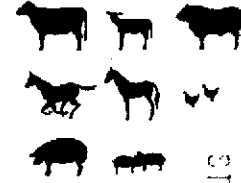




N-4 State Grazing Board
 P.O. Box 461, Panaca, Nevada 89042
 (775) 728-4682



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 STATE BOARD OF CONTROL

September 22, 2011

SNWA Project, Bureau of Land Management
 Attn: Penny Woods
 P.O. Box 12000
 Reno, Nevada 89520

**RE: N-4 State Grazing Board Comment to the Clark, Lincoln, and White Pine Counties
 Groundwater Development Project Draft Environmental Impact Statement (DEIS)
 (June 2011 DES 11-18)**

Dear Miss Woods:

The N-4 State Grazing Board, hereby referred to as the Board, is a legal entity of Nevada State Government, organized under NRS Chapter 568 "Grazing and Ranging." The Board represents grazing interests within White Pine and Lincoln Counties as well as a portion of Nye County located within the Ely BLM District. The proposed SNWA Groundwater Development Project (Project) will result in serious impacts to the ranchers and public lands grazing operators that this Board represents. The Board would like to go on record as being in support of the "No Action" alternative, as the impacts to the environment and public land grazing are far too great to support any other alternative. The Board would also like to request that a Supplemental Draft EIS be published for further review and comment prior to issuing a Final EIS. This request is due to the major omissions and flaws in the impact analysis, as well as a complete lack of sufficient mitigation actions found in the current document.

The Board spent a significant amount of time reviewing Section 3.5 on Vegetation Resources and Section 3.12 on Rangelands and Grazing. The enclosed specific comments describe why the Board believes both of these sections to be woefully inadequate in disclosing impacts. The assumptions and approach to both sections is deeply flawed, resulting in an incomplete and underestimated disclosure of impacts. The lack of any mitigation measure for impacts to grazing allotments is a major omission. It appears that this section was prepared with only one permittee, SNWA, in mind. The Board would request that the project proponent work with the Board and individual permittees to develop allotment mitigations plans and procedures prior to the start of any construction in order to help minimize and address potential impacts.

For comments specific to various sections of the DEIS most pertinent to the N-4 State Grazing Board, please reference the enclosed document. Please include this letter and comments herein

Penny Woods
September 27, 2011
Page 2

as part of your official record for the DEIS referenced above. If you have any questions in regards to these comments, please contact John McLain at Resource Concepts, Inc. (775) 883-1600, who serves as the Board's consultant. The Board looks forward to remaining engaged in this process.

Thank you,

(signed electronically) **Gracian Uhalde**

Gracian Uhalde, President
N-4 State Grazing Board

JLD:kh

Enclosures:

Cc: US Senator Harry Reid
US Senator Dean Heller
Congressman Joe Heck
Congresswoman Shelley Berkley
Congressman Mark Amodei
Governor Brian Sandoval
Jason King, Nevada State Water Engineer
Rosemary Thomas, Ely BLM Manager
Victoria Barr, Caliente FO Manager
Ron Cerri, President, Nevada Cattlemen's
Steve Boies, Chairman, Central Grazing Committee
George T. Rowe, Chairman, Lincoln Co Commission
John Lampros, Chairman, White Pine Co Commission

**N-4 State Grazing Board Section-Specific Comments to the Clark, Lincoln, and White
Pine Counties Groundwater Development Project Draft Environmental Impact
Statement (DEIS)
June 2011 DES 11-18**

Per the attached cover letter, please include these section specific comments in the official record for the DEIS referenced above.

Comments Specific to Section 3.5 Vegetation Resources:

In regards to *Section 3.5.1.1 Overview*, more emphasis should be placed on the absence of fire resistance and the contributing factors such as the spread of invasive species after grazing was removed from a large segment of the Mohave due to the ESA listing of the desert tortoise. Excessive fuels build up, particularly unharvested invasive species, plus the absence of fuels management plans on the Mohave, have left this vast region highly susceptible to wildfires such as the 700,000+ acres that burned in Southern Nevada in 2005.

In regards to *Section 3.5.1.2 Land Cover Types*, it appears that much of the vegetation information is somewhat dated by relying on SWReGAP data from 2005. It would seem more appropriate to use or supplement the SWReGAP data with NRCS soil survey and ecological site description data.

In regards to *Section 3.5.1.2 Wildland Fire Risk*, mature crested wheatgrass stands, if not periodically grazed, will become decadent with wide interspaces. Perennial native vegetation will typically reestablish in crested wheatgrass stands over time. This is particularly true of sagebrush species. High intensity fires in most sagebrush types and pinyon-juniper woodlands can generally be revegetated, if an appropriate seedmix is selected and seeded into the ash bed immediately following the fire.

In regards to *Section 3.5.1.3 United States Army Corps of Engineers Jurisdictional Wetlands*, this section states, “no jurisdictional wetland delineations have been completed for potential future GWD Project ROWs in any of the groundwater development areas within the proposed pumping basins.” What does this mean? It seems that these inventories should be completed and potential impacts disclosed as part of the EIS.

