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OCT 11 2011
GROUNDWATER PROJECTS OFFICE
BLM NEVADA

October 7, 2011

Penny Woods, GWD Project Manager
NV BLM State Office
1340 Financial Blvd.
Reno, NV 89502

HAND DELIVERED

Re: Clark, Lincoln, and White Pine Counties Groundwater Development Project draft Environmental Impact Statement (GWD project)

Dear Manager Woods,

On behalf of the Toiyabe Chapter of the Sierra Club and its 5,000 plus members in Nevada and the eastern Sierra, we are submitting comments on the draft Environmental Impact Statement (draft EIS) on the GWD project. Many of our members who live near or recreate in areas in eastern Nevada and Utah's West Desert targeted by the Southern Nevada Water Authority's (SNWA) GWD project are very concerned about the widespread and unprecedented degradation of public lands and resources, the environment, the rural and tribal communities and to national treasures, including the Great Basin National Park and National Wildlife Refuges in Nevada and Utah from the proposed pumping project. Because of these concerns, the Sierra Club has protested many of the SNWA applications in 1990 and in 2010. Our members in the Eastern Sierra have experienced first-hand the impacts of the Los Angeles Department of Water and Power's (LADWP) interbasin water transfer project for over 100 years. The Toiyabe Chapter is expending significant amounts of our financial, legal, and volunteer resources to obtain long over-due mitigation of the adverse impacts of the E. Sierra water development project up to the present. We do not want to see the Owens Valley environmental and sociocultural disasters replicated in eastern Nevada by SNWA's GWD project.

We thank the Bureau of Land Management (BLM) for developing this draft EIS which validates public concerns about unacceptable hydrological impacts from the GWD project and for extending the comment period 30 days. Our review of the 4000+ page draft EIS is limited, however, since BLM did not approve our request for a 90 day extension. and we had insufficient time to thoroughly review the document. For the reasons cited below, the Sierra Club believes that the BLM cannot select the Proposed Action or any of the alternatives because all cause undue and unnecessary degradation of public lands.

In general, the Sierra Club finds the draft EIS analysis of pumping impacts through a credible hydrological model to be extremely informative. Water table declines from dozens to hundreds of feet,

hundreds of square miles of subsidence over 5 feet, drying of hundreds of springs and seeps, miles of streams, and acres of wetlands and sub-irrigated meadows are clearly shown in figures and tables in the draft EIS. The proposed GWD project is shown as a groundwater mining project. Based on Dr. Tom Myers model review (reference Dr. Myers comments in Great Basin Water Network's comments on the draft EIS), the draft EIS model does contain errors which understate the severity of the hydrological impacts.

Unfortunately, other parts of the draft EIS were not written at the same level as the hydrological impacts analysis, including the sections on the descriptions of and project impacts on socioeconomics, climate change, and public lands, resources, and BLM programs and other federal lands including Great Basin National Park and several National Wildlife Refuges. The draft EIS substantially fails to inform the public of the GWD project impacts on the people who live in and near the targeted basins.

In addition, our review found serious deficiencies in BLM compliance with the requirements of the National Environmental Policy Act (NEPA), including inadequate sections on purpose and need, project description, range of alternatives, impacts analysis and cumulative impacts analysis.

Incomplete, uncertain and missing information in all areas of the document prevent both the public and the BLM from making informed comments and decisions on the draft EIS. These omissions also prevent the BLM from taking the required hard look at the proposed project, alternatives, and direct, indirect and cumulative impacts.

Of great disappointment to us is the lack of BLM commitment to carry out its Congressional mandates under the Federal Land Policy and Management Act (FLPMA) and other laws to manage and protect public lands and resources. Although the draft EIS clearly shows the disastrous impacts of the Proposed Action and alternatives on BLM programs in the targeted area, proposed mitigation is weak, non-enforceable and ineffective. BLM cannot ignore its own EIS's findings of the GWD project's undue and unnecessary degradation of public lands and resources under its jurisdiction.

BLM must provide the missing and incomplete information for the public to review and comment on and before the agency can make an informed decision on the proposed project.

Our specific comments follow, generally by chapter and sections.

1. Sec. 1 Purpose and Need for this Federal Action:

1A. Sec. 1.2 Purpose and Need:

Mischaracterization of GWD project purpose and need.

We found this section on "purpose and need" to be quite counterintuitive and incorrect. The underlying need for this document, as required by NEPA, is not to meet BLM's "need" or "purpose" as stated in this section. The draft EIS is being written for the proponent's proposed water development and conveyance project to obtain and transport as much rural groundwater as the Nevada State Engineer (NSE) will approve. The majority of the draft EIS's 4,000 pages discusses this need and the hydrological model, as well as estimates project impacts, not BLM's interpretation of the purpose and need for the EIS.

We checked the Purpose and Need sections of two pipeline EIS's which the Nevada BLM has recently completed to determine how BLM stated the purposes and needs of other water conveyance projects:

- The Kane Springs EIS states the purpose and need as: "in order to convey the groundwater from the point of origin to the Coyote Springs Valley, Lincoln County Water District (LCWD) has submitted a Right of Way (ROW) application...There is a need for developing sustainable water supplies...to assist and support the needs of local communities...to meet the needs of future economic development...the purpose of the Proposed Action is to provide ROW access for transporting water resources across areas of federal land"
- The Lincoln County Land Act Groundwater Development and Utility ROW Project EIS states: "The purpose of the action is to provide public land for the transport of groundwater resources by allowing for the construction of a groundwater development and conveyance system on public lands...in order to convey the groundwater from the Tule Desert and Clover Valley Hydrographic Areas to the LCLA (Lincoln County Lands Act) development area..."

We also checked the Purpose and Need section of the recent FERC (Federal Energy Regulatory Commission) EIS on the Ruby gas pipeline in Northern Nevada. It states: "The purpose of the Ruby Pipeline Project is to provide a reliable means of natural gas transportation service from supplies in the Rocky Mountain region to consumers...according to Ruby, the need for the project arises from a growing demand for natural gas in Nevada and on the West Coast coupled with a decrease in supply from foreign countries and an increase in supply in the Rocky Mountains."

These three pipeline projects meet NEPA requirements by stating the "underlying need for the projects." Why is the BLM treating the SNWA's application for its pipeline ROW in a substantially different way than BLM treated the ROW applicants for its two pipeline projects , claiming that the need is the BLM's? We believe BLM's treatment of the Purpose and Need section in this draft EIS is arbitrary and capricious. Such a fictional interpretation leads to inadequate treatment of alternatives to the GWD project. Because the underlying purpose and need of the project is to obtain additional water for the proponent, the draft EIS must examine all ways to obtain needed water.

Conflicting and poorly stated project goals and timeline.

We also found statements on SNWA's project goals to be conflicting and poorly stated. On various

pages, the draft EIS states that targeted rural groundwater is needed by SNWA for drought protection, or to support growth and development, or to diversify its portfolio of water sources, or because other Colorado River states are "requiring" Nevada to develop its "in-state" water resources. Is it one or a combination of these "needs?" If it's a combination, then what % of the targeted groundwater would be used for drought protection and what % would be used for growth and development, as these needs are mutually exclusive. That is to say, the same groundwater cannot be committed to M&I uses and used for drought protection, at the same time.

Whether the GWD project is an appropriate way to obtain reliable water supplies for drought protection in southern Nevada is questionable. Scanning the *Drought Monitor Archive* (http://droughtmonitor.unl.edu/archive.html) from 2000 to 2010 shows that during that decade of drought, central-eastern Nevada dry conditions often coincided with drought in the upper basin states of the Colorado River. Missing from the draft EIS are the disclosures that:1) there was no shortage condition for the lower basin states (including Nevada) despite the severe drought which saw shrinking of the two largest reservoirs on the Colorado River, and 2) any water withdrawn from eastern NV/ western UT by SNWA to "make up" lost Colorado River water will likely occur while eastern Nevada and western Utah are also experiencing similar drought and further stress the environment and economy of the region. The draft EIS fails to provide any information on the reliability of targeted groundwater in the GWD project for future delivery to southern Nevada communities.

The draft EIS states on page ES-19 in regard to scheduling, that pipeline construction can be deferred for several years, depending on many factors. If this is an accurate statement, then this draft EIS is quite premature and should be delayed until the proponent is ready to proceed with construction. (See our comments in #2F).

In addition, beyond developing and conveying rural groundwater to So. Nevada, the water must be actually put to use. Is it to be used for drought protection? How would that work? If rural groundwater is pumped only during Colorado River shortages, we understand how that would work. If it is pumped all the time, then where would it be stored for use only during droughts?

If rural groundwater is to be used for growth and development, then the proponent must provide BLM with sufficient information to analyze the direct, indirect, and cumulative impacts of supplying up to an additional 177,655 afa of water to So. Nevada communities.

1B. Sec. 1.3 National Environmental Policy Act Process Framework:

Mischaracterization of Congressional mandates on ROWs.

This section's characterization of Congressional mandates for ROW permits is misleading and is contradicted by many other statements in the draft EIS which clearly state that BLM, under FLPMA, has the authority to approve, modify or deny the ROW request. The Lincoln County Conservation, Recreation and Development Act (LCCRDA) also mandates that BLM's obligation to grant a ROW is subject to meeting the requirements of NEPA in this EIS, as follows:

> Sec. 301 (b) (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.

Nowhere in LCCRDA is there Congressional direction to BLM to ignore the findings of this EIS nor to not comply with any other federal laws governing BLM's management and protection of public lands and resources, including FLPMA and the Endangered Species Act (ESA).

In order to compensate for significant missing project information, the use of tiering in the EIS is inappropriate and incorrect and leads to piece-mealing the NEPA process.

BLM's use of "tiering" in this EIS is incorrect and inappropriate. Tiering is used by agencies usually for vehicular transportation ROW projects, with known construction phases. We know of no precedent for BLM's use of tiering for proposed developments with over four decades of construction and 24 decades of project impacts.

Tiering also cannot be used by the BLM to avoid addressing incomplete and unavailable information. In this case, the draft EIS acknowledges that it is missing critical information on this project. The proponent has not only not supplied BLM with complete information on its proposed project, but it also does not have any groundwater, approved by the NSE to convey at this time. Critical "future" facilities, such as the number of wells and the location of well sites, are only identified conceptually. The draft EIS uses a theoretical "distributed pumping area" concept in order to attempt to conduct an impacts analysis, but Nevada water law would require the proponent, if granted any water rights by the NSE, to apply for changes in points of diversion, a process which allows protests and requires additional water hearings, and which may not be approved.

[illegible] EIS discloses a host of incomplete, unknown, missing, and uncertain information in every [illegible]e project description, to its scheduling, to the impacts analysis. This is due in part to [illegible] to piecemeal the NEPA analysis of SNWA's proposed project before critical information has been [illegible]cted and the project has actually coalesced. The detail of the hydrological impacts n Chapter 3 bely the justification in the draft EIS's for "programmatic" assessment of groundwater pumping impacts. While we do appreciate BLM's disclosures of this magnitude of missing information, we believe that BLM is mis-using the tiering process for an inadequately defined project. The draft EIS also consistently fails to provide the relevance of this incomplete and unavailable information, especially in the impacts analysis in chapter 3, a violation of CFR 1502.22.

