

U.S. Bureau of Land Management Nevada Groundwater Projects

Southern Nevada Water Authority
Right-of-Way Project Update

December 2008 – Newsletter No. 3

The SNWA Project

The Southern Nevada Water Authority (SNWA) has proposed a project to develop a water conveyance system (up to 170,000 acre-feet per year) through Clark, Lincoln and White Pine Counties. The purpose of the project is to convey groundwater from Lincoln and White Pine Counties to help meet Southern Nevada's future water needs. Population growth, drought, Southern Nevada's reliance on the Colorado River, concerns about the effects of climate change, and other circumstances are among the reasons that SNWA is seeking to diversify its water resources portfolio to meet water supply obligations.

In Nevada, the State Engineer (<http://water.nv.gov>) has the responsibility for granting and managing water rights. The Nevada State Engineer (NSE) has held hearings and issued rulings on several basins in which the SNWA has applied for water rights. SNWA still has a number of groundwater applications pending consideration by the NSE.

In 2004, the U.S. Bureau of Land Management (BLM) received an application from SNWA for a right-of-way (ROW) to construct and operate a groundwater pipeline and associated facilities. As proposed by SNWA, groundwater developed from Lincoln and White Pine Counties and conveyed to the Las Vegas Valley would be transported across federal lands managed by the BLM. Water developed by the Lincoln County Water District (LCWD) also would be conveyed in this pipeline under an agreement reached by SNWA and Lincoln County. LCWD is responsible for the acquisition, development, and delivery of this transported water.

According to the National Environmental Policy Act (NEPA), federal agencies must carefully consider the environmental impacts of proposed actions on public lands and provide opportunities for public involvement in the decision-making process. Under NEPA, an Environmental Impact Statement (EIS) may be required to identify and analyze potential impacts from a project, describe alternatives, and provide recommendations to minimize potential impacts.

The BLM is preparing an EIS on the Clark, Lincoln, and White Pine Counties Groundwater Development (GWD) Project to analyze potential impacts on environmental and human resources. Public participation is integral to the success of the EIS process, and BLM held two series of scoping meetings (April 8-August 1, 2005, and July 19-October 18, 2006) and received 1,210 substantive letters in response. When the Draft EIS is released, BLM will hold several additional public comment meetings in Nevada and Utah. The public will be invited to provide comments on the draft and these comments will be considered in the preparation of the Final EIS.

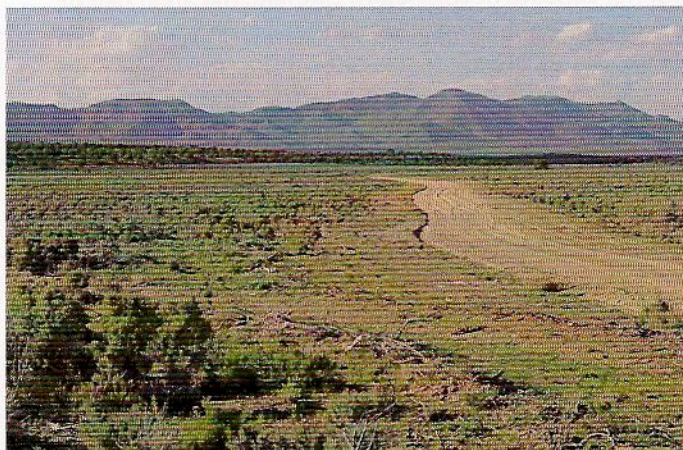


Photo courtesy of SNWA.

Project Schedule

Draft EIS: Expected to be completed and provided to the public for review and comment in Summer/Fall 2009. It will include an analysis of the proposed action and alternatives. NEPA requires a minimum 30-day public comment period. BLM will announce the comment period dates and information about the public meetings at the time the Draft EIS is released.

Final EIS: Expected to be completed in 2010. It will include any necessary revisions to the EIS analysis and responses to all comments received on the Draft EIS.