In regards to *Section 3.5.1.4 Region of Study – Overview*, this section includes *Figure 3.5-2 Relationship of Plan Community Components to Groundwater Depths* and a brief description of the figure. The figure and description is vastly over-simplified and does not describe the multitude of “confounding factors” that may result in impacts of groundwater drawdown to vegetation and/or vegetative changes in response to drawdown. These factors include soil properties, rate of drawdown, timing of drawdown in relation to plant functions, precipitation, etc. (Naumburg et al 2005). This is a major oversight, and does not allow for proper disclosure of the potential impacts to vegetation. The Final EIS must include a more thorough disclosure and analysis of the “confounding factors” identified by Naumburg et al 2005.

In regards to section 3.5.2.1 *Rights of way*, construction disturbances should not be considered “long term” for all cover types. Temporary irrigation will go a long way in assuring that plant cover for soil protection is in place over the ‘short term.’ If temporary irrigation is not included to reestablish seeded vegetation for this project, the outcome of extensive disturbance along the route, regardless of mitigation approaches, is predictable. Erosion and invasion by aggressive annuals will become apparent. In addition, livestock access and movements may become hindered for an extended amount of time while waiting for some level of seeding success to occur. This approach is entirely unacceptable for a project of this size and scope in a fragile desert region. The idea of not realigning the pipeline to avoid sensitive plant populations (and soils) should be reconsidered. Clearly there are opportunities to adjust the pipeline in the interest of avoiding disturbances that will impact sensitive species such as winterfat stands that occur in many valley bottoms and serve a vital role in this desert environment. Winterfat is critical for wintering livestock, wildlife, and wild horses in valley bottoms. The ability to reestablish the plant is very limited. What is meant by “no woody maintenance?” Avoiding disturbance of some shrubs will help to limit the visual impact of the ROW and not require maintenance. Were the recovery times determined from literature review for disturbed vegetation communities related to natural revegetation, or seeding disturbed treatment areas left to recover on its own? Please cite the literature referenced? The USDA ARS at Reno, Boise, Burns, OR, and Logan, UT do extensive work with rangeland seedings and are among the best source of information on weed invasions into disturbed areas and expectations based on decades of continual research. Also, the USDA NRCS Plant Materials Centers located at Aberdeen, ID, and Fallon, NV are sources of information based on years of research in dry climates.

The following comments are offered in regards to the various subsections listed under Section 3.5.2.2 Proposed Action, Alternatives A through C:

Construction and Facility Maintenance - Vegetation Community Surface Disturbance and Restoration. Why would *all* vegetation need to be cleared and bladed from the construction ROW? The specific excavation alignment is all that should necessarily be cleared, as it seems to allow for trenching and placing the pipe. If some of the existing vegetation is driven over temporarily, it won’t necessarily destroy it all and something would be left alive to respond in the event that the seeding fails. It is possible that the hauling of topsoil to store along the edge of the right of way and returning it to the excavation for rehabilitating the site could be more damaging than that of merely side casting the excavated soil beside the trench and returning it once the pipe is in place.

Table 3.5.9. As presented, this information is fine regarding estimated acres of disturbance, but is questionable as relates to estimated vegetation community recovery time (years). This project is not a post-fire event, and seeded vegetation should not be left to the elements to hopefully establish on its own over the 2-200 year recovery time estimates outlined in the table. Precipitation is the most limiting factor to plant establishment, and temporary irrigation is imperative if anything but invasive species are expected to survive over much of the ROW. In addition, exposed soil is typically subject to extensive wind erosion if left to the elements. Some disturbance will occur in areas that may demonstrate precipitation approaching 8-10 inches (i.e. sagebrush-grass) as found in the northern reaches of the project. Because of the greater chance of seedling survival, these areas may not require temporary irrigation. However, efforts should be

made to establish seeding plot trials as an interim measure to determine if successful results can be attained before approval is granted.

Construction and Facility Maintenance - Vegetation Community Surface Disturbance and Restoration. How will the operations (industrial use) areas, destined to be bladed of vegetation, be protected from wind erosion and invasive species prior to demobilizing the site “restored?” It should be noted that Webster defines *restore* as “to bring back or put back into a former or original state.” It is likely that site *restoration* across the proposed disturbed areas cannot occur without extensive expense and effort, but revegetation is possible if carried out properly. We would strongly recommend the intention to prepare a detailed “Restoration Plan” be changed to Reclamation Plan so as to better represent the reality of stabilizing anticipated disturbances over the long term.

What is the early seral vegetation that would be anticipated within a two-year growth period? The early seral that we might anticipate would be invasive annual bromes or halogeton and this is not acceptable for an effort of this magnitude. Sagebrush establishment and growth in the higher precipitation zones should not require 50 years or more to recover if included in the seedmix. Pinyon pine and juniper will find their way back into the sites on their own and require decades to achieve maturity.

We agree that winterfat may not return to preconstruction density for a number of reasons, which further reinforces our argument that winterfat communities should be avoided entirely wherever possible. This is not about economics, but rather long-term impacts to a very fragile environment that can be greatly minimized by working to limit or avoid disturbance of the more sensitive vegetation.

Construction and Facility Maintenance - Conclusion. We agree that recovery to pre-disturbance condition will require decades, if it ever really recovers fully. We strongly recommend inclusion of adapted exotic species (i.e. crested wheatgrass, Siberian wheatgrass, forage kochia etc.) in the seedmix to help stabilize the site and not spread beyond the treatment area.