This "tiering" approach also fails because BLM is allowing the proponent to select which part of its rural groundwater exportation project to include in this EIS. SNWA has water rights and applications in many other than the 5 basins studied in this document. If the applications are approved by the NSE, this water would also have to be transported in the SNWA pipeline. In fact, during the passage of the LCCRDA, a map circulated showing SNWA's proposed pipeline into these other basins in E. Nevada at: http://toiyabe.sierraclub.org/conservation/pipelines/images/Corridorsfeb04sm.jpg . NEPA does not allow "piece-mealing" a proposed project, so that it would minimize otherwise estimated impacts of a complete project. Nor does NEPA allow the segmentation of BLM analysis and decisions for parts of the project which are "known" now. Concerned citizens are faced with a future nightmare when contemplating (p. ES-8) this statement: "The BLM will approve or deny any future ROWs after careful environmental analysis with a decision document issued for each additional request." One ROW or an unknown number of future ROWs? One EIS or an unknown number of future EISs?

BLM decision process is poorly defined and confusing.

On page ES-6, the draft EIS includes statements about what decisions BLM needs to make. The language is similar to language in section 1.3.4 on p. 1-6:

> "the analysis in the draft EIS will inform the BLM and other governing agencies as they address decisions to 1. approve, modify, or deny the proposed ROWs, 2. "apply" appropriate mitigation measures and 3. develop and implement monitoring plans that ensure compliance with decisions, assess the effectiveness or success of decisions, and determine how to modify decisions if the purpose and need or desired outcomes, are not being achieved."

We have many questions about this confusing section:

1. What "other governing agencies"? Doesn't BLM have sole authority over the ROW issuance?

2. Are the other decisions - "applying" mitigation and "developing and implementing" mitigation plans the responsibility of BLM or of "other governing agencies?"

3. Because of the contradictory language in chapters 1 and 2 about BLM's Congressional mandate to issue ROWs and in other parts of these chapters such as this one about BLM's ability to "approve, modify or deny" ROW requests, BLM must clarify if it does have the authority to modify or deny this project's proposed ROWs or not?

4. Who would " apply" appropriate mitigation? Does "apply" mean implement? What is "appropriate" mitigation and who decides? Who will enforce implementation of mitigation?

5. How will monitoring plans "ensure compliance with decisions?" What decisions are referenced here?

6. How can the BLM decision to issue the ROW permit be "modified?" Would modification occur before or after the Record of Decision? What other "decisions" on this proposed project could be modified by the BLM? What project "purpose or need or desired outcomes" are referenced in this draft EIS statement? How would "desired outcomes" be set? Is this a public process? Who would determine whether these are being achieved or not? How would this be determined? What is the definition or parameters of "achievement" or non-achievement?

Piece-mealing the NEPA process allows the proponent to continually change its project.

As stated in our comments above (1A), the draft EIS states that construction may be delayed. It does not give us much comfort that BLM (p. 1-6) states that "BLM will require that construction be initiated on each segment of the ROW within five years of the issuance of the ROW." What does "initiation" mean? If the proponent starts digging a trench for the pipeline, but then stops due to "relief from drought" or "insufficient funding," or any other reason, any of which seem highly likely over the next 40 years, does BLM withdraw its ROW permits? With likely stops and starts to pipeline construction, are there benchmarks of progress that the proponent must meet? When is "full build-out" reached? This is not a phased project. Instead the proponent appears to be seeking ROW permits now for a project whose construction schedule is highly uncertain. The lack of this critical information prevents the public and the BLM from making informed comments and decisions on this draft EIS.

In short, this GWD project has no final point. Especially with its new increased pipeline diameter to 96 inches, it could morph in the future into pipelines and ROWs all over rural NV, especially to include other basins with SNWA water rights or applications. Piecemealing the NEPA process allows the proponent to continually change its project. Sierra Club scoping comments in 2005 and in 2006 pointed out that the project description is a moving target. This draft EIS attempts to deal with a theoretical project/ROW with substantially incomplete information and indefinite timelines. We know of no requirement that BLM must consider a speculative project with major critical missing information. (See our additional comments (2F and 2J) on the undefined nature of the GWD project).

Confusing statements on mitigation.

Please clarify this statement (p. 1-6): "...the framework for development of monitoring plans is assumed to follow the Stipulation..." Are there no existing developed monitoring plans? How can the effectiveness of un-developed monitoring plans be assessed in the draft EIS? Why is this "assumed?" Doesn't BLM know whether mitigation will or will not follow the provisions in the stipulations? Why is the "3M" plan for Snake Valley a "recommended" mitigation measure? Who recommended it? To whom was it recommended? Is it actually "required" by BLM either now or in the future? (We have further comments on the Stipulations and monitoring and mitigation in section 4 of our comments).

1C. <u>Sec. 1.4 relationship of BLM and NV water rights process:</u>

Significant information on the history of the controversial nature of the GWD project has been omitted.

Please add the interbasin transfer requirements in NRS 533.370(6) to the first paragraph in this section as they are at the heart of the controversy over SNWA's applications for rural groundwater to export to So. Nevada. Also, please add the following correction and addition to Sec. 1.4.1.1: "In 1989, the Las Vegas Valley Water District (LVVWD) filed 146 applications with the Nevada State Engineer for permits within 26 hydrologic basins for ground water withdrawals totaling approximately 800,000 acre feet per year. In response to the filing of the applications, the State Engineer received over 3, 600 protests from nine hundred different parties. LVVWD did not pursue these applications for over 13 years, turning them over to SNWA in 2002."

The draft EIS mischaracterizes BLM's participation in the water rights process and fails to disclose BLM's multiple conflicts of interest.

Please add the information to the second paragraph in this section that BLM's role as a protestant was terminated by its agreement, along with other federal agencies, to drop all federal protests, in exchange for a "stipulated agreement" with SNWA. We disagree with the statement that BLM's role as a (former) protestant is separate from the EIS process. The EIS process and the water hearing process are inextricably linked, since they both address the same SNWA proposal to export as much rural groundwater as possible to Southern Nevada. The draft EIS should disclose that BLM has a conflict of interest as the manager of the public lands and resources impacted by the proposed GWD project, the agency responsible for the EIS, as well as a party to the stipulated agreements in Spring and Cave, Delamar, and Dry Lake Valleys with the proponent of the project. Please disclose in the EIS how it proposes to resolve this conflict of interest.

The interpretation in this section that the NSE has exclusive authority over water rights appropriations in Nevada and the BLM has no authority or responsibility as the manager of public lands and their water-dependent resources to prevent undue and unnecessary degradation from water pumping impacts is incorrect.

The draft EIS mischaracterizes the overlapping but separate roles of the BLM and the NSE.

We refer you to a recent Nevada Supreme Court ruling which clearly states that the land use agency is not obligated to approve proposed developments whose water rights have been granted by the NSE. The citation is: Redrock Valley Ranch v. Washoe County 127 Nev. Adv. Op. No. 38 July 7, 2011 IN THE SUPREME COURT OF NEVADA No. 55695 at:

http://www.nevadajudiciary.us/index.php/advancedopinions/1162-redrock-valley-ranch-v-washoe-county .

Additional information about BLM's responsibilities to manage and protect public lands and resources under FLPMA and other laws, regulations and executive orders should be added to this section.

In fact, the NSE has repeatedly stated during many previous water hearings on SNWA applications (3 Lakes/Tickaboo/Spring/Cave, Delamar, and Dry Lake Valleys) that the NSE has no responsibility to conduct environmental impact statements on water rights applications and that he depends on the federal government to assess environmental impacts. From the Spring Valley ruling #5726, page 47 at:

http://images.water.nv.gov/images/rulings/5726r.pdf

> "In the State Engineer's Intermediate Order No. 4, the State Engineer addressed the Applicant's motion to dismiss or limit the State Engineer's review of any protest claim that addresses whether the proposed transfer is environmentally sound. The State Engineer noted that the protest claims addressed issues such as threatened and endangered species, destruction of environmental, ecological, scenic and recreational values held in trust for the citizens, and purposes for which the lands are managed under the Federal Land Policy and Management Act. In its motion, the Applicant asserted that the State Engineer is not required to duplicate the environmental review that other state and federal agencies are obliged to complete under state and federal law. In Intermediate Order No.4, the State Engineer found that the legislation was not intended to create an environmental impact process and that care needed to be taken to avoid requirements that would be duplicative of Environmental Impact Statements. The State Engineer found that NRS § 533.370(6)(c) requires the State Engineer to consider environmental issues; however, the perspective he is to focus on is that of hydrologic issues. Therefore, as State Engineers have done with the public interest criterion, the State Engineer turns to the water law to define the parameters of whether the use of the water is environmentally sound for the basin of origin.
>
> The State Engineer finds this means whether the use of the water is sustainable over the long-term without unreasonable impacts to the water resources and the hydrologic-related natural resources that are dependent on those water resources."

In any event, the NSE has no authority over granting access to the public lands for the ROW and for project facilities. That is strictly under the authority of the land owner, in this case, the BLM.

The BLM cannot abnegate its mandates and responsibilities to protect public lands and resources from the adverse impacts of the GWD project.

Concerned citizens are faced with a catch-22 on the overlapping, yet separate authorities at the state and federal levels, with the state official saying environmental protection from pumping impacts is not his responsibility (except for ensuring pumping is sustainable) and the federal officials saying in the draft EIS that BLM has no choice in issuing a ROW for a project whose water rights are granted by the state official. We see no conflict as clear state and federal laws and court rulings define the authorities and responsibilities of each level of government. Neither state or federal laws permit officials to abnegate their responsibilities. If BLM grants ROW requests, BLM will facilitate the development of SNWA water rights and allow pumping damages (as disclosed in the draft EIS) to its lands and resources. There is no law preventing BLM from limiting the pumping if it damages lands under its jurisdiction or from requiring mandatory mitigation measures, including setting impact thresholds to limit or stop SNWA pumping as conditions of any ROW permit granted.

1D. Sec. 1.6 SNWA responsibilities, current water supply and future needs:

The draft EIS contains inaccurate and out-of-date information.

Water demand information in the draft EIS appears to be based on SNWA's 2009 Water Resources Plan, which in turn based on 2008 population forecasts by UNLV's Center for Business and Economic Research. This information is significantly outdated in 2011 because of the impacts of the recent economic recession on So. Nevada's economy and population. We will have more comments about the draft EIS population/demand forecasts and "short-term adjustment" in our comments on Sec. 18 in Chapter 3.

The BLM does have the responsibility to ensure that information provided by the proponent for the draft EIS is as accurate and up-to-date as possible, including information on SNWA demand projections, timing and quantity of water required, and potential alternative sources of water, including increasing water efficiency and conservation. This information should be the basis for the range of alternatives analyzed in this EIS.

The draft EIS fails to take a hard look at the proponent's water conservation programs.

The draft EIS fails to take a hard look at SNWA's conservation goal and programs, beyond the information provided by the proponent. In an action taken on September 15, 2011, the SNWA board agreed to allow homeowners and businesses to convert desert landscaping back to turf, potentially undermining years of water conservation efforts in its highly publicized "cash for grass" program: http://www.lasvegassun.com/news/2011/sep/15/want-your-grass-back-plant-it-water-authority-says/

We refer the BLM to *Hidden Oasis: Water Conservation and Efficiency in Las Vegas* by the Pacific Institute and Western Resource Advocates, November 2007 (http://www.pacinst.org/reports/las_vegas/index.htm). In this report, the authors present the result of their review of Las Vegas' water conservation efforts and potential. Their conclusions: "our review of single-family residential customers, hotels, and casinos indicates that installing water-efficient fixtures and appliances could reduce current indoor water demand by 40% in single-family homes and nearly 30% in hotels and casinos. Installing water-efficient landscapes could further reduce current outdoor water demand by 40% in single-family homes. Many of these efficiency improvements can be implemented at a lower cost and with fewer social and environmental impacts than developing new water supplies."

