecting the slow economic recovery, as well as a shift in housing trends from large rural estate lots served by domestic wells, to subdivisions served by public water supply systems.

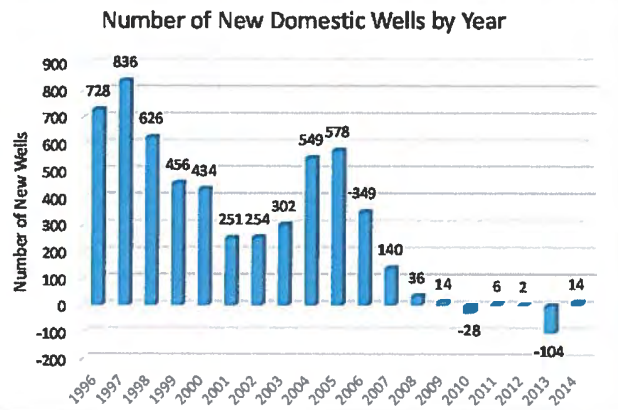


Figure 6-2 shows the count and distribution of domestic water wells in the Pahrump Valley. Several sections in the basin where the number of domestic wells equals or exceeds 100 wells per square mile, with the highest domestic well density reported by DWR (2015) at 437 wells per square mile. These areas with a high density of shallow domestic wells are where the most rapid rate of decline is observed.

Water Quality - Currently, the overall quality of the groundwater in Pahrump is quite good. As discussed in Chapter 5, the lack of community-wide sewage treatment, the 11,000 existing septic systems, and the potential for an additional 8,000 septic systems all point to the vulnerability of the valley-fill aquifer to contamination by nitrates. There are 33 sections of land in Pahrump with more than 100 septic systems in each section. Of these, ten sections have more than 200 septic systems. The vulnerability of the groundwater under these areas to nitrate contamination depends upon the type of soils, the depth to groundwater, and the practices of the individual septic system owners.

To determine if contamination from septic systems is occurring, using historical sampling data, a set of wells should be identified and sampled on a regular basis. Groundwater samples should be analyzed for the analytes of concern including nitrates, e. coli, sulfates, chlorides, and selected waste water compounds. Based upon the results of the sampling and analyses, a limited number of wells should be selected for annual monitoring.

The infiltration of water applied over irrigated areas back to the water table is another potential source of contamination. Since the heyday of cotton production, the acreage of irrigated land in Pahrump Valley has declined steadily. The distribution of irrigated land in 2015 is shown on Figure 6-3 and is now largely restricted to areas in the west central part of the basin and southern

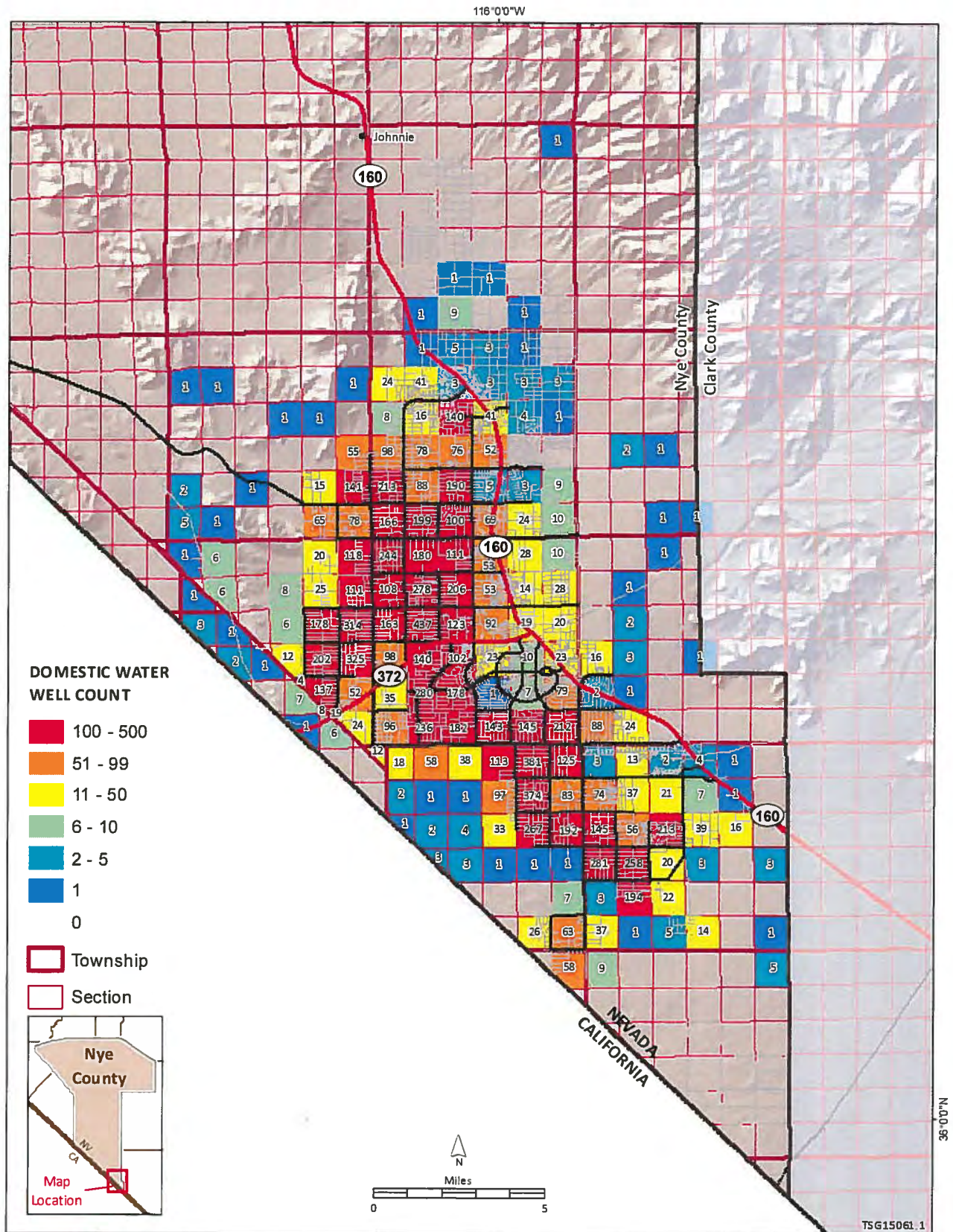


Figure 6-2. Count and distribution of domestic water wells in Pahrump Valley from NDWR Well Log Database as of April 2015.