Construction and Facility Maintenance - Proposed mitigation measures. We agree that “green stripping” should be considered as a part of an integrated weed control plan, but it also serves to slow or stop wildfires. The species selected are mostly fire resistant and cover a wide range of soils, soils pH, and precipitation. Also, the species are not selected for “low forage values” as noted in this section. On the contrary, the species selected are mostly palatable, such as crested wheatgrass, Sandberg’s bluegrass, Russian wildrye, and forage kochia. Once established, it is desirable to have these species grazed during the growing season as less biomass helps to slow or stop fire movement, whereas unharvested greenstrips do little to slow wildfire when these plants are dry and susceptible.

ROW-VEG-1: Green stripping. Establishing early test plots on areas where green stripping might be anticipated, to test the selected species on various soil conditions before expending large sums of money and not experiencing success, would seem judicious. Working with UNR,

USDA NRCS, USDA ARS, and UNLV would help to gain valuable resource information early to help achieve the objective without having to reseed due to seeding failures.

What species are being considered for the Mohave Desert lowlands? There is strong evidence that both the science for hot desert reclamation through reseeding, and availability of species adapted to this environment, are lacking. This further supports a well thought out early and adaptive testing program to identify suitable plant species to be utilized in various seed mixes across the impacted area.

Effectiveness: "highly to moderately effective in reducing the spread of weeds into the ROW" seems very ambitious by our experience, particularly if temporary irrigation is not utilized. Annuals are opportunists that are successful because of their ability to establish quickly on disturbed areas. While some perennial species are early in establishing, the annuals still have an edge, unless temporary irrigation occurs.

Effect on other resources: would suggest considering the visual impact of just clearing and installing the pipeline and waiting for something to grow. The visual impact will be apparent for many, many decades in the desert. Slow change may occur over a very long period of time, but the disturbance scar will likely remain for the most part. Planting with the idea of successful perennial plant establishment should be a first priority, not the visual. It will never look nice, but it can become stabilized if addressed adequately. Color and texture should play second to successful plant establishment. This climate unfortunately does not provide the luxury of a wide selection of plant material to draw from to experience seeding success.

What are the perennial weed species that are already established within or adjacent to the ROWs?

The USDA Great Basin Plant Materials Center might be amenable to growing out special status species, if seed is collected and provided, and generating seed supplies for those appropriate species to be included in specialized seed mixes.

Construction and Facility Maintenance - Accidental Wildfires. Besides the loss of vegetation and cover, wildfires also can result in loss of wildlife and occasionally livestock. Post-wildfire revegetation recovery is always extremely variable for the reasons stated, including the propensity for invasive species to overrun a site if emergency seeding does not occur as soon behind the burn as possible. Post-wildfire seedings to native perennial vegetation unfortunately do not make a very favorable showing in the desert regions, particularly the hot desert, as they typically require 2 or more years to establish. This leaves plenty of time for annuals to assume dominance and control of the area. When specific exotics are included in the seed mix, the early germinators generally establish and help to fend off the annuals somewhat, eventually also allowing for some perennial native plant establishment. Having fire suppression equipment and trained personnel in the construction areas will help to minimize the threat of large scale wildfires. We appreciate seeing this in the DEIS.

ROW-Veg-1: Green Stripping. See above comments

ROW-Veg-2: Fire Prevention Plan. We support the commitment to developing and implementing a Wildfire Response Plan (WRP). Besides notifying local firefighting agencies, it would be well to include them in the planning for the WRP. This would provide for better coordination discussions early in the process.

In regards to *Section 3.5.2.3 Alternative D - Construction and Facility Maintenance*, see earlier comments above for proposed action A through C. If the operation aboveground industrial uses necessitate 822 acres of cleared rangeland, will areas left bare over the term of construction be seeded to vegetation, or treated with a soil sealant to prevent wind movement of exposed soils and treatments to prevent establishment of invasive species? The same applies to any stockpiled topsoil. Left exposed in a pile for a period of time, the topsoil will experience significant wind erosion and also encourage establishment of invasive species.

In regards to *Section 3.5.2.4 Alternative E - Construction and Facility Maintenance*, see comments above for proposed action – A through C.

In regards to *Section 3.5.2.5 Alignment Options 1 through 4, Table 3.5-12*, we see no discussion regarding consideration of going around rather than through sensitive winterfat plant communities. Such consideration is important for a project of this nature. Every effort should be made to avoid disturbance of very sensitive winterfat plant communities dispersed through the valley bottoms.

The following comments are offered in regards to the various subsections listed under Section 3.5.2.8 Groundwater Development and Groundwater Pumping:

Groundwater Development and Groundwater Pumping – Issues. The two bullets listed under the *Groundwater Pumping* subsection are woefully inadequate. There are many valid existing multiple uses that rely upon present vegetation, including but not limited to, livestock grazing, wildlife, special status species (non-vegetative), etc. This subsection only identifies loss of special-status plant species and food and fiber used by tribes. This is misleading and marginalizes the actual impacts that may occur both to resources and multiple uses found on public lands that rely upon existing vegetation. There should also be a third bullet indicating that these changes will occur in the face of climate change, which may result in further impacts to vegetation.

