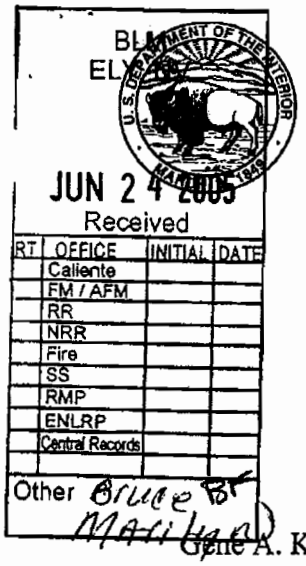


United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Arizona Strip Field Office
345 East Riverside Drive
St. George, Utah 84790
www.az.blm.gov

In Reply Refer To:
1790

June 20, 2005

Gene A. Kolkman, Field Manager
Ely Field Office
U.S. Bureau of Land Management
HC 33, Box 33500
Ely, Nevada 89301

Dear Mr. Kolkman:

The Arizona Strip District Office (ASDO) and the St. George Field Office (SGFO) of the U.S. Bureau of Land Management appreciate this opportunity to provide comments in response to the April 8, 2005, Federal Register "Notice of Intent to Prepare an Environmental Impact Statement (EIS) and Initiate the Public Scoping Process" (beginning at page 18043). As you know, this EIS would analyze potential effects from, as well as alternatives to, the Southern Nevada Water Authority's (SNWA) proposed Clark, Lincoln, and White Pine Counties Groundwater Development Project. Since the ASDO and SGFO are co-located in St. George, Utah, at the address shown above, we believe that it may be most efficient to provide you with a combined response; hence this joint reply letter.

The Arizona Strip is located north and west of the Colorado River in northwestern Arizona. The ASDO oversees the management of 2.8 million acres, including two relatively new national monuments (Grand Canyon-Parashant and Vermilion Cliffs) and eight wilderness areas. Two of these wilderness areas (Beaver Dam Mountains and Paiute) and one of these national monuments (Grand Canyon-Parashant) occur to the south and southwest of St. George, Utah, and generally near or adjacent to the Nevada border. These public lands contain some of the most remote, primitive, and isolated property in the continental United States. There is a strong public interest in maintaining these valuable characteristics. The ASDO is coordinating the current planning process for these BLM-administered Arizona Strip lands. A Draft Plan/Draft EIS is being finalized and should be released for public review and comment this coming fall. The outcome of this planning and environmental analysis process should be the adoption and implementation of three RMPs, one for each of the two national monuments and one for the Arizona Strip Field Office lands roughly between the monuments.

The SGFO manages approximately 630,000 acres of public lands in Washington County, Utah, that also may be affected by the proposed action; the Washington County boundary abuts Lincoln County, Nevada, north of Mesquite. This office also manages a portion of statutorily designated Beaver Dam Mountains Wilderness (2,690 acres in Washington County), Joshua Tree Instant Study Area/National Natural Landmark (1,015 acres), 11 Wilderness Study Areas (WSAs), and 10 designated ACECs within its administrative boundaries. Five of the 10 designated ACECs derive their relevance and importance as special management areas based on the occurrence of the Beaver Dam Wash and Santa Clara River systems and their associated riparian values within their boundaries. These are important regional watersheds, and any potential SNWA project-related impacts to them must be thoroughly addressed in the draft environmental impact statement (DEIS).

With this background in mind, the ASDO and SGFO are concerned about the SNWA's proposed groundwater development project because we do not have reliable information on the source, status, or trend of groundwater resources that sustain many springs, seeps, and other surface waters on the Arizona Strip (including in the above-referenced national monument and wilderness areas near the Nevada border) and in Washington County in Utah. Nor do we know whether there may be any hydrological connection with aquifers in Nevada or Utah that could be affected by SNWA's proposed groundwater withdrawals.

For example, we understand that there may be parts of the North White River flow system in Nevada that contribute groundwater seepage under or through the Clover/Bull Valley Mountains/Escalante Desert that contributes to the surface flows of the Beaver Dam Wash and Santa Clara River systems. If such a hydrologic connection exists, the proposed SNWA groundwater withdrawals could potentially affect surface water flows in Beaver Dam Wash, as well as groundwater availability around and to the communities of Beaver Dam and Littlefield (north of the Virgin River). As such, there could be possible adverse impacts on a number of sensitive biological resources, including the federally-listed Southwestern Willow Flycatcher, several endangered native fish, as well as other special status species and the riparian and aquatic habitats that they need for survival. One of the last reported locations for Relic Leopard Frogs in the wild is in the riparian habitats at or near the confluence of Beaver Dam Wash and the Virgin River.

Moreover, through a land sale negotiated by The Conservation Fund, BLM received title to the Pakoon Springs Ranch in Arizona. The primary benefit derived from this in-holding acquisition within the Grand Canyon–Parashant National Monument is the series of abundant springs that provide exciting opportunities for riparian restoration and special status species recovery. These springs were stable and consistently abundant even during the recent prolonged drought, and the water is warm indicating that it may come from a great depth. The source of these springs is unknown, but due to their high volume, stable flow, and warmth, there is speculation that they may derive from a fault line or system that may extend over a long distance. Although the Virgin Mountains separate this area from Nevada, the ASDO does not know if there are any faults or other geologic features under these mountains that could potentially allow transfer of groundwater. If there are

any such connections, then the proposed project could potentially effect these springs and the resources that are or may become dependent on this water.

As you know, Kathleen Harcksen represented the ASDO at the May 10, 2005, scoping meeting in Cedar City, Utah. Her objective was to add the Arizona Strip to your scoping "radar screen," and the ASDO understands that she was successful in doing so. The ASDO also appreciated the conference call on May 24, 2005, and learning that the Fillmore BLM office may be coordinating a Utah BLM task force to assist in providing unified scoping comments. At this time, neither the ASDO nor the SGFO may be able to participate on this task force, due to staff and budget constraints. As such, we believe that it may be best to submit this letter with our initial scoping comments for the record, and then to also participate on the Utah BLM task force if we are able to do so.

If you have any questions on this response or need additional information, please contact Richard Spotts, ASDO Environmental Coordinator, at 435 688-3207 or Dawna Ferris-Rowley, SGFO Assistant Field Office Manager, at 435-688-3216. We look forward to working with you, and we would be happy to provide any desired clarification or further information concerning our comments.

Sincerely,

Roger G. Taylor
Arizona Strip District Manager

James D. Crisp
St. George Field Office Manager

cc: Laurie Ford, Acting ASFO Manager
Dennis Curtis, GCPNM Manager
Darla Sidles, NPS Superintendent, GCPNM
Sherry Hurst, Fillmore FO Manager

Scoping Comments: Number 2557

Unite **Interior**

BUREAU OF INDIAN AFFAIRS
WESTERN NEVADA AGENCY
311 East Washington Street
Carson City, NV 89701

IN REPLY REFER TO:
Real Property Management
(775) 887-3570
Southern Nevada Water Authority – Groundwater Withdrawal Eastern Nevada

JUN 0 7 2005

Bruce Flinn
Bureau of Land Management, Ely Field Office
Attn: Clark, Lincoln, and White Pine Counties
Groundwater Development Project Scoping Comment
HC33, Box 33500
Ely, Nevada 89301-9408

Dear Mr. Flinn:

I'm writing to respond to a scoping letter dated April 8, 2005 that was sent to this office concerning the proposed development of groundwater resources on public land by Southern Nevada Water Authority.

This office has identified the following issues I would like to see discussed in the Environmental Impact Statement that is being prepared for this project:

1. With a proposed withdrawal of 180,000-acre feet, there is a general concern about the effects to plants, animals and other resources that Indian people within the State of Nevada use in a utilitarian manner. Would plants used in basket making, cradleboard making, or ingredients for traditional foods, for instance, be impacted if the water withdrawal reduced or eliminated ground or surface waters? How would the effect on deer or other game animals affect the ability of Indian people in Nevada to continue traditional pursuits?

2. The proposed project of 180,000-acre feet of water withdrawal with a portion coming from Spring Valley is of particular concern. The Goshute Tribe, whose Reservation is just north of the proposed withdrawal, uses Spring Valley resources to maintain their cultural continuity. A discussion of impacts on plants, animals and other resources used in a utilitarian manner by Goshute Tribe needs to be included.

3. The proposed project is projecting a withdrawal of 180,000-acre feet of water. What would be the effect of the proposed drawdown on groundwater and springs, slated in Segment 2, to the nearby Moapa Band of Paiute's Reservation's water resources? Would wells and springs on the Reservation be affected? Wells and springs within the Reservation boundaries are critical for livestock production as well as cultural continuity for this tribe.

337

4. If 180,000-acre feet of groundwater are to be taken for this project from public land, there needs to be a discussion of this type and magnitude of withdrawal in light of the Winter's Doctrine that would apply to Moapa Band of Paiute's, Goshute and other Indian Tribes associated with Eastern Nevada. Would there be a conflict between BLM's Trust responsibilities to Indian Tribes and the proposed action?

Please keep this office on the mailing list for this project. If there are questions concerning the issues or if you need a point of contact in this office for this project, please contact Rita Suminski.

Sincerely,

Robert A. Hart

Superintendent

Enclosure (1) Comment sheet

SNWA/EIS

~~1587~~
1589
7 10/27/05

Scoping Comments: Number 3482

Department of Energy
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193-8518

JUN 17 2005

Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301-9408

SCOPING COMMENTS - SOUTHERN NEVADA WATER AUTHORITY'S (SNWA) PROPOSED GROUNDWATER DEVELOPMENT PROJECT

Thank you for the opportunity to review the scoping document for the Environmental Impact Statement (EIS) covering the proposed action. As the land manager for the Nevada Test Site (NTS), the National Nuclear Security Administration Nevada Site Office (NNSA/NSO) has a continuing interest in activities that occur in the vicinity of the NTS.

The following are broad scoping comments regarding potential impacts as a result of the Bureau of Land Management granting Right-of-Way to the SNWA to develop the infrastructure and proceed to withdraw groundwater from Clark, Lincoln, and White Pine counties:

1. Under "Proposed Issues to be Addressed," key issues appear to be identified primarily as "effects of water development on aquifers present in and down gradient of proposed pumping". NNSA/NSO believes that effects on adjacent aquifers should also be analyzed, i.e., the potential impact on aquifers in the Yucca Flat and Frenchman Flat groundwater sub-basins, which include much of the area where underground nuclear testing was previously conducted. The scientific uncertainty of radionuclide migration should be factored into the decision making process to protect the integrity of future water use.

2. The impacts of large groundwater withdrawals from other public (i.e., Nye County) and private water entities need to be considered in the cumulative analysis of this action. Also, any known future proposals by SNWA to withdraw groundwater from other basins should be included in this EIS.

Thank you for this opportunity to provide input to the scoping phase of this EIS. Any questions you have may be directed to Bruce W. Hurley of my staff, who may be reached at 702-295-1284.

Kenneth A. Hoar, Director
Environment, Safety & Health Division

ESHD:LMC-5296
ENV 11-01

1784

SNWA/EIS

Scoping Comments: Number 5404

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: (775) 861-6300 ~ Fax: (775) 861-6301

July 22, 2005
File No. BLM 7-11

Bruce Flinn, Project Manager
Bureau of Land Management
Attn: Clark, Lincoln, and White Pine Counties
Ground-Water Development Project Scoping Comments
HC33, Box 33500
Ely, Nevada 89301-9408

Dear Mr. Flinn:

Subject: Scoping Comments on the Proposed Clark, Lincoln, and White Pine Counties Ground-Water Development Project

The U.S. Fish and Wildlife Service (Service) has received the Bureau of Land Management's (BLM) notice of intent to prepare an Environmental Impact Statement (EIS) for the issuance of Rights-of-Way (ROW) for the Southern Nevada Water Authority's (SNWA) proposed Clark, Lincoln, and White Pine Counties Ground-Water Development Project. The proposed action anticipates the construction of a primary water-conveyance pipeline extending north from Las Vegas through Coyote Spring, Delamar, Dry Lake, and Spring Valleys, with secondary lateral pipelines into Tikaboo Valley North, Cave, and Snake Valleys. The infrastructure would include approximately 335 miles of buried pipeline; six total pumping stations in Coyote Spring, Tikaboo Valley North, Spring, and Snake Valleys; a 40-acre water treatment site in the Apex area; a 20-million gallon underground water storage facility in northeast Las Vegas Valley; 250 miles of 230 kV overhead powerline; 95 miles of 69 kV overhead powerline; two primary substations; two hydro turbine energy recovery facilities in Dry Lake and Coyote Spring Valleys; and roads and temporary staging areas needed for project construction and maintenance. Currently, all identified infrastructure is planned within Nevada.

4404a

We understand that the analysis will include consideration of the environmental impacts associated with ground-water withdrawal. The proposal identifies seven hydrographic basins from which ground water would be extracted, as well as potential well exploratory areas within each of these basins. The exact location and number of wells has not been identified, and it is currently unknown how many wells will be located in the carbonate-rock versus basin-fill aquifer. It is anticipated that the total volume of water to be developed and conveyed through the pipeline would be approximately 180,000 acre-feet per year (afy). However, SNWA has applications or permitted water rights for up to 218;370 afy from the basins to be developed, including Snake Valley (50,680 afy), Spring Valley (91,220 afy), Cave Valley (11,580 afy), Tikaboo Valley North (14,170 afy), Dry Lake Valley (11,580 afy), Delamar Valley (11,580 afy), and Coyote Spring Valley (27,560 afy).

37 We are providing the following comments for your consideration. Our comments are provided under the authorities of the National Environmental Policy Act of 1969, as amended; the Endangered Species Act of 1973, as amended; the Migratory Bird Treaty Act of 1918, as amended; the Bald Eagle Protection Act of 1940, as amended; the National Wildlife Refuge System Administration Act of 1966, as amended by Public Law 105-57 (National Wildlife Refuge System Improvement Act of 1997); the Fish and Wildlife Coordination Act of 1934, as amended; and other appropriate federal mandates and regulations. Our comments will address issues we feel need to be included in the EIS as well as biological implications of the proposed infrastructure and ground-water withdrawal. Our comments are based on the information that has been provided in the scoping package, which lacks specifics regarding well numbers, locations, and the exact amount of water to be withdrawn from each basin. This necessitates general comments on the potential hydrological and biological impacts until the geographic extent of water drawdowns and the implications for specific aquatic resources are better understood.

Hydrological Concerns

The proposal calls for ground-water withdrawal from seven widely distributed hydrographic basins in east-central and southern Nevada covering approximately 200 miles in a general north-south direction. These basins all lie within the carbonate-rock province and are hydrologically connected to neighboring basins to varying degrees, thus greatly expanding the geographic extent of impacts. The basins to be developed fall within three regional ground-water flow systems: Great Salt Lake Desert, Colorado, and Death Valley. While barriers to ground-water flow have been identified within these regional systems, the degree to which certain geologic structures function as barriers remains uncertain. Considering the hydrological connectivity of the hydrographic basins in these regional aquifers, the proposed project could impact water resources from the
38 — Great Salt Lake Desert in western Utah to Death Valley, California. We request that the EIS evaluate potential impacts to water resources in basins down and up-gradient of sites to be developed, including all significant regional springs within the affected flow systems; and that hypothesized barriers to ground-water flow are field tested to evaluate their effectiveness.

Additionally, the basin-fill and carbonate-rock aquifers are hydrologically connected to each other throughout the carbonate-rock province, but the extent of this connectivity is
3 uncertain or unknown in many areas. A comprehensive knowledge of the basin-fill and carbonate-rock aquifers, as well as site-specific information on the degree of connectivity between the two aquifers will be necessary to effectively predict impacts to surface waters, springs, and wetland areas. Water withdrawals have the potential to affect many
7 aspects of ground-water and surface-water flow. Issues that need to be addressed in the EIS include but are not limited to: the ecological impact of decreased discharge, surface-water flow, ground-water levels, and evapotranspiration rates; changes in ground-water and surface-water temperatures; decreased recharge rates; changes in ground-water gradients and flow directions; reduction in pressure gradients and changes to head pressure of springs; intrusion of saline water and other changes in water quality; soil compaction, subsidence, and cracking; and other effects to thermal springs. These impacts will likely be exacerbated by the lack of return flow into local aquifers, as all water will be exported out of developed basins to Las Vegas Valley.

16 The Service is particularly concerned with the large amount of water to be withdrawn from Spring and Snake Valleys in east-central Nevada and western Utah. These two valleys are part of the Great Salt Lake Desert regional flow system, encompassing an area from Spring Valley, Nevada east to the Great Salt Lake Desert and south through Tule, Hamlin, Pine, and Wah Wah Valleys in Utah. High water tables, spring discharge, and subsurface flow in this area support important wet meadow complexes and aquatic habitats. Ground water is generally thought to flow in an easterly and northerly direction, with most ground water discharging through evapotranspiration and discharge at regional springs before reaching the terminal sink at the Great Salt Lake Desert. Fish Springs is a principal regional discharge point from the Great Salt Lake portion of the carbonate-rock aquifer, and the area supports a large wetland complex. The discharge in this area greatly exceeds local recharge, and it is thought that much of the emanating water at Fish Springs is from subsurface flow originating in Spring, Snake, Tule, Wah Wah, and Pine Valleys. This regionally important area is a National Wildlife Refuge (NWR) managed by the Service. We request that the EIS address all issues mentioned in the preceding paragraph as it pertains to Spring and Snake Valleys, as well as down and up-gradient basins that are hydrologically connected to these valleys (including but not limited to springs in Wah Wah Valley, Tule Valley, and Fish Spring Flat).

34 The remaining hydrographic basins to be developed, with the exception of Tikaboo Valley North, are in the White River flow system within the Colorado regional flow system. Major regional (spring) discharge areas for the White River flow system are found in White River, Pahranagat, and Moapa Valleys. All of these areas provide important perennial water sources that support many aquatic and/or riparian-obligate
39 species. Due to hydrological connectivity of basins in this flow system, pumping within Dry Lake, Delamar, and Coyote Spring Valleys could negatively impact the water resources in Pahranagat and Moapa Valleys and the EIS needs to address these potential impacts. Possible hydrological connectivity between Cave Valley and White River Valley needs to be investigated, as well as areas of potential connectivity between the

Meadow Valley flow system and: 1) the White River flow system to the west, and 2) the Great Salt Lake Desert regional flow system to the north.

Tikaboo Valley North is at the northern edge of the Ash Meadows flow system within the Death Valley regional flow system. Ground-water flow is generally in a southerly and westerly direction with major regional (spring) discharge areas in the Amargosa Desert at Ash Meadows with some ground water continuing down-gradient to emanate at springs
7 in Death Valley, California. We request that the EIS consider impacts of pumping in Tikaboo Valley North on regional springs within the Ash Meadows flow system extending into Death Valley, California; as well as potential impacts to water rights and important springs in Indian Springs and neighboring Las Vegas Valley (Corn Creek) and Pahranagat Valley (Hiko, Ash, and Crystal Springs).

The complexity of these ground-water flow systems makes it extremely difficult to
13 predict the type and magnitude of impacts. However, the analysis in the EIS must rely on predictive modeling tools such as the recently published USGS Death Valley regional ground-water flow model to assess potential impacts of the proposal. The models will need to incorporate a comprehensive understanding of all variables affecting flow; recharge; discharge; and volume, source, and extent of water resources in order to adequately assess potential impacts. Additionally, the models should incorporate all on-going and reasonably foreseeable future pumping, including pumping from basins hydrologically connected to those being developed as part of this proposal. To the extent possible, future impacts to water resources related to long-term drought and global climate change should be considered. Lastly, in order to assess the long-term sustainability of this proposal, we recommend that the EIS evaluate both short-term (< 25 years) and long-term (100-200 years) impacts. We recommend that models that have not been field validated are clearly identified, and that the effects of model uncertainty and non-uniqueness also be incorporated into the assessment.

21 We are also concerned with the timeline for the Clark, Lincoln, and White Pine Counties Ground-Water Development Project, which puts completion of the EIS prior to that of the Basin and Range Carbonate Aquifer System Study (BARCASS) led by the U.S. Geological Survey (USGS), Desert Research Institute (DRI), and the State of Utah. The BARCASS study, congressionally mandated under the Lincoln County Conservation and Development Act of 2004, will assess the ground-water flow system in an area that overlaps the northern extent of the Clark, Lincoln, and White Pine Counties Ground-Water Development Project area. We view the BARCASS study as important to understanding regional flow patterns, and information from this study should be considered in the analysis for the current ground-water pumping proposal. Additionally, USGS recently finished a model of the Death Valley Regional Flow System (DVRFS), available on the web at http://regmod.wr.usgs.gov. We suggest use of the DVRFS model to assess impacts related to the withdrawal of water from Tikaboo Valley North, but again recommend that the effects of model uncertainty and non-uniqueness be incorporated into the assessment.

Lastly, we question how impacts will be assessed when it is unknown how much water the Nevada State Water Engineer will appropriate, how much of any future appropriated water SNWA will develop from each valley, the number and geographic location of wells, whether wells will be located within the basin-fill or carbonate-rock aquifer, and what stipulations may develop from the yet-to-be-negotiated Utah-Nevada compact for transfer of water mandated in the afore-mentioned Lincoln County Lands Act. Seasonality of pumping will also likely determine the degree and extent of impacts to local aquifers, and potentially even to regional aquifers. In light of these uncertainties, we suggest that a wide range of plausible scenarios be considered, modeled, and analyzed, including the worst-case scenario that all applied for and currently held water rights by SNWA (and others) will be developed, and also that all wells are located in either the carbonate-rock aquifer or the basin-fill aquifer.

Biological Concerns – Aquatic and Riparian Resources

General

Depletion of ground water within the project area could have significant impacts on many wetlands and riparian areas in western Utah and east-central and southern Nevada. In the arid west, these systems are limited in extent and have been greatly reduced due to past and on-going management actions. A large percentage of vertebrate species, as well as many invertebrates, rely on these areas for some or all of their life cycle, including highly specialized and localized species, rare species (including those federally listed as threatened or endangered), migratory birds, and terrestrial wildlife.

Many of the areas in western Utah and eastern Nevada were covered by water during the Pleistocene epoch, including Spring, Snake, and Cave Valleys. Snake Valley was one of the first basins isolated as a result of the desiccation of Pleistocene Lake Bonneville. The withdrawal of Lake Bonneville and other Pleistocene lakes resulted in hydrologic isolation and a high degree of endemism in the species present. Many of these valleys now consist of a series of wetland or wet meadow complexes fed by springs at the base of the mountains and subsurface flow in the valley floor. Many endemic species persist and depend on these habitats.

