

## 4. Irreversible and Irretrievable Commitments of Resources

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This section describes the irreversible and irretrievable commitments of resources associated with implementing the Proposed Action and Alternatives A through F. Irreversible and irretrievable resource commitments are related to the use of nonrenewable and renewable resources and the effects that the uses of these resources have on future generations. The commitment of resources refers primarily to the use of nonrenewable resources such as fossil fuels, water, labor, and electricity. Renewable resources are included in this analysis due to their importance to the region of study's natural resources. Irreversible effects primarily result from the use or loss of a specific resource that cannot be replaced within a reasonable time frame. Irreversible commitment of resources addresses the potential loss of future options for resource development or management, especially of nonrenewable resources such as minerals or cultural resources.

Summaries of the irreversible and irretrievable commitments of resources are provided in two separate tables. **Table 4-1** includes the irreversible and irretrievable information for ROWs and ancillary facilities. Information for potential irreversible and irretrievable commitments of resources for groundwater pumping is presented in **Table 4-2**. Both tables also include impact summaries and impact parameters that show differences among alternatives. Without knowing the location of future groundwater development facilities, statements on irreversible and irretrievable commitments of resources associated with these facilities will be described in subsequent NEPA documents. The same types of irreversible and irretrievable commitments of resources that are identified for ROWs would be applicable to surface disturbance from future groundwater development activities.

The following information summarizes surface disturbance effects and long-term commitment of land to industrial uses for the ROWs and ancillary facilities.

**ROW Surface Disturbance: Proposed Action and Alternatives A – C = 12,288 Acres; Alternative D = 8,828 acres; and Alternatives E and F = 10,681 acres.** These acres represent the estimated total surface disturbance from construction and operation of all ROW facilities included in the Tier 1 NEPA analysis for the main pipeline, and associated operational facilities (transmission lines, access roads, and other project facilities). This total surface disturbance area applies to effects on individual resources (e.g., soils, vegetation, wildlife habitat, and visual resources).

**Aboveground Facilities: Proposed Action and Alternatives A through C = 999 Acres; Alternative D = 808 acres; and Alternatives E and F = 945 acres.** These acres represent the estimated total area of land committed to permanent aboveground facility uses. It is assumed that all other disturbed land would be revegetated and available for prior uses (e.g., wildlife habitat, grazing).

Constructing, operating, and maintaining the Proposed Action or other action alternatives would require committing land, soil, and vegetation to place permanent operational facilities, including pipelines, wells, access roads, structures, and power lines. While it is possible that the natural landscape could be restored after these facilities are removed, it is unlikely in the foreseeable future. Therefore, these structures would constitute an irretrievable commitment of land. In accordance with the LCCRDA and the SNPLMA, the ROW is granted in perpetuity. Termination and abandonment are not anticipated, unless exceptional circumstances should arise. Therefore, potential future abandonment or closure of project facilities is not considered in the evaluation of irreversible and irretrievable commitment of resources.

Consumption of fossil fuels and energy would occur during construction and operation activities. Fossil fuels (gasoline and diesel) would be used to power construction equipment and vehicles. Electrical power would be used for lighting and operations. The energy consumed for the project construction and operation represents a permanent and non-renewable commitment of these resources.

Materials for construction of new facilities and associated private-sector economic and population growth would comprise an irretrievable commitment for the life of the project. Use of these materials represents a further depletion of natural resources. Construction and maintenance activities are considered a long-term non-renewable investment of these resources.

Development and operation of the GWD Project would require the commitment of natural, human, and monetary resources. Most of the non-monetary resource investments would be irretrievable, and their use may preclude or foreclose other opportunities. Meeting the demands for goods and services indirectly associated with the project would also be irreversible, although some reuse may occur. As described in **Table 4-2**, groundwater pumping could potentially result in the irreversible and irretrievable loss of spring and stream resources and associated environmental resources that depend on this surface water as a drinking source, habitat, or other ecological requirement. The extent of these potentially irreversible and irretrievable losses cannot be accurately quantified during this initial NEPA analysis because the effectiveness evaluations of mitigation must be determined in a more specific level. As the monitoring and mitigation process proceeds (see Section 3.20) prior to and during subsequent NEPA evaluations, the effectiveness of the stipulated agreements, ACMs, and additional mitigation would be quantified. This effectiveness determination can be used to better predict the irreversible and irretrievable loss of resources associated with site-specific groundwater development facilities. As part of this EIS, the impact parameters can be used to indicate those alternatives with potentially higher risks of impacts and the associated potentially irreversible and irretrievable loss of environmental resources.

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Air	Air pollutant emissions from construction equipment over an area of approximately 12,288 acres and an 8-year period.	Air pollutant emissions from construction equipment over an area of approximately 8,828 acres and a 6-year period.	Air pollutant emissions from construction equipment over an area of approximately 10,681 acres and a 6-year period.	Project facility construction equipment or operation emissions would not exceed federal or state air quality standards. Local air quality would return to existing conditions after completion of project construction. Therefore, construction would not result in irreversible or irretrievable effects on air quality.
	Slight increase in air pollutant emissions from operation and maintenance activities.	Slight increase in air pollutant emissions from operation and maintenance activities, at a reduced scale.	Slight increase in air pollutant emissions from operation and maintenance activities, at a reduced scale.	
	Minor contribution of greenhouse gas emissions.	Minor contribution of greenhouse gas emissions.	Minor contribution of greenhouse gas emissions.	
Geology/ Paleontology	Even if trench monitoring is implemented, some scientifically valuable fossils would be disturbed and lost during trench excavation and ROW grading over a distance of approximately 150 miles.	Same type of impact as the Proposed Action and Alternatives A through C except that ROWs would not occur in White Pine County.	Same type of impact as the Proposed Action and Alternatives A through C except that ROWs would not occur in Snake Valley.	Project facility construction and operation would not cause irreversible or irretrievable effects on geological resources. Surface disturbance activities could alter paleontological resources and result in irreversible or irretrievable effects.
Water	Channel alteration and potential water quality effects on one perennial stream crossed by the pipeline ROW.	No perennial streams crossed by the pipeline ROW.	No perennial streams crossed by the pipeline ROW.	Project facility construction and operation would not result in irreversible or irretrievable effects on surface water resources. The use of water for dust control would be an irreversible loss of this resource.
	Potential water quality effects on two perennial streams by the power line ROW.	No perennial streams crossed by the power line ROW.	No perennial streams by the power line ROW.	
	Potential channel alteration and water quality effects on numerous intermittent and ephemeral streams by the pipeline and power line ROWs.	Fewer intermittent streams crossed by the pipeline and power line ROWs.	Fewer intermittent streams crossed by the pipeline and power line ROWs.	

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Soils	Disturbance to the following acres of sensitive soils: highly wind erodible (1,476), highly water erodible (615), compaction prone (123), and low revegetation potential (10,211).	Disturbance to same types of sensitive soils but fewer acres.	Disturbance to same types of sensitive soils but fewer acres.	There would be a loss of soil productivity due to alteration and mixing of the soil horizons during construction on approximately 8,828 to 12,288 acres, resulting in an irretrievable commitment of this resource. There would also be an irreversible and irretrievable commitment of the resource on approximately 808 to 999 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Disturbance to approximately 2,338 acres of soil with prime farmland characteristics (no currently active cropland would be affected).	Disturbance to 2,295 acres of soils with prime farmland characteristics (no currently active cropland would be affected).	Disturbance to 2,350 acres of soils with prime farmland characteristics (no currently active cropland would be affected).	
Vegetation	Removal of approximately 12,288 acres of vegetation during construction. Permanent removal of 999 acres due to facility installation.	Removal of approximately 8,828 acres of vegetation. Permanent removal of 808 acres due to facility installation.	Removal of approximately 10,681 acres of vegetation. Permanent removal of 945 acres due to facility installation.	Project facility construction would result in irretrievable effects on 8,828 to 12,288 acres of vegetation because of its removal and long-term restoration period. There would be an irreversible and irretrievable commitment of resources on approximately 808 to 999 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Potential spread of noxious weeds due to construction equipment.	Potential spread of noxious weeds due to construction equipment, but affected area would be 25 percent less than the Proposed Action and Alternatives A through C.	Potential spread of noxious weeds due to construction equipment, but affected area would be 20 percent less than the Proposed Action and Alternatives A through C.	
	Potential fire risk due to construction areas.	Potential fire risks due to construction equipment, but affected area would be 25 percent less than the Proposed Action and Alternatives A through C.	Potential fire risks due to construction equipment, but affected area would be 20 percent less than the Proposed Action and Alternatives A through C.	
	Salvage and potential loss of yucca and cacti in disturbance areas.	Same as the Proposed Action and Alternatives A through C.	Same as the Proposed Action and Alternatives A through C.	
	Potential disturbance to six BLM sensitive plant species populations.	Same as the Proposed Action.	Same as the Proposed Action.	

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Wildlife	Big game range construction impacts include: antelope (7,950 acres), elk (4,019 acres), mule deer (3,918 acres), and desert bighorn sheep (285 acres).	Big game range construction impacts are reduced: antelope (4,571 acres); elk (2,704 acres); mule deer (2,949 acres); desert bighorn sheep (260 acres).	Big game range construction impacts are reduced: antelope (6,345 acres); elk (4,019 acres); mule deer (3,547 acres); desert bighorn sheep (260 acres).	There would be an irretrievable reduction in wildlife habitat of approximately 8,828 to 12,288 acres as the result of construction surface disturbance. Of this total, there would be an irreversible and irretrievable commitment of approximately 808 to 999 acres of wildlife habitat associated with permanent structures, roads, and facilities that would not be reclaimed.
	Habitat impacts for special status wildlife species (desert tortoise, sage-grouse, pygmy rabbit, western burrowing owl, bald eagle, golden eagle, ferruginous hawk, bats, dark kangaroo mouse, Gila monster, and Mojave poppy bee).	Habitat impact for special status wildlife species reduced by 23 to 59 percent. Mojave poppy bee impacts would be the same.	Habitat impact for special status wildlife species reduced by 20 to 50 percent. Mojave poppy bee impacts would be the same.	
	Operation of electrical power lines could result in bird collisions, electrocution, and increased predation on desert tortoise, pygmy rabbit, and other wildlife species.	Same potential impacts as listed for the Proposed Action.	Same potential impacts as listed for the Proposed Action.	
Aquatic Biology	Habitat alteration and potential water quality effects on one perennial stream containing game fish species crossed by the pipeline ROW.	No perennial streams crossed by the pipeline ROW.	No perennial streams crossed by the pipeline ROW.	ROW and facility construction and operation would result in short-term effects on aquatic habitat and species. As a result, there would be no irreversible or irretrievable effects on aquatic biological resources.
	Potential water quality effects on two perennial streams containing game fish species crossed by the power line ROW.	No perennial streams crossed by the power line ROW.	No perennial streams crossed by the power line ROW.	

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Aquatic Biology (Continued)	Potential habitat alteration and water quality effects on numerous intermittent streams potentially containing macroinvertebrates crossed by the pipeline and power line ROWs.	Fewer intermittent streams potentially containing macroinvertebrates crossed by the pipeline and power line ROWs.	Fewer intermittent streams potentially containing macroinvertebrates crossed by the pipeline and power line ROWs.	
	Potential amphibian mortalities near waterbodies from vehicle traffic within the ROWs (431 miles).	Potential amphibian mortalities near waterbodies from vehicle traffic within the ROWs (315 miles).	Potential amphibian mortalities near waterbodies from vehicle traffic within the ROWs (388 miles).	
Land Use	Disturbance to 12,288 acres of which 97 percent is managed by the BLM.	Disturbance to 8,828 acres of which 97 percent is managed by the BLM.	Disturbance to 10,681 acres of which 97 percent is managed by the BLM.	Project facility construction would result in an irreversible and irretrievable loss of approximately 808 to 999 acres of land due to the permanent use of land for structures, roads, and ancillary facilities that would not be reclaimed.
	Disturbance to 8.5 acres of agricultural land.	Disturbance to 8.5 acres of agricultural land.	Disturbance to 8.5 acres of agricultural land.	
	Approximately 25 percent of disturbance located outside of designated utility corridors.	Approximately 10 percent of disturbance located outside of designated utility corridors.	Approximately 15 percent of disturbance located outside of designated utility corridors.	
Recreation	Effects on access for OHV race routes.	Effects on access for OHV race routes in Lincoln County only.	Same as the Proposed Action and Alternatives A through C.	Project facility construction would result in an irretrievable loss of approximately 2,448 acres of native vegetation within designated recreation areas. There would be an irreversible and irretrievable commitment of recreation resources on approximately 257 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Disturbance to the Caliente Special Recreation Permits, Chief Mountain Special Recreational Management Areas (SRMA), Las Vegas Valley SRMA, Loneliest Highway SRMA, Pioche Special Recreation Permits, and Steptoe Valley Wildlife Management Area.	Same as the Proposed Action and Alternatives A through C except the Loneliest Highway SRMA and Steptoe Valley Wildlife Management Area would not be crossed.	Same as the Proposed Action and Alternatives A through C.	
Minerals	Potential short-term reductions in access to minerals and minor use of sand and gravel supplies.	Same as Alternatives A through C except that no impacts would occur in Snake Valley and most of Spring Valley.	Same as Alternatives A through C except that no impacts would occur in Snake Valley.	Small quantities of sand and gravel could be used during project construction. This would be an irreversible use of this resource.