Groundwater Development and Groundwater Pumping – Assumptions. It is presumed safe and appropriate to stick with BLM RMP management actions and BMPs. While some of these are clearly appropriate, the fact is that the desert regions are sadly lacking in current technology to address surface disturbances where fragile soils lack organic matter and precipitation is severely limited. To assure that practices applied are appropriate and have the best chance of success we recommend:

- Establish a cooperative working relationship with USDA NRCS Plant Material Centers in AZ for hot desert plant recommendation needs, and the Great Basin Plant Material Center at Fallon, NV for the cold desert environment. Also early work with the USDA Agricultural Research Service (ARS) in Reno, University of Nevada Reno (UNR) plant

scientists will help to insure that the very latest in research findings are being applied to these extremely sensitive areas.

- Early research on plant materials that might be used to replace those plant communities presently existing under given soil and groundwater conditions, should draw down from pumping result in loss of the indigenous native plant communities. Early identification of replacement species adapted to any specific impacted site will help to assure that something is expeditiously seeded that will hopefully provide site stability while also warding off invasive species.
- Temporary irrigation for stand establishment is likely to be the only assurance that plant establishment will occur for seeded species throughout the drier portion of the proposed impact area.

Groundwater Development and Groundwater Pumping – Methodology for Analysis. Is the 50' or deeper groundwater depth assumed to be a static water level and not influenced by either seasonal or periodic high moisture events that impact groundwater depth?

The dominant riparian woody species type within much of the Meadow Valley Wash is salt cedar (*Tamarix spp.*), an invasive species, and efforts are underway to reestablish native willows that are critical to the habitat requirement for the willow flycatcher, an ESA listed specie. To successfully establish and compete with salt cedar, willows require access to surface or shallow groundwater conditions. Any drawdown that discourages successful establishment and/or survival of the willows will likely have a direct impact on the willow flycatcher with repercussions to local communities. Also, the species that will quickly reoccupy these sites is salt cedar.

Not all playas should be considered “barren of vegetation.” Careful management has resulted in reestablishment of some saltbush species over parts of some playas in the northern part of the subject impact region.

The 10 ft. drawdown contour assumption is possibly accurate for woody species with extended root systems, but would present a challenge for native grass species, even Great Basin wildrye, a deep-rooted grass that may exist in the valleys. Even if grass species do persist it is likely that they will experience reduced production, which may have a significant impact on livestock, wild horses and wildlife that rely on these grasses for forage.

The phased sequence of secondary succession is portrayed in the document, as it would likely occur over much of the area influenced by drawdown.

The following comments are offered in regards to the various subsections listed under Section 3.5.2.9 Proposed Action:

We agree with recommendations to reduce impacts by “focusing on opportunities to avoid sensitive areas,” however, in the desert all areas should be considered sensitive and the construction footprint constricted to the maximum to avoid stripping all existing vegetation from the site unless absolutely required.

Groundwater Development Area - Vegetation Community Surface Disturbance and Restoration. With the sparseness of vegetation, the risk of fire is not near so great in the dryer upland desert sites. Even with vehicle damage to the plant community, many of the native perennial plants may recover thereby helping to reclaim the site without extensive reseeding and other treatments. It is not acceptable to leave any disturbed areas untreated, or “not be revegetated,” if not designated for buildings, roads, or infrastructure of some type. Untreated and exposed disturbances are subject to erosion and invasion by weedy species.

Groundwater Development Area - Spread and Introduction of Noxious and Non-native Invasive Weed Species. See comments under ROW Construction and Facility Maintenance.

Groundwater Development Area - Conclusions. The conclusions in this section are very misleading and misrepresent potential impacts of this Project. SNWA may have made a “commitment to avoid construction of groundwater development facilities in wetland and riparian areas” but how does that mitigate such areas that will be lost due to groundwater drawdown? White sage (winterfat) should be included with mature Joshua trees on the list of plants to avoid, primarily due to the difficulty in re-establishing this plant. SNWA response plans to fire cannot mitigate the increased annual invasive species due to alterations of native vegetation.

Groundwater Development Area - Full Build Out Plus 200 Years. We generally concur with the potential impacts as outlined for Wetland/Meadow, Basin Shrubland, Springs and Perennial Stream Reaches, etc. However, these identified impacts seem to be inconsistent with the conclusions discussed above. It should also be noted that the impacts outlined will have significant effects on livestock grazing, wild horse Herd Management Areas (HMA) and wildlife habitat due to altered vegetation and watering sources with dependable supplies, disrupting access to typical habitat and other potential impacts. Shrinking or drying springs and stream reaches affect distance traveled to water, available supplies, and possibly competition for water and forage.

Groundwater Development Area – ACMs:

ACM C.2.4 suggests that samples of these trees be sent to taxonomists to verify their identity. There are many arguments as to the true identity of these evergreen trees, thus true identity should be established prior to determining proper mitigation. Both groundwater elevation and rate of drawdown should be studied.

ACM C.2.5 discusses large scale seeding. Such seeding should not be undertaken without extensive coordination with USDA ARS, and USDA NRCS Plant Materials Specialists to ascertain species expected to succeed, cultural practices deemed appropriate, and also the need to carry out test plot seedings to determine species success in advance of large-scale seedings. Temporary irrigation should be included as a mandatory part of ACM C.2.5. Recent (2011) Nevada State Legislation allows for temporary use of water and such a use would provide desired seeded species a competitive advantage over annual invasives.

