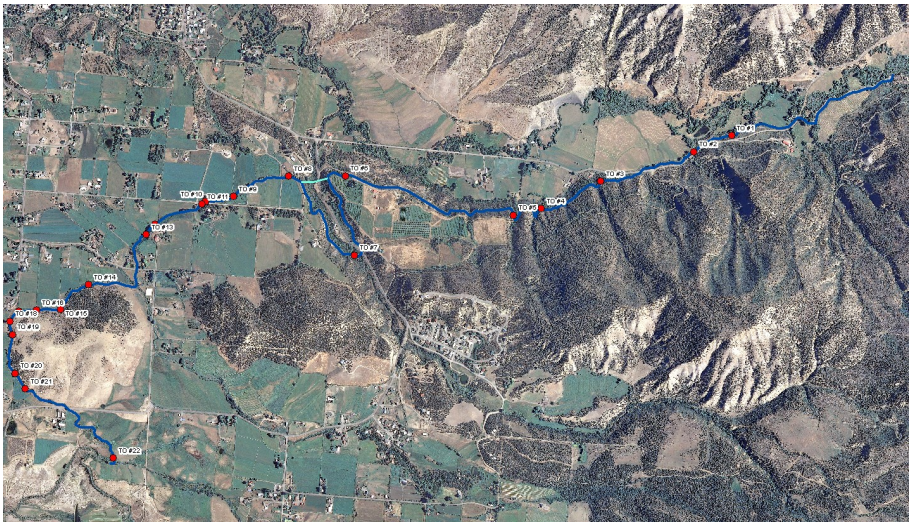
Minnesota Canal EA

Final Environmental Assessment

Minnesota Canal and Reservoir Company Piping Project 2012-2014

Paonia, CO
Delta County, Colorado



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1.0 PROPOSED ACTION

The Minnesota Canal and Reservoir Company (MCRC) of Paonia, Colorado is a private, non-profit, mutually funded irrigation company that manages several miles of water conveyance ditches, canals, and reservoirs in Delta County, Colorado. One of the canals managed by the MCRC is the Minnesota Canal. The Canal diverts water from Minnesota Creek east of Paonia to irrigate agricultural lands west and southwest of the point of diversion. The MCRC has received a grant through the Bureau of Reclamation (Reclamation), in association with a Basinwide Salinity Control Program, aimed at reducing the amount of salt and selenium that reaches the Colorado River. Over the course of the project (2011–2015), the MCRC plans to alter the initial 5.2 miles (mi.) (27,479 ft.) of the Minnesota Canal by replacing the earthen canal with pipe. The project also includes modifications to the diversion structure on Minnesota Creek. Water levels on Minnesota Creek would be controlled by replacing the existing stoplogs with an automated gate. A small portion of the concrete structure would be removed and reconfigured to incorporate a coanda screen. Diverted water would pass through this screen into the existing settling basin. At the end of this basin a concrete spill structure will be installed. This structure will incorporate a broad crested weir to measure flows and a spillway and slide gate to allow the user to adjust flows as necessary. Flows in excess of the desired flow would be returned to the creek through an existing bypass channel. In addition, the company has proposed the construction of an inverted siphon across Dry Gulch, which would effectively eliminate a 4,380-ft.-long section of the canal. This siphon would be buried along the sides of the gulch but would be exposed where the siphon crosses the creek. The exposed pipe will be composed of steel and located approximately 5 feet above the channel bottom. The existing spillway structure at Lucas Creek will also be replaced with similar structure that will incorporate a control gate to limit flows in the canal downstream of the project reach. The project area is east and southeast of Paonia from the canal's point of diversion in the Minnesota Creek valley and onto Lamborn Mesa (Figure 1).

1.1 NEED FOR AND PURPOSE OF ACTION

This environmental assessment (EA) evaluates the effects on the human environment from the piping of portions of the Minnesota Canal. Applegate Group, Inc. prepared this EA in cooperation with other federal and state agencies to comply with the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), and related U.S. Department of the Interior policies and regulations. If, based on this analysis, Reclamation concurs with the findings that the proposed action would have no significant impact on the human environment; preparation of an Environmental Impact Statement would not be required before the action could be implemented.

The Colorado River and its tributaries provide municipal and industrial water to about 27 million people and irrigation water to nearly four million acres of land in the United States. The river also serves about 2.3 million people and 500,000 acres in Mexico. The threat of salinity is a major concern in both the Unites States and Mexico. Salinity affects agricultural, municipal, and industrial water users.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320, which directed the Secretary of the Interior to proceed with a program to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico. In October 1984, Congress amended the original act by passing Public Law 98-569.

Public Law 104-20 of July 28, 1995, authorizes the Secretary of the Interior, acting through the Bureau of Reclamation, to implement a basinwide salinity control program. The Secretary may carry out the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require.

1.2 LOCATION AND ENVIRONMENTAL SETTING

The Minnesota Canal crosses both private and BLM lands near the town of Paonia in Delta County, Colorado. From its point of diversion on Minnesota Creek, the examined segment of the canal crosses portions of Section 2, 3, 4, 5, 8, and 9 in Township 14 South, Range 91 West of the 6th Prime Meridian (Figure 2 and Figure 3). Elevations along the canal range from 6,040 ft. (1,841 m) to 5,920 ft. (1,807 m). The project area is within the North Fork of the Gunnison River valley (North Fork Valley) on the eastern edge of the Colorado Plateau physiographic province not far from the transition to the Southern Rocky Mountains. The valley is bounded on the north by the basalt-capped Grand Mesa and on the south by the West Elk Mountain range. It was formed by the waters of the North Fork of the Gunnison River, which is fed by several high-country streams draining from the West Elk Mountains and Grand Mesa. The valley begins about 4 mi. to the northeast of Paonia where the steep-walled canyon of the North Fork River gives way to a 3 mi.-wide, alluvial-floored expanse that extends west-southwest for 16 mi. where it meets the main stem of the Gunnison River. The valley, along with its bounding mesas, lies within the Mesaverde Formation deposited during the Cretaceous age around 70 million years ago. The formation is a sequence of interbedded sandstone, siltstone, shale, and coal and was deposited along the shallow shorelines of an ancient receding sea. The formation contains coal deposits that have been mined north of Paonia and continue to be mined northeast of the town in Somerset. The sediments of the project area are Cretaceous-age Mancos shale and restricted areas of Quaternary-age gravels and alluviums (Tweto 1979). Collectively, the sediments are the foundation of rich agricultural lands made productive by irrigation.

1.3 BACKGROUND INFORMATION

COLORADO RIVER BASIN SALINITY CONTROL PROGRAM

The program's overall goal is to cost-effectively reduce the amount of salinity in the river water. Reclamation's Basinwide Salinity Control Program opened the program to competition through a 'Funding Opportunity Announcement' process which has greatly reduced the cost of salinity control. New salinity control projects are funded by a one-time grant that is limited to the sponsor's competitive bid. Once constructed, the facilities are owned, operated, maintained, and replaced by the sponsors at their own expense.

1.4 SCOPING

Scoping was primarily limited to MCRC, Applegate Group (AG), U.S. Fish and Wildlife Service, Colorado Parks and Wildlife, and the Colorado Historic Preservation Officer. Alternatives evaluated in this EA are limited to the Proposed Action and No Action alternatives. The alternatives are discussed in Chapter 2. During scoping, AG identified the following potential issues and concerns described below which are discussed in greater detail in Chapter 3.

Water Resources

Diversion Dam Operations and Water Rights—The Minnesota Canal provides water for irrigation. Piping of the Minnesota Canal should not interfere with canal operations or adversely affect the ability to use water for irrigation.

Water Quality—Piping the existing canal provides additional water quality benefits beyond salinity reduction. Selenium concentrations would also be reduced by piping the existing Minnesota canal.

Land and Facilities Resources

Access—MCRC is responsible for obtaining all needed right-of-way and landowner consent prior to construction of the project.

Fish and Wildlife Resources

Effects on Fish and Wildlife Habitat—Public Laws 98-569 and 104-20 requires that "*the Secretary shall implement measures to replace incidental fish and wildlife values foregone*" and the development of a program that "*shall provide for the mitigation of incidental fish and wildlife values that are lost as a result of the measures and associated works the replacement of fish and wildlife values foregone*".

Cultural Resources

Historic Resource Preservation—Federal agencies are responsible for ensuring that they take into account the effects of their actions on significant cultural resources and for complying with the National Historic Preservation Act, **36** CFR Part 800, and other historic preservation requirements. Because the project is federally authorized and funded, various cultural resources laws apply. Federal mandates for the examination of the project area include the National Preservation Act of 1966 (as amended), the Archaeological and Historic Preservation Act of 1974, the Federal Land Policy and Management Act of 1976, the Archaeological Resource Protection Act of 1979 (as amended), the Native American Graves and Repatriation Act, and the procedures of the Advisory Council on Historic Preservation (36 CFR 800). These laws require that all significant cultural resources be identified prior to planned development, and are intended to insure that historic and prehistoric cultural resources important to our national heritage are not inadvertently harmed or destroyed by federally initiated or authorized actions.

CHAPTER 2-PROPOSED ACTION AND ALTERNATIVES

Alternatives evaluated in this draft environmental assessment include the No Action and Proposed Action Alternatives.

No Action Alternative

Under this alternative, Reclamation would not provide funding to MCRC to pipe the given portion of the Minnesota Canal, including the inverted siphon over Dry Gulch. Seepage from the canal continues to contribute to salt loading in the Gunnison and Colorado Rivers. Riparian and wetlands habitats associated with the Minnesota Canal and associated laterals would likely remain in place and continue to provide some benefits to local wildlife.

Proposed Action
Under the Proposed Action, MCRC would pipe approximately 5.2 miles of the Northern Minnesota Canal as well as construct an inverted siphon across Dry Gulch, effectively eliminating a 4,380-ft.-long section of the canal. Pursuant to Public Law 104-20, signed July 28, 1995, Reclamation is authorized to pursue and fund salinity control efforts within the Colorado River Basin. In February 2008, Reclamation solicited applications for salinity control funding with the Upper Colorado River Basin. MCRC submitted an application which was accepted by Reclamation for implementation.

The cooperative agreement, which provides the funding for the project, requires MCRC to permanently dewater, remove from irrigation service, and render incapable of irrigation water delivery, all remaining remnants of open laterals replaced by buried pipe. This will require the removal of all irrigation structures (headgates, drops, etc.) and refilling the abandoned canal prism with soil.

It is anticipated that implementation of both off-farm and on-farm components of the project will result in a total annual reduction of 3,263 tons of salt in the Colorado River

CHAPTER 3-AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter discusses resources that may be affected by actions taken to pipe 5.2 miles of the Minnesota Ditch and associated inverted siphon. During preparation of this environmental assessment, information on issues and concerns was received from the Minnesota Ditch Company, resource agencies, and other interested parties (see Chapter 4, Consultation and Coordination, for further details).

For each resource, the potentially affected area and/or interests are identified, existing conditions described, and impacts predicted under the No Action and Proposed Action Alternatives. This chapter is concluded with a summary comparison of the alternatives and a list of mitigation measures.

3.1 GENERAL

The Minnesota Canal is a privately owned canal diverting water from Minnesota Creek to irrigate agricultural lands west and southwest of the point of diversion. A majority of lands supplied by the Minnesota Canal are currently flooded hay meadows located in Minnesota Creek valley and Lamborn mesa (Figure 1).

3.2 WATER RIGHTS AND USE

The Minnesota Creek is a tributary to the North Fork of the Gunnison River within the Gunnison River Basin. The basin is approximately 7,800 square miles in size and additional discussions on water rights within the Minnesota Creek Area of the Gunnison Basin can be found in the report entitled "*Gunnison River Basin Information*, *Colorado's Decision Support Systems"* (CWCB 2004).

MCRC's water rights are listed in Table 1 (below) from the Colorado River Decisions Support System (CRDSS) (CWCB 2004). The net Absolute Decreed amount for Minnesota Canal is 59.857 cubic feet per second (cfs)(CWCB 2004).

Table 1-MCRC Diversion Rights listed in CRDSS

Structure Name	Structure ID #	Source	Adjudication Date	Appropriation Date	Administration Number	Decreed Amount (cfs)
Minnesota Canal	1020	Minnesota Creek	6/17/1889	5/5/1883	12178.00000	0.301
Minnesota Canal	1020	Minnesota Creek	6/17/1890	5/5/1884	12179.00000	0.301
Minnesota Canal	1020	Minnesota Creek	6/17/1891	5/5/1885	12180.00000	0.300
Minnesota Canal	1020	Minnesota Creek	6/17/1892	5/5/1886	12181.00000	0.300
Minnesota Canal	1020	Minnesota Creek	4/12/1901	6/14/1883	14413.12218	0.266
Minnesota Canal	1020	Minnesota Creek	4/13/1901	6/14/1884	14413.12218	0.266
Minnesota Canal	1020	Minnesota Creek	4/14/1901	6/14/1885	14413.12218	0.266
Minnesota Canal	1020	Minnesota Creek	4/12/1901	8/18/1883	14413.12283	0.409
Minnesota Canal	1020	Minnesota Creek	4/13/1901	8/18/1883	14413.12283	0.409
Minnesota Canal	1020	Minnesota Creek	4/14/1901	8/18/1883	14413.12283	0.400
Minnesota Canal	1020	Minnesota Creek	4/15/1901	8/18/1883	14413.12283	0.410
Minnesota Canal	1020	Minnesota Creek	4/16/1901	8/20/1883	14413.12285	0.220
Minnesota Canal	1020	Minnesota Creek	4/17/1901	8/20/1883	14413.12285	0.220
Minnesota Canal	1020	Minnesota Creek	4/18/1901	8/20/1883	14413.12285	0.215
Minnesota Canal	1020	Minnesota Creek	4/19/1901	8/20/1883	14413.12285	0.220
Minnesota Canal	1020	Minnesota Creek	4/20/1901	3/10/1984	14413.12488	0.666
Minnesota Canal	1020	Minnesota Creek	4/21/1901	3/10/1984	14413.12488	0.666
Minnesota Canal	1020	Minnesota Creek	4/22/1901	3/10/1984	14413.12488	0.666
Minnesota Canal	1020	Minnesota Creek	4/23/1901	9/1/1987	14413.13758	32.500
Minnesota Canal	1020	Minnesota Creek	6/23/1914	9/1/1903	21263.19601	0.600
Minnesota Canal	1020	Minnesota Creek	6/23/1914	9/1/1903	21263.19601	0.600
Minnesota Canal	1020	Minnesota Creek	6/23/1914	9/1/1903	21263.19601	6.000
Minnesota Canal	1020	Minnesota Creek	6/23/1914	5/1/1910	22035.00000	10.000
Minnesota Canal	1020	Minnesota Creek	2/10/1930	6/1/1910	25807.22066	10.980
Minnesota Canal	1020	Minnesota Creek	3/20/1954	9/1/1887	31924.13758	3.000

No Action: The No Action Alternative would have no direct effect on water rights and uses within the Gunnison River Basin. The water delivery system would continue to function as it has in the past. Late season irrigation water would continue to be scarce in drier years and limit the types and numbers of crops produced.

Proposed Action: Under the proposed action, MCRC would have the ability to better manage its water rights with efficiencies gained from piping the system. The reduction in transport system losses may change irrigation practices (flood irrigation and use of gated pipe could be converted to sprinkler and screening the water at the diversion) which could save stored reservoir water for use later in the season.

3.3 WATER QUALITY

MCRC is located in the North Fork (North Fork) of the Gunnison River watershed in west-central Colorado and flows through northwestern Gunnison and Delta Counties. Water is diverted from the Minnesota Creek and drains to the North Fork. The North Fork begins at the confluence of Muddy Creek and Anthracite Creek downstream of Paonia Dam and flows southwesterly approximately 33 miles to its confluence with the Gunnison River. The North fork watershed (HUC 1402004) drains approximately 986 square miles and includes five small communities that line the North Fork as it flows west towards the Gunnison River (NFRIA 2009).

Table 2-Stream Segments and Water Quality Standards

Stream Segment	Designated Use	Numeric Standards				
		Physical and Biological	Inorganic (mg/L)		Metals (mg/L)	
COGUNF03 (North Fork)	Aquatic Life Cold 1 Agriculture Recreation N (Oct-Mar) Recreation E (Apr-Sept)	D.O. =6.0 mg/l D.O. (sp)=7.0 mg/l pH=6.5-9.0 Ecolab=630/100 ml Oct-Mar Ecolab=126/100 ml Apr-Sept	NH3=TVS Cal2(a)=0.019 Cal2(c)=0.011 CN=0.005	S=0.002 B=0.75 NO2=0.05 NO3=100	As(a)=340 As(c)=7.6 (Trec) Cod(a)=TVS(try) Cod(c)=TVS Crib= 50 (Trec) Curvy=TVS Cu=TVS Fe(c)=1000(Trec) Pub=TVS	Man=TVS Hg(c)=0.01(tot) Ni=TVS Se=TVS Ag(a)=TVs Ag(c)=TVS(try) Zn(a)=TVS Zn(c)=TVS(sc)
COGUNF05 (includes Minnesota Creek)	Aquatic Life Cold 1 Recreation P Water Supply Agriculture	D.O. =5.0 mg/l D.O. (sp)= 7.0 mg/l pH=6.5-9.0 Ecolab=205/100 ml	NH3=TVS Cal2(a)=0.019 Cal2(c)=0.011 CN=0.005	S=0.002 B=0.75 NO2=0.05 NO3=10 Cal(c)=250 CN=0.005	As(a)=340 As(chi)=0.02(Trek) Cod(ac)=TVS(try) Cod(chi)=TVS Crib(ac)= 50(Trek) Curvy=TVS Cu=TVS Fe(chi)=WS(dies) Fe(chi)=1000(Trek) Pub(ac.chi)=TVS	Man(ac.chi)=TVS Man(chi)=TVS Hg(chi)=0.01(tot) Ni(ac.chi)=TVS Se(ac.chi)=TVS Ag(ac)=TVs Ag(chi)=TVS(try) Zn(ac.chi)=TVS

(a)=Acute; (c)=Chronic; TVS=Table Value Standards; Trek=Total Recoverable Fraction
Data for Table from Water Quality Control Commission Regulations 31 (CDPHE 2009) and Regulation 35 (CDPHE 2010).