In addition, Dr. Peter Gleick of the Pacific Institute provided additional information to the NSE on water conservation in Las Vegas in a report, dated August 25, 2011 at: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Great%20Basin%20Water %20Network/GBWN_Exh_118%20Gleick%20&%20Cooley%20Rebuttal%20Report.pdf. In this report, Dr. Gleick further states:

- that the 199 gpcd by 2035 goal is very unambitious and suggests a significant retreat from trends over the past 20 years.
- that SNWA reliance on return flow credits inflates future demand projections, blocking attempts to improve indoor water-use efficiency. Underestimated benefits of improving conservation and efficiency include: permits more people to be served with the same volume of water, without affecting return flows; reduces dependence on water sources vulnerable to drought and political conflict, delays or eliminates the need for significant capital investment to expand conveyance and treatment infrastructure, reduces energy and chemical costs associated with pumping water from Lake Mead, treating it for use, transporting it, and treating it again as wastewater, reduces energy-related greenhouse gas emissions, and saves the customer money over the life of those improvements through reductions in energy, water, and wastewater bills.
- additional effort is needed to expand indoor conservation efforts
- population projections overestimate future water demand. Combining reductions in both projected population and per capita demand may completely eliminate the need for the new supplies.

The draft EIS fails to document claims made by the proponent.

We are submitting a recent study to the BLM on the actual trends in the use of Colorado River water, rather than the incomplete and misleading information in Sec. 1.6.2 of the draft EIS: *Municipal Deliveries of Colorado River Basin Water: New Report Examines 100 Cities and Agencies,* June, 2011 by Michael Cohen of the Pacific Institute, at: http://www.pacinst.org/reports/co_river_municipal_deliveries/. This research documents the substantial water efficiency gains made over the past twenty years with declines in per capita water delivery rates, despite rapid population growth, and concludes that projecting future water demands should take into account the successes achieved in cities by successful water conservation programs.

On p. 1-14 of the draft EIS is the statement: "The other Colorado River states have expressed the view that Nevada should develop its in-state resources before attempting to modify the Colorado River Compact. What is the documentation for this purported "view? Spending $15.4B for the total current estimate of costs of the GWD project seems quite a high investment to ask of SNWA and Nevada to meet the "opinion" of other Colorado states. Please disclose in the EIS what Nevada gets from the other Colorado River states in return for this huge financial investment and massive devaluing of the intrinsic values of the public lands in eastern Nevada and Utah's West Desert.

The draft EIS fails to disclose critical project cost information.

A critical failure of the draft EIS is not providing the public information on the costs of the GWD project. For this information, we had to go to a document on the NSE's website filed by the proponent

on the project's financial feasibility: *Ability to Finance Report to the SNWA* by Hobbs, Ong & Assoc. and Public Financial Management, June, 2011, NSE exhibit # 383: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Southern%20Nevada%20Water%20Authority/SNWA_Exh_383_Hobbs%20and%20Bonow%20Report.pdf. This report estimates the current cost of the project to be a total of $15,463,466,453.00, with $7,283,335,000 the cost of the project and $8,180,111,453 financing cost of the project. The report also estimates that the average monthly bill for single-family residences will rise to $90.62. We understand that this is a tripling of the current average bill of around $30/mo.

The draft EIS also fails to disclose how much SNWA has currently spent on the GWD project, including the purchase of ranches, water rights, operating costs, permitting costs and the related Coyote Springs/Moapa project to implement NSE order #1169.

The BLM should do an independent assessment of the costs of the project.

We understand from press accounts that BLM plans to provide project costs and financial feasibility information in the final EIS. However, if it is based solely on cost estimates by the proponent or its consultants, we would be skeptical of its accuracy. We offer the following critique of the Hobbs, Ong report and urge BLM to correct these deficiencies if this report is used to provide a project cost estimate and assessment of financial feasibility:

1. mitigation costs (over 200 years) are missing. We will provide costs of mitigation by LADWP in Owens Valley as part of our comment #4 on monitoring and mitigation.

2. revenue projections appear to be based on a constantly increasing population - neither is likely.

3. more conservative population estimates should have been used, such as those of the Nevada State Demographer of the 2010 population projections: http://nvdemography.org/featured-articles/235/

4. any contingencies for cost overruns are missing, e.g. a $40M cost overrun in 2011 for the $700M 3rd straw project at Lake Mead and a $31.3M overrun in 2000 for the River Mountains Water Treatment Facility. See: http://www.lvrj.com/news/adding-39-5-million-to-lake-mead-project-worries-water-authority-board-member-117282243.html

5. estimates depend on an unreasonable, unrealistic and unwise future debt load, especially if the economy of So. Nevada does not recover quickly.

6. a report from Ceres, entitled: *The Ripple Effect: Water Risk in the Municipal Bond Market* , October 2010 and a rebuttal report posted on the NSE website for the upcoming water hearings at: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Great%20Basin%20Water%20Network/GBWN_Exh_125%20Leurig%20CV.pdf. This report made the following findings: rising regional demand for water is colliding with less reliable supplies, with the potential to make utility balance sheets more volatile; while these emerging water risks can damage the value of investors' public utility assets, many of these risks remain invisible in the present marketplace; investors will increasingly have access to information on water risks, including over-abstraction and legal challenges; SNWA's ability to implement its plan in part

depends upon its ability to continue its practice of refinancing debt, which hinges on market perception of its creditworthiness; transporting water from water-rich to water-poor regions is an energy-intensive practice that makes regional economies vulnerable to energy price volatility; supply projects with high marginal costs can limit a utility's financial flexibility, leaving it unable to adjust to future changes in supply, demand, and governance structure. If this forces water rates past a certain point, regional economic competitiveness may be compromised; relying on growth to pay for system reliability is fundamentally unsustainable; and retail providers are not necessarily bound to purchase water from their wholesale provider, creating credit risk for the wholesale entity.

The draft EIS fails to disclose information on the financial feasibility of the project.

In addition, the draft EIS fails to provide any information on the minimum amount of groundwater necessary to make the GWD project financially feasible. Is it 100% of the proposed 176,655 afa amount? 75%, 50%, 25%? The public and BLM are unable to make informed comments and decisions on whether a smaller pipeline, less groundwater, and a cheaper project would be preferable to the Proposed Action.

The draft EIS fails to respond to public scoping comments.

1E. Sec. 1.7 Public and agency scoping: In Sierra Club scoping letters of August 1, 2005 and October 16, 2006, we raised issues which are not addressed in the draft EIS, including:
changing project descriptions/incomplete information. In the draft EIS, BLM is dealing with this moving target problem by its attempt to "tier" EISs, but has had to disclose a substantial amount of unknown, incomplete, and uncertain information on which it based its impacts analysis, because of the changing nature of the proposal.

- piecemealing NEPA
- non-public negotiations on federal agency/SNWA stipulation agreements in Spring and Cave, Delamar and Dry Lake Valleys and 3M plan negotiations in Snake Valley, NV.
- cumulative impacts not analyzed adequately
- BLM conflict of interest as signatory to SNWA/federal stipulations and also lead agency in developing the GWD project EIS and monitoring and mitigation requirements for pumping impacts.
- inadequate purpose and need
- inadequate range of alternatives, including eliminating demand reduction and desalination.
- inadequate protection for Great Basin National Park and its cave resources
- segmentation of SNWA's overall GWD plans by omitting significant parts
- non-disclosure of GWD project costs or energy costs
- inadequate analysis of socioeconomic and environmental justice impacts

2. Description of the Proposed Action and Alternatives

2A. Sec. 2.1.1 Alternatives overview:

Inadequate range of alternatives.

The draft EIS fails to study an adequate range of alternatives. The Sierra Club considers alternatives A-E to simply be varying scenarios of the Proposed Action, as they all grant SNWA its ROW requests for its GWD project and all show pumping impacts that cause undue and unnecessary degradation of public lands. Smaller pumping amounts simply take more time to cause these unacceptable impacts. In our comments in 1D, we have suggested critical information on which to base an adequate range of alternatives.

The No Action Alternative is not merely a benchmark for comparison of other alternatives.

BLM states that the No Action alternative (p.2-6) is "...a benchmark for comparison of the Proposed Action and the other alternatives," implying that the BLM cannot select the No Action alternative. Is this correct? If not, under what conditions can the BLM select the No Action alternative?

2B. Sec. 2.1.2 BLM authority and limitations:

In Sierra Club comment # 1C, we have discussed BLM's mischaracterizations of limitations on its authorities and responsibilities because of provisions of the LCCRDA and the Southern Nevada Public Lands Management Act (SNPLMA). This section raises possible questionable limitations on BLM as a signatory of the Spring Valley and the Cave, Delamar, and Dry Lake Valleys stipulated agreements (p. 2-5) as the language, " ...BLM may negotiate monitoring programs..." and "...the BLM may request and enforce changes in groundwater pumping regimes..." to protect public lands from undue and unnecessary degradation from SNWA pumping impacts (see also Sierra Club comments on monitoring and mitigation in #4) and also to actually require any mitigation for unavoidable impacts..

2C. Sec. 2.2 No Action:

The No Action alternative was improperly developed and described.

The draft EIS fails to adequately describe the No Action Alternative:

1. there is no justification for including either SNWA's or LCWD's water rights in the "total" of existing water rights. Both are dependent for transport and use of its water on the SNWA pipeline. SNWA is likely not to pursue its agricultural endeavors in Spring Valley if it either receives no water rights from the NSE or no ROW permit from the BLM. The LCWD will not likely have the funds to construct a pipeline to transport its converted agricultural water rights out of Lake Valley. In addition, including these #s in the No Action alternative tends to minimize the impacts of the GWD project.

2. there is no table to accompany Figure 2.2-1, listing by basin the industrial and power, municipal and irrigation water rights, purportedly represented in the Figure in hard to locate dots or color smears. This information should be disclosed in the EIS.

3. there is no justification for not including climate change impacts, as they will occur whether the GWD project ROW is approved and the project built or not.

2D. <u>Sec. 2.3 Management common to all alternatives:</u>

The proposed BMPs are inadequate to protect public lands and resources.

The draft EIS list of Best Management Practices (BMP) appears to only apply to project construction, not to drawdowns, subsidence, or drying of springs, streams, seeps, wetlands, etc. by groundwater pumping. Is this correct? In addition, the draft EIS omits any BMPs for preventing or mitigating potential pumping impacts from an unknown # of construction wells and temporary wells (described in Sec. 2.5) on water sources for wildlife and wild horses. We suggest that, for such a major project. the BLM require the proponent to fund an on-site BLM employee (perhaps more if the active construction zone is more than just a few miles in length) reporting directly to the BLM district offices involved. There are too many BMP's which would require that the construction company to notify the BLM of some problem or needed decision so that the BLM can then take some action. Having to contact BLM officials in the Ely or Las Vegas offices would delay the BLM's response and makes any problem less likely to be resolved in an acceptable manner when environmental resources are at stake.

BLM decisions on ACECs are arbitrary, capricious and inconsistent.

We strongly object to the statement on p. 2-13 regarding a non-conforming buried water reservoir in the Proposed Action which would be located in the Coyote Spring Area of Critical Environmental Concern (ACEC) set aside to protect threatened Desert Tortoises: "The provisions of the LCCRDA supersede the BLM ACEC management prescriptions." What is the legal basis for this statement? Yet, in another non-conforming part of the Proposed Action, the BLM includes a portion of the proposed ROW outside the LCCRDA corridor "in order to protect a stand of Joshua trees and avoid the need for an additional pumping station." Please explain why relocating a water reservoir to protect Desert Tortoises in the LCCRDA corridor within an ACEC is not acceptable to the BLM, but realigning the proposed ROW outside the LCCRDA corridor in Delamar Valley to protect Joshua trees is acceptable for the Proposed Action? We find BLM's decisions on what to accept or not accept in the draft EIS to be arbitrary and capricious.

Non-conforming impacts of the GWD project must not be allowed.

