

Woods, Penelope D

From: Susan Lynn <sblynn@sbcglobal.net>
Sent: Tuesday, October 11, 2011 12:48 PM
To: Penny_Woods@nv.blm.gov
Cc: Launce Rake
Subject: Comments on the DEIS + cover letter
Attachments: GBWN SNWA BLM DEIS comments cover letter 10-11-11.doc; GBWN SNWA DEIS Comments Rev 8 pm 10-10 Final.docx

Penny, This email contains our comments and cover letter. The appendices will need to come from Launce Rake in a separate email.

Thanks
Susan



GREAT BASIN WATER NETWORK

1755 Plumb Lane #170

Reno, NV 89502

(775) 786-9955

<http://greatbasinwaternetnetwork.org>

October 11, 2011

Penny Woods,
BLM Project Manager,
P.O. Box 12000,
Reno, NV 89520

Dear Ms. Woods:

Please find attached the Response to the Clark, Lincoln and White Pine Counties Groundwater Development Project Draft Environmental Impact Statement. This represents comments on the DEIS from the Great Basin Water Network, with contributions from the Toiyabe Chapter of the Sierra Club and Defenders of Wildlife, as well as numerous individuals. We have just received electronic concurrence with our comments from Defenders of Wildlife (see attached) who wish to sign on to our comments.

Also find attached Appendices A through G, which will provide additional information for context and clarification of the complex issues involved in the Response.

Based on the DEIS information submitted, those contributors to this response agree that the Bureau of Land Management, following federal law and the agency's own mission statement, must either find for the No Action Alternative in the DEIS, or provide more information to cover significant shortcomings before making a Record of Decision.

We appreciate your attention to this Response and do not hesitate to contact us if we can be of any assistance or provide any clarification.

Sincerely,

Susan Lynn, Coordinator for GBWN
And with electronic concurrence from Defenders of Wildlife (Mike Senatore)

2011

RESPONSE TO THE CLARK, LINCOLN AND WHITE PINE COUNTIES GROUNDWATER DEVELOPMENT PROJECT DEIS



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**Response to the Clark, Lincoln and White Pine Counties Groundwater
Development Project DEIS**

September 2011

**Great Basin Water Network
1755 E. Plumb Lane #170
Reno, Nevada 89502**

**For information on this response, contact Launce Rake, 1234 S. 17th St., Las Vegas,
NV 89104. Email: launcerake@rocketmail.com.**

**Edited and compiled by Launce Rake for the Great Basin Water Network. DEIS
Response Review Committee Members: Rose Strickland, Abigail Johnson, Susan
Lynn, Ann Brauer, Dennis Ghiglieri, Jerald Anderson, Kathy Hill, Ken Hill, Rob
Mrowka, Steve Erickson, and Wilda Garber.**

The Great Basin Water Network was formed to protect the water resources of the Great Basin for current and future residents – human, animal and plant. Organizations, businesses and individuals have banded together to form the Network so that decisions on all water development proposals in the Great Basin are made in the open with caution, coherence and based on the best scientific information. The Great Basin Water Network also works to ensure that decisions are made without undue political and developer special interest pressure.

The Great Basin Water Network's overriding concern is that the Las Vegas metropolitan area and other large communities in the Great Basin implement an effective water conservation program including economic incentive for water smart-practices and implementation of simple, inexpensive conservation measures as opposed to multi-million projects that would burden urban taxpayers while leaving rural families high and dry.

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Introduction and Overview

The environmental analysis that the Bureau of Land Management has conducted on the Groundwater Development Program of the Southern Nevada Water Authority predicts environmental impacts so widespread, long-term and severe that the federal agency – in order to fulfill its mission and public trust duty – has only two choices: Deny the requested right of way by selecting the No Action Alternative, or find that the analysis is so flawed and inadequate that the BLM must withdraw and reissue the Draft Environmental Impact Statement or produce a Supplemental EIS in order to allow for informed decision-making.

This conclusion is based on the analysis of the DEIS by dozens of experienced analysts with the Great Basin Water Network (GBWN), including scientists, lawyers and conservationists who have worked closely with federal, state and local agencies to prepare similar documents.

GBWN was created in 2003, and incorporated three years later, in response to accelerated efforts by the Las Vegas-area municipal water supplier, the Southern Nevada Water Authority, to locate numerous wells in rural East-Central Nevada and pump water to the urban south. At the time, Las Vegas government and business officials insisted that the Groundwater Development Program was needed to sustain an annual population growth rate of more than 5 percent, while the SNWA had maxed out (in fact, over-used) its allocation from the Colorado River. The Colorado River then and now supplies more than 90 percent of the water needs of SNWA's service area, which includes the cities of Las Vegas, Henderson, Boulder City, and North Las Vegas, as well as the urbanized areas of unincorporated Clark County.

By 2005, the SNWA was confidently predicting to national media that the metropolitan area would out-consume Colorado River water resources by 2007, requiring immediate development (then) of the wells and pipelines.¹

But the last six years have proved that SNWA's claims were profoundly wrong. Demographic trends radically undermined the justification for the groundwater program – population growth halted. Simultaneously, conservation efforts have created a huge margin against drought on the Colorado River.

For SNWA, virtually every supposition and justification for the Groundwater Development Program radically changed. In 2007, the unprecedented bubble of rising housing prices, propped up by profoundly unsustainable lending practices, “popped.” Nevada and Las Vegas, with economies and government (including SNWA) revenues largely dependent on rapid growth, were hit particularly hard by the end of the housing bubble.^{2,3}

The new-home water connection fees and proceeds from the sale of federal lands that once provided about half of the SNWA budget have largely evaporated. Connection fees alone dropped from \$188 million in 2006 to \$3.2 million in 2010.⁴

Instead of a rising population, population growth in Nevada and the Las Vegas metropolitan area is nearly static or even retrograde, and that trend could continue for the next two decades, according to the Nevada State Demographer's Office.⁵ The region has an excess supply of housing units that would take years to absorb.⁶

The metropolitan area continues to be hammered by the highest foreclosure rates in the country⁷ and fastest fall in wages in the country⁸, and Nevada continues to struggle with the highest unemployment rate in the country⁹, all stark indications that a return to the boom is unlikely. This means that the cost for any groundwater program would be shifted to ratepayers, instead of now nonexistent growth.

But another dramatic change from the situation in 2003 is the success of conservation programs in the metropolitan area. Between 2002 and 2010, water users in metro Las Vegas trimmed 100,000 acre-feet annually from their consumptive use, or one-third of the total allocation from the Colorado River.¹⁰ The DEIS and the SNWA predicts continued success in its conservation programs. Note that the success in conservation similarly makes the financial model for the Groundwater Development Program out of date, and it needs to be recalculated in light of the new demographic and conservation information.

Simply put, the demographic trends which fueled the rationale for the SNWA pipeline no longer exist. The end of rapid population growth combined with the conservation measures in place give Southern Nevada a healthy margin to respond to drought or other needs. Once again, consumers have proved that conservation is the cheapest, safest and best mechanism to respond to resource management.

The conservation total is particularly significant because when the growth boom ended in Southern Nevada, the SNWA shifted its rationale for the Groundwater Development Program to a need to diversify its Colorado River-dependent portfolio because of the threat of drought drying up Lake Mead. However, the protocols developed by the Colorado River Basin States and the federal government call for cuts of 13,000 to 20,000 acre-feet annually (afa) in the SNWA allocation from the river in the event of extraordinary drought causing water levels in Lake Mead to fall precipitously. Other basin states would face similar percentage reductions in their allocations. Those cuts, which would preserve access to the river for all users, would be, for Southern Nevada, far smaller than the conservation measures already achieved in metropolitan Las Vegas.¹¹ This means that even in the event of a deepening drought, Southern Nevada water users would not be affected. They have already conserved their way out of crisis.

Either one of the two broad trends – the conservation achievements of Southern Nevada water users, along with responsible management of Colorado River resources, and the end of the rapid population and homebuilding booms of the early 2000s – make the Groundwater Development Program unnecessary. Indeed, it is difficult to ascertain the real motivation behind the SNWA's continued insistence on a project that independent

analysts hired by the SNWA now say will cost more than \$15 billion, fifteen times the cost estimates provided to media just a few years ago.¹²

However, of greater concern for the contributors of this report are the significant deficiencies of the DEIS and indeed in the monitoring, management and mitigation measures proposed, suggested or hypothesized in the document. As documented in this response, the National Environmental Policy Act requires a thorough understanding of all the impacts and corrective actions before a record of decision (ROD) can be issued. We argue that the BLM and its contractors has failed to abide by this legal and administrative mandate.

The following report is a summation of various authors and perspectives that make up the Great Basin Water Network, focusing on the insights of those who would be directly affected by the removal of groundwater from East-Central Nevada and Western Utah, the work of accomplished scientists, and experts on federal responsibilities and land-management law. In some cases, contributors agree with the Bureau of Land Management's findings in the Draft Environmental Impact Statement. In other analyses, contributors have identified clear deficiencies in the DEIS that must be addressed before a ROD can be issued.

Response by Chapter

GBWN's response is detailed by chapter below. Refer to the Index for subsections.

Executive Summary

The DEIS predicts dire impacts to the resources within the project area of pumping. BLM should consider that the model may be underestimating the pumping impacts, and consider how the agency as well as the Department of Interior will protect its resources at the projected levels, and at levels greater than shown. BLM should condition the Right of Way permits to ensure that BLM has authority to set triggers and enforce pumping cessation in order to limit effects on its resources.

The Executive Summary 2.9, page 10, states, "The BLM has no legal authority over water rights in Nevada or the SNWA water resource plan." The chart on the same page attempts to sort out the BLM and State Engineer responsibilities. The blue arrow is labeled "Time" but more appropriately should be labeled "The Public" because the public is caught in the middle between two agencies playing a shell game, hiding responsibility for the destruction and defoliation of rural Nevada from the public.

In the DEIS, BLM repeatedly asserts that it only has authority over the right of way, not the water. However, it also has public water reserves in the valleys in question. BLM has inappropriately comingled its separate responsibilities as a water user and as a protector of lands and resources. They are not the same. As a water rights holder, BLM has entered into a stipulated agreement in Spring and CDD years prior to the preparation of this EIS. BLM is choosing to carry those agreements forward and "check off the box" for monitoring, management and mitigation (3M) by using agreements forged in secret between SNWA and BLM prior to SE water hearings. It is inappropriate to use agreements forged in secret prior to the release of the DEIS to address impacts disclosed for the first time in the DEIS.

BLM's DEIS demonstrates long term irreversible and destructive impacts to water resources and the ecology of the affected area. As a resource manager, it is BLM's responsibility to ensure that the proposed action and alternatives do not adversely affect BLM's claims. BLM's own studies show SNWA drawdowns will eliminate or adversely impact its public water reserves (PWRs). BLM should have similar concern for all other water rights or claims to water that are connected to resources under its jurisdiction. BLM cannot and must not disregard the stewardship of its resources.

On Page 75 of the Executive Summary, the BLM states, "BLM is particularly interested in seeing comments and suggestions for the analysis of the Snake Valley portion of the proposed project and identification of impacts to resources in the area, especially to those in GBNP."

The project as described will have irreversible impacts on Great Basin National Park. Short of selecting the No Action Alternative, any of the proposed alternatives will result in permanent adverse affects to GBNP. Parks and wilderness areas are both apart and joined with the region, ecosystem, and communities that surround and support them. Defoliating the valleys of the Great Basin that surround and support the GBNP will have profound impacts on the biology of the Park.

The DEIS admits that the source of cave waters in GBNP and in the region are unknown. The caves are at risk, the delicate ecosystem of the Park is at risk, and so are the lands that BLM has sworn to protect for present and future generations. The irreversible and irretrievable section in the DEIS should be a reason to protect Snake Valley and to reject the pipeline project.

Chapter 1 – Purpose and Need

Chapter 1.21 identifies that the purpose for the ROW action is to consider the applicant's request for use of federal land managed by the BLM for construction and operation of the proposed groundwater conveyance system which once in place could facilitate future groundwater development and production in five hydrographic basins contingent upon approval of water rights applications filed by SNWA. Section 1.2.2 identifies that the BLM's need for federal action is to fulfill its responsibilities under the FLPMA and other legislation to respond to the applicant's request. This includes provisions requiring the BLM to grant the ROW to SNWA in SNPLMA, 1998, for Clark County and provisions in the LCCRDA of 2004 for Lincoln County. There is no Congressional direction to grant the ROW in White Pine County.

The Statement of Purpose and Need reflects only the BLM's need to take action on a specific application. There is nothing in the Statement of Purpose and Need to provide guidance for the reader on why the project is needed, a reasonable range of alternatives, and why the land and environmental impacts of the project are ultimately justified. There is nothing that helps the reader evaluate the costs and benefits of the project.

It is important to note that accomplished scientists and public administrators have discussed literally dozens of alternatives to the Groundwater Development Project. These alternatives need to be delineated within the DEIS.

Tiering

Chapter 1.3.3 explains the tiering process to be used. Under this section the explanation is given that tiering shows an assessment of a combination of site specific actions and broader programs and issues in the initial (Tier 1) analysis, evaluating the effects of additional and site specific proposals more comprehensively in subsequent tiered NEPA analysis. It states that tiering is appropriate when it helps the lead agency focus on those issues ready for decision, deferring detailed consideration of those issues not yet ready for analysis due to uncertainty or lack of sufficiently detailed description of the proposed development. According to this section the Tier 1 EIS will focus on the proposed alignment of the main pipeline and associated operational facilities (power transmission lines, pump stations, etc.) that are known. Details regarding future facilities for groundwater development including the number and locations of wells and the specific lengths and routes of collector pipeline and distribution power lines are unknown. The environmental effects of that future groundwater development including the long-term effects of groundwater production are the subject of programmatic analysis in Tier 1.

GBWN is concerned that Tier 1 decisions will lock-in all future decisions, despite new information and subsequent environmental analyses; further, tiering sanctions and encourages speculation (the speculative nature of this project) – water may or may not be needed or used, well locations are undetermined, indefinite, well locations are subject to change, impacts may or may not be mitigated or able to be mitigated.

After the SNWA identifies specific details of the groundwater development components it will submit additional ROW applications to the BLM and the BLM will address future site specific components in subsequent tiered NEPA documents. The hydrologic model used for Tier 1 and baseline assessments for all resources will be updated in subsequent tiered analysis on site specific groundwater development components in NEPA documents. The section further states that BLM will require initial construction of each section of the ROW within 5 years of the issuance of the ROW and that the ROD/FONSI for each will require site specific construction and operations plan, that the data, analyses, and other information used to reach a decision may change over time, and a delay in project implementation of even a few years could result in the need to supplement the NEPA process.

According to the schedule listed on Page 3.18.63, future groundwater development would not occur until 2016-2019 or Dry Lake, Delamar, and Cave valleys, 2025-2027 in southern Spring Valley, 2042-2044 in northern Spring Valley, and 2047-2049 in Snake Valley.

The tiering process and the time frames raise questions about the confidence the public can place in a ROW grant issued in 2012 and subject to so much uncertainty.

1. The wells, collector lines, and distribution power lines are essential to using the main pipeline, transmission system, and pump stations to achieve the purpose of providing water resources from Central Nevada to the Las Vegas Valley. Wouldn't these facilities fall under the definition of Connected Actions since it would be unwise or not feasible to construct the pipeline without the wells to provide the water? If the wells are truly connected actions, there is a requirement to analyze them within the same NEPA document as the main pipeline.
2. The discussion of the tiering process indicates that this will be a fluid process with new information and analysis taken into account as they go along. How will the new information be related to a ROD on Tier 1?
3. The requirement for initial construction on each ROW within 5 years of its issuance would be within a reasonable period for a ROW for Dry Lake, Delamar, and Cave Valleys assuming a ROD is issued in 2012 and construction on the groundwater development in that area takes place from 2016 to 2019. As the project moves further north, the groundwater development would not occur for up to 37 years from the date of the initial ROD on the pipeline and the ROD for Snake Valley would not be issued for over 30 years to be in compliance with the five year requirement. On an administrative level, how will the BLM track the tiered process over this period of time? Is there any precedent for use of the tiered process over a period of decades? How will the public be assured that all of the mitigation measures identified in the Tier 1 EIS will be maintained in future actions?

Chapter 2 – Project Description and Alternatives

The alternatives identified in the Project Description are all modifications of the ROW routes. All other suggested alternatives for other means to develop water resources to serve the needs of the Las Vegas Valley are discounted. The statement of Purpose and Need unduly limits the consideration of a reasonable range of reasonable alternatives to allow adequate evaluation of the irreversible and irretrievable commitment of resources that, according to Table 3.18.49, could have potentially significant adverse effects on the region's potential for economic activity.

Projects identified for Cumulative Analysis

The projects identified for the cumulative analysis are limited to those that are known today and have taken steps within the EIS process to move forward. The actions identified in the Project Description are not anticipated for a period of up to 35 years and the impacts of groundwater pumping are analyzed for a period of 200 years. The document needs to state that there is no way to do an adequate analysis of cumulative impacts because of the unknown and incomplete information that is not available on potential projects within the time frame outlined.

Cost Estimates

There are no cost estimates in the Project Description. SNWA provided a cost estimate of \$2 billion during the State Engineer's hearings on the Spring Valley applications in 2006 and the estimate was criticized at that time for being out of date. The most recent estimates, from independent third party analysts working for the SNWA, put the cost at more than \$15 billion.¹⁶

The DEIS includes estimates of tax revenue that would be generated by purchases made by construction contractors. SNWA would have to develop construction cost estimates in order to develop the estimates of tax revenue. Why isn't the cost estimates included in the document? To allow the public to make a fair assessment of the project, there needs to be an accounting of the costs of the project to date, the costs of compliance with NEPA and other federal and state regulations to allow the project to go forward, the costs of construction and operation of the project, the financing costs, and the estimated cost per rate payer to support the project.

Time Frames for Groundwater Development and Groundwater Pumping

The time frames for the proposed groundwater development extend up to 37 years into the future and the impacts for groundwater pumping for 200 years. To put this into perspective, the EIS is asked to make an effective analysis of development that may not be started for 37 years and will have impacts beyond 2212. Can the EIS process anticipate growth patterns and economic activity based on policy, world markets, and technology for that time period? Thirty-five years ago, in 1975, there were no cell phones

or Internet. Two hundred years ago, the United States consisted of the eastern seaboard and western territories, it was fighting the War of 1812 with muskets and sailing ships, people traveled by horse drawn wagon, and communication was hand carried from one place to another. Could the BLM have done an EIS in 1812 that would predict the level of technology, growth patterns, economic activity, transportation and communication in use today? A review of the socio-economic analysis must conclude that there is no way the socio-economic analysis can adequately address the issues and potential impacts for the time period defined by the DEIS.