Stream segments and Water Quality Standards for the North Fork and Alum Gulch are shown in Table 2. Official designated uses for the North Fork include the following:

- Domestic Water Supply: Water body supports use of the water as a potable water supply.
- Fish Consumption: Water body supports the water by humans for harvesting aquatic organisms for consumption.
- Primary Human Contact: Water body supports the use of water that causes the human body to come into direct contact with the water, typically to the point of submergence, or probable ingestion, or contact with membrane material of the body. Examples are ceremonial uses, swimming, and water-skiing.

Secondary Human Contact: Water body supports the use of water which may cause the water to come into direct contact with the skin, but normally not to the point of submergence, ingestion, of contact with membrane material of the body. Such contact would only occur incidentally.

Agricultural Water Supply: Water body supports the use of water for the irrigation of crops which could be used for human consumption.

Aquatic Habitat: Water body supports the use of the water by animals, plants or other organisms and is capable of supporting cold or warm water fisheries.

Livestock and Wildlife Watering: Water body supports use by livestock and/or non-domestic animals (including migratory birds) for consumption, habitation, growth, and/or propagation.

Every two years, the Colorado Department of Public Health and Environment is required to prepare a list of impaired streams not meeting water quality standards, called the 303(d) Impaired Waters List. In 2008, there were four segments on the 303(d) list for selenium (Se) impairment which included the lower portion of the North Fork and Alum Gulch.

No Action: Under the No Action Alternative, no change to existing water quality trends is predicted. The estimated 3,263 tons of salt annually contributed to the Colorado River would continue.

Proposed Action: Because construction activities will occur within the dry canal or lateral, no change in water quality during construction is predicted. Exemptions under the Clean Water Act apply to the proposed project. The Army Corps of Engineers lists these exemptions as 1) Farm or Stock Pond or Irrigation Ditch Construction or Maintenance and 2) Maintenance of Existing Structures. Copies of the Exemption Summaries are provided as Appendix B. Because the project is exempted, no Section 401 Water Quality Certification is required, however best management practices would be implemented to protect water resources. Commitments include the following:

- The contractor would obtain CWA Section 402 Storm Water Discharge Permit (NPDES) from the Colorado Department of Public Health and Environment for dewatering the construction area if dewatering is needed.
- Silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures will be used to prevent erosion from entering water bodies during construction.
- Concrete pours will occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing will be contained and treated or removed for off-site disposal.

- Fuels, lubricants, hydraulic fluids, and other petrochemicals will be stored and dispensed in an approved staging area. Equipment will be inspected daily for petrochemical leaks. Construction equipment will be parked, stored, and serviced only at an approved staging area.
- An oil spill response plan will be prepared for area of work where spilled contaminants could flow into water bodies. All employee and workers, including those under separate contract, will be briefed and made familiar with this plan. The plan will be developed prior to initiation of construction. An oil spill response kit, which includes appropriate-sized spill blankets, shall be easily accessible and on-site at all times.
- On-site supervisors and equipment operators will be trained and knowledgeable in the use of spill containment equipment.
- Appropriate federal and Colorado authorities will be immediately notified in the event of any contaminant spill.

Implementation of both off-farm and on-farm components of the project is predicted to result in a total annual reduction of 3,263 tons of salt in the Colorado River.

3.4 VEGETATION AND LAND USE

During construction of the Proposed Action, an increase in noise and traffic would occur. To date, Reclamation has not been advised of concerns regarding disturbances during construction. Any complaints would be resolved on a case-by-case basis. Access for construction, operations and maintenance would utilize existing roadways. MCRC would obtain easements where necessary for improvements and pipeline alignments on public and private property.

The project area is in the Upper Sonoran life zone characterized by pinyon-juniper forests, Gambel oak, sagebrush, rabbitbrush, buffalo currant, and serviceberry. Over the years, the canal has created its own greenbelt where various trees, shrubs, and grasses have flourished along its banks. Much of what thrives along the canal includes weedy species, including cheatgrass, Russian thistle, curly dock, milkweed, and mustard. The waters of the canal have also allowed willow, cottonwood, Chinese elm, wild rose and a variety of grasses and forbs to propagate along its banks. In addition to the weeds and native plant species, several fruit trees grow along the canal's outer banks. Although trees flourish along the canal, their growth has been hindered along the canal's access road. During fieldwork, dense vegetation cover directly affected ground visibility along the length of the canal, which was greatly reduced by the dense growth of waste-high weeds, grasses, Gambel oak, serviceberry, wild rose, and buffalo currant.

Figure 2 shows the major landcover classifications based on the Southwest Regional Gap Analysis Project (NatureServe 2004).

Landcover types include Agriculture, Colorado Plateau Pinyon-Juniper Woodland, Rocky Mountain Lower Montane Riparian Woodland and Shrubland, Rocky Mountain Lower Montane-Foothill Shrubland, Inter-Mountain Basins Greasewood Flat, Inter-Mountain Basins Big Sagebrush Shrubland. A detailed description of each landcover type is as follows:

Inter-Mountain Basins Big Sagebrush Shrubland: This ecological system occurs throughout much of the western U.S., typically in broad basins between mountain ranges, plains and foothills between 1,500-2,300 m elevation. Soils are typically deep, well-drained and non-saline. These shrublands are dominated by Basin Big Sagebrush and Wyoming Big Sagebrush. Scattered Juniper

spp. Greasewood, Antelope Bitterbrush, or Mountain Snowberry may codominate disturbed stands. Perennial herbaceous components typically contribute less than 25% vegetation cover. Common *graminoid* species include Indian Ricegrass, Blue Grama, Thickspike Wheatgrass, Idaho Fescue, Needle and Thread, Basin Wildrye, Western Wheatgrass or Bluebunch Wheatgrass.

Colorado Plateau Pinyon-Juniper Woodland: This ecological system occurs on dry mountains and foothills of the Colorado Plateau region from the Western Slope of Colorado to the Wasatch Range, south to the Mogollon Rim and east into the NW corner of New Mexico. It is typically found at lower elevations ranging from 1,500-2,440 m. These woodlands occur on the warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and droughts, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Soils supporting this system vary in texture ranging from stony, cobbly, gravelly sandy loams to clay loam or clay. Pinyon Pine and/or Utah Juniper dominate the tree canopy. Rocky Mountain Juniper may codominate or replace Utah Juniper at higher elevations. Understory layers are variable and may be dominated by shrubs, *graminoids*, or be absent. Associated species include Manzanita, Sagebrush, Mountain Mahagany, Blackbrush, Cliffrose, Antelope Bitterbrush, Gambel Oak, Blue Grama, James Galleta,or Muttongrass. This system occurs at higher elevations than Great Basin Pinyon-Juniper Woodland and Colorado Plateau shrubland systems where sympatric.

Rocky Mountain Lower Montane Riparian Woodland and Shrubland: This system is found throughout the Rocky Mountain and Colorado Plateau regions within a broad elevation range from approximately 900 to 2,800 m. This system often occurs as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. This system is dependent on a natural hydrologic regime, especially annual to episodic flooding. Occurrences are found within the flood zone of rivers, on islands, sand or cobble bars, and intermediate stream banks. They can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplain swales, and irrigation ditches. Dominant trees may include Boxelder, Narrowleaf Cottonwood, Black Cottonwood, Freemont Cottonwood, Douglas-fir, Blue Spruce, Peachleaf Willow, or Rocky Mountain Juniper. Dominant shrubs include Rocky Mountain Maple, Gray Alder, Water Birch, Redosier Dogwood, River Hawthorn, *Forestiera*, Chokecherry, Skunkbush Sumac, Willow spp., Silver Buffaloberry, and Honeysuckle. Exotic trees of Russian olive and Salt Cedar are common in some stands. Generally, the upland vegetation surrounding this riparian system is different and ranges from grasslands to forests.

Rocky Mountain Lower Montane Riparian Foothill Shrubland: This ecological system is found in the foothills, canyon slopes and lower mountain slopes of the Rocky Mountains and on outcrops and canyon slopes in the western Great Plains. It ranges from southern New Mexico extending north into Wyoming, and west into the Intermountain region. These shrublands occur between 1,500-2,900 m elevations and are usually associated with exposed sites, rocky substrates, and dry conditions, which limit tree growth. It is common where oak brush is absent such as the northern Colorado Front Range and in drier foothills and prairie hills. This system is generally drier than Rocky Mountain Gambel Oak-Mixed Montane Shrubland (CES306.818). Scattered trees or inclusions of grassland patches or steppe may be present, but the vegetation is typically dominated by a variety of shrubs including service berry, mountain mohogany, antelope bitterbrush, skunkbush, currant, mountain snowberry, or yucca. In northeastern Wyoming and north into adjacent Montana, curl-leaf mountain mahogany, usually with big sagebrush, is the common dominant shrub. Grasses are represented as species of muhly grass, grama grass,needle-and-thread,

and bluebunch wheatgrass. Fires play an important role in this system as the dominant shrubs usually have a severe die-back, although some plants will stump sprout. Mountain mohagany requires a disturbance such as fire to reproduce, either by seed sprout or root crown sprouting. Fire suppression may have allowed an invasion of trees into some of these shrublands, but in many cases sites are too xeric for tree growth.

Inter-Mountain Basins Greasewood Flat: This ecological system occurs throughout much of the western U.S. in Intermountain basins and extends onto the western Great Plains. It typically occurs near drainages on stream terraces and flats or may form rings around playas. Sites typically have saline soils, a shallow water table and flood intermittently, but remain dry for most growing seasons. This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or codominated by greasewood. Four-wing saltbush, shadscale saltbush, or winterfat may be present to codominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of alkali sacaton, saltgrass (where water remains ponded the longest), or spikerush herbaceous types.

Field surveys were also conducted by Wildlife and Natural Resource Concepts & Solutions, LLC of Montrose, Colorado to evaluate and map riparian and wetland habitats associated with the off-farm irrigation system. A total of 15.5 acres of riparian and non-jurisdictional wetlands were identified adjacent to the affected portion of the Minnesota Canal and laterals. Figure 3 shows the locations of these habitat types in relationship to the proposed project.

The Colorado Noxious Weed Act (Title 35, Article 5.5, C.R.S.) mandates that all persons must control noxious weeds on their property if such plants are a threat to neighboring landowners or natural ecosystems. To comply with the Law, the Board of County Commissioners must adopt a noxious weed plan for all unincorporated lands within its jurisdiction. For Delta County, the Delta County Noxious Weed Management Plan (Delta County 2010) identifies leafy spurge along Minnesota Creek and scattered infestations of whitetop, Russian knapweed, oxeye daisy, yellow toad flax and scotch thistle within the North Fork area. Canadian thistle is also listed as a county-wide infestation. The listed of weedy species along the Minnesota Canal include cheatgrass, Russian thistle, curly dock, milkweed, and mustard.

The Delta County Noxious Weed List includes the follow:

Yellow starthistle	Purple loosestrife	Myrtle spurge
Common burdock	Diffuse knapweed	Spotted knapweed
Russian knapweed	Hoary cress or Whitetop	Leafy spurge
Canada thistle	Musk thistle	Scotch thistle
Bull thistle	Yellow toadflax	Oxeye daisy
Poison hemlock	Halogeton	Russian olive
saltcedar		

No Action: The No Action Alternative would have no effect on existing vegetation or current land uses.

Proposed Action: Temporary disturbances within the footprint of the pipeline would occur during construction and the existing canal and laterals would be dewatered and filled so that they no longer transport irrigation water. On lands managed by the BLM, all construction, operation and

maintenance will be contained within the footprint of existing disturbance of the canal and access road. Pipeline alignments and construction footprints would be revegetated subject to the easement and agreements between MCRC and individual land owners. Revegetation areas managed by the BLM would follow BLM recommendations. The BLM Uncompahgre Field Office has developed the following seed mix for the BLM lands in the project area.

Table 3-BLM- UFO Oakbrush Zone Seed Mixture.

Species	**Pounds of PLS/Acre**
Western Wheatgrass var Arriba	0.96
Slender Wheatgrass var San Luis	0.66
Mountain Brome var Bromar	1.50
Big Bluegrass var Sherman	0.18
Bottlebrush Squirreltail	0.96
Canada Wild Rye	0.94
American Vetch	0.60
Rocky Mountain Penstemon	0.09
Western Yarrow	0.06

Construction activities will likely result in an initial increase in noxious weeds (i.e, Russian knapweed). Herbicide applications and revegetation with appropriate seed mixes should result in a reduction in the number noxious weeds along the existing alignment. In addition, the loss of the wetted canal perimeter by piping and the associated reduction in maintenance will minimize the potential for reinfestation in the majority of locations. Delta County County Noxious Weed Management Plan adopted in 2010 recommends the following herbicides for the 5 most common weeds in Delta County:

Table 4- Herbicide Guide for Delta County Weed Management Plan (2010)*

Common Target Weeds	**Preferred Herbicides**	**Application Timing**
Whitetop/hoary cress	-Telar + 24D (amine) -Escort/ally	Spring: late bud-early flower
Russian knapweed	-Milestone -Curtail, Transline, Stinger -Redeem R & P	Spring: Rosette to early flower Fall: Apply up until first hard freeze. Applications under drought conditions will not be effective.
Canada thistle	Same as Russian knapweed	
Scotch thistle, musk thistle	Same as Russian knapweed, or -Telar -Banvel + 24D (amine)	Spring: Rosette to early flower Fall: Rosette Spring: These species are biennials and be controlled by chopping/digging.

*follow the label for each herbicide, additional recommendations can be found in the Delta County Plan or by contacting the local Colorado State University Cooperative Extension Service agent.

The use of herbicides on the BLM lands requires prior approval from the BLM. The applicator would need to submit a Pesticide Use Proposal (PUP) and application record to the BLM's Uncompahgre Field Office for approval.

Predicted losses of riparian and wetlands habitats supported by canal and lateral prisms and seepages are estimated in Table 5. A total of 15.5 acres of non-jurisdictional habitat were identified adjacent to or associated with the existing canal and laterals. With the removal of the wetted canal and lateral prisms and seeps, an estimated 13.2 acres will be lost with a total fish and wildlife habitat value of 11.2. Fish and wildlife habitat values are discussed in greater detail in the Fish and Wildlife Resource Section.

Table 5-Predicted Fish and Wildlife Habitat Value Losses

Wetland ID	Habitat Type	Mapped Acres	Adjustment*	Adj. Acres	THV**	Habitat Value (Acres)
H 1	Forest/Scrub	1.2	100%	1.20	0.10	0.12
H 2	In Pipe	0	100%	0.00	0	0.00
H 3	Scrub/Grasses	0.2	100%	0.20	0.1	0.02
H 4	Forest/Scrub	1.3	100%	1.30	1.7	2.21
H 5	In Pipe	0	100%	0.00	0	0.00
H 6	Forest/Shrub	0.8	100%	0.80	1.9	1.52
H 7	Shrub/Scrub	0.4	50%	0.20	0.4	0.08
H 8	Shrub/Scrub	1.1	75%	0.83	0.9	0.75
H 9	Scrub	0.1	25%	0.03	0.6	0.02
H 10	Shrub/Scrub	2.7	100%	2.70	0.8	2.16
H 11	In Pipe	0	100%	0.00	0	0.00
H 12	Shrub/Scrub	0.2	100%	0.20	0.8	0.16
H 13	In Pipe	0	100%	0.00	0	0.00
H 14	Forest/Shrub	0.7	100%	0.70	0.5	0.35
H 15	Shrub/Emergent	0.4	100%	0.40	0.7	0.28
H 16	Forest/Shrub	0.5	50%	0.25	0.4	0.10
H 17	In Pipe	0	100%	0.00	0	0.00
H 18	Grasses	0.8	25%	0.20	0.1	0.02
H 19	Shrub/Grasses	0.9	75%	0.68	0.1	0.07
H 20	Scrub/Grasses	2.6	75%	1.95	0.8	1.56
H 21	Shrub/Emergent	1.4	100%	1.40	1.2	1.68
H 22	Forest/Shrub	0.2	100%	0.20	0.4	0.08
Totals		**15.5**		**13.24**		**11.17**

THV= Total habitat Value

3.5 FISH AND WILDLIFE RESOURCES

In the project area, riparian areas and seep areas have narrow leaf cottonwood, coyote willow, boxelder, skunkbush sumac, thinleafed alder, chokecherry, wild rose, western wheatgrass, and some fruit trees (apple, apricot, and plum trees probably got started from nearby orchards). There were also a few sedges and some cattails found in isolated portions of the ditch. Drier areas naturally support serviceberry, juniper trees and bushes, pinion trees, mountain mahogany, Gambel oak, sagebrush, rabbitbrush, yellow clover, shrubby cinquefoil, Indian Rice Grass, Blue Grama grass, and four-winged saltbrush. Habitat supported by the area ditches is subject to disturbance from periodic maintenance of the ditches, but this habitat does provide values associated with natural wetlands and riparian areas. Non-native weeds found along the ditch include: Russian olive, Canada thistle, Russian knapweed, hounds tongue, and tamarisk. The habitat occurs in narrow strips and small patches, while typically not supporting the numbers of breeding birds and other wildlife that larger blocks of habitat support, nevertheless are important habitat. In addition to nesting birds, these habitats support small mammals and in association with adjacent irrigation land provide hunting areas for raptors and other wildlife.