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Rangeland	Total of 23 grazing allotments involving approximately 10,544 acres.	Total of 14 grazing allotments involving 7,083 acres.	Total of 20 grazing allotments involving 8,937 acres.	There would be an loss of approximately 7,083 to 10,544 acres as the result of surface disturbance within BLM grazing allotments. These losses would be slowly reduced as the ROW is restored over the time period required for vegetation recovery. There would be an irreversible and irretrievable commitment of resources on approximately 562 to 708 acres for permanent facilities.
	Long-term disturbance to 708 acres in 18 allotments.	Long-term disturbance to 564 acres in 11 allotments.	Long-term disturbance to 562 acres in 16 allotments.	
Wild Horses	Two herd management areas (HMAs) crossed by ROWs, involving 3,015 acres; long-term loss of 164 acres within 2 HMAs.	Same as the Proposed Action and Alternatives A through C.	Same as the Proposed Action and Alternatives A through C.	Project facility construction would result in an loss of approximately 3,015 acres of wild horse forage and cover habitat within two Horse Management Areas. These losses would be slowly reduced as the ROW is restored over the time period required for vegetation recovery. There would be an irreversible and irretrievable commitment of 164 acres for permanent structures.
Special Designations	Project surface disturbance within two Special Designations: Coyote Springs ACEC and Kane Springs ACEC.	Same as the Proposed Action and Alternatives A through C	Same as the Proposed Action and Alternatives A through C	There would be an irreversible and irretrievable loss of vegetation and wildlife habitat in up to seven special designations due to construction and operational maintenance of permanent structures.
Visual	Changes in landscape appearance on approximately 12,288 acres due to removal of shrub vegetation in ROWs. These changes may be observed from scenic byways (Highways 93, 6, and 50) over long viewing periods.	Changes on approximately 8,828 acres due to removal of shrub vegetation in ROWs. These changes may be observed from scenic byways (Highways 93, 6, and 50) over long viewing periods.	Changes on approximately 10,681 acres due to removal of shrub vegetation in ROWs. These changes may be observed from scenic byways (Highways 93, 6, and 50) over long viewing periods.	Removal of 8,828 to 12,288 acres of vegetation, and the addition of 306 miles of new power line would result in irretrievable visual effects (increase in contrasts in color, line, and form within the landscape). These contrasts would be reduced through successful reclamation procedures. Irreversible and irretrievable landscape changes would result from installation of permanent aboveground structures that may be viewed from areas of high public use, such as scenic by-ways (portions of U.S. 93 and U.S. 50).
	Project aboveground facility lighting sources would be seen, but would not attract attention, at an intensity less than the typical effects of a single family residence.	Project aboveground facility lighting sources would be seen, but would not attract attention, at an intensity less than the typical effects of a single family residence.	Project aboveground facility lighting sources would be seen, but would not attract attention, at an intensity less than the typical effects of a single family residence.	

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Visual (Continued)	Evidence of landscape appearance changes from project facilities in Spring and Snake Valleys may be seen from higher elevation viewpoints in Great Basin National Park over distances of 5 to 10 miles. These changes are not expected to meet the intent of National Park Service scenery management objectives.	Project facilities would not be seen by visitors from Great Basin National Park from higher elevation viewpoints across Spring and Snake Valleys.	Evidence of landscape appearance changes from project facilities in Spring Valley may be seen from higher elevation viewpoints in Great Basin National Park over distances of 5 to 10 miles. These changes are not expected to meet the intent of National Park Service scenery management objectives.	
Cultural	Potential adverse effects to National Register of Historic Places (NRHP)-sites mitigated prior to construction.	Same as the Proposed Action and Alternatives A through C; except no disturbance in White Pine County.	Same as the Proposed Action and Alternatives A through C; except no disturbance in Snake Valley.	NRHP-eligible sites that may be disturbed by construction activities would be mitigated in accordance with the Programmatic Agreement. Sites from which artifacts are excavated and removed represent an irreversible impact to cultural resources.
	Unanticipated discoveries of cultural resources would be protected by the PA.	Same as the Proposed Action and Alternatives A through C; except no disturbance in White Pine County.	Same as the Proposed Action and Alternatives A through C; except no disturbance in Snake Valley.	
	Potential illegal collection of artifacts or vandalism to cultural resources.	Same as the Proposed Action and Alternatives A through C; except no disturbance in White Pine County.	Same as the Proposed Action and Alternatives A through C; except no disturbance in Snake Valley.	

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Native American Traditional Values	How many PRCSSs, including potential TCPs and sacred sites, would be adversely affected by the proposed GWD Project is currently unknown. If any PRCSSs, including potential TCPs and sacred sites, are identified within proposed disturbance areas or within view of proposed aboveground facilities, impacts would be avoided. If avoidance is not feasible, measures to avoid, minimize, or mitigate effects to these properties would be proposed in compliance with federal mandates and the PA, and in consultation with interested Indian tribes. Since some of the cultural, religious, and traditional values associated with these properties cannot be fully mitigated, residual impacts to these properties most likely would occur.	Same as the Proposed Action and Alternatives A through C; except no disturbance in White Pine County.	Same as the Proposed Action and Alternatives A through C; except no disturbance in Snake Valley.	How many PRCSSs, including potential TCPs and sacred sites, would be adversely affected by the proposed GWD Project is currently unknown. If any PRCSSs, including potential TCPs and sacred sites, are identified within proposed disturbance areas or within view of proposed aboveground facilities, impacts would be avoided. If avoidance is not feasible, measures to avoid, minimize, or mitigate effects to these properties would be proposed in compliance with federal mandates and the PA, and in consultation with interested Indian tribes. Since some of the cultural, religious, and traditional values associated with these properties cannot be fully mitigated, residual impacts to these properties most likely would occur.

**Table 4-1 Irreversible and Irretrievable Impacts Associated with Surface Disturbance Impacts of the Proposed GWD Project - ROW and Ancillary Facilities (Continued)**

Resource	ROW and Ancillary Facilities			Irreversible and Irretrievable Commitment of Resources
	Proposed Action and Alternatives A, B, and C	Alternative D	Alternatives E and F	
Socioeconomics	Construction workers would increase demand for temporary housing and public services, generate short-term increases in revenues for local governments and private sector establishments, and result in pressures on local government budgets to accommodate the increased service demand.	Same as the Proposed Action and Alternatives A through C except for shorter duration and less demand mainly in White Pine County.	Same as the Proposed Action and Alternatives A through C except for shorter duration and less demand mainly in Snake Valley.	Development of the GWD Project would require the commitment of non-renewable and renewable resources to meet the housing, transportation, food, clothing and other needs of the construction work force and incremental needs for residents of communities affected by construction. Most of the non-monetary resource investments would be irretrievable, and their use may preclude or foreclose other use options or opportunities. The extent to which the GWD Project results in an incrementally greater commitment of resources than that associated with meeting comparable needs if the workers were located elsewhere is unclear.
Public Safety	Potential spills or leaks from use of hazardous materials mostly consisting of fuels and lubricants during construction and operation.	Same as the Proposed Action and Alternatives A through C.	Same as the Proposed Action and Alternatives A through C.	If a hazardous material spill were to occur and affect a sensitive resource, an irretrievable impact could occur pending the recovery of the affected resource.
	Aboveground facilities (pumping stations) would generate noise from water pumps. All noise-sensitive equipment and facilities would be located more than a mile from pumping stations, and noise would be less than a commonly accepted residential standard (55 A-weighted decibel).	All noise sensitive locations would be located more than a mile from pumping stations, and noise would be less than a commonly accepted residential noise standard (55 A-weighted decibel).	All noise sensitive locations would be located more than a mile from pumping stations, and noise would be less than a commonly accepted residential noise standard (55 A-weighted decibel).	
Environmental Justice	Construction activities for the main conveyance system would occur primarily in uninhabited or sparsely populated areas and no lands that are part of an Indian Reservation would be affected.	Same as the Proposed Action and Alternatives A through C except for shorter duration and shorter length of corridor in White Pine County.	Same as the Proposed Action and Alternatives A through C except for shorter duration and no corridor in Snake Valley.	Proposed project facility construction would not disproportionately affect minority or low-income populations, and therefore no irreversible nor irretrievable effects are anticipated.

**Table 4-2 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Potential Impacts	Indicator Description	Alternatives						Potential Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Air	Fugitive dust from a decrease in vegetation cover and density.	PM <sub>10</sub> emissions (tons per year) from windblown dust compared to no action conditions	17,840	13,327	15,955	6,690	8,252	8,563	11,608	There is a risk that there would be a long-term increase in fugitive dust from pumping basins where pumping drawdown may result in a decrease in vegetation cover and density. These potential air quality changes may limit future options for resource development. This effect would be an irretrievable commitment of air quality. Due to the long-term effects on vegetation, air quality changes in fugitive dust could be irreversible.
Geology/ Paleontology	Surface subsidence	Square miles of high ground surface subsidence risk	525	159	669	1	269	153	242	Subsidence induced by groundwater pumping exceeding 5 feet would be considered both an irreversible and irretrievable land surface modification.
Water	Flow reductions or loss of perennial waterbodies, aquifers, and other groundwater sources.	Number of inventoried springs with moderate to high risk of flow reductions	57	46	78	26	31	30	41	Long-term flow reductions or drying up of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact. The permanent extraction of groundwater in storage within the aquifers (as evidenced by the formation of regionally extensive drawdown cones) is considered an irretrievable commitment of water resources.
		Miles of perennial streams with moderate to high risks of flow reductions	112	81	120	59	48	23	46	
		Number of surface water rights with moderate to high risks of effects	212	151	186	98	56	94	132	
		Total groundwater rights (>10 feet of drawdown)	264	223	301	171	213	110	131	

**Table 4-3 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Water (Continued)		Percent reduction in spring valley groundwater discharge to ET	84	57	73	37	28	56	80	
		Percent reduction in snake valley groundwater discharge to ET	33	27	24	17	8	3	3	
		Percent reduction in great salt lake desert flow system groundwater discharge to ET	54	39	44	25	16	24	34	
Soils	Reduction in water sources for hydric soil sustainability	Acres of hydric soils within high and moderate risk zones in drawdown areas (>10 feet)	20,077	11,924	12,005	2,995	6,377	9,696	8,403	Groundwater drawdown would reduce the source of water that sustains hydric soils on a long-term basis, which would be an irretrievable and potential irreversible commitment of soil resources.