ACM C.2.15 discusses use of SNWA's agricultural water to maintain wet meadows. Has a water inventory analysis been conducted to determine if SNWA agricultural water is sufficient and in the proper places to complete such an action without resulting in further vegetation impacts?

Table 3.5-14 Summary of Vegetation Resource Impacts, Applicant-committed Protection Measures, and Monitoring and Mitigation Recommendations for Proposed Action

***Comment:** We generally agree with the Effects/Conclusions as outlined, however it is possible that changes that occur from drawdown may not result in the listed or anticipated responses. With soils pH levels being variable, the outcome may result in creation of a playa as opposed to an upland community. Annual invasive species present in all affected areas may present unanticipated impacts and result in ineffective mitigation measures. If species are eliminated from a site or changes result in plant species that are unpalatable, grazing capacity will be seriously impacted. The N-4 State Grazing Board is on record as supporting "no net loss in AUMs" as a result of proposed projects impacting grazing allotments, including forage, range improvements, and livestock access to forage. To revegetate a greasewood/salt desert shrubland in the absence of temporary irrigation is an enormous challenge, if not undoable in many instances. Sagebrush shrubland presents a different challenge, as precipitation is generally greater than 7 inches and soils conducive to reseeding. However, temporary irrigation is still recommended for stand establishment, as invasive species will quickly overrun the seeding if left to natural climate as the means of mitigating. Again, we recommend a very tight construction footprint to minimize disturbance and avoid the need to revegetate wherever possible. This will result in extensive cost savings if the project moves forward.

Comments Specific to Section 3.12 Rangelands and Grazing:

The following comments are offered in regards to the various subsections listed under Section 3.12.1 Affected Environment:

In regards to section 3.12.1.1 *Overview*, the last sentence states "... perennial streams, and vegetation supported by springs and perennial streams are heavily utilized by livestock during the grazing season." The word "heavily" implies that overgrazing or mismanagement occurs at the stream or spring affected areas, which would typically result in a violation of grazing permits. If this is the case, the source of this information should be cited or the word "heavily" should be rephrased. This reviewer has worked across the affected area for 33 years and witnessed extensive improvements carried out such as spring developments and stream zone management improvements, many of which are now protected by fencing, or through planned grazing systems that allow for plant recovery following grazing. Ranch families and BLM have worked cooperatively to develop available water and to plan for protective measures as needed. Many water sources have been developed and fenced through the initiative of the ranchers acting alone and at their own cost.

In regards to *Section 3.12.1.2*, indicates that wetland/meadow and basin shrubland vegetation provide highly productive forage for livestock grazing. This statement would lead some to believe that this is the only "high quality forage" in the numerous allotments. Grazing in the

desert environment requires a sense of vegetation communities and knowledge of when/how to use the various forage, regardless of how individuals appraise it. Much of the winter country along the bottoms provide some of the best forage for wintering livestock and save considerable dollars by not having to purchase large quantities of hay. It is not likely that permittees would refer to these wintering plant communities as anything but high quality. Working with the permittees to allow for repositioning the pipeline in some areas would help to prevent loss of significantly valuable forage areas.

In regards to *Table 3.12-4 Acres of Groundwater Development Area Surface Disturbance Assumptions*, the proposed action lists 1,165-2,727 acres of temporary disturbance to be revegetated and 2,365-5,538 acres of permanent disturbance. We assume that much of the disturbance will be roads and pipelines, however the pipeline should always be revegetated, including the borrow areas along roads. What other areas are anticipated as permanent disturbance to account for the large acreage and why is it considered permanent disturbance?

In regards to *Section 3.12.1.3 Groundwater Development Areas*, the author(s) suggest that “additional NEPA analysis will be required to address specific well locations and collector pipelines.” This should be disclosed in a Supplemental Draft EIS in order to fully disclose ALL impacts to rangeland and grazing resources before a final decision is made. Furthermore, an estimate of the amount of vegetation production should be included. This could be estimated using Ecosystem Response Modeling (ERM) described by Naumburg et al 2005. It is nearly impossible to adequately identify impacts to grazing operations without attempting to quantify the loss in forage production of key livestock forage.

In regards to *Table 3.12 –6 Water Sources in the BLM Livestock Allotments*, BIO-WEST (2007) in their evaluation of selected springs in Snake and Spring Valleys “noted springs that exhibited signs of livestock use and/or were modified with diversions. The following named springs show evidence of extensive use by livestock.” Were BIO-West retained to make judgment calls on use by livestock on watering facilities? Why were they evaluating livestock use? Was any of the use by wild horses and/or wildlife? Livestock do frequent water developments out of necessity, along with wild horses and wildlife when present. Permittees recognize that use levels near water sources can get close when livestock are on the allotment for their permitted grazing cycle. However seasonal rest or deferment assists in plant recovery in these areas. Also livestock are moved periodically on many allotments to alternate use areas and allowing for plant recovery.