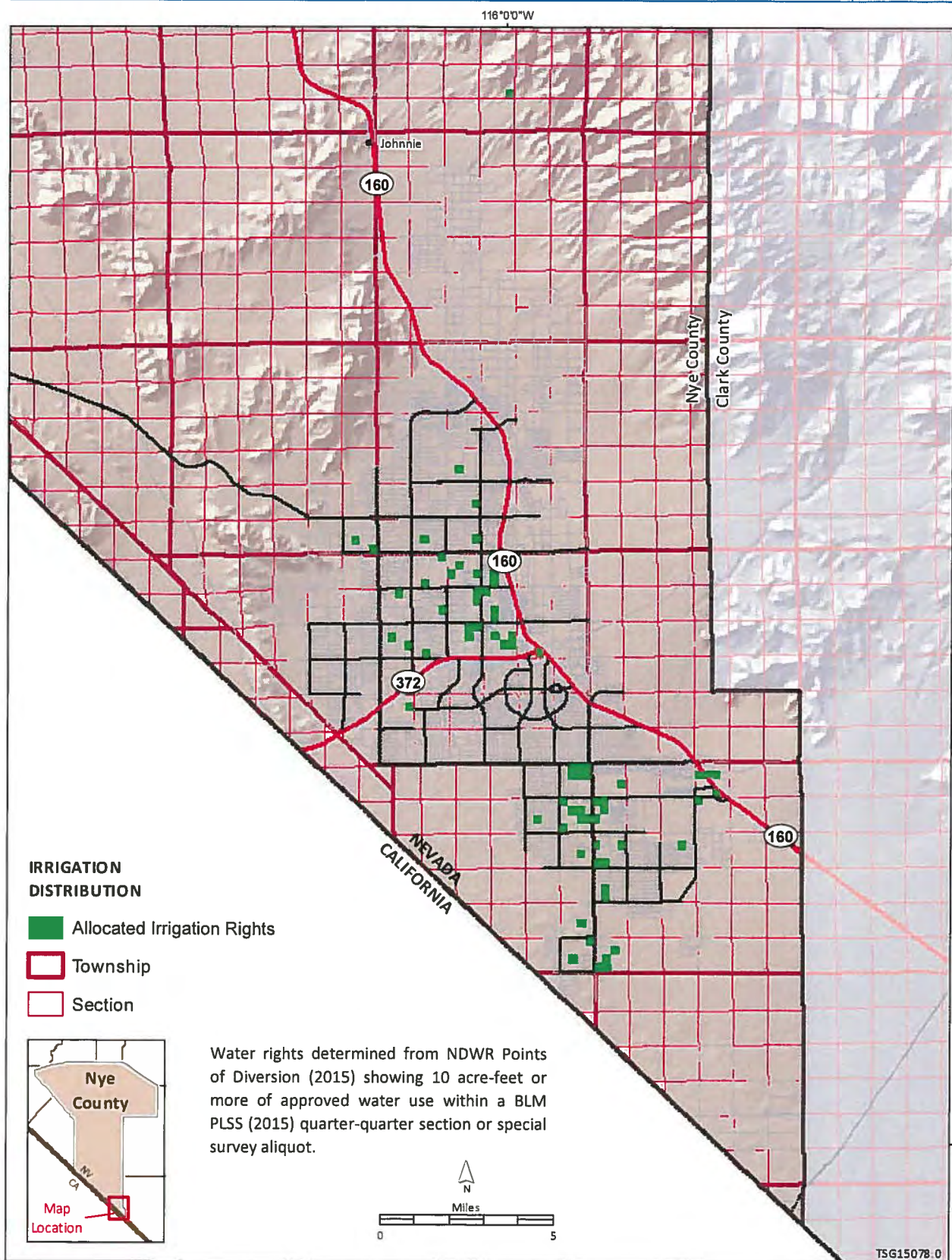


Figure 6-3. Distribution of Irrigation Water Rights in Pahrump Valley in April 2015.

Pahrump. The continued conversion of farmland to urban use will further reduce the water use concerns associated with agricultural land uses.

Environmentally Sensitive Areas - Unfortunately, some of the environmentally sensitive areas of Pahrump Valley have been affected by the activities of man. Bennetts Spring and Stump Spring have gone dry, although Manse Spring has recovered to historical levels. The natural habitat associated with these springs has been impacted and the native Pahrump Killifish had to be relocated by the U.S. Fish and Wildlife to a refuge to protect it from extinction.

The BLM and U.S. Fish and Wildlife have proposed several management actions aimed at reducing water use by federally-authorized projects on public lands including restricting and in some cases even prohibiting water development in support of the land use.

Water Supply Requirements

Increased groundwater withdrawals will be needed to meet the projected future growth in Pahrump. With a projected population of about 73,000 by the year 2060, the total demand for water will be about 23,000 AFY (Chapter 5). This estimate assumes continuing reductions in irrigation water use in the valley to the 2,000 AFY described in the GWMP, and a per capita water use rate of 268 gallons per day (including all domestic, municipal, and industrial uses). It is assumed that most of this water would be supplied by community water supply systems, with the remainder would be supplied by domestic wells.

Water Sources

Presently, the only source of groundwater in Pahrump Valley is the valley-fill aquifer. The perennial yield of this basin was recently increased by the State Engineer to 20,000 AFY in recognition of the estimated 8,000 acre-feet of groundwater outflow through the southeast valley into the California portion of the basin. This area is not presently developed and includes the Nevada portion of Basin 162 that is located in Clark County. The results of recent re-evaluations of water budgets in southern Nevada suggest that the perennial yield of Pahrump Valley could be higher, when recharge from RIBs, septic systems, and irrigation return flow credits are included.

If water use is not curtailed, then decline of the valley-fill aquifer will continue and will accelerate as growth continues. While there is a great deal of water stored in the upper valley-fill sediments, and this water is recoverable, there will likely be detrimental consequences as a result of continued overdraft of the basin. The consequences of overdraft include subsidence, higher well drilling and pumping costs, and degradation of water quality.

As discussed in Chapter 5, subsidence has already been documented in Pahrump Valley and there is active fissuring in a few areas. Subsidence can damage roads and utilities as well as structures, and costs can be substantial. The more the water table is lowered in the basin, the greater the potential for subsidence and the greater the costs associated with this phenomenon.

The costs associated with resetting pumps and re-drilling wells to tap the aquifer deeper will be incremental, but will be significant because of the numbers of wells that are likely to be affected. The potential for degradation of water quality as the aquifer is exploited to ever greater depths is

not known because of the lack of deep well data over much of the basin. If evaporite deposits (salt beds) are present at depth, then there may be severe limitations on water quality.

Several alternatives have been considered and are described in the Basin 162 GWMP. The importation of water to Pahrump from other basins in Nye County has been evaluated as a means to mitigate the past impacts of localized water level declines in the basin (Wichman, 2015). This alternative has been tabled indefinitely due to the estimated cost of implementation, and concern over the estimated project's proposal for groundwater pumping immediately south of and down-gradient from the contaminated groundwater of the NNSS. Unit costs for pipeline construction costs are well known, and pipeline construction comprises the majority of the estimated costs. Although concerns about contaminant migration are understandable, scientific studies and corrective active investigations conducted since 1998 under the authorities of the NDEP-issued Federal Facilities Agreement and Consent Order indicate that contamination will not reach any of the hydrographic basins south of the NNSS.

Conservation can reduce the demand for water. The GWMP illustrates how a reduction in the per capita water demand in Pahrump can reduce the projected demand for water dramatically. Conservation measures can include water reuse, smart landscaping, and watering, and low volume fixtures in residences. Water Utilities have implemented conservation plans. Two utilities are using RIBs to infiltrate treated effluents, and effluent reuse for golf course irrigation is already occurring. Smart landscaping and watering is best achieved through a program of public education. Low volume fixtures in residences are encouraged by building Master Plan and Development Agreements. One of the most effective conservation techniques, pricing, cannot be easily implemented in a community such as Pahrump where the numerous community water systems have rate structures regulated by the Public Service Commission.

The best approach to matching water sources with future demand is probably a combination of these alternatives. If conservation measures can significantly reduce demand, effluent reuse and recharge are maximized, and secondary recharge from irrigation is quantified, a balance between supply and demand may be achieved if the GWMP can actually result in the Pahrump Regional Planning District implementing effective growth control measures for Pahrump. This volume of pumping would probably be within the sustainable yield of the basin and, at a minimum, would lessen both the timing and severity of the adverse impacts of long-term overdraft of the basin. Water conservation is a proven method for achieving water savings and can be implemented through education, regulation, or pricing.

The legal availability of water, water system ownership and domestic well issues, land and environmental restrictions, and costs all constrain the feasibility of the options that are available for Pahrump. While it may be possible to drill deeper wells in the basin to help mitigate the adverse impacts of localized over-pumpage, any withdrawals from deeper zones would have to be done under existing water right permits, and no new permits will be issued.