**Table 4-4 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Vegetation	Reduction in or composition of vegetation with loss or alteration of wetlands and wet meadows	Acres of wetland/meadows with composition and growth effects	8,048	6,137	9,190	3,250	4,453	3,835	5,519	The long-term reduction or compositional change in wetland/wet meadow and phreatophytic shrub/medium vegetation cover types, and vegetation associated with springs and streams would be an irretrievable loss of vegetation. Whether these changes in vegetation communities are irreversible would depend on whether these communities would be so altered that they could never return to their former composition, if groundwater levels are restored. Because of the very long time frames, and potential vegetation community changes over large geographic areas, the effects are considered irreversible within any reasonable time frame (likely more than 500 years).
		Acres of basin shrublands with composition and growth effects	191,506	123,714	146,998	50,076	81,349	81,389	130,591	
Wildlife	Changes to or reduction of habitat, surface water, springs and water quality leading to reductions in breeding and foraging areas	Number of important bird areas with springs or perennial streams with moderate or high risk of flow reductions	4	2	4	2	1	0	2	The loss of perennial surface water for wildlife would be an irretrievable commitment of resources. The loss or long-term reduction or degraded quality of wetland and phreatophytic shrub vegetation would be an irretrievable commitment of resources. This reduction or adverse change in habitat quality could affect habitat carrying capacity, cover, breeding sites, foraging areas, and animal displacement on a long-term basis, resulting in an irretrievable impact.
		See water and vegetation indicators and alternatives impacts for pumping effects on wildlife habitats	See Water and Vegetation							

**Table 4-5 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Aquatic Biological Resources	Loss/reduction in aquatic habitat due the reduced spring and stream flows and effects on aquatic species	Number of perennial streams with game fish and special status species with moderate to high risk of flow reductions	31	19	24	13	10	15	25	The loss of aquatic habitat and species in perennial springs and streams from groundwater drawdown would be an irretrievable and potentially irreversible impact for aquatic species, if waterbodies dry up or have substantial water level or flow reductions on a long-term basis.
		Miles of perennial streams with game fish and special status species with moderate to high risk of flow reductions	75	58	72	43	29	13	28	
		Number of springs/ponds/ lakes with fish, amphibian, and springsnails with moderate or high risk of flow reductions	30	28	33	20	13	14	18	
Land Use	Reduction or loss of land vegetation quality for public and/or agricultural use	Acres of private agricultural land (>10 feet of drawdown)	17,203	15,021	17,522	13,749	7,320	3,791	4,857	Groundwater drawdown would result in groundwater level reductions that could adversely affect surface water and vegetation on public lands available for disposal and private agricultural lands. These effects would be an irretrievable and potentially irreversible commitment of water sources for recreational use.

**Table 4-6 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Recreation	Reduction or loss of land, wetland and stream vegetation quality/type and therefore, recreation in options	Number of springs with moderate or high risk of flow reductions	23	19	53	12	11	8	12	The long-term reductions or compositional change in wetland/wet meadow and phreatophytic shrubland vegetation cover types, and vegetation associated with springs and streams would be an irretrievable loss of vegetation (see Vegetation). Long-term flow reductions or drying up of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact to recreation users.
		Miles of game fish streams with risk of flow reductions in recreation areas	14	12	28	10	8	2	4	
Rangeland	Loss or reduction in allotments available for livestock grazing due to loss of waterbodies and/or loss/reduction in spring and stream flows and associated vegetation	Number of perennial springs within grazing allotments with moderate to high risk of flow reductions	303	180	259	94	121	104	203	Reductions to flow or quality of springs and perennial streams would be both an irretrievable and potentially irreversible loss of water sources for livestock.
		Miles of perennial streams within grazing allotments with moderate to high risk of flow reductions	102	72	105	50	39	20	41	
		Acres of phreatophytic vegetation and wet meadow vegetation in grazing allotments	200,080	130,378	156,713	53,799	85,811	87,224	136,110	

**Table 4-7 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Wild Horses	Loss or reduction in water sources and forage available as a result of loss or reduction in vegetation (correlated with waterbodies and/or loss/reduction in spring and stream flows)	Number of springs within HMAs with moderate to high risk of flow reductions	14	5	9	2	27	5	11	Reductions to flow or quality of springs and perennial streams would be both an irretrievable and potentially an irreversible loss of water sources for wild horses.
		Acres of phreatophytic vegetation and wet meadow vegetation in HMAs	2,511	0	2,511	0	2,511	0	1,266	
Special Designations	Changes or reduction in wetland/wet meadow and shrubland vegetation and therefore a reduction in areas and appearance of special designation	Number of special designation areas with phreatophytic vegetation	5	3	5	3	2	3	4	The long-term reductions or compositional change in wetland/wet meadow and phreatophytic shrubland vegetation cover types, and vegetation associated with springs and streams would be irretrievable within the modeled pumping timeframes (see Vegetation). Long-term flow reductions or drying up of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact affecting the special designations and the management direction for them.
		Acres of phreatophytic vegetation in special designations areas	14,032	12,635	14,032	6,673	10,407	12,408	13,954	

**Table 4-8 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Visual	Alteration of landscape views due to loss/reduction or change in vegetation, wetlands and waterbodies	Acres of wetland or wet meadows with appearance change due to potential composition and growth effects	8,048	6,137	9,190	3,250	4,453	3,835	5,519	Future groundwater drawdown would gradually alter landscape views in areas where wetland, wet meadow, and basin shrubland vegetation composition and structure are changed on a long-term basis. These changes would be irretrievable and may be irreversible, if water sources are not replaced.
		Acres of basin shrublands with appearance change due to potential composition and growth effects	191,506	123,714	146,998	50,076	81,349	81,389	130,591	
Native American Traditional Values	Drawdown effects on water and biological resources with traditional and religious values	See water, vegetation, wildlife and aquatic biology indicators and alternatives impacts for pumping effects on native American traditional values	See Water, Vegetation, Wildlife and Aquatic Biology	The traditional, cultural, and religious experience may be diminished in areas where surface water, vegetation, wildlife, or fish resources are affected by drawdown. This reduction may be both irretrievable and irreversible, depending on the extent of surface water or vegetation resource changes (see Water Resources, Vegetation, Wildlife, and Aquatic Biological Resource sections) and the timeframe associated with groundwater recovery.						

**Table 4-9 Potential Irreversible and Irretrievable Commitment of Resources for the Proposed GWD Project – Groundwater Pumping (Full Build Out Plus 200 Years)<sup>1</sup>**

Resource	Impacts	Indicator Description	Alternatives						Irreversible and Irretrievable Commitment of Resources	
			Proposed Action	A	B	C	D	E		F
Socioeconomics	Effects on agriculture (irrigation costs and grazing), potential economic effects related to tourism, recreation, and economic development, and social impacts to rural communities and lifestyle	Acres of private agricultural land in Spring and Snake valleys (drawdown $\geq$ 10 Feet)	17,192	15,021	14,844	13,749	4,612	3,791	3,618	Groundwater pumping over the long term (50 to 200 years) would increase irrigation pumping costs (electricity), could reduce grazing and total agricultural production, and adversely affect viability of farming and ranching. Long-term reduction in farm population would affect social structure of the rural areas. These additional costs, reductions in production, and social effects are considered to be both irreversible and irretrievable because of the long timeframes, and the uncertainty that groundwater levels would recover to former elevations at cessation of pumping.
		Acres of private agricultural land in Spring and Snake valleys (drawdown of $\geq$ 50 Feet)	13,439	11,592	13,224	0	198	2,916	3,030	
		Acres of public lands in the Ely District identified for potential disposal	5,399	4,926	7,255	4,926	915	107	107	
		Adverse economic and social impacts in rural areas due to uncertainty and risks	Yes	Yes	Yes	Yes	Yes (reduced compared to the Proposed Action and Alternatives A through C)	Yes (reduced compared to the Proposed Action and Alternatives A through C)	Yes (reduced compared to the Proposed Action and Alternatives A through C)	

<sup>1</sup> No pumping effects would occur for transportation, cultural resources, and public safety, since there is no connection to surface water or affected vegetation.

## 5. Consultation and Coordination

### 5.1 Introduction

This chapter provides a summary of the opportunities that have been made available for public involvement, including government, and non-governmental agencies or organization on the GWD project.

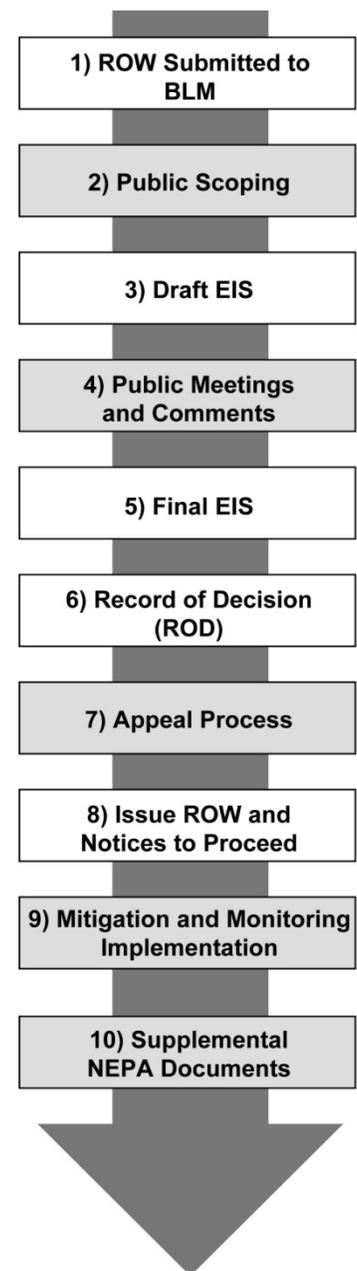
A flow chart of a typical NEPA process for creation of an EIS is shown in the figure in the sidebar. Places in the process where public involvement typically occurs are identified on the graphic (as colored boxes).

The public participation program for the Clark, Lincoln, and White Pine counties Groundwater Development Project helped to determine the scope of issues to be addressed in the EIS. Further discussion of issues brought forward in scoping is provided in Section 5.2.

Initially, mailing lists were requested from agencies and other entities with projects or interests in the area and a postcard was sent to determine if the recipient had an interest in remaining on the mailing list for this project. The initial mailing was sent to approximately 2,000 addresses. Subsequent mailings included those who expressed an interest and others who requested that their name be added to the mailing list. Addresses were removed if a submission was returned as undeliverable. When returned with an address update, the new information was added to the database for subsequent mailings.

### 5.2 Scoping

The BLM initiated the scoping process by publishing a Notice of Intent (NOI) to prepare an EIS in the Federal Register (FR) on April 8, 2005. Public meetings were held in the communities and on the dates included in **Table 5.2-1**. A second NOI was published on July 19, 2006, notifying the public and interested government agencies of changes to the proposed project. This second NOI also invited the public to comment on the project and project changes by reopening the scoping period. All comments (written and oral) were summarized for inclusion in the Scoping Summary Report and issues were distilled for use in writing the EIS. The analysis of the pertinent issues will provide the BLM decision makers with appropriate information to make a determination of whether the ROW should be granted.



**Table 5.2-1 Summary of Public Scoping Meetings**

Meeting Location	Dates	Signed-in Participants	Speakers
Bristlecone Convention Center, Ely, Nevada	Tuesday, April 26, 2005	131	30
Baker School Gymnasium, Baker Nevada	Wednesday, April 27, 2005	138	49
Caliente Youth Center, Caliente, Nevada	Thursday, April 28, 2005	30	8
Ambulance Barn, Alamo, Nevada	Tuesday, May 3, 2005	14	5
Alexis Park, Las Vegas, Nevada	Wednesday, May 4, 2005	112	29
Airport Plaza, Reno, Nevada	Thursday, May 5, 2005	70	24
Plaza Hotel, Salt Lake City, Utah	Monday, May 9, 2005	60	20
Crystal Inn Hotel, Cedar City, Utah	Tuesday, May 10, 2005	39	9
Fair Building, Delta, Utah	Wednesday, May 11, 2005	63	36

### 5.3 Public Outreach

The BLM has initiated extensive interaction with the public following the publishing of the Notice of Intent (NOI) in the Federal Register on April 5, 2005. Summaries of the interaction with Cooperating Agencies, Technical Task Groups, and Tribal entities are presented in Sections 5.3-1 through 5.3-3. In addition to those specific collaborations, the BLM has conducted extensive outreach and has actively pursued opportunities to inform the public of the status of the project, respond to questions and concerns, and provided a forum for public input. A Public Participation Matrix has been compiled to document the breadth of interaction with the public. The matrix is presented in Appendix G.

On June 10, 2011 a Notice of Availability was published in the Federal Register (76[112]:34097-34099) announcing the availability of the Draft EIS for a 90 day public review and comment period running from June 10 through September 9, 2011. The comment period was extended by 30 days and terminated on October 11, 2011. Following the release of the Draft EIS the BLM hosted a series of public hearing meetings in August of 2011 to answer questions and gather comments pertaining to the DEIS. Seven public meetings were held in Nevada and two in Utah (see **Table 5.3-1**). All meetings started as open house with technical specialists available to answer questions. A formal hearing with a facilitator and court reporter then followed to coordinate and document all discussions. Written comments were also received throughout the 90 day comment period via mail, fax, and email.