The Minnesota Canal diverts directly from Minnesota Creek. At base flows, the existing diversion is likely a complete barrier to fish movement. A site visit by Reclamation on August 22, 2012 show very little flow in Minnesota Creek and a dry Minnesota Canal (Photo 1). The large trash rack on the diversion intake is probably not sufficient to keep fish from entering and becoming entrained in the canal.

Photo 1 - Upstream and downstream view of Minnesota Canal Diversion, August 22, 2012.

43 USC Chapter 32A, Subchapter II, Section 1592 (a)(6) requires the Secretary, acting through the Bureau of Reclamation implement a basinwide salinity control program. The program is required to provide for the mitigation of incidental fish and wildlife values that are lost as a result of the measures and associated works. Reclamation has developed habitat evaluation procedures that estimate habitat losses or changes associated with salinity improvements. The procedures predict changes in habitat values. The changes are then multiplied by the estimated acres lost or altered to predict the habitat units needed to mitigate for incidental fish and wildlife values lost.

The Colorado Parks and Wildlife (CPW) describes the project area as winter and severe winter range for elk. For deer, the CPW lists the project area as a mule deer concentration area, winter range, winter concentration area, summer range, severe winter range, resident population area, and critical winter range (CPW 2010). The project area is also described as a winter forage area for the bald eagle and as within the historic range of Gunnison Sage Grouse.

No Action: Under the No Action Alternative, terrestrial wildlife and habitat would remain in their current condition. Salinity loading of the Colorado River drainage would continue at current rates, which may affect water quality within the drainage, and thereby may impact the fish and wildlife using the area.

Proposed Action: Upland wildlife habitat impacted by the Proposed Action would likely result in minor temporary impacts to wildlife species within the Project Area. Local wildlife may avoid using portions of the project area because of temporary disturbances due to pipeline construction. However, these impacts should be short-term in duration.

Construction areas would be confined to the smallest feasible area to limit disturbance to wildlife within the Project Area. Open pipeline trenches left overnight would be kept to a minimum to reduce potential entrainment of small animals and public safety problems. Construction holes or pipeline trenches left open overnight shall be covered or include exit ramps at least every ¼ mile to

allow entrapped animals to escape. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through.

In general, impacts on wildlife using the area along the ditch should also be minimized because much of the area is farmed and there is similar existing habitat nearby. To protect wintering deer and elk herds, construction activities upstream of Dry Gulch Road would be limited between December 15th and March 31. In some cases during dryer and later winters, construction activities may continue later into January with the concurrence of CPW. The BLM's Resource Management Plan requires that no surface disturbing activities can occur from December 1st through April 30th on the BLM administered land to protect wintering big game. Exceptions or variances to this restriction will be considered and evaluated according to BLM's Uncompahgre Field Office policies.

The estimated loss of 13.2 acres of riparian and wetland habitats described in the Vegetation and Land Use Section of this document would directly impact those species dependant on these habitat types. Predicted habitat losses include emergent, shrub/scrub, and forested wetland habitats supported by irrigation seepage and the wetted canal prisms (see Table 5). Habitat evaluations estimate 11.2 fish and wildlife habitat units would be lost under the Proposed Action. Development of replacement habitat (described in greater detail in the Mitigation Section of this document) will mitigate impacts to wildlife and comply with requirement of the Colorado River Basin Salinity Control Act to replace fish and wildlife values foregone.

Construction impacts to nesting birds is predicted to minimal because activities within the canal prism would occur outside the irrigation season prior to or after the traditional nesting season (March 15th to July 15).

The adjustments to the acres impacted are due to current irrigation practices. The Minnesota Ditch runs through irrigated fields it supplies water to as well as other ditches and irrigated fields are located above segments of the ditch. Vegetation along the ditch or below the ditch could be lost if the ditch is piped and the vegetation cannot get water from another source. If this is the case, the estimated habitat loss is not expected to change and the adjusted value is 100%. If the impacted vegetation is near an irrigated field, on-farm irrigation or irrigation return flows could provide water to this vegetation. This circumstance would reduce the expected habitat losses. If only a quarter of the habitat is expected to be lost due to current irrigation practices, the adjusted value is 25-percent (25-percent X Acres of Expected Habitat Loss due to Ditch Piping). There are also areas along the ditch that have other irrigation ditches and irrigated fields above it and water can drain or sub down off the hillside, which can help offset the water that would be lost to ditch piping; however, this could change if irrigation practices above the ditch change.

In addition, improved water quality would likely benefit downstream aquatic species (amphibians and fish) by reducing salt and selenium loading in the North Fork, Gunnison, and Colorado rivers. The installation of a coanda screen at the headgate will serve to reduce numbers of fish entering the canal.

3.6 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) of 1973 protects federally listed endangered, threatened and candidate plant and animal species and their critical habitats. Table 6 lists these species that may

occur within Delta County, Colorado and Minnesota Creek (USFWS 2010). A general description of each species follows.

Table 6-Federally Listed, Candidate and BLM Sensitive Species

Common Name	Scientific Name	Listing Status
Black-footed ferret	*Mustela nigripes*	Endangered
Bonytail	*Gila elegans*	Endangered
Canada lynx	*Lynx canadensis*	Threatened
Clay-loving wild buckwheat	*Erigonum pelinophilum*	Endangered
Colorado Basin hookless cactus	*Sclerocactus glaucus*	Threatened
Colorado pikeminnow	*Ptychocheilus lucius*	Endangered
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	Threatened
Humpback chub	*Gila cypha*	Endangered
Razorback sucker	*Xyrauchen texanus*	Endangered
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate
Northern leopard frog	*Rana pipiens*	BLM Sensitive
Rocky Mountain thistle	*Cirsium perplexans*	BLM Sensitive

Black-footed Ferret: The black-footed ferret is one of the most endangered mammals in North America. The ferret is associated with prairie dog towns and was once believed extinct. A reintroduction program is underway, including introductions in northwest Colorado. At the present time, there are no known populations in the project area or the Gunnison Basin. Potential habitat is fragmented in the basin, with prairie dog towns separated by cropland and other human developments. Historical presence in the basin is not known.

Bonytail: The bonytail is a large cyprinid fish endemic to the Colorado River and is the rarest of the four big river endangered fishes in the Colorado River Basin; wild populations are considered nearly extinct.

The Minnesota Creek basin has never been confirmed as habitat for this species; however, early sampling and anecdotal information suggests the species was common in the Green and Colorado Rivers in the early 20th century (McAda, 2003). The Fish and Wildlife Service (2002) cited one capture in the Gunnison River near Delta by Jordan (1891), although identification of this specimen has been questioned. There were 5 captures in the mainstem Colorado River in the 1980's. Therefore it is possible that the species once utilized the Gunnison River.

Canada Lynx: Lynx may have disappeared from Colorado by about 1973. Sightings prior to that time were few, scattered throughout mountainous areas of the state. In 1999 a program of lynx restoration began in the San Juan Mountains, and by 2005 more than 200 animals had been released, a number of litters of kittens had been born, and lynx were expanding throughout the high country and occasionally beyond. Lynx reproduction has not been confirmed in 2007 and 2008, possibly related to snowshoe hare decline, but reproduction was reported in 2009 and 2011. The lynx is found in dense sub-alpine forest and willow corridors along mountain streams and avalanche chutes, the home of its favored prey species, the snowshoe hare.

Reintroduced lynx have entered the Gunnison Basin where potential habitat occurs at higher elevations. The potential exists that the species will become permanently established in the basin.

Clay-loving Wild Buckwheat: The clay-loving wild buckwheat is a small shrub that is found in semi-desert shrub communities of adobe hills. It is normally located in specific microhabitats and can be associated with shadscale and mat saltbush. Its range is restricted to small acreages in Delta and Montrose Counties and primary threats include fragmentation or clearing of habitat for urban development and off-road vehicle use. In the early 20th century, habitat was probably more extensive and was probably cleared for agricultural lands. Soils supporting the species are derived from Mancos shale (Lyon and Williams 1998).

Colorado Basin Hookless Cactus: The Colorado Basin hookless cactus is a small cactus normally found on gravelly alluvial soils or in clay between 4,500 and 6,000 feet and can be associated with shadscale, sagebrush, greasewood, saltbush, and other desert vegetation. In Colorado it is reported from Montrose, Delta, Gunnison, Garfield, and Mesa Counties. Threats may include trampling from grazing, recreation use of lands, off-road vehicle use, and development on some lands. Past reports include populations on benches along the Gunnison River from Hotchkiss downstream (Lyon and Williams 1998). A plant survey is currently underway to identify any occurrences of Threatened and Endangered plant species within the project limits.

Colorado Pikeminnow: The Colorado pikeminnow (formerly known as Colorado squawfish) is the largest member of the minnow family in North America and historically was the main predator fish in the Colorado River system. This long-lived fish was found throughout warm water reaches of the entire Colorado River Basin downstream to the Gulf of California. It is estimated that the pikeminnow no longer occurs in approximately 75 percent of its historic range and was listed as endangered in 1967. The Green River and its major tributaries support the largest population; the upper Colorado River population is more limited (Osmundson and Burnham 1998). The Green River is probably the key to recovery of the species. The species occurred in the Gunnison River and has probably not ever been totally expatriated from the river; its historical upstream limits on the Gunnison are not known, but fish probably occurred at least upstream to the North Fork confluence.

Razorback Sucker: The razorback sucker is a large catostomid, endemic to the Colorado River Basin of the western United States. The species belongs to a monotypic genus that is distinguished by a prominent dorsal keel that rises immediately posterior to the occiput. It is long-lived and individuals may exceed 40 years of age. The historic distribution of razorback sucker has been reduced by 75 percent (Minckley et al., 1991) and its extremely low abundance within remaining habitat caused it to be listed as endangered under the Endangered Species Act of 1973. Anecdotal accounts indicate that razorback sucker were common in the Gunnison River near Delta in the early and middle portions of the 20th Century.

Greenback Cutthroat Trout: The greenback cutthroat trout is a freshwater fish with numerous large spots and a green back. The species is found in clear, swift-flowing mountain streams with overhanging banks and vegetative cover. Juveniles tend to shelter in shallow backwaters and lakes. Spawning occurs in spring, or in some high-elevation sites, during the early summer.

Colorado River Cutthroat Trout: The Colorado River cutthroat trout is native to the Colorado River basin. The species is found in clear, cold, naturally-fluctuating water and require well-distributed pools, stable stream banks, and abundant stream cover. This species is extremely imperiled and currently occupy approximately five percent of its historic range. CPW manages a small population of Colorado River Cutthroat Trout on East Fork of Minnesota Creek, above Beaver Reservoir. Beaver

Reservoir is approximately 7 miles upstream of the Minnesota diversion and is a sufficient fish barrier to downstream nonnative fish.

Humpback Chub: The humpback chub is a mid-sized cyprinid endemic to the Colorado River, generally found in deep-water canyon-bound reaches of the Colorado, Yampa, and Green Rivers. The Gunnison River has never been confirmed as important habitat for this species; however, sampling was very limited in potential habitat areas in the early and mid-20th century period. Only one specimen has been confirmed and it was found in a canyon area about 4-miles downstream from Bridgeport in 1995. Two of the key river reaches for this species are located at Black Rocks and Westwater Canyon on the Colorado River downstream from the Gunnison confluence near the Colorado-Utah Stateline.

Yellow-billed Cuckoo: The western yellow-billed cuckoo is a candidate for listing under the ESA. The species breeds in large blocks of riparian habitats, in particular cottonwood woodlands, and dense understory foliage appears to be important. Based on historical accounts, the species was localized and uncommon along Colorado drainages while being locally common in other western areas (Fish and Wildlife Service 2005). The species was probably never common in western Colorado and is now extremely rare (Kingery 1998). In 1998, 242 miles of riparian habitat were surveyed along six rivers in west-central Colorado with one cuckoo detected (Dexter 1998). However, in 2008 breeding was confirmed along the North Fork (Beason 2008).

Cottonwood woodlands have been lost or fragmented in the study area due to clearing for towns and agriculture, filling and diking of lowlands, development of recreation sites in woodlands, fires, invasion of tamarisk and other non-native plants, and reduction of spring peaks that are important for regeneration of cottonwood stands.

Northern Leopard Frog: The Northern leopard frog is a BLM sensitive species. The species requires a mosaic of habitats to meet the requirements of all of its life stages and breeds in a variety of aquatic habitats that include slow-moving of still water along streams and rivers, wetlands, permanent or temporary pools, beavers ponds, and human-constructed habitats such as earthen stock tanks and borrow pits.

Northern leopard frog range includes the northern tier U.S. states, western states and the southern Canadian provinces. Declines of the species have been documented in most western states. Threats include habitat loss, non-native species, pollution and climate changes that individually and cumulatively have resulted in population declines, local extinctions and disappearance from vast areas of its historic range.

Rocky Mountain Thistle: The Rocky Mountain thistle is a local endemic whose global distribution is restricted to western Colorado. It is a member of the sunflower family and is a BLM sensitive species. The most recent data suggests that it is imperiled due to the small number of occurrences and small population sizes.

Primary threats to Rocky Mountain thistle include the use of biological controls and herbicides in the management of non-native *Cirsium* species, invasion of non-native plant species, and impacts from recreational, agricultural, industrial and residential land uses.

No Action: In the absence of the proposed action, salt loading from the project area would continue and the cumulative water quality benefits not would occur.

Proposed Action: On June 23, 2012, Rocky Mountain Ecological Services, Inc. (RMES) conducted a rare plant assessment and survey along the Minnesota Canal (see Appendix C). No threatened, endangered or candidate species have been identified during the survey although potential habitats was identified for Colorado hookless cactus. Habitat for other listed species, do not occur within the project area or are not of adequate size to support the listed species.

Potential habit for the two BLM sensitive species does occur within the project area. During the RMES survey, no Rocky Mountain thistle was found. Northern leopard frogs have been documented in Delta County and may occur within the project area. No direct impact to Northern leopard frog is predicted because construction activities within the canal prism would be limited to when the canal is dewatered. The improved water quality from piping the existing canal is predicted to offset the loss of potential habitat within the canal prism and supported by canal seepage.

Reclamation consulted with the U.S. Fish and Wildlife Service regarding historic depletions associated with the Minnesota Canal and Reservoir Company (Appendix C). No new depletions would occur as a result of the proposed action and MCRC's historic depletions (3,190 ac/ft/yr) would continue to adversely impact endangered fish. The Service determined that the project fits under the umbrella of the Gunnison River Basin Programmatic Biological Opinion (PBO) (Fish and Wildlife Service) would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts. The Minnesota Canal and Reservoir Company entered into a Recovery Agreement (Appendix C) which provides certainty that its depletions can occur consistent with section 7 and section of the Endangered Species Act.

In addition, the cumulative efforts of the Colorado River Basin Salinity Control Program improve water quality within designated critical habitats for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and Gunnison river basins by reducing salt and selenium loads.

Reclamation also determined that the proposed action has no effect on listed species including black-footed ferret, bonytail, Canada lynx, clay-loving wild buckwheat, Colorado Basin hookless cactus, greenback and Colorado River cutthroat trout, humpback chub, and the yellow-billed cuckoo.

3.7 INDIAN TRUST ASSETS

Indian trust assets (ITAs) are legal interests in property held by the United States for Indian Tribes or individuals. Reclamation and other Federal agencies share the responsibility to protect these assets. Trust assets may include: lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights.

No Indian trust assets have been identified within the project area. Therefore, the No Action and Proposed Action have no effect on Indian trust assets.

3.8 ENVIRONMENTAL JUSTICE

Executive Order 12898 on Environmental Justice provides that Federal agencies analyze programs to assure that they do not disproportionately adversely affect minority or low income populations or Indian Tribes. The project area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low income populations. Therefore, the No Action and Proposed Action have no effect on environmental justice.

3.9 CULTURAL RESOURCES

In August and September 2011, Alpine Archaeological Consultants, Inc. conducted a Class III cultural resource inventory of irrigation features and areas slated for disturbance (Alpine, 2011). A total of 64.5 acres was inventoried. Two sites were recorded, including the Minnesota Canal segment being analyzed as well as the segment of the proposed siphon over Dry Gulch. The Articles of Incorporation for the Minnesota Ditch Company states that the canal's construction did not begin until February 19, 1885 (Minnesota Ditch Company 1887). The ditch was reported to have a base width of 6½ ft., top width of 7½ ft., and a depth of 2 ft. The carrying capacity of the ditch was to be approximately 140 acre-feet of water. The Minnesota Ditch Company was incorporated on May 30, 1887 with Aaron Clough, John Lane, Wesley Ault, C. H. Amway, Joseph Fluallen, Bessie Goodenow, and R. Adams serving as the company's board of directors. The company was organized with $7,480 of capital stock divided into 170 shares at $44 a share. In just over one year, the company was reincorporated as the Minnesota Canal Company on August 25, 1888 (Minnesota Canal Company 1888). The name change and reincorporation was likely prompted by a substantial increase in water appropriated to the ditch in the fall of 1887. Under the ownership of the Minnesota Canal Company, the canal continued to carry water as far as Lucas Creek on Lamborn mesa until the spring of 1897 when the canal was extended an additional 3.6 mi. southwest and southeast and onto Stewart and Bone mesas. The construction of the extension began on April 4, 1897. The resulting canal had a bottom width of 5 ft., a top width of 8 ft., a depth of 3 ft., and a grade of 5 ft. to the mile (Delta County Ditch Record No. 13284). The Minnesota Canal Company continued to operate until it was consolidated along with its subsidiary, the Minnesota Canal Supply Ditch and Reservoir Company, into the Minnesota Canal and Reservoir Company on May 4, 1903 (Minnesota Canal and Reservoir Company 1903). The Minnesota Canal and Reservoir Company continues to manage the canal today.