The following comments are offered in regards to the various subsections listed under Section 3.12.2 Environmental Consequences:

In regards to *Section 3.12.2.1 Rights of Way*:

Issues - Construction and Facility Maintenance. The listed “temporary reduction of grazing forage production” will quite likely be **long term** based on the approach being advanced for revegetation over a good part of the impacted area. Absent *temporary irrigation* for stand establishment, it will likely be many years before anything but annual invasive species will exist on the disturbance treatment areas, except where precipitation is more favorable. Based on the

listed assumptions of short term being less than 2 years, then we can expect all disturbance revegetation to be long term.

Assumptions. It is inappropriate to assume that “current grazing allotment carrying capacities are appropriate and reflect the desired level for the present and foreseeable future of the affected allotments.” As described in the Vegetation Resources Section 3.5, it is anticipated that there will be significant changes in vegetation, including a general decrease in forage production. The current analysis based on this assumption is woefully inadequate and grossly underestimates the potential impacts to grazing allotments and operations.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.1 Proposed Action and Alternatives A through C:

Construction and Facility Maintenance - Reduction of Rangeland Carrying Capacity. 10,544 acres are projected to be disturbed affecting 23 allotments, and reclamation as stated “could take 4 or more years after construction is complete.” Where restoration is delayed, how will SNWA prevent invasive species from occupying the disturbed sites? Hopefully, reclamation efforts will be implemented directly behind construction to discourage invasive species, allow for revegetation, and to avoid extensive erosion from wind and water.

We agree with the proposal to use temporary fencing around treated areas to avoid conflicts with livestock grazing and we also strongly encourage close coordination with the permittees to assure the most appropriate fencing techniques and materials are utilized to avoid problems. Where fencing is not properly installed, livestock particularly calves, may find a means to enter a treatment area and not get out, thus causing potential losses. It is expected that fence maintenance will be the full responsibility of the proponent throughout the seeding establishment period if this project moves forward.

Table 3.12-7 Right-of-way Impacts to Vegetation Communities by Grazing Allotment, Proposed Actions and Alternatives A through C. Areas of native *winterfat* vegetation are identified in the disturbance tables. Every effort should be made to avoid disturbance of this vegetation type due to its critical importance for livestock winter forage and difficulty in establishing. If disturbed, loss of this vegetation would result in serious impacts to ranching at a critical time of year, thereby potentially requiring purchase of hay reserves at significant cost.

Construction and Facility Maintenance - Reduction of Rangeland Carrying Capacity. Chapter 3, Page 3.12-16 states “during the reclamation process 9,836 acres would be reclaimed to pre-construction conditions. This recovery process would be long-term and would initially reduce the carrying capacity of grazing forage.” It is highly unlikely that pre-construction conditions will ever be achieved, as this has not been effectively exhibited in any previous land disturbing activities in this region. The preconstruction soil placement and conditions are impossible to reconstruct as soil placement will mix soils from different depths. Clearly, reclamation will be long term, however, temporary irrigation will accelerate stand establishment and help to prevent movement of invasive species into the disturbance areas. Reclamation should include adaptive species capable of land stabilization, with appropriate native species included in the seed mix. Erosion control and treatments to fend off invasive species should be the first

priority for stabilizing the disturbances. We appreciate the recognition that fugitive dust from construction may impact livestock forage.

Construction and Facility Maintenance - Injury to Livestock. The report states “Proposed mitigation measures: None.” The Board fully expects mitigation for livestock lost or seriously injured as a result of any construction activity related to this project.

Construction and Facility Maintenance – Range Improvements. It is not acceptable to wait until completion of construction to repair damaged range improvements. If livestock are on the allotment at time of construction, damage to a fence, water improvement, or other improvement may easily impact the livestock operation. Livestock can leave the designated allotment through a damaged fence, or other impacts occur depending on the damage identified. Listing “None” as mitigation is not an option.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.3 Proposed Action and Alternative D:

While this alternative reduces the acres of disturbance, which is more acceptable regarding environmental impacts, critical forage is still impacted particularly winterfat stands across allotments. Every effort should be made to avoid these areas in all cases, as restoring this sensitive plant species is a very challenging endeavor that mostly ends in failure. Loss of this specie impacts winter grazing areas on the allotments, where winterfat is critical for livestock forage.

It is highly unlikely that 6,598 acres would be “restored to pre-construction conditions” as noted above. Establishing adaptive species to stabilize the disturbance and prevent invasive species from overrunning the site is more reasonable and would experience greater success. Temporary irrigation for stand establishment would greatly enhance chances for success.

Note: Comments provided above and directed at the Proposed Alternative and Alternative A through C, also apply to Alternative D.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.4 Proposed Action and Alternative E:

Note: comments provided in Alternative A through D also apply for Alternative E.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.5 Alignment Options 1 through 4:

The least amount of disturbed ground is the preferred approach; however, other factors come into play such as soils, slope, precipitation, plant communities, and other. Each of these factors provides arguments for where to go or not go. Selection of areas with severe soil and moisture limitations reduces the chance for reclamation success, while also minimizing impacts to critical forage reserves. Although construction may be less costly in a given area, the cost of successful

reclamation in the same area may expand significantly. Therefore it is difficult to realize specific impacts without site-specific field evaluation of the alignment options.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.8 Groundwater Development and Groundwater Pumping:

Issues - Groundwater Field Development Construction and Facility Maintenance. This section identifies two issues: temporary reduction of rangeland carrying capacity due to surface disturbance; and permanent reduction of rangeland carrying capacity due to permanent surface disturbance for roads and facilities. Carrying capacity for rangeland is defined as: *“the maximum stocking rate possible without inducing damage to vegetation or related resources; may vary from year to year on the same area due to fluctuating forage production” (SWCS).* While some forage will clearly be impacted by construction, it is unclear if “carrying capacity” will be altered given the conservative stocking rates, the size of the allotments and the percent of each that will be disturbed. Monitoring grazing use will help to make the determination if any adjustments are warranted.