Updated Plan of Development

In 2004, SNWA submitted its initial Plan of Development (POD) to BLM with the right-of-way application. PODs may be modified and updated as new information becomes available, and the BLM keeps the public informed of POD changes to the GWD Project by website updates and these newsletters. SNWA updated the POD for the GWD Project in July 2007, and again in November 2008. As part of the GWD Project, SNWA plans to develop and convey groundwater rights associated with private ranches it has purchased in Spring Valley. Before conveyance, approval from the NSE is required to convert the use from agricultural to municipal and allow export from the basin.

The 2008 POD includes two major changes, summarized below, and several minor changes such as reduction in the length of the pipeline and power lines and other facility changes (http://www.snwa.com/html/system_gdp.html). Included in this newsletter is a map of the current GWD Project alignment (Map 1 on page 3).

1. SNWA had originally proposed separate locations for the buried storage reservoir and water treatment facility. The buried storage reservoir was to be located within the Nellis Air Force Base Small Arms Range and adjacent to several existing utilities. The water treatment facility was to be built on land managed by the BLM, located between the Nellis Small Arms Range and Apex (private property). The updated POD proposes these facilities be co-located on land managed by BLM in Garnet Valley.
2. The first POD submitted to BLM by SNWA included conveyance of groundwater rights from Coyote Spring Valley to the Las Vegas Valley. After the water right hearing in 2001, the NSE issued Order 1169 regarding SNWA's pending water right applications in Coyote Spring Valley and required SNWA to collect additional information on the potential effects of pumping its existing permitted water rights. SNWA has been collecting, and will continue to collect data for NSE review. The NSE will use the pumping data to make a determination on the pending applications and may decide that this additional information is insufficient for

a ruling. Because of the uncertainty about the volume of water that may be granted by the NSE and a prior executed agreement with the Moapa Valley Water District for some granted rights, the current POD excludes Coyote Springs Valley water rights from conveyance in the GWD Project. The current volume proposed for conveyance by the GWD Project is 170,000 acre-feet per year (afy) with 134,000 afy developed by SNWA and the rest by LCWD. The SNWA portion includes existing water rights, private water rights, and their pending applications in Snake Valley. For further details, see Table 1-1 in the SNWA 2008 POD.