Desert wetland biomes are a critical element in maintaining biodiversity, and any loss of these areas could result in loss of species, local populations, and/or genetic diversity. Pumping from these valleys could cause significant water drawdown and drying effects that further isolates once or currently connected populations of aquatic species. These species may exist in a metapopulation structure or rely on the occasional immigration of individuals to maintain genetic variability and population viability. Lowering of water levels in pools and streams could lead to changes in water temperature, flow rate, and water quality, including changes in sedimentation rates and debris input, all of which could pose serious problems to highly specialized and localized aquatic species. Small, shallow pools will also be more vulnerable to desiccation during periods of drought. Additionally, the potential for intrusion of saline waters could pose serious problems to aquatic species and nesting birds. For example, relatively high water salinity has been

shown to adversely affect growth, development, and survival of Canada goose (*Branta canadensis*) goslings at Fish Springs NWR. We request that these types of potential impacts to aquatic resources be analyzed in the EIS.

4 Pumping relatively large amounts of ground water from these areas could result not only in the loss, but also the simplification of aquatic and riparian systems by creating conditions that favor establishment of non-native over native vegetation. The non-native saltcedar (*Tamarix ramosissima*) is better able to establish and thrive in areas with lowered water tables and increased soil salinity than native, broadleaf riparian tree species. Saltcedar is fast growing and has high reproductive rates, with seeds that can tolerate desiccation and germinate and survive in highly saline soils. Whether or not saltcedar uses more water than native riparian tree species, such as cottonwood (*Populus fremontii*), is still uncertain. Regardless, a comprehensive understanding of the water and soil requirements of native versus non-native riparian vegetation, and the ability of native vegetation to persist and successfully reproduce under the conditions ultimately created by this project, as well as other on-going or reasonably foreseeable ground-water or surface-water development projects, needs to be understood and addressed in the EIS.

17 The ecological consequences of shifting to a non-native plant dominated community in areas that are still predominantly native should be addressed. There are many studies on the ecological changes caused by non-native plants, as well as studies on wildlife use of non-native vegetation which can be used for this assessment. Lastly, lowered water tables may result in stunted growth of some phreatophytic tree species, and riparian forests in affected areas may not attain the structural complexity found in unaltered systems. This in turn could affect the aquatic environment, including water temperature, primary productivity, and leaf litter/debris input. We ask that these concerns are also addressed in the EIS.

Aquatic or Riparian-Dependent Wildlife Species

As mentioned above, many vertebrate and invertebrate species depend on desert wetland and riparian areas at some point in their life cycle. This includes many species that are federally endangered or threatened, as well as those that are candidates for federal listing and/or considered sensitive by state wildlife resource agencies (Utah Division of Wildlife Resources, UDWR; California Department of Fish and Game, CDFG) and/or natural heritage programs (Nevada Natural Heritage Program, NNHP). (Hereafter, species on
43 these state lists are simply referred to as sensitive species). A list of federally endangered, threatened, proposed, and candidate species that may be impacted by this project are available as an attachment to this letter (Table 1). The Service developed this list based on an initial evaluation of the potential impacts of ground-water withdrawals from the carbonate-rock aquifers of east-central Nevada, both within hydrographic basins to be developed and neighboring areas likely to be impacted due to hydrological connectivity. However, the geographic area that may be affected by this project is still largely unknown, and we may need to modify this list as potential impacts are better understood.

Most of the endangered, threatened, or sensitive aquatic species within the project area are restricted to isolated habitats and are already greatly impacted due to the presence of non-native species and/or past or current water and land management practices. However, it is important to keep in mind that even common species may undergo sudden and quick population crashes; and any species or population whose distribution and persistence is dependent on desert wetland and riparian areas may be susceptible to global or local extirpation as a consequence of elimination or alteration of these areas.

Two federal candidate species may be affected by the proposed action: yellow-billed cuckoo (*Coccyzus americanus*; Western U.S. DPS) and Nevares Spring naucorid bug (*Ambrysus funebris*). Candidate species receive no legal protection under the Act, but could be proposed for listing in the near future. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions. The yellow-billed cuckoo- a sensitive species in Utah (UDWR), endangered in California (CDFG), and sensitive in Nevada (NNHP)- is extremely rare in the project area, with known occurrences in Pahranagat Valley, Warm Springs Ranch in Moapa Valley, lower Meadow Valley Wash, Ash Meadows, and along the Amargosa River, Inyo and San Bernardino counties, California. The distribution of yellow-billed cuckoos in Utah is poorly understood. It is likely a rare breeder in low-elevation riparian habitats statewide and has been observed at Fish Springs NWR. The decline of this species in the western U.S. is related to destruction and alteration of riparian habitat, including the loss of dense shrub layers and/or early successional stages of riparian forest. For breeding, the cuckoo is largely associated with sizeable patches of dense (high canopy cover and foliage volume), multi-storied, cottonwood-willow forest as these areas provide ideal nest sites and a high abundance of preferred prey species. However, even riparian areas not suitable for breeding may be important dispersal and migration corridors for this species and other numerous migratory bird species.

The Nevares Spring naucorid bug is limited to the Travertine-Nevares Springs Complex in Death Valley National Park. This species' presence and abundance is related to water velocity and depth, plant cover, and substrate size, all of which are impacted by water diversion practices. The extremely limited distribution of this species makes it extremely vulnerable to extirpation from water management activities that decrease spring discharge and outflow.

The EIS should include an analysis of project impacts to sensitive, non-federally listed aquatic species, including but not limited to the least chub (*Iotichyhys phlegethontis*) and Columbia spotted frog (*Rana luteiventris*; West Desert DPS) in western Utah; relict dace (*Relictus solitarius*) in Spring Valley; White River desert sucker (*Catostomus clarki intermedius*), Preston White River springfish (*Crenichthys baileyi albivallis*), and White River speckled dace (*Rhinichthys osculus* ssp.) in White River Valley; Pahranagat speckled dace (*Rhinichthys osculus velifer)* and Pahranagat dace (*Rhinichthys* sp.*)* in Pahranagat Valley; Meadow Valley Wash desert sucker (*Catostomus clarki* ssp.) and Meadow Valley Wash speckled dace (*Rhinichthys osculus* ssp.) in upper Meadow Valley Wash; and Moapa White River springfish (*Crenichthys baileyi moapae*), Virgin River chub (*Gila seminude;* Muddy River population), and Moapa speckled dace (*Rhinichthys osculus moapae*) in the Muddy River/Springs area.

The only remaining naturally occurring and relatively unthreatened populations of least chub are present in the Gandy Salt Marsh, Bishop Springs, and Leland Harris spring complex of Snake Valley. Columbia spotted frogs in the West Desert Geographic Management Unit occur in wetlands and riparian areas of Snake Valley and Deep Creek Valley. Valley habitats are spatially isolated from each other, but share hydrologic connections during high water events. Periods of high water provide connectivity among the populations and an opportunity for genetic mixing. Even partial reductions in ground water could alter habitat conditions and extirpate populations of these sensitive species.

The Columbia spotted frog and least chub have both been petitioned for listing under the Act in the past, and they are currently managed under separate interagency Conservation Agreements/Strategies. Conservation Agreements are voluntary cooperative plans among resource agencies that identify threats to a species and implement conservation measures to proactively conserve and protect species in decline. Threats that warrant a species' listing as a sensitive species by state and federal agencies and/or as threatened or endangered under the Act should be significantly reduced or eliminated through implementation of Conservation Agreements, thus improving the species' status and
17 hopefully reducing the need to list under the Act. Planning and implementation for this project should ensure consistency with the least chub and Columbia spotted frog (West DPS) Conservation Strategies by avoiding ground-water and surface-water depletions that affect suitable habitat conditions for these species. Copies of the Conservation Agreements and Strategies are available from the Utah Fish and Wildlife Service Office, 2369 West Orton Circle, Suite 50, West Valley City, Utah 84119, 801-975-3330.

Other endemic, aquatic vertebrates that coexist in these environments include the Utah chub (*Gila atraria*) and speckled dace (*Rhinichthys osculus*). A loss or unnatural reduction of water to these systems could affect these and other endemic, aquatic species of Snake Valley. These species depend on high water tables that promote conditions suitable for reproduction and provide ideal nursery habitats.

We ask that the EIS examines potential project impacts to sensitive aquatic invertebrate species. Aquatic invertebrates, including mollusks, provide an invaluable role in maintaining ecosystem function. They are a part of most food chains and are responsible for recycling plant and animal waste in soils and waters. Macroinvertebrates are extremely sensitive to changes in local water conditions, making them excellent indicators of water quality and environmental health. This sensitivity to environmental change, as well as their limited distribution and dispersal ability, renders many aquatic
35 invertebrate species susceptible to global or local extirpation. We understand that surveys of invertebrates in springs and wetlands of the valleys proposed for ground-water development are currently being conducted; however, survey results have not been finalized and the comprehensiveness of surveys needs to be evaluated.

The mollusk California floater (*Anadonta californiensis*), a species of concern in Utah (UDWR), is known to occur in Snake Valley at Redden spring north of Callao. However, surveys to determine the extent of their distribution in Snake Valley and Deep Creek Valley are incomplete. Mussels were historically an integral component of aquatic

4dnh

ecosystems in this region, and species of the genus *Anadonta* have an extensive fossil record in the Great Basin, extending back to the Tertiary period. Historically, four species and one subspecies of *Anadonta* have been reported from the Bonnneville drainage, although the number of species represented in the fossil record or historical survey record has not been firmly established. Populations of this genus appear to be in a state of rapid decline in the western U.S., and the California floater is considered the only extant species in the Bonneville Basin. The California floater has an obligatory, parasitic larval stage (glochidia) involving suitable, presumably endemic host fish. Water diversions and modifications to lotic habitats, as well as introductions of exotic fish species have led to the extirpation of many populations of California floater. Ground-water withdrawals that alter aquatic habitats required by this species or its obligatory host would likely extirpate *Anadonta* from affected locations.

Other known species of mollusks within the project's area of impact include at least 4 species in the Great Salt Lake Desert regional flow system, 6 species in the White River flow system of the Colorado regional flow system, and 16 in the Death Valley regional flow system. Species of particular concern include but are not limited to the longitudinal gland pyrg (*Pyrgulopsis anguina)*, found only in Big Springs in White Pine County, Nevada and Clay Spring in Snake Valley, Millard County, Utah; the northwest Bonneville pyrg (*Pyrgulopsis variegata*), which is known from 8 springs in far western Box Elder County and from one spring in extreme northwestern Tooele County, Utah; bifid duct pyrg (*Pyrgulopsis pecularias*), which is known from 2 springs in White Pine County and 6 springs in Millard County; and Hubbs pyrg (*Pyrgulopsis hubbsi*) and Pahranagat pebblesnail (*Pyrgulopsis merriami*), found in the Pahranagat Valley. Spring development and water diversions, as well as limited geographic distributions make these species extremely vulnerable to local and/or global extirpation.

The Service, BLM, National Park Service (NPS), and U.S. Forest Service (USFS), are signatory to a 1998 Memorandum of Understanding (MOU) outlining a cooperative effort to conserve springsnails and their habitats in the Great Basin. Project planning should occur in accordance with this MOU and its habitat conservation guidelines inasmuch as this project will occur on or affect lands managed by these agencies.

We also ask that you consider potential project impacts to water-dependent plant species, such as the federally threatened Ute ladies'-tresses (*Spiranthes diluvialis*), that may occur in the hydrographic basins to be developed as well as basins that are hydrologically connected. The Ute ladies'-tresses was located in the Snake Valley on the Bagley Ranch in Callao, Utah in 1956 and was last confirmed at the Bagley Ranch in 1994. Potential habitat for this species exists in this area and needs to be surveyed. In Nevada, this species is known from one historic location near Panaca, Lincoln County. This population may no longer be extant, but a lack of comprehensive surveys of potential habitat in Lincoln and White Pine counties makes the status of this species in Nevada uncertain. Ute ladies'-tresses are endemic to moist soils in mesic or wet meadows near springs, lakes, or perennial streams. They require permanent sub-irrigation, indicating a close affinity with floodplain areas where the water table is near the surface throughout the growing season and into the late summer or early autumn. Based on available habitat

440

type, Ute ladies'-tresses may have been more widespread on valley floors of the project area prior to livestock grazing. The two most frequent threats to extant Ute ladies'-tresses populations are dewatering and competition from non-native weeds, both of which could result or be exacerbated by this project. Additional surveys are needed to determine its presence and distribution in Snake Valley and east-central Nevada.

7 The springs and emergent marshes that are scattered throughout western Utah and east-central and southern Nevada provide important resting areas, foraging locations, and breeding grounds for a host of migratory birds. The importance of these wetlands is defined in part by their rarity. Slope and spring-fed wetlands are often dozens of miles apart; consequently, they are sites of high diversity, and attract and concentrate birds both spatially and temporally. A reduction in the number and/or size of the wetlands in this arid region could force birds to change migratory routes, foraging areas, and nesting locations, which could lead to a loss in productivity and overall population size. Consequently, birds may become more susceptible to stochastic events, resulting in short-term loss of productivity or extirpation of local populations. Several of the species on the Service's 2002 list of Birds of Conservation Concern are aquatic or riparian-dependent birds that may be found in the project area (Table 2). This list identifies those migratory and non-migratory avian species that are of highest conservation concern, and thus should receive highest priority for conservation action to prevent future listing under the Act.

Riparian zones in the arid west are areas of extremely high biodiversity. The presence of surface water and/or shallow ground water supports aquatic vegetation, broadleaf deciduous trees, and high invertebrate densities. For many wildlife species, this equates to shelter, shade, and abundant food and nesting resources in an otherwise stark landscape. Many bird species in the arid west use riparian forests during migration or depend on these areas for nesting or over-wintering. Additionally, many birds that nest in riparian areas require a dense layer of shrub vegetation or sapling trees as well as a tall, over-hanging canopy. This shrubby layer may be highly sensitive to ground water drawdowns and fluctuations, and the proposed project may effectively remove nesting habitat for many avian species. Riparian corridors are also extremely important to other taxa, including fish, amphibians, and mammals. The effects of ground-water withdrawals on the structural diversity of riparian forests, as well as the effect on vertebrate and invertebrate diversity, density, and species richness should be examined in the EIS. Additionally, consideration must be given to the fact that the majority of western riparian forests have been lost, highly modified, and/or greatly stressed by current land and water management practacies. How much additional stress these systems can take without collapsing is unknown.

38 We ask that the BLM consider potential impacts to bats in the project analysis and planning phases. There are 18 species of bats known to occur in Utah and 23 species in Nevada. Eleven bat species have been documented in southern Spring and/or Snake hydrographic basins and may be affected by the proposed action: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*)*, big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*)*, small-footed myotis (*Myotis ciliolabrum*)*, long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*),

western pipistrelle (*Pipistrellus hesperus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). Nine other bat species have been found in similar habitats nearby, in other hydrographic basins that are part of this proposal, or in areas that are hydrologically connected to the basins proposed for ground-water development (e.g., Pahranagat Valley, Muddy River): California leaf-nosed bat (*Macrotus californicus*)*, Allen's lappet-browed bat (*Idionycteris phyllotis*)*, western red bat (*Lasiurus blossevillii*)*, western yellow bat (*Lasiurus xanthinus*)*, spotted bat (*Euderma maculatum*)*, fringed myotis (*Myotis thysanodes*)*, little brown myotis (*Myotis lucifugus*)*, Yuma myotis (*Myotis yumanensis*), and big free-tailed bat (*Nyctinomops macrotis*)*. Three of the bat species (C. *townsendii, I. phyllotis, and N. macrotis*) found on UDWR's sensitive species list potentially occur within the project area in Utah; and 10 species on NNHP's sensitive animal list potentially occur in the project area in Nevada (indicated with an asterix above), including one species (*E. maculatum*) that is state protected under Nevada Revised Statutes 501.

19 The various seeps, springs, and marshes influenced by ground water are of critical importance to bats foraging in desert environments. Many bat species' foraging grounds are restricted to areas relatively close to watering sites. Bats usually require open water large enough to drink from while flying; consequently, many water guzzlers, small streams, and cattle troughs are insufficient water sources for these species. The
20 elimination of one well-located, adequately-sized spring could eliminate several square miles of foraging habitat for some bat species. This is especially true for *C. townsendii*, which have very narrowly defined roosting requirements and short flight distances, usually foraging no more than a few miles from the roost site. Additionally, many of the above mentioned species use caves and/or mine shafts or adits as roost sites. Ground-
25 water drawdowns could alter the microclimate (e.g., humidity, temperature) of some caves and mines, rendering them uninhabitable to the bats that depend on them. Other potential impacts associated with this project include loss of foraging and roosting habitat for species that use riparian areas and increased mortality due to powerline collisions. We ask that you consider these potential project impacts in the analysis for the EIS.

30 Lastly, springs and spring-fed wetlands are very important to terrestrial mammals in desert environments. Pronghorn antelope (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), badger (*Taxidea taxus*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), and kit fox (*Vulpes macrotis*) are all frequent users of western Utah and east-central Nevada's spring-fed wetlands. Much of the upland habitat that these species utilize is available to them because of spring-fed surface waters. Without these water sources, the amount of suitable habitat for certain terrestrial species would be significantly reduced. We ask that an analysis of these impacts be included in the EIS.

Biological Concerns – Terrestrial Resources

General

Direct impacts on the terrestrial environment will result from construction of the infrastructure associated with this project. Concerns for terrestrial wildlife can generally be summarized as loss and/or degradation of habitat, habitat fragmentation, direct mortality, and other impacts that decrease or diminish survival and population persistence, at least at the local scale. Removal of vegetation along the 300-foot-wide ROW, and construction of access and/or maintenance roads and staging areas will further fragment the landscape, potentially isolating or restricting movements of terrestrial species inhabiting the area. Roads and other infrastructure could cause direct wildlife mortality through collisions, and public access to certain areas may be improved, thus increasing the potential for poaching or indirect take. Wildlife may alter their behavior, distribution, and density near these linear corridors, and dispersal and/or migration patterns may be disrupted. Additionally, bighorn sheep (*Ovis canadensis*) and other species may be negatively influenced by the construction, operation, and maintenance of infrastructure facilities in key wintering, breeding, and/or dispersal areas. Lastly, project-related activities may facilitate the incursion or spread of non-native, invasive plants, thus altering the fire ecology of this area.

Above-ground powerlines increase the opportunity for bird and bat strikes and raptor electrocution, including potential electrocution of wintering bald eagles (*Haliaeetus leucocephalus*). We understand that consideration has been given to burying the powerlines associated with this project, and that it was deemed unfeasible for the larger lines but possible for the smaller lines. We ask that consideration be given to burying all lines to the greatest extent possible. Additionally, we ask that above-ground lines follow the April 2005 Avian Protection Plan Guidelines prepared by the Avian Powerline Interaction Committee, which includes membership from the electric utility industry and the Service. This document is available online at the Service's Division of Migratory Bird Management website at http://migratorybirds.fws.gov. Powerlines will also likely increase the density of raptors and corvids in the project area by providing additional perch and nesting habitat. Many species of migratory birds could be negatively impacted by this increase in raptorial predators along the ROW . Common ravens (*Corvus corax*) are known predators of young desert tortoises, and the potential increase of ravens in desert tortoise habitat will need to be addressed in the analysis for the EIS.

The potential for large-scale impacts to phreatophytic communities is great, both within the basins to be developed as well as hydrologically connected basins. Many riparian tree species are phreatophytic, including obligate (*Salix*, *Populus*) and facultative (*Prosopis*, *Tamarix*) species. We already addressed concerns regarding potential impacts of ground-water pumping on riparian vegetation and wildlife within the *Aquatic and Riparian Resources* section, including how reductions in ground-water availability could reduce the extent of riparian vegetation and change the composition of vegetative communities from native to non-native species and from mesic to xeric species, resulting in a decrease in biodiversity. Additionally, growth form, canopy height and foliage volume could vary with water availability, potentially resulting in few to no full-statured trees in areas with greater depth to ground water. These concerns, as well as the sensitivity of phreatophyte species to ground-water fluctuations, should be fully analyzed in the EIS.

I We also ask that the EIS address the potential for impacts to cave and karst systems. Karst features are formed by the dissolution of calcium carbonate in bedrock by mildly acidic ground water. Topographic features include sinkholes, sinking streams, large springs, and caves. Cave and karst systems are present throughout the carbonate-rock province and the action area, including Crystal Ball Cave near Gandy warm springs and numerous other cave systems throughout the entire project area. An inventory of species in cave and karst systems of this area has not been done. The structural integrity of the features in these caves is compromised during periods of low moisture. Karst areas also make for tremendous ground-water pollution potential. Ground water can travel quite rapidly through these underground networks and contaminants, including ash produced from fires could be transmitted quickly to wells and springs in the vicinity. Pumping stations could potentially introduce contaminants that would affect water quality throughout the system.

Terrestrial Wildlife Species

15 We are concerned with the potential impacts of this project on sensitive terrestrial species, including but not limited to desert tortoise (*Gopherus agassizi*), banded Gila monster (*Heloderma suspectum cinctum*), pygmy rabbit (*Brachylagus idahoensis*), and greater sage-grouse *(Centrocercus urophasianus*). The banded Gila monster is a species of concern in Utah (UDWR) and a Nevada sensitive species (NNHP). The Gila monster resides primarily in the Mojave desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. This species is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive lizard. Given that the Gila monster may occur within the project area, we ask that you consider potential impacts to this species in the analysis for the EIS. We also encourage you to minimize project impacts to any existing populations and suitable habitat for this species.

89 The Mojave desert tortoise, which was federally listed as threatened in 1990 with critical habitat designated in 1994, is found throughout the southern extent of the proposed project area in Clark County and southern Lincoln County. This project could result in direct mortality and/or displacement of desert tortoises; habitat destruction, deterioration, and fragmentation; increased predation risk from common ravens; construction-related introduction and spread of invasive, non-native plants- specifically red brome (*Bromus rubens*) and Sahara mustard (*Brassica tournefortii*)- which alters the fire ecology of the Mojave desert ecosystem and provides poor forage for tortoises; and indirect effects associated with human population growth and incursion into desert tortoise habitat, including but not limited to increased risk and spread of disease, predation by feral or domestic dogs, illegal collection, and increased recreational use of desert tortoise habitat, especially as it relates to Off Highway Vehicles. The proposed project will also affect the Mormon Mesa Critical Habitat Unit (CHU), as the pipeline ROW and a well field is proposed in this area. Therefore, we ask that the analyses for the EIS consider impacts to the primary constituent elements of this CHU, such as all environmental features that support nesting, foraging, sheltering, dispersal, and/or gene flow and are considered essential to conservation of this species.