The presence of more than 20 community water systems under different ownership also complicates the implementation of a solution. Similarly, domestic well owners would be reluctant to abandon their wells so that they could pay to join an existing utility. Studies are under way to

examine injection of water from artesian areas of the basin into those areas with the greatest rates of water level decline and those areas with the greatest potential for subsidence.

Recommendations

Based upon the current and projected water demands in Pahrump, the issues related to additional development and the constraints on that development, the following recommendations are made:

Continue implementing the recommendations of the GWMP.

Continue water level monitoring by the WLMP.

Continue nitrate monitoring.

Conduct a basin-wide water quality survey to identify problem areas and develop monitoring requirements.

Continue the dialogue with the DWR and federal agencies concerning the real and perceived impacts of water use in Pahrump Valley Basin 162.

6.6. RAILROAD VALLEY, CURRANT, DUCKWATER



Railroad Valley North and South		Perennial Yield: 77,800 acre-feet/year	
Combined Water Budget Parameters (acre-feet per year) from Table 3-7			
Recharge	Inflow	Evapotranspiration	Outflow
67,000	24,000	85,000	1,000
Combined Water Rights Status (acre-feet per year rounded) from Tables 3-4 and 3-8			
	CERT	Permits	VST
Surface Water	10,319	13,684	11,701
Groundwater	25,739	9,312	11
Note: All water right figures are approximate CERT = Certificated, VST = Vested			

Note: All water right figures are approximate CERT = Certificated, VST = Vested

Assumptions

For the purposes of planning, the following assumptions were made:

1. Oil and gas production may increase over existing levels but will not increase above historic levels.
2. The full agricultural productivity of the basin will be realized by 2060.
3. Expansion of the Duckwater Shoshone Reservation by over 31,000 acres in 2016 will increase water demand for residential and other tribal developments.
4. The Railroad Valley Wildlife Management Area will not increase in size.

Water Resources Issues and Constraints

The primary water resources issues in Railroad Valley North and South are water availability and the protection of environmentally sensitive areas. The combined perennial yield of the two basins is nearly 78,000 acre-feet. Irrigation is the largest manner of use, followed by recreation. Current groundwater rights total slightly over 35,000 acre-feet (Figure 6-4), however pending applications for almost 96,000 acre-feet for municipal purposes filed by the Las Vegas Valley Water District have been re-assigned to the SNWA and remain Ready for Action. In the past, the SNWA had agreed to subordinate up to 30,000 acre-feet to users within the basin, however it is unclear whether or not that offer still stands. The presence of the wildlife management area and Railroad Valley Springfish habitat at two geothermal springs on the Duckwater Shoshone Reservation place constraints on the development of water in adjacent areas. Elevated levels of fluoride associated with volcanic rocks also occur in some parts of the valley.

The Duckwater Shoshone is primarily an agricultural community, drawing water from the largest geothermal hot spring located in the State of Nevada. This same hot spring, known as the Big Warm Spring, is home to the threatened species of the Railroad Valley Spring Fish. The Tribe has done mitigation to the critical habitat for the Railroad Valley Spring Fish in and near the Big Warm Spring; however, the swimming hole is still open to public use.

The Duckwater Shoshone reservation was expanded in size in 2017 by over 31,000 acres from about 3,855 acres to about 35,086 acres. Although there are currently no firm plans, this expansion is expected to increase the future water demand on tribal lands to support additional residential and community facilities during the 50-year planning period.

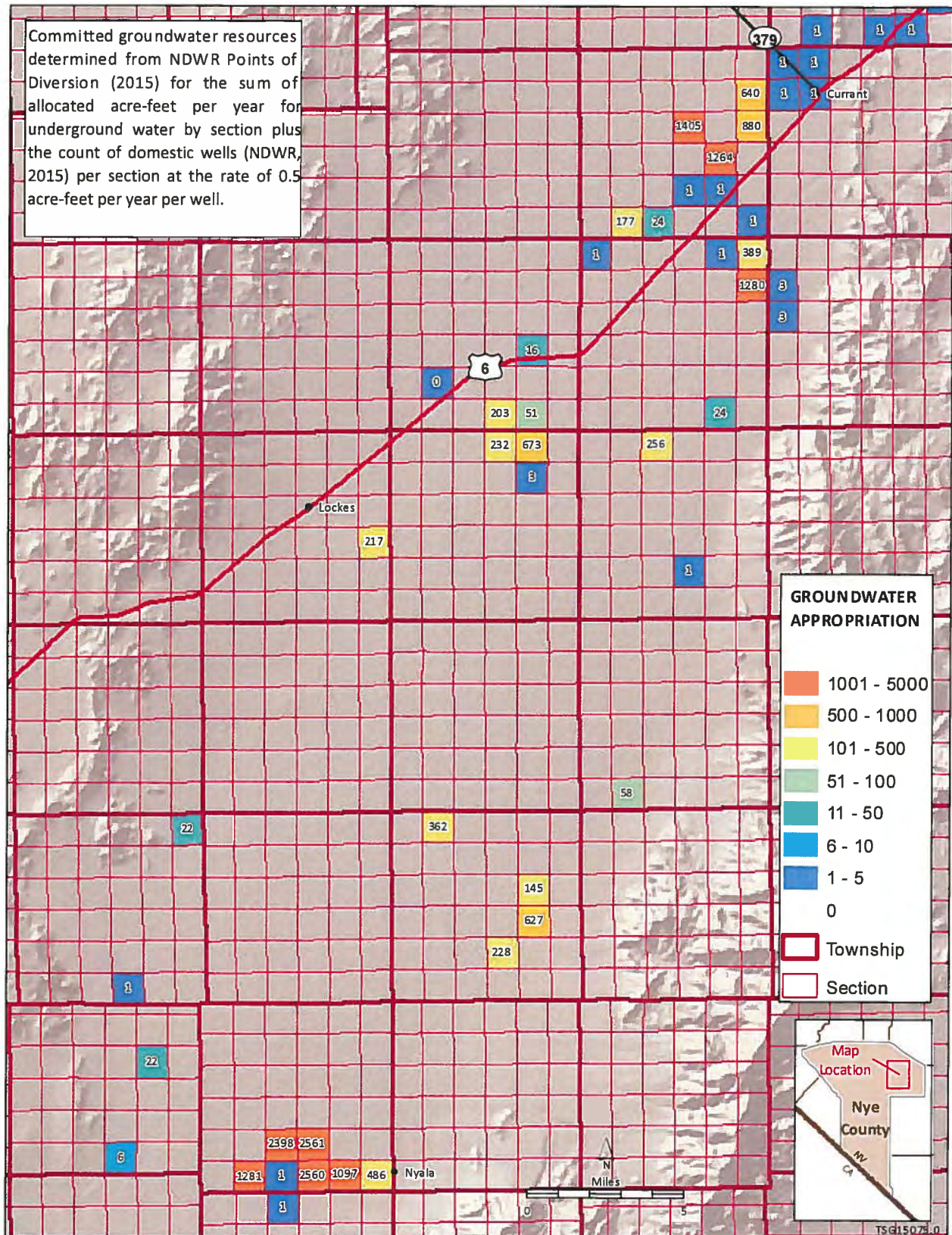


Figure 6-4. Distribution of groundwater appropriation in northern Railroad Valley from NDWR databases as of April 2015.

Water Supply Requirements

Existing water supplies are adequate to meet demands for quasi-municipal, mining, and industrial purposes. Growth of agri-business is expected and the demand for water should be met through existing water rights and applications. Since the 2004 WRP was issued, the State Engineer has denied the nearly 95,000 acre-feet of historic pending irrigation applications filed under the Carey Act and Desert Land Entry Act.

The SNWA applications that were filed in 1989 are still pending and should they be approved, the basin will be severely over-allocated, and the exportation of 98,000 AFY would result in significant water supply shortfalls. Spring flows and sensitive habitat would likely be impacted.