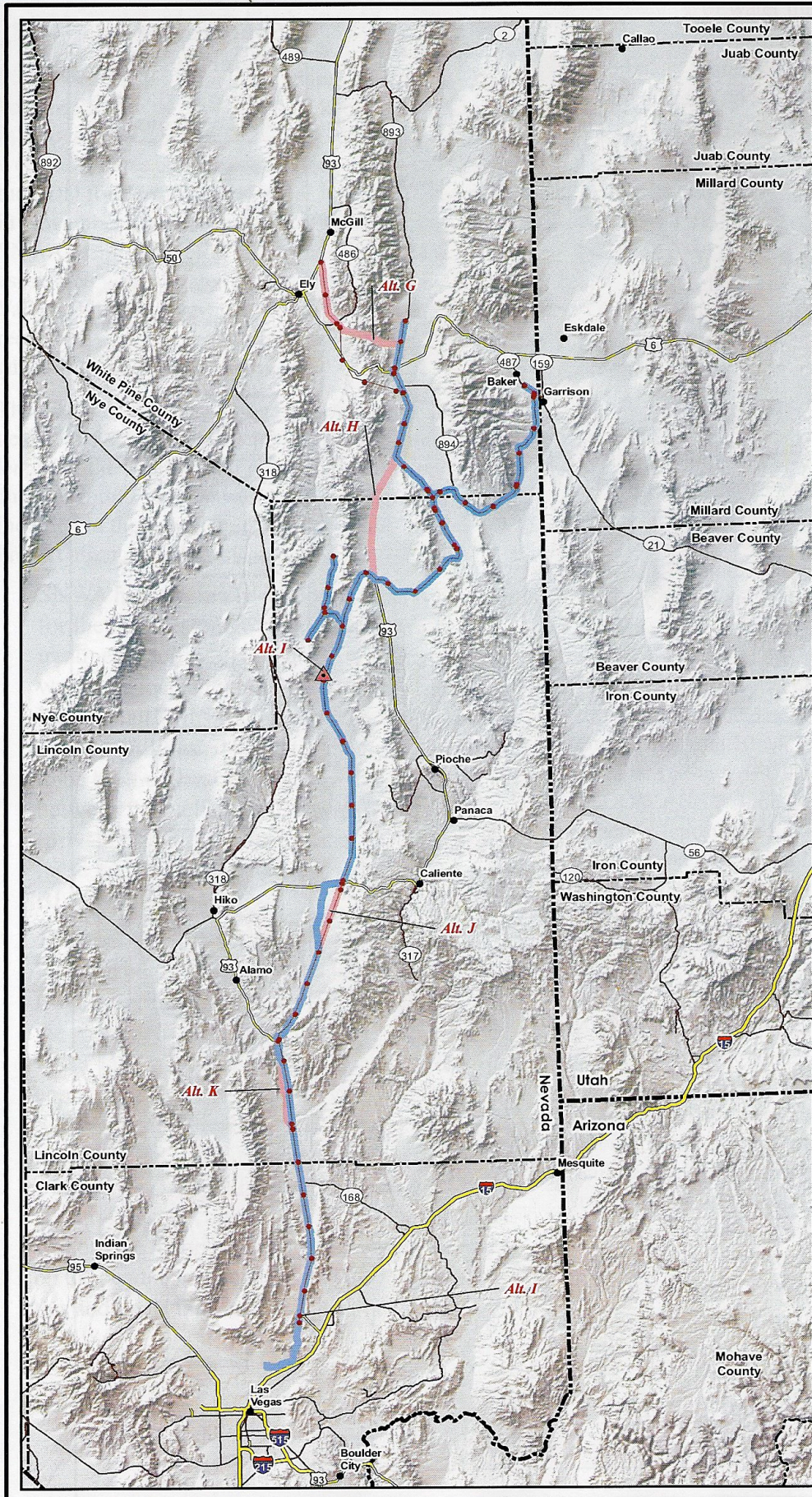
Baseline Summary Reports

In preparation for the EIS analysis, BLM drafted two baseline reports, which summarized existing information. The Hydrology Baseline Report, finalized in January 2008, has three components plus the baseline report: the Data Volume, Water Chemistry, and Water Rights. Hydrologists from BLM, U.S. Geological Survey (USGS), State of Utah, SNWA, and ENSR (the EIS contractor) drafted this report. The Natural Resources Baseline Summary Report, finalized in August 2008, provides baseline data for vegetation, wildlife, and soils. Biologists from BLM, U.S. Fish and Wildlife Service (USFWS), State of Utah, Nevada Department of Wildlife (NDOW), SNWA, and ENSR drafted this report. The baseline reports are final but the Draft EIS may include information not available when the baseline reports were written. The reports can be downloaded from the BLM website after mid-January 2009.

Hydrology Model

A three-dimensional numerical groundwater flow model is being developed to estimate the areal extent, magnitude, and timing of groundwater drawdown and changes to the water balance resulting from pumping alternatives considered for the EIS. Modeling results will be used to identify potential impacts to surface water and groundwater resources. SNWA is responsible for preparing the numerical groundwater modeling, using MODFLOW. After technical reviews by the BLM, USGS, and ENSR, the model will be revised as necessary and approved for use in the EIS.

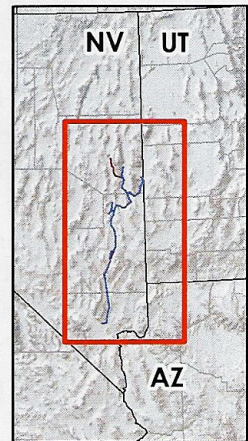
Project Map



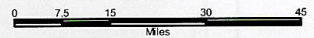
Southern Nevada Water Authority

GWD Project Alignment

- City or Town
- Interstate Highway
- US Highway
- Major Road
- - - State Boundary
- - - County Boundary
- Proposed Powerline Centerline
- Proposed Pipeline Centerline
- ▲ Alternate Electrical Substation Site
- Alternate Alignment