The pygmy rabbit, a species of concern in Utah (UDWR) and a sensitive species in Nevada (NNHP), is a habitat specialist which requires tall, dense sagebrush for food and shelter, and deep, loose soils for digging its burrows. The pygmy rabbit is absent from large areas of the sagebrush ecosystem within its range, and where it does occur it is patchily distributed. However, this species' distribution is not well known, and continuing survey efforts as well as a multi-party effort to develop range-wide survey guidelines will help improve our understanding of distribution patterns. This species was petitioned for listing under the Act in April 2003. While the Service found that the petition did not provide substantial information to indicate that listing may be warranted, the narrow habitat requirements and patchy distribution of this species may make it susceptible to local declines and extirpation due to various land-management activities. The proposed project could impact local pygmy rabbit populations by removing and/or fragmenting sagebrush habitat; increasing vulnerability to predation by removing vegetation (cover) and by providing raptor perches along electrical powerlines; increasing the spread of non-native, invasive plants that alter the fire ecology of the sagebrush ecosystem; and inducing human population growth in areas that are still relatively unmodified by people. We recommend that the analysis for the EIS consider these
18 potential impacts to the pygmy rabbit. Additionally, we encourage you to survey the proposed project area for pygmy rabbits prior to any ground disturbing activity as previously instructed in BLM Instructional Memorandum #NV-2003-064, and to consider the needs of this species as you complete project planning and implementation.

The greater sage-grouse, a species of concern in Utah (UDWR) and a sensitive species in Nevada (NNHP), is dependent on sagebrush for winter, nesting, and early brood-rearing habitat. This species requires large, interconnected expanses of sagebrush, though minimum patch size requirements for maintaining greater sage-grouse populations are unknown. The proposed pipeline and other associated infrastructure could directly impact this species through removal and/or fragmentation of sagebrush habitat. We are also concerned with potential destruction or modification of greater sage-grouse lek sites, particularly where the proposed corridor passes through Cave, Lake, Spring, Steptoe, and Snake Valleys. Powerlines could impact local greater sage-grouse populations by providing perch and nest sites for known predators (raptors and corvids), and by direct injury or mortality through collision with structures. Other concerns associated with the proposed infrastructure include but are not limited to those associated with roads (collision, behavioral avoidance); potential spread of non-native, invasive plants such as cheatgrass (*Bromus tectorum*) that alter the fire ecology of the sagebrush ecosystem;
35 impacts associated with construction and/or road noise, which may interfere with mating displays at leks; and the potential for increased human presence and population growth in areas that are still relatively unmodified by people. This species could also be impacted by ground-water withdrawals that dewater the wet meadows and riparian areas used for brood rearing: during the late summer months, greater sage-grouse move to mesic areas where high insect and forb densities provide needed food for their young. We ask that the analysis for the EIS consider these potential impacts to greater sage-grouse populations in east-central Nevada and western Utah. The Western States Sage and Columbian Sharp-tailed Grouse Technical Committee, under direction of the Western Association of Fish and Wildlife Agencies, has developed and published guidelines to manage and protect greater sage-grouse and their habitats in the Wildlife Society Bulletin. We also recommend that you follow all appropriate management guidance provided in the June, 2004 *Greater sage-grouse Conservation Plan for Nevada and*

4460n

Eastern California, including the *Lincoln County Sage Grouse Conservation Plan* and the *White Pine County Portion (Lincoln/White Pine Planning Area) Sage Grouse Conservation Plan*, which are provided as appendices to the larger conservation plan. All of the above mentioned documents are available at http://www.ndow.org/wild/sg.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et. seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Infrastructure development may result in direct take of birds and/or active nests (those with eggs or young), which is in violation of the
10 MBTA. Therefore, we recommend land clearing or surface disturbance be conducted outside the avian breeding season to avoid potential destruction of bird nests or young, or birds that breed in the proposed project area. If this is not feasible, we recommend a qualified biologist survey the proposed project area prior to land clearing or surface disturbance. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, and carrying nesting material or transporting food) is observed, a protective buffer (size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

19 We are also concerned that the project may impact several plant species listed as sensitive under the NNHP: Las Vegas bearpoppy (*Arctomecon californica*), threecorner milk-vetch (*Astragalus geyeri* var. *triquetrus*), and Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*). While the Las Vegas buckwheat has been recommended for full protection under State law, the other two species are listed as critically endangered by the State of Nevada under Nevada Revised Statutes (NRS) 527.260-.300. For these species, no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the State Forester (NRS 527.270). Requests for permits should be directed to the State Forester, Nevada Division of Forestry at 2525 South Carson Street, Carson City, Nevada 89701, (775) 684-2500. It should be noted that many of the plant species on Nevada's critically endangered list are not federally listed by the Service because of the protection afforded to them under the State law. Consideration of these species during project planning and early coordination with the State is important to assist with species conservation efforts and to prevent the need for Federal listing actions in the future.

Geographic Areas of Concern

35 We are concerned that the proposed development of the carbonate-rock aquifers in east-central Nevada will have far-reaching effects on deep ground-water reservoirs, overlying basin-fill aquifers, and spring and surface flows that are fed by ground-water inflow from the hydrographic basins to be developed. Areas of immediate concern are Fish Springs, Juab County, Utah; Snake Valley, Utah and Nevada; Shoshone Ponds in Spring Valley, Nevada; the Upper White River system and the Flag Springs complex in White River Valley, Nevada; Hiko, Crystal, and Ash Springs and outflow streams including the Pahranagat River in the Pahranagat Valley, Nevada; Upper Meadow Valley Wash springs and outflow streams in Nevada; and Muddy River Springs and outflow in Nevada. These areas support a variety of listed (Table 1) and sensitive species that may be negatively

impacted by the depletion of surface-water flows. We recommend you consider the cumulative effects of depleted surface-water flows on the aquatic species of these areas during the environmental documentation process, and consider alternatives that would avoid or minimize, to the maximum extent practicable, any adverse effects to water resources and associated aquatic species of these areas.

6 Several areas recognized as Important Bird Areas (IBA) may be impacted by the proposed project. These areas are recognized by the National Audubon Society, working through partnerships such as the North American Bird Conservation Initiative, as places that are either locally or globally important for the maintenance of bird populations. A site may qualify as an IBA if it supports one of the following: species of conservation concern, such as threatened or endangered species; restricted-range species; species whose populations are concentrated in one general vegetation community or biome; or species, or groups of similar species that congregate in high densities in a particular area. The IBAs that may be impacted by this project include but may not be limited to: Fish Springs NWR IBA; David E. Moore Sanctuary IBA, which lies along the entrance road to the Great Basin National Park; Pahranagat Valley IBA, which includes the Pahranagat Valley NWR and the Key-Pittman Wildlife Management Area; Ash Meadows NWR IBA; Moapa Valley IBA, which includes the Moapa Valley and the upper reaches of the Muddy River; and Meadow Valley Wash IBA, which includes that portion of Meadow Valley Wash from approximately the Lincoln-Clark County line to just south of Caliente. If the hydrological analysis for this project indicates impacts to surface waters in Elko County, then the Ruby Lake IBA may also be impacted. Additionally, several high-elevation mountain IBAs may be impacted indirectly, if not directly, by this project: Spring Mountains IBA; Sheep Range IBA on the eastern edge of the Desert National Wildlife Range; Northern Snake Range IBA; and Great Basin National Park IBA. Conservation needs for most of the IBAs in Nevada have been identified and are available at http://www.nevadaaudubon.org.

7A Several NWRs may be impacted by the proposed project, primarily through impacts to ground and surface-water resources and Service-held water rights. Refuges that may be affected include Fish Springs, Pahranagat, Moapa Valley, Desert, and Ash Meadows. Additionally, we ask that potential impacts to upgradient sites, including Ruby Lake NWR also be considered if the hydrological analysis indicates this is necessary. Most of these refuges were established to protect water resources and water-related habitats, such as lakes, wetlands, marshes, thermal springs, and riparian areas; and the species that depend on them. These areas host a variety of highly specialized species found nowhere else in the world, including many of Nevada and Utah's native fish species and several rare wetland-dependent plants. Additionally, these areas provide invaluable stop-over grounds, staging areas, and wintering grounds for migratory birds, as well as breeding grounds for a variety of water bird and riparian-obligate species. We ask that the analysis for the EIS consider potential impacts to all of the NWRs that may fall within the area of impact for this project.

Fish Springs NWR is currently managed as a wetland bird migration area, with over 270 different species of birds visiting or residing within its spring-fed borders. Fish Springs

is considered a regional discharge point for ground-water in the carbonate-rock aquifer of the Great Salt Lake Desert regional flow system. Springs in this area are primarily recharged in the Deep Creek Range to the west, and to a lesser extent in the Fish Springs Range; but they also receive deep ground-water flow from Snake and Spring Valleys.
5 We are concerned that the proposed pumping of ground water from Spring and Snake Valleys could cause a flow reversal that would seriously deplete the water available to the refuge. A reduction in ground-water levels could result in a large-scale loss of several phreatophytic plant species that are found in the transition zone between the Fish Spring marshes and the mixed desert scrub community, as well as potentially disrupt migratory routes and breeding grounds for many species of waterbirds.

11 Efforts are currently underway to establish least chub on Fish Springs NWR. During Fall 2004, portions of the refuge were drained, burned, and allowed to stay dry and freeze over winter in an effort to reduce the non-native mosquitofish (*Gambusia affinis*) from the system. Least chub sources from Snake Valley have been held in refugia at the UDWR Fisheries Experiment Station where they have reproduced. Introduction of these least chub to the refuge's rehabilitated ponds is scheduled for summer 2005. Recently, consideration has been given to breaching the dikes of the refuge and allowing the springs to revert to a more natural desert wetland ecosystem.

19 Pahranagat NWR contains lakes, wetlands, and riparian habitat fed from large, thermal springs in the floodplain, including Ash Springs north of the refuge. These springs are regional discharge points for the White River flow system. The refuge hosts over 230 bird species and is primarily managed for wetland migratory birds, particularly waterfowl. Three federally listed species that are known from the refuge are the Southwestern willow flycatcher (*Empidonax traillii extimus*; breeding), bald eagle (wintering), and desert tortoise. The Pahranagat NWR is also being assessed as a potential refugium site for the endangered Pahranagat roundtail chub (*Gila robusta jordani*). Several other species of concern may be found on the refuge, including Pahranagat Valley montane vole (*Microtus montanus fucosus*) and Townsend's big-eared bat. Much time, effort, and money has been directed toward improving water management and aquatic resources on the refuge for the benefit of wildlife. If the proposed project results in a reduction in ground-water levels at the refuge, the Service's investment to improve this area may not be realized or the benefit may be substantially reduced.

34 Moapa Valley NWR was established to secure habitat and assist the recovery efforts for the endangered Moapa dace (*Moapa coriacea*), a species restricted to the Warm Springs area and the mainstem of the upper Moapa River. Springs in this area are considered regional discharge points for the carbonate aquifer of the White River flow system and are critical for the Moapa dace, which is dependent on thermal spring outflows for successful reproduction. Other species of concern on the refuge include Moapa pebblesnail (*Pyrgulopsis avernalis*), Moapa White River springfish, Virgin River chub (Muddy River population), and several bat species that are primarily found in this part of Nevada. The Service is concerned about potential impacts to the thermal spring

environments, riparian, and wetland areas of the Muddy River drainage; and the numerous species found therein.

The proposed pipeline borders the eastern edge of the Desert National Wildlife Range along Coyote Spring Valley, and the northern edge in Tikaboo Valley. The Desert NWR was established primarily to protect the desert bighorn sheep and its habitat. There are several springs and spring-fed ponds on the refuge, including at Corn Creek, which harbors a population of the endangered Pahrump poolfish (*Empetrichthys latos*). Additionally, the federally threatened desert tortoise is known from the refuge. We are
9 concerned that the proposed project may impact desert tortoise and bighorn sheep movement, dispersal, and survival; and that potential ground-water drawdowns will impact important wildlife watering areas and refugia for endangered fish.

10 Ash Meadows NWR provides habitat for at least 24 plants and animals found nowhere else in the world, most of which are dependent on the spring-fed wetland habitats on the refuge. This list of endemic species includes 5 federally endangered species (4 fish, 1 plant) and 5 federally threatened species (1 invertebrate, 4 plants), as well as many sensitive species. This concentration of endemism distinguishes Ash Meadows from all other sites in the United States. There are over 30 seeps and springs on the refuge; these being regional discharge points for the carbonate aquifer of the Death Valley regional flow system. The Service is concerned about potential impacts to Ash Meadows' spring system from pumping within Tikaboo Valley North hydrographic basin, and we request that the EIS include an analysis of the potential for such an impact.

22 Ruby Lake NWR is located within the Ruby Valley ground-water flow system, sandwiched between the Colorado and Great Salt Lake Desert flow systems. Since Ruby Lake NWR falls outside the flow systems from which ground-water will be withdrawn for this project, we do not expect impacts to the refuge. However, the refuge lies just northwest and up-gradient of the current proposed ground-water withdrawal, and ground-water modeling may yet indicate that a concern for refuge resources exists. Ruby Marsh supports over 220 species of birds, providing important nesting habitat for wetland birds and waterfowl, including the largest population of nesting canvasbacks (*Aythya valisineria*) west of the Mississippi River excluding Alaska. Relict dace, found in only a few basins in northeastern Nevada, can be found at Ruby Lake NWR, as well as a small population of Lahontan speckled dace (*Rhinichthys osculus robustus*). We ask for your consideration of potential impacts to spring-fed wetlands in this area if the hydrological analysis indicates that such a concern exists.

National Environmental Policy Act Requirements and Considerations

Potential Alternatives

31 Per Sec. 1502.14 of National Environmental Policy Act (NEPA) regulations, all reasonable alternatives, including those not within the jurisdiction of the lead agency and the alternative of no action, must receive substantial treatment so that an adequate comparison can be made. We request that the EIS contain a detailed analysis of all reasonable alternatives in order to assess impacts to terrestrial and water resources,

balancing the needs of urban Las Vegas, rural Nevada, wildlife, and the environment to determine if benefits outweigh anticipated costs (including potential loss of biodiversity).

Indirect Effects

Indirect effects and their significance must be addressed per Sec. 1502.16 (b) and Sec. 1508.8 (b) of NEPA regulations. For this particular action (the granting of a ROW permit), the indirect effects may be of much greater consequence than the direct effects, greatly expanding the potential geographic area of impact and the number of species potentially affected. While the scoping package identifies some likely indirect effects, including ground and surface-water depletion, we ask that the following indirect effects are also considered in the analysis for the EIS. One indirect effect that was not mentioned in the scoping package is the increased risk of fire that may result from project-related spread of invasive weeds and the dewatering of the project area. If these basins become dry, they will be extremely susceptible to fire, which could spread from the valley bottoms to nearby mountain ranges via brush-covered drainages. For example, fire could rapidly spread from Snake Valley into the drainages of the Snake Range and Deep Creek Mountains. For at least 30 years, the reestablishment of the Bonneville cutthroat trout (*Oncorhynchkiss clarki utah*) into the Deep Creek range has been an ongoing effort of the BLM, Trout Unlimited, Goshute Tribe, UDWR, and others. Also, Great Basin National Park, Ely BLM, Trout Unlimited, Nevada Department of Wildlife, Humboldt-Toiyabe National Forest, and the Service have been working to restore the Bonneville cutthroat trout to eight streams in Spring and Snake Valleys near or on Great Basin National Park, Nevada. Fire effects on trout include the introduction of toxic ash into streams and the removal of riparian vegetation that provides overhead and lateral cover for shading and cooling of streams, as well as a food source for fish. The Bonneville cutthroat trout is currently being managed under a Range-wide Conservation Agreement and Strategy and was recently re-petitioned for listing under the Act. Although this proposed project would not directly affect the streams that this species inhabits, it could indirectly affect the species and its habitat through increased risk of fire.

29 Many terrestrial species that are not directly dependent on water sources will still be affected by vegetation changes that may occur from loss of sub-surface water. The Utah prairie dog (*Cynomys parvidens*) and desert tortoise are both listed under the Act as threatened and occur within the impact area. Other species that may be affected by induced vegetation changes in the impact area include but are not limited to: banded Gila monster, pygmy rabbit, and greater sage-grouse. Indirect impacts to these species will need to be addressed in the EIS in respect to potential vegetation change, increased urbanization, habitat fragmentation, increased predation rates, and other factors that decrease the chances of survival of local populations.

30 NEPA regulations, Sec. 1508.8 (b) directs the analysis of potential growth inducing effects related to changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Obviously, the proposal will induce growth in the Las Vegas area and associated impacts will need to be considered. Impacts associated with the growth of Las Vegas include but are not limited to: loss, degradation, and fragmentation of the Mojave Desert outside Las

Vegas; increased recreational use of surrounding sensitive resources, such as the Spring Mountains National Recreation Area; and a net increase in pollutants such as oil, grease, pesticides, nutrients, and pharmaceuticals, into Lake Mead and downstream waters. Also, the potential to stimulate growth at points along the pipeline seems enormous, and the opportunities for current or future communities to tap into the pipeline needs to be explored in full. Water applications in these valleys are greater than what is proposed for development at this time. The EIS should explain how pipeline size for this project relates to the amount of water that is proposed for development, and whether the pipeline is being sized so that greater amounts of water could potentially be transported to Las Vegas Valley in the future.

Cumulative Impacts

12 NEPA regulations, Sec. 1508.7 directs the analysis of cumulative impacts on the environment resulting from the proposed action when considered with past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Therefore, we request that the analysis consider all ongoing and reasonably foreseeable ground-water pumping and surface-water diversion projects within the hydrographic basins to be developed and all other basins hydrologically connected to these basins. We further ask that a quantitative analysis be done as to the cumulative impact of ground-water pumping *and* surface-water diversions on water
13 resources and the species that depend on them. Actions that must be considered in the cumulative impacts analysis include but are not limited to: 1) ground-water pumping in Coyote Spring and Lake Valleys and infrastructure related to the Coyote Springs Investment residential development; 2) SNWA water rights permits and/or applications for 8,900 afy from Tikaboo Valley North, Tikaboo Valley South, Three Lakes Valley North, and Three Lakes Valley South, and infrastructure related to the proposed development of these resources; 3) the SNWA Muddy-Virgin River surface diversion project; 4) potential SNWA development of other basins to supply water to Las Vegas, such as Railroad Valley; and 5) all other known permits or applications for water rights that may be granted in the foreseeable future. Lastly, we ask that a detailed analysis of cumulative impacts be provided for each alternative action under consideration.

Other actions that should be included in the cumulative impacts analysis include mining, prescribed fire, wind power energy, electric power, and gas or oil development projects that have, are, or may be reasonably expected to occur within the project area, including the proposed expansion of the Ely airport and the proposed White Pine Power Plant. All of these actions have the potential to impact water resources, vegetation, and the species that depend on these resources. Other ROW permit applications related to water developments that are pending in the Ely office need to be analyzed for cumulative effect, including Lincoln County Water District's Tule Desert and Kane Springs water pipelines.

Bureau of Land Management Policy

Per Section 1502.16 of NEPA regulations, the EIS analysis shall include consideration of possible conflicts between the proposed action and the objectives of other land use plans, policies, and controls for the area concerned. Policy and guidelines for BLM special status species management are clearly laid forth in Bureau Policy 6840. The objectives of the special status species policy are to: 1) conserve listed species and the ecosystems on which they depend, and 2) ensure that actions requiring authorization or approval by the Bureau are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of the 6840 policy. Additionally, Policy 6840 expressly states that the Bureau will ensure that all activities affecting the populations and habitats of listed species are designed to be consistent with *recovery* needs and objectives. We request that BLM strictly adhere to this policy when considering ROW permit requests associated with ground-water development proposals such that actions do not lead to the endangerment or extirpation of our native aquatic fauna and flora.

16 BLM is currently directed to achieve and maintain 75 percent of riparian areas in "proper functioning condition." Additionally, riparian vegetation composition, structure, and cover should occur within site potential. There is approximately 3,100 acres of riparian and/or wetland vegetation on the Ely District, an area that encompasses much of the proposed project area. In the draft Ely BLM Resource Management Plan, the preferred management alternative for these sensitive areas is to focus on uses and activities that allow for protection, maintenance, and restoration. We ask that BLM consider whether approval of this proposed ROW permit is or can be made consistent with Bureau directives and goals for managing these sensitive habitats.

Other Concerns

25 Finally, it is important that the project analysis consider any impacts to the conservation efforts being implemented and the 79 species covered under the Clark County Multiple Species Habitat Conservation Plan (MSHCP), a plan permitted under section 10 of the Act. We also recommend close coordination with agencies and organizations involved in other planning efforts for the area to ensure that the proposed project does not conflict with future conservation measures or actions under development through these efforts, including the Lincoln County Habitat Conservation Plan (HCP) and the Coyote Springs Investment HCP. Additionally, this project needs to be coordinated with BLM's proposed issuance of a ROW permit to SNWA and the Moapa Valley Water District for a water-conveyance system and its potential effects to the Mojave desert tortoise and Moapa dace. Cumulative effects to federally listed species from these planning efforts should also be considered in the proposed project analysis, where appropriate.

If you have any questions regarding this correspondence or require additional information, please contact me at (775) 861-6300 or Annalaura Averill-Murray at (775) 861-6319.