Water Sources

While surface water supplies are abundant, the pending SNWA applications restrict further development in most of the valley. Groundwater is the primary source of water; surface water provides limited supplies. While existing appropriations in Railroad Valley North and South are below the combined perennial yield, approvals of the pending SNWA applications would greatly over-allocate basin resources. The Railroad Valley Town Advisory Board passed a Resolution (2017-RRV-01) to address the pending SNWA applications. The Resolution states that if Nye County receives water rights through permits or applications as a result of the SNWA filings that said water rights permits or applications will be canceled or withdrawn, as applicable, so that the water is available for appropriation by the residents, land owners, and businesses in Railroad Valley. The Resolution, in its entirety, has been included in Appendix B.

Recommendations

Continue to monitor SNWA applications and vigorously protest the exportation of groundwater from Railroad Valley North to Clark County by the SNWA.

6.7. ROUND MOUNTAIN



Big Smoky Valley North (Round Mountain) Perennial Yield: 65,000 acre-feet/year				
Combined Water Budget Parameters (acre-feet per year) from Table 3-7				
Recharge	Inflow	Evapotranspiration	Outflow	
65,000	0	64,000	0	
Combined Water Rights Status (acre-feet rounded) from Tables 3-4 and 3-8				
	CERT	Permits	RFA	VST
Surface Water	23,982	537	0	4,391
Groundwater	42,442	15,088	342	127

Note: All water right figures are approximate CERT = Certificated, RFA = Ready for Action
RFP = Ready for Protest, VST = Vested RFA includes new water only.

Assumptions

For the purposes of planning, the following assumptions were made:

1. Operations at Round Mountain Gold will continue through the planning period at current levels.

Water Resources Issues and Constraints

The Big Smoky Valley-Northern Part has a perennial yield of 65,000 AFY and allocated groundwater rights of 57,000 acre-feet. Thus, additional groundwater resources are available to support future growth. The predominant uses for groundwater are irrigation, mining and milling. The most recent Crop Inventory conducted by DWR in 2013 estimated nearly 12,000 acre-feet of groundwater was pumped for irrigation uses (Perry and Davis, 2014). In 2014, mining, milling and domestic use accounted for nearly 7,700 acre-feet of groundwater pumped from the basin. Most of the pumpage occurs as mine dewatering, and nearly 4,000 acre-feet of the water pumped was returned to the basin through RIBs (Dixon, 2015). The key issues in Big Smoky Valley are the unpredictable future of the minerals exploration and development and naturally occurring concentrations of arsenic and fluoride in the groundwater.

Arsenic concentrations in groundwater exceed the standard of 10 ppb in several areas of the basin. The measured concentrations at Shoshone Estates (29 ppb) and the Smoky Valley RV Park (36 ppb) require treatment to meet the standard.

Water Supply Requirements

Round Mountain Gold Corp operates two large-scale open-pit mining operations and associated ancillary facilities in the Big Smoky Valley. The Round Mountain mine has been in continuous operation since 1976; the Gold Hill mine is located approximately 3 miles north of the Round Mountain operation and has been operating since 2011. Estimates of reserves suggest the operations will continue well into the future. Most of the workforce for the Round Mountain Gold mine resides in the Hadley subdivision. Existing supplies are adequate to meet the present demand for water. Water use by the two largest sectors, irrigation and mining, remain below their committed rights.

Water Sources

Existing water sources include both wells and springs. In general, areas of mineralization exhibit water quality constraints in terms of arsenic, fluoride, and metals. The Round Mountain PUC, which provides water to the Hadley Subdivision, has 445 residential and 35 commercial service connections, and serves an estimated 1,200 people. The distribution is served by two wells and storage tanks, and requires no treatment other than chlorination. Arsenic values in the two supply wells are well below the arsenic standard of 0.010 ppm. The Round Mountain PUC owns about 560 acre-feet of quasi-municipal water rights and is well positioned to serve its customers through the 50 year planning period. Carvers Mobile Home Park is located north of Round Mountain Mine and approximately 60 miles north of Tonopah. The drinking water at Carvers Mobile Home Park exceeded the arsenic standard. The Carvers water system has 80 residential connections, and serves approximately 150 people. In 2010, grant funds were used to purchase and install an Aledge Arsenic Treatment Unit at the Mobile Home Park. The Carvers' Café well meets the standard without treatment (NDEP, <https://ndwis.ndep.nv.gov/DWW/>).

Shoshone Estates Water Company (SEWC) located in Round Mountain had been on the State list of exempted utilities for the arsenic rule, but the exemption expired in 2010 and the system has not yet come into compliance. The Preliminary Engineering Report identified Point of Use treatment as the most cost effective treatment alternative. I observed in Devils Hole, the Supreme Court would order the Nevada State Engineer to take corrective action.

In 2016, unable to bring the water system into compliance, the system's Directors dissolved the SEWC. The Public Utilities Commission is reviewing management alternatives for this small non-profit utility. In September 28, 2016, the Public Utilities Commission granted a Petition and determined that Shoshone Estates should be placed into receivership. The Operator of the Mt. Charleston Water Company has expressed interest to take on management and operation of the Shoshone Estates Water System. Legal proceedings in this matter are still ongoing.

Arsenic treatment required for community water supplies is costly; engineering studies must be done on a case-by-case basis to determine appropriate treatment alternatives.

Recommendations

Continue to monitor water status of Shoshone Estates Water System performance and needs.

6.8. TONOPAH



Ralston Valley		Perennial Yield: 6,000 acre-feet/year			
Water Budget Parameters (acre-feet per year) from Table 3-7					
Recharge	Inflow	Evapotranspiration		Outflow	
5,000	3,000	2,500		5,500	
Water Rights Status (acre-feet per year rounded) from Table 3-4 and 3-8					
	CERT	Permits	RFA	RFP	VST
Surface Water	216	0	0	0	12
Groundwater	4,307	0	1,518	0	0

Note: All water right figures are approximate **CERT** = Certificated, **RFA** = Ready for Action
RFP = Ready for Protest, **VST** = Vested RFA and RFP include new water only.

Assumptions

For the purposes of planning, the following assumptions were made:

1. A full build-out of all private land in Tonopah will occur by the year 2060.
2. U.S. Air Force activities at the Nevada Test and Training Range will continue through the year 2060.
3. One or more commercial and/or industrial facilities will be sited at the Tonopah Airport.
4. Future designations of land for disposal by the BLM will be limited to those needed for specific community purposes such as landfills, air fields, roads, etc., and these disposals will only result in negligible additional demands for water.

Water Resources Issues and Constraints

Ralston Valley has a perennial yield of 6,000 acre-feet and allocated groundwater rights of about 4,300 acre-feet, and pending applications for an additional 1,500 acre-feet for quasi-municipal use. The predominant groundwater use in the basin is quasi-municipal. Even with pending applications, there are adequate water resources to meet future demand.

Existing supplies and sources are adequate to meet current needs. The arsenic concentration of the Town's historic water supplies averaged 11 - 12 ppb, slightly above the standard above the 10 ppb standard. With arsenic concentrations in groundwater of approximately 12 ppb supplying eight wells and aging infrastructure, Tonopah Public Utilities (TPU) was faced with finding cost effective way to meet the new arsenic standard and remain sustainable.

Water Supply Requirements

Existing water rights are adequate to serve the population and the forecasted growth of the community. Water is available for appropriation to support future growth of the community. While water is available to support demands associated with industrial development at the airport, upgrades to the infrastructure will be needed to deliver water to the parcels. Tonopah Public Utilities owns certificated and permitted water rights in quantities adequate to serve their customers and allow for future expansion of the system. The Utility is the major water right holder in the Ralston Valley Basin and also owns water rights in Big Smoky Valley Tonopah Flat. The system is located in Ralston Valley but straddle the divide with Big Smoky Valley – Tonopah Flat.