No Action: The No Action Alternative would have no effect on cultural or historic resources.

Proposed Action: The Minnesota Canal was previously determined eligible for the National Register of Historic Places. In consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation determined that the Proposed Action would have an adverse effect on the Minnesota Canal. A Memorandum of Agreement is developed between Reclamation, MCRC, and the Colorado SHPO to mitigate the adverse effects of the proposed action. The MOA will stipulate that Level I Documentation as described in *Historic Resource Documentation, Standards for Level l, II, and III Documentation* (Colorado SHPO 2007) of the Minnesota Canal is appropriate to mitigate the adverse effects of the Proposed Action. A copy of consultation and draft MOA are attached in Appendix D for reference.

3.10 RECREATION RESOURCES

The proposed project is located primarily on private lands with easements held by MCRC. Approximately 2,000 feet of canal crosses federal land managed by the Bureau of Land

Management. This section of canal is located along a steep hillside with limited recreation potential; therefore, the No Action and Proposed Action will have no effect on recreation resources.

3.11 VISUAL RESOURCES

Approximately 2,000 feet of the existing Minnesota Canal is located on public lands managed by the BLM. This portion of the project is within a Class II Visual Resource Management (VRM) area. The Class II objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

The earthen Minnesota Canal is a valid existing right and is not subject to compliance with VRM objectives. However, the ditch is not out of character with surround landform which is rural agriculture.

During preconstruction staging of materials, construction, and post-construction rehabilitation of the project area the existing ditch will be filled, graded and revegetated to match the surround landscape. This would be a net improvement to the visual character of the area once the project was completed.

3.12 PRIME AND UNIQUE FARMLAND

Prime and unique farmlands are designations assigned by the Department of Agriculture. Prime farmland has the best combination of physical and chemical characteristics for producing food, feed, forage fiber and oilseed crops. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has a special combination of soil quality, location, growing season, and moisture supply required to produce sustained high quality crops when properly managed. In addition, farmlands of statewide importance are lands that nearly meet the requirements for prime farmland and have been identified by state agencies.

Within the upper reaches of the project footprint, the following prime and unique farmlands either adjacent or near the Minnesota Canal (Table 7 and Figure 4).

Table 7-Prime and Other Important Farmlands

Map Symbol	Map Unit Name	Farmland Classification
5	Aqua Fria clay loam, 1 to 6 percent slopes	Prime Farmland if Irrigated
6	Apishapa silty clay loam, 0 to 5 percent slopes	Prime Farmland if Irrigated and Drained
26	Colona silty clay loam, 1 to 6 percent slopes	Prime Farmland if Irrigated
27	Colona silty clay loam, 6 to 12 percent slopes	Farmland of Unique Importance
35	Fluvaquents, flooded	Farmland of Statewide Importance
66	Razor silty clay loam, 3 to 12 percent slopes	Farmland of Statewide Importance

Because the canal prism will be filled, contoured and reseeded, the project action will benefit adjacent prime and unique farmland. Once constructed and reclaimed, annual maintenance activities adjacent to these farmland would greatly reduced. In addition, improved water delivery should assist in keep these agricultural lands in production.

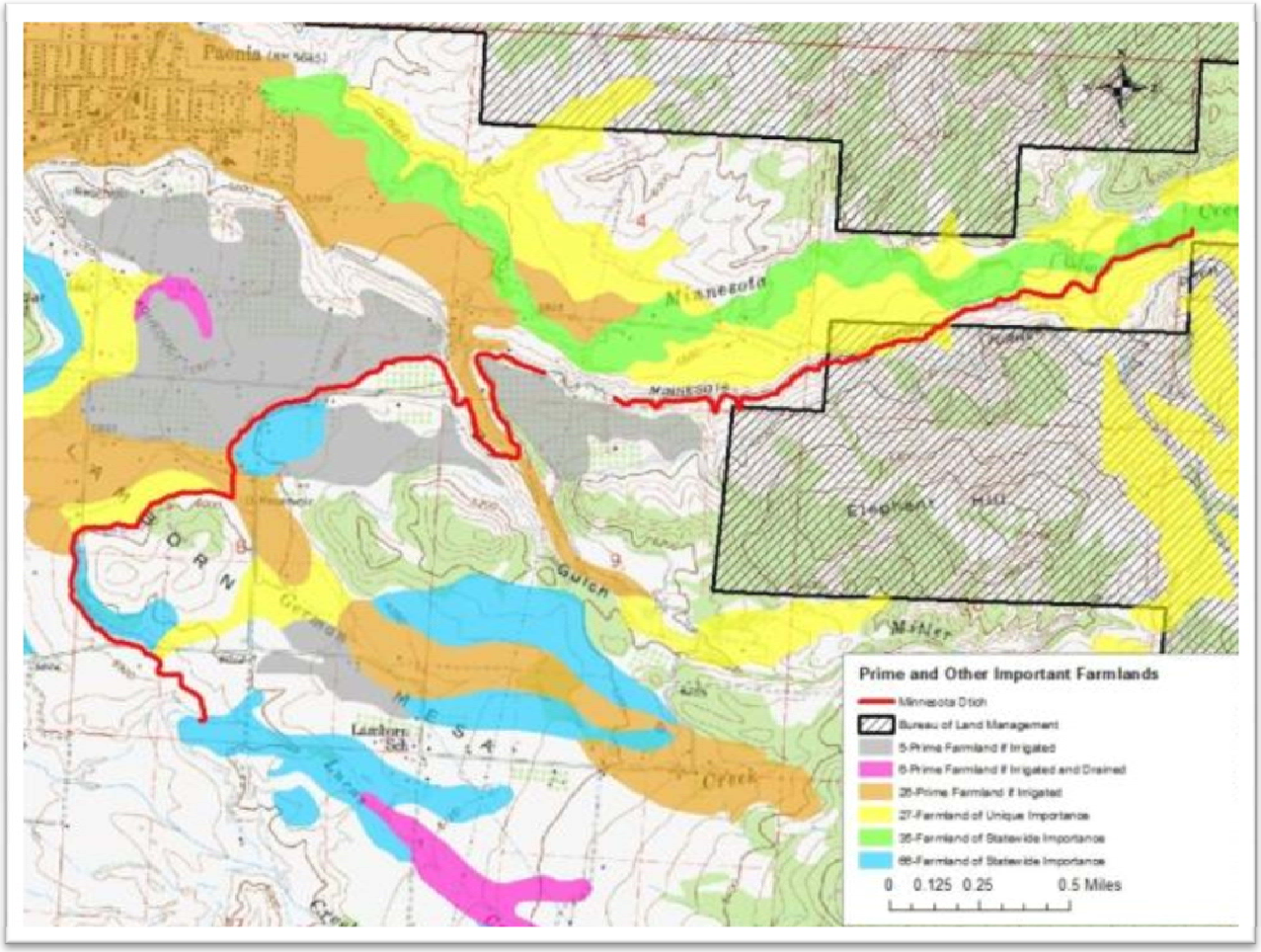

FIGURE 4-PRIME AND OTHER IMPORTANT FARMLANDS

3.13 OTHER RESOURCES

There are no Wild and Scenic Rivers, Wilderness, Wilderness Study Areas within or in close proximity to the project area.

3.14 CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment, which result from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

At this time, there are no known federal, state, or local projects occurring within the Project Area or vicinity. Specifically, there are no leased BLM parcels within the project area. The Proposed Action will comply with all relevant federal, state and local permits (detailed in the Summary and Environmental Commitments Section of this document). The proposed area and duration of disturbance under the Proposed Action are small and short-term and long-term impacts are not expected to raise cumulative negative impacts to a significant level.

There are three federal programs that include the project area at a basin-wide scale. The first program is the Colorado River Basin Salinity Control Program, which provided the funding for implementation of the proposed action. Collectively, projects funded under the CRBSCP, result in improved water quality with the goal of reducing salt loading in the Colorado River. The second is the Upper Colorado River Endangered Fish Recovery Program. The Recovery Program involves federal, state and private organizations and agencies in Colorado, Utah, and Wyoming. Partners of the Recovery Program are recovering four species of endangered fish in the Colorado River and its tributaries while water use and development continues to meet human needs in compliance with interstate compacts and applicable federal and state laws. The third program is the development and implementation of the Gunnison Basin Selenium Management Plan which was incorporated as a conservation measure in the Gunnison Basin Programmatic Biological Opinion (Fish and Wildlife Service 2009). Reclamation, working with entities in the Gunnison Basin, developed a plan to reduce selenium levels in the Gunnison River at Whitewater. When the Proposed Action is analyzed with components of these basin-wide programs, the cumulative beneficial effects on water quality are significant.

3.13 SUMMARY OF IMPACTS

Table 8 lists predicted impacts of the No Action and Proposed Action Alternatives analyzed in this Environmental Assessment.

The proposed action will result in no change or have no effect on Indian trust assets, environmental justice, or recreation resources. Water rights and uses, water quality and endangered species would all benefit from the proposed action. Negative impacts to vegetation, fish and wildlife, and cultural resources would not be significant with implementation of the mitigation measures described in Chapter 4, the Environmental Commitments and Mitigation Section of this document.

Table 8-Summary of Impacts

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Water Rights and Use	No Change	No Change
Water Quality	Continued salt loading from the Project Area to the Colorado River Basin	Estimated annual reduction of 3,263 tons of salt loading to the Colorado River from off-farm improvements. Also potential selenium loading reductions to Alum Gulch, North Fork and Gunnison Rivers.
Vegetation and Land Use	No Change	Estimated loss of 13.2 acres of CWA non-jurisdictional wetland and riparian habitat
Fish and Wildlife Resources	No Change	Short-term temporary impact to local wildlife during construction. Estimate loss of 11.2 habitat units from reduced seepage and canal prism habitat.

Threatened and Endangered Species	Salt and Selenium loading from the project area would continue to affect aquatic dependant species, as would historic depletion.	Historic depletions would continue to adversely affect the Colorado River fishes, however the Upper Colorado River Endangered Fish Recovery Program serves as the Reasonable and Prudent Alternative for these impacts. The proposed project would continue to improved water quality by contributing to reducing salt and selenium loading in the Gunnison and Colorado rivers (see Appendix C).
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect
Cultural Resources	No Effect	Adverse affect to Minnesota Ditch (See Appendix D)
Recreation Resources	No Effect	No Effect
Visual Resources	No Effect	No Effect
Prime and Unique Farmland	No Effect	Beneficial Effects
Cumulative Impacts	No Effect	Beneficial Effects

CHAPTER 4 - ENVIRONMENTAL COMMITMENTS AND MITIGATION MEASURES

This section discusses the environmental commitments and related mitigation developed to protect resources and mitigate adverse impacts to a non-significant level. The cooperative agreement between Reclamation and MCRC requires that MCRC be responsible for "…implementing and/or complying with the environmental commitments contained in the NEPA/ESA compliance documents to be developed by Reclamation for the project".

The following environmental commitments will be implemented as an integral part of the Proposed Action. Environmental commitments include:

1. Construction Activities confined to the Surveyed Corridor-All construction activities would be confined to within 150 feet of the surveyed pipeline alignment and construction staging areas. Construction activities outside of this corridor would require additional review by Reclamation to determine if the existing surveys and information are adequate to evaluate additional impacts outside this corridor. If additional borrow or waste areas are identified, the areas will be inventoried, surveyed and evaluated prior to use. Additional NEPA/ESA compliance activities may be required if determined by Reclamation.

2. Public Lands- MCRC will limit the construction footprint within BLM managed lands to the existing canal prism and access road which incorporates a width of approximately 30 feet. Due to the topography and vicinity of the county road, the area of disturbance the public land is narrower than other, more typical sections of the canal. MCRC will obtain any required approvals from BLM prior to construction.

3. Disturbed Areas- During construction, topsoil (if present) would be saved and then redistributed after completion of construction activities. All disturbed areas would be smoothed, shaped, contoured and reseeded to as near their pre-project conditions as practicable. Seeding and planting would occur at appropriate times with weed-free seed mixes as per landowner specifications. The BLM provided MCRC with a recommended dryland seed mix for disturbed areas that do not receive irrigation water.

4. Water Quality-Best Management Practices (BMPs) would be implemented to minimize erosion and protect water quality of downstream resources. BMPs are described in greater detail in the Water Quality section of this document. In the event that dewatering during construction is needed, MCRC or its contractor would obtain required CWA Section 402 permits prior to dewatering. BMPs include:

    -Silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures will be used to prevent erosion from entering water bodies during construction.
    -Concrete pours will occur in forms and/or behind cofferdams to prevent discharge into waterway. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing will be contained and treated or removed for off-site disposal.
    -Fuels, lubricants, hydraulic fluids, and other petrochemicals will be stored and dispensed in an approved staging area. Equipment will be inspected daily for petrochemical leaks. Construction equipment will be parked, stored, and serviced only at an approved staging area.
    -An oil spill response plan will be prepared for area of work where spilled contaminants could flow into water bodies. All employee and workers, including those under separate contract, will be briefed and made familiar with this plan. The plan will be developed prior to initiation of construction. An oil spill response kit, which includes appropriate-sized spill blankets, shall be easily accessible and onsite at all time.
    -Onsite supervisors and equipment operators will be trained and knowledgeable in the use of spill containment equipment.
    -Appropriate federal and Colorado authorities will be immediately notified in the event of any contaminant spill.

5. Irrigation Facilities and Structures-Pursuant to the Cooperative Agreement between MCRC and Reclamation (Co Ag. No. 09-FC-40-2856), MCRC will permanently dewater, remove from irrigation service, and render incapable of irrigation water delivery the Minnesota Canal. The proposed pipeline, including new division boxes, will be placed along the existing canal and backfilled appropriately. MCRC will remove all existing irrigation structures (headgates, drops, etc.) and refill the abandoned canal prism along dry gulch with soil.

6. Vegetation Resources-Ground disturbances would be limited to only those necessary to safely implement the Proposed Action. Best Management Practices to reduce disturbances to vegetation resources reduces the amount of planting or reseeding needed. Planting and reseeding disturbed areas, per landowner specifications, monitoring plantings to ensure establishment, control noxious weeds in disturbed areas, and the use of accepted erosion

control measures during construction are all incorporated as environmental commitments for the proposed action. The seed mixture listed in Section 3.4 or other BLM approved seed mix shall be used to reseed BLM administered lands.

7. Noxious Weeds-Noxious weeds shall be controlled following the Delta County Weed Management Plan and BLM guidelines. A copy of the County Plan is attached as Appendix E. MCRC or its contractor shall also contact the BLM Uncompahgre Field Office regarding additional permitting for herbicide applications on BLM administered lands.

8. Fish and Wildlife Resources- Construction areas would be confined to the smallest feasible area to limit disturbance to wildlife within the Project Area. Open pipeline trenches left overnight would be kept to a minimum to reduce potential entrainment of small animals and public safety problems. Construction holes or pipeline trenches left open overnight shall be covered or include exit ramps at least every ¼ mile to allow entrapped animals to escape. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through.

   To protect wintering deer and elk herds, construction activities upstream of Dry Gulch Road would be limited between December 15th and March 31 on private lands. In some cases during dryer and later winters, construction activities may continue later into January with the concurrence of CPW. The BLM's Resource Management Plan requires that no surface disturbing activities can occur from December 1st through April 30th on the BLM administered land to protect wintering big game. Exceptions or variances to this restriction will be considered and evaluated according to BLM's Uncompahgre Field Office policies.

9. Habitat Replacement-Development and/or enhancement to replace the predicted 11.2 fish and wildlife habitat units lost under the proposed action are required under the Colorado River Salinity Control Act. MCRC is responsible for developing and implementing Reclamation approved wildlife habitat replacement plan to replace fish and wildlife values foregone as required by the Salinity Control Act. Habitat replacement will be implemented concurrently with installation of the pipelines. At the request of MCRC, Reclamation staff will assist in developing potential habitat replacement, however the responsibly for habitat replacement is MCRC's. MCRC is working with the Town of Paonia to develop a habitat replacement plan on Town owned property adjacent to the North Fork. Additional NEPA, ESA, and Historic Preservation Act compliance may be needed to implement the habitat replacement plan. Failure to develop and implement concurrent habitat replacement may result in delays in obligating funding under the Cooperative Agreement.

10. Federally Listed Species - MCRC is entered into a recovery agreement with the Fish and Wildlife Service to incorporate its historic depletions under the umbrella of the Gunnison Basin Biological Opinion. A draft recovery agreement is included in Appendix C. In the event that threatened or endangered species are encountered during construction, MCRC shall stop construction activities until Reclamation has completed consultation with the Fish and Wildlife Service to ensure that adequate measure are in place to avoid or reduce impacts to the species.