Issues - Groundwater Field Development Construction and Facility Maintenance. The more profound impacts to grazing capacity of allotments include the reduction of water availability and a loss or change to vegetation production or composition. To properly disclose the actual impacts to grazing, both of these items need to be quantified. The loss or change of vegetation could possibly be completed using an Ecosystem Response Modeling approach as described in Naumburg et al 2005.

Assumptions – Groundwater Pumping. The assumption that a “drawdown contour of 10 feet is a reasonable estimate of the point at which long-term changes to vegetation community vigor and composition would begin to appear” is unrealistic. It has been documented that groundwater drawdown as little as 10 feet can result in decreased biomass production of grasses and shrubs found in the Great Basin. The impacts are vastly different depending on the total drawdown. The rate of drawdown may be nearly as important as the total drawdown on changes in vegetation. Yet this analysis and set of assumptions do not account for any of these factors.

Naumburg et al 2005, which is cited by this EIS, states “...a number of confounding factors may modify vegetation response. These include soil texture, timing and rate of change in groundwater, herbivory and disease. Finally, climate change may affect precipitation amount and temporal distribution and thus groundwater recharge in these ecosystems.” It further states that “the only way human impacts on such complex systems can be addressed and mitigated is by modeling. Models like EDYS allow the evaluation of different management and climate change scenarios, which provide a way to determine better management practices.” Per a study already cited by this DEIS, the current analysis is woefully inadequate and oversimplified. It is likely that this analysis has resulted in a gross underestimation in the potential impacts to both vegetation and rangeland grazing.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.9 Proposed Action:

Groundwater Development Area. See above notes as they also are applicable to these subsections.

Groundwater Development Area - Conclusion. This section states "...the main emphasis would be on loss of grazing acreage, loss of natural and man made water sources, and an associated reduction of forage production..." Loss of grazing acreage is always a concern, but not listed is the concern of invasive species and the problem they bring to the allotments. Absent temporary irrigation to establish seeded vegetation for reclamation, invasive species will quickly overrun most seeded sites and readily capture the limited available moisture before desired species can become established. Invasive species greatly exacerbate the wildfire threat on the allotments. When fires do occur, the BLM typically prohibits grazing across the burn area for 2 or more years. This can potentially have greater impact on viable ranch operations, and in most cases much more impact than limited loss of available forage due to the pipeline footprint disturbance through an allotment, depending on the location and vegetation type.

Further, the N-4 Board does not think the analysis used to estimate the potential reduction in forage production is adequate or complete, in that it has not incorporated any site-specific conditions. This section must be updated to more completely identify the actual impacts rather than using the 10' and 50' drawdown limits.

ROW-VEG-1 Green Stripping. The Board strongly supports this mitigation measure as being a high priority for the disturbance areas. Species appropriate to green stripping include those that hold their green foliage later into the season and are palatable for wildlife, wild horses, and livestock. They germinate early, compete well with invasive species, and demonstrate good drought tolerance. Success with seedings would stand a much better chance by maximizing use of this mitigation measure.

There should be an additional mitigation measure to meet with and coordinate construction and mitigation activities with individual permittees prior to the start of construction.

ACM C.2.15. Is this approach consistent with the water rights laws and regulations of the State of Nevada? This must be analyzed and disclosed.

ACM C.2.19. Nonuse is not necessarily the appropriate use for rangelands. If the range has been abused over time and is in fair condition with an adequate residual of desired native species (per ecological site description), then a brief (1-2 yr) rest may be of some value. However, in the Great Basin many range scientists agree that resting rangelands for lengthy periods only builds excess biomass and sets the conditions for fire events to occur, which can effectively destroy much of what was targeted to improve. Rangelands in the subject area are in generally good condition, except where wildfires have occurred or Pinyon-juniper woodlands are overstocked and have encroached on sagebrush-grass types. Rest will do nothing to improve either of these two conditions. In addition, retiring allotments from livestock grazing for any period of time will have an economic impact on the local communities. Nonuse may not achieve any of the 3 stated goals if both surface and groundwater is removed from the system.

ACM C.2.21. Is this approach consistent with the water laws and regulations of the State of Nevada? This must be analyzed and disclosed. USDA ARS working, with UNR CABNR, have initial research that shows great promise in building on groundwater reserves in the pinyon-juniper woodlands. By thinning the overstocked stands, significant water is being released to groundwater storage. In addition, wildlife habitat and watershed conditions are showing improvement. This research shows great potential going forward and as a result of thinning, the BLM is better able to achieve long-term objectives while greatly reducing the chance of catastrophic wildfire. The harvested trees have potential for an array of uses, including wood energy, bio char, pellets and other.