**Table 5.3-1 Public Meetings on the Draft EIS**

Meeting Location	Date	Signed-in Participants	Speakers	Source of Public Notification
Pioche Elementary School, Pioche, Nevada	Tuesday, August 2, 2011	34	13	Ely Times and Las Vegas Review Journal
Baker Elementary School Annex, Baker, Nevada	Wednesday, August 3, 2011	73	15	Ely Times and Las Vegas Review Journal
Delta High School, Delta, Utah	Thursday, August 4, 2011	24	6	Millard County Chronicle Progress
White Pine High School, Ely, Nevada	Tuesday, August 9, 2011	44	13	Ely Times
Red Lion Hotel, Elko, Nevada	Wednesday, August 10, 2011	35	13	Elko Daily Free Press
Hampton Inn & Suites, Salt Lake City, Utah	Thursday, August 11, 2011	50	19	The Salt Lake Tribune and Deseret News
Henderson Convention Center, Henderson, Nevada	Monday, August 15, 2011	129	30	Las Vegas Review Journal and Lincoln County Recorder
Lincoln County Alamo Annex, Alamo, Nevada	Tuesday, August 16, 2011	16	9	Lincoln County Recorder and Las Vegas Review Journal
Sparks High School, Sparks, Nevada	Friday, August 18, 2011	54	19	Reno Gazette Journal

### 5.3.1 Cooperating Agencies

In the early stages of the project, the BLM sent out 30 letters inviting the participation of federal and state agencies, local governments, and other organizations as official cooperating agencies. According to 40 CFR 1501.6, cooperating agencies have a four-part role in the EIS process: 1) participate in the NEPA process at the earliest available time period; 2) participate in scoping; 3) at the lead agency's request, assume responsibility for developing information and preparing environmental analyses for areas in which the cooperating agency has special expertise, and 4) at the lead agency's request, make staff available to support the EIS process. A Memorandum of Understanding (MOU) was created to establish guidelines for the parties that desired to become formal cooperating agencies. Sixteen agencies, governments, and other organizations have formalized their participation as a cooperating agency by signing MOUs (see Section 6.3).

### 5.3.2 Tribal Interaction

Interaction with the Tribes in the area also has been a top priority and the BLM has met numerous times with tribal governments, individual tribal members and tribal groups. Government-to-government interaction is ongoing through the Section 106 process. In addition, an Ethnographic Assessment has been completed to document specific tribal concerns and identify geographic areas that the tribes believe should be protected to preserve their traditional historic and cultural values, see Section 3.17, Native American Traditional Values.

Following the publication of the Notice of Availability in the Federal Register (see Section 5.3), the BLM hosted a series of tribal meetings in August of 2011 to answer questions and gather comments on the DEIS. Three meetings were held in Nevada and two in Utah (see **Table 5.3-2**). A facilitator and court reporter were present at all meetings to coordinate and document all discussions. Written comments were also received throughout the 120 day comment period via mail, fax, and email.

**Table 5.3-2 Tribal Meetings on the Draft EIS**

Meeting Location	Date	Signed-in Participants	Speakers
Moapa Band of Paiutes Tribal Headquarters, Moapa, Nevada	Monday, August 1, 2011	3	1
Goshute Reservation Tribal Headquarters, Ibapah, Utah	Monday, August 8, 2011	19	5
Ely Shoshone Tribal Headquarters, Ely, Nevada	Tuesday, August 9, 2011	10	4
Te-Moak Tribal Headquarters, Elko, Nevada	Wednesday, August 10, 2011	6	1
Paiute Indian Tribe of Utah Tribal Headquarters, Cedar City, Utah	Thursday, August 17, 2011	10	1

### 5.3.3 Technical Work Groups

Technical work groups were established early in the EIS process to help to solicit input on important, far-reaching topics

including natural resources, hydrology, and socioeconomics. The work groups met on a regular basis and provided specialized knowledge on the topic of interest. In the case of the Natural Resources Group, a technical report was completed to characterize the species and habitat in the area of interest. The hydrology technical task team met frequently as the model was being developed and their input provided a framework for the model's structure and its analytical results. Outside experts from academia and the USGS also were involved. A hydrology baseline report was produced and distributed for review. Additional details on the work group process are provided in Sections 3.3, Water Resources; 3.5, Vegetation; and 3.18, Socioeconomics.

### 5.3.4 Summary of Draft EIS Comments

The following list contains a synopsis of frequent comment topics submitted to the BLM following the public review of the Draft EIS. This list is not intended to be all-inclusive; it is presented here to help the reader understand the general nature of the comments received. The list below is organized into topical areas – please note that only the overarching themes are presented in this list even though comments on different resources received comments with overlapping concerns (e.g., the 10-foot drawdown, vegetation changes, monitoring and mitigation). Specific responses to all comments

are provided in **Appendix H** of this FEIS and appropriate changes have been made to the EIS to reflect the input from the public. Most of the changes are marked with a text bar in the margin of the Final EIS.

**General**

- Requests for comment period extension
- Requests or concerns surrounding the selection of alternatives
- Insufficient range of alternatives
- Requests for analysis, or concerns related to the lack of analysis of other water supply options
- Questions regarding the selection of the Agency Preferred Alternative
- Questions/concerns regarding the use of a programmatic analysis and subsequent tiering under NEPA
- Nonconformance with BLM RMPs
- Statements of support/opposition to the project reflecting broad public policy issues including:
  - 1) allocation of groundwater resources in Nevada;
  - 2) potential implications of inter-basin water transfers;
  - 3) calls for greater conservation prior to inter-basin transfers of water; and
  - 4) the reservation and prioritization of ground and surface water rights for recreation, wildlife and other uses.

**Air Quality and Climate Change**

- Dust from surface disturbance or groundwater drawdown and the potential impacts on human health, effects on visibility (especially related to Great Basin National Park).
- Dust contribution to NAAQS non-attainment areas including the Utah/Wasatch Front and Clark County, Nevada.
- Concerns related to development methodologies for air quality emissions
- Requests for Air Quality modeling
- Effects of Climate Change on the area and the cumulative effects of the potential groundwater drawdown and climate change.

**Geology**

- Questions and concerns related to subsidence

**Water Resources**

- Concern that the predicted water use and modeled drawdown under the No Action Alternative is exaggerated.
- Concerns pertaining to the use of the regional scale numerical groundwater flow model and model simulated 10-foot drawdown contour to define the drawdown area for the impact analysis;
- Concerns with the use of model simulated changes to flow in selected springs and streams to identify potential impacts
- Concerns related to the criteria for selection of the groundwater flow model area
- Concerns related to timeframes used for the programmatic analysis
- Questions related to the representation of faults in the groundwater flow model
- Mitigation and monitoring concerns including the selection of monitoring locations

**Biological Resources**

- Concerns related to the potential reduction of vegetation; particularly wetlands/meadows and white sage (winterfat)
- Concerns related to vegetation re-establishment and successful treatment/prevention of annual invasive weed species in areas of disturbance
- Concerns regarding raptors, migratory birds, and bats
- New policies (e.g., greater sage-grouse, southwestern willow flycatcher revised proposed critical habitat)
- Concerns regarding potential pumping effects on special status species and their habitat in Utah hydrologic basins
- Concerns regarding the risks and relatively large predicted flow reductions in some springs in Spring and Snake valleys and potential effects on special status aquatic species

**Human Resources**

- Visual resources concerns related to project components and desertification – particularly related to the viewshed from Great Basin National Park
- Concerns related to recreation and tourism including loss of visitation to the GBNP, loss or population decline of game species, and loss of hunting and fishing habitat
- Native American concerns related to loss of historic lands, TCPs, artifacts, plants and animals of cultural importance, and the loss of water which many tribes hold sacred
- Inadequate tribal consultation
- Questions and concerns related to cost of the project and financing plans
- Questions regarding current economic conditions or projected growth in the Las Vegas Valley and SNWA's "need" for additional water supply
- Potential adverse effects or benefits that would accrue in Clark County if the project does not, or conversely, does move forward
- Perception that the project could foreclose future economic development opportunities in White Pine County and the Utah portion of the Snake Valley
- Socioeconomic impacts related to the loss of water and vegetation on critical winter grazing allotments and wild horse management areas

**Cumulative Impacts**

- Concerns related to the choice of projects (basis for choice for both surface and groundwater drawdown-related projects) that were included/excluded and the process for conducting the cumulative impact analysis

**Mitigation and Monitoring**

- Requests for additional specificity in the mitigation and monitoring plans (including the stipulation agreements)
- Concerns related to effectiveness of monitoring and mitigation
- Concern regarding the identification of impact thresholds for implementing mitigation
- Concern that the pumps would not be turned off even if effects are identified in the future
- Concerns related to assurances of long-term monitoring and mitigation
- Concerns related to monitoring and mitigation implication on project development and operating costs

**Table 5.3-3** shows a tally of comment letters by affiliation type received during the 120 day comment period for the Draft EIS.

**Table 5.3-3 Number of Commentors by Affiliation**

<b>Affiliation Type</b>	<b>Number of Comment Letters</b>
Business	68
Federal Agencies	4
Individuals	294
Local Government	17
NGO's	28
State Agencies	14
Tribal Government	10
Tribal Individuals	26
<b>Total</b>	<b>461</b>

## 5.4 Mailings

### 5.4.1 Postcards

#### 5.4.1.1 Project Initiation

Postcards were mailed to over 8,000 entities to inquire if they wanted to continue to receive project information. Those who returned the postcard and indicated that they wanted to continue to receive information were retained on the project mailing list.

#### 5.4.1.2 Form Letters Received on the Draft EIS

Over 20,000 form letters were received from the Center for Biological Diversity in response to the Draft EIS. Of these, 814 contained unique text but not substantive comments. Postcards have been mailed to all verifiable addresses announcing the availability of the Final EIS and providing information on downloading or obtaining a copy.

### 5.4.2 Newsletters

To date, nine newsletters have been mailed to the addresses on the project mailing list. The newsletters are available at [www.blm.gov/5w5c](http://www.blm.gov/5w5c). The newsletters were developed to inform and educate interested parties about project elements, government and agency responsibilities, the NEPA process, and other topics of interest. Project progress and a schedule of key deliverables also were communicated.

## **5.5 List of Involved Agencies, Entities, or Individuals**

### **5.5.1 Federal Agencies**

- National Park Service (NPS)
- Bureau of Indian Affairs (BIA)
- Bureau of Reclamation (BOR)
- Nellis Air Force Base
- U.S. Forest Service (USFS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (USEPA)
- Federal Highway Administration (FHA)
- U.S. Geological Survey (USGS)

### **5.5.2 State Agencies**

- Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control
- NDEP, Bureau of Safe Drinking Water
- Nevada Department of Transportation (NDOT)
- Nevada Department of Water Resources (NDWR)
- Nevada Department of Wildlife (NDOW)
- Nevada Division of Forestry
- Nevada Department of Cultural Affairs, State Historic Preservation Office (SHPO)
- Public Utility Commission of Nevada
- Utah Geological Survey
- Utah Division of Wildlife Resources
- Utah Division of Water Rights
- Utah Division of Air Quality
- Utah Department of Natural Resources
- State of Utah, Governor's Office

### **5.5.3 Local Agencies**

- Clark County, NV
- Lincoln County, NV
- White Pine County, NV
- Tooele County, UT
- Juab County, UT
- Millard County, UT

- Central Nevada Regional Water Authority
- Utah Association of Counties

#### **5.5.4 Tribal Governments**

- Confederated Tribes of Goshute Reservation
- Duck Valley Shoshone-Paiute Tribe
- Duckwater Shoshone Tribe
- Ely Shoshone Tribe
- Te-Moak Tribe
  - Battle Mountain Band
  - Elko Band
  - South Fork Band
  - Wells Band
- Timbisha Shoshone Tribe
- Yomba Shoshone Tribe
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Hualapai Tribe
- Kaibab Paiute Tribe
- Las Vegas Paiute Tribe
- Moapa Band of Paiutes
- Pahrump Paiute Tribe
- Paiute Indian Tribe of Utah
  - Cedar Band of Paiute Indians
  - Indian Peaks Band of Paiute Indians
  - Kanosh Band of Paiute Indians
  - Koosharem Band of Paiute Indians
  - Shivwits Band of Paiute Indians

#### **5.5.5 Other Organizations and Individuals**

Approximately 1,600 other involved organizations and individuals are contacted periodically through the mailing of newsletters and other correspondence. The mailing list is updated on an ongoing basis and is a component of the project administrative record.