The Utility currently has 1,416 connections serving a population of 2,593 people in 2014 (TPU, 2015). The system encompasses 32 square miles, including the well field and transmission lines, and is located in Lower Smoky and Ralston Valleys (TPU, 2015 [Water Conservation Plan]).

Water Sources

Water supplies for Tonopah are pumped from Ralston Valley. Although arsenic treatment was originally recommended, TPU decided that the short and long-term consequences of constructing and maintaining a water treatment plant would justify the additional cost to identify a new groundwater source. TPU contracted a hydrogeologic survey that included exploratory drilling in four strategic areas, test pumping, and water quality sampling. Ultimately, a test well in northern Ralston Valley approximately 4.5 miles north of the Rye Patch well field proved to have water of adequate quality and quantity. The facilities required to integrate the new well site into the existing system included constructing two new groundwater wells and 9.2 miles of new transmission main to the Rye Patch well field (http://ndep.nv.gov/bffwp/docs/water_lines_vol48_fall14.pdf). TPU has adequate water rights and infrastructure to meet future demands and is well positioned to serve its customers over the 50-year planning period.

Recommendations

Require industrial developers at the Tonopah Airport Industrial Park to prepare water demand forecasts

6.9. SURFACE WATER AND WATERSHED REQUIREMENTS

According to the Nevada Division of Wildlife, ten of Nevada "Top 100 Waters" are located in Nye County. The Hay Meadows, Adams McGill, Cold Springs, and Dacey reservoirs are all located at Kirch Wildlife Management area in the Nye County portion of White River Valley. Barley, Pine, and Mosquito Creek in the Monitor Range, the Upper Reese River and San Juan Creek in the Toiyabe Mountains, and Sportsmans Park Pond, about 12 miles north of Tonopah, provide prime fishing, hunting, and recreational opportunities, as well as water for livestock and ranching. Other important surface water occurrences include Amargosa River, the springs that form Ash Meadows, Little Currant Creek, Warm Springs, and Hot Creek in Railroad Valley, and the hundreds of springs, seeps, and streams in the County that provide important sources of water.

Surface Water Issues and Constraints

In Chapter 3, a number of surface water issues were identified:

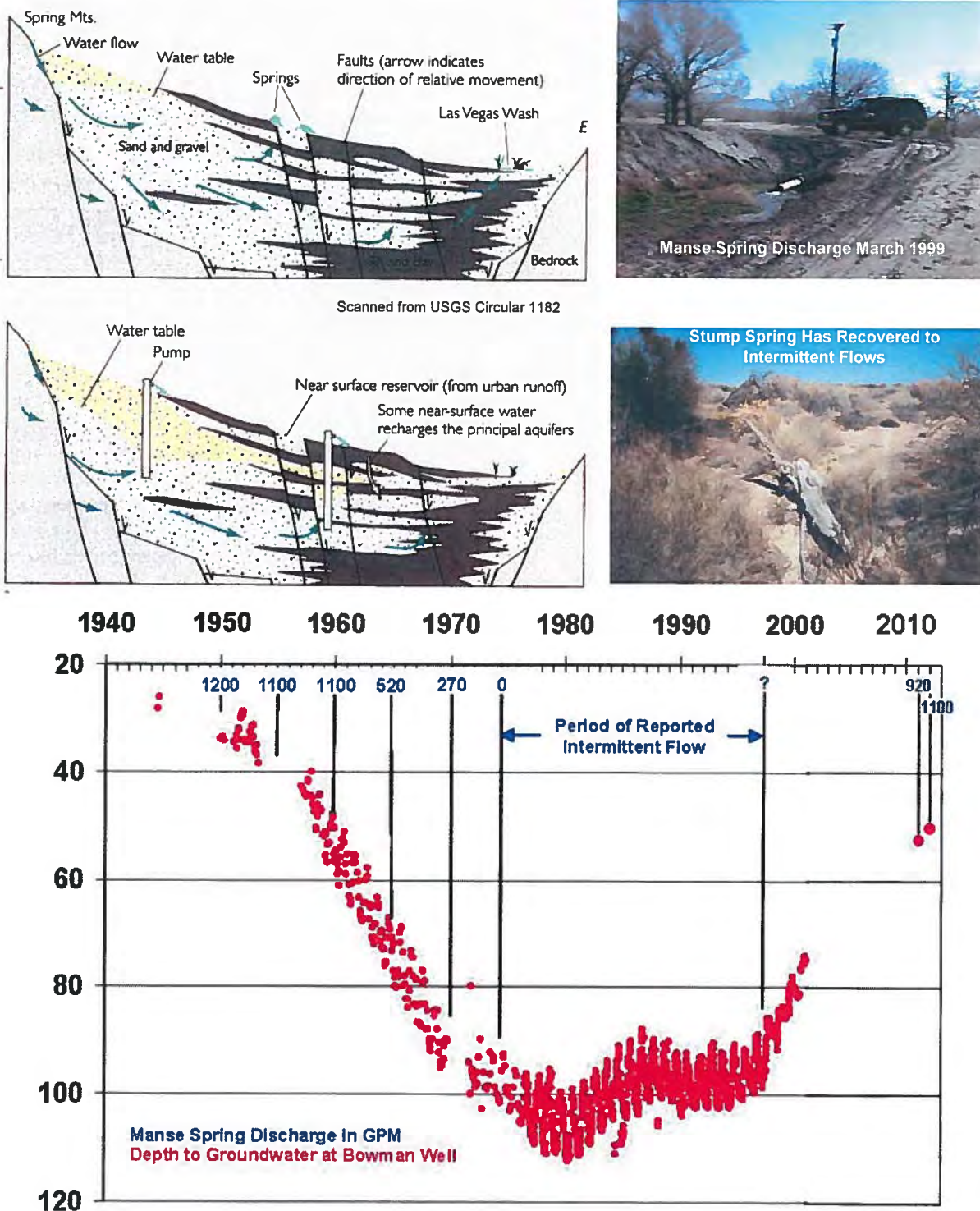
- **Promoting riparian area management and protection,**
- **Implement conservation measures in areas, where appropriate,**
- **Improving understanding of the relationships between surface and ground water uses,**
- **Maintenance of instream flows for recreation and wildlife,**
- **Reducing flood hazards and nonpoint source pollution**

The primary constraint with respect to surface water resources is the fact that most of the watersheds that provide the source water for streams and springs are under federal stewardship. As a consequence, Nye County has little participation in the development and implementation of management alternatives. More active participation by the County in the development of federal resource management plans would help ensure that the County's issues and concerns are addressed.

No interstate or intercounty surface water management issues have been identified for Nye County. Nonpoint source pollution includes surface water contamination from mining and construction activities, grazing, agriculture, sewage disposal, and naturally occurring salts and metals. With the continued growth of Nye County (and Nevada as a whole), increasing demands are being placed on recreational uses. The maintenance of instream flows is an issue for surface water for the Reese River, which has its headwaters in northern Nye County. The Amargosa River has short reaches of perennial base flow that have been declared Wild and Scenic are subject to additional protection. Finally, flooding in Pahrump Valley continues to be problematic. Nye County has approved a Flood Control Plan for the Pahrump Valley but lacks the fiscal resources to implement it.

Conservation of surface water sources is active at the wildlife management areas and Nye County is developing a habitat conservation plan to address concerns regarding the Amargosa River habitat at Beatty. As discussed previously, groundwater pumping has already reduced or eliminated spring discharge in the lower elevation portions of Pahrump Valley, although some areas are showing modest recovery. Figure 6-5 shows the impacts of historic groundwater overdraft in that basin on the discharge of springs. Some springs have ceased flow completely while other springs, such as Manse Spring have recovered to historical levels.