Project Size and Scope

The size and scope of the proposed project including the construction of the main pipeline and associated facilities, the groundwater development, and the groundwater pumping are on a scale not anticipated for a single EIS even with a tiered process.

Chapter 3 - Affected Environment and Environmental Consequences

The division of direct from indirect impacts is flawed in the DEIS . Direct impacts should include pipeline construction impacts, well site drilling impacts, facilities impacts and pumping drawdown impacts. Indirect impacts are those related to additional water deliveries to the basins receiving the water. Defining pumping drawdowns as "indirect" does not relieve BLM of its obligation under NEPA of studying all direct and indirect impacts. The confusion and misdirection in this section is based on the piecemealing of NEPA into tiers of known and unknown project elements. In this case, the applicant has no approved water rights or well sites from which to pump water and is prematurely applying for a pipeline ROW with a huge host of unknowns. If SNWA's applications are ever approved by the NSE and if its applications to change the place of use are ever approved by the NSE, then it will have some water to put into its pipeline. But pumping effects in the DEIS "study area" are all direct impacts of the project. We note that on page 3-7, the DEIS admits "direct and indirect effects are difficult to differentiate..." and that "a specific differentiation in the EIS text has not been made," a failures to comply with NEPA. We will provide additional comments on indirect impacts (see comment #4).

On page 3-1, the DEIS states that this chapter answers the question: "if impacts still occur at a higher than acceptable level of intensity after applying all avoidance and protection measures, what mitigation measures are recommended to approve additional resources?" However, the DEIS fails to disclose the "acceptable" levels of impacts. Deferring this critical information to some future process not subject to NEPA prevents the public and the BLM from making informed comments and decisions on the DEIS . What is the definition of "acceptable level of intensity" of impacts? How and who defines what is "acceptable?" For instance, are water drawdowns to 200 feet acceptable? to the BLM? to the SNWA? If not, are drawdowns to 100 feet acceptable? Is subsidence over 575 square miles acceptable? If not, then is subsidence over 300 or 100 square miles acceptable? For whom would these impacts be acceptable? We can see that there may be substantial differences of opinion among whoever is making the decision on acceptable or non-acceptable levels of impact intensities. How are differences to be resolved? Who resolves them? This critical missing information undermines the impacts analysis in the EIS.

Great Basin Water Network argues that this missing information also violates the National Environmental Policy Act.

"Section 101 of NEPA declares a broad national commitment to protecting and promoting environmental quality." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348 (1989), citing 83 Stat. 852, 42 U.S.C. § 4331. "The sweeping policy goals announced in § 101 of NEPA are . . . realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences." Id. at 350, citing Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). NEPA's main "action-forcing" procedure comes in the form an environmental impact statement ("EIS"), a detailed statement on environmental impacts that must be prepared before an agency undertakes any "major Federal action[] significantly affecting the quality of the human environment." NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C).

Thus, NEPA "ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989). See also Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 553 (1978) ("NEPA places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action"). "These procedural provisions of NEPA 'are designed to see that all federal agencies do in fact exercise the substantive discretion given them. These provisions are not highly flexible. Indeed, they establish a strict standard of compliance.'" Sierra Club v. Watkins, 808 F. Supp. 852, 859 (D.D.C. 1991), quoting Calvert Cliffs' Coordinating Comm., Inc. v. United States Atomic Energy Comm'n, 449 F.2d 1109, 1112 (D.C. Cir. 1971).

The Council on Environmental Quality ("CEQ") has promulgated regulations implementing NEPA that are binding on all federal agencies. 40 C.F.R. § 1500.3; Robertson v. Methow Valley Citizens Council, 490 U.S. at 354.

Under NEPA, an agency must honestly address the various uncertainties surrounding the scientific evidence upon which it relies in its environmental evaluations. The agency has a duty to respond to credible opposing points of view, and it may not ignore reputable scientific opinion. See, e.g., Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704 (9th Cir. 1993); Public Service Co. v. Andrus, 825 F. Supp. 1483, 1496-99 (D. Idaho 1993); see also Sierra Club v. Watkins, 808 F. Supp. 852, 864-69 (D.D.C. 1991). An agency's NEPA analysis must expose scientific uncertainty regarding the risk of a proposed action and inform decisionmakers of the full range of responsible scientific opinion on the environmental effects of the proposed action. Friends of the Earth v. Hall, 693 F.Supp. 904, 926, 934 (W.D. Wash 1988). Also, federal agencies are responsible for overseeing and ensuring the accuracy of environmental impact statements produced by contractors. 40 C.F.R. § 1506.5(c).

Chapter 3.0.3 Incomplete and Unavailable Information

In light of the listed incomplete or unavailable information, Great Basin Water Network asserts that this DEIS is premature. The known and unknown unknowns confirm that this DEIS is premature and should be updated and resubmitted for full public review after the information described in this section is obtained. Note that key Visual Resource Information was omitted, and that the Visual Resource section (3.15) suffers from the lack of simulations of visual resources at 75 and 200 years of pumping.

We agree with the list of incomplete and unavailable information in the DEIS on pages 3-4 to 3-5. Project descriptions for well sites have not been provided to the BLM by the applicant. Using "groundwater development areas" in the DEIS for impacts analysis purposes leaves out of the NEPA analysis large areas with SNWA water rights applications. If approved, these additional water resources would be transported through

the SNWA pipeline on BLM ROW. Ignoring their impact is part of the piece-mealing of NEPA in this DEIS .

Critically missing information on springs, streams, seeps, and wetlands in the "large" regional study area which may be directly affected by pumping drawdowns is a significant flaw of the DEIS . This is a massive project with massive impacts over a huge area of eastern Nevada and Utah's West Desert. However, the size of the area is not an acceptable excuse for the paucity of information in the DEIS on the affected environment, especially the desert's scarce water resources, and the impacts of the GWD project.

The DEIS provides no information on how tracking of what missing information would be collected and who would collect it, and how the public would know this. The DEIS also fails to disclose the costs of collecting future information and the timeframe for collecting information. In any event, without knowing the majority of water resources to be affected by the GWD project, it seems futile for anyone to collect information on dried up springs discovered in the future. How would collecting missing information affect BLM ROW decisions which have already been made or any future decisions?

Other incomplete and unavailable information - visual resource information, soils, wildlife information, special status species, Great Basin National Park, caves, groundwater flow modeling/water resource information, and climate change - is critical for the public and the BLM to make informed comments and decisions on this DEIS . The EIS process should not proceed until this information is available to analysts and the public.

The DEIS inappropriately limits the drawdown impact areas to those which appear between the estimated 1 and 10 foot drawdown contours, even though major impacts could occur in drawdown areas less than 10 feet. BLM justifies eliminating the areas affected by 1-10 foot drawdowns because that is what the agency has done in the past. However, for this project this BLM decision is inappropriate since areas affected with less than a 10 foot drawdown may cover hundreds of square miles. Potentially affected by a less than 10 foot drawdown are springs, wetlands, sub-irrigated meadows, and wells, as well as vegetation. Unanalyzed climate change impacts to the study area could also be affecting water-dependent resources. Pumping impacts could dry up already stressed water sources and vegetation.

Likewise, limiting the timeframes of impacts analysis in the DEIS to only 200 years is a failure to disclose all of the potential impacts of granting the ROW request for the proposed GWD project. It is an arbitrary decision, because BLM in Nevada commonly analyzes the effects of open-pit mines that will take more than 200 years to fill with groundwater.

The DEIS does not disclose when equilibrium would be reached with various pumping amounts in the Proposed Action and scenarios or the relevance of this missing information. Does the BLM hydrological model show that significant pumping impacts

continue to occur beyond 200 years until equilibrium is reached? If so, the DEIS fails to show pumping will cause a large amount of undue and unnecessary damages to public lands and resources.

Chapter 3.1 Air and Atmospheric Values

The discussion in the DEIS of potential climate change impacts in eastern Nevada and west Utah is a good representation of what is currently known about climate change impacts, present and future.

Unfortunately, contrary to BLM laws and regulations (and Secretarial Order 3226) on considering climate change impacts when making major decisions affecting BLM's environmental resources, the DEIS dismisses all potential climate change impacts from its impacts analysis in Chapter 3 (pages 3-5): "since the current state of climate change science prevents the association of specific actions with specific climate-related effects, the BLM can neither: (a) analyze the climate-related effects of BLM actions nor (b) ascribe any significance to these potential effects." Despite difficulties and uncertainties in predicting the exact effects of climate change, these impacts should be a part of the impacts analysis for all resources, not just air and atmospheric resources.

The 2011 Humboldt-Toiyabe National Forest Climate Change Vulnerability Report¹³ (H-T Report) for much of the same area affected by the GWD project shows that climate change will increase temperatures and aridity and that warmer winters will cause earlier melting of snow with less water available overall. The study shows that "...higher temperatures will increase evapotranspiration and droughts..." and "...warmer wintertime temperatures and earlier melt dates will deplete this virtual reservoir, leaving much less available water for natural systems and human uses."

The H-T Report and the DEIS agree that climate change will affect precipitation amounts, timing and locations, thus affecting evapotranspiration, infiltration and recharge and the ultimate availability of water for human and environmental uses.

Even SNWA¹⁴ is concerned about significant impacts of climate change on its Colorado River supplies than the DEIS : "Climate change impacts on the Colorado River and the American Southwest are expected to be significant. The majority of regional climate models project a more arid climate and reductions in Colorado River runoff in the future. These reductions are expected to be in addition to natural-flow variabilities and temporary drought conditions."

The DEIS devotes just 6 pages to the subject (3.1-49 to 55). Yet even this general and superficial review predicts that climate change will likely result in:

1. Widespread warming leading to reduced snowpack, earlier melting of snowpack, earlier spring run-off, and associated declines in river flows.

2. Decreasing and more variable precipitation, rapid landscape transformation, increased flood risk and reduced flood-buffering capacity, and more widespread drought.
3. Vegetation die-off will result in increased frequency and severity of wildfires. Impacts will be “substantial for some resources, impacting biodiversity, protected areas and agricultural lands.” “Impacts on species distributions, community structure and ecosystem function may be significant.”
4. “Lower soil moistures, increases in erosion, more severe droughts, altered distribution of vegetation, and types, increased water temperatures affect aquatic biological resources, modifying, shifting or eliminating habitats, altering or restricting the physical ranges of species present, more invasive species, decrease quality of rangeland, reduced livestock feed, increased ET (greater discharge).

All of this adds up to less water available for export and greatly increases the negative consequences of all the alternatives (but, of course, affects the No Action Alternative least). Unfortunately, the DEIS makes no attempt to quantify any of these critically important climate change-related impacts. This is a major flaw that greatly increases the range of uncertainties of all the impacts identified or predicted – and quantified - throughout the DEIS. Almost certainly, and almost 100% across the board, climate change will worsen those effects.

While it is true that “it is impossible to link a specific greenhouse gas emission and a specific climate change” (3.1-49), it is also obvious, as the DEIS notes, that the “impact on water resources will depend in part by changes in system characteristics, changing pressures on the system, how the management of the system evolves, and what adaptations to climate change are implemented”. (3.1.50) There is nothing that more dramatically fits that description than the proposed groundwater development project. The BLM ducks the question of how much worse will climate change make the impacts of the Proposed Action, and evades the express policy outlined in Secretarial Order 3226, and kicks the can down the road by stating that “future NEPA documents will follow DOI and BLM policies related to climate change.”

BLM argues that “since the current state of climate change science prevents the association of specific actions with specific climate-related effects, the BLM can neither: a) analyze the climate related effects of BLM actions nor(b) ascribe any significance to these potential effects. For these reasons, climate change impacts could not be evaluated for the proposed action”... (3-5). But the assertion that the impacts are uncertain and non-specific should not give license to pass over the subject for another day. This “Incomplete and Unavailable Information” is just too critical to ignore for purposes of decision-making now, within the context of the granting or denying of the ROW.

The EIS should use the H-T Report and the best available science for a model analysis of reduced precipitation to assess the effects of various scenarios of recharge on future water supply availability and reliability. The DEIS model could also assess the cumulative impacts of the GWD project, especially the pumping drawdowns with, for example, a 10, 20, and 30 percent reduction of recharge in the study area. Other studies are doing this for the Lower Colorado River Basin.¹⁵

Other questions we have on this section:

1. On page 3.1-34, the DEIS states in regard to native vegetation dried up in pumping drawdown areas (40 basins): "It is expected that annual species would continuously bind the soil surface with living or dead root systems, even though the individual annual plants would not act as long-term barriers to wind." In addition, the conclusion from this "fact" is equally counterintuitive: "Therefore, 10% of the surface area composed of this ET unit and affected by groundwater drawdown would be affected." What science supports these questionable statements? What is the total surface area of this ET unit which will be affected by pumping drawdowns? To how many of the 40 basins in the project study area would this "conclusion" apply?
2. On page 3.1-36, the DEIS estimates that "...up to 40 percent of the project's power requirements can be offset by the installation of hydro-turbines at the three pressure reducing stations." Please explain how this calculation was made. Does this statement imply that hydro-turbine use will reduce the 327,000 tonnes of CDE per year, the estimate of total emissions, by 40 percent?
3. On page 3.1-37, the DEIS refers to C.2.5 as a mitigation measure to "conduct large-scale seeding to assist with vegetation transition from phreatophytic communities in Spring and Snake Valley to benefit wildlife and reduce potential air resource impacts." What plants would be seeded? How much water would be needed for this large-scale seeding? What are the sources of this water? When would the impacts of acquiring, developing, and using water for this purpose be analyzed in a NEPA review? What are the costs of this "mitigation" measure?
4. On page 3.1-38 the DEIS states: "the level and extent of these impacts (of groundwater drawdowns 10 feet or greater on windblown dust emissions) are highly uncertain." How uncertain? What is the relevance of this uncertainty? The DEIS goes on to estimate the tons of PM2.5 each year for 200 years, but these amounts still lead to this vague impact estimate: "At these levels it is possible that windblown dust emissions from groundwater drawdown could impair visibility conditions at Great Basin National Park." How much would GBNP visibility be impaired? At full build out, 75 years, and 200 years? How can the DEIS be so certain of emission estimates but so uncertain of air quality impacts on GBNP?
5. On pages 3.1-52 and 53, the DEIS states: "As the seasonal variability (from climate change) increases, and the amount and form of precipitation changes,

aquatic species and their habitats would likely be affected." "Climate change could affect aquatic biological resources in the Project Area by modification or alternation of aquatic habitats due to changes in precipitation; potential changes in water temperature and other water quality parameters such as dissolved oxygen, and; potential changes in aquatic species abundance, distribution, phenology, and community composition in response to habitat and water quality changes."

How can the adverse effects of climate change on aquatic species be separated out from the adverse effects of groundwater drawdowns? Without this knowledge, we do not see how any "mitigation" plan would be effective. Instead, "mitigation" discussions with no required timeframes by BLM and SNWA to reach consensus on the attributability (SNWA pumping, drought, climate change, or others' pumping) of adverse pumping impacts, while pumping continues unabated, will inevitably lead to the failures of both proposed required and voluntary mitigation measures to protect aquatic species habitat, including that of TES species.

6. On page 3.1-60 in the cumulative effects discussion, the DEIS states: "It is predicted from model simulations that pumping drawdowns of 10 feet or greater would potentially lead to changes in vegetation that would increase windblown dust emissions. The level and extent of these impacts is highly uncertain." How uncertain? Could windblown dust be far worse than the predictions in the DEIS? What is the relevance of this uncertain and missing information?

Chapter 3.2 Geologic Resources

The DEIS dismisses any impacts on cave resources, including at the GBNP, with this statement on page 3.2-21: "Data do not exist to provide a connection of area caves to groundwater: therefore, caves are not anticipated to be affected by groundwater pumping." Isn't it also true that data does not exist to prove that there are no connections between area caves and groundwater? The Prudic and Glancy 2009 report suggest no connection, but with what certainty? BLM will be in violation of its legal mandates, including the Federal Cave Resources Protection Act of 1988 if it approves a project which destroys cave resources, because the applicant has not provided sufficient information to assure that pumping will not destroy caves.

The DEIS provides no support for its rejection (on page 3.2-23) of incorporating climate change estimates into its impacts analysis on potential changes to future groundwater availability because specific long-term effects of climate change are not known. The draft often EIS discloses that specific long-term effects of pumping on water table drawdowns, subsidence, water sources, air quality, soils, water resources, wildlife, recreation, and socioeconomics are also "not known" because of a host of incomplete and uncertain information. BLM is arbitrary and capricious in not analyzing some impacts, while purporting to analyze other impacts, all of which are based on uncertain and incomplete information.

On page 3.2-30, the DEIS presents totals of ground subsidence from pumping in the Proposed Action at full buildout plus 200 years by basin in Table 3.2-6. Totals include drawdowns by 10-20 feet to over 200 feet, with subsidence ranging from <1 to 1 foot to > 10 feet. A statement on the same page says: "As can be seen on Table 3.2-6, about 525 square miles may be at risk for 5 feet of subsidence or greater." The totals of square miles affected in the table range from 60 square miles of >200 foot drawdowns to 1,071 square miles of 50-00 feet of drawdowns. However, in Table 3.2-18 on page 3.2-48, totals of subsidence compared by alternatives states that the Proposed Action at full build out plus 200 years would total 525 square miles. How was the 525 square mile calculated? Please explain this inconsistency.

On page 3.2-52, the DEIS states: "It is possible that subsidence caused by groundwater pumping could damage roadways and structures and could cause local alterations in drainage flow patterns. Because of the long time frames, there would be a long-term opportunity to monitor subsidence as it begins to appear, and to potentially alter pumping regimes to reduce the rate of subsidence...any subsidence measured at the soil surface is probably irretrievable." This may imply that the DEIS requires no mitigation for subsidence, including damages to public and private structures such as buildings and roadways.

If so, then we disagree with BLM's decision. Does the statement "there would be a long-term opportunity to monitor subsidence as it begins to appear" mean that BLM is not actually requiring long-term monitoring of subsidence? Is this a suggestion for academic research to document the adverse impacts of the GWD project on 525 square miles of public lands? What is the potential for "altering regimes to reduce the rate of subsidence" and how would this potential be realized by BLM decisions? If insurance is available to cover such damages, what is the cost of the insurance to property owners?

Chapter 3.3 Water Resources

The DEIS fails to provide sufficient information on what is a "reasonable" drawdown of the water table. Is a greater-than 200 foot drawdown reasonable? Why or why not?

The Executive Summary, page 5, states that "five basins are the primary source of groundwater that would be conveyed by the pipeline." What are the secondary sources? When are the impacts of groundwater development and pumping of "secondary" sources in other basins going to be analyzed?