Sincerely,

Robert D. Williams
Field Supervisor

Enclosures

cc:

Assistant Field Supervisor, Southern Nevada Field Office, U.S. Fish and Wildlife Service, Las Vegas, Nevada
Field Supervisor, Utah Ecological Services Office, U.S. Fish and Wildlife Service, West Valley City, Utah
Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California
CNO Manager, California-Nevada Operations Office, U.S. Fish and Wildlife Service, Sacramento, California
Regional Director, Fish and Wildlife Service, Portland, Oregon, (Attn: Tim Mayer)
Regional Director, Fish and Wildlife Service, Denver, Colorado, (Attn: Patricia Fiedler)
Project Leader, Fish Springs National Wildlife Refuge, U.S. Fish and Wildlife Service, Ibapah, Utah
Project Leader, Desert National Wildlife Refuge Complex, U.S. Fish and Wildlife Service, Las Vegas, Nevada
Refuge Manager, Ruby Lake National Wildlife Refuge, U.S. Fish and Wildlife Service, Ruby Valley, Nevada
Supervisory Biologist-Habitat, Nevada Department of Wildlife, Las Vegas, Nevada
Supervisory Biologist-Fisheries, Nevada Department of Wildlife, Las Vegas, Nevada
Director, Nevada Department of Wildlife, Reno, Nevada
Regional Supervisor, Nevada Department of Wildlife, Ely Field Office, Ely, Nevada
Director, Utah Division of Wildlife Resources, Salt Lake City, Utah

Table 1. Federally listed, proposed, and candidate species and critical habitat that may be affected by the Clark, Lincoln, and White Pine Counties Ground-Water Development Project.[a]

Common Name	Scientific Name	Counties[b]	Geographic areas of concern
Endangered Species			
Amargosa vole	*Microtus californicus scirpensis*	Inyo	Tecopa, Amargosa Canyon
Southwestern willow flycatcher	*Empidonax traillii extimus*	Lincoln, Clark, Nye, Inyo, San Bernardino	Pahranagat NWR; lower Meadow Valley Wash; Warm Springs Ranch; Ash Meadows NWR; Amargosa Canyon, Shoshone/Tecopa area
Yuma clapper rail	*Rallus longirostris yumanensis*	Clark, Nye	Lower Muddy River; Ash Meadows NWR
Least Bell's vireo	*Vireo bellii pusillus*	Inyo, San Bernardino	Amargosa Canyon, Shoshone/Tecopa area, Saratoga Springs, Furnace Creek, Scotty's Castle in Death Valley National Park
White River springfish	*Crenichthys baileyi baileyi*	Lincoln	Ash Springs and outflow
Hiko White River springfish	*Crenichthys baileyi grandis*	Lincoln	Crystal and Hiko springs and outflow
Devils hole pupfish	*Cyprinodon diabolis*	Nye	Devils Hole, Death Valley National Park
Ash Meadows Amargosa pupfish	*Cyprinodon nevadensis mionectes*	Nye	Ash Meadows NWR
Warm Springs pupfish	*Cyprinodon nevadensis pectoralis*	Nye	Ash Meadows NWR
Pahrump poolfish	*Empetrichthys latos*	White Pine, Clark	Shoshone Ponds; Corn Creek Springs (Desert NWR)
Pahranagat roundtail chub	*Gila robusta jordani*	Lincoln	Pahranagat River south of Ash Springs
White River spinedace	*Lepidomeda albivallis*	White Pine, Nye	Indian Springs (north of Flag Springs) in White Pine County; Flag Springs on Kirch Wildlife Management Area (WMA), Nye County
Moapa dace	*Moapa coriacea*	Clark	Upper Muddy River in the Warm Springs area
Ash Meadows speckled dace	*Rhinichthys osculus nevadensis*	Nye	Ash Meadows NWR
Amargosa niterwort	*Nitrophila mohavensis*	Nye, Inyo	Ash Meadows NWR; Carson Slough; Death Valley Junction area and Tecopa, Inyo County

Table 1, cont. Federally listed, proposed, and candidate species and critical habitat that may be affected by the Clark, Lincoln, and White Pine Counties Ground-Water Development Project.

Common Name	Scientific Name	Counties[b]	Geographic areas of concern
Threatened Species			
Bald eagle	*Haliaeetus leucocephalus*	White Pine, Lincoln, Nye, Tooele, Juab, Millard, Beaver	Traditional wintering areas throughout White Pine County, Pahranagat Valley, and White River Valley (Wayne Kirch WMA), NV; Utah has one of the largest state populations of wintering bald eagle, including areas in Toole, Juab, Millard, and Beaver counties
Desert tortoise	*Gopherus agassizii*	Lincoln, Clark	Mojave desert in north-central Clark County and south-central Lincoln County, Nevada
Railroad Valley springfish	*Crenichthys nevadae*	Nye	Big Warm, Little Warm, North, Hay, Corral, and Reynolds springs in Railroad Valley
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	Lincoln	Condor Canyon (upper Meadow Valley Wash)
Ash Meadows naucorid	*Ambrysus amargosus*	Nye	Point of Rocks Springs, Ash Meadows NWR
Ash Meadows milk-vetch	*Astragalus phoenix*	Nye	Ash Meadows NWR
Spring-loving centaury	*Centaurium namophilum*	Nye	Ash Meadows NWR
Ash Meadows gumplant	*Grindelia fraxino-pratensis*	Nye, Inyo	Ash Meadows NWR; Death Valley Junction area, Inyo County
Ash Meadows ivesia	*Ivesia kingii* var. *eremica*	Nye	Ash Meadows NWR
Ute ladies'-tresses	*Spiranthes diluvialis*	White Pine, Lincoln, Tooele, Juab	Potential for occurrence in east-central Nevada and western Utah where appropriate habitat exists; historic occurrences north of Panaca, NV and in the Snake Valley in Callao, Utah
Critical Habitat			
Amargosa vole	*Microtus californicus scirpensis*	Inyo	Amargosa River area, from just north of Tecopa Hot Springs to the Amargosa Canyon, just south of Tecopa

Table 1, cont. Federally listed, proposed, and candidate species and critical habitat that may be affected by the Clark, Lincoln, and White Pine Counties Ground-Water Development Project.

Common Name	Common Name	Common Name	Common Name
Southwestern willow flycatcher[c]	*Empidonax traillii extimus*	Lincoln, Clark	Pahranagat Management Unit: Key Pittman WMA Pahranagat NWR, and lower Muddy River
Desert tortoise	*Gopherus agassizii*	Lincoln, Clark	Mormon Mesa Critical Habitat Unit in north-central Clark County and south-central Lincoln County
White River springfish	*Crenichthys baileyi baileyi*	Lincoln	Ash Springs and a portion of the outflow stream
Hiko White River springfish	*Crenichthys baileyi grandis*	Lincoln	Hiko and Crystal Springs and portions of their outflow streams
Railroad Valley springfish	*Crenichthys nevadae*	Nye	Big, North, Hay, Corral, Reynolds, Big Warm and Little Warm springs outflow streams and marshes/riparian area within 50 feet
Ash Meadows Amargosa pupfish	*Cyprinodon nevadensis mionectes*	Nye	Big, Bradford, Jack Rabbit, Point of Rocks, Longstreet, Rogers, and Fairbanks Springs, and 3 unnamed springs, Crystal Pool, and portions of all of these springs' outflow streams
White River spinedace	*Lepidomeda albivallis*	White Pine, Nye	Flag, Preston, Big, and Lund Springs
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	Lincoln	Condor Canyon (upper Meadow Valley Wash)
Ash Meadows speckled dace	*Rhinichthys osculus nevadensis*	Nye	Bradford, Jack Rabbit, and Big Springs and portions of their outflow and riparian areas
Ash Meadows naucorid	*Ambrysus amargosus*	Nye	Ten acres surrounding Point of Rocks Springs and their immediate outflow
Ash Meadows milk-vetch	*Astragalus phoenix*	Nye	Ash Meadows (1,200 acres)
Spring-loving centaury	*Centaurium namophilum*	Nye	Ash Meadows, Nye County, Nevada (1,840 acres)
Ash Meadows gumplant	*Grindelia fraxino-pratensis*	Nye, Inyo	Ash Meadows, Inyo County, California and Nye County, Nevada (1,968 acres)
Ash Meadows ivesia	*Ivesia kingii* var. *eremica*	Nye	Ash Meadows, Nye County, Nevada (880 acres)
Amargosa niterwort	*Nitrophila mohavensis*	Inyo	Ash Meadows, Inyo County, Nevada (1,200 acres)

4410X

Table 1, cont. Federally listed, proposed, and candidate species and critical habitat that may be affected by the Clark, Lincoln, and White Pine Counties Ground-Water Development Project.

Common Name	Common Name	Common Name	Common Name
Candidate Species			
Yellow-billed cuckoo	*Coccyzus americanus*	Lincoln, Clark, Nye, Juab, Inyo, San Bernardino	Pahranagat Valley; lower Meadow Valley Wash; Warm Springs Ranch in Moapa Valley; Ash Meadows NWR; Amargosa Canyon, CA; Fish Springs NWR, Utah
Relict leopard frog	*Rana onca*	Clark	Perennial desert springs in the Colorado and Virgin River drainages; Blue Point and Rogers springs
Nevares Spring naucorid bug	*Ambrysus funebris*	Inyo	Travertine Springs Complex in Death Valley National Park

[a] This is an initial species list- the Service will revise this list as the geographic extent of impacts becomes better understood.
[b] Counties in which a species and/or its critical habitat may be impacted by the proposed project.
[c] Critical habitat is proposed for the southwestern willow flycatcher. Critical habitat is designated for all other species on list.

4404

Table 2. Birds of Conservation Concern potentially found in project area (Birds of Conservation Concern 2002, U.S. Fish and Wildlife Service).			
Common Name	Scientific Name	BCR 9[a]	BCR 33[b]
Swainson's Hawk	*Buteo swainsoni*	X	
Ferruginous Hawk	*Buteo regalis*	X	
Golden Eagle	*Aquila chrysaetos*	X	
Prairie Falcon	*Falco mexicanus*	X	
Peregrine Falcon	*Falco peregrinus*	X	X
American Golden-Plover	*Pluvialis dominica*	X	
Snowy Plover	*Charadrius alexandrinus*	X	X
American Avocet	*Recurvirostra Americana*	X	
Solitary Sandpiper	*Tringa solitaria*	X	
Whimbrel	*Numenius phaeopus*	X	X
Long-billed Curlew	*Numenius americanus*	X	X
Marbled Godwit	*Limosa fedoa*	X	X
Sanderling	*Calidris alba*	X	
Red Knot	*Calidris canutus*		X
Wilson's Phalarope	*Phalaropus tricolor*	X	
Yellow-billed Cuckoo	*Coccyzus americanus*	X	X
Flammulated Owl	*Otus flammeolus*	X	
Burrowing Owl	*Athene cunicularia*	X	X
Lewis's Woodpecker	*Melanerpes lewis*	X	
Williamson's Sapsucker	*Sphyrapicus thyroideus*	X	
Loggerhead Shrike	*Lanius ludovicianus*	X	X
Bell's Vireo	*Vireo bellii*		X
Gray Vireo	*Vireo vicinior*	X	X
Bendire's Thrasher	*Toxostoma bendirei*		X
Crissal Thrasher	*Toxostoma crissale*		X
Le Conte's Thrasher	*Toxostoma lecontei*		X
Virginia's Warbler	*Vermivora virginiae*	X	
Sage Sparrow	*Amphispiza belli*	X	X
Brewer's Sparrow	*Spizella breweri*	X	
Black-chinned Sparrow	*Spizella atrogularis*		X
Lark Bunting	*Calamospiza melanocorys*		X

[a] Great Basin Bird Conservation Region

[b] Sonoran and Mojave Deserts Bird Conservation Region

Scoping Comments: Number 550 b

United S

NATIONAL PARK SERVICE

LAKE MEAD NATIONAL RECREATION AREA
601 NEVADA WAY
BOULDER CITY, NEVADA 89005-2426

L7617 (LAME-RM)
XN1621

July 28, 2005

Gene A. Kolkman, Field Manager
BLM – Ely Field Office
HC 33, Box 33500
Ely, Nevada 89301-9408

Re: NPS Scoping Comments Regarding the SNWA's Clark, Lincoln, and White Pine Counties Ground-Water Development Project EIS

Dear Mr. Kolkman:

In accordance with Bureau of Land Management's (BLM) April 8, 2005 request for scoping comments regarding the Clark, Lincoln, and White Pine Counties Ground-Water Development Project (SNWA project), the National Park Service (NPS) presents the following: (This response is intended to identify issues and reasonable alternatives to the proposed action that need to be analyzed in the Environmental Impact Statement (EIS)).

6 The NPS is concerned regarding the potential for springflow and streamflow depletion in national park units as a result of the SNWA project. Infrequent precipitation and long periods of drought are defining characteristics of central and southern Nevada, and many plants and animals that have adapted to this harsh environment will not survive if springflow or stream baseflow ceases or is diminished. Additionally, the region's springs provide water for vegetation and wildlife habitat that create an environment that many park visitors use and enjoy.

If constructed, the pipeline would likely lead to substantial new pumping from the regional aquifer system in central and southern Nevada, including basin-fill aquifers and the regional carbonate-rock aquifer. The regional aquifer system in Nevada is composed of several major 15 ground-water flow systems (Harrill and Prudic[1], 1998), and these provide most of the discharge to large-volume "regional" springs and stream baseflow within the region. Great Basin National

[1] *Harrill, J.R., and Prudic, D.E., 1998, Aquifer systems in the Great Basin region of Nevada, Utah, and adjacent states -- summary report: U.S. Geological Survey Professional Paper 1409-A, pg. A1-A66*

Park is located in eastern Nevada near the up-gradient end of the Great Salt Lake Desert ground-water flow system. Lake Mead National Recreation Area is located in southeastern Nevada at the terminus of the Colorado ground-water flow system. Death Valley National Park is located at the terminus of the Death Valley ground-water flow system that encompasses much of southwestern Nevada and portions of southeastern California. As the proposed ground-water pumping would occur in all three of these major ground-water flow systems, the water resources of all three parks could be adversely affected by the proposed project.

8 Development of ground-water in the regional carbonate-rock aquifer lowers the hydraulic head and eventually causes discharge depletion from regional springs. Furthermore, development of ground-water in basin-fill aquifers induces ground-water to flow from the carbonate-rock aquifer to the basin fill, thus lowering the hydraulic head in the regional system and eventually causing 12 discharge depletion at regional springs. The proposed development would initially remove ground-water held in storage in a regional system that encompasses an immense area. Only after cones of depression (created by pumping) spread out and reach springs or streams, can they capture water from natural discharge. Because of the enormous volume of water and potentially long distances between pumping centers and the springs and streams, discharge depletion can 17 manifest itself subtly after long periods of time. Due to these delays the effects of pumping initially might go unnoticed. Additionally, even if monitoring were to detect streamflow or springflow decline as a result of large-scale ground-water development, it can be anticipated that there would be both social and political pressure at that time to allow pumping to continue.

The NPS has great concern regarding this proposal and is providing three attachments that outline specific issues associated with the SNWA project. These attachments are as follows:

A. Specific Hydrologic scoping issues
B. Specific Biologic scoping issues
C. Logistical and other scoping issues

One specific concern discussed in Attachment A worth noting has to do with the potential cumulative effects associated with the SNWA project. There are several aspects to the issue, 28 including the fact that there are currently two SNWA ground-water exportation projects in review by the BLM that would remove ground-water from the regional aquifer system. These include the subject SNWA project and the SNWA's Three Lakes Valley project. As ground-water pumping associated with these projects could produce similar adverse effects on the resources of Death Valley National Park, the NPS believes that the potential cumulative effects 33 of both of these projects should be analyzed in the subject EIS. Additionally, the NPS has significant concerns regarding cumulative effects that the subject SNWA project could produce due to the pipeline's excess capacity. Specifically, if built, it is reasonable to assume that the pipeline would eventually convey ground-water not currently described by SNWA. Such ground-water could be associated with the conveyance of non-SNWA water, the purchase of existing water rights by SNWA, or the acquisition of new-unaccounted for water rights by SNWA. As the mere existence of a pipeline would make the likelihood of such ground-water development and exportation great, the NPS believes the potential effects of such pumping should be factored into this current EIS analysis.

The core mission of the NPS is to conserve scenery, natural and historic objects, and wildlife, and provide for enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations (NPS Organic Act, 16 USC 1, 2-4). As such and given the potentially significant consequences of long-term, large-scale ground-water pumping within this region, the NPS urges caution in the evaluation of right-of-way alternatives, and urges the development of an extensive monitoring, management, and mitigation program with well-defined action criteria, for whatever final alternative is selected. If you have questions, please do not hesitate to call the designated NPS lead on this project, Chief of Resource Management, Kent Turner, who can be reached at (702) 293-8941.

Sincerely,

William K. Dickinson

Superintendent

Attachments (3)

C

ATTACHMENT A: SPECIFIC HYDROLOGIC SCOPING ISSUES

1. How would pumping ground-water from the regional aquifer system in one hydrographic basin affect hydraulic head (i.e. water levels) in the regional aquifer in other hydrographic basins?

It is generally accepted among hydrologists that the regional aquifer system in the carbonate-rock province underlying Nevada and parts of adjacent States is hydraulically continuous across many individual hydrographic basins. The NPS wants to ensure that the EIS adequately addresses the potential for ground-water pumping within one hydrographic basin to have adverse effects on the hydraulic head in other hydrographic basins within the regional ground-water flow system, and thus the potential for drawdown due to large-scale, long-term ground-water pumping to propagate across hydrographic basins and adversely affect (i.e. diminish) the flow at distant discharge locations such as regional springs in Lake Mead National Recreation Area and Death Valley National Park.

2. How would pumping ground-water from the carbonate-rock aquifer in the regional aquifer system affect hydraulic head (i.e. water levels) in the overlying basin-fill aquifer(s) and vice versa?

There is no clearly identified confining unit that separates the regional carbonate-rock aquifer throughout the carbonate-rock province of Nevada and parts of adjacent States from the overlying basin-fill aquifers within individual hydrographic basins. The NPS wants to ensure that the EIS adequately addresses the potential for large-scale, long-term ground-water pumping: (a) from the basin-fill aquifers to lower the hydraulic head within the regional carbonate-rock aquifer, and for that lowered hydraulic head to propagate across hydrographic basins and adversely affect (i.e diminish) the flow at distant discharge locations such as regional springs in Lake Mead National Recreation Area and Death Valley National Park; and (b) from the regional carbonate-rock aquifer to lower the hydraulic head within the overlying basin-fill aquifers, and for that lowered hydraulic head to propagate laterally to the edge of hydrographic basins and across hydrographic basins and adversely affect (i.e diminish) the flow at discharge locations such as springs in Great Basin National Park.

3. How would pumping ground-water at locations in valley bottoms or along valley sides affect hydraulic head (i.e. water levels) and/or stream and spring flows at locations above the mountain-front/valley interface?

There are many perennial surface-water resources within the area of the proposed project that are located in mountainous areas at and above the mountain-front/valley interface. Many of these water-resource features are likely hydraulically continuous with the basin-fill aquifers beneath adjacent valleys, and thus could potentially be depleted in discharge by the proposed pumping. The NPS wants to ensure that the EIS adequately addresses the potential for large-scale, long-term ground-water pumping to diminish or dry up entirely the discharge of surface-water resources above the mountain-front/valley interface.

4. What effects would the proposed action have on spring flows in the parks?

Spring flows are integral to many park resources including plant and animal life, visitor experience, and the continuation of natural processes that the Park Service is charged to protect.

Great Basin National Park:
Within Great Basin National Park, the mid-and-low elevation springs in the Baker Creek, Lehman Creek, Snake Creek, Strawberry Creek, and Big Wash drainages are most likely hydraulically continuous with the basin-fill aquifer in Snake Valley, and thus with the regional aquifer system. Therefore, ground-water withdrawals from the aquifer(s) in Snake Valley would produce a cone of depression that would expand outward and could dry up flows from these mid and low elevation springs.

Lake Mead National Recreation Area:
Lake Mead National Recreation Area is located at the terminus of the Colorado ground-water flow system of southern Nevada. As such, much of the ground-water pumping associated with this SNWA project would occur up-gradient and would eventually lead to decreased flows in regional springs and seeps located within the park on the east side of the Muddy Mountains above Lake Mead. These vulnerable springs include Rogers Spring, Blue Point Spring, Scirpus Spring, Corral Spring, and several other smaller springs and areas of diffuse seepage. The NPS has a State of Nevada appropriative water right for the flows in Rogers Spring, and claims federally reserved water rights to flows in Rogers, Blue Point, Scirpus, and Corral springs.

Death Valley National Park:
Death Valley National Park is located at the distal end of the Death Valley Regional Flow System (DVRFS). As such, the park could be affected by SNWA ground-water pumping in Tickapoo Valley North, also located within this system. If such pumping were to occur, springs located on the west sides of the Funeral Mountains could be effected including, but not limited to Texas, Travertine, and Nevares Springs. It might take a long time for pumping effects associated with the proposed project to reach these springs. Nonetheless, evidence suggests that these springs are discharging water with at least a component of water derived from the Ash Meadows subsystem of the DVRFS.

5. What effects would the proposed action have on the quality and quantity of park water sources that support administrative, visitor, and domestic uses?

Great Basin National Park:
The water supplies for three campgrounds (Lower Lehman, Upper Lehman, and Baker Creek) as well as the Lehman Cave Visitor Center, administration center, maintenance center, resource management center, and park housing depend upon three spring sources. The mid and low elevation springs in the Baker Creek and Lehman Creek drainages of the park are most likely hydraulically continuous with the basin-fill aquifer in Snake Valley, and thus with the regional aquifer system. Therefore, ground-water withdrawals from the aquifer(s) in Snake Valley would produce a cone of depression that would expand outward and could dry up these mid and low elevation springs.

Death Valley National Park:
Death Valley National Park is located at the distal end of the DVRFS. As such, the park could be affected by SNWA ground-water pumping in Tickapoo Valley North, also located within this system. If such pumping were to occur, Texas, Travertine, and Nevares springs and the Furnace Creek Wash could all be affected. These water sources all provide water for resident and visitor domestic use within the park.

6. What effect would the proposed action have on streams classified by the State of Nevada as Class A waters?

Great Basin National Park:

Baker, Lehman, Pine, and Ridge creeks have been classified by the State of Nevada as Class A waters. Class A waters include waters or portions of waters located in areas of little human habitation, no industrial development or intensive agriculture and where the watershed is relatively undisturbed by man's activity. In addition, the water must be suitable as a habitat for fish and other aquatic life existing in a body of water. Class A waters are the highest designation in the State of Nevada. At low to mid elevations within Great Basin National Park, Baker Creek and Lehman Creek are most likely hydraulically continuous with the basin-fill aquifer in Snake Valley, and thus with the regional aquifer system. Therefore, ground-water withdrawals from the aquifer(s) in Snake Valley would produce cones of depression that would expand outward, intercepting stream flows, and cause streams to lose water more quickly or go dry altogether. This would result in shortened stream reaches at low and mid elevations.

7. What effect would the proposed action have on stream and river flows and the lengths of stream reaches in alluvial and glacial substrates?

Great Basin National Park:

Lehman Creek flows almost exclusively across unconsolidated alluvial and glacial valley-fill deposits at its lower elevations within the park, where it is most likely hydraulically continuous with the basin-fill aquifer in Snake Valley, and thus with the regional aquifer system. Therefore, ground-water withdrawals from the aquifer(s) in Snake Valley would produce a cone of depression that would expand outward, intercepting stream flows, and cause streams to lose water more quickly or go dry altogether. This would result in shortened stream reaches at low and mid elevations.