## 5.6 List of Agencies, Organizations, and Individuals to Whom Copies of this Statement are Sent

### 5.6.1 Federal and State Officials

Utah Governor – Herbert, Gary R	Nevada Assemblywoman – Pierce, Peggy
Nevada Lt. Governor – Krolicki, Brian	Nevada Assemblyman – Segerblom, Tick
U.S. Senator – Hatch, Orrin	Nevada Assemblyman – Sherwood, Mark
U.S. Senator – Heller, Dean	Nevada Assemblyman – Stewart, Lynn
U.S. Senator – Lee, Mike	Nevada Assemblywoman – Woodbury, Melissa
U.S. Senator – Reid, Harry	Nevada Senator – Breeden, Shirley
U.S. Congresswoman – Berkley, Shelley	Nevada Senator – Cegavske, Barbra
U.S. Congressman – Bishop, Rob	Nevada Senator – Copening, Allison
U.S. Congressman – Chaffetz, Jason	Nevada Senator – Denis, Mo
U.S. Congressman – Heck, Joe	Nevada Senator – Gustavson, Don
U.S. Congressman – Matheson, Jim	Nevada Senator – Halseth, Elizabeth
Nevada Assemblyman – Aizley, Paul	Nevada Senator – Hardy M.D., Joseph (Joe)
Nevada Assemblyman – Anderson, Elliot	Nevada Senator – Horsford, Steven
Nevada Assemblyman – Atkinson, Kelvin	Nevada Senator – Kihuen, Ruben
Nevada Assemblywoman – Benitez-Thompson, Teresa	Nevada Senator – Lee, John
Nevada Assemblyman – Brooks, Steven	Nevada Senator – Manendo, Mark
Nevada Assemblywoman – Bustamante Adams, Irene	Nevada Senator – McGinness, Mike
Nevada Assemblywoman – Carlton, Maggie	Nevada Senator – Parks, David R
Nevada Assemblyman – Carrillo, Richard	Nevada Senator – Rhoads, Dean
Nevada Assemblyman – Conklin, Marcus	Nevada Senator – Schneider, Mike
Nevada Assemblyman – Daly, Richard "Skip"	Nevada Senator – Wiener, Valerie
Nevada Assemblywoman – Diaz, Olivia	Utah Representative – Duckworth, Susan
Nevada Assemblywoman – Dondero Loop, Marilyn	Utah Representative – Noel, Michael
Nevada Assemblyman – Ellison, John	Utah Representative – Rudd Menlove, Ronda
Nevada Assemblywoman – Flores, Lucy	Utah Representative – Sagers, Douglas
Nevada Assemblyman – Goedhart, Ed	Utah Representative – Sumsion, Kenneth
Nevada Assemblyman – Goicoechea, Peter	Utah Representative – Vickers, Evan
Nevada Assemblyman – Hambrick, John	Utah Representative – Wright, Bill
Nevada Assemblyman – Hardy, Crescent	Utah Senator – Knudson, Peter
Nevada Assemblyman – Hogan, Joseph	Utah Senator – Madsen, Mark B
Nevada Assemblyman – Horne, William	Utah Senator – Mayne, Karen
Nevada Assemblywoman – Kirkpatrick, Marilyn	Utah Senator – Okerlund, Ralph
Nevada Assemblywoman – Mastroluca, April	Utah Senator – Robles, Luz
Nevada Assemblyman – McArthur, Richard	Utah Senator – Thatcher, Daniel W
Nevada Assemblyman – Munford, Harvey	Utah Senator – Urquhart, Stephen
Nevada Assemblyman – Neal, Dina	Utah Senator – Waddoups, Michael
Nevada Assemblyman – Oceguera, John	
Nevada Assemblyman – Ohrenschall, James	

### 5.6.2 Federal Agencies

Bureau of Indian Affairs, Phoenix, AZ  
 Bureau of Indian Affairs, St George, UT  
 Bureau of Indian Affairs, Elko, NV  
 Bureau of Land Management, Battle Mountain, NV  
 Bureau of Land Management, Caliente, NV  
 Bureau of Land Management, Cedar City, UT  
 Bureau of Land Management, Elko, NV  
 Bureau of Land Management, Ely, NV  
 Bureau of Land Management, Fillmore, UT  
 Bureau of Land Management, Kanab, UT  
 Bureau of Land Management, Lakewood, CO  
 Bureau of Land Management, Las Vegas, NV  
 Bureau of Land Management, Moab, UT  
 Bureau of Land Management, Reno, NV  
 Bureau of Land Management, Richfield, UT  
 Bureau of Land Management, Salt Lake City, UT  
 Bureau of Land Management, St George, UT  
 Bureau of Land Management, Washington, DC  
 Bureau of Reclamation, Boulder City, NV  
 Bureau of Reclamation, Carson City, NV  
 Bureau of Reclamation, Denver, CO  
 Department of the Air Force, Nellis AFB, NV  
 Department of the Interior, Washington, DC  
 Hawthorne Army Depot, Hawthorne, NV  
 National Park Service, Baker, NV  
 National Park Service, Boulder City, NV  
 National Park Service, Denver, CO  
 National Park Service, Fort Collins, CO  
 National Park Service, Washington, DC  
 Natural Resource Conservation Service, Caliente, NV

Natural Resource Conservation Service, Minden, NV  
 U.S. Army Dugway Proving Ground, Dugway, UT  
 U.S. Department of Agriculture, Ely, NV  
 U.S. Department of Agriculture, Farm Service Agency, Fallon, NV  
 U.S. Department of Agriculture, Farm Service Agency, Reno, NV  
 U.S. Environmental Protection Agency, Las Vegas, NV  
 U.S. Environmental Protection Agency, San Francisco, CA  
 U.S. Fish and Wildlife Service, Amargosa Valley, NV  
 U.S. Fish and Wildlife Service, Alamo, NV  
 U.S. Fish and Wildlife Service, Denver, CO  
 U.S. Fish and Wildlife Service, Fish Springs, UT  
 U.S. Fish and Wildlife Service, Las Vegas, NV  
 U.S. Fish and Wildlife Service, Portland, OR  
 U.S. Fish and Wildlife Service, Reno, NV  
 U.S. Fish and Wildlife Service, Ruby Valley, NV  
 U.S. Fish and Wildlife Service, Sacramento, CA  
 U.S. Fish and Wildlife Service, West Valley City, UT  
 U.S. Forest Service, Elko, NV  
 U.S. Forest Service, Ely, NV  
 U.S. Forest Service, Sparks, NV  
 U.S. Forest Service, Tonopah, NV  
 U.S. Forest Service, Wells, NV  
 U.S. Geological Survey, Carson City, NV

### 5.6.3 Nevada State Agencies

Colorado River Commission, Las Vegas  
 Cooperative Extension, Logandale  
 Department of Prisons, Ely  
 Department of Transportation, Carson City  
 Department of Wildlife, Ely  
 Department of Wildlife, Las Vegas  
 Department of Wildlife, Reno  
 Department of Wildlife, Ruby Valley  
 Development Authority, Las Vegas  
 Division of Conservation Districts, Carson City  
 Division of Environmental Protection, Carson City  
 Division of Forestry, Pioche

Division of Minerals, Carson City  
 Division of Minerals, Las Vegas  
 Division of State Parks, Logandale  
 Division of State Parks, Panaca  
 Division of Water Resources, Carson City  
 Natural Heritage Program, Carson City  
 Nevada Army National Guard, Carson City  
 Office of Energy, Carson City  
 State Clearinghouse, Carson City  
 State Controller, Carson City  
 State Historic Preservation Office, Carson City  
 State Museum, Carson City

### 5.6.4 Utah State Agencies

Division of Water Rights, Salt Lake City  
 Division of Water Quality, Salt Lake City  
 Division of Wildlife, Salt Lake City  
 Division of Wildlife, St George

Geological Survey, Salt Lake City  
 Public Lands Policy Coordination Office, Salt Lake City

### 5.6.5 Local Government and Agencies

Alamo Town Board, NV	Hawthorne Utilities, NV
Beaver County, UT	Iron County, UT
Central Nevada Regional Water Authority, NV	Juab County, UT
City of Alamo, NV	Lander County, NV
City of Ely, NV	Lincoln County, NV
City of Henderson, NV	Milford City, UT
City of Las Vegas, NV	Millard County, UT
City of Los Angeles, CA	Mineral County, NV
City of Mesquite, NV	Nye County, NV
City of Surprise, CA	Salt Lake City, UT
City of Wells, NV	Salt Lake County, UT
Clark County, NV	Tooele County, UT
Elko County, NV	Utah Association of Counties, UT
Esmeralda County, NV	Utah County, UT
Eureka County, NV	White Pine County, NV

### 5.6.6 Tribal Governments and Organizations

Aha Makav Cultural Society	Paiute Indian Tribe of Utah
Blackfeet Nation	<ul style="list-style-type: none"> <li>• Cedar Band</li> <li>• Indian Peaks Band</li> <li>• Kanosh Band</li> <li>• Shivwits Band</li> </ul>
Chemehuevi Indian Tribe	POW WOW of the Four Winds
Colorado River Indian Tribal Museum	Shoshone-Bannock Tribes
Colorado River Indian Tribes	Shundahai Western Shoshone
Confederated Tribes of the Goshute Reservation	Southern Nevada Paiute Elders Group
Crow Tribe - Apsaalooke Nation	Southern Paiute Consortium
Duck Valley Shoshone Paiute Tribe	Te-Moak Tribe
Duckwater Shoshone Tribe	<ul style="list-style-type: none"> <li>• Battle Mountain Band</li> <li>• Elko Band</li> <li>• South Fork Band</li> <li>• Wells Band</li> </ul>
Eastern Shoshone Tribal Business Council	Timbisha Shoshone Tribe
Eastern Shoshone Tribe	Ute Indian Tribe
Ely Shoshone Tribe	Washoe Tribe of Nevada and California
Fort Mojave Indian Tribe	Western Shoshone Defense Council
Hualapai Tribal Council	Western Shoshone Defense Project
Inter-Tribal Council of Nevada	Western Shoshone National Council
Kaibab Paiute Tribe	Winnemucca Indian Colony
Koosharem Band of Utah Paiute Indians	Yomba Shoshone Tribe
Las Vegas Paiute Tribe	
Moapa Band of Paiutes	
Northern Arapaho Business Council	
Northern Arapaho Tribe	
Pahrump Paiute Tribe	

### 5.6.7 Other Organizations and Groups

Advocates for Community and Environment  
 Associated General Contractors Las Vegas  
 Baker Area Citizens Advisory Board  
 CA & NV Rockhounds  
 Californians for Western Wilderness  
 Clark County Rural Town Services  
 Coalition of National Park Service Retirees  
 Coalition for Nevada Wildlife  
 Colorado River Basin Salinity Control Forum  
 Culinary Workers Union Local 226  
 Defenders of Wildlife  
 Desert Law and Water Science Forum  
 Desert Research Institute  
 DIA Art Foundation  
 Ducks Unlimited  
 Eastern Nevada Landscape Coalition  
 Eureka Producers Cooperative  
 Friends of Arizona Rivers  
 Friends of Great Salt Lake  
 Friends of Nevada Wilderness  
 Great Basin Bird Observatory  
 Great Basin Business and Tourism Council  
 Great Basin National Heritage Route  
 Great Basin Water Network  
 Great Salt Lake Audubon  
 Great Salt Lake Keepers  
 Greater Las Vegas Association of Realtors  
 Henderson Development Association  
 Indian Springs Civic Association  
 Intl Soc Protection of Mustangs Burros  
 Las Vegas Convention and Visitors Authority  
 Latin Chamber of Commerce Nevada, Inc.  
 Lincoln County Farm Bureau, NV  
 Lincoln County Heritage Site Stewards  
 National Audubon Society  
 National Mustang Association  
 National Parks Conservation Association  
 NE NV Stewardship GRP  
 Nevada Archaeological Association  
 Nevada Board of Sheep Commissioners  
 Nevada Contractors Association  
 Nevada Environmental Coalition Inc.  
 Nevada Farm Bureau  
 Nevada Job Connect  
 Nevada Miners and Prospectors Association  
 Nevada Outdoor Recreation Association  
 Nevada State AFL CIO  
 Nevada Subcontractors Association  
 Nevada Water Resources Association  
 Nevada Wilderness Project  
 Nevada Wildlife Federation  
 Office of Public Archaeology  
 Operating Engineers Local #3  
 Partners in Conservation  
 Partnership for the USA  
 Progressive Leadership Alliance of Nevada  
 Public Lands Foundation  
 Public Resource Associates  
 Resource Advisory Council  
 Sandy Valley Public Water Preservation Association,  
 NV  
 Sierra Club  
 Southern Nevada Home Builders Assoc  
 Southern Utah Land Restoration Project  
 Southwest Regional Council of Carpenters  
 The Center for Biological Diversity  
 The Conservation Fund  
 The Nature Conservancy  
 The Wilderness Society  
 Utah Cattleman's Association  
 Utah Farm Bureau  
 Utah Property Rights Association  
 Western Environmental Law Center  
 Western Lands Project  
 Western Resource Advocates  
 Western Watersheds Project  
 Wilderness Impact Research Foundation