Other potential non-conforming impacts on public lands and resources, including those identified on p. 2-13 - aquatic resources in Shoshone Ponds, vegetation resources in the Swamp Cedars and Baking Flat ACECs, potential riparian vegetation changes related to aquifer drawdown in wilderness areas within the Fortification Range, Highland Ridge, and Mount Grafton and visual management guidelines - should not be allowed. All other non-conforming impacts on BLM programs in the targeted areas should be identified in the EIS and not allowed.

BLM should set limits to the disturbance and loss of important and unique resources in ACECs and other BLM lands in the EIS. It is entirely appropriate for the BLM to determine that certain features and unique areas are not to be harmed by the proposed pumping. The BLM has chosen to delay this critical impacts avoidance measure to some undefined future process not subject to NEPA and out of

the public scrutiny. Permitting a ROW for a project which leads to the loss of water for vegetation and ponds in ACECs and wilderness areas is not discretionary, but is a violation of BLM's laws and mandates.

Sierra Club comments on the ineffective stipulated agreements for Spring Valley and for Cave, Delamar and Dry Lake Valley are in our comment #5.

Of note is the lack in the draft EIS of any proposed monitoring and mitigation plan for the Nevada side of Snake Valley. Any such plan should be developed in an open and transparent process, with full participation by all interested citizens, in a full NEPA process.

2E. <u>Sec. 2.4 Environmental Inspection/Compliance Monitoring/Post-approval Variances</u>:

The requirements enforceable by BLM apply to GWD project construction impacts only, not to the much more widespread and devastating impacts of groundwater pumping as identified in the draft EIS. (See Sierra Club comment #5 on M&M).

Language on the ACMs appears to leave mitigation of groundwater pumping impacts to the project proponent which would be an abnegation of BLM responsibilities. What is meant by the statement "It is understood than SNWA would implement the ACMs it has proposed, unless superseded..."? Who "understands" this? And why? Does this mean that ACMs are not enforceable by the BLM? Why and how would (voluntary) ACMs be superseded? Who makes that decision? What would they be superseded by?

2F. <u>Sec. 2.5 Proposed Action-Distributed Pumping:</u>

The draft EIS fails to disclose the capacity for water transport by the SNWA pipeline.

The 96" pipeline in the Proposed Action would appear to have capacity to transport water which far exceeds the amounts of water studied in the Proposed Action and other scenarios. Likewise, we believe that the same is true for the other scenarios (A-E). The draft EIS fails to disclose how much water (gallons and acre-feet) could be transported in a 96 inch pipeline and how the excess capacity could be used to transport additional volumes of water. Additionally what are the sources of additional water that could be transported in this over-sized pipeline? What impacts would occur by pumping additional water in the targeted or newly targeted basins and when would they be analyzed in the NEPA process?

We believe this information is a critical omission. We found a report which shows that a smaller diameter pipeline could transport far more water than the amounts analyzed in the Proposed Action. The 121 page report, dated May 4, 2010, entitled *Conveyance and Treatment of Groundwater from Northern Nevada Counties* prepared by 4 UNLV engineering program students for Professor Walter Vodrazka and SNWA's Greg Kodweis, looked at the capacity of a smaller, 78" pipeline capable of exporting water over a 246 mile length (not including laterals to Cave and Spring Valleys). The report is available at: http://sites.google.com/site/superseniordesign/home

The authors determined the volume of water delivered by using a design criteria "peak flow" of 153 days (from May 1-Oct 1 each year). The 78" pipeline peak flow of 191.7 million gallons per day for

153 days equals just over 90,000 acre-feet per year. However, the 78" pipeline could transport significantly more volume, 70 billion gallons or 215,000 acre-feet per year, if it were run at peak flow for 365 days per year. The report states:

> "A decision to design the pipeline to deliver the water for the peak flow months is based upon the inability to expand the pipeline easily or economically if future allocations are to be awarded. Although the pipeline is designed for a higher capacity flow, SNWA would be able to receive water year round and the pipeline would not need to be disinfected prior to re-establishing operation of the system every April."

The Proposed Action is not adequately defined.

We have a host of questions about omissions from the description of the Proposed Action:

1. Where would future lateral pipelines connect into the main SNWA pipeline?
2. How much water would be used for construction purposes, if wells are to be drilled every 10 miles along the ROW?
3. Is this construction water part of the 176,655 afa or the 114,785 afa amounts in the Proposed Action or other scenarios?
4. If not, when would the impacts of groundwater pumping in up to 30 additional wells be analyzed by the BLM?
5. How many additional temporary water wells would be drilled within the construction areas?
6. How much water would be pumped in these wells? When will these pumping impacts be analyzed?
7. What happens to the construction wells (and groundwater) when construction is completed?
8. Why were 75 and 200 years selected as the only points in time for comparison of future groundwater pumping impacts?
9. Why weren't shorter timeframes selected, such as 10, 25, or 50 years?
10. What is the likelihood that the construction schedule in the draft EIS will be "deferred?"?
11. On p. 2-3, the draft EIS justifies the BLM decision to include "distributed pumping" in the Proposed Action and most of the scenarios because of "... the objective of minimizing effects on senior water rights or areas containing water-dependent sensitive or listed species and their habitats." While these objectives are possible, the draft EIS fails to disclose that SNWA may also attempt to change its points of diversion from any well sites approved by the NSE to other sites in order to maximize groundwater production. This is a far more likely SNWA "objective" considering the applications were filed in 1989 and some are are in sites unlikely to yield the application amounts.
12. On p. 2-30, Figure 2.5-6 shows "SNWA's Preliminary Construction Schedule for the Proposed Action." The construction schedule in the draft EIS is totally inaccurate and a misrepresentation of the intentions of SNWA to start construction in 2012, ramping up to a construction workforce of over 900 by 2015. This has been confirmed on September 26, 2011 by Patricia Mulroy, general manager of SNWA. In sworn testimony at the on-going water hearings in Carson City, Ms. Mulroy stated that SNWA has no intention of starting construction on the GWD project, until it is needed. She defined "need" as Lake Mead levels falling to the 1075 foot elevation (official shortage), the Las Vegas economy recovering quickly, or a need to replace other Colorado River water supplies. She told the NSE that she wanted permits from the NSE and the BLM, but the GWD project would "stay on the shelf" until needed.

The draft EIS fails to adequately describe the nature of ACMs and other mitigation proposals.

We have a number of questions about the ACMs, summarized on pp. 2-38 to 44.

- Please explain the term "applicant-committed."
- Are ACMs enforceable by BLM? If so, what are the costs of enforcement and funding sources (for up to 200 years)?
- If not, is is more accurate to describe them as "voluntary?
- Does this mean that the applicant can implement the ACMs or not, at its discretion?

We ask these questions because of the wording in the draft EIS (p. ES-21): "SNWA has identified applicant-committed environmental protection measures that <u>may</u> be implemented, <u>if needed</u>, to minimize or mitigate potential water-related effects associated with future withdrawals."

- Who decides whether or not ACMs are implemented?
- And who decides if ACMs are needed or not?

Other "mitigation" described in Sec. 3.5 of the Executive Summary involves words like "...are designed to avoid, minimize or mitigate...", but their implementation is not guaranteed, nor, of course, the effectiveness of the ACMs. The words "some impacts" appear to limit ACMs and additional mitigation to a subset of impacts from construction and operation of the GWD project. This is very confusing to the reviewer. The EIS should be very clear on what mitigation is required and will be enforced, versus what mitigation is voluntary and not enforceable. In addition, the draft EIS should identify the impacted resources which will not be mitigated at all (other than the ones identified in the Irretrievable and Irreversible Impacts section).

2G. <u>Sec. 2.6.6 Alignment options 1 through 4:</u>

If the Gonder to Spring Valley electrical power line transmission line is actually needed, it should be located on public lands to avoid the unnecessary complications of federal permitting and oversight of the line by another federal agency.

2H. <u>Sec. 2.7 Alternatives considered but eliminated</u>:

The BLM has made arbitrary and capricious decisions in excluding alternatives for study in the draft EIS.

The draft EIS fails to consider all reasonable alternatives to the GWD project to foster informed decision making. There is nothing unreasonable about analyzing feasible, less costly and less environmentally damaging alternatives such as reduced demand/increased efficiency and desalination. These alternatives do not have to be "acceptable" to the proponent in order to be analyzed in an EIS. Both were suggested to the BLM many times in public scoping comments. Instead, these strawman alternatives (trucking, railroads, aqueducts, phased development and groundwater return) were easily "considered" and then rejected for further analysis in the draft EIS.

Many of these possible alternatives were not selected for further study because "construction costs would be substantially higher than the Proposed Action," "is not economically feasible" or "high operation and maintenance costs," yet the draft EIS failed to disclose the costs of the GWD project.

BLM must know the costs or it could not have used costs to make decisions to reject possible alternatives. This is critical missing information which should be disclosed in the EIS.

We have discussed a demand management alternative in our comment #1D on SNWA's "need" for rural groundwater. We believe it is a substantially cheaper alternative than the proposed GWD project. It would completely avoid the catastrophic environmental impacts disclosed in this draft EIS of proposed groundwater pumping, thus preventing the undue and unnecessary degradation to public lands and resources. The BLM has been arbitrary and capricious in not analyzing demand management as a reasonable alternative in this EIS.

Desalination was also rejected for study in the draft EIS. What information did BLM use to justify its decision and was it out-of-date? Desalination is being used by more and more communities all over the world. The costs of building desalination plants are falling, because the technology is improving. In addition, Pacific Ocean water is unlimited, while groundwater is a very finite resource, whose availability and reliability as a water source are limited by the same factors affecting Colorado River supplies - droughts and climate change. Another reason for rejection was: the time frame for modifying these (CO River) agreements and regulatory approvals could be "lengthy." The timeframes for completing the GWD project are at a minimum 38 years, but, with construction "deferral" might be double that. BLM has been arbitrary and capricious in not analyzing desalination as a reasonable alternative in the EIS.

We suggest that BLM re-evaluate this decision and offer a recent SCIENCE article which discusses the future of seawater desalination: Menachem Elimelech, William A. Phillip. *The Future of Seawater Desalination: Energy, Technology, and the Environment. Science*, 5 August 2011: Vol. 333 no. 6043 pp. 712-717 DOI: 10.1126/science.1200488

2I. Sec. 2.8 Agency Preferred Alternative:

We support BLM's decision not to select a preferred alternative, since the draft EIS shows that every alternative, except for No Action, would cause undue and unnecessary degradation of public lands and resources, a violation of its Congressional mandates.

However, NEPA requires identification of an environmentally preferable alternative in the ROD. An environmentally preferable alternative is the alternative that poses the fewest overall impacts and the least risk. In the case of this draft EIS, the No Action Alternative is the only one which would meet NEPA criteria.

2J. Sec. 2.9 Past, Present and Reasonably Foreseeable Future Actions:

The BLM fails to adequately identify and assess the cumulative impacts and conflicts of RFFAs.

The draft EIS fails to include a number of proposed developments, limiting the cumulative impacts analysis to an unreasonably small number of future developments which then biases the analysis towards a conclusion of minimal to no cumulative impacts. This is an arbitrary and capricious decision by the BLM. For example:

1. the Coyote Spring development is a reasonable, past, present, and foreseeable future

development, since its golf course has been built and is using a considerable amount of groundwater from the Coyote Spring basin, which may be impacting downflow basins and sensitive water-dependent resources, such as Warm Springs and its endangered Moapa dace. This development has other water rights for its proposed housing and commercial development. While future development plans are on hold due to the economic recession, the plans have received approval by local counties and seem far more advanced that the LCWD plans to request change of use and place for its water rights in Lake and Dry Lake Valleys, destined for delivery to Coyote Springs and other developments through the proposed SNWA pipeline. The draft EIS does include some water rights and applications held by the LCWD and due to be delivered to Coyote Spring through the proposed SNWA pipeline as part of all of its scenarios: therefor, how can BLM reject the Coyote Spring LLC development as a RFFA? Table 2.9-5 includes a total of 13,600 afa in Coyote Spring Valley in its total estimated cumulative groundwater consumption use. Not selecting it as an RFFA is an arbitrary and capricious decision by the BLM.