Figure 6-5. Effects of Groundwater Overdraft on Spring Discharge Rates.



Management of Nye County's surface water resources at the watershed level requires a strategy that is applicable for various conditions and alternative development scenarios. As discussed in the 2004 WRP, the areas that have been needing protective measures such as Death Valley National Park, wildlife refuges, riparian and wetland habitats, existing and future public water supply sources have been identified. There is no single strategy that can perfectly fit all situations. Therefore, the strategy is outlined that is designed to be flexible and, with modification as needed on a case-by-case basis, provides a framework for the long-term management of the County's surface water resources.

The implementation of these setbacks and development of impairment criteria can help prevent the detrimental impacts of development that have already been observed in some areas of the County. While requirements are not legally binding requirements; Nye County may impose such requirements through development agreements. Rather, the criteria should serve as a planning guideline to ensure that any future water development in Nye County is not done to the detriment of the watersheds and ecosystems of the County.

There are several water related measures pending before the 2017 legislature. One important initiative would add language to existing water law to require the conjunctive management of water resources. Conjunctive management means that surface and groundwater resources, and the relationship between them within the State's hydrographic basins, would need to be considered in water resources decisions. This is consistent with goals and objectives of the Water Resources Plan and should be supported by the Nye County Water District.

Recommendations

The following recommendations are made with regard to surface water management:

Support conjunctive management language in the 2017 Legislative Session.

Maintenance of Spring Discharge Rates - Establish baseline data on the discharge rates and trends of selected springs in environmentally sensitive areas. The County should work with the Division of Water Resources, the University of Nevada system, the U.S. Geological Survey, other organizations, and developers to implement baseline data collection efforts.

Cooperate With Stakeholders - Consultations should continue with the State and Federal agencies that are stakeholders in Nye County.

Mitigate Adverse Impacts - Nye County should cooperate in the design and implementation of any mitigating actions, such as water rights dedication to offset impacts of the County's water resources.

6.10. MINING REQUIREMENTS

Assumptions

For the purposes of this plan, it is assumed that mining activities and their associated water use will increase slightly through the year 2060. Mining has been the one of the more volatile sectors of the County's economy. Fluctuations in gold, silver, and copper prices have created wide swings in population and employment. Over the next half-century, the pattern of population, employment, economic growth, and water use will likely change. While much uncertainty surrounds the political and technological forces that shape the mining industry, one important fact is certain: Nye County has a wealth of mineral resources, both metal and non-metal, available to be mined. When market conditions, policy, and technology converge to produce a favorable climate for mining, the mineral resources in the County will be developed and mined.

Water Supply Requirements

Water supplies are used throughout mining and post-mining reclamation operations. The quantities of water required depend primarily on the type of operation, whether or not milling and a town site are included, and the requirements for dewatering and reclamation. Typically, mining operations require from a few hundred to a few thousand AFY. Water use for any given mining operation are considered temporary, and usually lasts from a few years to a few decades.

Water Supply Sources

Water supplies in Nye County are generally ample for meeting the demand of future mining activities. As activities are usually in remote locales, water development for mining operations often requires the development of new water supplies from springs or wells. The availability of water within the vicinity of any given mining property varies depending upon the local hydrologic conditions, water chemistry, and environmental constraints. As any new mining is expected to occur on federal lands, environmental review will be performed under the National Environmental Policy Act to evaluate the potential impacts to water resources.

Feasibility of Alternatives

Historically, water availability has not been a binding constraint on the mining industry. In many areas of Nevada where reliable water supplies are absent, water has been conveyed via pipelines considerable distances to support mining and milling activities. Dewatering is still largely a technical issue although requirements for monitoring, treatment, and environmental mitigation now impose somewhat larger costs on these types of operations. The feasibility of the various alternatives for developing water for any given mining property can only be evaluated on a case-by-case basis. In general, mine dewatering is non-consumptive use, and much of the water is recharges in a downgradient area.

Recommendations

The following recommendations are made with regard to mining water use:

1. Continue working with the mining industry in the management of the water resources of Nye County.
2. Facilitate cooperation between the mining industry and state and federal regulatory authorities in the development of water resources and the mitigation of past adverse impacts related to mining activities.
3. Continue to monitor water use and water trends in the mining industry.

6.11. SELF-SUPPLIED DOMESTIC REQUIREMENTS

There are about 12,000 domestic wells in Nye County. However, with the exception of Pahrump Valley (about 11,100 wells), self supplied domestic water use is not large, on the order of almost 1,000 AFY. There are about 500 domestic wells in Amargosa Valley, and 119 wells in Big Smoky Valley. While there are hundreds of other domestic wells in the County, they are generally widely separated.

Water Supply Requirements

Water use for domestic purposes can vary widely depending upon the size of the household, individual habits and preferences, and area. Single domestic wells are entitled to pump up to two acre-feet of water per year but average actual usage in Nye County's most populous basins is estimated by the State Engineer since 2009 to be about 0.5 AFY.

Water Supply Sources

With the exception of Pahrump, there are ample water resources for domestic supplies throughout the portions of Nye County not served by public water supply systems. As described in the Nye County WSAI Report (GGI, 2013a), the depth, yield, water quality and estimated usage of domestic water wells varies from place-to-place. Monitoring of water quality in domestic wells is not required by regulation or statute. Because naturally-occurring nitrate, arsenic, and fluoride can have adverse health effects, well owners should test their water periodically to determine whether some type of treatment may be beneficial.

Feasibility of Alternatives

The alternative to self-supplied domestic wells is to expand utility infrastructure for public water supply systems. Public systems can be established by private entities under the requirements of the Public Service Commission and under the various Nevada laws and regulations governing public water supply systems. At present, a new public water supply system is being added in Pahrump by UICN to serve the expansion of Spring Mountain Motor Resort and Country Club. Growth along the proposed I-11 corridor also could result in the creation of new systems. Many types of development, such as a casino-resort or golf resort may also lead to the establishment of one or more new public systems. Any new public water supply must design, permit, and monitor in accordance with applicable regulations.

Recommendations

The following recommendations are made with regard to self-supplied domestic water:

Continue implementation of the Basin 162 Groundwater Management Plan.

Work with the NDEP Safe Drinking Water Bureau to keep Nye County's domestic water users informed regarding local water quality issues, and proper well sanitation methods and practices.

Cooperate with the Nevada Division of Water Resources in monitoring domestic water use and trends.

6.12. FEDERAL LANDS WATER REQUIREMENTS

With 98 percent of Nye County managed by federal agencies, there is a demand for water resources to meet the mission of each agency with stewardship over an area. As such, the water resource requirements for the continued management of federal lands in the County must be taken into account during the planning process.

Federal agencies, who in the past have found themselves at odds with each other's appropriate applications, have formed a Federal Water Users Group to better discuss water rights applications among the agencies. Additionally the Federal Water Users Group uses the forum to coordinate protests of non-federal water rights applications.

Water Supply Requirements

The demand for water to meet federal needs in Nye County has not been well defined. Federal water uses include preservation, conservation, wildlife management, construction, fire control, and quasi-municipal use. The direct demand for water to meet the infrastructure requirements for federal facilities in the county is not large, and in most cases is met. However, the demands placed on the water resources for environmental purposes are large and in some areas pose constraints on future water development.

Water Supply Sources and Issues

The water to meet federal water demands comes from numerous springs, streams, reservoirs, and wells. In recent years, an increased emphasis has been placed on the management and restoration of the water resources of springs, streams, and riparian areas. The U.S. Forest Service uses water resources of the Humboldt-Toiyabe National Forest. Water demand for facilities is minimal and the USFS holds appropriate rights in limited amounts. It is Forest Service policy to file a claim of reserved water rights (in the name of the United States) for all water needed to support instream flows on National Forest administered lands; none of the reserved rights have been adjudicated by the State Engineer.