The DEIS fails to discuss the potential reliability of rural groundwater in the face of climate change induced changes in amounts and timing of precipitation, decreases in recharge to aquifers, higher temperatures and evatranspiration and more extreme weather events. This missing information is critical, since water sources intended for municipal and industrial uses should be reliable.

Does Figure 3.3.1-2 "conceptual groundwater flow system" show the interconnections between surface and groundwater?

The DEIS fails to provide adequate information on existing and future water quality in the study area. Will pumping drawdowns exacerbate water quality problems? Will arsenic and other elements exceeding EPA drinking water standards require water treatment by SNWA? How much will the water treatment cost annually and over the life of the proposed project?

Table 11 of the Executive Summary discloses substantial impacts of the GWD project on senior water rights, but the DEIS fails to provide any information on what administrative or legal remedies senior water rights owners have when faced with pumping impacts. That information should be included in the EIS.

The DEIS fails to disclose the amount and location of all federal reserved water rights in the project study area. On page 3.3-65, the DEIS states: "The unknown nature of unadjudicated federal reserved water rights, regarding both locations and quantities of water, limit the ability to further describe water use of this type in the hydrologic study area." How can an analysis of GWD project impacts on federal water rights be conducted in this EIS without the complete identification of these water rights? How can the BLM protect its water rights if it cannot identify these rights? The DEIS fails to disclose the relevance of this incomplete and missing data.

Are all federal reserved water rights listed with the NSE's office? Are these all adjudicated? If federal reserved water rights are not listed on the NSE's website, does this mean that they are not valid? The DEIS also fails to disclose the location and amounts of all Public Water Reserves (PWRs) in the project study area.

Does BLM have sufficient federal reserved water rights, PWRs, or other water rights to administer water-dependent BLM programs? If not, how is BLM going to secure adequate water necessary for it to comply with federal laws and mandates in protecting and managing public lands and resources, considering SNWA's proposal which would, in effect, monopolize all remaining unallocated water in five basins as well as considering the scale of the severe negative impacts of GWD project pumping on up to 12.5 million acres or 19,586 square miles of mostly public lands in eastern Nevada and Utah's West Desert?

Federal reserved water rights are usually determined in adjudication or through court actions. Asserting its reserved rights is necessary now to ensure enough groundwater remains in the five basins and the affected study area to maintain BLM programs dependent on water availability on public lands, including but not limited to: wildlife, grazing, wild horses, air quality, recreation, federally protected species, soils, and vegetation.

Chapter 3.4 Soils

The analysis of pumping impacts on soils in the DEIS is weakened by incomplete and missing data. From Table 3.4-1, we found a footnote that states: "Portions of Coyote Spring, Las Vegas, Pahrangat, Spring (184), and Steptoe Valleys have no soils data or

are limited to the more general STATSGO (State Soil Geographic) data. STATSGO are included in the table when more specific data are not available." GBWN is concerned that using less specific data provides a less than fully reliable analysis of soil impacts.

The DEIS should disclose the significance or relevance of the missing soil data on the impacts analysis. Does this less specific data affect the data presented in Table 3.4-6 comparing important soils parameters across alternatives, specifically revegetation potential and erodible soils disturbed? If so, then the missing data is highly relevant.

Chapter 3.5 Vegetation Resources

Missing from the DEIS is information on how much groundwater BLM needs to sustain vegetation on public lands affected by groundwater pumping. Vegetation is the basis for BLM's programs including livestock grazing, maintenance of wild horse and burro populations and wildlife habitat, air and water quality protection, recreational programs, and protection of scenic values, to name some. This missing information should be presented in the EIS by categories, such as the cover types in tables for lands affected by the ROW and in groundwater development areas or "evapotranspiration areas" listed in Table 3.5-7 from which groundwater would be withdrawn by SNWA pumping. In addition, this information should be presented by basin, so that the public can understand vegetation water needs in areas smaller than the total study area.

Also missing is any information on how BLM will secure needed water for sustaining its vegetation resources considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. How will the BLM retain enough water to sustain its vegetation resources?

We also are concerned that the loss of groundwater, including less than the 10-foot drawdown outside the BLM's study, would lead to a corresponding increase in wildfires. Would the BLM require SNWA to cover the increased costs for state, local and federal land managers?

We additionally are concerned that the water drawdown could foster conditions amenable for the spread of invasive weeds. Again, would SNWA be financially responsible for the control of such invaders?

Chapter 3.6 Terrestrial Wildlife

The DEIS drastically underestimated the impacts of SNWA's groundwater pumping not only on wildlife but also on the small subset of terrestrial wildlife which are dependent on surface water. We found that there are no quantified impacts for SNWA groundwater pumping on terrestrial wildlife, similar to those listed in Table 3.6-11 which, upon further review, only apply to impacts in groundwater development areas.

Tables and figures in Appendix F3.6 do not supply acreages of habitat potentially affected by pumping drawdowns and the reader is left to guess what the impacts may or

may not be. The DEIS fails to disclose specific quantified pumping impacts on acres of winter and summer habitat of pronghorn, Rocky Mountain elk and mule deer, Greater Sage Grouse, special status species, migratory and resident birds, and all other wildlife.

The DEIS fails to disclose any information about pumping drawdown impacts on predators or their prey (a critical part of ecosystem health) or to any wildlife other than a subset of animals living in the targeted basins. The DEIS also fails to disclose the relevance and significance of these incomplete and missing data.

By not clearly disclosing potential pumping impacts over 200 years over a specific number of acres on specific wildlife and wildlife habitat resources, the DEIS fails to comply with explicit Congressional mandates in LCCRDA, Section 301 (b)(3) regarding wildlife: "(3) COMPLIANCE WITH NEPA.—Before granting a right-of-way under paragraph (1), the Secretary shall comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), including the identification and consideration of potential impacts to fish and wildlife resources and habitat." By specifically mentioning potential impacts to fish and wildlife resources and habitat, we believe that Congress intends BLM to specifically protect these resources from adverse environmental impacts of the GWD project pumping.

The DEIS also fails to disclose any information on how much groundwater and connected surface water BLM needs to sustain wildlife and wildlife habitat on public lands that would be affected by groundwater pumping.

Also missing is any information on how BLM will secure water needed for wildlife and wildlife habitat considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. Since SNWA's GWD project would effectively monopolize any non-appropriated water over a huge area of eastern Nevada and western Utah, we want to understand how BLM will retain enough water to sustain its wildlife resources.

We note that the BLM has a statutory obligation to protect rare species, including those protected by the federal Endangered Species Act. The DEIS fails to consider in detail the pumping impacts on such terrestrial species as the threatened Desert Tortoise and sensitive Greater Sage Grouse. Please note that the federally endangered Southwestern Flycatcher and Yuma Clapper Rail, and candidate species Yellow-billed Cuckoo, use riparian habitats especially in Lower Meadow Valley Wash and Pahranaagat Valley which would be impacted by pumping drawdowns. Other species listed on pages 3.6-73 to 75, including pygmy rabbits, bats, gila monsters, terrestrial invertebrates and Great Basin National Park cave species (listed in Table 3.6-16) will be impacted by pumping drawdowns.

Chapter 3.7 Aquatic Biological Resources

All of the alternatives in the DEIS show significant impacts to aquatic biological resources on public lands in eastern Nevada and Utah's west desert, but the DEIS fails to

assess pumping impacts to aquatic biological resources over the entire area potentially affected.

The groundwater model used by BLM estimates impacts over a smaller geographic area than is estimated by other models that have been used to examine this problem.^{18, 19, 20} This suggests that the very serious impacts to Aquatic Biological Resources described in the DEIS may be considerably understated. The EIS should address the issue of underestimating the geographic area over which impacts may occur.

The effects of the project on Aquatic Biological Resources are controversial enough, and uncertain enough to anticipate a relatively high probability of litigation under provisions of the Endangered Species Act as a consequence of the proposed action. The EIS should evaluate the consequences (i.e. construction delays, increased costs) of this kind of litigation. In addition, the EIS should evaluate the high probability that the proposed action and all the alternatives (including Alternative A) are likely to result in violations of Federal law (Endangered Species Act).

The DEIS recommends using Alternative A (including the mitigation and monitoring identified in Chapter 3) as a starting point in reviewing the draft EIS. Alternative A proposes somewhat reduced groundwater pumping and a Monitoring, Management, and Mitigation process representing extensive and comprehensive efforts by SNWA and federal agencies to minimize environmental effects of the groundwater project. The DEIS and numerous other studies, analyses, and scientific papers (e.g. Bredehoeft and Durbin 2009, Deacon et al. 2007, Mayer and Congdon 2007, Patten et al. 2007, Walton 2011, and others) make it obvious that there will be far-reaching, permanent and extensive adverse effects to the Aquatic Biological Resources of the region. While the mitigation effort is commendable and may temporarily reduce some impacts to the Aquatic Biological Resources of the region, it is clearly incapable of avoiding or mitigating unacceptable environmental consequences to these Resources.

The DEIS proposes a Monitoring, Management, and Mitigation (3M) process to avoid, minimize and mitigate groundwater pumping impacts to aquatic biological resources and special status species. However, this process is fundamentally flawed. An independent third party should be substituted for the current awkward, non-partial and non-scientific committee structure to assess monitoring results showing impacts and their intensity, what is causing the impacts, and the "mitigation" required. Triggers or thresholds for stopping pumping within short timeframes should be added to any 3M agreement, since any other "mitigation" than restoring the natural water regime would be ineffective to protect aquatic biological resources. Since the 3M agreements are all dependent on sufficient annual budgets, the DEIS should consider a lack of future funding (over 200 years) when it purports to assess the effectiveness of 3M. The over-reliance on ineffective proposed and voluntary mitigation (which may or may not be funded) in the DEIS will lead to significant violations of the Endangered Species Act.

Other failings of the DEIS include the failure of inflexible mitigation "agreements" to expand their obligations to address pumping impacts on recently described species and

species yet to be discovered. In addition, we know of no science-based support for the feasibility and effectiveness of the mitigation proposal by the proponent to create artificial water sources for aquatic species whose habitat is significantly impacted by SNWA pumping drawdowns.

Of particular concern is the oversight of the 3M program. The program is structured so that an Executive Committee comprised of one manager from SNWA and one from each of the DOI (Department of Interior) Bureaus will have final decision-making authority.

This structure ensures that, over the long run decisions will be biased toward delivering water to Las Vegas. This is because the SNWA representatives' primary job responsibility is to deliver water to Las Vegas, while DOI Bureau managers have responsibilities to implement the policies of the federal administration for whom they work. One example of the effect of DOI Bureau managers attempting to discharge their primary responsibilities is that people holding these positions have, in the past, filed protests with the Nevada State Engineer against the SNWA applications for groundwater rights, and under a different federal administration, requested withdrawal of those same protests. The EIS must propose a different final decision-making system for the 3M program, or explain how this inherent structural bias toward delivering water to Las Vegas is to be balanced in a way that will not lead to increased jeopardy for Special Status species, or increased probability that federal (ESA) and state (water law) laws and regulations will not be violated.

The Stipulated Agreements governing the 3M program include the following provision: "Any commitment to funding by the DOI bureaus or the SNWA in the stipulation, including specifically any monitoring, management, and mitigation actions provided for in Exhibit A is subject to appropriations by Congress or the governing body of the SNWA as appropriate."

In the present political climate, funding from public sources is under extreme pressure. Long-term survival of the 3M program is therefore highly unlikely. The program as contemplated will make Aquatic Biological Resources in the area of impact increasingly dependent on continuation of the 3M program as the 3M program itself becomes increasingly unlikely to exist. The EIS must acknowledge that fact and explain how it is to be overcome.

The 3M program, because of problems described as "Aquifer Response Time" (Walton 2011) or "time to full capture" (Bredehoeft and Durbin 2007), is capable of identifying groundwater supply problems that will get worse downstream in the groundwater flow system. It is not capable of preventing those problems from getting worse. The EIS must explain how the 3M program can overcome this inherent problem stemming from the physics of how groundwater flow systems function.

The Aquatic Biology 3M program focuses on Special Status Species and game species. This approach overlooks the numerous recently described species whose status has yet to be evaluated, as well as the numerous as yet undescribed species occurring in the area of impact. Because numerous new species have recently been described from the area of

impact, and biodiversity in the area is poorly known, the EIS must explain how the 3M program will deal with species yet to be evaluated or even discovered.

Shoshone Ponds in Spring Valley and Big Springs in Snake Valley are two habitats specifically identified as aquatic habitats likely to disappear as a consequence of the proposed action. Alternative A will not change that outcome. Mitigation measures include the possibility of creating alternative or substitute aquatic habitats intended to replace those unavoidably lost. While such a strategy could conceivably be considered appropriate for Shoshone Ponds (an artificial habitat intended to help maintain one or more specific Special Status species), it cannot be considered appropriate for Big Springs. This is because Big Springs is a natural habitat presently supporting a rich biodiversity which includes Special Status species and probably includes some species as yet unrecognized, undescribed, or whose status has yet to be evaluated. The interactions and interdependencies helping to support those Special Status species and influencing the evolutionary trajectory of all species within that habitat are only incompletely known. At present it is inconceivable to even contemplate developing sufficient knowledge to permit construction of an artificial habitat that would come close to duplicating ecological conditions capable of supporting the biodiversity of any natural habitat/ecosystem. The EIS must recognize this distinction between mitigation for artificial habitats and natural habitats, including recognition of the fact that replacement of natural habitats cannot be accomplished.

The Shoshone Ponds and Big Springs concerns are emblematic of a larger deficiency in the DEIS. Missing from the DEIS is any information on how much groundwater (and connected surface water) BLM needs to sustain aquatic biological resources on public lands that would be affected by groundwater pumping. Also missing is any information on how BLM will secure needed water for sustaining its aquatic biological resources considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. Since SNWA's GWD project would effectively monopolize any non-appropriated water over a huge area of eastern Nevada and western Utah, we want to understand how BLM will retain enough water to sustain its aquatic biological resources.

Chapter 3.8 Land Use

All alternatives in the DEIS , except No Action, show environmental impacts from SNWA pumping which will undermine all existing land uses dependent on water on the public lands in the rural Nevada and Utah counties. Issuing a ROW permit to the applicant will give SNWA, in effect, a monopoly on rural land uses.

Conversely, the DEIS fails to adequately assess the environmental impacts of the GWD project, including additional water deliveries of 78,755 afa to 177,655 afa on land uses in the Coyote Springs and Las Vegas Valley basins receiving the exported water.

Chapter 3.9 Recreation

All alternatives except No Action in the DEIS will have substantial negative impacts on water-dependent recreation on public lands in the project study area in Nevada and Utah. These include wildlife observation and hunting and fishing as well as the scenic values which are treasured by the public. The DEIS describes significantly transformed future landscapes after pumping drawdowns eliminate or substantially reduce phreatophytic vegetation and riparian areas in the five basins.

Even state wildlife management areas and national wildlife refuges, currently rich in springs, fish, wildlife and birds, are not immune from impacts from proposed SNWA pumping. BLM should not allow any other proposed use of the public lands to cause such undue and unnecessary degradation described in the DEIS as that caused by SNWA pumping. The DEIS fails to address GWD project drawdown impacts on state parks and state wildlife management areas. The only information we could locate on drawdowns were two springs in one state park in the moderate to high risk category in the appendices in a table F3.3.1-1A "inventoried spring list."

In a search for information on drawdown threats or estimates of declining spring flows in springs in wildlife management areas, we could find no information. These springs provide recreational fishing as well as habitat for federally protected species.

The DEIS fails to address the human loss of the special places within the more than 20,000 square miles of Nevada and Utah which would be affected by the pumping of groundwater by SNWA.

Missing from the DEIS is any information on how much groundwater (and connected surface water) BLM needs to sustain recreational resources on public lands that would be affected by groundwater pumping. Also missing is any information on how BLM will secure needed water for sustaining its recreational resources considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. Since SNWA's GWD project would effectively monopolize any non-appropriated water over a huge area of eastern Nevada and western Utah, we want to understand how BLM will retain enough water to sustain its recreation programs and resources.

Chapter 3.10 Transportation Resources

The DEIS fails to adequately assess the impacts of increased short-term construction traffic on rural roads and highways and in urban areas receiving exported groundwater. It also fails to assess long-term unmitigated damages to rural roads from estimated subsidence over 525 square miles in eastern Nevada and western Utah.

Chapter 3.11 Mineral Resources

The DEIS fails to assess impacts of the GWD project's on availability of water for future mining exploration, development, and ore processing. All mining operations require some amount of water, yet water availability will be decreased for future mining operations.

In effect, the DEIS fails to disclose that the GWD project will effectively preclude any future mining in the five targeted basins and in many of the other impacted basins in the project study area.

The DEIS also fails to analyze the similar effects of the GWD project on precluding future alternative energy development, especially in Dry Lake and Delamar Valleys.

Chapter 3.12 Rangelands and Grazing

The DEIS fails to adequately assess the impacts of GWD project pumping on public land as native plants used for forage dry up and are replaced by invasive annuals and weeds in an area covering as many as 19,586 square miles.

The DEIS fails to analyze impacts of pumping drawdowns of less than 10 feet. If adequately analyzed, these impacts could cover many hundreds of thousands more acres than disclosed in the DEIS, affecting the availability and quality of livestock forage on public lands. The DEIS should disclose how much carrying capacity would be reduced on each allotment affected by pumping drawdowns in the 40 basins in the project study area.

We note that the BLM would not allow livestock grazing to cause this amount of undue and unnecessary degradation of public lands which the Proposed Action and all scenarios in the DEIS would cause. Because of the widespread area and intensity of these estimated pumping impacts in destroying native vegetation (forage for livestock) and water sources, livestock permittees will be unlikely to comply with standards and guidelines for healthy rangelands. Apparently, the ROW applicant has no standards and guidelines for healthy public land ecosystems to meet in the GWD project.

Missing from the DEIS is any information on how much groundwater and connected surface water BLM needs to sustain vegetation on public lands which is currently the basis for livestock grazing permits that would be affected by groundwater pumping. We prefer this information to be broken down by basin, so that the public can understand vegetation water needs in areas smaller than the total study area. Also missing is any information on how BLM will secure needed water for sustaining its vegetation resources considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. Since SNWA's GWD project would effectively monopolize any non-appropriated water over a

huge area of eastern Nevada and western Utah, we want to understand how BLM will retain enough water to sustain its vegetation resources.

Chapter 3.13 Wild Horse and Burro Management Areas

The DEIS fails to adequately describe the summer and winter ranges and water holes which wild horses and burros use on public lands in the project study area. It also fails to disclose the extent of the impacts to wild horse and burros habitat needs by the GWD project pumping drawdown's effects on both native vegetation and water holes and springs. It fails to describe current federal water rights used for wild horse water sources.