2. the Kane Springs project is a RFFA, but is currently on hold. It has been approved to develop and deliver 1,000 afa to the Coyote Spring development. This is inconsistent with the BLM decision to reject the Coyote Spring development as a RFFA, but to include a project whose purpose is to deliver water to this development.

3. the LCLA GWD and Utility ROW Project was rejected as a RFFA, but its water rights were included in draft EIS alternatives and its potential impacts could affect Lower Meadow Valley Wash in the project study area.

4. the draft Programmatic EIS for Solar Energy Development in Six Southwestern States identified solar development sites in Dry Lake and Delamar Valleys, two of the targeted basins, yet the draft EIS does not explain why projects using water rights in the RFFA column of Table 2.9-5 are not included in its list of RFFAs.:

> "Under the solar energy development program alternative (BLM's preferred alternative), the BLM would establish a new Solar Energy Program of administration and authorization policies and required design features and would exclude solar energy development from certain BLM-administered lands. Under this alternative, approximately 22 million acres of BLM-administered lands would be available for right-of-way (ROW) application. A subset of these lands, about 677,400 acres, would be identified as solar energy zones (SEZs), or areas where the BLM would prioritize solar energy and associated transmission infrastructure development. Under the SEZ program alternative, the same policies and design features would be adopted, but development would be excluded from all BLM-administered lands except those located within the SEZs."
>
> Although these solar sites are not yet selected and under construction, BLM is committed to prioritize solar energy and associated transmission infrastructure development on these public lands. How much water is required for each of these developments and what is the source of the water? Is BLM reserving water for these solar developments? Why weren't these solar plants considered RFFPs?

The draft EIS also fails to consider reasonably foreseeable actions by SNWA and by the LCWD. In the 2003-2004 timeframe, these parties entered into an agreement wherein LCWD withdrew protests to the SNWA groundwater applications in exchange for an agreement which, in part, allocated all of the SNWA (Las Vegas Valley Water District) applications in certain basins to the LCWD. Other parts of that agreement provided for certain sharing arrangements of water that may be granted by the NSE. A map (http://toiyabe.sierraclub.org/conservation/pipelines/images/Corridorsfeb04sm.jpg) associated with this agreement entitled "Water Rights Filings and Proposed Corridors Lincoln County, Nevada" identified the basins which would be developed by either LCWD or SNWA (attached).

Applications that were originally filed in 1989 by the LVVWD were assigned to the Lincoln County Water District in 5 valleys which surround or are within the BLM's study area. The draft EIS fails to identify or consider over the life of this massive and expensive project the impact of pumping these applications which total to 91,250 afa in Coal, Garden, Patterson, and Pahroc Valleys. Yet the Proposed Action and scenarios in the draft EIS do include LCWD water in Lake Valley. BLM is arbitrary and capricious in what it includes and excludes as RFFAs in the draft EIS.

This draft EIS purports to look at changes which could occur to the BLM managed public lands, overall environmental changes, surface water losses, and socioeconomic landscape for 40 (build out), 75 and 200 years; yet the likely possibility that these applications will be brought forward within that timeframe is ignored by the BLM and is a failure of the draft EIS. The result is that the potential but likely impacts to the region's environment and economy are neither identified nor analyzed. The draft EIS is deficient in that it fails to consider these applications as RFFAs in the draft EIS.

The BLM claims that other SNWA applications filed in 1989 do not have to be included in the EIS because SNWA has "no plans" at this time to develop them. SNWA holds applications (or permits) in the region which total to 114,152 afa which date from the 1989 filing in two valleys Tikapoo north and Railroad Valley. Once again, BLM has an obligation in an EIS which purports to predict environmental impacts to the region's environment and economy for many years into the future – at "full build-out" in 2050 (or later) and then 75 years and 200 years from now to include the pumping of all SNWA applications because they are reasonably foreseeable should the pipeline be built at all.

SNWA holds applications (or permits) in Coyote Spring Valley immediately adjacent to the pipeline corridor studied in the draft EIS. Pumping is proceeding by the SNWA in Coyote Spring Valley as part of the 2002 NSE Order #1169 to determine what amount of more than 50,000 acre-feet per year of already permitted underground water rights in Coyote Spring and 5 adjoining basins he will ultimately allow. Currently, SNWA has a permit to pump a maximum of 9,000 acre-feet per year as part of the study to determine the effect this pumping will have. (The order indicated that the obligated parties to the test were Las Vegas Valley Water District, Southern Nevada Water Authority, Coyote Springs Investment, LLC, Nevada Power Company, and Moapa Valley Water District.) At risk are flows in all down gradient basins of Coyote Spring Valley. The draft EIS must include pumping scenarios for Coyote Spring Valley because they are not only foreseeable, but actually ongoing and will result in the allocation of water which could be placed into the pipeline. SNWA's claim that this pumping is not ultimately a part of the pipeline project and should not be considered in the draft EIS cannot be supported.

SNWA also has recently applied for additional water in Spring Valley associated with the ranches mentioned in the draft EIS. These applications total to more than 11,000 afa. SNWA is – even after the

publication of this draft EIS – still applying for additional water resources which could have the potential to be placed into the pipeline. The draft EIS is premature because it is clear that the SNWA has yet to identify where all of the water to fill the pipeline will come from.

Ultimately, the draft EIS is deficient in that it does not address these additional water applications which are likely to be developed and conveyed in the proposed SNWA pipeline within the 40 to 200 year impacts analysis timeframe used in the draft EIS.

3. Affected Environment and Environmental Consequences

The draft EIS fails to define direct and indirect impacts. 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 as well as well as those related to mitigation, such as measures to replace water sources impacts by pumping drawdown.

The draft EIS does not analyze all indirect effects. By selecting the Proposed Action or any of the scenarios in the draft EIS, BLM would fail to prevent undue and unnecessary degradation to public lands from the unanalyzed and unmitigated indirect impacts of the GWD project.

For example, SNWA cannot use water rights outside of its service area in Clark County, according to previous NSE rulings. The draft EIS 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 and pumping drawdowns 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 to address these indirect impacts? What are the costs of the required monitoring and mitigation and the source of funds?

On page 3-1, the draft EIS 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 draft EIS fails to disclose the "acceptable" levels of impact intensity. 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 draft EIS. 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? to the public? If not, are drawdowns to 100 feet acceptable? Is subsidence over 575 square miles acceptable? to whom? If not, then is subsidence over 300 or 100 square miles acceptable? to whom? We can see that there may be substantial differences of opinion on acceptable or non-acceptable levels of impact intensities. How are differences to be resolved? Who resolves them? (for more comments on this critical point, see our comment #4). This critical missing information undermines the adequacy of the impacts analysis in the EIS.

3A. <u>Sec. 3.0.3 Incomplete and Unavailable Information:</u>

The list of incomplete and unavailable information in the draft EIS on pp.3-4 to 3-5 does not represent the total information missing from this document. The BLM has had to make so many assumptions to compensate for the missing information that the draft EIS does not have a solid foundation. For example, project descriptions for well sites have not been provided to the BLM by the applicant. Instead, the applicant provided information on "groundwater development areas." However, without approval by the NSE for applications for changes in the points of diversion (which have not yet been filed), the "groundwater development areas" are simply a fiction. In addition, BLM has chosen to omit

from impacts analysis of RFFAs large areas with SNWA water rights applications, which, if approved by the NSE, would provide additional water to be transported through the SNWA pipeline.

The draft EIS is critically flawed by the incomplete information on possible springs, streams, seeps, and wetlands in the "large" regional study area which would be the most vulnerable to pumping drawdowns (see our comments in #3D). This is a massive project with potential impacts on 12,535,040 acres in 35 basins in eastern Nevada. However, the size of the affected area is not an acceptable excuse for the paucity of information in the draft EIS on the affected environment, especially the desert's scarce water resources, and the impacts of the GWD project. "Tiering" in the draft EIS allowing future collection of missing information for an unknown number of future NEPA analyses has created a nightmare of missing and uncertain information and unknown impacts all of which will doom the ability of the public to keep track of future BLM decisions, monitoring, and the effectiveness of proposed mitigation. The draft EIS 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 draft EIS also fails to disclose the costs of and timeframe for collecting future information. In any event, without knowing the majority of water resources to be affected by the GWD project, it would be impossible to collect information on dried springs discovered in the future and futile, as how would future information change BLM's decision on the ROW already issued?

Other incomplete and unavailable information listed in this section (visual resource information, soils, wildlife information, special status species, Great Basin National Park, caves, groundwater flow modeling/water resource information, and climate change) are critical for the public and the BLM to make informed comments and decisions on this draft EIS. The EIS process should not proceed until this information is supplied to the BLM by the proponent. (See additional SC comments on missing and incomplete information on these areas of missing information in nearly every section of the draft EIS.)

The draft EIS inappropriately fails to include in its impacts analysis areas affected by pumping drawdowns between the estimated 1 and 10 foot drawdown contours, even though major impacts could occur in these areas dependent on shallow groundwater. Potentially affected by a less than 10 foot drawdown are springs, wetlands, sub-irrigated meadows, and wells, as well as vegetation. 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. In addition, unanalyzed climate change impacts to the study area could also be stressing water-dependent resources.

Likewise, limiting the timeframes of impacts analysis in the draft EIS 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 draft EIS 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 draft EIS fails to show pumping will cause a large amount of undue and unnecessary damages to public lands and resources.

3B. Sec. 3.1 Air and Atmospheric Values:

The discussion in the draft EIS of potential climate change impacts in eastern Nevada and west Utah attempts to represent what is currently known about climate change impacts, present and future. 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 draft EIS dismisses all potential climate change impacts from its impacts analysis in chapter 3 (page 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 Humboldt-Toiyabe (H-T) National Forest Climate Change Vulnerability Report, published in Apri 2011, 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 evapotransporation 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." Has BLM conducted similar climate change vulnerability studies on its public lands in eastern Nevada and western Utah? The report can be found at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5294901.pdf

The H-T report and the draft EIS both 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 SNWA in its Water Resources Plan (p. 11) gives more consideration to current and future significant impacts of climate change on its Colorado River supplies than the draft EIS:

> "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 EIS should use the H-T study 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 draft EIS model should also assess the cumulative impacts of the GWD project, especially the pumping drawdowns with, for example, a 10, 20, and 30% reduction of recharge in the study area.

Other studies are doing this. We refer the BLM to a summer 2011 article in the Journal of the Nevada Water Resources Association entitled *Impacts of changing water demands in the lower Colorado River basin under different climate scenarios*, by Daniel Bunk and Thomas Piechota at:

> http://adsabs.harvard.edu/abs/2010AGUFM.H23G1302B

In addition, we refer you to an article in the same issue of the NWRA Journal, entitled *The carbon*

footprint associated with water management policy options in the Las Vegas Valley, Nevada, by Eleeja Shrestha, Sajjad Ahmad, Walter Johnson, and Jacimaria Batista. These authors examine the energy needed to move water from Lake Mead, treat it and distribute it around Las Vegas Valley, collect it and provide wastewater treatment before its return to Lake Mead. They predict a substantial increase (58%) in future energy needs without improvements in water conservation. An analysis of CO2 emissions associated with water management in Las Vegas Valley shows similar current and future trends. The draft EIS should examine the current carbon footprint of water management in southern Nevada and the impacts on the future carbon footprint with exportation of up to 177,665 afa of rural groundwater.