The Bureau of Land Management is responsible for the management, use, and disposition of public lands. Present water use by the BLM is modest and it is not considered likely that any significant new supplies will be needed in the foreseeable future. Any lands that are designated for disposal (privatization) will have an associated, demand for water that is proportionate to the subsequent use of the land. Any developments on lands disposed by the BLM will have to obtain water rights in accordance with Nevada Water Law. Where water resources are over-allocated, then dedication or over-dedication of water rights could be required by County Ordinance.

The U.S. Fish and Wildlife Service is responsible for the management of key lands in Nye County and has regulatory authority to oversee activities and developments on federal lands and private lands for when threatened or endangered species or their habitats are present. Although, the National Park Service is responsible for management of Death Valley National Park. In this capacity, the Park Service has developed a well-defined water policy. The Park Service has protested more than 90 water right applications in Nye County including those filed by the County in basins on, or adjacent to the NNSS.

Evolving Policies

Management of federal lands is subject to periodic review under the National Environmental Policy Act. These reviews determine the feasibility and impacts associated with changes in management practices for the land under the stewardship of the various federal agencies. The federal agencies are proposing policies and measures aimed at restricting water development and use.

Recommendations

Given the many shared interests between Nye County and the federal agencies with stewardship over the federal lands, a policy of cooperation aimed at implementing sound water management practices should serve as the framework for interactions with the federal government. Such interactions cannot succeed without the participation and cooperation of the state agencies with regulatory authority over the water resources of the County. Therefore, the following recommendations are made:

The County should continue to be an active participant with cooperating agencies in the development of federal management plans.

Nye County should continue to facilitate cooperative data collection, information sharing, and water resources by the entities involved in the management of the County's resources.

The County should continue to cooperate with the Division of Water Resources in implementing the recommendations of the State Water Plan with respect to watershed planning and management and water resources data management. The County also should encourage the participation of federal agencies, and their resources, in these planning efforts.

Chapter 7 – WATER RESOURCE MANAGEMENT ALTERNATIVES

In the preceding chapters, the baseline water resources conditions were described and the issues related to past, current, and future development of those resources were identified and discussed. In this chapter, alternative strategies for long-term resource management are summarized. These strategies include measures aimed at addressing the many water resource issues and problems that Nye County faces. The Nye County Water District was established in 2007 by the State Legislature at the request of the Nye County BoCC. In 2016, the Nye County BoCC voted to abolish the NCWD in a bill draft request to the 2017 Legislature. Should the Legislature fail to act on the pending bill, the NCWD will continue its operations. This is referred to as the “No Action Alternative.”

Should the legislature approve the bill, the duties of the NCWD would revert to the BoCC. If the BoCC resumes these responsibilities, alternatives for Water Resources Management that may be considered include:

- **Advisory Alternative**
- **Administrative Alternatives**
- **Legal Alternatives**

Each alternative approach to water resource management has its own advantages and disadvantages in terms of feasibility, cost, and implications. The following sections discuss each alternative.

7.1. NO ACTION ALTERNATIVE

Continued management of Nye County’s water resources under the purview of the NCWD is the preferred alternative for now, as well as into the future. The Nye County Water District Act provided broad authorities and tools that enable the Water District to continue to address the wide-ranging issues described in Chapters 3, 5 and 6 of this WRP. The County-wide make-up of the Nye County Water District Governing Board enables it to focus on water resource and supply issues in each of Nye County’s widely-separated and very unique communities. Since its creation, the Board and staff of the NCWD have undertaken the review and resolution of a diverse and complex set of water-related issues. In the conduct of its business, as well as developing sound and economically feasible solutions, the Board and staff have devoted hundreds of hours to public discussion and debate in the course of addressing these complex issues.

As result of hours of work in the Pahrump Valley, the Water District has recently moved forward with recommendations to implement several measures from the Pahrump Basin 162 Groundwater Management Plan. The measures are part of the larger strategy that outlines various forward-looking options to remedy the problem of over-allocation of water rights in the basin. The Water District has also retained the services of engineering firms to explore the technical feasibility and to better define the costs and environmental impacts of alternative engineered solutions to mitigate over-pumpage in the shallow aquifer. Continued progress in the review and implementation of the GWMP measures and potential projects remains crucial to achieving balance in the basin’s water

budget, and for ensuring successful management of the water resources in Basin 162 into the future.

Under the no action alternative, water resources issues and management would continue to fall under the purview of the NCWD, whose powers are broadly defined. Water planning activities would continue to be undertaken by the District. Individual water supply system owners would not be affected and would continue to apply their own resources in meeting future demands and system requirements. The Nye County BoCC would continue to work with the NCWD to address and resolve water issues. The Town Boards and county residents outside of the Pahrump Valley strongly supported this alternative.

7.2. ADVISORY ALTERNATIVE

Under the advisory alternative, Nye County would serve only in an advisory capacity as an interface between the state regulatory agencies and the individual water supply system owners/operators and domestic well owners in the County. The County would continue to work with the Division of Water Resources, federal agency stakeholders in the County, and water supply system owners.

- **Coordinate more detailed planning with local water users and the DWR;**
- **Continue dialogue and coordination with the federal agencies regarding water use in Amargosa Desert, ongoing work by the USGS on the Death Valley Regional Flow Model, data collection efforts, development and implementation of, and conservation and mitigation measures;**
- **Continue consultations on surface water issues with stakeholder agencies;**
- **Work with the NDEP Bureau of Safe Drinking Water to keep Nye County's domestic water users informed about water quality, and sanitation methods and practices;**
- **Continue participating with cooperating agencies in the development of federal resource management plans and action-specific environmental documentation; and**
- **Continue work with DWR on basin planning and management issues, and sharing of water resources data.**

Under the advisory alternative, Nye County would take the lead in consulting with various entities and organizations on water resource issues. These agencies include the Legislative Commission's Subcommittee to Study Water, the Division of Water Resources, and the Division of Environmental Protection at the state level, the Southern Nye County Conservation District, the Community Advisory Board for the NNSS, and individual water system owner/operators at the local level. Communications and consultations would also continue with each of the federal land stakeholders in the County.

7.3. ADMINISTRATIVE ALTERNATIVES

Under the administrative management alternative, Nye County BoCC can establish General Improvement Districts for the management and operation of various utilities and services. To address specific water projects; Local Improvement Districts can be formed and dissolved upon project completion.

General Improvement District

A General Improvement District (GID) can be created pursuant to the provisions and requirements of NRS Chapter 318. Nye County currently has four GIDs: Beatty GID, Beatty Water & Sanitation, Pahrump Swimming Pool, and Railroad Valley GID. A measure to establish the Pahrump Regional Flood Control District was advanced in 2008 but failed due to associated costs. The organization of a GID must serve a public use and promote the health, safety, prosperity, security, and general welfare of the inhabitants thereof and the State of Nevada.

The Nye County BoCC has the jurisdiction, power, and authority to create districts with the County by adopting a resolution. Once the resolution has been adopted, the property owners within the district boundaries are notified and may protest the formation of the district. After hearing the protests and determining that the district is required by public necessity and convenience, and that the creation of the district is economically sound and feasible, then the BoCC can adopt an ordinance creating the district. In Nye County (and other counties with less than 400,000 residents), the BoCC has the option of appointing five people to serve as the first board of trustees with subsequent positions filled through general elections. The Board also has the option of serving as the ex officio board of trustees. With respect to water resources, a GID can have the following basic powers:

- Furnishing facilities for water;
- Furnishing sanitary facilities for sewage; and
- Furnishing facilities for storm drainage or flood control.