The DEIS identifies six Herd Management Areas (HMAs) in the groundwater development area, with the Eagle and Silver King herds being the most directly affected. The DEIS states that there are some 3000 acres of facility footprints, 24 miles of perennial streams and 292 springs within HMAs, and approximately 3.4 million HMA acres within the study region.

The Wild Horse and Burro Act of 1971 requires the BLM to manage horses in "thriving natural ecological balance." The Proposed Action and all the scenarios in the DEIS , except No Action Alternative, will cause undue and unnecessary degradation to public lands and water sources on which horses depend. As native rangelands desiccate and water sources dry up, the carrying capacity for wild horses will decline. Artificial water sources created by the applicants will not only not comply with WH&B Act requirements on wild horse management but also are unrealistic and unsustainable.

Negative effects upon horses from project construction include disruption on foaling, injuries, noise, and impacts to water sources. Groundwater pumping effects identified include loss of water sources, reduced forage, disruption of herd movement, and increased human conflicts (such as horse-vehicle collisions). Cumulatively, these effects will result in reduced carrying capacity of the habitat for wild horses in the region.

A problem with the DEIS analysis of project impacts on wild horses is that no data is given on springs potentially affected by pumping in HMAs in Utah – Choke Cherry, Confusion, Conger, Kingtop, and Sulphur HMAs. There is no information provided on the number of springs in those areas, nor any data/analysis of the impacts upon horses if those springs are compromised by pumping. The Sulphur herd exhibits some traits and bloodlines thought to be descendent from the Spanish Barb horses brought to America by Spanish explorers in the 1600s (BLM 2009).

The DEIS should consider additional measures to assure protection and continued viability of this special herd.

The DEIS notes serious impacts upon wetland/meadows areas that are typically sub-irrigated or spring-fed (8,000 acres in Silver King HMA). The forage available in these areas is important for herds. Mitigations proposed appear inadequate to address reduction or loss of this food source.

The DEIS minimizes the effects of pumping on springs that wild horses depend upon (just one verified spring in the Eagle HMA, none in Antelope or Silver King HMAs, 3.12-21) This simply does not square with other estimates in the DEIS of the number of springs being dried up or having flow greatly reduced due to pumping.

There is ample evidence from past experience in the Great Basin that when springs frequented by wild horses dry up, that the horses are at significant risk of death by dehydration (e.g. Needle Springs).

The proposed mitigation of using “artificial” water sources such as stock ponds and bubblers may not be adequate in these circumstances, as horses may not move to those new sources quickly enough. This mitigation may also prove difficult to achieve if groundwater drawdowns prove to be greater than anticipated and deeper wells must be drilled to provide artificial water. Intensive (daily) monitoring of herds should be contemplated should critical springs dry up.

Missing from the DEIS is any information on how much groundwater and connected surface water BLM needs to sustain vegetation on public lands which is currently the forage basis for wild horses and burros that would be affected by groundwater pumping.

We prefer this information to be broken down by basin, so that the public can understand vegetation water needs in areas smaller than the total study area.

Also missing is any information on how BLM will secure needed water for sustaining its vegetation resources considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping drawdowns in all the basins in the study area. Since SNWA's GWD project would effectively monopolize any non-appropriated water over a huge area of eastern Nevada and western Utah, we want to understand how BLM will retain enough water to sustain its vegetation resources, and its wild horse and burro resources.

Chapter 3.14 Special Designations and Lands with Wilderness Characteristics

The DEIS fails to identify all lands with special designations in the project study area, including state parks and wildlife management areas. The DEIS fails to include adequate information on lands with special designations in eastern Nevada and Utah's west desert and to adequately disclose the impacts of GWD project construction and pumping on these lands and their resources, including recreation and wildlife.

Nothing in BLM laws and regulations would allow the BLM to sacrifice the values and management of Areas of Critical Environmental Concern to GWD project impacts. The Proposed Action and all of the scenarios in the DEIS, except the No Action Alternative, fail to comply with the mission and management of designated wildernesses and ACECs, Desert and Pahrangat NWRs, Great Basin National Park and Lake Mead NRA.

What are the costs of the mitigation proposed for the Shoshone Ponds ACEC (page 3.3-121) including "improving" the existing well, drilling a new well and installing a pump to maintain flow to the ponds for the foreseeable future regardless of groundwater drawdown? What are the maintenance costs, the replacement costs, and the energy costs to run the pump for up to 200 years or more? This proposed "mitigation" appears futile since the DEIS shows significant GWD project pumping impacts on the lands and woodlands surrounding Shoshone Ponds which will eventually be surrounded only by invasive weeds and annual plants.

Missing from the DEIS is any information on how much groundwater and connected surface water BLM needs to sustain water-dependent resources, vegetation, scenery, wildlife, recreation in designated areas on public lands. We prefer this information to be broken down by basin, so that the public can understand vegetation water needs in areas smaller than the total study area. Also missing is any information on how BLM will secure needed water for sustaining its vegetation and water-dependent resources in specially designated areas considering the GWD project's huge water exportation targets in the five basins and also the direct impacts of pumping in all the basins in the study area. We want to understand how BLM will retain enough water to sustain its vegetation and water-dependent resources in designated areas.

Chapter 3.15 Visual Resources

The Proposed Action and all the scenarios except the No Action Alternative in the DEIS will result in a vastly changed landscape in the five basins targeted by the GWD project and many of the 35 other basins in the project study area. The DEIS fails to assess the significance of these changes. The changes violate visual resource management objectives in its Resource Management Plans as well as BLM's underlying laws and regulations regarding conserving visual resources. For example, how would (Table ES-12) an 86 percent reduction in evapotranspiration affect Snake Valley's visual resources?

The visual resources analysis is deficient. The section of text and related Appendix only address the visual impacts of the right of way, roads and power lines. In order to fully and accurately disclose the impacts of the proposed action and alternatives, the EIS should provide visual simulations at 75 and 200 years of the various alternatives from Key Observation Points (KOP). Visual resources are the lifeblood of tourism in the Pony Express Territory, at Great Basin National Park, and in the region. The lack of KOPs depicting the die-off of vegetation, presence of dust, and the extent of subsidence make it appear that BLM does not want the public to see the extent of destruction (comparable to Owens Valley.)

For example, the DEIS should contain a KOP visual simulation from the Wheeler Peak road over Snake Valley after 200 years of pumping for each alternative. The same approach should be taken for a view from east Snake Valley and from Garrison. Special attention should be given to views from the Great Basin National Park into Spring Valley. Similar KOP simulations should be done for the other valleys. Full disclosure in the DEIS should include what the public and the Department of Interior needs to see and consider – the treasured valley and mountain vistas after 200 years of pumping and air quality impacts.

Because the visual simulations of the drying up of the project area were not done and disclosed to the public during the DEIS review, we call upon BLM to complete the simulations and including them in a new DEIS or SEIS which will be subject to full public review and hearings.

Chapter 3.16 Cultural Resources

The DEIS fails to adequately describe cultural resources in the project study area and to disclose the significance of GWD project impacts to cultural resources. The DEIS fails to disclose the impacts of groundwater drawdowns and the resulting widespread subsidence and loss of vegetative cover to prevent erosion and dust storms. The DEIS fails to require effective mitigation for these impacts on cultural resources. We do not believe that the trust responsibility of the federal government to the tribes adversely impacted by the proposed GWD project can be abandoned. The DEIS shows that Proposed Action and all the scenarios, except the No Action Alternative, would result in unacceptable impacts on cultural resources. BLM cannot approve a proposed project with this level of unmitigated and undue and unnecessary impacts to cultural resources on public lands.

Chapter 3.17 Native American Traditional Values

The DEIS fails to provide any mitigation, required or voluntary, for systemic changes to native vegetation caused by the GWD project's pumping and desiccation of extensive public lands in the targeted area. How will tribes who are dependent on the listed native plants carry out their traditions as the native plants are replaced by invasive annuals and weeds?

The DEIS fails to identify how many potential Traditional Cultural Properties (TCPs) are located within the five targeted basins and the other 35 basins affected by pumping drawdowns. We strongly believe that BLM cannot select the Proposed Action or any of the scenarios in the DEIS which would destroy TCPs before they are designated by the federal government.

Missing from the DEIS is any information on how much groundwater and connected surface water BLM needs to sustain vegetation on public lands that would be affected by groundwater pumping. Vegetation is the basis for Native American traditional uses, both of plants and also of the animals which depend on native plants. We prefer this information to be broken down by basin, so that tribal communities and the public can understand vegetation water needs in areas smaller than the total study area.

The DEIS ignores the traditional Native Americans ties to the land, the plants, and the animals in their historic homelands. Once lost because of GWD project impacts, traditional values will be forever compromised.

Chapter 3.18 Socioeconomics and Environmental Justice

The Socioeconomics section fails to comply with the CEQ requirement to “take a hard look” at the factors under review. (In *E.I. DuPont de Nemours & Co. v. Train*, the court interpreted “hard look” to mean that “assumptions must be spelled out, inconsistencies explained, methodologies disclosed, contradictory evidence rebuffed, record references solidly grounded, guesswork eliminated and conclusions supported in a manner capable of judicial understanding.” The courts have further defined the information required for a “hard look” to mean that it does not require perfection, but should be based on information that is available and not at an exorbitant cost.

The DEIS fails to adequately analyze the impacts of the GWD project on socioeconomics and environmental justice, especially the pumping drawdowns on the rural and urban communities potentially losing water and gaining water. White Pine County basins would supply 75 percent of groundwater targeted by SNWA, yet the socioeconomic impacts analysis is minimal, quite perfunctory.

The DEIS has failed to supply a reasonable cost estimate of the project, even a perfunctory analysis of ability for the SNWA to pay for the cost of the project, many of the long-term costs (noted in more detail in the environmental consequences part of our response), and the impact of those costs on residential and business ratepayers in Clark County. That information was provided by the SNWA’s analysts to the Nevada State Engineer in June 2011 (Hobbs, Ong 2011), and put the cost at more than \$15 billion, including more than \$8 billion simply to pay to finance the project. The total is notable in that previous cost estimates supplied by the SNWA to federal and state oversight agencies was in the \$1 billion to \$3.6 billion range.

Among the conclusions of the analysts was that residential ratepayers would face a near tripling of water rates, while businesses would see their rates more than double. For an

urban economy with among the highest rates of unemployment and economic distress in the country, metropolitan Las Vegas would be severely stressed by this additional costs – especially for a project that may not be necessary.

The DEIS also has failed to take a hard look at the existing socioeconomic conditions and GWD project impacts in the five targeted basins as well as in many of the additional 35 basins in the project study area by not incorporating significant information that is readily available.

The size and scope of the project does not negate the need for BLM to take a hard look at existing conditions and potential impacts. For instance, baseline information on recreation and tourism fails to include NDOW information on hunter days by hunt unit and species as well as angler days. The BLM and USFS provide information on recreation visitor days and local counties can provide lodging tax revenue by month land by property. Other missing available information is on agricultural impacts on local economies, published in reports and studies by the University of Nevada, Reno Agricultural Economics Department and Cooperative Extension Service. Missing is consideration of White Pine County's planning documents or Annual Comprehensive Economic Development Strategy.

The DEIS also fails to disclose the effects that SNWA's water rights applications in 1989 have had on suppressing growth and development in White Pine and Lincoln Counties from 1989 to 2011.

Table 3.3.2-6 discloses substantial adverse impacts to water resources of the Proposed Action. What are the economic impacts to residents and rural communities of either totally losing water rights, both surface and groundwater, because of pumping impacts? What are the estimated costs of having to deepen wells to adapt to "reasonable lowering" of groundwater tables? What are the estimated costs of senior water rights holders to legally challenge SNWA's taking of their water rights and seeking redress in the courts? How many senior water rights holders will lose their livelihoods as a result of GWD project pumping drawdowns? What are the effects on rural communities of the loss of water-dependent livelihoods? How much loss over how much time would lead to the collapse of rural communities?

The DEIS fails to analyze the direct and indirect impacts to areas in Southern Nevada which may gain up to 176,655 afa of groundwater as a result of NSE and BLM actions on applications for water rights and requests for ROW permits. These include "growth inducing effects and other effects related to induced 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 " (40 CFR 1508.7).

Our calculations show that an additional 176,655 afa would support a population increase of 1,766,550, assuming that a typical household of 2.5 persons uses an average of 1/4 afa annually.

Conversely, whether one uses the varying population estimates in the SNWA Water Resources Plan cited in the DEIS, or the 2011 Hobbs, Ong Financial Feasibility Report, or the lower population growth estimates in the State Demographer's 2010 forecast, the DEIS does not disclose the costs (financial, environmental and sociocultural) associated with Southern Nevada accommodating population increases which would be supported by rural groundwater. These would include (but not be limited to): how many or much more freeways and roads, traffic and traffic accidents, schools, policy and fire protection, hospitals, parks, sewer systems, additional pollution of Lake Mead would occur as a result of the proposed GWD project?

In addition, there is no information in the DEIS on either the costs of the project or the impacts of funding the project on the public, either as rate-payers or taxpayers.

The DEIS fails to disclose impacts of the GWD project pumping drawdowns on agricultural, recreation and tourism, essential parts of the economies of Nevada and Utah counties and communities, including Lund, Preston, and Sunnyside in White River Valley. What mitigation is proposed for adverse impacts of the GWD project on the socioeconomics of the targeted basins?.

The DEIS fails to disclose the impacts of housing and other needs of GWD project construction workers. There is very limited housing available in rural communities along the proposed ROW corridor. How much temporary and permanent housing would be needed? How long would it be needed? What are the impacts of a large, but temporary housing demand on local housing availability and pricing? Will SNWA provide food for the workers, or will they be dependent on local markets? What is the capacity for local markets to handle this demand? What are the impacts of worker demands or needs for other services, such as medical care and emergency medical service, police and fire, county health and road departments, the court system and other county and city agencies? What are the costs of the GWD project demands on these local services and how will they be paid?

The Socioeconomic analysis is weak because the data used to describe social and economic conditions in each area are limited. The DEIS relies heavily on readily available published data regarding the affected counties without exploring further to understand what the data mean, and the DEIS contains several errors and omissions of information.

The socio-economic section including Appendix F is lengthy, but it is called upon to analyze five geographic areas, each with its own unique social and economic setting; a proposed action, five Alternatives A through E, and the No Action Alternative; and four distinct project elements (construction, operation of the pipeline and transmission system, construction and operation of the water development segment, and long term impacts of pumping). The time frame begins with the filing of applications for water rights in 1989 through the present to construction between 2012 and 2023 and then pumping which may be initiated in each of five hydrographic basins at some point between the completion of construction and 2049 (Snake Valley). The impacts of the pumping will extend for 200

years or more. Given the scope in geographic size and diversity, project elements, and time frames, it would be impossible to provide an in-depth analysis of each geographic area for each project element under each alternative. The size and scope of the project does not negate the need for a “hard look” at the existing conditions and potential impacts.

1. The discussion does not provide an adequate baseline of existing economic conditions and contributions for White Pine County or for the Spring and Snake Valley areas.

The information needed to comply with CEQ requirements is available. For example, the discussion on Tourism and Recreation uses the Nevada Department of Wildlife statistics on hunting and fishing license sales, Great Basin National Park visitation records, and a national survey to define daily expenditures. The Nevada Department of Wildlife has substantial information readily available on hunter days by hunt unit and species as well as angler days. The BLM and Forest Service provide information on recreation visitor days, and the White Pine County Tourism and Recreation Board can provide lodging tax revenue by month and by property. All of these sources are available without cost and most are available online. In the discussion about agriculture’s economic contribution, the primary source of information is the White Pine and Lincoln County tables from the 2007 Census of Agriculture. The University of Nevada Reno, and Cooperative Extension Service publish reports and studies detailing the economic contribution of agriculture by County and in-depth analysis of economic impacts of agriculture. Both outdoor recreation and agriculture were identified as key elements of the economic base for White Pine County in general and Spring and Snake Valleys yet none of the information was used to try to develop a better picture of the existing economic conditions as a baseline for analyzing the potential socioeconomic impacts of the proposed project.

2. A review of Chapter 6 and the references cited for Appendix F 3.18 shows that only two references are cited for White Pine County, an interview with the County’s Economic Diversification Coordinator in 2009 and the Tourism and Recreation Board/Chamber of Commerce List of Accommodations. The Draft does not cite White Pine County’s planning documents or Annual Comprehensive Economic Development Strategy which include discussions about economic history, current economic conditions, population projections, economic trends, needs and priorities, and future development.

3. The document cites published data and draws conclusions about employment, personal wealth and poverty levels, housing, and public services that do not necessarily reflect actual conditions in each of the rural counties. Follow up contacts with County personnel and community leaders could have helped to explain what the data actually mean.

4. The document omits important areas of socioeconomic discussion including impacts on traffic during construction and impacts on court systems if law enforcement activity increases. Information on these topics is readily available.
5. The Socioeconomic section makes statements and draws conclusions without citing references.
6. In some instances the document attempts to offer one explanation for factors for rural areas. Each of the areas has its own economic and social setting. What may be true for one may not help to explain conditions in another area. An example is the explanation that lower average personal wealth in rural areas is manifested in higher levels of poverty. In Lincoln County, 16.5 percent of the population is at or below poverty level. In White Pine County, wage and wealth averages are lower but the County has historically been at or below state and national poverty levels. The breakdown by income category shows the lower average wage levels indicate that the County has fewer wage earners at the highest salary levels.

The Socioeconomics discussion does not adequately address unknown factors essential for analysis of potential impacts.

1. No where in the socioeconomic section is there an acknowledgement that there are unknown or incomplete data that is essential to fully understand and analyze impacts of groundwater development projects and long term ground water pumping on the socio-economic conditions in the affected areas. The time frames for the proposed project are too long and there are too many unknowns to allow adequate analysis of potential impacts. The proposed project is not “ripe for analysis.”
2. The application for the Right-of-Way was received in 2004 and the Draft was released to the public in June 2011. The time period to develop the Draft includes one of the most severe economic declines in the country’s history and Clark County has been one of the hardest hit areas in the nation. The socioeconomics discussion shows inconsistency in how to address the updated information available during the time it has taken to develop the draft and uncertainty in how to interpret the impact the recession will have on future growth of the Las Vegas Valley. There needs to be a stated and consistent approach to new information available since this section of the Draft was written and there needs to be an independent review of the impacts of the recession on the growth anticipated for Las Vegas Valley that is stated in the document and subject to public review and comment.
3. The NEPA process does not require speculation but it is required to make an informed judgment on estimated future impacts based on trends and the probably effect of potential decisions. The analysis of potential long term socioeconomic impacts and cumulative impacts is inconsistent between urban and rural areas.