Lake Mead National Recreation Area:

Lake Mead National Recreation Area is located at the terminus of the Colorado ground-water flow system of southern Nevada, and a great deal of the pumping associated with the proposed project would occur up-gradient. As such, a number of surface water features within the park and their associated river and spring brook flows would decrease. These features include portions of the Virgin and Muddy rivers, as well as spring brooks associated with Rogers Spring, Blue Point Spring, and Scirpus Spring. The NPS has a State of Nevada appropriative water right for the flows in Rogers Spring, and claims federally reserved water rights to flows in Rogers, Blue Point, Scirpus, and Corral springs, as well as the Virgin and Muddy rivers.

Death Valley National Park:

Death Valley National Park is located at the distal end of the DVRFS. As such, the park could be affected by SNWA ground water-pumping in Tickapoo Valley North, also located within this system. If such pumping were to occur, spring brooks associated Texas, Travertine, and Nevares springs as well as the Furnace Creek Wash could all experience decreased flows. In addition, diminished flow caused by a reduction in spring discharge could occur in the lower Amargosa River.

8. What effects would the proposed action have on stream and river flows and the lengths of stream reaches in carbonate substrates?

Great Basin National Park:
The lower and mid reaches of Baker Creek and Snake Creek flow across extensive reaches of carbonate rock. These streams are considered a local base level for the Baker Creek Cave System and caves in the Snake Creek area. The hydrology of these systems is not fully understood and it is believed that these streams may be losing along parts of the reach underlain by carbonate rocks, providing recharge to the cave system. Baker Creek and Snake Creek are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus a cone of depression produced by pumping in Snake Valley or adjacent valleys could expand outward, intercepting filled conduits and/or stream flows, and cause streams to lose water more quickly or go dry altogether. This would result in shortened stream reaches.

9. What effects would the proposed action have on landform changes?

Great Basin National Park:
Ground-water withdrawals can induce landform changes (i.e. sinkholes and/or subsidence) in areas underlain by carbonate rock. The Baker Creek, Snake Creek, and Big Wash watersheds contain significant karst development, and are most likely hydraulically continuous with the regional aquifer beneath Snake Valley.

Death Valley National Park:
The area in the vicinity of Devils Hole and Ash Meadows is underlain by carbonate rock that may be susceptible to ground-water withdrawals and thus similar landform changes.

10. What effects would the proposed action have on the continued decline of water levels within Devils Hole, as well as water levels within Ash Meadows?

Death Valley National Park:
Devils Hole is a detached unit of Death Valley National Park, located in the Amargosa Desert hydrographic basin within the Death Valley Regional Ground-Water Flow System (DVRGFS). As such, water levels within Devils Hole could be adversely affected by SNWA ground-water pumping in Tickapoo Valley North, also located within this flow system. An historic water rights decision in 1976 by the U.S. Supreme Court determined that the NPS has a reserved water right to a certain level of ground-water at Devils Hole. The purpose of this water right is to maintain the water level in Devils Hole, which is also necessary to the survival of the Devils Hole pupfish, an endangered species. Not far from Devils Hole is the Ash Meadows National Wildlife Refuge, which is home to over 23,000 acres of spring-fed wetlands and alkaline desert uplands managed by the U.S. Fish and Wildlife Service. The refuge provides habitat for at least 24 plants and animals found nowhere else in the world, and four fish and one plant located there are currently listed as endangered. Similar to Devils Hole, various ecologically significant surface water features within Ash Meadows could be adversely affected by SNWA's proposed ground-water pumping in Tickapoo Valley North.

11. What effects would the proposed action have on erosion patterns?

Great Basin National Park: Ground-water withdrawal constitutes a lowering of a local base level, which directly influences stream power and erosive potential. A cone of depression produced by ground-water pumping from the regional aquifer system could expand outward, intercepting stream flows, and cause streams to lose water more quickly or go dry altogether.

This would result in shortened stream reaches at low and mid elevations. Loss of vegetation could occur, increasing the risk of stream downcutting and scouring. This would increase the potential for flash flood events in the affected streams. The mid and low elevation reaches of Baker Creek, Lehman Creek, Strawberry Creek, Snake Creek, and Big Wash drainages are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected streams.

12. What effect would the proposed action have on cave forming processes?

Great Basin National Park:

Great Basin National Park contains over 40 caves and additional caves are found every year. In karst areas of the park, cave forming processes are driven by the action of water in carbonate rock. Changes in volume or discharge have great potential to alter these processes. Available data indicate that active cavern development exists in the Baker Creek, Lehman Creek, and Snake Creek watersheds, all three of which are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus may be potentially affected by the proposed ground-water withdrawals.

13. What would be the cumulative effects of the proposed SNWA pipeline project?

There are several aspects to the potential cumulative effects associated with the SNWA project. Firstly, there are concerns that there are currently two SNWA ground-water development and exportation projects in review by the BLM that would remove ground-water from the regional aquifer system. These include the subject SNWA project and the Three Lakes Valley project. Concerns regarding the combination of these two are discussed in Attachment C of the NPS response. Additionally, there are significant concerns regarding the cumulative effects this project could produce due to the pipeline's excess capacity. Specifically, it is reasonable to assume that if built, the pipeline would eventually encourage the proliferation of additional ground-water development that is not currently described as part of the subject EIS. Such ground-water pumping could be associated with the conveyance of non-SNWA water, the purchase of existing water rights by SNWA, or the acquisition of new, unaccounted-for water rights by SNWA in the future. As the mere existence of a pipeline would make the likelihood of such additional pumping and ground-water exportation great, the NPS believes the magnitude of such potential pumping should be estimated and factored into the analysis.

ATTACHMENT B: SPECIFIC BIOLOGIC SCOPING ISSUES

1. **What would the effects of the proposed action be on special emphasis fish, wildlife, or plant species such as those listed under the Endangered Species Act, a Conservation Agreement, a Habitat Conservation Plan, a Memorandum of Understanding, or classified as a NPS sensitive species?**

Great Basin National Park:

Bonneville cutthroat trout (BCT) are under a range-wide conservation agreement to prevent their listing under the Endangered Species Act. The NPS is a signatory, along with the U.S. Fish and Wildlife Service (FWS), U.S. Forest Service (USFS), BLM, states of Utah, Nevada, Idaho, and Wyoming, and several other entities. BCT are considered to be a NPS sensitive species, and the only national park where they are found is Great Basin National Park. In addition, they are listed as a sensitive species by the USFS and have been petitioned for listing twice as threatened under the Endangered Species Act. In September 2004, the FWS received another proposal to list BCT. BCT currently inhabit four park streams: Mill, Strawberry, Snake, and South Fork Big Wash, all of which are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected streams.

At least 52% of the wetlands in Nevada have been dried up through over pumping by the mid 1980s (Dahl and Johnson 1991). Work done by Sada has identified endemic species, especially springsnails, in nearly every wetland and spring in the Great Basin. The proposed ground-water extraction would reduce the area of wetlands and decrease the amount of ground-water discharged by evapotranspiration and to springs. This drying up of surface water expressions could result in extirpation of many endemic and unknown species. The resulting impact to Nevada's biodiversity could be catastrophic. Great Basin National Park has a Memorandum of Understanding with the USFWS, USFS, BLM, and other entities to help protect and preserve Great Basin springsnails. Great Basin springsnails are tiny gastropods that inhabit springs with perennial, clean water. Five species have been identified in Spring and Snake Valleys, with three species endemic to particular springs. Approximately 10 springs within Great Basin National Park contain as-yet-to-be-identified springsnails, including those found in Baker, Can Young, Snake, and South Fork of Big Wash watersheds, all of which are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus would be potentially affected areas. Great Basin National Park is legislatively mandated to manage springs and associated fauna unimpaired for future generations.

Sage grouse populations are declining range-wide and were petitioned for listing under the Endangered Species Act. Sage grouse are managed under an interagency statewide conservation planning effort. The proposed actions would degrade overall habitat effectiveness for sage grouse. Sage grouse appear to avoid areas with tall structures (power poles) possibly as an antipredator defense. Thus, sage grouse would avoid areas several hundred meters on either side of power lines, reducing the quantity of habitat available and fragmenting it. Power lines provide perch and nest sites for raptors and ravens, which increases their effectiveness as predators on sage grouse. Ground-water withdrawal and the associated depletion of springs and loss of riparian areas would reduce or eliminate critical sage grouse brood rearing areas. Sage grouse chicks rely on forbs and green grass that typically are of higher nutritional quality in springs and riparian areas, especially in late summer.

A status review is underway for considering listing the Pygmy Rabbit under the Endangered Species Act. The proposed actions could impact habitat effectiveness for pygmy rabbits. Power poles provide perch and nest sites for raptors, which increase their effectiveness as predators on pygmy rabbits.

Lake Mead National Recreation Area:

17 In partnership with the *Clark County Multi-Species Habitat Conservation Plan,* Lake Mead NRA is currently facilitating the development of a Conservation Agreement for the long-term conservation of the rare Relict leopard frog (*Rana onca*), which is associated with springs located in the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring. The above spring complex comprises one of only two known population areas for this species (the other being in an association of springs within the Black Canyon in Lake Mead NRA). Partners in the team developing this Conservation Agreement include the respective wildlife agencies from the states of Utah, Arizona and Nevada, the USGS, USFWS, BLM, UNLV, UNR, Clark County MSHCP Program, and the SNWA. Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could produce deleterious effects on the existing habitat for this species.

18 Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could also produce deleterious effects on special emphasis flora associated with springs located in the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, Corral Spring, as well as portions of the Virgin and Muddy rivers. These flora include but are not limited to those listed in the *Clark County Multi-Species Habitat Conservation Plan* and the *List of Rare and Uncommon Native Plants of Lake Mead National Recreation Area* with particular emphasis on the following species: *Cirsium virginensis* Virgin Thistle; *Cryptantha virginensis* Virgin River Cryptantha; *Astragalus geyeri* Threecorner milkvetch (Nevada Critically Endangered); *Eleocharis montevidensis* Spikerush; *Eleocharis rostellata* Torreys Spikerush; *Scirpus californicus* California Bulrush; *Scirpus pungens* Common Threesquare.

Death Valley National Park:

28 A unique and important ground-water resource in a detached portion of the park is Devils Hole. This resource was the subject of an historic water rights decision in 1976, in which the U.S. Supreme Court determined that the NPS has a reserved water right to a certain level of ground water at this site. A purpose of the water right is to maintain the water level in Devils Hole to assure the survival of the Devils Hole pupfish, an endangered species. Devils Hole is the only habitat for the Devils Hole pupfish, and is widely accepted as being the smallest habitat for any vertebrate species in the world. Devils Hole pupfish were federally listed as an endangered species in 1967 and underwent population declines in the 1970's as water levels dropped from localized pumping. The spawning shelf where the majority of fish reproduction occurs would be exposed by just a 2-3 foot drop in water levels. Pumping from local and regional aquifers will likely result in the continued decline of the water level in Devils Hole.

Springs located on the west side of the Funeral Mountains, as well as the lower Amargosa River, discharge from portions of the Death Valley regional aquifer system that could be affected by some of the proposed up-gradient ground-water withdrawals. These springs include, but are not

limited to, Texas, Travertine and Nevares. These springs support 10 species of aquatic invertebrates: 8 of these species are endemics, 5 are NPS sensitive, and 1 is a federal candidate species. The Death Valley Blue Eyed Grass (*Sisyrinchium funereum*), Hot Springs Fymbristylis (*Fimbristylis thermalis*), Black Sedge (*Schoenus nigricans*), Sodaville Milkvetch (*Astragalus lentiginosus var. sesquimetralis,* and Tecopa Bird's Beak (*Cordylanthus tecopensis*) are all classified as sensitive species by the NPS and are located at spring areas potentially affected by ground-water withdrawal. The potential is high for other spring systems in these same vicinities to also contain unique species.

2. What would be the effects of the proposed action on native fishes?

Numerous species of native fish occur only in the few permanent springs, rivers, and lakes of the region, their plight has been exacerbated greatly by human activities. One of the greatest concerns affecting survival of many fishes in the desert is the lack of available information on the status and the distributions of these species. Few long-term studies or monitoring of any fishes other than those listed or proposed for federal listing have been made.

Great Basin National Park:
The speckled dace has been identified through genetic work by Dr. Thomas Dowling as unique to Snake Valley. Mottled sculpin, speckled dace, and redside shiner coexisted with BCT in all the streams on the South Snake Range, but due to the introduction of non-native fish were extirpated in all streams except one, Lake Creek. The park is working to reintroduce these three species into three reintroduction sites: Strawberry, Snake, and South Fork Big Wash Creeks. All three of these locations are within the areas that are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected reaches.

Lake Mead National Recreation Area:
Spine Dace are potentially found at Blue Point Spring and Roger's Spring, and ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area would produce deleterious effects on flows from these springs that the fish depend upon.

Death Valley National Park:
A unique and important ground-water resource in a detached portion of the park is Devils Hole. This resource was the subject of an historic water rights decision in 1976, in which the U.S. Supreme Court determined that the NPS has a reserved water right to a certain level of ground water at this site. A purpose of the water right is to maintain the water level in Devils Hole to assure the survival of the Devils Hole pupfish, an endangered species. Devils Hole pupfish are on the verge of extinction (population of 88 animals as of January 2005). Amargosa Pupfish could also be potentially affected by ground-water withdrawals.

3. What would the effects of the proposed action be on wetlands?

Between 1986 and 1997, an estimated 58,500 acres of wetlands were lost each year in the conterminous United States. In addition to these losses, many other wetlands have suffered degradation of functions due to surface water diversions and ground-water withdrawal. At least 52% of the wetlands in Nevada have been dried up through overpumping by the mid 1980s (Dahl and Johnson 1991). In desert environments such as the Mojave and Great Basin deserts, an immense variety of species of microbes, plants, insects, amphibians, reptiles, birds, fish, and

mammals are dependent upon wetlands and they are considered some of the most productive of desert ecosystems.

3 *Great Basin National Park:*

4 Wetlands play an integral role in the ecology of most of Great Basin National Park's watersheds. Wetlands have important filtering capabilities for intercepting surface-water runoff and maintaining near pristine water quality of the streams within the park. Great Basin National Park is legislatively mandated to manage wetlands unimpaired for future generations. Most of the park wetlands are located at lower elevations in Strawberry, Lehman, Baker, Kious, and Snake watersheds, all of which are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected areas.

Lake Mead National Recreation Area:

Wetlands within Lake Mead National Recreation Area are rare and contain a high number of endemic, rare, and state and federal listed species of concern. Ground-water withdrawals from areas up-gradient of the recreation area could produce deleterious effects on wetland areas associated with springs and seeps located in the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring. Rogers and Blue Point Springs outflow drainages run for over two miles each. This length is extremely unusual, and results in over 60 acres of wetland ponds and braided wetland channels for these two springs alone. These areas contain emergent vegetation such as *Eleocharis*, *Cladium*, *Scirpus*, and *Typha*, as well as many other associated species such as *Distichlis*, *Baccharis*, *Prosopis*, *Salix*, *Vitis*, and *Acacia*. Although some of this vegetation is not rare, these areas are critical habitat for many endemic animal species and migratory birds.

Death Valley National Park:

Wetlands within Death Valley National Park are rare and tend to have high concentrations of endemic species. Springs located on the west side of the Funeral Mountains, as well as the lower Armargosa River, discharge from portions of the regional aquifer system and may be susceptible to some of the proposed up-gradient ground-water withdrawals. These spring areas include, but are not limited to Texas, Travertine and Nevares. The spring communities in these areas are dominated by sedges, salt grass and various Baccharris species. The areas that are filled with Cattails and Bulrush tend to not have many rare plants but serve as important water sources. Willow communities containing Arroyo Willow, Red Willow, and Goodding's willow do not have special status, but are far less common now than 100 years ago. National Wetland Inventory maps for Death Valley National Park show substantial wetlands associated with Texas, Travertine, and Nevares springs and their respective spring brooks, and Saratoga Spring and the lower Amargosa River in the southern portion of the park.

4. What would the effects of the proposed action be on riparian flora and fauna?

37 Lowering of shallow, phreatic aquifers that currently discharge from meadows and wetlands will impact riparian vegetation. Although small in total area, riparian communities of the Great Basin and Mojave deserts regions are critical centers of biodiversity. A large percentage of riparian areas have been destroyed or degraded by water diversions, ground-water withdrawal, agricultural development, and livestock grazing. More than 75% of the wildlife species in the region are strongly associated with riparian vegetation including 80% of the birds and 70% of the

L

butterflies. Almost all of the region's bird species depend on riparian habitats during at least some phase of their annual cycle. More than half the migratory land birds that breed regularly in the Great Basin and Mojave Desert Regions are associated primarily with riparian habitats.

Great Basin National Park:
The park contains over 30 miles of riparian habitats. Great Basin National Park is legislatively mandated to manage riparian ecosystems and the associated flora and fauna unimpaired for future generations. Riparian areas that are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected areas, include Strawberry, Mill, Lehman, Baker, Can Young, Snake, and South Fork Big Wash watersheds.

Lake Mead National Recreation Area:
Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could produce deleterious effects on flows associated with springs located on the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring. As such, over five miles of riparian areas associated with these springs are potentially at risk. These habitats are extremely rare and support a large number of species of concern. Vegetation species at risk include *Eleocharis*, *Cladium*, and *Scirpus*, as well as large stands of *Prosopis*, *Salix*, *Vitis*, and *Acacia*. Amphibians at risk include the Relict Leopard Frog, Southwestern Toad, Red-Spotted Toad, Woodhouse's Toad. Similarly the proposed up-gradient ground-water withdrawals also threaten flows in the Virgin and Muddy rivers. The riparian areas associated with the Virgin and Muddy rivers contain significant stands of Cottonwood, Goodings Willow, Coyote Willow, Seep Willow, Honey Mesquite, Screwbean Mesquite that serve as important wildlife habitat including the Willow Flycatcher and migratory birds.

Death Valley National Park:
Riparian areas within Death Valley National Park are rare and tend to have high concentrations of endemic species. Springs located on the west side of the Funeral Mountains, as well as the lower Amargosa River, that discharge from the regional aquifer system that may be susceptible to some of the proposed up-gradient ground-water withdrawals. These springs include, but are not limited to Texas, Travertine and Nevares. The spring communities in these areas are dominated by sedges, salt grass and various *Baccharris* species. The areas that are filled with Cattails and Bulrush tend to not have many rare plants but serve as important water sources. Willow communities containing Arroyo Willow, Red Willow, and Goodding's willow do not have special status, but far less common now than 100 years ago. Amphibians at risk include the Red-Spotted Toad, Western Toad, and the Tree Frog.

5. What would the effects of proposed actions be on Native Plant Communities?

235 *Great Basin National Park*:
Great Basin National Park and adjacent Spring and Snake Valleys harbor diverse and distinct native plant communities. Over 40 distinct plant communities were identified at the landscape scale in this region by the 2004 Southwest Regional GAP Analysis Project Final Report. A 2003 Great Basin National Park Fuels Report identified 80 distinct plant alliances within Great Basin National Park alone. The effects of ground-water withdrawal, road, and pipeline construction on native plant communities may precipitate the loss and homogenization of native plant

communities. Of particular concern are valley wetlands in Snake and Spring valleys and relict "cedar swamps" in Spring Valley. Valley wetlands are among the most productive habitats in the Great Basin and harbor a disproportionate amount of biodiversity and endangered species relative to their area. "Cedar Swamps" (Rocky mountain juniper stands) in Spring Valley is a significant viewshed for Great Basin National Park and have been identified by the BLM for their biological significance.

Lake Mead National Recreation Area:
Plant communities associated with surface water within Lake Mead National Recreation Area are rare and contain a high number of endemic, rare, and state and federal listed species of concern. Ground-water withdrawals from areas up-gradient of the recreation area could produce deleterious effects on these communities supported by springs and seeps located in the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring. Species of concern include *Eleocharis*, *Cladium*, *Circium*, *Cryptantha*, *Astragalus*, and *Scirpus*, as well as large stands of *Prosopis*, *Salix*, *Vitis*, and *Acacia.*

Death Valley National Park:
Plant communities associated with the surface expression of ground-water within Death Valley National Park are rare and tend to have high concentrations of endemic species. Springs located on the west side of the Funeral Mountains, as well as the lower Amargosa River, that discharge from the regional aquifer system may be susceptible to some of the proposed up-gradient ground-water withdrawals. These springs include, but are not limited to Texas, Travertine and Nevares. The spring communities in these areas are dominated by sedges, salt grass and various *Baccharris* species. The areas that are filled with Cattails and Bulrush tend to not have many rare plants but serve as important water sources. Willow communities containing Arroyo Willow, Red Willow, and Goodding's willow do not have special status, but are far less common now than 100 years ago.

6. What would the effects of the proposed action be on invasive plant movement?

27 Ground disturbing activities and changes in surface and ground-water frequently result in the invasion of non-native plant species. Additional ground disturbance through associated access road and pipeline creation will encourage non-native plant proliferation, creating corridors and source populations for the spread and proliferation of non-native plants. The NPS has been mandated to protect native communities.

Great Basin National Park:
Potentially invasive species include but are not limited to tall whitetop, spotted knapweed, and Russian knapweed.

Lake Mead National Recreation Area:
Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could alter the water levels associated with springs located on the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring, as well as portions of the Virgin and Muddy rivers. As tamarisk invasion and the elimination of native vegetation is most likely in areas of water level change, these areas might be at risk from such ground-water withdrawals.

Death Valley National Park:
Spring areas located on the west side of the Funeral Mountains, and the lower Amargosa River may be susceptible to some of the proposed ground-water withdrawals, and therefore subject to water-level change. As tamarisk invasion is most likely in areas of water level change, these areas might be at risk from such ground- water withdrawals.

7. What would the effects of the proposed action be on Important Bird Areas?

7 Important Bird Areas (IBAs) are designated sites that provide essential habitat for one or more species of birds. IBAs include sites for breeding, wintering, and/or migrating birds. IBAs may be a few acres or thousands of acres, but usually they are discrete sites that stand out from the surrounding landscape.

Great Basin National Park:
Great Basin National Park is designated as an IBA with the intent of maintaining and perpetuating a wide-range of Great Basin habitats unimpaired for Nevada Partners in Flight Priority Birds. National park status ensures protection of such habitats and increased promotion of conservation within and adjacent to the park. The lowering of shallow, phreatic aquifers that currently discharge from springs and wetlands will impact important bird habitats. Species of concern include the Calliope Hummingbird, Flammulated Owl, Greater Sage-Grouse, Prairie Falcon, Ferruginous Hawk, Swainson's Hawk, Northern Goshawk, Cooper's Hawk, Yellow-breasted Chat, Virginia's Warbler, Sage Sparrow, Vesper Sparrow, Sage Thrasher, Pinyon Jay, Black Rosy-Finch, Orange-crowned Warbler, Wilson's Warbler, MacGillivray's Warbler, Black-throated Gray Warbler, Red-naped Sapsucker, Three-toed Woodpecker, Loggerhead Shrike, Ash-throated Flycatcher, and Olive-sided Flycatcher.