NRS Chapter 318 has specific provisions regarding the establishment of GIDs that encompass more than one county. NRS 318.050(3) states that the board of county commissioners of the county in which is located the larger or largest proportion of the area of the proposed district has the jurisdiction, power, and authority to create the district, to broaden its basic powers and otherwise supervise the district.

The board of a GID may approve the acquisition, construction, reconstruction, improvement, or extension of systems and facilities for the supply, storage, and distribution of water for both private and public purposes.

The advantages of a GID include the ability to qualify for grant monies, and to borrow money and issue short-term notes and a number of types of bonds. A GID would also serve as a non-profit umbrella entity over the many for-profit water supply systems in the County. For example, utilities under private ownership do not qualify for state administered federal grants for the implementation of Wellhead Protection Programs. A GID would qualify, however, and could assist local utilities in the preparation of plans and the implementation of the steps needed for wellhead

protection. The ability of a board to utilize debt depends on the nature of the district and the population. The GID can generate revenues from a number of sources including state sources, state and federal grants, property taxes, special assessments, tolls, rates, and service charges.

The primary disadvantages of a GID include the potential need for additional County employees and the potential negative reaction of or by citizens or water supply systems that would operate within the GID boundaries. Any revenue generating measures that would include an increase in property taxes or service charges on water bills would likely be negatively received by the public or the system customers.

Local Improvement District

NRS 271.130 authorizes the formation of Local Improvement Districts (LID), some referred to simply as Improvement Districts. Improvement Districts are geographical areas designated by the County BoCC, in which specific tracts can be assessed a fee to support the completion of a specific project. At the direction of the BoCC, LIDs can acquire, improve, equip, operate and maintain a number of water-related projects including:

- A sanitary sewer project;
- A storm sewer project;
- A water project;
- A waterfront project; and
- Any combination of such projects.

Water projects may include any facilities appertaining to a municipal water system for the collection, transportation, treatment, purification and distribution of water, including without limitation, springs, wells, other raw water sources, basin cribs, dams, reservoirs, towers, other storage facilities, pumping plants and stations, filter plant, purification system, water treatment facilities, power plant, waterworks plant, valves, standpipes, connections, hydrants, conduits, flumes, sluices, canals, ditches, water transmission and distribution mains, pipes, lines, laterals, and service pipes, engines, boilers, pumps, meters, apparatus, tools, equipment, fixtures, structures, buildings, and all appurtenances and incidentals necessary, useful or desirable for the acquisition, transportation, treatment, purification and distribution of potable water or untreated water for domestic, commercial and industrial use and irrigation (or any combination thereof), including real and other property therefor.

LIDs established for neighborhood improvement projects can be dissolved at the completion of the project. The BoCC may, by resolution, dissolve a LID that is created for the purposes of a neighborhood improvement project if more than 50 percent of the affected property owners submit a written petition to the BoCC that requests the dissolution of the district. The dissolution of a LID may be requested within 30 days after the first anniversary of the date the LID was created, and each subsequent anniversary thereafter.

As soon as practicable after receiving a written petition from the property owners, the BoCC would pass a resolution of intention to dissolve the LID. Notice of public hearing on the dissolution must be provided and the hearing must be held pursuant to the requirements of NRS 271.377. If the

BoCC determines that dissolution of the LID is appropriate, it may dissolve the LID by resolution, effective no sooner than 30 days following the hearing. If the LID has incurred any indebtedness, outstanding and unpaid, the portion of the assessment necessary to pay the indebtedness remains effective and must be continued in the following years until the debt is paid.

Over the short-term planning horizon (one to five years), the establishment of one or more LIDs could be used primarily as a mechanism for addressing water quality concerns in Pahrump Valley and Big Smoky Valley. Over the long-term (five to twenty years), a LID could provide a mechanism for the development, conveyance, and delivery of water, should RIBs or other engineered solutions become selected.

7.4. LEGAL ALTERNATIVES

Legal alternatives that are available to Nye County include the establishment of a Water Conservation District (WCD), petitions to the State Engineer, water right application protests, and litigation. Legal action, or the threat of legal action, may ultimately be needed to resolve some issues, particularly those related to federal land stewardship, actions on federal facilities, water right claims by federal agencies, and federal policies that impact the water resources of the County.

Water Conservancy District

A Water Conservancy District can be created pursuant to the provisions and requirements of NRS Chapter 541. Nye County currently has no WCDs. To establish a WCD, a petition must be filed in the office of the clerk of the court vested with jurisdiction in the county in which all or the greatest part of the lands that will comprise the district are situated. The petition must be approved and filed by the Board of County Commissioners with a bond of \$1,000. A hearing time and place is set by the district court and protesting petitions may be filed if they meet certain conditions. If the protests are overruled, the court declares the district a corporation and notifies the secretary of state and the county clerk and recorder. The governor then appoints a board of directors in accordance with the petition.

Once established, a WCD has the authority to construct and maintain works including power, access roads, pipelines, canals, and other facilities. The WCD also has the power to fix water rates, enter into contracts, acquire water and water rights, to develop those rights, and transport water for sale or lease. Any municipality, irrigation district, or person or private corporations can petition the board to purchase, lease, or otherwise obtain the beneficial use of the waters of the district. The development of a WCD is a legal action alternative that is available if administrative actions are not deemed appropriate.

Petitions to the Nevada State Engineer

Nye County can formally petition the State Engineer to take certain actions such as imposing or lifting orders of designation or changing the preferred uses of a designated hydrographic basin. The procedure is quite simple: a petition is submitted in the form of a letter to the State Engineer with an optional information package. The letter states what the requested action is and the basis for the request.

Upon receipt, the State Engineer may consider the petition and act accordingly or may require additional information and/or reviews. For example, upon receipt of a petition to lift a designation order, the State Engineer may request technical support from the USGS. Should technical support be necessary, funding must be arranged to compensate the USGS for the work and this can either be arranged through direct funding from the County or through the legislature. Given budget cycles it can take several years before a final recommendation is made to the State Engineer, and the requested action is taken or disallowed.

Water Rights Management

Nye County can protest any water right applications (including change applications) if it deems that: the proposed water development is not in the public interest; it will impair senior water rights; unappropriated water is not available for the proposed use; or the proposed project is not feasible or is speculative. For interbasin transfers of water, Nye County can protest applications if it deems that: the proposed action is not environmentally sound; the need for exportation to another basin has not been justified by the applicant; or the proposed development will unduly limit the future growth and development in the basin of origin.

The costs of water right protests can be appreciable depending upon the number of expert witnesses and testimony provided by both the applicant and the protestant(s). The burden of proof for a protest falls upon the protestant, not the applicant, and all costs associated with the hearing must be borne equally by the applicant and the protestant(s).

It is not possible to predict what future water right filings might be protested by Nye County, if any. Any applications that would export water from a basin located in Nye County to another county should be carefully reviewed to determine if the County should file a protest. Speculative water right filings, filings by the federal government, and claims of reserved water rights are areas where the County may wish to file protests.

7.5. CONCLUSION

Nye County has made great strides in water resources management since the adoption of the 2004 Water Resources Plan. Much has been accomplished through update of master and area plans, and the adoption and enactment of measures to protect and conserve Nye County's water resources. While the future may be unpredictable, several initiatives currently underway or contemplated by the Nye County Water District will help to ensure that Nye County remains well-positioned to address ongoing and emerging water issues.

Chapter 8 – REFERENCES

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Appendix A

MAP DATA

Figure A-1. Areas of active mineral, oil, and gas exploration and extraction in Nye County

Figure A-2. Areas of active agriculture in Nye County by business sector

Figure A-3. Federal Land Use Constraints affecting public lands in Nye County

Figure A-4. Geothermal related activity in Nye County

Figure A-5. Renewable energy related activity in Nye County

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