11. Cultural Resources - Reclamation, MCRC and the Colorado State Historic Preservation Office (SHPO) will enter into a Memorandum of Agreement to mitigate the Proposed Action's adverse effects to cultural resources. The MOA will commit to historic resource documentation of the Minnesota Canal (5DT1780) recording prior to construction activities in accordance with the guidance for Level 1 documentation found in "Historic Resource Documentation, Standards for Level I, II and III Documentation" (COAHP 2007). The Level I documentation will include a narrative that synthesizes the existing documentation on the properties and describes the properties in the context of the development and history of the Minnesota Canal System. The report shall be submitted to the SPHO within one year of the execution of the MOA. A draft of the MOA is included in Appendix D. In the event that cultural and/or paleontological resources are discovered during construction, MCRC shall stop construction activities until Reclamation has completed consultation with the SHPO and appropriate measures are implemented to protect or mitigate the discovered resource.

12. Hazardous Materials - During construction, the use, storage and disposal of hazardous waste materials and wastes on-site will be managed in accordance with all federal, state, and local standards.

CHAPTER 5-CONSULTATION AND COORDINATION

5.0 GENERAL

The Minnesota Ditch Piping Project was developed by MCRC as a means to address the guidelines in the Colorado River Salinity Control Program and to improve the efficiency of the MCRC system. Conceptual plans were developed by MCRC with assistance from Applegate Group, Inc. of Denver, CO. MCRC prepared and submitted a formal funding application for the Basin-wide salinity funds through Reclamation's Funding Opportunity Announcement (FOA) 08-SF-40-2742.

5.1 CONSULTATION WITH OTHER AGENCIES

This EA was prepared by Applegate Group, Inc. for the Bureau of Reclamation and MCRC. Local, state and federal agencies were contacted and consulted in the preparation of this document. Agencies and organizations consulted during the document development include the following:

- Advisory Council on Historic Preservation, Washington, D.C.
- U.S. Army Corps of Engineers, Grand Junction, CO
- Bureau of Land Management, Montrose, CO
- Colorado Parks and Wildlife, Gunnison, CO
- Colorado Office of Archaeology and Historic Preservation, Denver, CO
- Colorado Water Conservation Board, Denver, CO
- Minnesota Canal and Irrigation Company, Hotchkiss, CO
- Town of Paonia, Paonia, CO
- Delta County, Delta, CO
- U.S. Fish and Wildlife Service, Ecological Service, Grand Junction, CO
- 34 Landowners adjacent to the Minnesota Canal

5.2 COMMENTS OF DRAFT EA

Reclamation distributed copies of the draft environmental assessment to 47 agencies and other interested parties (see Appendix A). Comments on the draft EA were requested to be submitted to Reclamation by July 27, 2012. Reclamation received two written comment letters. Presented below is a summary of comments received and Reclamation's responses.

Bureau of Land Management-Uncompahgre Field Office (See Appendix E)-

Comment 1-Section 3.4 Vegetation and Land Use, easements need to be obtained on **both public** and private property.
Response 1-Changed made.

Comment 2-Section 3.4 Vegetation and Land Use, insert "On lands managed by BLM, all construction, operations and maintenance will be contained within the footprint of existing disturbance of the canal and access road".
Response 2-Change made.

Comment 3: Section 3.10 Recreation Resources, change "1,600 ft" to "2,000 ft" for length of canal that crosses BLM.
Response 3: Change made.

Comment 4: Section 3.12 Summary of Impacts, change "previously" to "in Chapter 4".
Response 4: Change made.

Comment 5: Chapter 4 Item 6, insert "On the public land construction holes or pipeline trenches left open overnight shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through".
Response 5: Change made.

Comment 6: Chapter 4 Item 11- Change item 12 to item 2, change "BLM" to "Public Land" to the start of the first sentence and add "managed, and insert "Due to topography and vicinity of the county road" and change "BLM" to "Public Land" in the second sentence.
Response 5: Change made.

Comment 7: "The EA appears to be missing the sections on Wild and Scenic Rivers, Wilderness, Wilderness Study Area, and lands with wilderness characteristics....".
Response 7: These were added to Section 3.12 Other Resources.

Comment 8: "Unusual format for BLM…"
Response 8: The EA follows the format recommended by Reclamation.

Comment 9: "Typically the riparian and wetland resources are included in a separate section, and specific streams are mentioned if the project occurs near them…"
Response 9: This is a Reclamation document.

Comment 10: CDOW is now Colorado Parks and Wildlife (CPW).
Response10: Change made.

Comment 11: Section 3.5 Fish and Wildlife Resources, change last sentence of second paragraph to read "is within the historic range of Gunnison Sage Grouse".
Response 11: Change made.

Comment 12: Section 3.5 Fish and Wildlife Resources, add discussion on Northern Leopard Frog.
Response 12: Additional discussion was added to Section 3.5.

Comment 13: Section 3.5 Fish and Wildlife Resources, Define habitat units.
Response 13: Additional discussion was added to Section 3.5.

Comment 14: Section 3.5 Fish and Wildlife Resources, analyze impacts from a new diversion and if it will allow for aquatic species movement above or below the diversion on Minnesota Creek?
Response 14: Additional discussion was added to Section 3.5.

Comment 15: Section 3.6 Threatened and Endangered Species, there is no discussion of effected environment for razorback sucker.
Response 15: Additional discussion was added to Section 3.6.

Comment 16: Section 3.6 Threatened and Endangered Species, the final EA should support the no effect finding for listed plants.
Response 16: A rare plant survey was conducted by Rocky Mountain Ecological Service, Inc. A copy of the survey results is included in Appendix C.

Comment 17: Sections 3.5 Fish and Wildlife Resources need discussion on timing of construction and how that may or may not influence wildlife, specifically big game and migratory birds.
Response 17: Additional discussion was added to Section 3.5, as well, as environmental commitment 7 in Chapter 5.

Comment 18: Section 3.5 Fish and Wildlife Resources, should consider the migratory bird treaty act and how impacts may or may not be mitigated for specific species covered under the act.
Response 18: Additional text was added to Section 3.5.

Comment 19: Weed Management: A more completed discussion on revegetation and weed management is needed.
Response 19: With exception to the 2,000 ft of the Minnesota Canal on BLM Administered lands adjacent to Minnesota Creek Road, they remaining project area is subject to the Colorado Weed Management Act: C.R.S Title 35, 5.5, as amended. Additional discussion regarding noxious weed control has been added to Section 3.4.

Comment 20: EA Structure: Structure of EA is confusing.
Response 20: The additional information added from previous comments should address this.

Comment 21: Visual Resources: Visual Resource Management analysis is missing.
Response 21: The analysis was added to the EA.

Comment 22: Staging Areas: Where are the construction staging areas going to be located?
Response 22: Pipe construction staging areas are shown in Appendix F. No staging areas are located on BLM administered lands.

Comment 23: Access: There doesn't seem to be any specific information on the access that will be used such as a highway or county roads. Also are there any traffic safety concerns that need to be addressed?
Response 23: Section 3.4 states "Access for construction, operations and maintenance would utilize existing roadways". Delta County Road and Bridge Department (DCRBD) was included on the distribution list for the draft EA and no safety issues have been identified. Reclamation contacted the DCRBD on September13, 2012 and there are no weight restrictions on the new culvert installed on Minnesota Creek Road at the Dry Gulch crossing. MCIC or its contractor shall contact DCRBD prior to construction to obtain any necessary permits.

Comment 24: Soils: There is no discussion of soils.
Response 24: Soils are discussed briefly in Section 3.4 Vegetation and Land Use because the construction footprint is within previously areas (the canal prism) and construction will follow BMPs described in Chapter 4. Reclamation will also review final construction designs to ensure that acceptable engineering standards are met.

Comment 25: Storm water Conveyance: The proposed action mentions isolated sections of the canal would remain in place to provide storm water conveyance. These locations should be identified on a map. More specifically, do any of these locations occur on BLM?
Response 25: This language was removed from the contract and therefore has been deleted in the EA. There is no storm water conveyance across the BLM portion of the existing canal.

Comment 26: Water Rights: Please include a total decreed amount in Table 1.
Response 26: The net Absolute Decreed amount for Minnesota Canal is 59.857 cfs according to the Colorado Water Conservation Board. This was added to the Water Rights Section.

Comment 27: Please include the water quality standards for Minnesota Creek in Table 2.
Response 27: Change made.

Comment 28: Leases: Change "there is no BLM-16 oil and gas leases active within the project reach" to "there are no leased BLM parcels within the project area".
Response 28: Change made.

Comment 29: Proposed Action: The proposed action is lacking a lot of information.
Response 29: Reclamation disagrees with comment. The proposed action is to replace 5.2 miles of earthen lateral with pipe. The EA provides information regarding specific disturbances, mitigation and design requirements throughout the document. No changes.

Comment 30: Proposed Action: Why is there a "Proposed Action" in Chapter 1 as well as Ch. 2?
Response 30: The EA meets Reclamation's requirements and no changes were made to these sections.

Comment 31: Reclamation of Disturbed Areas: BOR will need to coordinate with BLM during implementation for reclamation. Disturbed areas on BLM will likely need to be seeded, with a seed mix required by the BLM.
Response 31: Reclamation and MCRC have been coordinating with the BLM Uncompahgre Field Office. MCRC was advised and they have contact the BLM-Uncompahgre Field Office regarding necessary permits and requirements on BLM lands. Reclamation coordinated the cultural resource surveys with the BLM archaeologist and BLM is a party to the MOA with the Colorado State Historic Preservation Office which is included in Appendix D. This EA covers Reclamation's action, which is providing salinity funding to MCRC for salinity control. Additional NEPA may be required by BLM to permit MCRC to convert their earthen canal on BLM administered lands to pipe. BLM could impose additional restrictions in BLM's decision document.

<u>Colorado Parks and Wildlife (see Appendix E)</u>

Comment 1: Big Game Winter Range: Project is in severe winter range winter range for both mule deer and elk. CPW recommends that, in order to protect wintering big games, no construction be done during the winter time periods from 12-15 to 3-31 yearly.
Response 1: After additional discussion with CPW, it was determined that limiting construction activities from Elephant Hill upstream would be adequate to protect wintering big game herds. Reclamation identified the Dry Gulch crossing as geographic reference. During mild winters, additional construction on privates upstream of Dry Gulch if approved in writing by CWP during the winter closure period. Changes in winter closures on BLM lands are subject to BLM's approval. The EA discusses the winter closures in Section 3.5 Fish and Wildlife Resources and Environmental Commitment #8.

Comment 2: Wildlife Entrapment: If the pipe is being installed into a deep trench (three feet or deeper) the trench should be equipped with exit berms along the length of the canal trench very ¼ mile during construction so that entrapped wildlife can escape from the trench if they were to fall into the trench.
Response 2: This was added to Section 3.5 Fish and Wildlife Resources and Environmental Commitment #8.

Comment 3: As mentioned in the draft EA, the use of BMPs for storm water and erosion control is extremely important to protect water quality.
Response 3: The BMPs previously discussed in Section 3.3 Water Quality have been incorporated in Environmental Commitment #4.

Comment 4: Revegetation: All disturbed areas should be immediately re-vegetated in order to minimize long term disturbance.
Response 4: See Environmental Commitments #3, #6 and #7.

Comment 5: Weed Management: A weed management plan developed to address noxious weeds that may establish as a result of the ground disturbance.
Response 5: Additional regarding noxious weeds was added to Section 3.4 Vegetation and Land Uses and Environmental Commitment #7.

5.3 DISTRIBUTION LIST

Appendix A contains the distribution list for this environmental assessment.

5.3 LIST OF PREPARERS

Clay Good, E.I., Applegate Group, Inc.
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Mike Zeman, Wildlife and Natural Resource Concepts & Solutions, LLC
John Horn, Alpine Archaeological Consultants, Inc.
Terence Stroh, Bureau of Reclamation

REFERENCES

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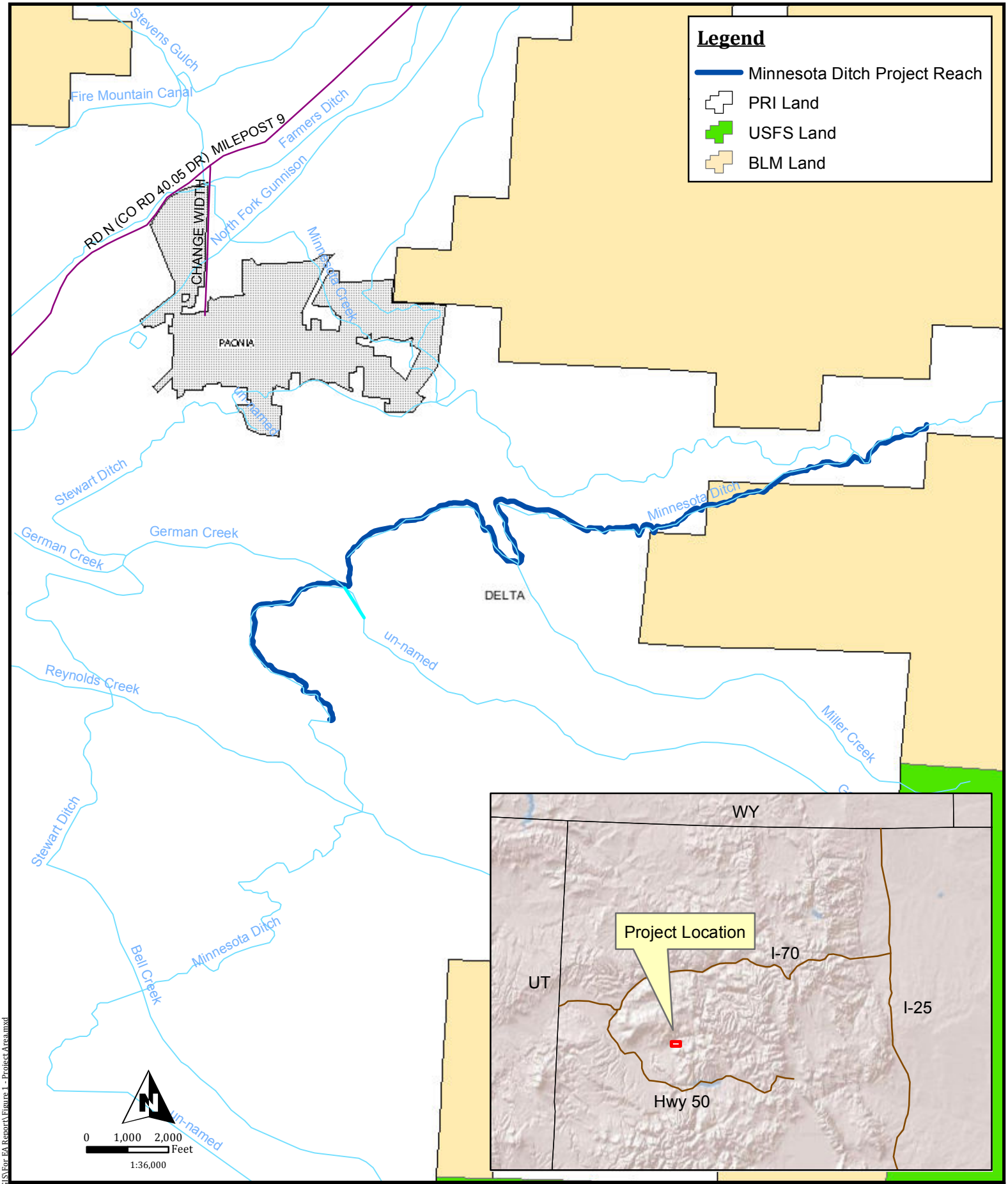