Other questions we have on this section:

1. On p.3.1-34, the draft EIS makes a questionable statement in regard to function of 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? How many of the 40 basins in the project study area would this "conclusion" apply to?

2. On p. 3.1-36, the draft EIS 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 hydroturbine use will reduce the 327,000 tonnes of CDE per year, the estimate of total emissions, by 40%?

3. On p. 3.1-37, the draft EIS 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 Valleys 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 p. 3.1-38 the draft EIS 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 draft EIS 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 draft EIS be so certain of emission estimates but so uncertain of air quality impacts on GBNP?

5. On pp. 3.1-52 and 53, the draft EIS 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 any required or voluntary mitigation measures to protect aquatic species habitat, including that of TES species.

6. On p.3.1-60 in the cumulative effects discussion, the draft EIS 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 draft EIS? What is the relevance of this uncertain and missing information?

3C. <u>Sec. 3.2 Geologic Resources</u>

The draft EIS dismisses any impacts on cave resources, including at the GBNP, with this statement on p. 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 draft EIS provides no support for its rejection (on p. 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 EIS often 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 p. 3.2-30, the draft EIS presents total feet of ground subsidence by basin from pumping in the Proposed Action at full buildout plus 200 years 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 50-100 feet of drawdowns. However, in Table 3.2-18 on p. 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. The BLM's decision to only report subsidence >5 feet is arbitrary and capricious.

On p. 3.2-52, the draft EIS 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." Is it correct to interpret these statements that the BLM is requiring no mitigation for subsidence, including damages to roadways, structures, and flood patterns? 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 for over 200 years? What is the potential for "altering regimes to reduce the rate of subsidence" and how would this potential be realized in BLM decisions?

3D. Sec. 3.3 Water Resources:

The draft EIS fails to provide sufficient information on what is a "reasonable" drawdown of the water table. Is an > 200 foot drawdown reasonable? What do other states or the courts say is "reasonable?"

On p. ES-5, the draft EIS states that "5 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 draft EIS fails to discuss the potential reliability of rural groundwater supplies in the face of climate change-induced changes in amounts and timing of precipitation, decreases in recharge to aquifers, higher temperatures and evapotranspiration 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 draft EIS 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 ES-11 of the draft EIS discloses substantial impacts of the GWD project on senior water rights, but the draft EIS fails to provide any information on what administrative or legal remedies senior water rights owners have when faced with pumping impacts. Please include this information as well as the estimates of the costs of the remedies in the EIS.

The LCCRDA mandates in Section 301(d) STATE WATER LAW.—Nothing in this title shall— (1)

prejudice the decisions or abrogate the jurisdiction of the Nevada or Utah State Engineers with respect to the appropriation, permitting, certification, or adjudication of water rights; (2) preempt Nevada or Utah State water law; **or (3) limit or supersede existing water rights or interests in water rights under Nevada or Utah State law."** How can BLM issue a ROW permit to the proponent when BLM's EIS shows significant and unmitigated impacts to senior water rights?

The draft EIS fails to disclose when a new equilibrium would be reached by the pumping amounts in the Proposed Action and the various scenarios. It also fails to disclose the relevance of this missing information.

The draft EIS fails to disclose the amount and location of all federal reserved water rights in the project study area. On p. 3.3-65, the draft EIS 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 draft EIS 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 draft EIS also fails to disclose the location and amounts of all Public Water Reserves (PWRs) in the project study area. Again, are all PWRs in the NSE's data base? If not, does this mean they are not valid? Does PWR #4 apply to all springs on public lands?

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 12,535,040 acres or 19,586 square miles of mostly public lands in eastern Nevada? Or, is BLM relinquishing all water to SNWA in this vast area?

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, AQ, recreation, TES species, soils, and vegetation.

The draft EIS fails to provide sufficient information on the susceptibility of caves to groundwater drawdowns.

The draft EIS information in Section 3.3 identifying springs in the project study area is very confusing. The characteristics, including flow data and magnitude, of springs which have been inventoried are known for only a few springs in the project study area. Other springs identified are marked "not field-verified" for which a footnote explains "these springs have not been field verified (i.e., actual existence and flow characteristics are uncertain)." And there are an undefined number of springs and seeps which are neither known or field-verified. How can the draft EIS conduct an impacts analysis on GWD

project pumping impacts on these critical desert water sources if they are either not field-verified or not known? This is incomplete and missing information which is critical to the analysis of impacts of the GWD project.

The draft EIS provides no scientific justification for the BLM decision not to assess drawdown impacts of less than 10 feet. By this decision, BLM may significantly underestimate the impacts of pumping drawdowns on vegetation and springs and other resources which are dependent on shallow groundwater tables.

The draft EIS fails to provide information on the sources of water for development of public lands identified for disposal.

Table 3.18-68 "Socioeconomic Effects Associated with Long-term Pumping, Future Facilities with the Proposed Action," makes unquantified statements on GWD project pumping impacts. Are these impacts low? medium? or high? These are undefined terms which must be quantified. Will these impacts collectively result in the depopulation of eastern Nevada and Utah's West Desert? What is the relevance of this missing information on the intensity of these impacts? How can the public and the BLM make informed comments and decisions on this draft EIS with substantial incomplete and missing information?

The draft EIS fails to disclose the costs of the damage to private and public roads and structures from subsidence over 525 square miles from GWD project pumping drawdowns. If insurance is available to cover such damages, what is the cost of the insurance to property owners?

3E. <u>Sec. 3.4 Soils:</u>

The analysis of pumping impacts on soils in the draft EIS is weakened by incomplete and missing data. From Table 3.4-1, we found a footnote that states: "Portions of Coyote Spring, Las Vegas, Pahranagat, Spring (184), and Steptoe Valleys have no soils data or are limited to the more general STATSGO data. STATSGO are included in the table when more specific data are not available." We could find no definition of STATSGO data in the draft EIS, but it appears to be inferior to data necessary for adequate impacts analysis.

What is also missing in the draft EIS is a disclosure of the significance or relevance of the missing soil data on the impacts analysis. Does this less specific information 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.

3F. <u>Sec. 3.5 Vegetation Resources:</u>

Missing from the draft EIS is any information on how much groundwater BLM needs to sustain vegetation on public lands that would be affected by groundwater pumping. Vegetation is the basis for most of BLM's programs from livestock grazing to wild horses, wildlife, air and water quality, recreation, scenic values, etc. 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 requirements 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.

How many additional acres of vegetation would be affected by a less than 10 foot drawdown from SNWA groundwater pumping?

Are the increased costs of weed management programs and fighting wildland fires caused by the impacts of SNWA groundwater pumping on drying up vegetation and facilitating weed invasion be the obligation of federal, state and local governments? Or would BLM require SNWA to cover the increased costs of fighting fires?

3G. <u>Sec. 3.6 Terrestrial Wildlife:</u>

Our review of the wildlife section revealed that the draft EIS 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 potentially affected by GWD project groundwater withdrawals and drawdowns. We found that there are no quantified impacts for SNWA groundwater pumping on terrestrial wildlife, similar to the egregious ones listed in Table 3.6-11. Upon further review, we found that this table only applies 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 draft EIS 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 draft EIS 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 draft EIS also fails to disclose the relevance and significance of these incomplete and missing data.

In searching for the definition of groundwater development areas, we could not find one in the draft EIS. The first mention of the term is in a barely legible legend "groundwater development area" for Figure ES-2, "SNWA Proposed Groundwater Development Main Right-of Way and Future Groundwater Development Basins." Figure ES-5, entitled "Groundwater Development Project Main Right-of-Way Alignments" show similar shaped areas but these are not labeled. We were able to locate a larger scale Figure 2.5-9 which shows cross-hatched areas labeled groundwater development areas. They appear to occur only in the five basins.

We checked for the definition or description of the entire project study area where groundwater pumping impacts extend beyond the five basins and found a reference on p. 3-3 to "project study area"

but the extent of it is not disclosed. Instead, we found the statement "...the project study area varies depending on the resource." On p. 3-11, Figure 3.0-3 "Water Resources and Natural Resources Region of Study" lists 40 basins, but we could not determine which basins were included in an area marked in purple as "region of study" and an area marked in yellow that is labeled "water resources region of study." We checked Section 3.6 again and found on page 3.6-1 a statement that "the region of study for terrestrial wildlife includes 33 hydrologic basins that encompass basins in Nevada and Utah." But Figure 3.6-1 for pronghorn habitat, Figure 3.6-2 for elk habitat, Figure 3.6-3 for mule deer habitat, Figure 3.6-4 for Desert Bighorn Sheep habitat, and Figure 3.6-5 for Rocky Mountain Big Horn all list the 40 basins; none list 33 basins. On p. 3.6-71, the draft EIS states that: "based on evaluation of the model-predicted 10 foot groundwater drawdown contour for the Proposed Action pumping and geology and groundwater characteristics, there is potential risk to terrestrial wildlife species (perennial streams, springs, ET wetland/meadow, and basin shrubland) in habitat portions of 8 basins (Spring, Snake, Cave, Pahranagat, Steptoe, Hamlin, Lake, and Lower Meadow Valley Wash)...", but the draft EIS fails to disclose the acreage of wildlife habitat impacted by groundwater pumping in the 8 basins.

To further confuse the reader, the draft EIS discloses on p. 3.5-2 further complications in where pumping impacts on wildlife are assessed: "The *natural resources region of study* consisted of the five hydrological basins proposed for groundwater development along with 28 other hydrologic basins which collectively encompass all or a portion of 5 flow systems...The natural resources region of study differed from the water resources model area in that four basins (Long, Jakes, Garden and Coal) were excluded on the eastern boundary due to a lack of sensitive species habitat. The natural resources region of study also included four basins (Pine, Wah Wah, Tule, and Deep Creek) that were not a part of the water resources area. These four basins included game or special status species." Why did BLM exclude 4 basins without "sensitive species habitats" but which could include extensive habitat areas for both game and non-game species? Why did BLM include 4 basins with "game or special status species" which were not in the "water resources area" when these basins may include extensive habitat for non-game species, but to which the drawdown studies could not be applied? The complex, inconsistent and contradictory parameters used to include or exclude basins from study of impacts to wildlife habitats prevents the public and the BLM from making informed comments and decisions on the draft EIS.

The draft EIS fails to disclose the total acreage of the five targeted basins. We were able to locate it on the NSE's website as 2,601,600 acres or 4,065 square miles. From the same source, we were able to compute the total acreage of the 35 basins only in Nevada as 12,535,040 acres or 19,586 square miles. Therefore, the 5 basins acreage is about 20% or 1/5 of the total acreage in the project study area, minus Utah acreage. No information on the acreages of the five Utah basins was found. The draft EIS has failed to adequately disclose potential impacts of the GWD project pumping drawdowns on at least 4/5's of the project study area, including impacts on wildlife and wildlife habitat.

Figure 3.0-2 on p. 3-10, "Process for Analyzing Groundwater Pumping Effects on Environmental Resources" shows a diagram of how the draft EIS splits "affected areas" into those with groundwater impacts on phreatophytic vegetation and shrubland habitat and subsequently only on wildlife species and visual resources and the other area where surface water is connected to groundwater to 3 categories: surface water sources, hydric soils, and vegetation and habitat (springs, ponds, wetlands, meadows, perennial streams, playas, swamp cedar woodlands). Surface water resources include: wildlife, livestock, wild horses, recreation, Native American concerns, and socioeconomics. Hydric soils resources included soils, air quality and visual resources. Vegetation and habitat resources were

listed as aquatic resources, wildlife species, livestock, wild horses, special designations and visual resources. This overly complicated process results in the draft EIS failure to quantify impacts of groundwater pumping on terrestrial wildlife and other resources listed in this figure.