Potential rural development is limited to projects that have begun the NEPA process. The Draft does not include all probable or potential development in White Pine County. The BLM has applications for initial stages of research on wind energy projects in the Spring and Snake Valley areas and there have been a number of inquiries and applications for other types of renewable energy production throughout White Pine County including solar and pumped storage indicating further development of renewable energy development is probable; during the past two years, the White Pine County Commission received an application for a zone change to accommodate recreational development in Spring Valley, and the Spring and Snake Valley area have supported a wide range of agricultural activity in the past including orchards, livestock, and alfalfa cube production. The Draft accepts the projection of continued growth in the Las Vegas Valley based on previous population figures in spite of the impact of recent economic decline, reports of excess housing, and the fact that new industrial development, construction, and casinos, needed to support that growth have not yet been proposed. The discussions of social conditions and attitudes are subjective and not properly referenced

If community attitudes are important to understand the project impacts, it would be beneficial to conduct an independent study of attitudes about the project to be included in the appendix material. The methodology for such a study is available. While it might represent an additional cost, it would be minimal compared to the costs of water modeling and other studies conducted for the State Engineer's hearings and EIS processes.

The discussion regarding population projections needs further explanation of the methodology and limits of the statistical techniques used for the projections.

The document uses the State Demographer's population projections which are the official projections for all Nevada Counties. In addition, it cites the CBER population projections for 2009 and notes the 2010 census does not agree with the projections of the State Demographer. There are several projections of population growth available for Clark County as an urban area. There is disagreement among the studies in whether the growth rate experienced by Clark County during the past decade would have continued at that rate for an extended period in the future independent of the impacts of the recession since 2008 or access to water resources from Central Nevada.

The document needs to include a discussion about the methodology for the development of the projections. In the State Demographer's case, a regression analysis is used looking at the past to predict the future. The technique will predict growth for Clark County because Clark County was growing during the historical period used as the baseline. The technique will predict losses for an area like White Pine County because the County experienced a mine closure during the baseline period. The projections cannot predict emerging economic activity and changes in economic base. In White Pine County's case, for example, the projections predicted a steady decline during the period the Ely State Prison opened, there was new mining activity, and the County was growing. In recent

years the State Demographer has worked to overcome this deficiency by requesting information about anticipated projects or potential changes in the County's economy and population. These have been factored in to the projections. The County worked closely with the State Demographer while doing its 2006 Water Resource Plan based on a 50 year planning period. During those discussions he acknowledged that the process used for the projections was not well suited to long term analysis.

An explanation of the techniques and the limits of population projections could be included in the appendix material and would help the reader understand the figures used. In addition, the document would benefit from an independent and comprehensive review of population growth and projections not only in Nevada but in the Southwest.

As previously noted, the DEIS inadequacies should make a ROD impossible. GBWN has identified numerous deficiencies and errors that need to be addressed.

Page-by-Page Review

Specific instances of errors and the need for improvement in the data and analysis are listed in the page by page review of the document below:

Page 3.18.2: Discussion on communities and settlements in the study area lists "the emerging Coyote Springs development on southern Lincoln/northern Clark counties."

There needs to be an explanation of what Coyote Springs is, its history, what is there now, and what is proposed. The role of Coyote Springs and its dependence on the SNWA groundwater program to supply water has been discussed to a limited degree in the media, but SNWA has never explained how its proposed pipeline project and the plans to develop a new city of 159,000 homes are related.

Page 3.18.3: "*Lincoln, Juab, and Millard counties all experienced long term population growth while White Pine County experienced a pattern of cyclic contraction and expansion tied to mining and the opening of a state prison.*" The fluctuations in the mining industry caused fluctuations in population. The opening of the Ely State Prison in 1989 increased population and that has remained constant.

Page 3.18.5 (first paragraph): Discussion regarding Clark County population declines due to the recession. The statement notes that the State Demographer anticipated a decline in population of 50,000 that was not reported in the 2010 Census but other statistics suggest that a substantial out-migration occurred. The statement should cite the other statistics it is referring to. As noted above, there is a need for an independent and comprehensive review of population trends and projections in light of the impacts of the economic recession on Las Vegas.

Page 3.18.9, Table 3.18.6, White Pine County population projections change from 2008 to 2010: The change from growth to population decline is due to the fact that the State Demographer was including the population projections for both White Pine Energy

Station and Ely Energy Center in the 2008 projections and subtracted them when the projects were put on hold and factored in the potential closure of the Robinson mine when Quadra published information on the projected mine life.

Page 3.18.13 and 14, 2007 Census of Agriculture: The discussion doesn't indicate if the data for the 2007 Census of Agriculture reflect the purchases and operation of ranches in Spring Valley by SNWA.

Page 3.18.14, Last bullet point: *“Although farming and ranching are not major income generators on an accounting basis, agriculture is an important element of the economic base of the four counties.”* There are reports published by UNR and the Cooperative Extension Service on the value of agriculture by county as well as studies on various segments of the agricultural industry in Nevada that provide additional understanding and documentation of the economic benefits of agriculture. The document emphasizes the reliance of the rural areas and especially Spring and Snake valleys on agriculture. It would be a stronger discussion if it included a more in-depth review of the information and analysis that is available rather than just including the White Pine and Lincoln County tables from the 2007 Census of Agriculture.

Page 3.18.16: The concerns listed regarding SNWA's ownership and operation of the ranches in Spring Valley do not include the concerns that the management of the ranches is not based on production but preservation of the groundwater for other uses and the concern that SNWA is unfairly competing with local ranchers. These concerns have been raised in a number of public meetings that were attended by SNWA staff and have been documented in minutes.

Pages 3.18.6, 17, and 18 Tourism and Recreation: The discussion on tourism and recreation in rural areas is not comprehensive. The information used includes a national survey, reports of hunting and fishing licenses sold, and visitation at Great Basin National Park. Additional information available through Nevada Department of Wildlife includes reports of hunter days per species and by Hunt Unit, fishing creel census data that can identify angler days by specific location (including the creeks in Spring and Snake Valleys) and hunting activity per County by species including upland game birds, waterfowl, small game, and trapping activity. By working with the Department for access to individual results from big game hunter report cards submitted by tag recipients each year, hunter days could probably be identified for specific areas rather than hunt units. The Department enjoys a very high response rate on the report cards because hunters must pay \$50 to apply for a tag the following year if they do not turn in their report card. The discussion of the seasonality of rural tourism does not acknowledge that big game hunting seasons in White Pine County span a period from early August through December. This discussion also omits revenue generating activity related to wildlife in the Spring and Snake Valley areas including hunting guide revenue, taxidermy business, and land owner tags. Historical data would probably show the revenue lost from land owner tags when SNWA purchased the ranches in Spring Valley because they are not eligible for the tags. Both the Forest Service and BLM maintain records and professional estimates of recreation visitor days and the State Parks Division has information on

visitorship at its parks by county of origin. Both the NDOW and State Parks data show that the vast majority of recreation use of White Pine County facilities comes from Clark County visitors.

The discussion in Section 3.18 does not include lodging tax data or attendance at special events from the Tourism and Recreation Board. Although it requires some assumptions including average room occupancy and average room rates, the lodging tax revenue can be used to determine the number of visitors per month. The discussion does not include business travel. According to the White Pine County Tourism Master Plan completed by Tom Harris at University of Nevada-Reno, business travel accounts for a substantial portion (35 to 45 percent) of the room rentals in the County and it is year round rather than seasonal.

Spring and Snake Valleys play a vital role in the White Pine County's tourism and outdoor recreation and with minimal effort, many of their contributions could be quantified. This was done for Spring Valley in the report of socioeconomic activity submitted for the State Engineer's hearings in 2006 and it could be updated and expanded to improve the DEIS . Without the additional information, the economic benefit of tourism in the rural areas is understated in comparison to the wealth of information available on Clark County tourism.

Page 3.18.19 Personal Income and Poverty: *“The consistently lower incomes in the rural counties manifest themselves in a higher incidence of poverty and low income as measured by individual or family income relative to a defined threshold.”* This blanket statement about the variations in personal income and poverty levels from urban to rural areas appears to try to offer one explanation for the unique economic conditions in the various rural areas included in the study area. In fact, White Pine and Lincoln County have very different economic conditions and population characteristics that determine personal income levels. White Pine County's average weekly wage has historically been 80 to 85 percent of the statewide average and at the same time, the percentage of households living at or below the poverty level has been equal to or slightly below the state and national average. Income data from the Census includes the prison population and the impact of the low income status of inmates can be derived from isolating institutionalized populations (which also includes the residents of the White Pine Care Center) and comparing household to family data. Even with the prison population included in poverty level data, White Pine County (10.8 percent) is relatively close to Clark County (11.0 percent) and below the state and national averages while Lincoln County is much higher at 16.5 percent. White Pine has a relatively small transient population which is usually explained by the colder climate. Some Lincoln County officials (economic development and CDBG contacts) have complained in the past that part of their low income population is migrating from Clark County because of the lower cost of living. White Pine County's income data reflect a larger moderate income population with fewer in the highest and lowest income brackets reported while Lincoln County may reflect a larger incidence of low income households.

Pages 3.18.20 and 21, Housing data: The discussion on vacancy rates acknowledges that the vacancy rate in 2000 reflects the recent BHP closure at Robinson mine. This figure needs to be updated to reflect the current tight housing market, lack of rental housing, and housing prices. The statement on Page 3.18.21, “*The limited scale of new residential development in White Pine County suggested by the net change in housing units masks population growth as many incoming households were able to find existing, affordably priced housing.*” needs to be documented and a reference cited since it is inconsistent with the understanding of the County’s housing market based on the information from the County Assessor and reports from area employers. Property sales were tracked by the County’s economic development program from 2005 through 2010. Based on the County Assessor’s records, the single family home market was very active and prices were increasing from 2005 through 2010 and experienced a slight decline in selling price in 2010. In tracking number of housing units, the economic development program staff discussed the Annual Report of Housing Units with the County Assessor and found that the small net increase is misleading. In recent years, some previously reported housing units were taken off of the report because they were substandard and considered uninhabitable. There were actually more new housing starts than the net increase reflects because of the loss of the substandard units. In several public discussions with employers including the annual Comprehensive Economic Development Strategy (CEDS) and the Workforce Housing Assessment completed by Tom Harris, UNR, area employers including the school district, BLM, Ely State Prison and the Robinson mine reported that their recruitment of new employees was hindered by inadequate affordable housing in the area. The problem prompted Quadra to finance extension of infrastructure and a housing development in Ruth to meet the needs for their employees.

Table 3.18.13: Shows a vacancy rate of 15 percent in Clark County in 2010. According to the Las Vegas Housing Market Conditions report from CBER, there were 31,674 vacant units listed for sale in the Greater Las Vegas area during the first quarter of 2011 reflecting an excess supply of 10,203 housing units above the estimated normal vacancy rate for the area. The number new housing starts in the area may reflect real estate speculation.

Page 3.18.21, Temporary Housing: “*Project related needs could compete with the traditional uses and markets for those units...and in Ely due to the community’s efforts to promote its tourism and convention trade.*” This is a documented impact of large construction projects including the prison and construction of the mill at Robinson mine. It impacts general tourism and convention trade but is most severe when it impacts special events. The community spends years and thousands of dollars creating special events and building the clientele for them. When participants can not get motel rooms for the events because they are full of construction workers, they tend to stop going to the event. If the impact continues for a period of years, they may not come back at all. The other issue identified with previous large construction projects is that the community does not want construction workers’ RV’s scattered all over public land near the construction site. This was a significant problem with the construction of the prison with the prime

contractor from Utah and workers commuting on a weekly basis. This issue has been identified several times but was not addressed in the discussion.

Page 3.18.22, Section 3.18.6, Public Facilities and Services, Local Government:

Third paragraph on water providers omits the McGill Ruth GID. McGill and Ruth are part of the Ely population center and will be impacted. The McGill Ruth GID is also omitted on Table 3.18.15 (page 3.18.23).

Page 3.18.23, Table 3.18.16, Public Service Providers: White Pine County entry should note that White Pine County now has full time fire and emergency medical service personnel supplemented by volunteer services. This also needs to be updated in the narrative discussion on Page 3.18.24.

Page 3.18.26: *“Lincoln and White Pine Counties are more dependent on intergovernmental transfers than are the other three counties. The intergovernmental transfers should be identified. Part of the dependence comes from federal PILT and SRS funding due to the high percentage of federal land in the rural counties, part of it comes from the state’s system of CTX tax distribution and guaranteed county status to provide a base of sales tax revenue for rural counties, and part of it is from SNWA’s PILT agreement on the ranches in Spring Valley.*

Pages 3.18.27-29, Social Organization and Conditions:

1. The introductory paragraph references Appendix F 3.18, however, the Appendix offers little additional information or documentation of the summary statements in the narrative.
2. The section identifies Baker and Ely as the two communities that may be impacted by the ROW construction. The impacts will be County-wide and the list should include Ruth and McGill as part of the Ely population center as well as Lund and Preston. The entire County will feel impacts on public services and the commercial center in Ely. The White River Valley is an important element in the County’s agricultural industry to the extent that the livestock and ranching interests are impacted in the County, the White River area including Lund and Preston will be impacted. The research done for the State Engineer’s hearings on Cave Valley showed that White River produces winter feed used by ranchers throughout the County.
3. Snake Valley (page 28) Lehman Caves is misspelled.
4. Coyote Springs (page 29) there needs to be further description of what Coyote Springs is, its history, the extent of development and population there now, and the anticipated population at full development.
5. Las Vegas Valley: The discussion focuses on the benefit of tax revenues generated in Las Vegas Valley for the state as a whole and links it to the need for

other areas of the state to support growth in the Las Vegas area to generate tax revenue. This discussion may be misplaced because it is not consistent with the format and information offered in the discussion of other communities in the study area. The discussion does not relate the revenue generated to the state expenditures in the Las Vegas Valley nor does it include the concerns of Las Vegas Valley residents with the negative impacts of continued growth.

Pages 3.18.30-31: The introductory paragraph for Social Conditions references the Socioeconomic Technical Report of Appendix F 3.18. The Appendix offers little additional documentation of citizen input on the project and does not itemize sources for summary statements in the section.

Pages 3.18.31, Social Conditions, item 2: The discussion of perceived risks does not include concerns of Las Vegas residents about negative impacts of continued growth. Item 4 discounts the comparison to Owens Valley because of the differences between the two projects but does not explain what those differences are, and Item 6 states that the risk of water shortages and curtailment of growth is unacceptable but does not identify the interest groups.

Page 3.18.34, Discussion on poverty levels in rural areas: Same concerns as the discussion on poverty on page 3.18.19.

Page 3.18.37, Facility maintenance

The fact that a staffing plan for maintenance and operation is not available at this time makes it difficult to determine the economic benefit of Alternatives A through C for rural areas.

Local governments may receive some tax benefit from the maintenance and operations activity but without sites identified and a staffing plan in place the benefit cannot be determined. Without an agreement in place, there is no guarantee that local governments will receive tax benefits or that contractors will be required to purchase and hire locally or have deliveries made in the affected counties to provide tax benefits for local governments. The tax benefit is uncertain if SNWA uses its Municipal status and purchasing power to ensure it has minimum operating costs.

Local governments will be called upon to meet short term and long term impacts but without agreements in place, it is uncertain whether the tax revenues received will cover the cost of additional services.

Page 3.18.41, Alternatives A-C: Same concerns with temporary housing as noted for 3.18.21.

Page 3.18.42, Table 3.18.24: Point 5, summarizes the potential benefits of some of the workforce spending money in the area strengthening local business, adding jobs, and pressuring employers for higher wages. White Pine County's experience with large construction workforces that commute home each weekend is that expenditures locally

are limited. Workers stock up on groceries, etc. when they are home for the weekend and bring it back with them. In addition, as new mining activity and other construction projects (SWIP North, wind energy projects, and other renewable energy activity) becomes a factor, additional service sector jobs may be difficult to fill and increased housing demand will increase rent and purchase prices.

Page 3.18.43, Table 3.18.24 continued: Point 2. *Impacts on general government services such as the County Clerk and municipal utilities would be modest.* This does not account for the fact that increased law enforcement activity also increases occupancy and services needed in the jail and court activity which in turn impacts the County Clerk because in White Pine County, the Clerk's office provides the Court Clerk services.

Point 6, Law enforcement, needs discussion on the impact on county jails, court systems, and court clerks.

Points 7 and 8, Emergency Services: Makes the statement that Baker EMT's are not over taxed with current demands. This needs to be verified and documented. The demands on emergency services are understated. Demands can not be evaluated just on the basis of the number of potential calls but must include the costs of being prepared for an emergency at the construction site. A commuting workforce and an increase in over-sized load truck shipments will add to the potential for traffic accidents that require emergency services.

White Pine County has recently been involved in detailed discussions with Spring Valley Wind and Great Basin Transmission (north) to determine the needs for emergency services during their construction projects. The resulting Development Agreements can help provide an understanding of the needs for emergency services during construction. Similar discussions with county emergency services personnel are required to determine the full level of potential impacts.

Page 3.18.44, Table 3.18.24 Continued

Point 2, Tax revenue for local governments. How will vendors be required to establish business licenses and points of delivery within rural counties? Who will ensure that this happens? How is this consistent with the mitigation identified in the Transportation Resources section (3.10) that local deliveries of materials will be minimized to improve highway safety?

Point 8, Same concern as Point 5.

ACM 12.2, SNWA's PILT agreement with White Pine County excludes the state portion of property tax and real property transfer tax. The \$10,000 annual payment was an estimate by SNWA and White Pine provided documentation showing that the \$10,000 did not cover the lost revenue. SNWA refused to reconsider the amount. The PILT agreement depends on approval by the SNWA board and is not guaranteed.

ACM 12.1, 3, and 4: Clark County prevailing wage rates are generally higher than prevailing wage rates for White Pine County and this would benefit White Pine residents employed on the construction project. The statement could be stronger if it added Clark County prevailing wage rates and zone rates for all portions of the construction project.

Page 3.18.47,

SE-1 should include operation of the jail, court system, and court clerk costs.

SE-3 should note that the PILT agreement excludes the state portion of taxes.

SE-5 should include a provision that rural counties have input in the socio-economic monitoring report to identify and monitor impacts to local communities.

Page 3.18.55, Table 3.18.32, Summary of impacts for Construction of Alternative E: Same issues as other Alternatives.

Page 3.18.58, Table 3.18.34, Alignment Options: Alignment Option 1 parallels the line from North Spring Valley to Gondor Substation. Is SNWA's transmission is going to use Gondor substation? If so, what impact would that have on the available transmission capacity at Gondor and its capacity to help support renewable energy projects in White Pine?