### 5.6.8 Companies and Businesses

7H Ranch, LLC	Focus Property Group	Northwest Pipe Co.
AECOM Environment	FX Energy, Inc.	Olympia Land Corporation
Ameron International Water	George Eldridge and Sons	Osceola Placer Mine
Transmission Group	Geotechnical & Environmental	Patagonia
Arid Lake Tree Nursery LLC	Services, Inc.	PBS & J
ASM Affiliates	Gl Ranch	Phillips and Jordan Inc.
Baker Ranches, Inc.	Gnomon Inc.	Placer Dome America
Barrick Gold of North America	Godec, Randall & Assoc	Quadra Mining Co.
Basin Research Associates	Granite Construction Co.	Quantum Utility Generation
Bengston Consulting	Grassetto Environmental	Rafter Lazy C Ranch
BEC Environmental	Consulting	Resource Concepts, Inc.
Black and Veatch	Hager & Hearne	Resource Land Holdings, LLC
BLT Lincoln County Land, LLC	Harris Farms and Desert Utilities	Saga Exploration Inc.
Blue Diamond Oil Corp	HDR	Sammons/Dutton
Bobcat Properties, Inc.	Hidden Canyon Ranch	Silver Jack Inn
Broken Tongue Land and	Holland and Hart	SNEI Environmental Consultants
Livestock	Horizon Wind Energy	Snowball Ranch
Butler Holdings, LLC	Humboldt Outfitters	Southern Nevada Water
C/O Kleinfelder	Huntsman Ranch, LLC	Authority
Cardno Entrix Environmental	ICF International	So NV Building Trades Council
Consultants	Idaho Power	Staheli Farms
Carter Cattle Company	Illumina Proquest	Stewart-Nevada Enterprises
Centerra U S, Inc.	Interstate Dist Inc.	Stine Farm
Chico Environmental Science	JBR Environmental Consultants	Summit Engineering Corp
and Planning LLC	Inc.	Sunnyside Ranch/ Rocking 13
Computa Cat Corner	John Espil Sheep Co	Ranch
Construction Notebook	John Uhalde and Company	SWCA, Inc.
D4 Enterprises	Jones & Stokes	Terraspectra Geomatics
Deep Creek Mountains Ranch	Kautz Environmental Consultants	Tetra Tech, Inc.
Desert Wildlife	KB Home Nevada Inc.	The Campbell Company
Dixie Power Water Light	KDJ Associates	Tin Cup Adventures
Telephone & Oil, Inc.	Kennedy Consulting Inc.	T-K Cattle
Double Horseshoe Ranch, LLC	KOA Campgrounds	Toiyabe Café, Inc.
Doug Lenier Productions	Larralde Sheep	Tomera Ranches, Inc.
Dunbar Stone Co., Inc.	Lewis Operating Corporation	Trail Mountain, Inc.
Dunseath Key Co.	Mark Fore and Strike	Trout Unlimited
Durham Resource Consulting	Meritage Homes of Nevada Inc.	Tsosie & Hatch
Eagle Exploration	Moltan Company	Union Pacific Railroad
Echohawk Law Offices	Moriah Ranches, Inc.	V Point Engineering
Egbert Livestock, LLC	Mt Wheeler Power Co	VLA
Ellison Ranching Co.	Natural Resources Project	Western Marble, Inc.
Executive Home Builders, Inc.	Management	White River Ranch, LLC
First National Bank	Nevada Bell	Wilkerson Consulting
Fish Creek Ranch, LLC	Nevada Land and Resource Co,	Wingfield Nevada Group
FM Fulstone, Inc.	LLC & Vidler Water	Wyman Engineering Consultants

### 5.6.9 Media

Deseret News	KWNA Radio
Elko Daily Free Press	Las Vegas Review-Journal
Ely Times	Las Vegas Sun
KKBR	Salt Lake Tribune
KLAS-TV 8	Sparks Tribune
KVMR FM	Tonopah Times

### 5.6.10 Academia and Libraries

Beaver Library, Beaver, UT  
 Cedar City Library, Cedar City, UT  
 Clark County Library, Las Vegas, NV  
 College of Marin, Kentfield, CA  
 Delta City Library, Delta, UT  
 Elko County Library, Elko, NV  
 Lincoln County Library, Alamo, NV  
 Lincoln County Library, Caliente, NV  
 Mesquite Library, Mesquite, NV  
 Nephi Library, Nephi, UT  
 Nevada State Library, Carson City, NV

Northwestern University, Evanston, IL  
 Tonopah Public Library, Tonopah, NV  
 Tooele City Library, Tooele, UT  
 University of Nevada, Reno, NV  
 Utah State Library, Salt Lake City, UT  
 Utah State University, Logan, UT  
 University of Utah, Salt Lake City, UT  
 Washington County Library, St. George, UT  
 Washoe County Library, Reno, NV  
 White Pine County Library, Ely, NV

### 5.6.11 Individuals

Aanerud, Leroy  
 Abeyta, Ruben  
 Aboite, Aurora  
 Ackerman, Frank  
 Adams, Alma  
 Ahlvers, Fred  
 Aincky, Taj  
 Airola, Jerry  
 Alastuey, Stephen  
 Alcock, John  
 Alder, Deana  
 Alder, Preston and Andrew  
 Alder, Renee  
 Alder, William and Mechell  
 Alderson, George and Frances  
 Alexander, Dave  
 Alexander, Pam  
 Allen, Kirby  
 Allen, Brian  
 Althiser, Ken  
 Ambrose, Marilyn  
 Anderson, Dean  
 Anderson, Don  
 Anderson, Jerald and Elizabeth  
 Anderson, Kelvin  
 Anderson, Leora  
 Anderson, Marci  
 Anderson, Phil  
 Art, Andrae  
 Andrus, George  
 Annala, Holly  
 Anpu, S  
 Apperson, Michael  
 Arias, Ricardo  
 Arnold, Harlan and Mary  
 Ash, Karen  
 Ashdown, Laurence  
 Assuras, Jim

Atkinson, Mark  
 Atkinson, Oskar  
 Austin, Jerry and Pat  
 B, Tina  
 Bacon, Patricia  
 Bagley, Reuvo  
 Bahe, Ernie  
 Baker, Craig  
 Baker, Janille  
 Baker, Tom  
 Baker, Sylvia  
 Balvan, Juan  
 Bammes, Dane  
 Banuelos, Clifford  
 Barber, John  
 Barber, Buck  
 Barcomb, Cathy  
 Barkanyi, Frank  
 Barkley, Michael  
 Barr, Quinton  
 Bateman, Kyle  
 Bates, Jerald and Marlene  
 Bath, Donna  
 Bath, James  
 Baughman, Curtis  
 Baughman, Mike  
 Beall, Karen  
 Beers, Frank  
 Belknap, William  
 Bell, Edward and Cynthia  
 Bell, Robin  
 Bell, Cindy  
 Belz, Vanessa  
 Benezet, Louis  
 Benkovich, Bob  
 Benner, Dianne  
 Bennett, Gary  
 Benson, Robert

Bentley, Clint  
 Bettger, Gerald  
 Bevins, Earle  
 Biederman, Albert  
 Bill, Jason  
 Bill, Larson  
 Bills, Christy  
 Binderim, Darin  
 Bingaman, Kim  
 Bingham, Kelly  
 Bird, Mark  
 Bishop, Ken  
 Bishop, Matt  
 Bitton, Sandra  
 Blair, Hank  
 Blankenship, Heidi  
 Blazej, Nova  
 Blazes, Sharon  
 Blethen, John  
 Bliss, Wayne  
 Bloeckner, Pat  
 Boeger, Karen  
 Bolas, Pam  
 Bole, Philip  
 Bonebrake, Bruce  
 Booth, Howard  
 Botich, Susan  
 Bowen, Cindy  
 Bowers, Bill  
 Bowersox, Rick  
 Bowler, Leon  
 Bowler, Stuart  
 Boynton, Robin  
 Bradfield, Dane  
 Bradshaw, Les  
 Brady, Steve  
 Brailsford, Judith  
 Branch, Angie

Brandt, Joy	Center, Arthur	Dazey, M. Lee
Brauer, Jim and Ann	Chachas, Gregory	De Queiroz, Alan
Breitrick, John	Chamberlain, Alan	Deacon, James
Brett, Monica	Charles, Stanley	Dean, Jo
Brewster, Thomas	Childs, Douglas and Karma	Dean, Lance
Brister, Bob	Christensen, Michael	Dearden, William
Broadwell, Jane	Christensen, Scott	Dekker, Sheryl
Brost, Gary	Christiansen, John	Delarosa, Mario
Brown, Charles	Clark, J.M.	Deleon, Franklin
Brown, David	Clark, Lois	Delmue, Frank
Brown, Tom	Clark, Skip	Delmue, Pete
Brown, Jed and Sherie	Clarksmith, Shea	Deneris, Jamie
Brown, Meghan	Clayborne, Christine	Deneris, Jamie
Brunick, Cathy	Clayton, Boyd	Denison, Lou Anna
Brunson, Victoria	Clayton, Eugene	Derbidge, Dale and Linda
Brunson, Pat	Clayton, Thomas	Despain, Joel
Brussard, Peter	Cleary, Rex	Dewey, Martha
Brynsen, Patrick	Clemens, Mark	Dewolfe, Terry and Tilda
Buchanan, Tim	Clifford, Paul	Dewyze, James and Beverly
Buettner, Louise and George	Coache, Robert	Dexheimer, Heidi
Bunker, Clyde	Coffman, William	Di Cianno, Rom
Bunker, Dale	Cokinos, Christopher	Diaz, Jay
Bunn, Ralph	Colip, Carol	Dickinson, Kathleen
Burns, Heather	Collett, Hugh and Louise	Diederichs, Barbara
Burton, Keith	Collins, Martha	Dingeman, Chris
Busch, Dixie	Connor, William	Dixon, Joanne
Bush, Clarence and Marty	Conrad, Joie	Dolezal, Bob
Busselman, Doug	Cooper, Victoria	Domingo, Deanna
Bustos, Millie	Corbett, Carol	Doney, Jim
Buttars, Chris	Corley, Bee	Donnan, Patrick
Butts, William	Corroon, Peter	Donoho, Mike
Caan, George	Covington, Hilton	Dore, Sandra
Cabble, Kevin	Cox, Bruce	Dotson, Tim
Cadigan, Kathy	Crawford, Eldon	Douglass, Buck
Caldwell, Patrick	Crockett, Chris	Downer, Craig
Campos, Salina	Crook, Sharon	Draper, Dean
Campos, Anastasia	Crouch, Robin	Dressler, Frederick
Caputa, Jere	Cruikshank, Laurie	Dudek, Stacey
Card, Gary	Csenge, Richard and Debra	Dudley, Chris
Carlson, Wallace and Fay	Curtis, Janet	Duff, Donald
Carpenter, John	Cushman, Kathryn	Dunne, Loretta
Carrier, Scott	Daboda, Iris	Dunning, Jan
Carriger, Doug	Dabrowski, Thomas	Dupree, Gale
Carriger, Linda	Dahl, Demar	Dutson, Larry
Carson, Andrew	Dailey, Chris	Edwards, Judy
Carson, Doug and Laurie	Dall, Brent	Ehrenpfort, Jeffrey
Carson, Millie	Dalley, Lindsey	Einert, Martin
Carson, Paula	Dalton, Billie	Eisele, Judith
Carson, Paula	Danner, Jim	Ekker, Jeni
Carter, Dean and Dona	Davidson, Bill	Eldred, Lisa
Carter, Jacob	Davis, Gene	Eldridge, Nancy
Case, Jim	Davis, Jessica	Ellison, John
Casper, Sharla	Davis, Matt	Elmer, Gary
Castles, Judy	Davis, Nolan	Emanuel, Richard
Cazier, Jim	Davize, Lynn	Erickson, Steve
Cencula, David and Nancy	Day, Rutherford	Eriksen, Lisa