The process used in the draft EIS to assess pumping impacts on terrestrial wildlife species is extremely confusing and misleading and unnecessarily complicated. It appears to have lead BLM into significant underestimation of pumping impacts to public lands and resources. Terms used in this process and in figures are either not defined or poorly defined and are inconsistent from one section or chapter to another. Because BLM keeps switching areas, definitions, #s of basins studied, it is essentially impossible for the reader to figure out where the worst impacts to which species will occur from pumping drawdowns, associated with the GWD project ROW permit.

By not clearly disclosing potential pumping impacts over 200 years over a specific # of acres on specific wildlife and wildlife habitat resources, the draft EIS 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 draft EIS fails to comply with LCCRDA requirements to specifically address impacts to fish and wildlife resources and habitat affected by the ROW and GWD project.

The draft EIS 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.

The BLM fails to meet its obligations to protect rare species under the ESA, FLPMA and internal agency policies and executive orders. The draft EIS fails to take a hard look at pumping impacts on such terrestrial species as the threatened Desert Tortoise, and sensitive Greater Sage Grouse. Desert Tortoise ACEC management directions would be violated (see previous SC comment # 2D) by proposed project facilities. More mesic Sage Grouse summer habitat areas, including areas around springs, perennial streams, and ET wetland/meadow would be impacted first by drawdown and are a key seasonal habitat for Sage Grouse (page 3.6-73). Federally endangered Southwestern Flycatcher and Yuma Clapper Rail, and Federal Candidate Yellow-billed Cuckoo use riparian habitats especially in Lower Meadow Valley Wash and Pahranagat Valley which would be impacted by pumping drawdowns. Other species listed on pp. 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. Other cave species new to science are being discovered in GBNP caves as more studies are being done.

The BLM is expending considerable resources in developing plans and guidelines for protecting the Greater Sage Grouse and its habitat on public lands, with additional interim memorandum due to be released at any time. In the meantime, BLM is considering a ROW request for the GWD project which involves hundreds of miles of powerlines providing new perches for avian predators of nesting Sage Grouse hens, construction impacts through prime Sage Grouse habitat areas, including leks, and pumping drawdown impacts to both public and private meadows and riparian areas which provide critical brooding habitat for just-hatched chicks. The draft EIS clearly shows that the GWD project will adversely affect Sage Grouse in the project study area. There is a major disconnect between BLM policies and actions on protecting Sage Grouse and its habitat on public lands and its consideration of a project with such devastating impacts on Sage Grouse..

The draft EIS fails to disclose the state requirement to protect wildlife in Nevada Water Law, as follows:

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

The draft EIS fails to disclose that the GWD project will fail to comply with state laws, based on the drawdown impacts estimated by the hydrological model on springs on which wildlife is dependent.

3H. <u>Sec. 3.7 Aquatic Biological Resources:</u>

All of the alternatives in the draft EIS will cause devastating impacts to aquatic biological resources on public lands in eastern Nevada and Utah's west desert. Yet, the draft EIS fails to assess pumping impacts to aquatic biological resources over the entire area potentially affected. Other models show a more extensive area of potential effects (Dr. Jim Deacon, personal communication).

Are the inventories of aquatic biological species in Figures 3.7-4 and 3.7-5 one-time surveys? If so, then species may be missed. The draft EIS does not always provide this information.

The draft EIS proposes a Monitoring, Management, and Mitigation (MMM) process to avoid, minimize and mitigate groundwater pumping impacts to aquatic biological resources and special status species. However, this process is fundamentally flawed and will result in ineffective actions, at best. (See our comment #4 on the stipulated agreements). A mitigation "process" is not mitigation. Triggers or thresholds for stopping pumping within short timeframes should be added to any MMM agreement, since any other "mitigation" than restoring the natural water regime would be ineffective to protect aquatic biological resources. However, since the MMM agreements are all dependent on sufficient annual budgets, the draft EIS should consider a lack of future funding (over 200 years) when it purports to assess the effectiveness of MMM. The over-reliance on ineffective proposed and voluntary mitigation (which may or may not be funded) in the draft EIS will lead to significant violations of the ESA.

The draft EIS fails to disclose the inflexibility of 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.

Missing from the draft EIS 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.

The draft EIS fails to comply with specific 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 intended BLM to specifically protect these resources from adverse environmental impacts of the GWD project pumping. Aquatic biological resources are, by definition, "fish and wildlife resources and habitat."

3I. <u>Sec. 3.8 Land Use:</u>

All alternatives in the draft EIS, except No Action, will cause 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 draft EIS 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 basins receiving the exported water.

3J. <u>Sec. 3.9 Recreation:</u>

All alternatives, except No Action, in the draft EIS 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 kind of future landscapes described in the draft EIS after pumping drawdowns eliminate or substantially reduce phreatophytic vegetation and riparian areas in the five basins as well as in the other 35 affected basins to be replaced by invasive weeds and annuals with significant decreases in wildlife

habitat and wildlife is not the kind of landscapes described in BLM's resource management plans. Who would want to visit such areas for "recreation" in the future? Even our 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 would not allow any other proposed use of the public lands to cause such undue and unnecessary degradation described in the draft EIS as that caused by SNWA pumping.

The draft EIS 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 wildlife management areas, we could find no information. These springs provide recreational fishing as well as habitat for TES species and other wildlife.

The draft EIS fails to address the human loss of the special places within the more than 20,000 square miles of Nevada and Utah which will be damaged or destroyed by the pumping of groundwater by SNWA.

For example, in many visits to Shoshone Ponds and the "swamp cedar" forests in Spring Valley, we are always amazed to find such diverse landscapes in this desert valley. Of course, the pond is the home of an endangered species -- the Pahrump Poolfish. But the value of this landscape to the human experience goes far beyond the pond providing habitat for this and other rare fish. The extensive wetland and woodland landscape, only a small part of which the BLM has designated an ACEC, should be protected by the BLM from the damage which will be caused by all of the pumping scenarios analyzed in the BLM's draft EIS. That the entire valley could be converted into an annual weed landscape is completely unacceptable. Today, these areas within the Spring Valley hydrographic basin are a haven for fish, birds and wildlife with abundant water, grass and forbs, trees for cover, wetlands, seasonal lakes, and rich farmland. There are cows, deer, elk, antelope, thousands of migrating waterfowl and shorebirds, and migrating and resident bird species. It is a place for picnics and hunting, photography and camping, walking and just looking at the scenery. Kids and adults alike swim in the small pond next to Shoshone Pond. In the summer it is a green paradise and in the winter it can be a dazzling white world of snow covered meadows and trees. The draft EIS talks vaguely about "mitigation" and "monitoring" which is somehow supposed to stem the loss. But the losses will occur simply because the water is removed. The draft EIS makes that pretty clear. But, the draft EIS offers essentially nothing which will prevent the ultimate loss of all of the unique water resources of Spring Valley valued by all of us.

Missing from the draft EIS 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 water-dependent recreation programs and resources.

3K. Sec. 3.10 Transportation Resources:

The draft EIS fails to adequately assess the impacts of increased short-term construction traffic on rural roads and highways and increased LT general traffic 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. What are the estimated costs of short-term traffic disruption and management and the long-term costs of repairing subsidence damaged roads in the basins of origin? Who is financially liable for necessary road repairs?

3L. Sec. 3.11 Mineral Resources:

The draft EIS fails to assess impacts of the GWD project on availability of water for future mining exploration, development, and ore processing. All mining operations require some amount of water, yet because of SNWA's proposed effective monopolization of unappropriated water in 5 basins and the impacts of groundwater drawdowns in up to 40 basins, water availability will be decreased for future mining operations. The only alternative left is for future mining enterprises to acquire existing water rights. If the NSE approves any of SNWA's 1989 water rights applications, this water will not be available for use outside outside Clark County. In effect, the draft EIS fails to disclose that the GWD project will effectively preclude any future mining in the 5 targeted basins and in many of the other impacted basins in the project study area.

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

3M. Sec. 3.12 Rangelands and Grazing:

The draft EIS fails to adequately assess the impacts of GWD project pumping drawdowns on the forage base of public land permittees as native plants used for forage dry up and are replaced by invasive annuals and weeds in an area covering as many as 12,535,040 acres or 19,586 square miles.

The draft EIS fails to analyze impacts of pumping drawdowns < 10 feet on public rangelands. If adequately analyzed, these impacts could cover many hundreds of thousands more acres than disclosed in the draft EIS, affecting the availability and quality of livestock forage on public lands. The draft EIS should disclose how much carrying capacity and AUMs 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 draft EIS 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.

Many ranchers in Lincoln and White Pine Counties depend on the desert valleys for all of their winter grazing allotments. This includes all of the 5 targeted valleys studied in the draft EIS. Because the

analysis in the draft EIS of construction and pumping impacts fails to address the loss to individual grazing allotments, the claim that livestock stocking rates would not be affected cannot be supported. Numerous rancher owned water rights on springs and seeps are critical to winter grazing allotments particularly in the southern part of the study area. The loss of these springs from lowering of the groundwater table would eliminate the winter grazing critical to the year-round ranching. The damage to sensitive plants (like white sage) are unlikely to be reversed. Valley bottom land soils are classified as highly erodible by the NRCS in large areas of the Cave, Dry Lake, and Delamar valleys, in particular. Wind will likely remove soils and make reestablishing native plant communities difficult if not impossible.

The failure of the draft EIS to quantify the loss of water sources and critical winter vegetation on winter allotments compounds the inadequacy of the socio-economic analysis on the local communities. The draft EIS analysis of the proposed action and the other pumping scenarios is inadequate to evaluate and quantify the losses to the agricultural dependent communities.

Missing from the draft EIS 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. This information should 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 the vegetation resources critical to the continuation of its grazing program.

3N. <u>Sec. 3.13 WH&B HMAs:</u>

The draft EIS 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 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 Wild Horse and Burro Act of 1971 requires BLM to manage horses in "thriving natural ecological balance." The Proposed Action and all the scenarios in the draft EIS, 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 far below what is needed to support AMLs in HMAs. Will BLM then eliminate HMAs? or whole herds? The artificial water sources in the applicants voluntary ACMs will not only not comply with WH&B Act requirements on wild horse management in "thriving natural ecological balance," but also are unrealistic and unsustainable considering that the draft EIS shows that pumping impacts will occur for at least 200 years; that's assuming that any wild horse herds survive the desiccation of their forage base on public lands affected by pumping drawdowns.

We don't believe that Congress intended to require BLM in both LCCRDA and SNPLMA to sacrifice wild horses and burros in eastern Nevada and Utah's west desert as a result of SNWA's GWD project impacts. The draft EIS clearly shows GWD project impacts which were not known or considered in 2004 or 2006.

Missing from the draft EIS 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 the vegetation base which supports its wild horse sand burros.

3O. <u>Sec. 3.14 Special Designations and Lands with Wilderness Characteristics:</u>

The draft EIS fails to describe all lands with special designations in the project study area, including state parks and wildlife management areas.

The draft EIS 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.

The roadless inventory carried out in the project area is not documented well, so the reader has little information on which to make informed comments on this section in the draft EIS.

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

What are the costs of the mitigation proposed for the Shoshone Ponds ACEC (p. 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 draft EIS shows significant GWD project pumping impacts on the lands and woodlands surrounding Shoshone Ponds and additional pumping will only exacerbate drawdown problems.

Missing from the draft EIS 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. 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 and water-dependent resources in designated areas.