Page 3.18.61, Section 3.18.2.8, Groundwater Development/Pumping: Identification of wells, collector pipelines, power lines, and future facilities to be studied under the tiered process. These are actually Connected Actions that need to be analyzed in the same document as the ROW.

The discussion does not include potential impacts for future renewable energy, and recreation development which could occur in White Pine County including Spring and/or Snake Valleys. These projects are not speculation but are documented in applications submitted to the BLM, an application for a zone change for recreational development in Spring Valley, and historical agricultural activity.

Page 3.18.62: If pumping is not anticipated in Snake Valley until mid-century, the project will have impacted the area for over 60 years (since the filings in 1989) before water might be used from that basin.

Page 3.18.63: *“Potential project-related social and economic effects of groundwater drawdown are assessed based on review of projected drawdown areas and range of drawdown for each alternative considering existing land use and economic activities within those areas”* The project is based on projected future growth of the Las Vegas Valley including the potential for new commercial, residential, and industrial development that has not yet been proposed. The analysis should include the potential for new commercial, residential, and industrial development within rural areas that may not have been proposed to date.

The discussion should provide a chart of the actual local and non-local job generation for each phase of construction. Short Term construction for development will generate 125 jobs for each of the two 3-year phases for Spring Valley, 35 percent anticipated from rural areas and 30 percent by non-locals relocating to the area, approximately 44 jobs for rural residents for each phase and 37 for non-locals relocating during construction. Of the 105 jobs for Snake Valley, 37 jobs for rural residents and 31.5 for non-locals relocating. County and community service providers should be asked to comment on how these figures might impact their ability to deliver services.

Page 3.18.65, Table 3.18.37:

Point 2, Demand on general government services, modest: This does not acknowledge that increased demand on law enforcement will also impact the Court system, District Attorney’s office, and County Clerk’s Office.

Point 7, Competing demands on the local business community would create conflicts: Based on the employment figures on page 62, the additional impacts would result in 30 to 32 non-local workers relocating to the area for the construction. This statement should be reviewed with Baker area business owners to determine how the added workforce might impact them and their customers.

Page 3.18.66 Table 3.18.37 continued:

Point 1, impacts on law enforcement and emergency services is likely to be modest—one large incident could create a hardship for the law enforcement and emergency services personnel, equipment, and budgets. Part of the impact on law enforcement and emergency services is the need to be prepared for a major incident.

Point 2, How will construction agreements be developed with contractors to ensure that maximum tax benefits go to the state and to the local governments within the project area?

Point 5, Should be Snake Valley, not Snake River Valley

3.18.67, Introduction to Groundwater Pumping effects: The statement shows that the impacts will be long term, even after pumping ceases and at large distance from the pumping areas, that they are not reversible and that they cannot be predicted. If the impacts could be severe with no means to correct them, the statement is in conflict with SNWA’s continued reassurance that if negative impacts are observed in one area, they will stop pumping and shift to another well to minimize impacts.

Table 3.18.37:

Point 1: Disincentives for future economic development in some rural areas, including development on public lands identified for potential disposal in the Ely RMP: This

statement should read curtailment of future economic development potential including renewable energy projects that require water resources, recreational development, and value added agricultural development in Spring and Snake Valleys.

The public land identified for disposal in the Ely RMP is supplemented by the 45,000 acres of land for disposal identified in the White Pine Conservation, Recreation, and Development Act of 2006, The 45,000 acres exceeds the total for disposal in the Ely RMP and will require an amendment to the RMP. The additional land has not yet been identified and could include land in Spring and Snake Valleys.

Point 4: Effects on air quality, the level of impact should be quantified and not subjectively labeled as Minor.

Page 3.18.68:

1. Negative impacts to the majority of agricultural land in Spring and Snake Valleys will have a significant negative impact on the economic contributions of agriculture in White Pine County. The socioeconomic report done for the State Engineer's hearings on Spring Valley in 2006 showed that Spring Valley accounts for approximately 25 percent of the County's economic output from agriculture.
2. The potential for negative impacts on BLM land for disposal could be more than the 4,918 acres identified in the RMP, it could include additional acres as identified in the 2006 White Pine County Conservation, Recreation, and Development Act.
3. The current transfer fee is based on \$6 per acre foot. In the past, there have been attempts through the State Legislature to increase the fee. The statement should reflect the potential for a change in the fee based on actions of the State legislature.
4. The 8,000 afy of water from the Spring Valley Ranches will require action by the State Engineer before it can be used for the Groundwater Development Project.

Page 3.18.69 (Table 3.18.38 continued):

1. Transfer fees are based on the water pumped from the basin for inter-county, inter-basin transfers and without being able to predict pumping schedules, local governments can not count on the revenue for on-going expenses.
2. The potential revenue losses based on curtailment of agricultural activity and reduced property values would potentially exceed any increased revenue due to project activity.

3. White Pine County's current agreement with SNWA for the PILT payments includes any future purchases of private property. This is not a guarantee and requires approval from the SNWA Board putting White Pine County at risk.
4. Long term impacts of subsidence on economic development could also include damage to private facilities, increased insurance costs, and could cause lack of development due to concerns about structural integrity.
5. Potential for and impacts of major accidents or structural failures of the pipeline or transmission system and required actions to minimize the potential needs to be discussed in more detail than bullet point in Table 3.18.38.

Remaining points in the chart: Same concerns about summary statements without documentation.

Pages 3.18.70-71, Discussion of indirect effects: The project would result in loss of future development potential and population gains in Spring and Snake Valleys and White Pine County as well as declines in current population and economic activity. The groundwater pumping is not anticipated in Spring and Snake Valleys until mid-century. This is too far in the future to adequately analyze the direct, indirect, and cumulative impacts of the project. The proposed project development and implementation in northern Spring and Snake Valleys is not "ripe for analysis." If this analysis is to follow with the future tiered EIS process for well development in Spring and Snake Valley, it is too late. It would be not be feasible or wise to construct the pipeline and transmission system for Spring and Snake Valleys and then not develop the wells to use it.

Page 3.18.72: If the water is used to replace the Colorado River water used by Las Vegas Valley, then it would not support growth and the arguments about additional tax revenues for support of the state would not be valid.

Additionally, the review of southern Nevada's planning documents shows that the assumptions for the need for additional water to support growth and avoid slowing the pace of growth are based on a variety of conditions nationally and globally for over decades in the future. At the same time, the City of Las Vegas, using the Clark County REMI population forecast for 2008-2050 and Census data projected that population growth in Clark County would slow considerably and predicted, "a return to more realistic, consistent rates of growth than that which occurred in the 1990's and continued through 2007." There needs to be an independent and comprehensive review of population data and projections for Las Vegas and the Southwest before to fully understand potential growth and water needs.

Page 3.18.73: Key findings of LUTAQ modeling include increased growth, development, and transportation as they are currently occurring in the Las Vegas Valley will result in increased traffic congestion, air pollution, and deterioration of air quality. There is information available about the negative impacts of continued growth and

development in the Las Vegas Valley that should be included in the analysis of the proposed project.

Page 3.18.72-75: Review of Clark and Lincoln County planning documents and codes: White Pine County’s planning documents should be included. The White Pine County Water Resource Plan (2006), Land Use Plan (2008), and Public Land Use Policy (2008) have all been adopted by the Regional Planning Commission and White Pine County Commission and included as components of the County’s Comprehensive Master Plan by resolution. They all include long term planning direction, predictions, and guidelines. White Pine County’s annual CEDS document contains a detailed analysis of socio-economic changes during the past year, development activity, and an in-depth review of needs and priorities. The full document is done every 5 years (2006, most recent) and provides a full overview of the County’s economic history, current situation, and potential for the future. There is no reference to the County’s planning documents or CEDS documents in the Socioeconomics section.

Page 3.18.76: Foreseeable economic impacts should include the recognition that impacts began when the applications were filed in 1989

Mitigation Measures: Who will monitor and ensure that the mitigation measures are implemented? Rural local governments need an equal “seat at the table” to ensure that rural needs are adequately addressed. The CEQ requires that the NEPA analysis addresses the probability and effectiveness of proposed mitigation strategies.

Page 3.18.77, Residual effects: Residual effects are assumed for 200 years of pumping and beyond. How can the DEIS begin to predict the residual effects? How can the conditions and needs be identified given the changes in technology, policy, and global conditions for that period of time? There is no mention of unavailable or incomplete data that prevents complete analysis of the residual effects at this time. Under the discussion of the tiered process (Chapter 1) it implies that the effects of groundwater pumping will be considered through the Tier 1 EIS and that the subsequent EIS processes will be directed at the location of the wells and connector pipelines and power lines. At the same time the discussion says that new information will be considered and analyzed during subsequent EIS processes. Does this include the long term impacts of groundwater pumping? The CEQ says that NEPA analysis can not be done on a piecemeal basis. The Tier 1 DEIS should be held to a standard of full analysis of the long term, residual effects of the groundwater pumping.

Point 3: The statement that residual social and economic changes in Lincoln County and the Las Vegas Valley could arise in conjunction with growth enabled but not caused by the water conveyed via the pipeline is “splitting hairs”. It still needs to be analyzed.

Pages 3.18.78-3.18.88, Groundwater development impacts for Alternatives A, B, and C:

These sections essentially duplicate the previous discussion and the concerns noted above for pages 3.18.66 through 3.18.88 apply to the discussion for Alternatives A, B, and C.

Pages 3.18.88-92, Alternative D: The discussion on Alternative D includes the same concerns on data and methodology as listed above. The proposal for Alternative D would be consistent with the SNPLMA and LCCRDA requirements to issue the ROW in Clark and Lincoln Counties. If selected, there would still need to be monitoring and mitigation of impacts in White Pine County due to the drawdown in south Spring Valley.

Pages 3.18.93-96, Alternative E: The discussion on Alternative E includes the same concerns on data and methodology as listed above.

Page 3.18.97, Table 3.18.49, comparison of alternatives, Socioeconomic Long Term adverse effects in the rural area: “Yes and Potentially Significant” does not seem to be consistent with the socio-economic statements on Table 4.0-1. The statements on 4.0-1 are limited to the increased costs for irrigation.

Page 3.18.98, No Action: The introductory paragraph implies that BLM cannot select the No Action Alternative because of Congressional Action. If so, the additional discussion that denial of the ROW could result in a second ROW application from SNWA and starting over seems to be speculation.

Page 3.18.100: The quote regarding power projects is not reported accurately. The discussion was about two coal fired power projects, not several and the reasons they were put on hold did not include slowed demand due to the recession.

The long term development potential for White Pine may include the closure of the Robinson mine based on the published mine life, but it should also show the expansion of Bald Mountain Mine, and other mining and renewable energy projects that have applications in varying stages of consideration by the BLM.

Page 3.18.101: The discussion that with the No Action alternative, SNWA would have to look at other alternatives for water resources to allow the Las Vegas Valley to grow is inconsistent with the previous discussions that the water made available from the project might enable growth but not cause it so there is no need to analyze the impacts of the growth.

Long term economic development is based on current economic activity in all of the study areas even though the time frame is identified for over 200 years and is beyond the definition of reasonably foreseeable. Economic development activity in White Pine County is limited to mining, outdoor recreation, and agriculture and excludes renewable energy projects and other potential industrial activity.

Page 3.18.103-104, Cumulative Impacts:

1. Page 104, two major US Highways, need to add State Route 318 which would have some increase in traffic.
2. The statement that unemployment rates in rural areas have been higher than those in Clark County is no longer true. During the recession, unemployment in White Pine County has been much lower than the unemployment rate in Clark County.

Page 3.18.108: The document acknowledges that the long term time frames for the project exceed a time period of effective cumulative analysis. The cumulative analysis is limited to Spring and Snake Valley. If the entire County will be impacted, the cumulative analysis should include projects in the entire County. There is no mention of the BARCAS study conclusions that it is likely larger amounts of water flow eastward from Steptoe to Spring and Snake Valleys than previously thought. With that finding in mind, the cumulative analysis should be extended to Steptoe Valley as well.

The Socio-Economic and Environmental Justice Section, 3.18, makes statements and draws conclusions that are not quantified, thresholds for making statements are not identified, and statements are not documented as to the information, source, and reasons for the conclusions.

Page 3.18.1, Introduction: “*A number of hydrographic basins included in the groundwater model extend outside these five counties; small portions of these basins, such as western Beaver County are at risk for long-term drawdown. However, those areas are excluded from the socioeconomic study area due to their remoteness, sparse population, and limited areal extent of the affected areas, which together limit the potential for appreciable socioeconomic impacts.*” If the basins are included in the groundwater model and may be impacted by the groundwater pumping and drawdown, what are the thresholds used to determine that there was no need to include them in the socioeconomic analysis?

Page 3.18.8, Section 3.18. 1.2, Population and Demographics: Projected Long-Term Population Growth in the Study Area: “*The projections for the two rural Nevada counties, which portray little or no growth, are viewed with skepticism locally, particularly in Lincoln County where public land sales have created an expectation of long-term growth.* The statement needs to cite the resource, who reported skepticism in White Pine and Lincoln counties?

Page 3.18.10, Section 3.18.1.2, Population and Demographics: Projections in Lincoln County do not include allowances for any substantial level of future development in Coyote Springs or Toquop—“*Lincoln County estimates that these developments could ultimately increase local population by 250,000 (Lincoln County, no date).* If this statement is going to be included, it needs further explanation. Is this a reputable source? What other Lincoln County document support it? Why doesn't the State Demographer include the potential for the projects in the state population projections? Both projects fit the definition identified for cumulative impacts. If the two projects could result in substantial population growth, they need to be included in the analysis of impacts and

cumulative impacts. There is a brief paragraph on general potential impacts if construction on Coyote Springs moves forward but no mention of potential construction of Toquop in the Cumulative Impacts portion of 3.18.

Page 3.18.12, Section 3.18.3, Economic Overview: *“An adjunct of the relatively small size of the rural economies is a lesser degree of diversity, which makes them more susceptible to economic distress and less resilient to adverse changes affecting one or more elements of their economic base. The lack of economic diversification and associated recognition of the limited options for expansion facing the rural counties raised concerns regarding fiscal distress from potential future cutbacks or the loss of existing employers such as the Nevada Test Site and Robinson Mine.”* This statement needs to be supported with historical data regarding the economic resiliency of both urban and rural areas in the study. The statements regarding the potential closure of the Robinson Mine need to be documented. The projected mine life has been published several times and it would not be difficult to include a specific time frame for potential closure and reference for this statement. The discussion should also include current expansion and development of new mining projects which may offset the loss of the Robinson mine if and when that happened.

Page 3.18.16, Section 3.18.3, Economic Overview: (Sales of ranches to other development interests including SNWA) *“Such sales raise economic and social concerns within the local communities including the effects of potential exportation of appropriated water rights,…”* How was this determined? The concerns about the purchase of ranches by both SNWA and NV Energy have been reported locally several times. This statement should be documented and the specific concerns identified.

Page 3.18.18, Section 3.18.3, Economic Overview (Discussion on Tourism): *“As noted above a sense of tenuousness exists across the rural counties regarding their economic future..”* This statement needs to be quantified and documented. If this is taken from one or more interviews with residents of the area, the interviews should be cited.

Page 3.18.29, Section 3.18.7, Social Organization and Conditions: (Discussion on Las Vegas Valley) *“as goes [Clark County/Las Vegas/the Valley] so goes Nevada.”* *Although reaction to this perspective ranges from disdain to pride, informed observers describe it as a fundamental recognition of Nevada’s economic and fiscal realities.”* This statement needs to be documented. Who are the informed observers and how has the reaction from disdain to pride be identified?

Page 3.18.31 and 32, Section 3.18.7, Social Organization and Conditions, Item 2: (Attitudes and opinions in rural areas and in the Las Vegas Valley regarding perceived risks of the project and perceived risks of inadequate water supplies in Las Vegas) the discussion in Section 3.18 references Appendix F. The discussion is a general narrative about perceived risks and concerns. The discussion in Appendix F notes that the study reviewed a number of sources including the State Engineer’s hearing records, the scoping meetings, public meeting records, newspaper articles, and interviews. Appendix F notes

that “*There has been no widespread public referendum on the proposed water development project in general or any proposed public funding for the project. Such a referendum promotes public dialogue about a project, identifies issues, interest groups, and stakeholders supporting and opposing a project, and produces a result that can be viewed as an affirmation or denial of a project. Given the lack of such a referendum, the only indication of attitudes and opinions about the proposed project among the general Las Vegas Valley population is limited to newspaper polls, the most recent of which indicates that slightly over half of the Clark County population supports the proposed project. The SNWA board of directors, which represents local government and water purveyors, also reaffirmed its support for the project in 2009.*” (Appendix F, 3.18.53.) The newspaper poll does not seem to be cited in the references for Appendix F. A review of the public comment at the Spring Valley hearings would show that most of the public comment made from Las Vegas in support of the project was from public officials and the real estate development and construction industries. If it is important to include social attitudes in the discussion in Section 3.18, to be accurate, there should be an independent study of community attitude about the project to support the conclusions.

Page 3.18.43, Table 3.18.24: “*The Baker community responds to emergency services needs associated with tourists, park visitors, and other highway travelers but such needs currently do not overtax capabilities.*” This needs to be documented. Who determined this?

Page 3.18.69, Table 3.18.38: last three items regarding community attitudes in Lincoln County and Las Vegas Valley, need to be documented somewhere in the document.

Page 3.18.82: “*The effects on population, employment, labor force, and economic structure would result in many corollary effects on social organization and conditions in the affect communities. In the rural communities these would include continuation and potential elevation of existing project related attitudes, opinions, and associated social effects including political conflict, social dissension, community discord, and personal distress.*” The statements regarding community attitude need to be documented either in Section 3.18 or Appendix F. How has this been determined?

Page 3.18.90: “*Not all residents of the rural areas oppose the project. For these stakeholders, implementation of Alternative D may generate mixed reactions. On the one hand it could be seen in an unfavorable light in that it provides for substantially less conveyance capacity which potentially could limit intra-county water transfers. At the same time the fact that implementation of Alternative D provides some conveyance capacity for any future intra-county water transfers could be viewed favorable....*” This statement is footnoted but the footnote does not pertain to the statements about community attitude. The statement on Page 3.18.90 should specify that it is talking about Lincoln County residents.

White Pine County Infrastructure and Community Capacity Limitations

Other impacts to White Pine County have been noted by GBWN associates, specifically pertaining to the county's infrastructure and community capacity. The DEIS discussion of infrastructure available in White Pine County to support the impacts of the proposed Groundwater Development Project is minimal. Section 3.18 and Appendix F regarding Socioeconomic Impacts are focused on potential impacts on law enforcement and emergency services, potential demand for classroom space within the School District, local government revenue from the project, whether the Ely area can provide the utilities and housing for construction crews, and potential impacts on the Baker water and sewer system; the transportation section devotes minimal attention to impacts to County roads; and the Public Health and Safety section is devoted to hazardous materials issues. Specific areas omitted from the Draft are discussions about solid waste disposal during the construction and operation phases of the project and adequate discussion about County roads.