Ernst, Gordon and Karen  
 Erving, Rob  
 Ewell, Randy  
 Ewers, Annette  
 Fadic, Brian  
 Fagg, Flinn  
 Fairchild, Sandra  
 Fakharzadeh, Jahan and Gaynell  
 Fascio, Sylvia  
 Feldman, Mark  
 Felling, Rick  
 Ferguson, Andy  
 Ferguson, Carol  
 Feshold, Jayne  
 Fields, Genevive  
 Fillman, Kristine  
 Fillman, Pat  
 Fitch, James  
 Fitzgerald, Kathryn  
 Foley, Helen  
 Foppiano, Gordon  
 Ford, Peter  
 Ford, Peter  
 Foss, Donald  
 Foss, Donald  
 Frankel, Zachary  
 Franklin, Naomi  
 Free, John  
 Frehner, Sebrina  
 Frey, David  
 Frisbie, Wayne  
 Frishman, Stewart  
 Fritts, Connie  
 Fryer, Shane  
 Fulkerson, Bob  
 Fulkerson, Cathy  
 Furter, Bob  
 Gallegos, Frank  
 Garabedian, Vivian  
 Garber, Alan and Marsha  
 Garber, Wilda  
 Garcia, Edgar  
 Garcia, Vince  
 Garcia, Vince  
 Garia, Jim  
 Garwood, Gary and Leah  
 Gassaway, Bill  
 Gates, Mary Alice  
 Gatzke, Holly  
 Gerber, Travis  
 Germany, Cynthia and Jim  
 Gesick, Tom  
 Ghiglieri, Dennis  
 Ghigliotty, Janet  
 Giannopoulos, George  
 Gilmore, Connie  
 Ginburg, Michael  
 Gissen, David  
 Gledhill, Elizabeth  
 Golden, Dennis  
 Gomez, Isidro  
 Gonder, Guy  
 Goodwin, Barbara  
 Goodwin, Jerry  
 Gordon, TJ  
 Green, Dale  
 Green, Emily  
 Green, Emily  
 Green, Linda  
 Green, Robert  
 Greer, Helen  
 Greil, Jim  
 Griffiths, Kay  
 Grizzle, Darcy  
 Gronning, Llyod  
 Guild, Joe  
 Gumble, Linda  
 Guymon, Brad  
 H, Carol  
 Hafen, Brent  
 Hallock, Sheila  
 Hamby, Don  
 Hamilton, Jack  
 Hammelrath, Catherine  
 Hammons, Jim  
 Hancock, Charles  
 Hanley, Patrick  
 Hansen, John and Anita  
 Hanson, Jack  
 Hardy, Cresent  
 Harlow, Gayle  
 Harmon, Pollyana  
 Harrill, Jim  
 Harris, Tom  
 Hart, Joan  
 Hartmann, Shelley  
 Hatch, Roger  
 Hatch, Thomas  
 Hatch, Thomas  
 Hathaway, Dan  
 Hausch, Mary  
 Hausett, Mary  
 Hayward, Dean  
 Hayward, WM  
 Hearn, Daniel  
 Heckethorn, Anne Marie  
 Heinz, Dan  
 Heise, Dorothy  
 Heistand, Dorothy  
 Held-Warmkessel, Jeanne  
 Hemstreet, Dale  
 Henderson, Jay and Kaye  
 Hendrix, Wayne  
 Henkes, Anne-Marie  
 Hepworth, Brent  
 Hepworth, Dorthea  
 Hepworth, Jerry  
 Herishny, Leo  
 Herman, Larry  
 Hernandez, Donna  
 Herring, Al  
 Herskovits, Simeon  
 Hiatt, John  
 Higgins, J  
 Highes, Vaughn  
 Hill, Kathy  
 Hines, Laurie  
 Hinton-Rebiejo, Betty  
 Hissong, Jack  
 Hoffman, Lyle  
 Holladay-Vernon, Barbara  
 Holloway, Bruce  
 Holmes, Stanley  
 Holt, Wesley  
 Hooper, Bryan  
 Hooper Dewey, Darlene  
 Horman, Lorry  
 Hornbeck, Diane and Leslie  
 Hornbeck, Ronda  
 Horsley, Ronald  
 Hoskins, Wes  
 Howe, Richard  
 Howerton, Brent  
 Huddle, Mike  
 Huggins, William  
 Hughes, Arlin  
 Hughes, Laurelle  
 Hulihan, Sharon  
 Hundt, Heather  
 Hunt, Jeff  
 Hunt, Troy  
 Hurst, Tom  
 Hutchings, John  
 Hutchings, Tom  
 Inkel, Ray  
 Ithurralde, James  
 Iverson, Clay  
 Ivie, Rod  
 Jackson-Kelly, Loretta  
 Jakovina, Robert and Harriet  
 James, Greg  
 Jennings, Don  
 Jennings, Robyn  
 Jensen, Eva  
 Jensen, Lorraine  
 Johnson, Abigail  
 Johnson, Abigail  
 Johnson, Linda

Johnson, Linda  
 Johnson, Peggy  
 Johnston, Bob  
 Johnston, Jerry  
 Jones, Anne  
 Jones, Dundee  
 Jones, Rachel  
 Jones, Terry  
 Jones, Wayne  
 Juelton, Susan  
 Kagan, Ted  
 Karst, Gary  
 Kasold, Ernest  
 Kauneckis, Derek  
 Kearney, Mary  
 Keazler, Debira  
 Keller, Phyllis  
 Kellett, Michael  
 King, Steve  
 Kingston, Merlin  
 Kirkham, John  
 Klawitter, Alan  
 Knopick, Suellen  
 Kogan, William  
 Koyle, Denys  
 Kuver, Walt  
 La Schiava, Dona  
 Lambert, Anne  
 Lani, Kara  
 Larsen, Electra  
 Larsen, Larry  
 Lascink, Russ  
 Lauritzen, Martha  
 Lazar, Andrea  
 Leach, Roy  
 Lear, Joline  
 Leavitt, Robert  
 Leclair, Margaret  
 Ledenich-Coronado, Elizabeth  
 Lee, Mary and Ian  
 Lee, Martha  
 Lee, Willie  
 Leeder, Charles  
 Leeder, NancyAnn  
 Lefevre, Cathy  
 Leonakis, Timothy  
 Leonard, Rex  
 Leonard, Rowena  
 Lewis, Janis  
 Lewis, Jennifer  
 Lewis, Rex  
 Lewis, Robert  
 Lindsay, Mardi  
 Livermore, Dave  
 Lizardo, Sherry  
 Lloyd, Jason

Loper, Nevada  
 Loupias, Louis  
 Lugo, Diane  
 Luke, Barbara  
 Lurie, Ron  
 Luttmann, Rick  
 Luzier, Mary  
 Lydon, Matt  
 Lytle, Eldon  
 Lytle, Farrel  
 Lytle, Kenneth  
 Lytle, Larry  
 M., Ramiro  
 MacLaughlin, John  
 Mahoney, Dennis  
 Maichle, Bob  
 Malkmus, Carl  
 Mann, Virginia  
 Marchen, Pat  
 Mariam, Lyle  
 Marie, Logan  
 Marjite, Andrew  
 Marques, Matt  
 Marshall, Jack  
 Martin, Jerry  
 Mason, Russ  
 Mathews, Rob  
 Matos, Samuel  
 Matusz, Judy  
 Mauger, Gary  
 Maynard, Marc  
 McAnallen, Brian  
 McCarill, William  
 McCarthy, Charice  
 McCarthy, Curtis  
 McCarthy, Curtis  
 McCormick, Larry  
 McCrum, George  
 McCulloh, Richard  
 McCullough, Megan  
 McCurdy, Catherine  
 McDaniel, Cindy  
 McGloin, Joe  
 McGowan, Dave  
 McGuire, Matthew  
 McGuire, Pat  
 McKee, John  
 McKenzie, Les  
 McLane, Alvin  
 McMahill, Steve  
 McNaught, Holly  
 Meinhardt, Robert  
 Meleo, Anthony  
 Melvor, Don  
 Memory, Lorraine  
 Merino, Carl

Messon, Chris  
 Metzker, John  
 Meyer, Carla  
 Meyers, Marc  
 Mierzwa, Abe  
 Mifflin, Martin  
 Miles, Clark  
 Miles, Clark  
 Miller, David  
 Mills, Rebecca  
 Mills, Ron  
 Milne, Martha  
 Milton, John  
 Mitchell, Gary  
 Mitchell, Jeff  
 Mitchell, John  
 Mitchell, Thomas  
 Moore, David and Roberta  
 Moore, Jack  
 Moore, Robert and Miyobo Ono  
 Mora, Gabriella  
 Moradkhan, Paul  
 Moreland, Kirsten  
 Morini, Ryan  
 Morphis, Huel  
 Morris, Christy  
 Morris, Mike  
 Morrison, Brian  
 Morrison, Fran  
 Morros, Peter  
 Mortenson, Helen  
 Mousset-Jones, Pierre  
 Mullen, Kyla  
 Murphy, Joe  
 Murray, Jane  
 Myers, Marc  
 Naslund, Dave  
 Nedreberg, Heidi  
 Nelson, Douglas  
 Nelson, Margaret  
 Neuffer, Dan  
 Neuman, Tom  
 Neville, Helen  
 Newton, Alice  
 Nicholson, Kay  
 Nickerson, Robert and Joyce  
 Nickerson, Joyce  
 Nielsen, Karen  
 Nielson, Grant  
 Nielson, John  
 Nimmo, James  
 Noel, Mike  
 Northrop, Joan  
 Norton, Carrie  
 Odonnell, David  
 Oettinger, M.J.

Olds, Jerry  
 Olver, Martha  
 Omer, Don and Anne  
 Oppenborn, Tod  
 Orrock, Kevin and Diana  
 Otero, Kelly  
 Ott, Robert  
 Otzelberger, Maureen  
 Overbey, Linda  
 Paglia, Laila  
 Palmer, Bruce  
 Palmer, Don and Betsy  
 Palmer, Rebecca  
 Pasek, Michael  
 Patera, Jim  
 Pattani, FJ  
 Patty, James and Mary Jo  
 Paulsen, Ashley  
 Pavelko, Mike  
 Peacock, Russel  
 Pearson, Keith  
 Pearson, Wayne  
 Pelmler, Pete  
 Peltier, Michelle  
 Pense, Margaret  
 Pepitu, Rosie  
 Perez, Angela  
 Perkowski, John  
 Perkowski, John  
 Pete, Clell  
 Pete, Darrell  
 Peterson, Kimberly  
 Pettegrew, Joesph  
 Pettrson, Kim  
 Petty, Michele  
 Phillips, Alan  
 Phillips, Dorothy  
 Phillips, Matthew and Cecil  
 Phillips, Vaughn  
 Piani, James  
 Pickles, Raymond  
 Pietrocola, Joanne  
 Platt, Steve  
 Plumley, Patrick  
 Pohlman, Robert  
 Polman, Ken  
 Powell, Pat  
 Powell, Ralph  
 Powers, Sharon  
 Prescott, Yvonne  
 Prigge, Dianne  
 Pritchler, Allan  
 Prospect, David and Anna  
 Pruitt, Robert  
 Public, Jean  
 Purdy, Jerry  
 Rainey, Laura  
 Rajala, Karen  
 Raker, Michael and Linda  
 Ransky, Mr.  
 Rawlings, Merle  
 Reddy, Sarmeesha  
 Reed, Genevieve  
 Reedy, Denise  
 Reid, Don  
 Reid, Frank  
 Renfro, Melissa  
 Reuther, Sandra  
 Reynolds, Allene  
 Reynolds, Marc  
 Reynolds, Ronda  
 Rice, Colleen  
 Richards, Mark  
 Riddle, Dan and Vikki  
 Rideatthedoor, Ruby  
 Robb, Gaylord  
 Roberts, Roslynn  
 Robinson, James  
 Robinson, Kae  
 Robinson, Kirk  
 Robinson, Raymond  
 Robison, Lowell  
 Robison, Russell  
 Roche, Evelyn  
 Rodefer, Marilyn  
 Rodeffer, Amanda  
 Roderick, Kim  
 Roderick, Rachel  
 Rogers, Mark  
 Rolland, Ruth  
 Romero, Jeannette  
 Rose, Donald  
 Rosenfeld, Susan  
 Rosevear, Thomas  
 Rosia, Ashley  
 Rothfuss, Ed  
 Rothwell, Shelley  
 Rountree, William and Katherine  
 Routson, Sam  
 Rowley, Lavon  
 Rugar, Bruce  
 Russell, Robert  
 Ryberg, Erik  
 Sachau, B  
 Sacrison, Ralph  
 Sakellaropoulo, Jambrina  
 Samson, Jerry  
 Sanda, Carla  
 Sanders, John  
 Sanders, Patricia  
 Sanders, Tom and Phyllis  
 Sandoval, Suzanna  
 Satriano, Michael  
 Sawyer, Kurt  
 Schaliez, Patsy  
 Schanp, Jnek  
 Scherschel, John  
 Schlegel, Jane  
 Schmidt, Linda  
 Schmidt, Owen  
 Schmit, Thomas  
 Schmitt, Richard  
 Schmutz, Eldon  
 Schmutz, Ray  
 Schneider, William  
 Scholley, Susan  
 Schuessler, Gail  
 Schultz, Stephen  
 Schumann, Doris  
 Scott, Bruce  
 Scutt, Pamela  
 Segerblom, Gene  
 Sendlein, Steve  
 Sersland, Harold  
 Seyfriedtr, William  
 Shanks, Donald  
 Sharp, David  
 Sharp, Randy  
 Shaw, Adam  
 Shearer, Doug  
 Sheppard, John  
 Sheppard, Nomi  
 Shields, Arnold and Shirlee  
 Shih, Cheng  
 Shipp, Jon  
 Shipton, Mary Lou  
 Shipton, Vern  
 Simkins, Connie  
 Sims, John  
 Sims, Robert and Franci  
 Sinkins, Connie  
 Sip, Larry  
 Skoubye, Nathan  
 Skrzynski, Leann  
 Slagowski, Carl  
 Slocum, Maureen  
 Slone, Sid  
 Smith, Barry  
 Smith, Barry  
 Smith, Frank  
 Smith, Gibbs and Catherine  
 Smith, Katherine  
 Smith, Matt  
 Smith, Verlie  
 Smith, Verlin  
 Smoller, Nancy  
 Smucker, Richard  
 Snyder, Kelly