Lake Mead National Recreation Area:
Lake Mead National Recreation Area has been nominated as an IBA.

Death Valley National Park:
Riparian areas in Death Valley National Park are habitat for the endangered least Bell's vireo and southwestern willow flycatcher during portions of the year.

8. What would the effects of the proposed action be on bighorn sheep, antelope and mule deer?

20 *Great Basin National Park*:
31 Migratory mule deer and resident antelope and mule deer use the area identified as Segment 8 of the proposed action. Migratory mule deer that summer in the high elevations of Great Basin National Park migrate through this area to access winter range in the Big Springs and Murphy Wash areas. Construction activities during migration periods (October/November and April/May) could disrupt migration, forcing mule deer to take less optimal routes reducing overall herd fitness. Open trenches could block routes or entrap antelope and deer. Antelope and resident mule deer move between the upper benches and agricultural areas along Lake Creek to feed and bed. Year round construction activities could disrupt movements forcing animals to stay above or below such activities. This could increase depredation problems in agricultural areas and reduce herd recruitment in upper benches. Access roads to maintain the pipeline,

D

power lines and wellheads would reduce overall habitat effectiveness for antelope and mule deer. Maintained roads can reduce the suitability of at least seven acres of land per linear mile, more as human traffic increases. Maintained roads would increase harassment, human use of formerly remote areas, hunting pressure and the increased potential for poaching. Currently, the area identified as Segment 8 contains less than 0.25 miles of maintained roads per square mile. This would increase to an unknown amount.

Lake Mead National Recreation Area:

Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could produce deleterious effects on special emphasis flora associated with springs located on the east side of the Muddy Mountains including the Rogers Spring, Blue Point Spring, Corral Spring, and Scirpus Spring. The potential loss of water in these springs would result in direct habitat loss that would directly threaten the continued survival of bighorn sheep populations.

Death Valley National Park:

The potential reduction of flow from springs located on the west side of the Funeral Mountains that discharge from the regional aquifer system could result in habitat loss that could directly threaten the continued survival of bighorn sheep populations in the Funeral Mountains.

9. What would the effects of the proposed action be on wildlife distribution and movement?

Great Basin National Park, Lake Mead National Recreation Area, and Death Valley National Park:

2\ Reduction and degradation of riparian areas disrupt the distribution and movement of wildlife. Riparian habitats allow broader distribution of wildlife species and act as corridors for which both plants and animals, terrestrial and aquatic, can disperse and establish, increasing overall biodiversity. Depletion of surface-water resources and the resultant loss of lowland riparian areas due to ground-water withdrawal will restrict these plants and animals to higher elevations. Loss of lowland riparian habitats further isolates populations by increasing the distance required to disperse between remaining riparian habitats and mountain ranges.

10. What would the effects of the proposed action be on cave biota?

Great Basin National Park:

3\ Great Basin National Park has a wide and varied array of cave biota. Over 120 different species, from microfauna to arthropods to bats have been found in the nine caves surveyed, with 85 species in Lehman Cave alone. Over 25 caves remain to be surveyed. Cave biota often adapts to very specific conditions, especially with regards to temperature, humidity, and water levels. A 2003 biological inventory of eight caves by Krejca and Taylor found eight previously undocumented species in Wheeler's Deep Cave, 14 undocumented species in Systems Key Cave, and 12 undocumented species, including one species unknown to science, in Model Cave. Several cave species depend on flowing water for at least part of their life cycle. Known caves in the park with flowing water include Model Cave, Systems Key Cave, Dynamite Cave, Squirrel Springs Cave, and Wheeler's Deep Cave. These caves are all located in Baker and Snake watersheds in areas that are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected areas.

Lake Mead National Recreation Area:
Not considered an issue.

Death Valley National Park:
Not considered an issue.

11. What would the effects of the proposed action be on desertification?

10 Desertification is a land degradation problem of major importance in the arid regions resulting in the deterioration in soil and plant cover as a result of human mismanagement of land and water resources. In addition to vegetation deterioration, erosion, and salinization, desertification effects can be seen in loss of soil fertility, soil compaction, soil crusting, and degradation of air quality. Much of the water proposed to be withdrawn and exported is currently utilized by plants via transpiration. If this water becomes unavailable to plants for transpiration, a reasonable conclusion is that plants will die. As desertification, defined as "Land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities" progresses, non-native plant proliferation is expected to increase. Loss of plants may lead to an increase in dust storms, affecting the views in all park units, the safety of highway traffic, and the health of local residents. Trophic effects of desertification may be expected to cascade through the food chain. Birds, bats, and game animals utilize valley and montane habitats on a cyclic basis. The loss of valley habitats may precipitate a loss of wildlife species from habitats in all park units.

12. What would the effects of the proposed action be on fire regimes?

Great Basin National Park:
22 The potential proliferation of cheatgrass, particularly in the relatively pristine Spring Valley, due to road and pipeline construction may cause a shift in fire regimes, increasing fire frequency and rotation. This shift towards an annual grassland is a positive feedback loop, with more cheatgrass encouraging more fire, encouraging more cheatgrass, etc. Such a shift leads to homogenized plant communities; reduced plant and wildlife diversity; reduced productivity; loss of anthropogenic values (grazing, hunting, bird watching); and loss of ecosystem function, products and services.

Lake Mead National Recreation Area:
Not considered an issue.

Death Valley National Park:
Not considered an issue.

13. What would the effects of the proposed action be on invertebrates?

Invertebrates make up 95% of the animals on Earth and are critical for ensuring community health. Invertebrates generally experience the environment on much smaller spatial and shorter temporal scales than larger animals. As a result, invertebrates are extraordinarily susceptible to natural and human-caused habitat modifications. Many invertebrates are sensitive not only to habitat alterations that change vegetation structure but also to those that perturb microclimate.

9

Therefore, land use patterns are important for the persistence of invertebrate populations at the regional scale and at the level of microhabitats. *Speciation* (the evolutionary formation of new species) in the region has probably occurred frequently because of recurring fragmentation and reconnection of the wetlands during the past million years.

Great Basin National Park:

Hundreds of species of native aquatic invertebrates probably exist in the Great Basin but have not been described. Watersheds identified that include macroinvertebrates that are most likely hydraulically continuous with the regional aquifer beneath Snake Valley, and thus are potentially affected areas include Strawberry, Mill, Lehman, Baker, Can Young, Kious, Snake, and South Fork Big Wash.

Lake Mead National Recreation Area:

Ground-water withdrawals from areas up-gradient of the Lake Mead National Recreation Area could produce deleterious effects on invertebrates associated with springs located on the east side of the Muddy Mountains including Rogers Spring, Blue Point Spring, Scirpus Spring, and Corral Spring, as well as portions of the Virgin and Muddy rivers.

Death Valley National Park:

Death Valley National Park contains many endemic aquatic invertebrates in the Nevares, Texas, and Travertine springs. These springs support 10 species of aquatic invertebrates: 8 of these species are endemics, 5 are NPS sensitive, and 1 is a federal candidate species. Many springs have not yet been sampled but a high potential for endemic species exists.

ATTACHMENT C: LOGISTICAL AND OTHER SCOPING ISSUES

1. Has sufficient time been allocated for the EIS process?

2 The USGS/DRI BARCAS study will produce pertinent information on the hydrogeology of the regional carbonate aquifer within the area of interest, yet this project is not scheduled for completion until mid-2007. As scheduled the EIS process will be complete by that date, thus precluding incorporating all of those study results into the decision making process.

Additionally, the NPS has concerns that two years is not enough time to complete other analyses that could help when evaluating the implications of the proposed pumping. Due to the limited timeframe and budget, the USGS and DRI have chosen not to conduct a pumping effects analysis as part of the BARCAS study. Instead, their study will simply characterize the hydrologic system. Pumping ground-water in rural Nevada is an important enough issue that there needs to be modeling of the effects of ground-water pumping independent of the modeling that will be conducted by SNWA.

2. Is a study needed covering a larger area than the BARCAS study, in order to adequately assess the region that would be affected by the SNWA project?

15 Due to the limited timeframe and budget the USGS and DRI have chosen to limit the primary area analyzed during the BARCAS study to mostly White Pine County and a small portion of Utah. This is problematic as resources in Lincoln County also have the potential to be greatly affected by the proposed pumping.

3. Will the EIS process adequately address all proposed SNWA pumping within the regional aquifer system?

21 There are currently two SNWA water development pipeline projects in review by the BLM that would remove ground-water from the regional aquifer system including the subject Clark, Lincoln, and White Pine Counties Ground-Water Development Project and the Three Lakes Valley pipeline project. Ground-water pumping associated with these two projects could produce similar adverse effects on the resources of Death Valley NP, and in particular Devils Hole. As such, the NPS believes potential effects of these projects should be analyzed during a single EIS process.

4. Does the scoping document provide adequately for alternatives to this project?

29 Regarding proposed alternatives, the "Decreased Ground-Water Development" alternative is listed separately from the "Enhanced Management" alternative. It is unclear, however, whether that structure allows the latitude to mix and match from both of these alternatives. Specifically, the NPS is concerned that the best option might be decreased ground-water development AND adaptive monitoring and management, and yet combining these two might not be an option.

5. Will potential alternate new sources of water for southern Nevada be adequately explored during the EIS process?

It is unclear from the scoping packet whether alternate new sources of water for southern Nevada will be addressed during the scoping process. Such potential new sources worth exploration during this EIS process include water conservation and/or obtaining water from another source or sources (e.g. other States, desalination of Pacific Ocean water, etc).

6. Would the effects of the proposed action result in the impairment to any resources managed by the National Park Service?

The National Park Service Organic Act of 1916 states that the NPS: "...shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified...by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to **conserve** the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them **unimpaired** for the enjoyment of future generations (emphasis added)." Congress reaffirmed this mandate in 1978 when it directed the following: "The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress." In addition to avoiding impairment, NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. The National Environmental Policy Act (NEPA) of 1969 requires agencies, including NPS, to assess the impact of proposals on the quality of the human environment. NPS makes an impairment determination through the environmental planning and assessment process. Director's Order #12 states that environmental documents will evaluate and describe impacts that may constitute an impairment of park resources or values. In addition, the Record of Decision will summarize impacts, and whether or not such impacts may constitute an impairment of park resources or values.

The law establishing Great Basin National Park states in part that, ".... The Secretary [of the Interior] shall protect, manage, and administer the park in such manner as to conserve and protect the scenery, the natural, geologic, historic, and archeological resources of the park, including fish and wildlife and to provide for public use and enjoyment of the same in such manner as to perpetuate these qualities for future generations."

7. What would be the effects of the proposed action on Scenic Resources?

Great Basin National Park:

The views across Snake Valley and Spring Valley from various locations within the park greatly enhance visitor experience and are a significant park resource. They are critical in conveying the theme of the Great Basin Physiographic region. The potential visual impairment of these basins as a result of development could alter the pastoral basin scene that adds a critical dimension to the national park.

8. What would be the potential for the release of radioactive materials as a result of ground disturbance from the proposed action?

Between 1951 and 1992, the Department of Energy and the Pentagon conducted 925 nuclear blasts at the Nevada Test Site. More than 100 of the explosions were open-air tests that cast a radioactive pall over eastern Nevada. The remainder of these tests were underground but it has been reported that these tests vented large plumes of radioactive materials. The longer-lived radionuclides remain in the soil. The primary radioactive isotopes of concern that remain from the testing include americium, plutonium, cobalt, cesium, strontium, and europium. The disturbance of soils from the proposed action have the potential to release radioactive isotopes that could be carried by winds into the park effecting human health and safety as well as all natural resources.

9. What effects would the proposed action have on the natural soundscape during construction and operation?

Great Basin National Park:

An important part of the NPS mission is to preserve and/or restore the natural resources of the parks, including the natural soundscapes associated with units of the National Park System. Natural sounds are intrinsic elements of the environment that are often associated with parks and park purposes. They are inherent components of "the scenery and the natural and historic objects and the wild life" protected by the NPS Organic Act. They are vital to the natural functioning of many parks and may provide valuable indicators of the health of various ecosystems. Intrusive sounds are of concern to the NPS because they sometimes impede the Service's ability to accomplish its mission. Great Basin National Park and surrounding areas are largely devoid of human noise. Visitors may be able to hear construction and operation activities from the south, east and west sides of the park. Increased noise levels from pumps, machinery and other necessary infrastructure may impact visitor experience and wildlife both within and outside the park. Director's Order 47 addresses the problem of excessive/ inappropriate levels of noise. It directs park managers to (1) measure baseline acoustic conditions, (2) determine which existing or proposed human-made sounds are consistent with park purposes, (3) set acoustic management goals and objectives based on those purposes, and (4) determine which noise sources are impacting the park and need to be addressed by management. Furthermore, it requires park managers to (1) evaluate and address self-generated noise, and (2) constructively engage with those responsible for other noise sources that impact parks to explore what can be done to better protect parks.

10. What effects would the proposed action have on air quality during construction and operation?

Great Basin National Park:

Clean air needs to be protected in our national park units. The Clean Air Act is meant to ensure that national parks have some of the cleanest air in the country. Haze due to dust and pollution can impair the scenic vistas so important to park visitors. Pollutants like particulate matter reduce visibility. As a result, while a visitor may be able to see for hundreds of miles on a clear day, the view may be dramatically reduced on a hazy day during the peak summer visitation season. Dust deposition both within and outside the park can decrease photosynthesis and plant production. Alkaline dust deposition from valley soils can increase soil pH beyond natural levels if deposited at higher elevations. Dust deposition can have deleterious impacts on cryptobiotic soil crusts. Great Basin National Park is a Class 2 air-shed and frequently records some of the cleanest air in the U.S. Construction and operation of the proposed action has the potential to

increase dust and other particulate matter, raising PM 10 and PM 2.5 particulate levels past EPA thresholds effecting human health and safety as well as all natural resources.

11. What effects would the proposed action have on dark night skies?

Great Basin National Park:

Pollution of dark night skies with artificial light is a major concern to Great Basin National Park that has some of the darkest night skies left in the continental U.S. The park and surrounding communities receive visitors that come for this reason alone. The park has one of the last opportunities to protect nighttime darkness. Steps need to be taken to ensure that lighting systems with the potential to affect the park's night skies are properly designed.

12. What effects would the pipeline construction, maintenance, and monitoring have on access to national parks?

Great Basin National Park:

The park has approximately 30 entry points by roads and/or trails, which are listed below.

Entry Points into Great Basin National Park		
Highway 488	Lincoln Canyon	Big Wash South
Mill Creek	Swallow Canyon	Snake Creek
Strawberry Creek	Johns Wash	Mahogany Springs
Sage Creek	Decathon	Rudolph Canyon
Weaver Creek	Big Springs	Young Canyon
Willard Creek	Cedar Cabin Springs	Kious Spring
Pine/Ridge Creek	Chokecherry Canyon	Can Young Canyon
Williams Creek	Lexington South	Pole Canyon
Dry Canyon	Lexington North	Baker Creek Road North
Mt. Washington	Big Wash North	Baker Creek Road South

What would be the effect on these entry points by the proposed pipeline construction, maintenance, and monitoring activities associated with the proposed project?

13. What effects would pipeline construction have on socio-economic conditions of the area nearby national parks, including gateway communities?

Great Basin National Park:

Since the establishment of Great Basin National Park in 1986, annual visitation has doubled. Visitation has remained fairly constant in recent years, with the park currently receiving approximately 90,000 visitors per year. Most of the visitation occurs from April through October, with heaviest visitation on weekends and holidays. Peak travel days occur on each of six major holidays throughout the spring, summer and fall. Visitors to the park provide a major economic boost to White Pine County. The Baker Business and Tourism Council collaborate with the park to maximize economic opportunities for the local communities. Many of the park staff and their families are integrated within the local communities of Baker, Garrison and Eskdale. This has come

about in connection with school activity involvement, religious associations, local business support, economic promotional events and Baker's volunteer community services. Members of the park staff provide emergency assistance to the communities by serving as members of the Baker Volunteer Ambulance and Baker Volunteer Fire Department.

14. What effect would pipeline construction have on domestic sheep grazing allotments in and around national park units?

Great Basin National Park:

Great Basin National Park has two active domestic sheep grazing allotments on the west (Shingle Creek) and south (Murphy Wash) sides of the park. The actual area grazed by domestic sheep in the park equals 2,950 acres or 4% of the park. Approximately 3,100 sheep graze in the park on the two allotments during the summer grazing season from mid-June to mid-September, totaling 492 AUMs. The construction of the pipeline could have an adverse affect on the availability of forage for sheep grazing. The riparian areas in and around the park used for grazing could also be affected by a reduction in water.

Shingle Creek Allotment: the NPS and USFS share this allotment with some private land interests, such as mining claims, within USFS boundaries. Agency control by acreage is 7,902 acres NPS and 10,191 acres USFS. This allotment encompasses a total of 18,093 acres, but the acreage considered to have forage available for livestock grazing is 7,433 acres or 41% of the total allotment acreage. Approximately 2,378 **acres** (32% of the total allotment) of NPS lands are used for livestock operations.

Murphy Wash Allotment: This allotment is shared by the NPS and USFS. Agency control by acreage is 7,543 NPS and 54,131 USFS. After excluding the Protected Natural Area in the park from use of livestock, approximately 578 acres of NPS lands are used for livestock operations.

The construction of the pipeline could have an adverse affect on the availability of forage for sheep grazing. The riparian areas in and around the park used for grazing could be affected by a reduction in water.

15. What effect would the proposed action have on recreation opportunities in and around national park units?

Great Basin National Park:

Visitors come to Great Basin National Park for recreation opportunities including fishing, birding, hiking/backpacking, and night sky viewing.

16. What effect would the proposed action have on travel time to national park units?

Great Basin National Park:

Great Basin National Park is in a remote area, so visitors travel a long distance to get to the park. Past road construction activities have caused traffic delays that resulted in visitors missing scheduled cave tours. Lengthy and/or multiple delays en route to the park have impacted the visitor experience.

17. What effect would the proposed action have on park and community response to emergencies?

Great Basin National Park:

2 Great Basin National Park and the surrounding area are far from medical services. Transport to the hospital via ambulance is at least an hour. Any delays due to construction can add to transport time, endangering lives. Increased numbers of persons and vehicles will be present in White Pine County, Great Basin National Park, Spring and Snake Valleys during construction activities. Law enforcement and emergency medical services are minimal at present, and an influx of construction workers, engineers, surveyors etc. will increase workloads for local law enforcement which include only 2 permanent park rangers and one Sheriff's deputy for all of Snake Valley

18. What effect would the proposed action have on visitor experience at national park units?

Great Basin National Park:

13 Any change to the natural or historic landscape will alter the physical, tangible experience that visitors will be able to connect with. The activities through which visitors make connections to the resource include guided tours of Lehman Caves; hiking, the rustic trails and cross country; camping in developed sites as well as primitive camping; and driving the Wheeler Peak Scenic Drive. The Scenic Drive and the trails provide access to several small alpine lakes, an ancient bristlecone forest, a glacier and Wheeler Peak. The park is set aside to preserve the outstanding resources and significant geologic and scenic values.

19. What effect would the proposed action have on national park operations?

Great Basin National Park:

Increased numbers of persons and vehicles will be present in White Pine County, Great Basin National Park, Spring and Snake Valleys during construction activities. Law enforcement and emergency medical services are minimal at present and an influx of construction workers, engineers, surveyors etc. will increase workloads for local law enforcement which include only 2 permanent park rangers and one Sheriff's deputy for all of Snake Valley. If crime increases as transient and/or permanent population increases, park visitors' experiences will be negatively 28 impacted. Domestic water supplies may not be adequate to serve the needs of construction camps or unknown increases in permanent residents. Roads and highways will require additional maintenance and reconstruction due to the effects of heavy equipment. Traffic flow may be interrupted with inconvenience to park visitors and subsequent negative press coverage. Noise and dust associated with pipeline construction will diminish visitor enjoyment of scenic views, night skies and solitude.

Scoping Comments: Number 5492

United States
Department of
Agriculture

Ely Ranger District
825 Avenue E
Ely, NV 89301
(775) 289-3031 fax (775) 289-2132

File Code: 1950-4
Date: July 29, 2005

Gene Kolkman, Field Manager
BLM, Ely Field Office
HC33 Box 33500
Ely, NV 89301

Re: Request for comments on the Clark, Lincoln, and White Pine Counties Groundwater Development Project

I would like to express our concerns regarding the Groundwater Development Project.

2 We recommend that the project area for this analysis include National Forest System lands in the watersheds surrounding the valleys where the wellheads and pipeline are proposed. We believe that the proposed action will have direct effects on National Forest land, in addition to indirect and cumulative effects.

Water Resources

From all the information we have received, the environmental analysis is focusing only on lands in the basins near the wellheads. The analysis must encompass entire areas within hydrologic boundaries that provide recharge to the wellfields. We believe that the National Forest System lands, especially those near wellfields around the southern Snake Range and on the southeast boundary of the Schell Creek Range may suffer detrimental effects from groundwater pumping. The zone of influence of wells in this proposal may gradually enlarge and may eventually capture groundwater from under NFS lands. In these environments, groundwater supports many ecosystem components including springs, riparian habitats, aquatic species, and streamflow. Groundwater drawdown can destroy these dependent ecosystems by depleting surface water.

The proposal must make clear whether SNWA will pump groundwater only from shallow, perched aquifers that are recharged annually through precipitation or deep, regional aquifers that may take hundreds of years to replenish, or both. There is a potential for subsidence when pumping withdraws water from deep aquifers that do not recharge annually. This increases the potential for lowering and possibly fracturing layers confining the perched aquifers, profoundly changing their hydrologic characteristics. This has further implications on the biologic and hydrologic integrity of springs, seeps, and streams whose flows and habitat depend on their connection to shallow aquifers.

There are no studies on springs, wetlands, and perennial stream reaches on NFS lands to determine which are supported by perched, shallow groundwater systems and which are connected to deep regional aquifers, or both. We must know the correlation of gaining and losing streams on NFS land to underlying geology to assess the parts of the watersheds that are hydraulically connected with the adjacent basin fill aquifers. We believe this study is crucial in

revealing which aquatic systems are connected to regional saturation, and are therefore at risk from pumping and must be included in the modeling and effects analysis as well as monitoring and mitigation plans.