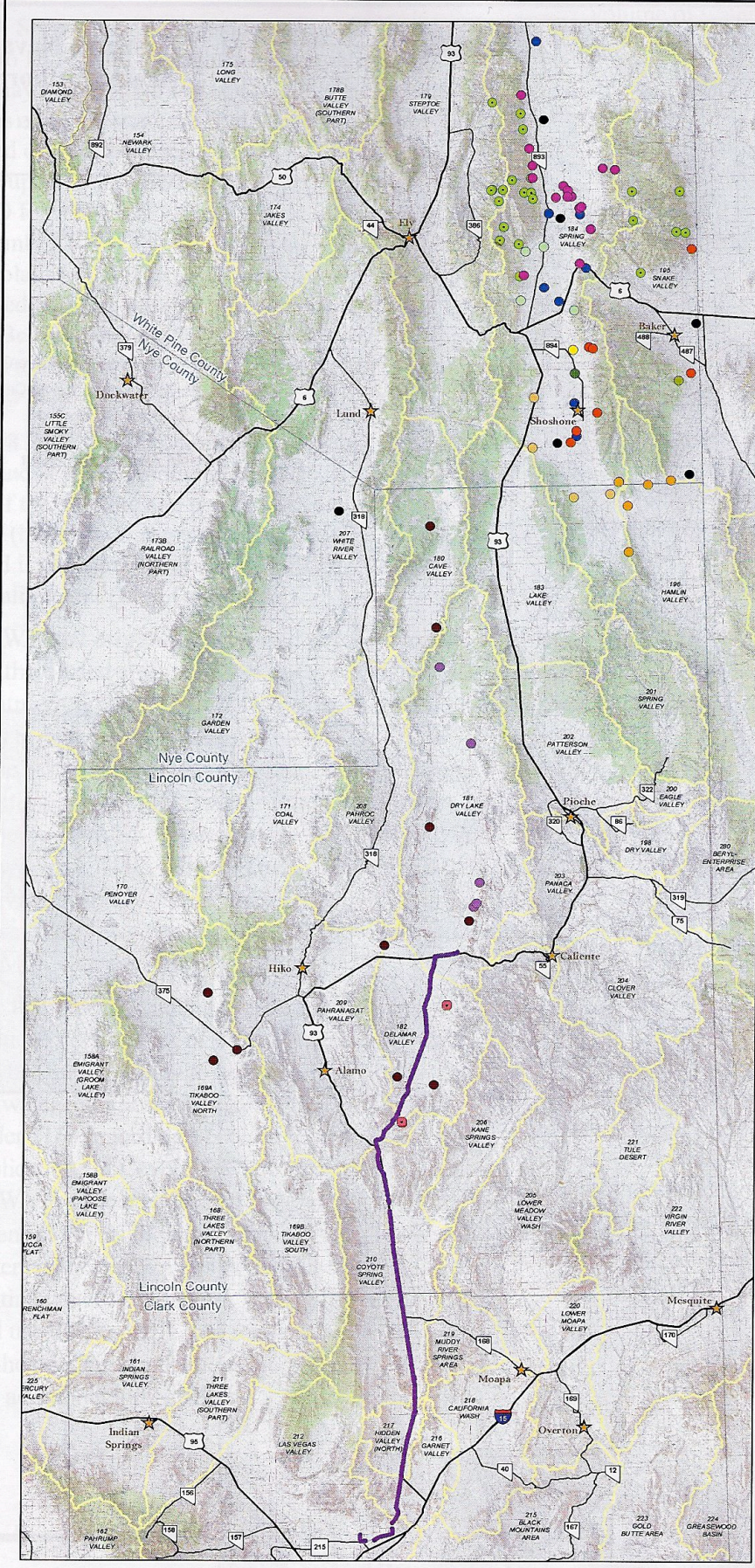


Map 1



Ancillary Activities Map

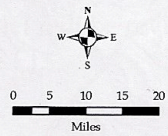
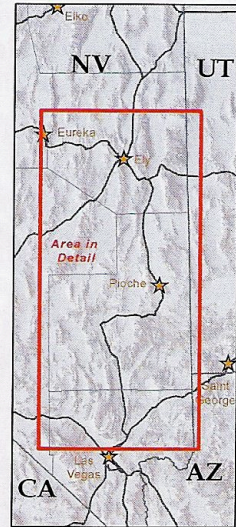
Southern Nevada Water Authority Existing and Pending Land Use Applications