Sochat, Barry  
 Sonnenberg, Dennis  
 Sorensen, Blake and Clare  
 Sorrells, Susan  
 Soto Rivera, Kristina  
 Souza, Alice  
 Spear, Edwin  
 Spotleson, Vinny  
 Spotts, Richard  
 Sprengle, Nancy  
 Spronenmeyer, Bob  
 Stazeski, Michael  
 Stazeski, Theodore  
 Stazeski-Colanta, Anne  
 Stazeski-Luken, Claire  
 Stead/Younce, Lynda  
 Steadman, Jerry  
 Stearns, Jack  
 Steele, Rupert  
 Steninger, Al  
 Stensaas, Suzanne  
 Stevens, Brady  
 Stevens, Lynn  
 Stever, Deanna  
 Stever, Keith  
 Stewart, Edward  
 Stitzel, Rita  
 Stiver, Suzanne  
 Stokes, Donald  
 Stoldal, Robert  
 Stowell, Dennis  
 Strickland, Rose  
 Strickland, Rose  
 Stubbs, Barry  
 Styler, Michael  
 Sullivan, John  
 Summers, Jan  
 Sutherland, Steve  
 Swanson, William  
 Sweetwater, Sarah  
 Swenson, Tracy  
 Tagawa, Ann  
 Taylor, Bob  
 Taylor, Jackson  
 Taylor, Ronald  
 Taylor, Teresa  
 Taylor, Val  
 Teasley, Regi  
 Terril, Mike  
 Thalma, Joseph

Thomas, Jill  
 Thompson, Richard and Jean  
 Thornton Potorti, Grace  
 Thrasher, Thomas  
 Thuemler, Julie  
 Thuemler, Patrick  
 Tienken, Dixie  
 Tilford, Dave  
 Timm, Brittney  
 Tingey, Orson  
 Tolbert, Verl  
 Tousseau, Laura and Mel  
 Treichel, Judy  
 Tresner, Carol  
 Trost, Carol  
 Trousdale, Daniel  
 Trousdale, Ronald  
 Truman, Emma  
 Twedt, Peggy  
 Upton, Randy  
 Urie, Roy  
 Ursu, John  
 Valentine, Jim  
 Valentine, Virginia  
 Valentine, Virginia  
 Van Dyke, Bruce  
 VanWagon, Bob  
 Vaydik, Frank  
 Velasco, Mario  
 Vincent, Luke  
 Vogt, Tim  
 Vohl, Anne  
 Wade, Lavar  
 Wadsworth, James  
 Wadsworth, John  
 Wadsworth, Jule  
 Wagner, Robert  
 Wagner, Sandra  
 Wahl, Bill  
 Wahler, Jacob  
 Walker, Kathy  
 Walker, Kathy  
 Wallace, Tom  
 Wallis, Don  
 Walsworth, Dan  
 Walter, Robert  
 Walter, Theresa  
 Wardlaw, Jon  
 Watrous, Frank  
 Watson, Harry

Watson, Patti  
 Weisbrot, Ed  
 Wells, Karen  
 Wertz, Clint  
 West, Jim  
 Wetmore, Susan  
 Whealan, William  
 Wheeler, Darwin and Chris  
 Whetstone, Kirsten  
 Whipple, John  
 Whitney, Bill  
 Whitney, Donald  
 Wilkin, Carla  
 Wilkin, James  
 Wilkinson, Barbara  
 Wilkinson, J.  
 Williams, Donald Cynthia  
 Williams, George  
 Williams, Jason  
 Willis, Frederick  
 Willis, Glee  
 Willis, John  
 Wilshire, Howard  
 Wilson, Holly  
 Wilson, R  
 Wilson, Bill  
 Winston, Mary  
 Woffinden, John  
 Wood, Matt  
 Woodruff, Jeff  
 Woodruff, Jeff  
 Woodyard, John  
 Woolsey, Sarah  
 Wozniak, Shawn  
 Wright, Preston  
 Wurmnest, Jack  
 Wyllie, Darlene  
 Wyman, Richard  
 Yocom, Myrn  
 Yupe, Julie  
 Yurkovich, Kyle  
 Zeig, Jessica  
 Zelasko, Sandy  
 Zelch, Glennon  
 Zietlow, Matt  
 Zuckerman, Linda  
 Zumpft, Lisa  
 Zurschmiede, James

## 6. List of Preparers and Reviewers

### 6.1 Bureau of Land Management EIS Team

BLM Office/Team Member	Resource/Responsibility
<b>Nevada State Office</b>	
Amy Lueders	State Director
Penny Woods	Project Manager
Kim Dow	Deputy Project Manager, Natural Resources Lead, Wildlife Biology, Natural Resource Coordination
Kathy Cadigan	Administrative Record, Correspondence, Media
Sarah Peterson	State Office – Soil, Water, and Air Resources
David Jones	State Office – Air Quality
Tom Burke	State Office – Cultural and Tribal
Sandra Brewer	State Office – Wildlife Biologist
Jolynn Worley	Public Affairs
<b>Ely District Office</b>	
Rosey Thomas	District Manager
Mike Herder	Associate District Manager
Mary D'Aversa	Field Manager, Schell Field Office
Dan Netcher	Renewable Energy Project Manager, Ely Liaison, NEPA, Hazmat, Water, Geology, Mineral Resources
Elvis Wall	Tribal Consultation, Native American Concerns
Travis Young	NEPA
Melanie Peterson	Hazardous Materials/Safety
Dave Davis	Geology
Gus Malon	Wilderness, Visual Resource Management
Paul Podborny	Renewable Resources Supervisor, Schell Field Office
Jay Raiford	Non-Renewable Resources Supervisor, Schell Field Office
Ben Noyes	Wild Horse and Burro Management
Craig Hoover	Range Management
Shawn Gibson	Archaeology

## 6.1 Bureau of Land Management EIS Team

<b>BLM Office/Team Member</b>	<b>Resource/Responsibility</b>
Nancy Williams	Wildlife
Alicia Styles	Section 7 Consultation
Mindy Seal	Noxious Weeds, Vegetation, Riparian, Wetlands
Mark D' Aversa	Soils and Hydrology
Adam Johnson	Forestry, Fire
<b>Southern Nevada District</b>	
Catrina Williams	Southern Nevada District Liaison
Gayle Marrs-Smith	Management Oversight
Susanne Rowe	Cultural/Tribal, Southern Nevada
Mark Slaughter	Biology
Lisa Christianson	Air Quality
<b>Utah State Office</b>	
Verlin Smith	Branch Chief, Natural and Renewable Resources
Justin Jimenez	Coordinator – SNWA Project and Riparian/Fisheries Lead
Roy Smith	Water Rights, Hydrology
Jeremy Jarnecke	Soil, Water, Air
Ron Bolander	Botany and T&E Species
Steve Madsen	Wildlife
Phillip Zieg	Water Rights
Craig Egerton	Range
<b>National Operations Center, Denver, Colorado</b>	
Paul Summers	Hydrology

## 6.2 AECOM EIS Team (Third-party Consultant)

AECOM Team Member	Responsibility/Resource	Degree/Certifications	Experience (years)
Scott Ellis	Principal in Charge	BS Biology & English	39
Debby Sehi	Project Manager; Agency Liaison	BS Environmental Health	16
Rollin Daggett	Assistant Project Manager; Aquatic Resources	MS Freshwater & Marine Biology BS Zoology	36
Jamie Schlangen	Wildlife Biology	MS Applied Ecology MS National Resource Management and Environmental Policy BS Wildlife Ecology	11
Ellen Dietrich	Soils; NEPA Compliance	Graduate Studies, Soil Science/Archaeology BA Archaeology/Geology	39
Patrick Plumley	Water Resources	MS Geology BS Geology	24
Chris Dunne	Project Coordination; Wild Horses and Burros; Grazing/Range Management	BS Range Science	5
Ron Dutton	Socioeconomics; Environmental Justice	MS Economics BS Economics	33
George Blankenship	Environmental Justice	MA Urban and Regional Planning/Community Development BA Anthropology BA Social Work	31
Kim Munson	Cultural Resources; Native American Concerns	MA Anthropology BA Anthropology Integrating Cultural Resources into NEPA Compliance Heritage Resources Management - Section 106 Review	16
Bill Berg	Geology; Paleontology; Minerals	MS Geology BS Geology	34
Jeremy Call	Visual Resource Management	MS Landscape Architecture BA Humanities	8
Randy Walsh	Vegetation	BS Natural Resources Management MS Forest Sciences	12
Courtney Taylor	Air and Climate	MS Atmospheric Science BA Environment, Economics, and Politics	10

## 6.2 AECOM EIS Team (Third-party Consultant)

AECOM Team Member	Responsibility/Resource	Degree/Certifications	Experience (years)
Melanie Martin	Recreation, Special Designation Areas, Land Use, Transportation	BS Environmental Policy and Management, Natural Resource Management BA Advanced Study in Natural Resource Management BS Agriculture, Environmental Protection	13
Todd White	GIS	MCP Community Planning Environmental Science MA Anthropology BA Geology	15
Brent Read	GIS	M.S. Watershed Science B.S. Forestry	9
Adele Gard	Document Production	College Coursework	20
Debbie Thompson	Document Production/Printing Liasion.	College Coursework	20
Bruce Flinn	NEPA Review and Compliance; BLM Policies	Retired BLM Manager	34
John Godec	Public Participation/Facilitator	BA Communication MS Management	30

## 6.3 Cooperating Agencies

### Federal Agencies

- Department of Agriculture, Forest Service (USFS)
- Department of Defense, Army Corps of Engineers (USACE)
- Department of Defense, Nellis Air Force Base
- Department of Interior, Bureau of Indian Affairs
- Department of Interior, Bureau of Reclamation
- Department of Interior, Fish and Wildlife Service (USFWS)
- Department of Interior, National Park Service

**State Agencies**

- Nevada Department of Wildlife (NDOW)
- State of Utah

**Local Agencies**

- Central Nevada Regional Water Authority
- Nevada Counties: Clark, Lincoln, White Pine
- Utah Counties: Juab, Millard, Tooele

**6.4 Other Agencies****Nevada State Engineer's Office**

The Nevada State Engineer's Office participated in the Groundwater Development Project as an observer. They will be provided a copy of the Final EIS when it is released to the public.

**U.S. Geological Survey**

The USGS has contributed to the NEPA process in the role of Technical Advisor to the BLM. Their assistance has included review of the project water model and technical advice regarding the design, calibration, and results of the modeling. This role also included review of the preliminary and administrative drafts of this Final EIS and they will be provided a copy of the Final EIS when it is released to the public.