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EA Report

Project Area

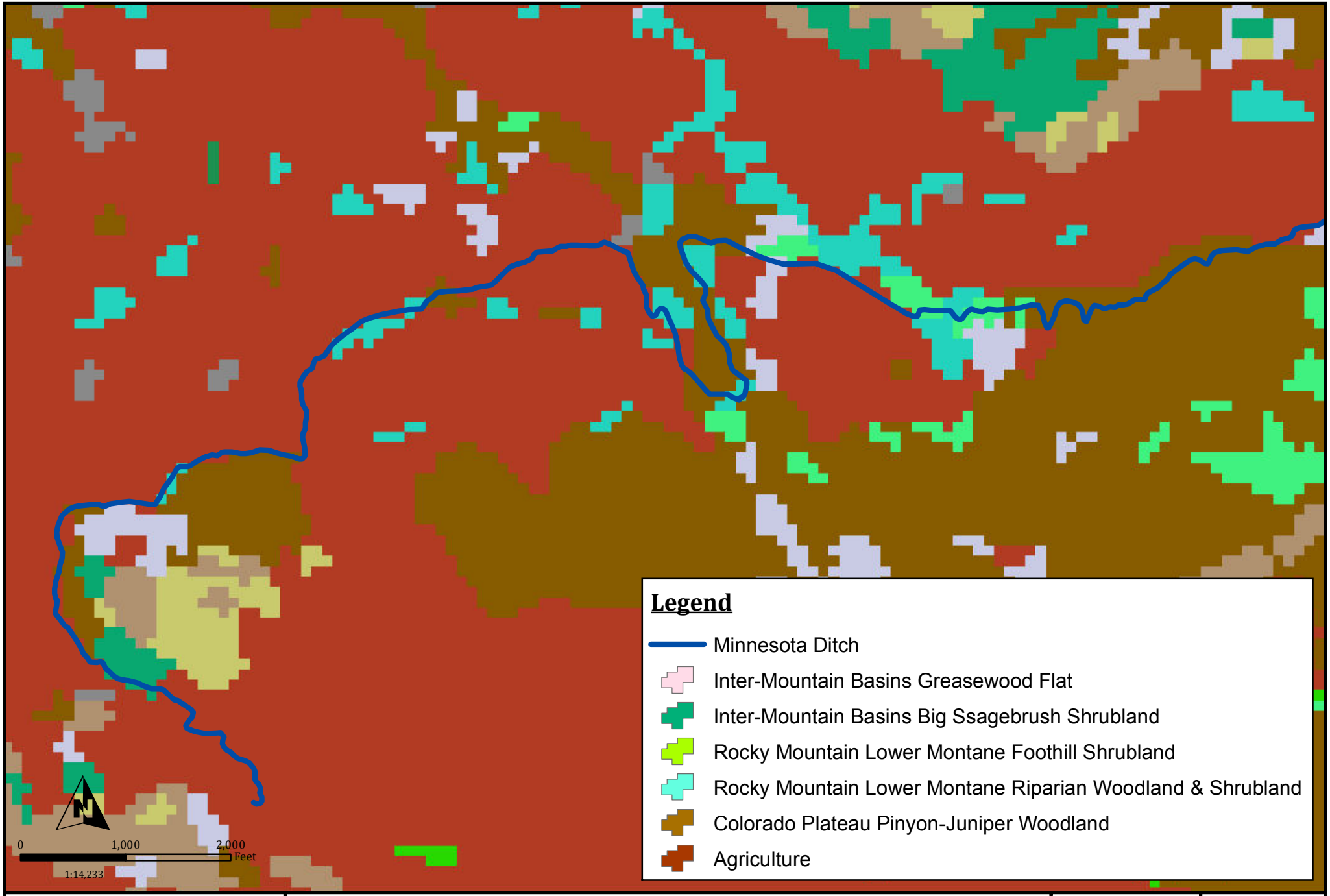
Date: 22 Mar 2012

Job #: 11-104

Drawn By: CAG

Figure: 1

Of: 3



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Minnesota Ditch EA

Major Landcover Types within Project Area

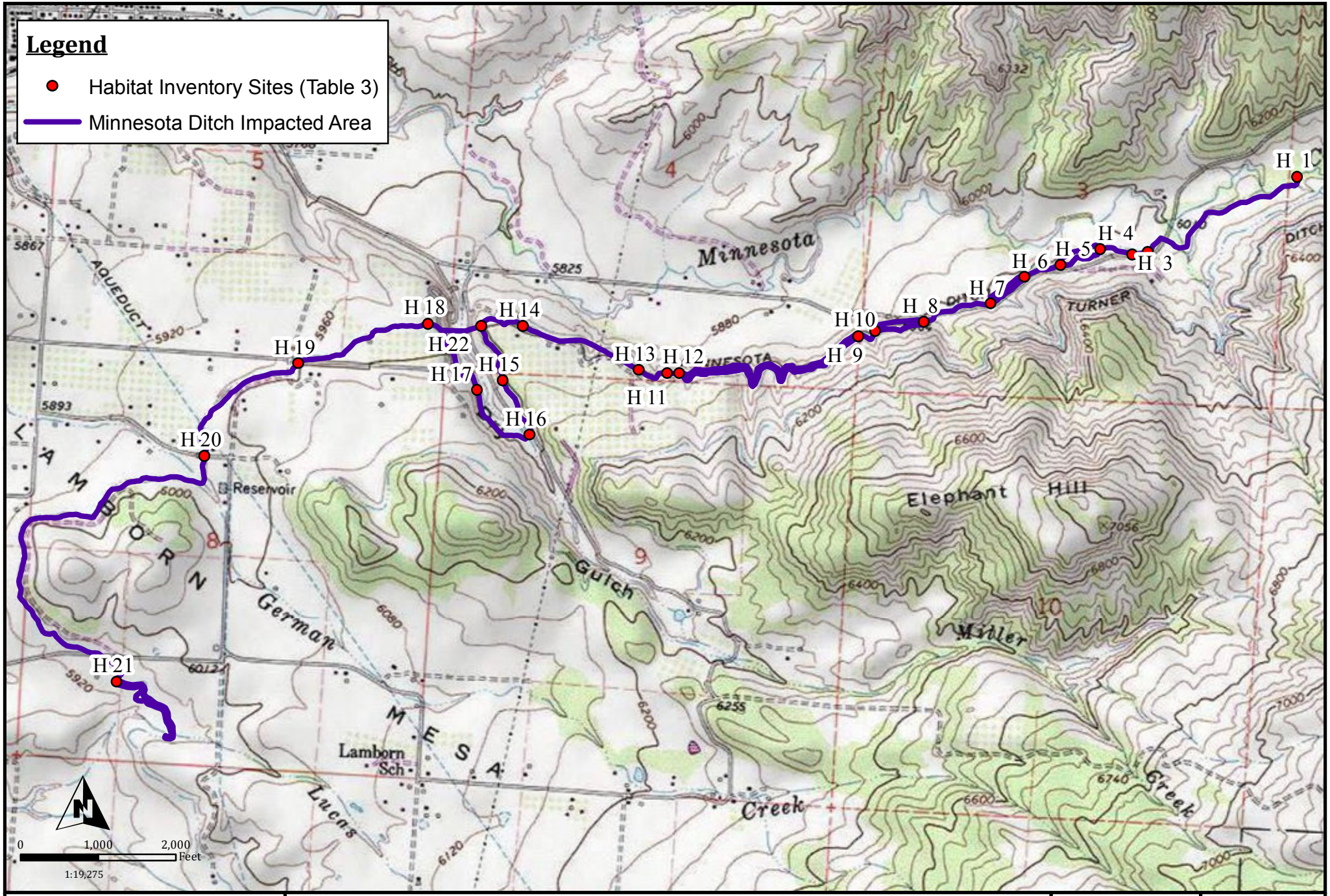
Date: 14 Feb 2012

Job #: 11-104

Drawn By: CAG

Figure: 2

Of: 3



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Minnesota Ditch EA

Riparian and Non-Jurisdictional Wetland Habitat Types

Date: 14 Feb 2012

Job #: 11-104

Drawn By: CAG

Figure: 3

Of: 3

APPENDIX A – DISTRIBUTION LIST

Organizations

Mr. Willie Kistler
Minnesota Canal and Reservoir Company

Ms. Linda Reed, Realty Specialist
Uncompahgre Field Office
Bureau of Land Management

Mr. Glade Hadden, Archaeologist
Uncompahgre Field Office
Bureau of Land Management

Mr. Kyle Banks, District Wildlife Manager
Colorado Parks and Wildlife

Mr. J. Wenum, Gunnison Area Wildlife Manager
Colorado Parks and Wildlife

Delta County Planning and Development

Delta County Road and Bridge, District #3

Ms. Patty Gelatt, Assistant Field Supervisor
US Fish and Wildlife Service

Mr. Neal Schwieterman, Mayor
Town of Paonia

Mr. Edward C. Nichols, State Historic Preservation Officer
Colorado Historical Society

Mr. Nathan Green
US Army Corps of Engineers
Colorado West Regulatory Branch

Land Owners

Mr. Delbert Kendall
Ms. Carol Schoonhoven
Mr. Edwin Allen
Mr. Eric Jessen
Mountain Coal Company
Mr. Gerald Thompson
Mr. Ms. Patricia Oeinck
Mr. Steven Harris
Ms. Rita Murphy
Barbara Grosse-Rhode
Mr. Donald Pierce
Mr. Brad Day
Mr. Daniel Gannon
Mr. Robert Kemper
Mr. Stephen Coonrod
Ms. Deborah Lindblom
Mr. Charles Russell
Mr. Robert Reedy
Simpson Trust
Mr. Ellis Harris
Ms. Mary McCarney
Mr. John Johnson
Ms. Heather Jones
Mr. Charles Beardslee
Mr. David Dorsey
Mr. Christopher Richard Dougherty
Baine Angus, LLC
Jane Vigueria
Paul Maudlin
John Jack Young
Wade Family Trust
Vongontard Adolphe Curt Etienne Rev Living Trust
James L Nierenberger
Segner Family Trust

APPENDIX B - CLEAN WATER ACT EXEMPTIONS

US Army Corps
of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435
Fax No. 505-342-3498

Irrigation Exemption Summary

FARM OR STOCK POND OR IRRIGATION DITCH
CONSTRUCTION OR MAINTENANCE

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4(a)(3)), certain discharges for the construction or maintenance of farm or stock ponds or irrigation ditches have been exempted from requiring a Section 404 permit. Included in the exemption are the construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not the construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

A Section 404 permit is required if either of the following occurs:

(1) Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.

(2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches, or other works or structures used to effect such conversion. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this irrigation exemption will not be complied with, an individual permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

For additional information concerning exemptions, nationwide permits, or for a written determination regarding a specific project, please contact the Corps at the following addresses:

In New Mexico:
Albuquerque District Corps of Engineers
ATTN: Regulatory Branch
4101 Jefferson Plaza, NE
Albuquerque, New Mexico 87109-3435
Phone: (505) 342-3283

In southeastern Colorado:
Southern Colorado Regulatory Office
720 North Main Street, Room 300
Pueblo, Colorado 81003-3047
Phone: (719) 543-9459

In southern New Mexico and western Texas:
El Paso Regulatory Office
P.O. Box 6096
Ft. Bliss, Texas 79906-0096
Phone: (915) 568-1359

US Army Corps
of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435
Fax No. 505-342-3498

Maintenance Exemption Summary

MAINTENANCE OF EXISTING STRUCTURES

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4), certain discharges for the maintenance of currently serviceable structures have been exempted from requiring a Section 404 permit. Included in the exemption is maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design. Emergency reconstruction of unserviceable structures should occur within a reasonable period of time after damage occurs in order to qualify for this exemption.

A Section 404 permit is required if either of the following occurs:

(1) Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.

(2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the discharge of material into backwater areas during the maintenance of a structure or for construction of a pilot channel through a channel reach were existing flowage areas or wetlands are cut off or filled by the placement of material in the waters. A conversion of a Section 404 wetland to a non-wetland is a change in use of an area of waters of the United States. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this maintenance exemption will not be complied with, an individual permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

For additional information concerning exemptions, nationwide permits, or for a written determination regarding a specific project, please contact the Corps at the following addresses:

In New Mexico:
Albuquerque District Corps of Engineers
ATTN: Regulatory Branch
4101 Jefferson Plaza, NE
Albuquerque, New Mexico 87109-3435
Phone: (505) 342-3283

In southeastern Colorado:
Southern Colorado Regulatory Office
720 North Main Street, Room 300
Pueblo, Colorado 81003-3047
Phone: (719) 543-9459

In southern New Mexico and western Texas:
El Paso Regulatory Office
P.O. Box 6096
Ft. Bliss, Texas 79906-0096
Phone: (915) 568-1359

APPENDIX C - ESA COMPLIANCE DOCUMENTS

WCG-TStroh
ENV-7.00

JUL 17 2012

MEMORANDUM

To: Western Colorado Supervisor, Ecological Services, Grand Junction, Colorado

From: Ed Warner
Area Manager

ED WARNER

Subject: Consultation of Minnesota Canal and Reservoir Company Historic Depletions for Gunnison Basin Programmatic Biological Opinion (PBO)

The Bureau of Reclamation under the Colorado River Salinity Control Program has entered into a contract with the Minnesota Canal and Reservoir Company (Minnesota) to pipe portions of the Minnesota Canal to reduce salt loading into the Colorado River. Minnesota has an estimated average annual depletion of 3,190 acre-feet based on data provided by the Colorado Water Conservation Board for the period from 1990 to 2000. Lands irrigated by the Minnesota Canal are estimated at 2,136 acres with diversion on Minnesota Creek, east of Paonia, Colorado. A draft environmental assessment is attached which also serves as Reclamation biological assessment for the proposed project. No new depletions are associated with the project.

The Service has previously issued biological opinions that all depletions with the Upper Colorado River Basin have an adverse effect to Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. The Upper Colorado River Basin Endangered Fish Recovery Program is intended to serve as the reasonable and prudent measure for adverse effects to the endangered fish.

Based on the Gunnison PBO, individual section 7 consultations are required on the Salinity Control Project pursuant to Endangered Species Act, to determine if they fit under the umbrella of the PBO. A draft recovery agreement has been provided to the Minnesota Canal and Reservoir Company and they have been directed to contact your office if there are questions.

Reclamation requests the Service's concurrence that the Minnesota Canal Piping Project will have no new adverse affects to Colorado pikeminnow, razorback sucker, humpback chub, and bonytail; and that Minnesota's historic depletion fits under the umbrella of the PBO.

Reclamation has also determined that the proposed project will have no effect on black-footed ferret, Canada lynx, clay-loving buckwheat, Colorado Basin hookless cactus, greenback cutthroat trout, and yellow-billed cuckoo.

If you have any question or need additional information, please contact me directly at 970-248-0608 or by email at tstroh@usbr.gov.

Attachment-2

Draft Environmental Assessment dated May 2012
Applegate Group Inc. Memorandum dated April 4, 2012

cc: Mr. Willie Kistler
Minnesota Canal and Reservoir Company
12257 4050 Rd
Paonia, CO 81428

Mr. Craig Allman
Applegate Group, Inc.
118 West 6th St., Suite 100
Glenwood Springs, CO 81601

bc: WCG-SMcCall, WCG-DCrabtree

WBR:TStroh:kcronecrunk:7/12/2012:970-248-0608:Consultation of Minnesota Canal and Reservoir Company Historic Depletions for Gunnison Basin Programmatic Biological Opinion (PBO)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/GJ-6-CO-09-F-0001-GP-020
TAILS 06E24100-2012-F-0208

August 10, 2012

Memorandum

To: Area Manager, Bureau of Reclamation, Grand Junction, Colorado

From: Western Colorado Supervisor, Ecological Services, Grand Junction, Colorado

Subject: Consultation of Minnesota Canal and Reservoir Company Historic Depletions for Gunnison Basin Programmatic Biological Opinion (PBO)

In accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (Service) transmits this correspondence to serve as the final biological opinion (BO) for the Minnesota Canal and Reservoir Company Historic Depletions for Gunnison Basin Programmatic Biological Opinion (PBO).

The Bureau of Reclamation under the Colorado River Salinity Control Program has entered into a contract with the Minnesota Canal and Reservoir Company (Minnesota) to pipe portions of the Minnesota Canal to reduce salt loading into the Colorado River. Minnesota has an estimated average annual depletion of 3,190 acre-feet based on data provided by the Colorado Water Conservation Board for the period from 1990-2000. Lands irrigated by the Minnesota Canal are estimated at 2,136 acres with diversion on Minnesota Creek, east of Paonia, Colorado.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated on January 22, 1988. The Recovery Program was intended to be the reasonable and prudent alternative for individual projects to avoid the likelihood of jeopardy to the endangered fishes from impacts of depletions to the Upper Colorado River Basin. In order to further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (RIPRAP) which identifies actions currently believed to be required to recover the endangered fishes in the most expeditious manner.

On December 4, 2009, the Service issued a final Gunnison River Basin Programmatic Biological Opinion (this document is available for viewing at the following internet address:

1. **The amount or extent of take specified in the incidental take statement for this opinion is exceeded**. The terms and conditions outlined in the incidental take statement are not implemented. The implementation of the proposed reoperation of Aspinall and the Selenium Management Program will further decrease the likelihood of take caused by water depletion impacts.

2. **New information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion**, such as impacts due to climate change. In preparing this opinion, the Service describes the positive and negative effects of the action it anticipates and considered in the section of the opinion entitled "EFFECTS OF THE ACTION."

3. **The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the BO.** It would be considered a change in the action subject to consultation if the reoperation of Aspinall and the Selenium Management Program described in this opinion are not implemented within the required timeframes. If a draft Selenium Management Program document is not completed within 18 months of the final PBO and a final document within 24 months, reinitiation of consultation will be required. Reinitiating consultation could consist of an exchange of memoranda examining the progress made on the plan and evaluating the consequences of extending the timeframe. Also, at any time, if funding is not available to implement the Selenium Management Program reinitiation of consultation will be required.

   The analysis for this BO assumed implementation of the Colorado River Mainstem Action Plan of the RIPRAP because the Colorado pikeminnow (*Ptychocheilus lucius)* and razorback sucker *(Xyrauchen texanus*) that occur in the Gunnison River use the Colorado River and are considered one population. The essential elements of the Colorado River Plan are as follows: 1) provide and protect instream flows; 2) restore floodplain habitat; 3) reduce impacts of nonnative fishes; 4) augment or restore populations; and 5) monitor populations and conduct research to support recovery actions. The analysis for the non-jeopardy determination of the proposed action that includes about 37,900 acre-feet/year of new water depletions from the Gunnison River Basin relies on the Recovery Program to provide and protect flows on the Gunnison and Colorado Rivers.

4. **The Service lists new species or designates new or additional critical habitat, where the level or pattern of depletions covered under this opinion may have an adverse impact on the newly listed species or habitat.** If the species or habitat may be adversely affected by depletions, the Service will reinitiate consultation on the PBO as required by its section 7 regulations. The Service will first determine whether the Recovery Program can avoid such impact or can be amended to avoid the likelihood of jeopardy and/or adverse modification of critical habitat for such depletion impacts. If the Recovery Program can avoid the likelihood of jeopardy and/or adverse modification of critical habitat no additional recovery actions for individual projects would be required, if the avoidance actions are included in the Recovery Action Plan. If the Recovery

GUNNISON RIVER RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 10 day of August, 2012, by and between the United States Fish and Wildlife Service (Service) and Minnesota Canal and Reservoir Company (Water User).