We are concerned that the modeling effort envisioned by SNWA is regional in scope and will not help define impacts to NFS lands. While we understand the need for this modeling scale to assess the impacts of large scale pumping on groundwater resources of southern Nevada, the Forest Service is concerned for the local impacts to NFS resources from individual wellfields. To analyze this, SNWA must complete more detailed data, acquired through field studies such as test drilling and aquifer testing in the wellfield area to model precise impacts to specific springs, streams, and wetlands. During the June field tour, SNWA stated that they plan to put this level of analysis off to a later date.

Sustainability

During Mulroy's testimony to the state legislature, she stated that SNWA is committed to "sustainable development of water resources." The analysis should define what is meant by this term. From the standpoint of the Forest Service, we define sustainability as the long-term protection and enhancement of aquifers, streams, springs, seeps, lakes, ponds, and associated riparian and aquatic ecosystems.

In addition, SNWA staff referred to a "sustainable level of water withdrawal commensurate with annual recharge from precipitation" at the Reno scoping meeting. In other words, what goes in is what comes out. Currently, groundwater in the target basins is in dynamic equilibrium with current use and precipitation and the current piezometric surfaces and groundwater discharge volumes reflect this. SNWA's commitment to sustainability implies that this proposal can withdraw groundwater at a rate equal to recharge with minimal effect on the hydrologic characteristics of the basins. The effect of increased withdrawal over current levels, equivalent to an amount based on annual recharge rates, may cause a readjustment, a lowering of the piezometric surfaces, and a decrease in groundwater discharge volumes. Under their proposal, SNWA must configure the new groundwater profile before assessing the potential for effects to hydrologic characteristics of springs, seeps, and streams in the affected watersheds.

Wildlife Habitat

We are concerned for aquatic species and aquatic habitats in streams, springs, and wetlands as well as terrestrial species that depend on these water sources on NFS lands. If groundwater pumping depletes surface water, habitat for aquatic and terrestrial species will be degraded.

Bonneville cutthroat trout

We manage Bonneville cutthroat trout as a Forest Service "sensitive" species and have actively worked, along with the Nevada Department of Wildlife and the Great Basin National Park, to enhance the habitat of this fish species. We believe trout habitat will be seriously damaged if surface water is depleted by groundwater pumping. I have attached the most current list of Forest Service sensitive fauna and flora for use in your analysis.

Inventoried Roadless Areas and Wilderness

Nearly all of the NFS land affected by this proposal is either Wilderness (the Mt. Moriah Wilderness), or Inventoried Roadless Areas under the 2000 Roadless Area Conservation Rule. The potential adverse effects to wilderness and wilderness potential must be addressed in the EIS. This done by discussing the effects to the nine wilderness characteristics:

- soil, water and air resources,
- sources of public drinking water,
- diversity of plant and animal communities,
- habitat for threatened, endangered, proposed, candidate, and sensitive species and for those dependent on large undisturbed areas of land,
- primitive and semi-primitive classes of recreation,
- reference landscapes for research study or interpretation,
- landscape character and integrity,
- traditional cultural properties and sacred sites,
- other locally unique characteristics.

More precisely, we are concerned that the drawdown of water will have significant effects on all of the wilderness characteristics. We can provide additional information, definitions, and maps concerning this issue.

Sincerely,

Patricia N. Irwin

PATRICIA N. IRWIN
District Ranger

enclosure: sensitive species list

cc: Ed Monnig, Acting Forest Supervisor

USFS Intermountain Region Sensitive Species List
Ely Ranger District, Humboldt-Toiyabe National Forest
Updated December 2003

Fauna

- Peregrine falcon (*Falco peregrinus anatum)* (Proposed)
- Northern goshawk (*Accipter gentiles*)
- Flammulated owl (*Otus flammeolus*)
- Sage grouse *(Centrocercus urophasianus)*
- Great gray owl (*Strix nebulosa*)
- Three-toed woodpecker (*Picoides tridactylus*)
- Mountain quail (*Oreotyyx pictus*)
- Spotted bat (*Euderma maculatum*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Pygmy rabbit (*Brachylagus idahoensis*)
- Spotted frog (*Rana pretiosa*)
- Bonneville cutthroat trout *(Oncorhynnchus clarki utah)*

Flora

- Eastwood milkweed (*Asclepias eastwoodiana*)
- Starveling milkvetch (*Asclepias jejunus var. jejunus*)
- Scorpion milkvetch (*Astragalus lentiginosus* var. *scorpionis*)
- Currant milkvetch (*Astragalus uncialis*)
- Upswept moonwort (*Botrychium ascendens*)
- Dainty moonwort (*Botrychium crenulatum*)
- Slender moonwort (*Botrychium lineare*)
- Mound cryptanth (*Cryptantha compacta*)
- Snake Range whitlowgrass (*Draba oreibata* var. *serpentina*)
- Pennell draba (*Draba pennellii*)
- (*Epilogium nevadense)*
- Cave mountain fleabane (*Erigeron cavernensis*)
- Holmgren buckwheat (*Eriogonum holmgrenii*)
- Waxflower (*Jamesia tetrapetala*)
- Maguire bitterroot (*Lewisia maguirei*)
- Tunnel Springs beardtongue (*Penstemon concinnus*)
- Mount Moriah beardtongue (*Penstemon moriahensis*)
- Marsh's bluegrass (*Poa abbreviata* var. *marshii*)
- Nevada primrose (*Primula cusickiana var. nevadense*)
- Nachlinger catchfly (*Silene nachlingerae*)
- Jones' globemallow (*Sphaeralcea caespitosa var. williamii*)
- Currant Summit clover (*Trifolium andinum* var. *podocephalum*)
- Rock violet (*Viola lithion*)

Attachment to July 29, 2005 Clark, Lincoln, and White Pine Counties Groundwater Development Project Scoping Response from Humboldt-Toiyabe NF to Ely BLM

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Office of The Governor
PUBLIC LANDS POLICY COORDINATION

LYNN STEVENS
Public Lands Policy Coordinator

Scoping Comments: Number 5519

July 29, 2005

Gene Kolkman
Field Manager, Ely Field Office
Bureau of Land Management
HC 33, Box 33500
Ely, NV 89301-9408

Re: Comments of the State of Utah to the Proposed
Clark, Lincoln and White Pine Counties Groundwater Development Project

Dear Mr. Kolkman:

The State of Utah is pleased to submit these scoping comments as part of the environmental documentation process for the Clark, Lincoln and White Pine Counties Groundwater Development Project proposed by the Southern Nevada Water Authority. Even though the proposal to develop groundwater pumping and water transport facilities to move water from areas of rural Nevada to Las Vegas and surrounding communities in Southern Nevada does not involve the location of any facilities in Utah, the effects of the groundwater pumping have the potential to seriously affect the resources and quality of life within western Utah. While the state recognizes the inherent ability of its neighbor to the west to develop water resources in a responsible manner within its boundaries, the State of Utah must defend water which would otherwise flow to Utah and benefit its citizens and resources from unreasonable seizure. The state appreciates the offer from your Office to participate in the preparation of the required environmental impact statement for this proposed as a cooperating agency, and will take its role and responsibilities in this process seriously.

The state will also be a participant in two other studies related to the proposed project authorized by Public Law 108-424, the "Lincoln County Conservation, Recreation, and Development Act of 2004." Section 301(e) of P.L. 108-424 authorizes the State of Utah to participate in a study of groundwater "quantity, quality and flow characteristics" of the deep carbonate and alluvial aquifers of the area, which study has been labeled the Basin and Range Carbonate Aquifer System Study (BARCASS). This study is now underway under the jurisdiction of the United States Geological Survey, with a completion date of December 2007. The state will also actively participate in negotiating an agreement with the State of Nevada as authorized by Section 301(e)(3) of Public Law 108-424, prior to any "transbasin diversion from ground-water basins located within both the State of Nevada and the State of Utah." The State of Utah expects that this latter agreement will need approval at the highest level of the executive

5110 State Office Building, Salt Lake City, Utah 84114 • telephone

branch of state government, and perhaps legislative approval as well.

As currently envisioned, none of the benefits of the proposed project will accrue to the State of Utah, its citizens, or the resources within the state. The proposal has only the potential to negatively affect the state. According to the report accompanying the request for comments, the project could divert up to 141,900 acre feet of water from Spring and Snake Valleys, constituting Segments 7 and 8 of the proposal. This amount of depletion constitutes about 65% of the total project depletion, and are the segments of the proposal which cause the State of Utah concern. According to a report issued by the Utah Geologic Survey earlier this year (Report of Investigation 254 - January 2005), the possible effects of pumping and water level drawdown may involve the deeper volcanic or carbonate rocks which are found under the Spring and Snake Valleys of proposed Segments 7 and 8. The State of Utah believes that the BLM must consider the effects from pumping in project water basins to include effects to the deeper carbonate rocks, and model those effects accordingly over the entire extent of those carbonate rocks. The state will consider the deeper carbonate rocks to be part of the interstate "groundwater flow systems" which will be the subject of the agreement between Utah and Nevada.

The State of Utah believes that all studies of the effects of the proposed project, including the BARCASS effort, the agreement between the two states, and the BLM's environmental impact statement, must consider the total hydrological regime for both the shallow alluvial and deep carbonate aquifers underlying the area. The state believes it is incumbent on the Ely Office of the BLM to insure that sufficient information concerning the geology, hydrology, biology and existing human use of the water resource are fully described before finalizing any decisions about its future use. As described below, the state stands ready to assist the Ely Office of the BLM in this effort.

Generally, the State of Utah believes that the scientific and socioeconomic information available about the inventory of water resources, the biological and human uses of those sources, and the connectivity of the hydrologic flow regime of the geographic area encompassed by Segments 7 and 8 is insufficient to proceed with any reasonable studies of the effects of the proposed pumping. The state strongly believes that a baseline of, for example, hydrologic flow data, recharge rates, and aquifer connectivity test results must be obtained before any rational and reasonable modeling of the effects of pumping can begin, and that historical and probable future human uses of the water, as well as information about use of water by biologic species must be obtained before any discussions of the ultimate socioeconomic and biological effects of pumping at any particular amount can begin.

Attached as Exhibits "A" and "B" are comments from the Utah Division of Wildlife Resources and the Utah Division of Water Rights respectively which indicate the type of data which is currently available and which must be obtained as part of the preparation of the

environmental impact statement, and which the state will need as part of the discussions with the State of Nevada. The state requests that the BLM insure that this data is considered or made available during the EIS process.

More specifically, the state believes that the hydrologic flow modeling the BLM proposes to establish as part of the preparation of the environmental impact statement must be based upon sufficient and reliable information concerning the groundwater flow and hydraulic properties of the basin-fill, the volcanic, and the carbonate aquifers of Snake and Spring Valleys, and the connectivity of those interstate aquifers. The State of Utah therefore proposes a plan to drill and operate 13 new test and observation wells in the area encompassed by the interstate alluvial, volcanic and carbonate rocks within the Snake and Spring Valley (Segments 7 and 8) basins of the proposed project. This plan of well drilling and testing will provide information which will not become available from the current scope of the BARCASS effort, yet be vital to any studies of the effects of water drawdown caused by the proposed project, at the full amount envisioned by the applications before the Nevada State Engineer and at any lesser amounts. Details of this proposal, at a conceptual level, are provided in Exhibit "C." The state looks forward to working with the BLM and the USGS to get this plan funded and implemented.

To illustrate the need for this data, the state, in its administration of the Federal Surface Mining Control and Reclamation Act, ("SMCRA"), Public Law 95-87, requires that a coal mining permittee, prior to issuance of a permit, must provide baseline hydrologic data from springs, streams, points of diversion and connectivity data sufficient to build a model of both cumulative hydrologic impact and probable hydrological impact caused by mining activities. In addition, both federal and state law requires that the permittee demonstrate the ability to provide replacement water for any water sources which are impacted by the mining activity. Although the purpose of coal mining is not extraction of water from the aquifer, the permit data requirements are based upon the recognition that, in the absence of baseline data, any hydrologic modeling and planning for replacement water is meaningless. Further, under the provisions of the National Environmental Policy Act, it cannot be reasonably argued that a "hard look" has been taken without a baseline data set at least comparable to that required for the extraction of coal. Therefore, the BLM must require, as part of the preparation of the environmental impact statement, the acquisition of an adequate number of years of baseline water data, and the data to be gathered by the proposed drilling plan.

The State of Utah is also concerned about the effects the proposed project may have upon the school trust lands located in the area. The school trust lands were granted to the State of Utah by the United States at the time of statehood for the benefit of the public schools of Utah, and are subject to federal statutory and state constitutional obligations to manage the lands for the sole benefit of the beneficiaries, and to maximize the potential value of the holdings. These lands are managed by an independent state agency, the "School and Institutional Trust Lands Administration," with separate legal standing from the state for these purposes.

1 09 5 The Trust Lands Administration administers 238,570 acres of surface and mineral land in and adjacent to Snake Valley, Utah, as shown on Exhibit "D." This pattern of ownership is completely different from the ownership of equivalent lands in Nevada. In conjunction with its landholdings, the Trust Lands Administration holds rights to 9,052.09 acre feet of water, subject to the jurisdiction of the Utah State Engineer. The Trust Lands Administration is the largest land owner after the United States in the area of potential impact from the proposed project. Because land values in the area are dependent on the availability of water, the Trust Lands Administration and the State of Utah are under an obligation protect the land values from the unknown and unstudied effects of the proposed project. This obligation includes protecting the future development potential of the lands. The Ely Office of the BLM, as a federal agency, is under an obligation to carefully consider the effects of its proposals and authorizations upon the ability of the state to manage the school trust lands for the purposes of the grant, and the state strongly requests that the BLM do so in this environmental impact statement.

Thank you for the opportunity to comment. The state looks forward to working closely with your office on the continued preparation of the environmental impact statement for the proposed project in order to insure the full environmental and socioeconomic effects of the project are considered.

Sincerely,

Lynn H. Stevens

Lynn H. Stevens
Public Lands Policy Coordinator

EXHIBIT A

Utah Division of Wildlife Resources
Comments on
Clark, Lincoln, and White Pine Counties Groundwater Development Project

Utah Wildlife Data Currently Available

- Known occurrence information for state sensitive species and Federally-listed threatened, endangered, and candidate species is available from two sources: 1) masked occurrence data (to the 7.5' USGS quadrangle map level) can be downloaded from the UDWR web site at http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm, and 2) precise locality information can be obtained by government agencies and contractors for government agencies by contacting UDWR's Utah Natural Heritage Program at 801-538-4759 or lenorasullivan@utah.gov.

- Important wildlife habitat areas for high-interest wildlife species, such as mule deer and pronghorn, are available in GIS format from the UDWR web site at http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm.

- Annual surveys of the Columbia spotted frog (*Rana luteiventris*) and least chub (*Iotichthys phlegethontis*) have been conducted in the Snake Valley, Utah since 1994. Both species are Conservation Agreement species and the West Desert population is considered a Distinct Population Segment by the U.S. Fish and Wildlife Service. The surveys include population and habitat data from each spring system in the Snake Valley. These reports may be obtained by contacting Jennifer Wiglama at (801)-538-7394 or jenniferwiglama@utah.gov. Additional data not included in the annual reports include: average spring length, width, and depth, as well as some water chemistry. These additional data are available from Carmen Bailey at (801) 538-4830 or carmenbailey@utah.gov.

Utah Wildlife Data Needed

- Surveys are needed to assess the potential impacts to greater sage-grouse (a state Wildlife Species of Concern) from groundwater withdrawals. It is not known if all greater sage-grouse leks in the project area have been identified. In addition, field work is necessary to more accurately delineate greater sage-grouse nesting, brooding, and wintering habitats in the area.

- Surveys are needed to determine the distribution of pygmy rabbit (a state Wildlife Species of Concern) and assess possible impacts to the species from groundwater withdrawals.

- Surveys are needed to determine the distribution of California floater (a state Wildlife Species of Concern) and assess the possible impacts to the species from groundwater withdrawals.

- Water is a limiting resource in the region, and existing wetland areas provide crucial habitat for the maintenance and distribution of many wildlife populations in the area. Field surveys are necessary to assess the potential impacts from groundwater withdrawals to many species of wildlife, including amphibians (nocturnal surveys will be necessary), migratory/breeding birds, raptors, bats, and other small mammals.

- Field surveys are needed to determine the potential impacts from the project to the Clear Lake Wildlife Management Area and the Topaz Slough Wildlife Management Area.

- Fine resolution bathymetric maps of potentially impacted ponds, wetlands, and large springs are necessary so that biologists can determine the impacts that reduced water levels will have on wildlife habitat. Any reductions in shallow-water areas may be particularly detrimental to wildlife.

- Many springsnail species are listed as state Wildlife Species of Concern on the *Utah Sensitive Species List*. BioWest is conducting the surveys that will be necessary to determine the distribution of these sensitive species within the project area and to assess the potential impacts to these species from groundwater withdrawals. BioWest's surveys may also determine if there are other rare springsnail species within the project area that have not yet been detected.

- The following wetland complexes, which will likely be adversely impacted by large withdrawals of groundwater, presently support either Columbia spotted frog (a state Conservation Agreement Species) or least chub (a state Conservation Agreement Species), or both species: Gandy Marsh (Millard County), Clear Lake (Millard County), Tule Valley spring systems (Millard County), Bishop/Twin Spring/marsh complex (Millard County), Miller/ Leland Harris spring/marsh complex (Juab County), and Mills Valley (Juab County). Least chub have also been introduced into the Fish Springs area (Juab County). These sites represent more than half of the known distribution of least chub, and the southernmost extent of the range of Columbia spotted frog. An analysis of potential impacts to least chub and Columbia spotted frog from loss of water at these springs is necessary.

- An assessment of potential impacts to deer, elk, and pronghorn from groundwater withdrawals is necessary.

- To partially mitigate for adverse impacts of the Central Utah Project, the UDWR, in concert with the Utah Reclamation Mitigation and Conservation Commission, is proposing to construct a warm water sport fish and native aquatic species hatchery (U.S. Fish and Wildlife Service and Utah Reclamation Mitigation and Conservation Commission, 1998). The Gandy Warm Springs location has been designated as the Preferred Alternative in the ongoing environmental analysis. Hydrology studies are necessary to determine the potential impacts of

groundwater development on water yield at the Gandy Warm Spring, and to determine if groundwater withdrawals could compromise the ability of this site to support a warm water culture facility.

- There are undoubtedly other wildlife issues that will be identified during the NEPA process. Additional wildlife surveys may be necessary to properly analyze these issues and assess potential impacts associated with as yet unspecified and indeterminate reductions in local groundwater distribution.

Literature Cited

U.S. Fish and Wildlife Service and Utah Reclamation Mitigation and Conservation Commission. 1998. Revised Fish Hatchery Production Plan, Final Environmental Assessment. 81 pgs + appendices.

EXHIBIT B

Utah Division of Water Rights
Comments on
Clark, Lincoln and White Pine Counties Groundwater Development Project

General

The United States Geological Survey is on record indicating the carbonate aquifer model they developed in 1983 is inadequate to assess the impacts of this project. The dataset used by the BLM in the preparation of this EIS must inprove upon that available to the USGS in 1983. However, the USGS model, and the analysis of the project by the Utah Geological Survey using that model represent the best independent analysis tools currently available and should be included as part of the data package until such time as clearly better analysis products are available.

Surface Water

Some available record periods are too short for correlation with longer period sources. BLM should restart collection of flow data on sources where such collection was stopped within the last ten years in order to achieve a record amenable to correlation.

The BLM must obtain data on water levels in natural lakes and ponds, particularly for those "oasis" features of the carbonate aquifer system to estimate their value as aquatic habitat and their evaporative surface. Bathymetric data would also be helpful in this respect.

Springs should be measured at least monthly, preferably near the middle of the month to allow for better evaluation of the discharge quantities. During the spring runoff, measurements should be weekly. The resulting hydrograph will be useful in determining lag time between recharge and discharge.

Ground Water

There is no evidence of well water level data in northern Spring Valley and lower Hamlin Valley. Data from these areas are needed to determine flow patterns.

Exploratory wells should be drilled to the bottom of alluvial fill, and extended into the carbonate aquifer for geophysical logging and aquifer testing in both unconsolidated and consolidated formations. This is essential data for determining physical parameters of both alluvial and bedrock aquifer systems and their hydrologic connection.

BLM should consider the following Utah Technical Publications available at the Division of Water Rights website (http://waterrights.utah.gov/):

Technical Publication 14 – Snake Valley
Technical Publication 24 – Deep Creek Valley

Technical Publication 47 – Wah Wah Valley
Technical Publication 56 – Tule Valley
Technical Publication 64 – Fish Springs Flat
Technical Publication 71 – Southern Great Salt Lake Desert
Technical Publication 96 – Sevier Lake Area

Water Quality

BLM must obtain isotope data, in order to estimate aquifer water residence, travel time and transmissivities.

BLM must obtain and consider water quality data for natural lakes and ponds, in order to determine the health of the aquatic system.

Anthropogenic Aspects

BLM must consider the amount of water depleted from the hydrologic system by man-made uses. Such data, along with diversion data, would be useful in estimating recharge to the system from man-made uses.

EXHIBIT C

PROPOSED GROUND-WATER OBSERVATION WELLS FOR SNAKE VALLEY, UTAH, AND ADJACENT AREAS

Suggested Plan and Guidelines

Hugh Hurlow and Mike Lowe, Utah Geological Survey

Bill Schlotthauer and Jim Goddard, Utah Division of Water Rights

Dan Aubrey, Utah Division of Water Resources

We propose 13 new observation wells in Utah and Nevada to characterize ground-water flow and hydraulic properties in the basin-fill, volcanic, and carbonate aquifers of Snake Valley and adjacent areas, and to monitor possible effects of the water-well fields proposed by the Southern Nevada Water Authority (SNWA) for Snake Valley and Spring Valley. Three of the observation wells will be constructed to conduct aquifer tests to determine the hydraulic properties of the aquifers. All of the wells will be constructed to accommodate measuring of ground-water levels and obtaining water-chemistry samples as part of a long-term monitoring program that must begin at least two years before ground-water withdrawal begins in the proposed SNWA well field.

Objectives

1. Monitor changes in water levels due to withdrawal from SNWA wells.
2. Establish background water-level and chemical data prior to installation of SNWA wells, and long-term monitoring of ground-water levels.
3. Collect data on ground-water levels, chemistry, and hydraulic properties of aquifer materials from the basin-fill, volcanic, and bedrock aquifers, to better

characterize (1) ground-water flow systems in the aquifers, from recharge areas (Northern & Southern Snake Ranges) to regional springs and areas of active irrigation, (2) interbasin flow in the carbonate aquifer, including flow from below Spring Valley to below Snake Valley and flow from below Snake Valley to the north, northeast, and southeast, and (3) vertical hydraulic connection between basin-fill, volcanic, and carbonate aquifers.