The DEIS relies heavily on published data and the references cited shows a lack of effort to collect information from local sources to gain a full understanding of existing conditions and potential impacts. Appendix E, Conceptual Plan of Development defers discussion of construction and operation practices to future planning documents including the Construction Plan, Traffic Management Plan, Dust Control Plan, and Emergency Response Plan (listed in Appendix A of the Conceptual Plan of Development, Page A-2). There is no assurance that the future planning documents will adequately address the concerns with County Roads, Solid Waste Disposal, and the community's capacity to absorb the impacts of the project. Without adequate detail in the Draft EIS and Conceptual Plan of Development (Appendix E), it is not possible to determine if the existing conditions and project impact have been adequately analyzed.

A review of the availability of County infrastructure supports the overall conclusions of the socioeconomic review that the Draft and appendix material do not meet the requirement to "Take a Hard Look" at the existing conditions and potential impacts and that there is so much incomplete and unavailable information that the project in its entirety cannot be fully analyzed in a single EIS document and is not Ripe for Analysis.

It should be noted that the review of White Pine County's infrastructure as it might be impacted by the SNWA Groundwater Development Project is based on the existing conditions as of 2011 not the conditions that may exist at the time of construction. Construction, Operation, and Long Term Groundwater Pumping may not occur in White Pine County for several years and there is no way to predict what the conditions may be at the time the project is initiated in White Pine.

White Pine County, the City of Ely, and the McGill Ruth GID do not have staff and financial resources needed to monitor and respond to impacts of long term groundwater pumping.

A short review indicates that the impacts of the construction and operation of the GWD would place severe strain on the White Pine County infrastructure:

1. The Baker water and sewer systems have the potential for the most direct impact from the project during construction as well as from long term groundwater pumping. The system is relatively new compared to the other systems in the County and has sufficient capacity to meet the current demands plus increased demand in Baker. The proposed project has already impacted the system's capacity to grow because applications for water rights submitted by the Baker GID water rights applications were junior to the SNWA applications in Snake Valley. The GID has since been gifted senior water rights to secure the water source for the system. The GID has devoted substantial effort to expand the system's service area. This expansion would require additional wells. The primary concerns noted by the GID are: 1) the springs identified as a backup water source are vulnerable if SNWA proceeds with the project in Snake Valley and 2) the GID's well is not deep and is susceptible to the impact of the long term ground water pumping proposed by the project.

The Draft EIS acknowledges the potential negative impact on the Baker system due to long term ground water pumping, and the GID would have to hire someone to help monitor and respond to the impacts. The impacts of long term groundwater pumping and the additional costs of monitoring the GID's water supplies could result in increased costs for the system's rate payers.

2. The Ely Municipal Utilities System and McGill-Ruth, GID may see impacts in increased use during construction when motels and RV parks may be filled to capacity. Based on the current systems and their existing use, Ely Municipal Water System and the McGill Ruth GID have the capacity to absorb the additional temporary population during construction.

The capacity of existing systems, especially the Ely systems, could be reduced due to system failures and inadequate funding for repairs. A Regional Water and Sewer Preliminary Engineering Report (PER) for Ely, Ruth, and McGill was completed in 2009. The study evaluated the existing water and sewer systems and provides a detailed accounting of the system deficiencies, needed repairs and improvements to meet current standards, and cost estimates. Due to the age of the Ely systems and lack of adequate revenue to implement consistent maintenance, repair, and improvement schedules, the Ely water and sewer systems are out of date and in need of repair. The City has had to rely heavily on grant funding to repair and upgrade small sections of the system each year and it does not have the resources available to make major improvements to the system as a whole. Two of the most critical issues for the Ely system are under-sized water lines and inadequate fire hydrants in portions of the city. The PER (2009) shows that the McGill-Ruth GID systems are in relatively good condition due to an aggressive program of upgrading both water and sewer systems as well as collection, and distribution lines.

3. With the conclusions reached in the BARCAS study, there is reason to believe that Steptoe Valley could be impacted. The residents of the Lund/Preston area testified in the Nevada State Engineer's hearing that they had concerns that White River Valley could be impacted by pumping in Cave Valley. The water supplies for Ely, McGill-Ruth, Cherry Creek, and the Lund-Preston area need to be monitored to determine if there are impacts from long term groundwater pumping.
4. The Draft EIS and the PER were both written during the time the City of Ely was negotiating with the Robinson Mine regarding the dewatering program, loss of Murry Springs as a primary water source for the City, and conversion to wells. Potential impacts to water supply need to be evaluated based on potential impacts to the well system, the dewatering program and its impact on water resources in the vicinity, and the recovery period following completion of the dewatering program.
5. Historically, Ruth's water system relied on the Ward Mountain Springs, there was no back up water source, water supply was limited and subject to fluctuations in the springs, and residents were restricted in water use during the summer. The GID has worked diligently to provide adequate water supplies for Ruth with the construction of a water line from Ely to Ruth to provide a back up water source. In recent years Ely faced water supply issues with Murry Springs and was not able to provide water to Ruth. The GID coordinated with the Robinson mine for assistance with back up water sources.
6. McGill originally drew its water from Duck Creek Basin via a pipeline owned and operated by Kennecott. With the Kennecott closure of the smelter in McGill, the GID converted the water system to wells. McGill has sufficient water supply at this time to meet the needs of the community and the GID is exploring the potential of a pipeline from McGill to Ruth that could provide a back up water for that community. The pipeline could potentially serve residential needs in the area north of Ely. If that pipeline was developed, negative impact from long term groundwater pumping on water supplies in McGill could be detrimental to the GID system as a whole.
7. The Lund and Preston areas currently operate on private wells and septic systems. A negative impact to the water supplies due to long term groundwater pumping could impact the private wells, irrigation, and fire protection resources for the two communities.
8. The community of Cherry Creek relies on a private water system that could be vulnerable if there is a negative impact to the water supply in Steptoe Valley due to long term groundwater pumping. The system is small with relatively few rate payers and the owner is not eligible to apply for federal or state grants and loans to help finance improvements and develop new water sources.

GBWN and particularly the organization's associates in White Pine County are concerned that the DEIS does not address other significant issues that will arise during construction or operation. These concerns include Solid Waste, Communications, Transportation

Solid Waste: A review of Chapter 2 and Section 3.18 shows no mention of solid waste disposal during construction or operation. Appendix E, Conceptual Plan of Development, Table 1.2, (Page 1-10) does not include state permits for Class III Landfills for construction waste. The Conceptual Plan of Development indicates that: 1) waste will be properly disposed of off-site in a state approved sanitary landfill, A 1.40, and that construction crews will be provided with portable sanitation units that will be maintained by a private sanitary service, A 1.41. (Page A-9)

White Pine County is served by a regional landfill operated by the City of Ely Municipal Utilities System and it has a franchise ordinance in place for garbage collection. The City of Ely has agreed to operate the landfill until it reaches its capacity and then development of a new landfill site and operation of the landfill will be the County's responsibility. Landfill capacity and volume has been a concern for some time and the City has taken several measures including recycling and permitting of a new Class III segment of the landfill to extend capacity. Based on current estimates the existing landfill will approach full capacity and a new site will need to be developed within the time period prior to potential construction in Spring and Snake Valleys.

The Draft should address solid waste disposal for the project during both construction and operation. The general ACM's related to waste disposal are vague and do not provide enough information to allow analysis of potential impacts. Does SNWA plan to use the County's regional landfill, permit and operate Class III landfill sites for construction waste adjacent to the construction sites, or will it be collecting and transporting the construction waste out of those areas? What is the anticipated volume of construction and operations solid waste and will it exceed the capacity of the existing regional landfill? If SNWA is going to permit and build new landfill sites for construction waste, there needs to be a plan in place for proper operation and closure of those sites. If SNWA is going to truck the waste out of the area, will the construction waste be transported as backhaul by trucks delivering materials or will there be additional traffic due to garbage trucks that needs to be included in the transportation analysis and plan. Where will be waste be taken and how will the additional construction waste impact the capacity of the eventual landfill site?

Portable Sanitation Units: For construction of linear and remote portions of the project relying on portable sanitation units, does SNWA envision using a Las Vegas based sanitation company or a local company close to the construction site? Where will the sanitation company take its trucks to dispose of the waste? If this is going into the local landfill, it will impact the capacity of the landfill. If it is going to be trucked somewhere else or back to Las Vegas, the additional traffic needs to be included in the transportation analysis.

Communications: The draft refers to several methods of communications including radio, cell phone, and internet. It should be noted that currently there is minimal cell coverage in portions of Spring and Snake Valleys.

Transportation:

1. The only mention in the Draft of use of County Roads in White Pine County is the use of the Cave Valley Road from Ely into Cave Valley and there is discussion about construction of new, unimproved roads access roads.
2. It should be noted that streets in Baker are the responsibility of the County Road Department and increased traffic in Baker will impact the County.
3. Table 4-1, Page 4-10 of the Appendix E indicates that construction may occur in Cave Valley in 2016-2017. The Cave Valley road is gravel through south Steptoe Valley until the intersection with the road to Ward Charcoal Ovens and then it is a dirt road over Bullwhack Summit and through Cave Valley. There has been residential development of 5-acre lots south of Ely in the area served by the northern portion of Cave Valley Road and there are several parceled 5-acre residential lots that could be developed prior to construction activity. With the existing traffic there is significant dust on the gravel portion of the road. If there is increased traffic due to construction vehicles on the road, there needs to be a thorough discussion of dust control. The soil conditions on the unimproved southern portion of the road lead to extremely dusty conditions that reduce visibility during the summer. The road becomes muddy and road conditions deteriorate due to rain any time of the year and especially during the winter and spring. The Draft needs to address road conditions and the fact that increased construction traffic will encounter and create additional problems for the use of the road from November to June.
4. The County has County road specifications and an ordinance requiring a road agreement for maintenance and repair due to use of heavy equipment on County roads. (Title 7, County Code). There is no mention of coordination with County road requirements in the Draft. Appendix E, Table 1.2 does not include any mention of a permit or agreement with the County for use of heavy equipment on County roads.
5. While the construction plan may be limited to the Cave Valley Road, there is potential for increased traffic on County Roads throughout the County for incidental use by construction crews, access to materials and supplies, and use by construction workers. This additional impact is not included in the Draft discussion of transportation. The County maintains over 2,000 miles of streets and roads, its budget is inadequate to provide maintenance to all of the roads in its system, and under the current formula, the tax revenue from motor vehicle fuels tax will not increase. With increasing costs and demands for services in the outlying areas, the County does not have resources to absorb increased demands for maintenance due to the use of County roads during construction

6. **Speed Limits.** Title 11 of the County Code addresses speed limits within White Pine County. Appendix E refers to construction vehicles complying with County ordinances for posted speed limits (A 1.29) and establishing a 25 mph speed limit for its vehicles on unposted, unimproved roads within the construction site (A 1.36), both on Page A-7. There are several unposted, unimproved roads throughout the County including County roads, BLM, and Forest Service roads. Title 11 identifies a maximum speed of 50 mph on unimproved roads. The Draft EIS and Conceptual Plan of Development need to address coordination speed limits and requirements for construction vehicles with County ordinances.
7. Appendix E refers to construction of 12 foot wide unimproved roads and 20 to 26 foot wide improved roads. Emergency response vehicles require adequate width, road surface, and turning radius to get into and out of a construction site for fire and emergency medical services. The Draft, Conceptual Plan of Development, and future planning documents need to address the ability of emergency vehicles to respond safely to emergencies that could occur anywhere within the construction sites and the requirement to coordinate road construction with the County Fire Chief and in compliance with state adopted fire codes.

Emergency Housing/Social Services: White Pine County does not maintain any facilities for housing transient or homeless populations. It provides services through a voucher system to use area motel rooms for emergency housing needs. If the motel rooms are full with construction workers, it will impact the County's ability to address emergency housing needs through its Social Services Department. This concern is compounded by the fact that in the County's experience with previous large construction projects and when mines have been hiring, the County has increased unemployment rates due to the influx of people from other areas seeking jobs. Many do not have the required skills and are not able to secure jobs, but remain in the County placing an increased burden on state and local public services. This indirect impact has not been addressed in the Draft.

Land Use/Zoning: Although not specifically infrastructure, it should be noted that nowhere in the Draft EIS or the appendix information is there any mention of the County required permits under the County's zoning ordinance. Under Land Use, Section 3.8, the Draft notes that the White Pine County zoning information was not available electronically (page 3.8-1). Throughout the section it concludes that there are no conflicts between the proposed use and existing zoning regulations. Title 17 of the County Code is devoted to the County Zoning Ordinance. The Code requires a Special Use Permit for construction of public utilities, substations, and transmission lines in the Open Space (O-5) zones, even if the project is on federal land. In addition, with the exception of transmission lines, the Code requires a variance for any structures over 35 feet tall.

General Concerns with Community Resources: The lack of local resources cited in the references indicates that the Draft was compiled with a reliance on published data. The analysis does not include in-depth discussion about the local communities and their

abilities to absorb increased demands without substantial increased revenue to offset the costs. The analysis does not include adequate discussion about the capacity of County facilities, financial stability, and administrative capacity to meet current standards and needs and it does not adequately address the County's to accommodate direct and indirect demands of a construction workforce through its public facilities.

Public Facilities: White Pine County has operated for decades with minimal budgets that barely cover on-going operating expenses and leave little for capital improvements. The County has had little capacity to invest in new public facilities and facilities in outlying areas are minimal. Most of White Pine County's public facilities are aging, inadequate for current use, have high costs of maintenance and operation, and are prone to major repair and maintenance needs. The electrical systems are not adequate for modern computer equipment, ADA access is difficult, and the buildings are not arranged for efficient operation.

The County Courthouse and Public Safety Building both have security problems due to location and the age and design of the facilities. The U.S. Marshal's report on the Courthouse concludes that the facility presents such a security risk to judges, court and other county personnel, and the public that the County needs to build a new, secure facility for court activity. The jail is housed in the Public Safety Building presents major security risks. The Public Safety Building is inadequate for current operation of the Sheriff's Office and county-wide dispatch services. The Courthouse and Courthouse Annex house majority of County offices and both present significant challenges for efficient operation. The County has initiated a Facilities Master Plan to document these needs but the study has not been completed to date. County facilities in outlying communities have been funded through grants and include fire and ambulance sheds and community centers in Ruth, McGill, and Baker and fire and ambulance facilities in Lund.

Equipment: Several County offices have outdated and inadequate computer equipment. The County does not have a parcel based GIS program in place which impacts the efficiency of a number of County functions including building and planning, County Assessor, and emergency services. The County has been able to equip its fire and emergency medical services through grants, tax over-rides, and the establishment of a County Fire District budget to help with local matching requirements for grants and the purchase of used equipment.

Financial Stability: In 2005, the State Tax Commission placed White Pine County under the supervision of the Nevada Department of Taxation because it was at risk of insolvency and in a severe financial emergency. After four years of work with Department of Taxation, the County was released from direct supervision by Department of Taxation but must still report to the Tax Commission on its financial status for a five year period. Controls put in place during the severe financial emergency include a Net Proceeds of Mines Mitigation Fund and a policy that Net Proceeds revenue will not be used to support on-going expenses. The current level of Net Proceeds revenue is substantial and reflects the activity in the mining industry in White Pine County. It provides a source of funding for one-time expenses including repairs and maintenance on

county facilities, improvements to county facilities, and purchase of equipment. The Net Proceeds Mitigation Fund provides a “rainy day” fund in case the mines close and there is a substantial decline in County revenues. If either of the two policies is modified or eliminated in the future and if there is a mine closure, the County could be in a precarious financial position.

Administrative Capacity: The County’s capacity to accommodate the construction, operation, and long term groundwater pumping of the proposed project is dependent on its administrative capacity. The County does not have a County Manager. The Chairman and the five member County Commission frequently act as the County Manager for administrative direction. The County is dependent on the knowledge and dedication of its elected and appointed officials, staff, and volunteers to supervise full range of County services. The outlying areas are served by Town Councils and Citizen Advisory Boards. Decision making and support for outlying areas can be a slow process working through Advisory Boards to the County Commission through open public meetings. The County does not have a County Planner, the County Building and Planning Department is currently housed in the Economic Development Program, and functions with a volunteer Planning Commission, allowing minimal staff attention to maintaining up-to-date planning documents, development codes, policies and procedures. The County does not have a Natural Resources Department or Director. The Water Advisory Committee and Public Land Users Advisory Committee are both housed in the Economic Development Department, allowing minimal staff time and attention to natural resource issues. The County and its General Improvement Districts have limited budgets and staff to carry out on-going operations and lack staff and financial resources to track long term impacts of the groundwater pumping.

White Pine County’s resources for on-going operation are stretched to meet current needs and it has minimal capacity to accommodate the increased demands due to the impacts of the proposed project.

Chapter 3.19 Public Safety and Health

Missing from this section of the DEIS is information on and a hard look at the potential for the GWD project construction and pumping impacts to release particles of dust as small as 2.5 microns which are potentially contaminated by nuclear testing conducted at the Nevada Test Site for decades. The downwind area for nuclear tests extends east to the study area in Nevada and Utah. A non-nuclear bomb blast test, called the Divine Strake, proposed in 2007 by the Bush Administration at the Nevada Test Site, was eventually cancelled in large part due to concerns about the proposed project disturbance and re-mobilization of radioactive dust. The federal government admitted the soils contain radioactivity and that they could become airborne. This unanalyzed impact could affect the health and safety of both construction workers and also of residents who live in areas downwind of construction activities and basins impacted by GWD project pumping drawdowns which would expose soils to wind erosion.

Thomas Cahill, professor of Physics and Atmospheric Sciences at the University of California-Davis, is particularly concerned about the impacts of the water drawdown, based on his extensive experience studying the Owens Lake, Mono Lake and similar lakebeds. (See Appendix E: Cahill Memo on Air Quality.)

“It is my expert opinion that these potential impacts be fully investigated prior to any decision to withdraw any water from desert valleys, and if, as I suspect, such problems will occur, withdrawals cannot be tolerated without violations of federal air quality statutes. Sevier Lake, in particular, causes me concern.”

The DEIS also fails to disclose impacts on public safety of roads, buildings, and other infrastructure damaged by subsidence caused by GWD project pumping drawdowns, or the costs associated with necessary repair and restoration, and who would be liable for these costs.

Chapter 3.20 Monitoring and Mitigation Summary

The monitoring, management and mitigation (3M) plans proposed will not protect BLM’s public water reserves or the other water rights in the valleys; they will only document their destruction.