- Data Collection Points**
- N-82357, 4 South SPR Testing and Monitoring Wells
 - N-82765, 4 North SPR Testing and Monitoring Wells
 - N-78531, 6 Evapotranspiration Sites
 - N-78670, Lincoln Co. 10 Monitoring Wells
 - N-83341, Hydro and Meteor Stations
 - N-83342, Hydro and Meteor Stations
 - N-84217, 5 DRY Exploratory Wells
 - N-84618, Geotechnical Studies
 - N-84720, Delamar Valley Exploratory Wells
 - NDOW Lease, Hydro and Meteor Stations
 - USFS Special Use Permit, Hydro and Meteor Stations

- Stipulated Agreement Projects**
- N-85508, Stipulated Monitoring Wells New Shoshone Ponds
 - N-84216, Piezometers
 - N-84333, 5 Zone Monitoring Wells

- Map Features**
- ★ Town
 - State Route
 - US Highway
 - County Boundary
 - Hydrographic Basin



Map 2

EIS Alternatives

NEPA requires every EIS to explore and analyze all reasonable alternatives, including the “no action” and other alternatives, even those outside the agency’s jurisdiction. The BLM decision-maker reviews the analysis of each alternative and can grant a right-of-way by choosing an alternative or by incorporating portions of one or more alternatives. For the GWD Project, BLM identified categories of alternatives, and based on these categories, chose specific alternatives to analyze in detail (Table 1).

Table 1 Alternatives Chosen for Detailed Analysis

Alternative Name		Description
A	No Action	ROW would not be granted. Facilities would not be built.
Pumping Alternatives		
B	Permitted/Application Points of Diversion	All facilities built. Full quantity pumped from NSE approved points of diversion.
C	Distributed Pumping Locations (Proposed Action)	All facilities built. Full quantity pumped from distributed locations determined from hydrologic model to reduce adverse environmental impacts.
D	Intermittent Pumping	All facilities built. Intermittent pumping from distributed locations based on a conceptual drought scenario.
E	LCCRDA Corridor	ROW granted only in the LCCRDA corridor. Full quantity pumped in Spring, Dry Lake, Delamar, and Cave Valleys (at distributed locations in Dry Lake, Delamar, and Cave Valleys and concentrated in Lincoln County portion of Spring Valley).
F	LCCRDA Corridor – Intermittent Pumping	ROW granted only in the LCCRDA corridor. Intermittent pumping in Spring, Dry Lake, Delamar, and Cave Valleys (at distributed locations in Dry Lake, Delamar, and Cave Valleys and concentrated in Lincoln County portion of Spring Valley).
Alignment Alternatives - Based on Distributed Pumping (See Map 1)		
G	Humboldt-Toiyabe Power Line Alignment	Power line segment follows an existing corridor from Gondor substation through Humboldt-Toiyabe National Forest. Full quantity pumped from distributed locations.
H	North Lake Valley Pipeline Alignment	Pipeline and power line segments follow Hwy 93 through northern Lake Valley. Full quantity pumped from distributed locations.
I	Muleshoe Substation	Alternate substation in northern Dry Lake Valley ties into regional power lines (if lines built by Nevada Energy and others), eliminating tie to Gondor substation. Full quantity pumped from distributed locations.
J	North Delamar Valley Pipeline and Power Line Alignment	Pipeline alignment in northern Delamar Valley is in LCCRDA corridor (requires additional pumping station). Full quantity pumped from distributed locations.
K	Coyote Spring Valley Pipeline and Power Line Alignment	Pipeline and power line alignment follows LCCRDA corridor in northern Coyote Spring Valley. Full quantity pumped from distributed locations.