Proposed Well Locations

See table 1 and accompanying map for details. The proposed observation wells are situated between the proposed SNWA well field and areas of major ground-water use and regional springs in Utah, and where interbasin flow in the carbonate-bedrock aquifer likely exists. See figure 1 for generalized geology and well construction.

General Guidelines for Construction of Observation Wells

1. Wells suitable for performing detailed aquifer tests (3):
    a) Minimum 6" casing diameter with gravel pack
    b) High-quality screens in each aquifer (2 or 3)
    c) 20' thick seal at contacts between aquifers
    d) Nested piezometers (2 or 3).
2. Wells for measuring water levels and collecting water-quality samples only (12):
    a) 6-8" diameter with nested piezometers (2 or 3).

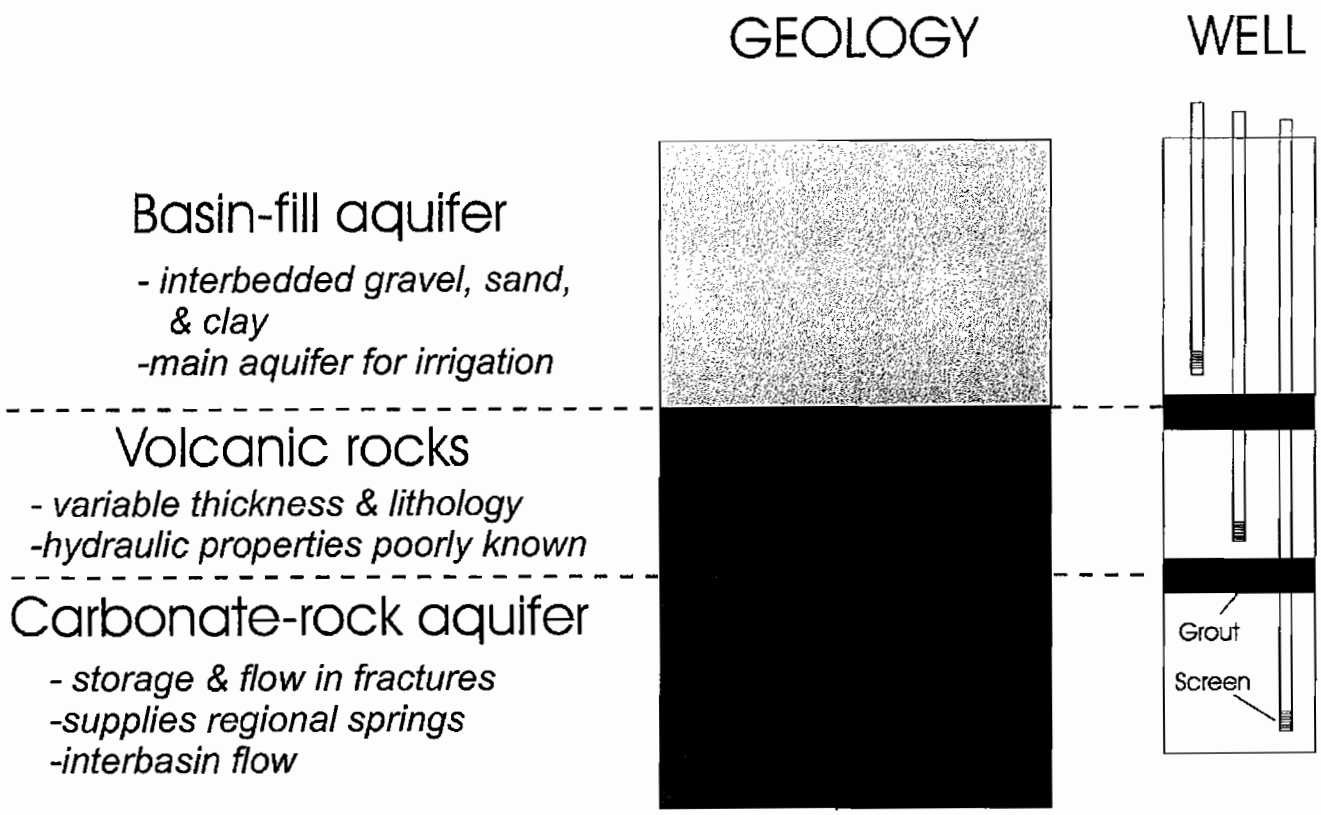
General Guidelines for Aquifer Tests

1. Collect static water-level data prior to test
2. Develop well thoroughly before test
3. Conduct step-drawdown test to determine sustainable pump rate during main test
4. Use variable-speed pump or sufficiently large-capacity pump to ensure constant pumping rate during test
5. Pump for at least 48 hours or until drawdown stabilizes
6. Measure recovery until water level is within 98% of pre-test level
7. Measure water levels and barometric pressure during pumping and recovery using a state-of-the-art transducer and data logger
8. Pack off (isolate) each aquifer and pump separately, measuring water levels in all screened aquifers
9. Measure water levels at up to three wells in addition to pumped well – upgradient, downgradient, cross-gradient

Table 1. *Details of proposed observation wells for Snake Valley and adjacent areas.*

Map ID	Type[1]	Basin-Fill Depth[2] (ft)	Depth in Bedrock (ft)	Total Depth (ft)	Cost[3]	Location[4]	Land Ownership	Monitoring Objective/ Feature of Interest
1	A	500	1000	1500	93	T12N R70E 23; East flank southern Snake Range	US BLM NV	Hydrogeology in recharge area
2	O	500	500	1000	33	T21S R20W 36; Garrison	Utah SITLA	Irrigation near Garrison
3	A	2800	400	3200	195	T20S R19W 32; Baker Sinks	Utah SITLA	Irrigation near Eskdale
4	O	800	300	1100	36	T23S R20W 36; Lake Creek	Utah SITLA	Irrigation & wetlands
5	O	0	500	500	18	T24S R19W 13; Mormon Gap	US BLM UT	Interbasin flow to Pine Valley
6	O	1300	500	1800	57	T16 S R18W 32; South of Bishop Springs	Utah SITLA	Bishop Springs
7	O	2400	200	2600	81	T16S R19W 11; East of Gandy	Private	Salt Marsh Lake
8	A	1300	500	1800	111	T14S R18W 2; Trout Creek	Utah SITLA	Interbasin flow to Callao
9	O	1000	300	1300	42	T12S R14W 2; Fish Springs	Utah SITLA	Interbasin flow to Fish Springs
10	O	100	400	500	18	T17S R16W 16; Cowboy Pass	Utah SITLA	Interbasin flow to Tule Valley springs
11	O	1000	200	1200	39	T28S R20W 36; Hamlin Wash	Utah SITLA	Irrigation; interbasin flow to Escalante Valley
12	O	200	500	700	24	T9N R69E 19; South end Southern Snake Range	US BLM NV	Interbasin flow to Snake Valley
13	O	200	500	700	24	T18N R70E 3; North end Northern Snake Range	US BLM NV	Interbasin flow to Snake Valley

1. A = Aquifer-test capable, O = Observation only.
2. Coarse estimate from U.S. Geological Survey gravity data.
3. Approximate cost, in thousands of dollars. Based on $60/foot for aquifer-test wells, $30/foot for observation wells, plus $3000 fixed. **Does not include aquifer-test expenses. Total ±$770,000 for well construction and development.** Final depth and completion details, and therefore costs, to be determined on site at time of drilling and may be higher.
4. Township, Range, and Section, based on PLS system, relative to Salt Lake Base and Meridian in Utah and Mt. Diablo Base and Meridian in Nevada.


GEOLOGY
WELL
Basin-fill aquifer
- interbedded gravel, sand, & clay
-main aquifer for irrigation
Volcanic rocks
- variable thickness & lithology
-hydraulic properties poorly known
Carbonate-rock aquifer
- storage & flow in fractures
-supplies regional springs
-interbasin flow
Grout
Screen

Scoping Comments: Number 5550

Courthouse Annex
801 Clark Street, Suite #4
Ely, Nevada 89301
(775) 289-2341
Fax (775) 289-2544

White Pine County
Board of County Commissioners

July 28, 2005

Please accept the attached comments and include them in the Environmental Impact Statement, Scoping Report for the Clark, Lincoln, and White Pine County Ground Water Development Project.

The comments represent the concerns of the White Pine County Public Land Users Advisory Committee, the White Pine County Water Advisory Committee, and the White Pine County Commission.

Thank you.

Sincerely,

John A. Chachas

John A. Chachas,
Chairman

SNWA/EIS 2620

Courthouse Annex
801 Clark Street, Suite #4
Ely, Nevada 89301
(775) 289-2341
Fax (775) 289-2544

White Pine County
Board of County Commissioners

WHITE PINE COUNTY SCOPING COMMENTS, CLARK, LINCOLN, AND WHITE PINE COUNTY GROUND WATER DEVELOPMENT PROJECT ENVIRONMENTAL IMPACT STATEMENT

General and Procedural Issues:

1. The project description provided for the scoping hearings is inadequate. The Environmental Impact Statement (EIS) process should be delayed until a detailed project description is provided.

2. Any information provided by Southern Nevada Water Authority (SNWA) on specific aspects of well sites, power lines, maintenance roads and facilities, Appropriation of Public Waters (e.g., Applications, Permits and Certificates) and any other component of the project should be included in the project description and the public should be afforded the opportunity to participate in scoping hearings, review of draft environmental documents, and the opportunity to comment on each aspect of the project.

3. The EIS process should ensure that all information gathered for and used in the analysis is made public. If any information is withheld from the public, the EIS process should identify information is withheld and include an explanation of the reasons.

4. The EIS process should retain neutral, third party experts to help understand aquifer characteristics as well as relevant background information associated with the proposed project.

5. The EIS process should include an analysis of the costs of the pipeline that has been verified using independent, third party sources with no current or potential future engineering contracts with SNWA.

6. The EIS process should be conducted in conjunction with the U.S. Geological Survey (USGS), Basin and Range Carbonate Aquifer System Study (BARCASS) study and the information gathered through the USGS, BARCASS study should be incorporated into the EIS findings.

7. The EIS process should address the potential impacts, e.g., physical, socioeconomic, etc., in White Pine County due to the implementation of the Ground Water Project in Lincoln County.

8. The EIS process should address alternatives to construction of the pipeline, cumulative impacts due to additional water projects in the region sponsored by private water purveyors, and the potential impacts of future expansion of the project if the pipeline is constructed.

9. The EIS should consider financial surety bonding or other similar mechanisms to address environmental damages, permit obligations, and other foreseeable losses.

Hydrological/Geological Issues:

1. The EIS should analyze the probable impacts to the land surface due to vigorous pumping of ground water. (The Nevada Bureau of Mines and Geology published studies for the Las Vegas Basin that documented such effects as subsidence, wellhead displacement, desiccation cracks, tilting, seismicity, decreased porosity, and other features.) The EIS should analyze whether these impacts would occur in White Pine County if the Ground Water Project proceeds, if the effects would occur in adjacent and interconnected valleys, and if any damage caused to the land surface due to vigorous pumping of ground water could be reversed if pumping is discontinued.

2. The EIS process should include studies pursuant to (**NRS 533.368**[1]):

   - improve understanding of aquifer characteristics (NRS 532.170[2]),
   - analyze the projected water table draw downs by basin as a result of the project,
   - analyze project impacts on subsidence,

---

[1] **NRS 533.368 Hydrological, environmental or other study: State Engineer to determine need for study; cost of study paid by applicant; regulations.** 1. If the State Engineer determines that a hydrological study, an environmental study or any other study is necessary before he makes a final determination on an application pursuant to NRS 533.370 and the applicant, a governmental agency or other person has not conducted such a study or the required study is not available, the State Engineer shall advise the applicant of the need for the study and the type of study required. 2. The required study must be conducted by the State Engineer or by a person designated by him, the applicant or a consultant approved by the State Engineer, as determined by the State Engineer. 3. The applicant shall bear the cost of a study required pursuant to subsection 1. A study must not be conducted by the State Engineer or by a person designated by him until the applicant has paid a cash deposit to the State Engineer which is sufficient to defray the cost of the study. 4. The State Engineer shall: (a) Consult with the applicant and the governing body of the county or counties in which the point of diversion and the place of use is located concerning the scope and progress of the study. (b) Send a copy of the completed study to all attorneys of record, to a public library, if any, or other public building located in the county of origin, to the county or counties in which the point of diversion and the place of use is located and to the governing bodies of the county of origin and of the county or counties in which the point of diversion and the place of use is located. 5. The State Engineer may adopt regulations to carry out the provisions of this section

[2] **NRS 532.170 Agreements concerning use and development of water resources.** 1. Subject to the provisions of subsection 2 and with the approval of the Director of the State Department of Conservation and Natural Resources, the State Engineer, for and on behalf of the State of Nevada, is authorized to enter into agreements with the United States Geological Survey, the United States Soil Conservation Service, and any state agency, subdivision or institution having jurisdiction in such matters, for cooperation in making stream measurements, underground water studies, snow surveys, or any investigations related to the development and use of the water resources of Nevada.

- analyze project impacts on recharge rate, and
- assess the impact of the proposed Ground Water Project based on stressing the aquifer.
- analyze the local and regional effect on springs as a result of the pumping, analyze project impacts on subsidence,
- analyze project impacts on recharge rate, and
- assess the impact of the proposed Ground Water Project based on stressing the aquifer.

3. If the EIS does not include any of the studies identified in item 2, it should provide a detailed explanation of why they have been omitted and how the proposed analysis will provide accurate and adequate information of potential project impacts and for cumulative impacts.

4. The EIS should address the effects on regional aquifers and remote discharge points.

5. The EIS should address the effect of the proposed project on the trend toward gradual drying of the Great Basin over recent geologic time (as it is documented in paleoclimate data, age dates of well water samples, geomorphic features such as Pleistocene lake bed terraces, recent fossil records, archeological data, and numerous other features that show that eastern Nevada once had a much wetter climate and a relative abundance of surface water).

6. The EIS should address the need, efficiency, and impact of any open reservoirs, storage areas, or other open water sources required for or associated with the SNWA project.

7. The EIS should adequately address existing, as well as pending Water Rights and the potential impacts to allocated rights.

Biological Issues:

1. The EIS should analyze and address the impacts of the anticipated decrease in stream flows and lower water table on animals (**NRS 533.367**[3]) and plant communities in the region, especially sensitive species, species proposed for listing, and federally listed species including Swamp Cedar and Sage Grouse.

2. The EIS should analyze and address the impacts of the project on wildlife migration patterns.

[3] **NRS 533.367 Requirement to ensure access of wildlife to water it customarily uses; waiver.** Before a person may obtain a right to the use of water from a spring or water which has seeped to the surface of the ground, he must ensure that wildlife which customarily uses the water will have access to it. The State Engineer may waive this requirement for a domestic use of water.

3. The EIS should analyze and address the potential impacts of the project on riparian areas and the impact that loss of healthy riparian areas may have on the region's wildlife, plant communities, and sensitive species including Sage Grouse.

4. The EIS should analyze and address the potential spread of noxious weeds during construction and operation of the pipeline and identify appropriate mitigation strategies.

5. The EIS should analyze and address the potential impact of the presence of overhead power lines within the corridor including, but not limited to the potential for increased electrocution of raptors.

6. The EIS should analyze the potential impact to air quality due to increased dust because of the reduced water resources.

7. The EIS should analyze and address the potential impact of the project on surface water resources and access to water for wildland fire fighting.

8. The EIS should be based on Nevada Department of Wildlife, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and other Agencies' monitoring requirements to ensure biological resources are tracked and recorded and/or other mitigative actions are addressed.

Socio-Economic Issues:

1. The EIS should analyze and address the potential economic impact to White Pine County if the proposed project does not allow enough water resources for it to meet its needs for current agricultural, industrial, mining, and municipal needs or to accommodate growth and development. The analysis should include all of the potential economic activity identified in the White Pine County Water Resources Plan.

2. The EIS should analyze potential impact to property values if water is exported for the Ground Water Project and identify mitigation strategies to ensure the project does not diminish the County's tax base.

3. The EIS should analyze and address the potential loss of tourism revenue because of declining outdoor recreation, hunting, and fishing use caused by the loss of water resources needed to maintain current environmental quality.

4. The EIS should analyze and address the economic impacts to the region's agricultural industry by converting water currently used for irrigation to municipal uses as well as the social impacts to the region due to the potential loss of one of the historic economic and cultural sectors of the community.

5. The EIS should analyze and address the approximate potential fiscal impacts to individual operators due to the conversion of water resources from agriculture to municipal uses.

6. The EIS should analyze and address the potential impacts and costs to local government for: 1) increased road miles and road maintenance, 2) dust control, 3) law enforcement, 4) emergency response, and 5) fire protection.

7. The EIS should analyze and address the potential population growth in Clark County due to the increased water resources that could be made available by the project. The EIS should analyze and address the environmental impacts (air quality, water quality, need for increased capacity for waste water treatment and solid waste disposal, increased traffic) and the social impacts of the increased growth in Clark County. It should identify mitigation strategies for potential impacts.

8. The EIS should analyze the impacts of increased growth in Clark County made possible by the Ground Water Project on the state of Nevada including tax revenues, increased costs to state funded education and social services, transportation facilities and services, and the impact on state and federal land management agencies due to increased use of public lands for recreation throughout the state. The EIS should identify mitigation strategies for statewide impacts.

Measurement, Monitoring, and Mitigation of Impacts:

1. The EIS should include cataloging and photographing all springs and wetlands in the region to establish a baseline for evaluating the impact of pumping on the region's ecosystem.

2. The EIS should clearly identify the means, methods, and responsible entity to be used to monitor the impacts of ground water pumping.

3. The EIS should clearly identify the trigger points to determine the need to diminish or discontinue ground water pumping due to negative environmental impacts.

4. The EIS should clearly identify the process for negatively impacted individuals to prove impact, litigate, seek reimbursement for losses as well as compliance by SNWA to reduce or stop pumping. This process should:

    - Place the financial burden of the process to prove negative impact and enforce compliance on SNWA rather than the negatively impacted rural water users.

    - Provide a simple procedure that does not require the negatively impacted

water user to seek relief through the State Engineer's Office or the Court system and that can respond quickly to restore water resources needed to sustain potable water sources, livestock, irrigation, and environmental quality.

- Provide financial resources for individual operators to deepen and improve their wells and to assist with increased costs of pumping due to the negative impacts of the Ground Water Project.

5. The EIS should identify the alternative water sources that will be used to meet the needs of Clark County if the EIS process determines that the Ground Water Project is not the preferred alternative or if monitoring or other studies show a negative environmental impact in White Pine and Lincoln Counties that requires pumping be reduced or discontinued.

6. The EIS should identify archaeological and areas of cultural significance as well as areas of paleontological importance, propose alternative routes, or address mitigative actions concerning these matters.

Cumulative Impacts:

1. The EIS should analyze and address the cumulative impacts from projects proposed by private water purveyors and made possible by the potential construction of the pipeline.

2. The EIS should analyze and address the cumulative impacts from the potential of future expansion of projects in White Pine County and into surrounding areas including Nye, Eureka, and Elko Counties made possible by the potential construction of the pipeline.

   - The analysis should include environmental, social, and economic impacts.
   - The analysis should evaluate the impacts of potential increased project scope on the Great Basin in general.

3. The EIS should compare the impacts of each of the many current and proposed water-pumping projects in the County and in particular discuss the relative magnitude of the SNWA proposal, the Vidler/Lincoln applications, current agricultural use, changing climate conditions in the Great Basin, and the uses listed in the White Pine County Water Resources Plan or other Water Resource Plans from neighboring counties or States.

4. The EIS should evaluate the existing and proposed transportation and utility corridors in White Pine, Lincoln, and Clark Counties and the EIS should determine if the environmental effects of creating a new corridor are less than combining the proposed water pipeline corridor with one or more of the existing or proposed corridors.

5. The Ground Water Project EIS should evaluate the potential increase in population made possible by public land sales in Clark County and the impact on the need for increased water resources as a connected action.

6. The EIS should evaluate the potential impacts of the Ground Water Project on surrounding basins including Steptoe Valley and the potential impact on water resources permitted for economic development projects in White Pine County. The EIS should include mitigation strategies for identified impacts.

Alternatives:

1. The EIS should include a complete analysis of the impact of the "No Action" alternative on White Pine and Lincoln Counties, on the Southern Nevada Water Authority service area, and on the state of Nevada as a whole, as well as potentially affected counties in the State of Utah.

2. The EIS should include an in depth analysis of:
   - Aggressive Water Conservation within the Southern Nevada Water Authority service area
   - Implementation of a No Growth or Restricted Growth policy in Clark County
   - Reallocation of the Colorado River water
   - Desalinization

WHITE PINE COUNTY TOURISM AND RECREATION BOARD
RESOLUTION NO. 2005- 02

WHEREAS, the White Pine County Tourism and Recreation Board, hereinafter referred to "BOARD", has a duty to promote recreation and tourism within White Pine County, State of Nevada; and

WHEREAS, BOARD, at its regularly scheduled meeting held May 19, 2005, discussed the impact of the proposed water exportation from White Pine County, to Clark County, by the Southern Nevada Water Authority; and

WHEREAS, the Board believes that it is not in the best interests of tourism and recreation within White Pine County that such exportation take place as it could diminish the natural resources in White Pine County which would cause detriment to tourism and recreation within the County;

NOW, THEREFORE, BE IT RESOLVED that the White Pine Tourism and Recreation Board hereby adopts this Resolution in support of the efforts of White Pine County in its opposition, management, and negotiations concerning the proposed exportation of water from White Pine County to Clark County, State of Nevada.

DATED this 19th day of May, 2005.

Patricia A. Stenhouse, Vice
CHAIRMAN
White Pine County Tourism
and Recreation Board

ATTEST:

Secretary

MAY 2005

Scoping Comments: Number 545

...ITE PINE COUNTY TOURISM AND RECREATION BOARD

Bristlecone Convention Center & Visitors Bureau

May 23, 2005

Mr. Bruce Flinn
Bureau of Land Management
HC 33 Box 33500
Ely, NV 89301

Dear Mr. Flinn,

On Thursday May 19, 2005 the White Pine County Tourism & Recreation Board has adopted the attached Southern Nevada Water Authority resolution.

The White Pine County Tourism & Recreation Board agrees that the exportation of water is detrimental to wildlife and tourism in White Pine County.

Sincerely,

Edwin G. Spear
Executive Director

EGS/rsh

150 6th Street • Ely, Nevada 89301
775 289-3720 • 800 496-9350 • Fax 775 289-67