These ACMs may not offset any of the impacts to grazing and rangeland operators outside of the SNWA and its holdings. The BLM and SNWA should meet with the N-4 Grazing Board and all impacted permittees to identify specific ACMs that will minimize impacts to grazing allotments not held by SNWA. It appears that the BLM has only developed ACMs that benefit one permittee, SNWA, without taking the time to address mitigations that may be required for other permittees whose primary source of income is Ranching.

Groundwater Pumping – Conclusion. It is highly probable that flow reductions in streams and springs will occur, particularly where geology demonstrates a high likelihood. This can occur regardless of the amount of drawdown, which might easily be much less than 10 ft. Livestock will not damage remaining vegetation if stockwater is replaced in the area by use of wells and pipelines, upland storage tanks, and other possible alternatives. Wildlife will suffer the same consequences as livestock and vegetation if reliable water sources are impacted and not mitigated. This is not acceptable to the N-4 Board. Efforts have always been directed at making conditions better on the rangelands. If water is depleted from springs or streams, distribution of livestock and wildlife will be severely impacted, range conditions begin deteriorating and the sensitive agricultural public lands economy of this rural region will suffer.

What are the “opportunities for upland rangeland improvement projects to offset losses elsewhere, and to improve the distribution and reliability of surface water sources to improve the overall forage utilization rate” as stated?

Proposed mitigation measures:

- None

See above listed note regarding ACM’s. Listing no mitigations for grazing operators who will experience significant impacts to their allotments and taking of private property (i.e. water rights and commensurate base property) is inappropriate. It appears that this DEIS was prepared with consideration for only one permittee, SNWA, who does not rely on ranching as a livelihood. Mitigation measures would definitely be necessary to offset the impacts brought on by the loss of water and forage, and the best way to identify the most effective mitigation measures is to meet directly with the impacted permittees.

Table 3.12-16 Summary of Grazing and Rangelands Impacts, Proposed Mitigation, and Residual Effects for Alternatives A through E. There is a mix of impacts that vary for each of

the Alternatives presented. We do not trust the figures in any of the alternatives and feel that any large volume pumping is going to have significant negative impacts on native vegetation, biodiversity, wildlife, wild horses, and grazing. The long-term impacts will potentially be incomparable with this project, serving as a poster child of *how not to do* example for projects proposed on public lands.

The following comments are offered in regards to the various subsections listed under Section 3.12.2.11 No Action:

Groundwater Pumping. How possibly can the proponent indicate that the No Action alternative “would be similar to the Proposed Action?” This statement doesn’t begin to pass the *red face test*. Time and experience by long term ranching families have demonstrated the impacts of heavy ground water pumping, if only for a part of the year. Where drawdown and water mining occurs, and aquifers do not replenish their supplies over the short term, vegetation can be significantly altered to a less productive state. This review does not direct expertise at groundwater hydrology, but common sense alerts one to the sensitive nature of a desert environment and how critical the surface and groundwater hydrology is to virtually every component of the existing environment. A 10 ft drawdown, as pointed out in the modeling for full build out, would have a crippling effect across the entire landscape, and on the users so dependent upon the existing water in this fragile and water limited environment.

Groundwater Pumping – Conclusion. The N-4 Board does not accept the idea of drawdown effects of 10 feet or greater primarily in Lincoln County “for any part of the proposed groundwater reduction locations.” The numbers presented for full build out demonstrate that this program is entirely out of the realm of reason and the project must not go forward. The cost would be too high to resources and the ranching industry of the area and the impacts evident for hundreds or perhaps even thousands of years.

The following comments are offered in regards to the various subsections listed under Section 3.12.3 Cumulative Impacts:

Table 3.12-17 Summary of Potential Cumulative Pumping Effects with the No Action on Rangeland Resources. The figures presented appear very speculative, as the State Engineer carefully monitors water developments to ascertain if there are impacts to nearby water resources, vegetation, etc. This vigilance and monitoring assures that groundwater basins are not being mined beyond their capacity to recharge and that neighboring wells, springs and streams are not being unduly impacted. Under the No Action, development going forward would likely be incremental and not create the immediate impacts to be experienced by the proposed SNWA pumping program once occasional wells are put into service.

The following comments are offered in regards to the various subsections listed under Section 3.12.3.5 Proposed Action:

Groundwater Pumping. The comment presented below also relates to alternatives A, B, C, D, and E as presented:

There is no assurance that “*as these vegetation types experience the effects of groundwater drawdown they will likely be replaced by upland plant communities.*” The basins have a wide variety of soil conditions, some with high saline/alkaline levels, and the plant communities have taken millennia to adapt to the existing soil and climatic conditions. Natural regeneration would require a long period of time including man’s influence through seedings and other treatments to finally establish a functioning and adaptive plant community for many areas. Invasive species would become a factor and challenge in reestablishing stable plant communities where change becomes apparent.

Where critical stockwater sources such as springs and/or streams disappear due to pumping, the grazing allotments would lose access to a foraging area that may include 5+ mile radius of the water development, depending upon topography and existence of other water sources in the area. As such, the BLM will assess the loss of AUMs to determine if an adjustment in season of use or numbers of permitted livestock is warranted. Any losses of AUMs could effectively render an operation economically unviable. Therefore any future pumping actions that reduce AUMs in a permit *must be mitigated*. This would require close coordination with the impacted operator to ascertain mitigation options. No impacted ranching operation should be left without mitigation or forced out of business as a result of this project.