WHEREAS, in 1988, the Secretary of Interior, the Governors of Wyoming, Colorado and Utah, and the Administrator of the Western Area Power Administration signed a Cooperative Agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program); and

WHEREAS, the Recovery Program is intended to recover the endangered fish while providing for water development in the Upper Basin to proceed in compliance with state law, interstate compacts and the Endangered Species Act; and

WHEREAS, the Colorado Water Congress has passed a resolution supporting the Recovery Program; and

WHEREAS, on December 4, 2009, the Service issued a programmatic biological opinion (2009 Opinion) for the Gunnison River Basin and the operation of the Wayne N. Aspinall Unit concluding that implementation of specific operation of the Aspinall Unit, implementation of a Selenium Management Plan and specified elements of the Recovery Action Plan (Recovery Elements), along with existing and a specified amount of new depletions, are not likely to jeopardize the continued existence of the endangered fish or adversely modify their critical habitat in the Gunnison River subbasin and Colorado River subbasin downstream of the Gunnison River confluence; and

WHEREAS, Water User is the Minnesota Canal and Reservoir Company (Water Project), which causes or will cause depletions to the Gunnison River subbasin; and

WHEREAS, Water User desires certainty that its depletions can occur consistent with section 7 and section 9 of the Endangered Species Act (ESA); and

WHEREAS, the Service desires a commitment from Water User to the Recovery Program so that the Program can actually be implemented to recover the endangered fish and to carry out the Recovery Elements.

NOW THEREFORE, Water User and the Service agree as follows1:

1. The Service agrees that implementation of the Recovery Elements specified in the 2009 Opinion will avoid the likelihood of jeopardy and adverse modification under section 7 of the ESA, for depletion impacts caused by Water User's Water Project. Any consultations under section 7 regarding Water Project's depletions are to be governed by the provisions of the 2009 Opinion. The Service agrees that, except as provided in the 2009 Opinion, no other measure or action shall be required or imposed on Water Project to comply with section 7 or section 9 of the ESA with regard to Water Project's depletion impacts or other impacts covered by the 2009 Opinion. Water User is entitled to rely on this Agreement in making the commitment described in paragraph 2. Language to protect a water user that does their part, but actions of others cause se goals to not be met.

2. Water User agrees not to take any action which would probably prevent the implementation of the Recovery Elements. To the extent implementing the Recovery Elements requires active cooperation by Water User, Water User agrees to take reasonable actions required to implement those Recovery Elements. Water User will not be required to take any action that would violate its decrees or the statutory authorization for Water Project, or any applicable limits on Water User's legal authority. Water User will not be precluded from undertaking good faith negotiations over terms and conditions applicable to implementation of the Recovery Elements.

3. If the Service believes that Water User has violated paragraph 2 of this Recovery Agreement, the Service shall notify both Water User and the Management Committee of the Recovery Program. Water User and the Management Committee shall have a reasonable opportunity to comment to the Service regarding the existence of a violation and to recommend remedies, if appropriate. The Service will consider the comments of Water User and the comments and recommendations of the Management Committee, but retains the authority to determine the existence of a violation. If the Service reasonably determines that a violation has occurred and will not be remedied by Water User despite an opportunity to do so, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion. In that event, the Water Project's depletions would be excluded from the depletions covered by 2009 Opinion and the protection provided by the Incidental Take Statement.

4. Nothing in this Recovery Agreement shall be deemed to affect the authorized purposes of Water User's Water Project or The Service's statutory authority.

5. This Recovery Agreement shall be in effect until one of the following occurs.

a. The Service removes the listed species in the Upper Colorado River Basin from the endangered or threatened species list and determines that the Recovery Elements are no longer needed to prevent the species from being relisted under the ESA; or

---

1Individual Recovery Agreement may be changed to fit specific circumstances.

b. The Service determines that the Recovery Elements are no longer needed to recover or offset the likelihood of jeopardy to the listed species in the Upper Colorado River Basin; or

c. The Service declares that the endangered fish in the Upper Colorado River Basin are extinct; or

d. Federal legislation is passed or federal regulatory action is taken that negates the need for [or eliminates] the Recovery Program.

6. Water User may withdraw from this Recovery Agreement upon written notice to the Service. If Water User withdraws, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion.

Minnesota Canal and Reservoir Company — Date: 2/27/12

Western Colorado Supervisor
U.S. Fish and Wildlife Service — Date: 8/10/12

ROCKY MOUNTAIN ECOLOGICAL SERVICES, INC.
NEPA••WILDLIFE••VEGETATION••WILDFIRE MITIGATION••WETLANDS••PLANNING

July 24, 2012

Lindsey George, PhD, P.E.
Craig Ullman, P.E.
Applegate Group, Inc.
118 West 6th Street, Suite 100
Glenwood Springs, CO 81601

RE: Rare Plant Surveys along the proposed pipeline project for the Minnesota Canal

Dear Ms. George and Mr. Ullman:

Per your request, we have completed a rare plant assessment and survey along the Minnesota Ditch for a piped irrigation canal extension project in the vicinity of Paonia, Colorado. The area to be surveyed began at the Minnesota Ditch headgate off of Minnesota Creek (directly east of the town of Paonia) along the ditch right-of-way and continued to the south side of Lambhorn Mesa just prior to Elk Valley Road. The section between the N25 Road crossing and Elk Valley Road consisted entirely of established agricultural lands rendering the area devoid of any potential habitat for species of concern. Several sections of the ditch resided in converted agricultural lands or heavily grazed pinyon-juniper woodlands. The majority of the upper end of the proposed section for piping ran through Gambel oak/Utah serviceberry shrublands.

Plant Ecologist, Lisa Tasker met Tom Gillespie on June 22nd and was escorted along the entire length of ditch in the project area. Ms. Tasker then went back to specific areas of interest along the ditch, taking pertinent photos and GPS points for reference (this data can be forwarded upon request). The BLM list of Rare, Threatened and Endangered plant species in the Uncompahgre Resource Area was thoroughly referenced.

The following table lists the plant species that were considered. Most of these plants did not have habitat in the vicinity of the Minnesota Ditch, nor the right-of-way within the expected area of disturbance with the pipeline installation.

The following table was constructed to give information regarding each plant on the Uncompahgre BLM Field Office's list. Ms. Tasker also has extensive experience with local U.S. Forest Service listed rare plant species and plant species of concern. Most of these species were disregarded as the site harbored no suitable habitat.

PO BOX 833 • GLENWOOD SPRINGS • COLORADO • 81602
PHONE/FAX: (970) 945-9558 • CELL: (970) 309-4454
EMAIL: EPETTERSON@RMES-INC/COM • WWW.RMES-INC.COM

Species	Status/ BLM sensitive and/or CNHP Rank	Habitat Characteristics	Potential habitat in Project Area
Eriogonum pelinophilum	Endangered	Soils are whitish, alkaline, clay soils of the Mancos shale formation stretching from Hotchkiss west then south to Montrose. Found within swales or drainages retaining extra moister. Occurs from 5,180-6,350' in elevation.	No, none found
Sclerocactus glaucus	Threatened	On alluvial benches or lower mesa slopes above river flood plains along the Colorado and Gunnison Rivers and their tributaries. Elev. 3,900-6,000 ft.	Yes,none found
Astragalus linifolius	Sensitive G3Q/S3	Within the Chinle and Morrison Formations with pinyon-juniper and sagebrush. Elev. 4,800-6,200 ft.; western Delta, Mesa and Montrose Co	No, none found
Astragalus naturitensis	Sensitive G3/S2S3	Variable – Found in moist aspen/ spruce forests, but also on Mancos shale in pinyon- juniper. 6,900 – 8,800 ft elevation. Flowers in July.	No, none found
Astragalus rafaelensis	Sensitive G3Q/S1	Streamsides in spruce/fir forests, seepy hillsides, along pond edges. 6,040 to 10,800 ft.	No, none found
Astragalus sesquiflorus	Sensitive G3/S1?	Found on sandstone rock ledges, fissures of domed slickrock, talus cliffs and occasional sandy washes. Elev. 5,00-5,500 ft.	No, none found
Cirsium perplexans	Sensitive G3/S1	Open areas and disturbed sites in mixed shrublands and pinyon juniper. Elev. 5,000-8,000 ft. Colorado and Gunnison river valleys.	Yes, none found
Lesquerella vicina	Sensitive G1/S1	Found on Adobe Mancos shale on greyish white soils. To date, endemic to Montrose and Ouray Cos. Elev 5,800-7,500 ft.	No, none found
Lomatium concinnum	Sensitive G2/S1	Habitat- Adobe hills on plains and rocky soils derived from the Mancos Shale Formation. Assoc. with sagebrush, shadscale, greasewood shrub communities. 5,500-7,000 ft.	No, none found
Lupinus crassus	Sensitive G2/S2	Pinyon-juniper woodlands on clay barrens derived form Chinle or Mancos shales. Washes and draws with sparse vegetative cover. Elev. 5,000-5,800 ft.	No, none found
Lygodesmia doloresensis	Sensitive G1Q/S1	Endemic on benches of the Dolores River Valley, Mesa C. Alluvium and colluvium of the Cutler Formation. Elev 4,000-5,500 ft.	No, none found
Mimulus eastwoodiae	Sensitive G3/S1S2	Seeps on steep canyon walls.	No, none found
Pediomelum aromaticum	Sensitive G3/S2	Sandy soils of open pinyon-juniper woodlands or adobe hills. Elev 4,800-5,700 ft. Mesa and Montrose Cos.	No, none found

The list above clearly shows that few species had suitable habitats in the vicinity of the project. No plant species on the BLM list referenced or other rare plant species on the Grand Mesa, Uncompahgre and Gunnison National Forests were found on the project site. The next lower reaches of the Minnesota Ditch have more potential for rare species habitats than this upper section, but no impacts to this area are at issue at this time.

Close attention was also paid to elevations as they are important for targeting searches for specific plants of interest. The Minnesota Ditch headgate (approx. 6,200 feet) is located just south of Jumbo Mountain and east of the town of Paonia. It continues west between Jumbo Mountain and Elephant Hill. The section crossing Dry Gulch is partially piped and from there the open ditch again continues around two prominent, heavily grazed, juniper covered hills and onto Lamborn Mesa (approx. 5,920').

GPS points and photos documenting habitats along the proposed section to be piped of the Minnesota Ditch are easily made available upon inquiry.

Best regards,

Lisa Tasker

Lisa Tasker
Rocky Mountain Ecological Services, Inc.

APPENDIX D – CULTURAL RESOURCE COMPLIANCE DOCUMENTS

HISTORY Colorado

OFFICIAL FILE COPY
RECEIVED BOR W.C.A.O.
GRAND JUNCTION

FEB 08 2012

CLASS	INITIALS	SURNAME
2/13	EW	
2/16	LOC	
2/21	TS	

February 1, 2012

Carol DeAngelis
Area Manager
Bureau of Reclamation
Upper Colorado Region
Western Colorado Area Office
2764 Compass Drive, Suite 106
Grand Junction, Colorado 81506-8785

Re: Finding of Adverse Effect to the Minnesota Canal, Delta County, Colorado for the Minnesota Canal Salinity Control Project (CHS #61219)

Dear Ms. DeAngelis,

Thank you for your correspondence dated January 24, 2012 (received by our office on January 26, 2012) regarding the subject project.

Following our review of the documentation provided, we concur with your determination that site 5DT1817 is **eligible** for the National Register of Historic Places (NRHP). We concur with your determination that 5DT1593.2 supports the overall eligibility of the larger linear resource (determined eligible for the NRHP on October 20, 2005). We concur with your determination that site 5DT1816 is **not eligible** for the NRHP.

We have reviewed and agree to the treatment recommendations as outlined in the report. We concur with the proposed mitigation for site 5DT1817 that stipulates avoidance via protective fence installation and appropriate monitoring of all ground disturbing activities in close proximity to this NRHP-eligible resource. Further, we concur that the proposed project will result in an **adverse effect** to the Minnesota Canal (5DT1593) and find the proposed treatment satisfactory. As such, we look forward to further consultation regarding the development of a Memorandum of Agreement (MOA) to mitigate this adverse effect, as stipulated in 36 CFR 800.6.

Thank you for the opportunity to comment. We look forward to continued consultation on the subject project. If we may be of further assistance, please contact Mark Tobias, Section 106 Compliance Manager at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,

For Edward C. Nichols
State Historic Preservation Officer
ECN/MAT

WWW.HISTORYCOLORADO.ORG

HISTORY COLORADO CENTER 1200 BROADWAY DENVER COLORADO 80203

MEMORANDUM OF AGREEMENT
BETWEEN THE WESTERN COLORADO AREA OFFICE, BUREAU OF RECLAMATION AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MINNESOTA CANAL PIPING PROJECT, COLORADO RIVER BASIN SALINITY CONTROL PROGRAM

WHEREAS, the Bureau of Reclamation (Reclamation) as lead Federal agency has determined that the Minnesota Canal Piping Project will have an adverse effect on the Minnesota Canal (5DT1593). A section of the Minnesota Canal (5DT1593.2) and a historic homestead (5DT1817) have been determined by Reclamation and the Colorado State Historic Preservation Officer (SHPO) to be eligible for inclusion in the National Register of Historic Places (NRHP). Reclamation has consulted with the SHPO pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (26 U.S.C. 470f); and

WHEREAS, the Minnesota Canal and Reservoir Company is the sponsor of the Minnesota Canal Piping Project and has participated in the consultation and has been invited to sign the Memorandum of Agreement (MOA) as a concurring party; and

WHEREAS, the Bureau of Land Management and has participated in the consultation and has been invited to sign the Memorandum of Agreement (MOA) as a concurring party; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), Reclamation has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination providing the specified documentation, and the Council has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, pursuant to Section 106 of the NHPA, Reclamation and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect on historic properties.

STIPULATIONS

1. It is mutually understood and agreed by and between the parties that:

    a. Prior to any modification of the Minnesota Canal (5DT1593), Reclamation will ensure that these properties will be recorded in accordance with the guidance for Level I Documentation found in "Historic Resource Documentation, Standards for Level I, II, and III Documentation" (Office of Archaeology and Historic Preservation Publication 1595, October 2007). The documentation will include mapping of the properties and photographic documentation of those portions of each historic property to be included in the lining project.

Photographs will be black and white archival quality (4" x 6") prints. Features will be plotted on the maps with GPS waypoints and will be extensively described and indexed in the report.

b. Prior to construction, site 5DT1817 will be flagged and fenced with protective fencing to avoid impacting this NRHP eligible resource.

c. Reclamation will supplement the Level I Documentation with a descriptive and historical narrative. The narrative will synthesize the existing documentation on Site 5DT1593 and describe it in the context of the development and history of the North Fork area. The narrative will include photographs of the landscape features taken during the cultural resources survey. A Summary Report for the recorded segment, which includes the Level I Documentation and the narrative, will be prepared.

The Summary Report will be prepared within one year of the execution of this MOA.

2. Monitoring: The signatories may monitor activities pursuant to this MOA, and the Council will review such activities if so requested by a party to this MOA. Reclamation will cooperate with the signatories in carrying out their review and monitoring responsibilities.

3. Dispute Resolution: Should the SHPO object within 30 days to any documentation provided for its review pursuant to this agreement, Reclamation shall consult with the SHPO to resolve the objection. If Reclamation determines the objection cannot be resolved Reclamation shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation the Council will:

   a. Advise the agency that the Council concurs in the agency's proposed response to the objection, whereupon the agency will respond to the objection accordingly;

   b. Provide the agency with recommendations, which the agency shall take into account in reaching a final decision regarding its response to the objection; or

   c. Notify the agency that the objection will be referred for comment pursuant to 36 CFR § 800.7(a)(4), and proceed to refer the objection and comment. The agency shall take the resulting comment into account in accordance with 36 CFR § 800.7(c)(4).

4. Amendment and Termination: Any signatory to this agreement may request that it be amended, whereupon the parties will consult to reach a consensus on the proposed amendment. Where no consensus can be reached, the agreement will not be amended.

5. Duration: This MOA will be null and void if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, Reclamation shall either (a) execute a MOA pursuant to 36 CFR § 800.6, or (b) request, take into account, and respond to the comments of the Council under 36 CFR § 800.7. Prior to such time, Reclamation may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation 4 above. Reclamation shall notify the signatories as to the course of action it will pursue.
6. In the event that Congress amends Section 106 of the NHPA or in the case of substantial changes to 36 CFR Part 800, the parties to this agreement will consider whether it would be appropriate to amend the agreement. Any signatory to this agreement may terminate it by providing thirty (30) days notice to the other parties, provided that the signatories and concurring parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.

7. Failure to Carry Out Terms: Failure to carry out the terms of this MOA requires that Reclamation again request the Council's comments in accordance with 36 CFR Part 800. If Reclamation cannot carry out the terms of the MOA, it will not take or sanction any action or make an irreversible commitment that would result in an adverse effect to the historic property covered by the MOA or that would foreclose the Council's considerations of modifications or alternatives that could avoid or mitigate the adverse effect on the properties until the commenting process has been completed.

Execution of this MOA by Reclamation and the SHPO, its subsequent acceptance by the Council, and implementation of its terms, evidence that Reclamation has afforded the Council an opportunity to comment on the effects of the Minnesota Canal Piping Project on the two historic properties and that Reclamation has taken into account the effects of the undertaking on historic properties.