3P. <u>Sec. 3.15 Visual Resources:</u>

The Proposed Action and all the scenarios in the draft EIS will result in a vastly changed landscape from the serene remote desert valleys in the five basins targeted by the GWD project and many of the 35 other basins in the project study area. The draft EIS fails to assess the significance of these changes and disclose that the future industrialized landscapes in the five targeted basins and the future desiccated landscapes in many of the 40 basins affected by pumping drawdowns 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, what would (Table ES-12) an 86% reduction in ET in Snake Valley after full build out and 200 years look like?

3Q. <u>Sec. 3.16 Cultural Resources:</u>

The draft EIS fails to adequately describe cultural resources in the project study area and to disclose the significance of GWD project impacts to cultural resources. The draft EIS fails to disclose the impacts of groundwater drawdowns and the resulting widespread subsidence and loss of vegetative cover and stable soils. The draft EIS 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 draft EIS 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.

3R. <u>Sec. 3.17 Native American Traditional Values:</u>

The tribes submitting the five pages of traditionally used plants in the areas targeted by the GWD project or impacted by pumping drawdowns and associated impacts appear to know more about the public lands and its vegetation than that provided in the draft EIS.

The draft EIS fails to provide any mitigation, required or voluntary, for systemic changes to native vegetation caused by the GWD project pumping and desiccation of extensive public lands in the targeted areas. 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?

How many potential Traditional Cultural Properties (TCPs) occur in the 5 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 draft EIS which would destroy TCPs before they are designated by the federal government.

Missing from the draft EIS 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 the public can understand vegetation water needs in areas smaller than the total study area.

The draft EIS seems to not comprehend that traditional values of Native Americans are tied to the land, the plants, and the animals. Once lost because of GWD project impacts, traditional values have no basis and will also be irretrievably lost.

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 which are critical to Native American Traditional Values.

3S. <u>Sec. 3.18 Socioeconomics and Environmental Justice:</u>

The draft EIS 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% of groundwater targeted by SNWA, yet the socioeconomic impacts analysis is minimal, quite perfunctory.

From a resident familiar with local county planning, economics, programs, revenues and budgets, we learned that the draft EIS 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 and 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. Also missing is consideration of White Pine County's planning documents or Annual Comprehensive Economic Development Strategy.

The draft EIS 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 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 and the depopulation of eastern Nevada and western Utah?

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

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

The draft EIS 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 draft EIS fails to disclose the impacts on the need for 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? How would it be provided - in construction camps or scattered in RVs all along the ROW corridor? 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 and restaurants? What is the capacity for local businesses to handle this demand? What are the impacts of worker demands or needs on local governments' 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 draft EIS fails to consider GWD project impacts on environmental justice in this section, including to urban and county residents whose incomes are below the poverty levels. Such impacts in rural areas

would include project demand for scarce housing driving up the costs and lower ing the availability of housing for low income residents. Also, long-time residents who lose their farms and ranches because of GWD project pumping drawdown impacts on their wells, springs, sub-irrigated meadows and livestock forage and to the costs of lawsuits or the pursuit of other remedies for pumping impacts to their senior water rights are victims of environmental injustice. Likewise, local business owners who depend on income from agricultural operations and recreation may also lose their livelihoods to GWD impacts. Impacts on low income residents in urban areas would include their inability to afford to pay water bills increased to cover the costs of the GWD project and lack of accessibility to county services because of increased demands by the additional population supported by additional water supplies.

3T. Sec. 3.19 Public Safety and Health

Missing from this section of the draft EIS 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.

The draft EIS 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.

4. Monitoring and Mitigation:

4A. Stipulated Agreements:

The draft EIS includes the stipulated agreements between federal agencies and SNWA for four of the targeted basins in the appendices. 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 are major federal actions significantly affecting the environment, including private lands, because they are among the only measures in the draft EIS proposed by BLM to "mitigate" the devastating effects of this groundwater mining project, no NEPA process was required.

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 draft EIS 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. A couple of years of annual reports have been sent to the NSE where they are filed away. Access requires traveling to Carson City, searching the paper files, and paying substantial fees for copies of the reports. 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 draft EIS 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 (not identified in the stipulated agreements or in the draft EIS) from GWD project impacts. If so, then BLM has effectively disposed of federal property, without Congressional authority or consent.

Substantive problems with the stipulated agreements are equally serious:

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 (or a process to develop these) 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 agreements 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 draft EIS states that production wells may be located anywhere in the groundwater development areas of the five basins, far from the sites of the existing monitoring wells.

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 in the assessment and handling of monitoring data.

The draft EIS makes no commitment that the stipulated agreements will be a part of the Record of Decision or required as conditions of ROW permits.

The draft EIS does not disclose the costs of developing and implementing the stipulated agreements, nor who is responsible for these costs.

4.B. Other Monitoring and Mitigation:

On pp. 3.3-121 and 122 of the draft EIS 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 draft EIS fails to disclose how many of impacts to potentially affected water sources would be "feasible" to effectively mitigate? 90%? 50%? 10%? The public and the BLM cannot make informed comments or decisions on the draft EIS when this critical information is missing?

The draft EIS 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 draft EIS 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 draft EIS.

The draft EIS 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, as 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 at: http://onlinelibrary.wiley.com/doi/10.1111/j.1745-6584.2008.00538.x/full and *Aquifer System Response Time and Groundwater Supply Management*, William Walton, 2010 at: http://onlinelibrary.wiley.com/doi/10.1111/j.1745-6584.2010.00770.x/abstract

Dr. Bredehoeft has further addressed the question of will monitoring work in an opinion published on 1/15/2010 in the Salt Lake Tribune at: http://www.sltrib.com/opinion/hci_14202904

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. An Owens Valley resident estimates that LADWP has spent from $1.5B to 2B since 1980 for environmental mitigation for the impacts of its water export project in the eastern Sierra, including: c. $1B on the Owens Dry Lake dust abatement over the last decade; $3M/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. $25M. In addition, due to a court ruling ordering mitigation, LADWP has lost over one half of its water exports since 1980. The cost of the replacement water is not known. A link to LADWP 2010 Urban Water Management Plan which includes information on page 2 of the Executive Summary and on pages 113-114 on its losses of exported water for environmental mitigation in Owens Valley can be found at: http://www.ladwp.com/ladwp/areaHomeIndex.jsp?contentId=LADWP_SUPPLY_SCID

For the information missing from the draft EIS and the 2 stipulated agreements and other proposed "mitigation," we are providing BLM with information and a link to testimony of Nov. 1, 2006 from an Owen's Valley resident to the NSE on the Spring Valley water hearing on many specific examples of the difficulties local residents encountered due to LADWP's reluctance to implement the stipulated agreements on water withdrawals and aquifer management, including LADWP's position that "litigation is cheaper than water." It can be found at: http://toiyabe.sierraclub.org/images/PDFs/CNativePlantSocCommentsSpringVly2006.pdf

In addition, we are also providing links to Inyo County documents, including:

1. the 1991 court-stipulated agreement with LADWP in a "Long-term Groundwater Management Plan for Owens Valley and Inyo County." It clearly lays out goals and principles for groundwater management with preventing groundwater mining as its critical goal. It can be found at: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Great%20Basin%20Water%20Network/GBWN_Exh_121%20Owens%20Valley%20Agreement.pdf

2. the *Green Book for the Long-term Groundwater Management Plan for the Owens Valley and Inyo County,* June 1990 which lays out the process for monitoring and mitigation, including setting vegetation goals, vegetation monitoring and management practices, impact determination and mitigation (including critical steps of determining measurability, attributability, degree of significance, and significance of other effects on the environment, hydrologic management and requirements for further studies. It can be found on the NSE website at: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Great%20Basin%20Water%20Network/GBWN_Exh_122%20Owens%20Valley%20Green%20Book.pdf

3. an August 24, 2011 rebuttal report by Dr. Robert Harrington, director of the Inyo County Water Department on the "requirements for effective management and mitigation of groundwater pumping based on experience of Owens Valley, Inyo County, California. Dr. Harrington finds 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 elements necessary for successfully 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. It can be found on the NSE website at: http://water.nv.gov/hearings/upcoming/springetal/exhibits/Great%20Basin%20Water%20Network/GBWN_Exh_119%20Harrington%20Rebuttal%20Report.pdf

5. Irreversible and Irretrievable Impacts:

This section in the draft EIS provides indisputable support for our comments about the severity and scope of the monumentally adverse impacts of the GWD project. The draft EIS shows that the GWD project is a groundwater mining project.

This section also provides indisputable support for our concerns about the ineffectiveness of all "mitigation" discussed in the draft EIS, whether actual, voluntary, or promised. Irreversible and irretrievable impacts to over 12,000,000 acres and 20,000 square miles of mostly public lands, over time, demonstrate the BLM must either deny these ROW applications in order to avoid catastrophic adverse environmental impacts to public lands, thus complying with its many mandates, or it must require enforceable "triggers" or thresholds in the ROD and ROW permit which will prevent these unacceptable impacts.

6. Other:

In this section, we include comments on a number of other concerns we have with the draft EIS:

1. Reviewing this 4000 page document has been extremely difficult. We have spent hours trying to locate information, going from the two volume, telephone book sized documents to the DVD and back. Critical information on the project and the impacts was not published in the hard copies of the draft EIS. Without a computer, we note that the public cannot even access the Addendum and Appendices.

2. A serious omission from the draft EIS is the lack of disclosure that SNWA is paying the costs of the hydrological model, the EIS, and associated BLM costs. No one from SNWA is listed in Chapter 6 on pp. 6-1 & 6-2, although we understand the SNWA staff has been heavily involved in both the provision of information to the BLM for the EIS and in decisions on the formatting of the EIS. Instead, SNWA is listed in the "company and business" section, not reflecting its critical role in the preparation of the draft EIS.

3. The USFWS biological opinion is missing from the draft EIS. We were told that it would not be available until the final EIS is published, so there is no way for the public to review and consider whether USFWS requirements to protect TES species from the severe impacts of groundwater pumping drawdowns appear adequate or not. This is critical missing information since the GWD project impacts could cause the extinction of many TES species which are totally dependent on springs shown by the EIS hydrological model to have declining flows in the future.

4. As we sought information to understand the proposed action, we reviewed many of the documents posted on the NSE website for the upcoming water hearing listed as SNWA exhibits. It appears to us that SNWA is presenting substantially different information to the NSE on its GWD project than the BLM used in the draft EIS, especially on the hydrology of the four valleys and on potential pumping impacts.

7. Conclusions:

The deficiencies in meeting NEPA requirements by the draft EIS must be corrected. It is critically important that the public be provided with information on the actual project, a full range of alternatives, and a robust impacts analysis of this controversial project, as Congress intended. There has been so much disinformation, changing information, and missing information about the proposed project that the public must rely on the BLM for factual and true info. BLM made a good start with requiring a credible hydrological model to assess hydrological impacts. The rest of the impacts analysis should match this standard.

The conflict of interest in the multiple roles of the BLM as land manager, protestant, and party to a stipulated agreement with the project proponent must be resolved in order to protect the public interest and the public lands. Nowhere is this more critical than in BLM's full compliance with NEPA requirements for requiring effective mitigation for unavoidable project impacts.

Preventing this undue and unnecessary degradation to public lands is the responsibility of BLM as the land manager.

This EIS should serve as the basis for modifying the Congressional mandates on ROWs for the proposed SNWA pipeline in light of the mandates in NEPA and the Federal Land Policy and Management Act (FLPMA) (U.S.C. Sec. 1732(b) and 1732 (d)(2)(a) which requires BLM to "take any action necessary to prevent unnecessary and undue degradation of the lands" and to "minimize adverse impacts on the natural, environmental, scientific, cultural and other resources and values (including fish and wildlife habitat) of the public lands involved."

Thank you for considering our comments.

Sincerely,

Rose Strickland
Water Campaign Coordinator

Dennis Ghiglieri
Conservation Chair