GBWN strongly believes that in any process involving mitigation and monitoring, local governments with the ability to act independently must have an oversight role. Furthermore, they must have the funding ability to perform that oversight. Putting the SNWA and federal and state agencies, which in the view of the GBWN may have had their independence compromised by political and financial pressures, in an exclusive oversight role is tantamount to not having oversight at all.

BLM is using the stipulated agreements it forged with SNWA to protect its water rights in Spring and Cave, Dry Lake and Delamar Valleys as the 3M plans for this EIS. This is inappropriate and unacceptable.

BLM has two primary responsibilities in this instance. One is to manage the federal lands under its jurisdiction. Separately, BLM has water rights for some of its activities on the public lands in the above mentioned valleys. By entering into stipulated agreements with SNWA prior to the first State Engineer hearings on Spring Valley and on Cave, Dry Lake and Delamar Valleys, BLM gave up its right to protest SNWA’s applications for groundwater in exchange for an agreement with SNWA to monitor in an effort to “protect” those water rights, including public water reserves and other rights and claims. Now, years later, BLM’s own DEIS provides much more information, insight, and data on the extent and severity of impacts on the lands BLM is supposed to be preserving for present and future generations.

Nonetheless, the real impacts are expected only *after* widespread pumping has begun and affected the Great Basin. Additionally, mitigation efforts presumably would be designed and implemented after these impacts become apparent.

This is fundamentally unacceptable and contrary to federal law. The postponement of gathering essential information for an evaluation of the project's potential adverse impacts thwarts public review and also violates NEPA's fundamental commitment to "prevent or eliminate damage to the environment by focusing government and public attention of the environmental effects of proposed agency action." Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989). NEPA requires the federal agency to "consider every significant aspect of the environmental impact of a proposed action" Vermont Yankee Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 553 (1978), and to ensure "that the agency will inform the public that it has indeed considered environmental concerns in its decision making process." Baltimore Gas and Electric Company v. NRDC, 462 U.S. 87, 97 (1983).

NEPA requires that mitigation measures be reviewed in the NEPA process -- not in some future decision shielded from public scrutiny. "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989). Appellate Courts have explicitly struck down EISs that rely on unspecified future actions to mitigate or avoid environmental impacts. Oregon Nat. Resources Council v. Marsh, 52 F.3d 1485 (9th Cir. 1995) (Elk Creek Dam III); Oregon Nat. Resources Council v. Marsh, 832 F.2d 1489, 1493 (9th Cir. 1987) (Elk Creek Dam I), rev'd on other grounds, 490 U.S. 360 (1989); California v. Block, 690 F.2d 753 (9th Cir. 1982).

BLM's stipulated agreement with SNWA cannot and must not be used to abrogate BLM's responsibilities as a land manager. These responsibilities include but are not limited to water, air, habitat, wildlife, aquatic life, and recreation.

BLM has a commitment to public involvement at the local level but there is little evidence of it in the plans attached to the EIS for monitoring, management and mitigation. The Snake Valley draft includes representation from the States of Nevada and Utah, but no involvement at the local level. We strenuously object to this top down process which excludes local involvement and participation.

The 3M process should be open rather than a secret cabal of federal agencies and the applicant, SNWA. At a minimum, the management committee and technical working group should have representation from County government officials and their technical experts from the basins of origin, and should also include representation of other affected parties including local water rights holders and representation from local agriculture.

The 3Ms for Spring and Cave Dry Lake and Delamar were forged in secret. By endorsing them as done deals, BLM is endorsing a secret process – a back room deal with SNWA – that did not have the advantage of public involvement or scrutiny. 3M plans for this project must stand the test of time, and be inclusive. If BLM does not require local representation from Counties and other affected parties in the 3M agreements for the EIS

process and the Record of Decision, BLM is complicit in imposing a feudalistic structure where decisions that affect local communities are made at a distance by parties not affected by the outcome, to the detriment of local interests. We call on BLM to reopen the 3M process to including public involvement in drafting of the documents and participation in 3M. This is one of the many areas where a new DEIS or a Supplemental EIS with full public involvement will be necessary.

Additionally, GBWN is very concerned that the 3M processes described in the DEIS and elsewhere appear to apply only to public lands. Who would protect the water resources used and needed by private property owners? Again, those property owners may not have the financial ability to protest or stop to go to court to stop the destruction of their livelihoods – a fact of which, again, the SNWA is well aware.

Stipulated Agreements

The DEIS includes the stipulated agreements for four of the targeted basins between federal agencies and SNWA in the appendices, apparently for public review in the NEPA process. These agreements are critically flawed, both in the process in which they were negotiated and in the actual content.

The process was a secret one, with no public input or review permitted. Besides the public, local counties and residents who depend on the use of public lands and resources and who will directly be impacted by the short and long-term effects of the GWD project were prohibited from participating in negotiations. Local tribes were also excluded, apparently with federal trust responsibilities exercised on their behalf, but with no tribal consultation, input or consent. Although the stipulated agreements could be considered major federal actions significantly affecting the environment, including private lands, because they are among the only measures in the DEIS proposed by BLM to "mitigate" the devastating effects of this groundwater mining project, no NEPA process was initiated.

Because it was a secret process, the public does not know what the parameters were or whether they were political or scientific. What is known is that the stipulated agreements were developed before the USGS BARCAS and other studies of the carbonate aquifer flow system were published and before hydrological model used by BLM in the DEIS was developed and used to estimate the widespread and devastating effects of proposed pumping drawdowns on public lands and resources.

Even though the two agreements were completed in 2006 and in 2008, the process remains a secret one, with no public notification of what work has been accomplished by the parties, what public funds have been spent, whether baseline information has been collected and its reliability, whether changes have been made in the agreements. The public cannot find out if the Spring Valley stipulated agreement will be extended to SNWA water right applications filed since 2006, including the 11,788.8 afa of surface water applications filed in 2011 to date. in Spring Valley.

Other procedural problems in the stipulated agreements include (but are not limited to):

1. The agreements may limit BLM's ability to require and enforce mitigation for GWD project impacts, especially drawdown impacts, to only those explicitly a part of the agreements, and only for the four basins. BLM may not be able to require mitigation for impacts in the other 35 basins in the project study area and for all impacts to private lands and water rights.
2. The agreements may represent a conflict of interest for BLM as a party to the agreements and also the agency conducting the NEPA analysis of the GWD project.
3. Since the DEIS does not provide any information on BLM monitoring of GWD project impacts, especially pumping drawdowns on public lands and resources in the entire study area, nor on any required mitigation for those impacts, we are left with the conclusion that BLM has delegated its monitoring and mitigation obligations to SNWA to monitor changes in the quantity and quality of natural resources on the BLM-administered public lands in the four basins, and also for other public lands affected by the GWD project. If so, BLM has greatly exceeded its authority.
4. The agreements may also limit BLM's ability to protect federal reserved water rights, PWRs, and other federal water rights from GWD project impacts. If so, then BLM has effectively disposed of federal property, without Congressional authority or consent.

Other serious concerns with the stipulated agreements include:

1. The agreements set up 3 levels of "committees" to talk and achieve consensus about whether monitoring shows pumping impacts and the severity of impacts, whether SNWA's pumping is causing the impacts, and whether and what mitigation should be done by SNWA.
2. There are no explicit thresholds for what constitutes impacts or "unreasonable" impacts, what "proof" is needed to establish SNWA's pumping is responsible for impacts, nor what mitigation or its timing and duration would be for specific levels of impacts.
3. There are no triggers or thresholds in the Spring Valley stipulated agreement to stop SNWA pumping or otherwise "mitigate" pumping impacts (SNWA has not offered to restrict or stop its pumping to protect public lands and resources in Spring Valley). In the Cave, Delamar and Dry Lake Valley stipulated agreement, there is only a process to develop these critical triggers.
4. There is no time-frame for discussing and coming to consensus by any of the three committees.

5. There is no requirement for SNWA pumping to stop while discussions continue; therefore, public lands and resources will continue to be damaged by SNWA pumping.
6. The NSE has explicitly declared that the NSE is not a party to the stipulated agreements, yet he is designated as the arbitrator of unresolved disagreements on mitigation required. The other alternative mentioned is some unnamed arbitrator to be selected by the parties.
7. There is a caveat that implementation of the stipulated agreement is dependent on sufficient annual budgets by Congress and by the SNWA board of directors.
8. There is no timeframe for how long the agreement is in effect and no mention of its implementation for 200 years or longer while pumping impacts continue to occur.
9. There is no process for evaluating the effectiveness of monitoring or mitigation in the stipulated agreements.
10. There is no process or way to track the implementation of the stipulated agreement annually or for over 200 years.
11. Only the lands and resources of the Great Basin National Park were explicitly protected from GWD project impacts with a "no effects" provision, while the protection of all other public lands and resources was limited to an undefined standard of "unreasonable" impacts.
12. There is no explicit goal to prohibit groundwater mining.
13. Monitoring wells proposed in the stipulated agreements at specific sites may or may not be adequate since the DEIS states that production wells may be located anywhere in the groundwater development areas of the five basins.
14. Proposed "mitigation" measures of augmentation and artificial recharge, both of which require additional water, merely transfer unacceptable pumping impacts from one location to elsewhere in the valleys.
15. The stipulated agreements do not require third party independent collection of data, both baseline and monitoring, nor the assessment and handling of monitoring data.
16. The DEIS makes no commitment that the stipulated agreements will be a part of the Record of Decision or required as conditions of ROW permits.
17. The DEIS does not disclose the costs of developing and implementing the stipulated agreements, nor who is responsible for these costs.

On page 3.3-121 and 122 of the DEIS is the statement: "however, considering the regional scale of the predicted drawdown and number of perennial water sources identified that could be affected, it may not be feasible to effectively mitigate impacts to all the potentially affected water sources." The DEIS fails to disclose how many of impacts to potentially affected water sources would be "feasible" to effectively mitigate. The public cannot make informed comments on decisions on the DEIS when this critical information is missing, nor can policy makers make informed decisions that protect the public and natural resources without that information.

The DEIS fails to clearly state what monitoring of GWD project impacts on public lands and resources will be required, who will conduct the monitoring, the costs of monitoring, public disclosure of monitoring results, or how monitoring results will be used.

The DEIS fails to clearly state what mitigation of GWD project impacts on public lands and resources will be required, who is responsible for implementing mitigation, the costs of mitigation and who is financially responsible for mitigation, how the effectiveness of mitigation will be determined, and what will be required if mitigation fails.

This missing cost information for mitigation is very critical for the public and the BLM to make informed comments and decisions on the DEIS .

The DEIS fails to distinguish between required and voluntary monitoring and mitigation and how BLM will even know whether voluntary monitoring and mitigation has been implemented, how mitigation effectiveness has been evaluated, and how failed mitigation is to be corrected.

The only potentially effective way to stop pumping drawdown effects is for SNWA pumping to be stopped. However, even stopping pumping won't necessarily stop adverse effects immediately or a very long timeframe may be required to reverse damages. We refer BLM to two research papers which address this problem: *Ground Water Capture - The Time to Full Capture Problem*, J. Bredehoeft and T. Durbin, 2009, and *Aquifer System Response Time and Groundwater Supply Management*, William Walton, 2010.

To assist the BLM in providing missing critical information on the long-term costs of proposed monitoring and mitigation, we are providing information from the history of LADWP mitigation in Owens Valley by LADWP. Greg James, former Director of the Inyo County, Calif., Water Department estimates that LADWP has spent from \$1.5 billion to \$2 billion since 1980 for environmental mitigation for the impacts of its water export project in the eastern Sierra, including: c. \$1 billion on the Owens Dry Lake dust abatement over the last decade; \$3 million/year for the last 25 years to Inyo County for mitigation; unknown costs of replacing "mitigation" water; unknown costs of restoring Rush Creek, a tributary to Mono Lake and restoring a flow in the Owens Gorge; rewatering the Lower Owens River cost c. \$25 million.²¹

In addition, LADWP has lost over one half of its water exports from the Owens Valley since 1980.²²

Owens Valley also provides an example of the difficulties local residents encountered due to the LADWP's reluctance to comply with and implement stipulated agreements on water withdrawals and aquifer management. Officials with the LADWP stated that "litigation is cheaper than water," a position that mirrors the SNWA's past and possibly future positions.²³ It is worth noting that for these water agencies, the cost of litigation is essentially irrelevant, since a vast pool of ratepayers eventually finances their legal work. For the affected communities with far fewer financial resources, such litigation may be impossible, a fact of which the SNWA is undoubtedly aware.

In the contentious history of the relationship between Inyo County and the LADWP, it is worth noting that courts issued an order to prevent to groundwater mining in 1991.²⁴

Similar protections are not in place in the SNWA groundwater program, notes Dr. Robert Harrington, director of the Inyo County Water Department. Harrington finds that the hydrologic monitoring and mitigation plans for Spring Valley and for Cave, Delamar, and Dry Lake Valleys fail to provide a process to implement mitigation measures. Specific process necessary for successful managing and mitigating impacts from groundwater pumping are: sufficient technical resources, a clear process for identifying whether mitigation is necessary, quantifiable goals for mitigation measures, dispute resolution and pumping management.²⁵

Chapter 4: Irreversible and Irretrievable Commitments of Resources

As discussed throughout this document, the DEIS identifies numerous direct consequences. Among the impacts identified as "irreversible and irretrievable": Fugitive dust impairing air quality, visual impacts at Great Basin National Park, ground subsidence affecting structures in an area of up to 781 square miles, drying up or reductions in stream flows, substantial changes to the compositions of wetlands and wet meadows, loss of cultural resources and Native American spiritual experiences, and other significant impacts. Even if the deficiencies in the DEIS are addressed, the BLM and other federal agencies have a responsibility to protect the public lands targeted for massive groundwater extraction by the SNWA.

Chapter 5 and Chapter 6

Great Basin Water Network has no comment on Chapter 5 and Chapter 6 of the DEIS.

Conclusions

As documented in this response to the DEIS, the discussion on socioeconomic conditions and impacts is inadequate to allow the BLM or public to make an informed decision. A full and accurate understanding of the social and economic structures and conditions is necessary before all impacts can be assessed. The information needed on agriculture, outdoor recreation, traffic impacts, local government impacts, and potential economic

activity is readily available and fits within the definitions of “taking a hard look,” which as previously noted is a requirement for the EIS process.

The socioeconomic section should be supplemented with additional information on population projection methodology and limits as well as a comprehensive review of population projections in the Southwest. It should be supplemented with an independent study of public awareness and attitude toward the project in the Las Vegas Valley to fulfill the need for a public referendum. The study requires cost estimates of the full range of previous expenditures as well as construction, operations, financing, and compliance costs of the project and the anticipated cost to individual rate payers before the public in the Las Vegas Valley can respond with an informed opinion on the project. Also, the relationship of the SNWA pipeline project to Coyote Springs development project, and the impacts that the development of 159,000 homes on the Lincoln-Clark County line would have, needs to be fully explained and assessed.

Other sections of the DEIS should be reviewed for additional information required to fulfill the requirement for a hard look before a Record of Decision is issued. The DEIS should be reissued with the new information and the public review process should be repeated so that the public has a full review of the study of conditions and impacts and an opportunity to respond to the new document.

The DEIS uses the existing framework for NEPA analysis that does not anticipate a project of such size and scope in geographic area, potential impacts, and time frames. The DEIS is inadequate in its statement of Purpose and Need, range of alternatives, lack of adequate project description, the use of the tiering process to avoid addressing unavailable and incomplete information and analysis of Connected Actions, and the fact that the project in its entirety is not ripe for analysis.

The DEIS also fails to analyze all indirect effects. By selecting the Proposed Action of any of the scenarios in the DEIS, BLM would fail to prevent undue and unnecessary degradation to public lands from the unanalyzed and unmitigated indirect impacts of the GWD project.

The DEIS suggests that SNWA is committed to providing or augmenting water as mitigation for groundwater pumping impacts, but what are the sources of this water? If "mitigation" requires water in targeted and affected basins, SNWA will have to purchase existing water rights or apply for new water rights in specific basins, for specific mitigation purposes. Obtaining water from additional sources in the area already experiencing adverse impacts from SNWA groundwater withdrawals on both ground and surface water sources will exacerbate those problems. When will these environmental impacts on public lands and resources be analyzed in the NEPA process? What monitoring and mitigation would be required? What are the costs of the monitoring and mitigation – and will the affected regions effectively have to pay to watchdog the SNWA?

However, the available evidence from independent hydrological, biological and economic analysts shows that there will be “irreversible and irretrievable” negative impacts on a enormous area of Nevada and Utah if the pumping proposal goes forward.

In her recent submission to the Nevada State Engineer, Dr. Maureen Kilkenny notes that while the issue of Las Vegas versus rural Nevada and Utah is usually presented as a zero-sum game – one side loses if the other wins – the economic and environmental futures of the two are bound together:

“Society has created habitable cities in deserts. But we must not create uninhabitable deserts in an attempt to grow cities. It would be a futile attempt in any case. Groundwater mining is unsustainable and ultimately both the city as well as the rest of the state would lose.”²⁶

Contributors

Great Basin Water Network includes dozens of individuals and organizations, all of whom, directly or indirectly, contributed to the response to the Draft Environmental Impact Statement. Some of those who contributed their time and thoughts to this effort include: The Toiyabe Chapter of the Sierra Club, the DEIS GBWN Review Committee, Dr. James Deacon, Dr. John Bredehoeft, Dr. Tom Myers, Dr. Maureen Kilkenny, Greg James, Rose Strickland, Abigail Johnson, Rob Mrowka, Rick Spilsbury, Delaine Spilsbury, Steve Erickson, Susan Lynn, Karen Rajala, Stephanie Penner, and many others.

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Appendices

Appendix A: Ceres' Rebuttal Comments on SNWA's Evidence Concerning Financing for the Groundwater Development Project Associated with SNWA's Water Rights Applications in Spring, Cave, Dry Lake and Delamar Valleys

Appendix B: Rebuttal Report on Water Use Efficiency in the Las Vegas Area

Appendix C: Dr. James Deacon's Comments to BLM DEIS on Section 3.7 – Aquatic Biological Resources

Appendix D: USGS Great Basin National Park Impacts (cited in DEIS, Vol. 1-B, References, Geologic Resources, page 1 as Elliott, P.E, D.A. Beck and D.E. Prudic, 2006, Characterization of Surface Water Resources in the Great Basin National Park Area and Their Susceptibility to Groundwater withdrawals in Adjacent Valleys, White Pine County, USGS Scientific Investigation Report 2006-5009

Appendix E: Cahill Memo on Air Quality

Appendix F: Tom Myers Memorandum on DEIS

Appendix G: Dr. James Deacon's Comments on Full DEIS