Alternative Definitions to Accompany Table 1

<p>Alternative Pumping Locations:</p> <ul style="list-style-type: none"> • Points of Diversion – wells would be placed at or near the “Points of Diversion.” These points of diversion are identified in the water rights applications as locations where SNWA would pump if/when the water rights are approved. The NSE approves or denies pumping water rights from the points of diversion. • Distributed Pumping – wells would be sited to minimize potential reduction in flowing springs and drawdowns in nearby wells. 	<p>Alternative Pumping Quantities:</p> <ul style="list-style-type: none"> • Full Quantity – SNWA would pump the full volume approved by the NSE. • Intermittent Pumping – groundwater pumping in any given year could range from a minimum operational amount and the full quantity permitted depending on SNWA’s assessment of the availability and reliability of other water sources. 	<p>Alternative Facility Locations:</p> <ul style="list-style-type: none"> • All facilities – ROW for main and lateral pipelines, associated facilities, and power facilities would be granted. • LCCRDA corridor – only ROW in the Lincoln County Conservation, Recreation, and Development Act (LCCRDA) corridor would be allowed. SNWA could develop a pipeline only in Clark and Lincoln Counties. SNWA could not develop facilities and groundwater in White Pine County, but could develop their Spring Valley water rights by concentrating their wells in the Lincoln County portion of Spring Valley.
--	---	--

Ancillary (Supporting/Additional) Activities Update

SNWA continues to perform various activities in southern Nevada to (a) collect additional data necessary for the GWD Project EIS analysis, (b) measure and monitor regional environmental conditions, and (c) meet provisions in stipulated agreements (for example, water rights process). These ancillary activities are conducted on land managed by the BLM, U.S. Forest Service (USFS), and NDOW. To ensure that careful consideration is given to all aspects of the project, each ancillary activity on federal or state land requires a permit from the appropriate land manager and the fulfillment of all applicable requirements. For ancillary projects to be approved by BLM, a ROW application and NEPA document must be prepared and managed by the BLM Ely District or Southern Nevada District (Las Vegas) Office, as appropriate.

Map 2 on page 4 (and accessible on the BLM website) shows the existing and pending ancillary activities.

Description of Ancillary Activities:

- Testing and monitoring wells: Well drilling and testing will provide information on aquifer characteristics and be used to improve the groundwater model.
- Evaporation sites: Various instruments are used to measure the rate of water loss from plants.
- Hydrologic and meteorological stations: Collection stations measure the variability of surface water run-off and establish baseline conditions.
- Geotechnical studies: Results and their interpretation enhance understanding of the soils, geophysical features, and fault characteristics along the GWD Project alignment.
- Monitoring wells and piezometers for the Spring Valley Stipulated Agreement: Baseline measurements are being performed. Changes in hydrologic and water chemistry data and in shallow groundwater levels near spring sites are being tracked. The stipulated agreement is available on the BLM website.

Water Rights News

The Nevada State Engineer ruled on SNWA's water rights applications in Dry Lake, Delamar, and Cave Valleys on July 9, 2008. The NSE granted, subject to certain conditions, 11,584 acre-feet per year (afy) in Dry Lake, 2,493 afy in Delamar, and 4,678 afy in Cave. The ruling can be downloaded from the NSE website: <http://dcnr.nv.gov/waterhearing/drycavedelamar/index.html>.



Photo courtesy of SNWA.

The hearing dates for SNWA's water rights applications in Snake Valley are: September 28-October 2, October 5-9, October 19-23, and October 26-29, 2009. More information is provided on the NSE website.

Future Newsletters

In response to requests from the cooperating agencies and the public, the next newsletters will include the following topics:

Newsletter #4

- The NEPA process
- Tiering – Supplemental NEPA documents
- Cooperating Agency process

Newsletter #5

- Water rights stipulated agreements
- Other laws and their relationship to NEPA
- BLM's and other agency's roles in the water rights process

If you have topics you would like to see addressed in future newsletters, please send us your suggestions.

BLM Groundwater Projects Office

Phone: 775-861-6681 Fax: 775-861-6689 email: nvgwprojects@blm.gov
Website: http://www.blm.gov/nv/st/en/prog/planning/groundwater_projects/eis_home_page/snwa_groundwater_project.html

Cooperating Agencies

Central Nevada Regional Water Authority
National Park Service
Nellis Air Force Base
Nevada Counties: Clark, Lincoln, White Pine
Nevada Department of Wildlife
State of Utah

U.S. Bureau of Indian Affairs
U.S. Bureau of Reclamation
U.S. Fish and Wildlife Service
U.S. Forest Service
Utah Counties: Juab, Millard, Toole