SIGNATORIES:

Colorado State Historic Preservation Officer

By:_____ Date:
Edward C. Nichols, SHPO

Bureau of Reclamation, Western Colorado Area Office

By:_____ Date:
Ed Warner, Area Manager

CONCURRING PARTIES:

Minnesota Canal and Reservoir Company

By:_____ Date:
Willie Kistler, President

Bureau of Land Management, Uncompahgre Field Office

By:_____ Date:
Barbara Sharrow, Field Manager

APPENDIX E –DELTA COUNTY NOXIOUS WEED MGT. PLAN

DELTA COUNTY NOXIOUS WEED MANAGEMENT PLAN

Adopted April 5 , 2010

I INTRODUCTION

1.01 Purpose

The purpose of the Delta County Noxious Weed Management Plan is to protect effectively against designated noxious weeds which constitute a present threat to the continued economic and environmental value of lands in the unincorporated County. This Plan implements the mandates of the Colorado Noxious Weed Act, and includes setting forth management objectives, plans, methods or practices which utilize a variety of techniques for the integrated management of noxious weeds. In establishing a coordinated program for the integrated management of noxious weeds, it is the County's intent to encourage all appropriate and available management methods, promoting those methods which are the most environmentally benign and which are practical and economically feasible, consistent with the noxious weed management objectives and plans mandated by the State Department of Agriculture and the Colorado Noxious Weed Act.

1.02 Enactment Authority

This plan complies with the Colorado Noxious Weed Act (Title 35, Article 5.5, C.R.S) as revised by the 2004 Colorado Legislature. The purpose of the Delta County Noxious Weed Management Plan is to coordinate the control of targeted noxious weeds within Delta County as determined by the Colorado Noxious Weed Act. The targeted noxious weeds to be controlled are designated within this plan. Control is aimed at eradicating, reducing, suppressing or containing populations of non-native, invasive noxious weeds which pose a threat to the environment and economy of Delta County by reducing wildlife habitat, agricultural production, property values, and threatening the native plant populations unique to Delta County.

1.03 Jurisdiction and Scope

Upon acceptance of this plan, the Delta County Board of County Commissioners will approve the new Delta County Noxious Weed Management Plan (CRS§35-5.5-105). The Delta County Noxious Weed Program (the Program) will then implement the Delta County Noxious Weed Plan. The Program will monitor and control weeds on county properties, on governmental properties and right of ways under intergovernmental cooperative agreements between the federal and state governments found within the county, and on private property under contract with the private property owner. Municipalities in Delta County are not covered by this Plan and must implement their own weed control strategies.

The Colorado Noxious Weed Act provides a mechanism to enforce weed control on private lands. A summary of this act is found in Attachment A. However, the Delta County Commissioners have historically preferred to pursue a policy of voluntary weed control by property owners. Enforcement procedures for control of selected species on the Colorado Department of Agriculture A and B list will be implemented when necessary. These species, as of January 1, 2010, are yellow starthistle, purple loosestrife and leafy spurge.

1.04 Severity of Noxious Weeds in Delta County

Delta County currently has some well established weed problems that cannot be solved in the near term. The primary weeds in this category are Russian knapweed, Canada, musk and scotch thistles and hoary cress (whitetop). A second group of weeds can be controlled in a very short period of time with prompt identification and diligent control. These include oxeye daisy, yellow toadflax and escaped ornamentals such as myrtle spurge and purple loosestrife. The largest infestation of yellow starthistle in Colorado was found northwest of Paonia in 2008. This infestation will get the highest priority for control. The increased soil disturbance through the subdivision of land into residential and recreational areas, as well as increased use of public and private lands may create new noxious weed problems. It is imperative that the Delta County Weed Control Program continues to monitor weed populations throughout the county and initiate control programs before weed densities of new infestations become unmanageable.

1.05 Operating Budget

The Delta County Noxious Weed Program is administered by Delta County Board of County Commissioners. Funding sources include the Delta County General Fund, cooperative funding with public agencies, grants, and revenue producing contracts. Memorandums of Understanding (MOUs) are currently in place between Delta County and the US Forest Service, Bureau of Land Management and the Colorado Division of Wildlife.

1.06 Public Comment

Public comment and participation is encouraged. Public comments may be directed to the Program Coordinator in the Hotchkiss Courthouse Annex, members of the Weed Advisory Board or to the Board of County Commissioners.

1.07 Delta County Weed Advisory Board

The Delta County Commissioners will appoint the Delta County Weed Advisory Board (CRS§35-5.5-107). The Delta County Weed Advisory Board will provide policy and advice for weed control in Delta County with the approval of the Delta County Board of County Commissioners. Powers for the Weed Advisory Board are outlined in the Colorado Noxious Weed Act under the provision of CRS§35-5.5-107.

1.08 Weed Lists: State of Colorado

Under the Colorado Noxious Weed Act, the Colorado Department of Agriculture has appointed a Colorado State Noxious Weed Advisory Board. The Colorado State Noxious Weed Advisory Board and the Department of Agriculture Commissioner have designated the following classifications and management goals for the noxious weed species below:

List A Species

List A species in Colorado are designated by the Commissioner for eradication. These weeds are either relatively rare or have not been found in Colorado. Species that are in **bold print** are known to exist in Delta County as of January 1, 2009.

African rue (*Peganum harmala*)
Camelthorn (*Alhagi pseudalhagi*)
Common crupina (*Cupina vulgaris*)
Cypress spurge (*Euphorbia cyparissias*)
Dyers woad (*Isatis tinctoria*)
Giant salvinia (*Salvinia molesta*)
Hydrilla (*Hydrilla verticillata*)
Meadow knapweed (*Centaurea pratensis*)
Mediterranean sage (*Salvia aethopsis*)
Medusahead (*Taeniatherum caput-medusae*)
Myrtle spurge *(Euphorbia myrsinites)*
Orange hawkweed *(Hieracium aurantiacum)*
Purple loosestrife (*Lythrum salicaria*)
Rush skeletonweed (*Chondrilla juncea*)
Sericea lespedeza (*Lespedeza cuneata*)
Squarrose knapweed (*Centaurea virgata*)
Tansy ragwort (*Senecio jabobaea*)
Yellow starthistle (*Centaurea solstitialis*)

List B Species

List B weed species are species for which the Commissioner (in consultation with the state noxious weed advisory committee, local governments, and other interested parties) develops and implements state noxious weed management plans designed to stop the continued spread of these species. Species that are in **bold print** are known to exist in Delta County as of January 1, 2009

Absinth wormwood (*Artemisia absinthium*)
Black henbane *(Hyoscyamus niger)*
Bouncingbet (*Saponaria officinalis*)

Bull thistle *(Cirsium vulgare)*
Canada thistle *(Cirsium arvense)*
Chinese clematis *(Clematis orientalis)*
Common tansy *(Tanacetum vulgare)*
Common teasel (*Dipsacus fullonum*)
Dalmatian toadflax *(Linaria dalmatica)*
Dame's rocket *(Hesperis matronalis)*
Diffuse knapweed *(Centaurea diffusa)*
Eurasian watermilfoil *(Myriophyllum spicahim*)
Hoary cress or Whitetop *(Cardaria draba)*
Houndstongue *(Cynoglossum officinale)*
Leafy spurge *(Euphorbia esula)*
Moth mullein (*Verbascum blattaria*)
Musk thistle *(Carduus nutans)*
Oxeye daisy *(Chrysantheum leucanthemum)*
Perennial pepperweed (*Lepidium latifolium*)
Plumeless thistle *(Carduus acanthoides)*
Quackgrass (*Elytrigian repens*)
Redstem filaree (*Erodium cicutarium*)
Russian knapweed *(Centaurea repens)*
Russian olive (*Elaneagnus angustifolia*)
Saltcedar *(Tamarix ramosssissima)*
Scentless chamomile *(Matricaria perorate)*
Scotch thistle (*Onopordum acanthium*)
Spotted knapweed *(Centaurea maculosa)*
Spurred anoda (*Anoda cristata*)
Sulfur cinquefoil (*Potentilla recta*)
Venice mallow (*Hibiscus trionum*)
Wild caraway *(Carum carvi)*
Yellow nutsedge (*Cyperus esculentus*)
Yellow toadflax *(Linaria vulgaris)*

List C Species

List C weed species are species for which the Commissioner (in consultation with the state noxious weed advisory committee, local governments, and other interested parties) will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will be to stop the continued spread of these species and provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species. Species that are in **bold print** are known to exist in Delta County as of January 1, 2009

Cheatgrass *(Bromus tectorum)*
Chicory (*Cichorium intybus*)

Common burdock (*Arctium minus*)
Common mullein *(Verbascum thapsus)*
Field bindweed *(Convolvulus arvensis)*
Halogeton (*Halogeton glomeratus*)
Johnsongrass (*Sorghum halepense*)
Jointed goatgrass (*Aegilops cylindrica*)
Perennial sowthistle (*Sonchus arvensis*)
Poison hemlock (*Conium maculatum*)
Puncturevine (*Tribulus terrestris*)
St. Johnswort *(Hypericum perforatum)*
Velvetleaf *(Abutilon theophrasti)*
Volunteer rye (*Secale cereale*)
Wild-prose millet (*Panicum miliaceum*)

1.09 Delta County Noxious Weed List

Yellow starthistle (*Centaurea solstitialis)*
Purple loosestrife (*Lythrim salicaria)*
Myrtle spurge *(Euphorbia myrsinites)*
Common burdock (*Arctium minus*)
Diffuse knapweed *(Centaurea diffusa)*
Spotted knapweed (*Centaurea maculosa*)
Russian knapweed *(Centaurea repens)*
Hoary cress or Whitetop *(Cardaria draba)*
Leafy spurge *(Euphorbia esula)*
Canada thistle *(Cirsium arvense)*
Musk thistle *(Carduus nutans)*
Scotch thistle (*Onopordum acanthium*)
Bull thistle *(Cirsium vulgare)*
Yellow toadflax *(Linaria vulgaris)*
Oxeye daisy *(Chrysantheum leucanthemum)*
Poison hemlock (*Conium maculatum*)
Halogeton (*Halogeton glomeratus*)
Russian olive (*Elaneagnus angustifolia*)
Saltcedar *(Tamarix ramossissima)*

II: GEOGRAPHICAL OVERVIEW OF COUNTY DESIGNATED NOXIOUS WEED INFESTATIONS IN DELTA COUNTY

2.01 Description of Delta County

1. Major Natural Features:
   a. Lakes and Reservoirs: Crawford Reservoir, Sweitzer Lake, Fruitgrowers Reservoir, numerous Grand Mesa lakes and reservoirs.

b. Major River Drainages: Gunnison River, North Fork Gunnison River, Uncompaghre River, Surface Creek, Escalante Creek.
c. Major Mountain Ranges: West Elks, Grand Mesa (south side) lower Uncompaghre Plateau (east side). Highest elevation approximately 11,300 feet
d. National Forests: Grand Mesa National Forest, Gunnison National Forest
e. Wilderness: Gunnison Gorge

2. Land Use Statistics:
   a. Total acreage 735,532 acres (1149 square miles)
   b. Federal or state ownership- 415,749 acres acres (56 %)
   c. Agricultural lands-254,144 acres (36%)
   d. Residential land-25,743 acres (3.5%)
   e. Other: 33,099 acres (4.5%)

2.02 County-wide Infestations

The most common County designated noxious weeds on private, Bureau of Land Management and County lands (primarily county roads) are Russian knapweed, whitetop, and Canadian thistle. The most widely spread listed weed on U.S. Forest Service managed lands is Canadian thistle.

2.03 State Highways

Russian knapweed and whitetop are the most common. Yearly spray treatments were made from 1996 until 2006. Infestation densities were reduced about 80 percent. Colorado Department of Transportation (CDOT) budget reallocations curtailed this program in 2007-2008. The primary weed problem currently is kochia (not a listed noxious weed).

2.04 North Fork River

The North Fork has scattered infestations of whitetop, Russian knapweed, oxeye daisy, yellow toadflax and scotch thistle. There are dense concentrations of tamarisk and Russian Olive. The property on most of the river is private. Control efforts for all species has been minimal.

2.05 Gunnison River: Smith Fork-Pleasure Park-Lawhead Gulch

The primary weed species are Russian knapweed, tamarisk and whitetop. Control efforts for all species has been ongoing since 2002. Approximately 90 percent of tamarisk has been removed between the Smith Fork and Lawhead Gulch (16 miles). There are minor infestations of yellow toadflax and oxeye daisy between Pleasure Park and Delta. Russian olive is the main invader downstream from Austin to the Highway 65 bridge.

2.06 Gunnison River: Delta to Mesa County

Russian knapweed and tamarisk are the primary invaders.

2.07 West and Southwest Delta County

The dominating invasive species are Russian knapweed, whitetop and halogeton. Halogeton will be first to take hold in disturbed areas such as pipelines and utility corridors

2.08 Upper Surface Creek Area

Scotch thistle, Canadian thistle, Russian knapweed and whitetop are common. There is also a large population of myrtle spurge on the west side of Cedaredge within the city limits.

2.09 Northeastern Delta County

Large portions of this area are within the Grand Mesa and Gunnison National Forests. There are also some large parcels of private land. This area is much higher in altitude than the rest of Delta County. Weeds that thrive in this alpine setting are Canadian thistle, musk thistle, oxeye daisy and scentless chamomile. There are a few spots of plumeless thistle. In the West Muddy drainage, there are some oxeye daisy populations that cover hundreds of acres. Most of these are on open ground such as pastures and meadows. Joint control efforts between the U.S. Forest Service, Delta County and private landowners have been ongoing since 2001 for oxeye daisy. Much of the work on private land was funded by Colorado Division of Wildlife and conducted by the Program.

2.10 Fruitland and Redlands Mesa

Both of these mesas have very large, long established populations of Russian knapweed on private land and county roads. Whitetop is a secondary infestation. Control of knapweed in parts of these areas is prohibitively expensive. A second problem is that when knapweed is controlled, whitetop tends to replace it.

2.11 Special Weed Concern # 1: Yellow starthistle

Yellow starthistle is located northwest of Paonia on Stucker Mesa ½ mile west of Roatcap Creek. The estimated acreage is 75 infested acres spread out over about 400 total acres. The majority if the starthistle is on private land. Several small, scattered patches are on the surrounding BLM land.

2.13 Special Weed Concern # 2: Purple loosestrife

Purple loosestrife is located on private land southwest of Cedaredge, three quarters of a mile west of Highway 65 and directly south of Melinda Way. There are two main infestation covering 20 acres and several groups of plants scattered along neighboorhood ponds and ditches.

2.13 Special Weed Concern # 3: Leafy spurge

Leafy spurge is found primarily east and south of Paonia. Private lands on both sides of Minnesota Creek Road as well as the BLM land south of this road were the original seed source of the infestation. Transportation vectors for spreading leafy spurge seed have been the Turner, Minnesota and Stewart Ditches. Plants have been found on the Stewart Mesa extension as far southwest at Back River Road and Slate Road. Plants have been found on Stewart Mesa as far south as L

75 Road. Except for two portions of private land along Minnesota Creek, infestations are spotty and small. Usually they appear along irrigation laterals or adjacent to irrigation gated pipe. Smaller outbreaks of this weed are treated by the Program at no charge to the landowner. This problem weed is persistent but has been contained.

2.14 Special Weed Concern # 4: Yellow toadflax on Coal Creek (Gunnison County)
There were 640 acres of inventoried toadflax in the Coal Creek/Anthracite drainage in 2005. Coal Creek is one of the headwaters of the North Fork of the Gunnison River. The North Fork joins the Gunnison River 3 miles west of Hotchkiss. Toadflax has been found along irrigation systems in eastern Delta County that get water from the North Fork and as far downstream on the Gunnison as Delta (42 miles downstream from Coal Creek). The Coal Creek drainage is the seed source. There are no other large toadflax infestations in the area that could be a source. The Delta County Weed Program and the U.S. Forest Service worked on a joint program from 2004-2007 to control this weed. As of September 2007, expenditures amounted to $103,000. Toadflax populations have been reduced by 75-80 percent. This project continued in 2008 and included the Paonia Dam and the Fire Mountain ditch. In 2008 the Program received $26,000 in grant funding for this project.

2.15 Endangered or Rare Plant Species
Delta County hosts two plants that are on the Federal Endangered Species list. These are Clay Loving Buckwheat (*Eriogonum pelinophilum*) and the Uinta Basin Hookless Cactus.(*Sclerocactus glaucus*). Thirteen more species are considered to be rare according to a Colorado Natural Heritage Program survey conducted in 1997. This survey is on file at the Program's Hotchkiss office. These survey maps are checked before herbicide treatments begin each year in order to avoid further disturbance of these rare plant populations.

III: PLAN IMPLEMENTATION STRATEGIES

3.01 Goals of the Plan

The goals of this Delta County Weed Management Plan are to comply with and execute the requirements of the .Colorado Noxious Weed Act. The Program will accomplish these goals by instituting county-wide programs that address the following fundamentals:

- Awareness, education and training
- Prevention and detection
- Inventory, survey and mapping
- Integrated control (biological, chemical, cultural and mechanical)
- Monitoring and evaluation
- Reporting

It is essential to develop a spirit of cooperation among landowners (federal, state, county, municipal or private) and Delta County by working with these landowners to understand and institute integrated weed management.

3.02 Public Awareness and Education

The Delta County Noxious Weed Program and Colorado State University Cooperative Extension Office will place timely articles in local papers, newsletters and other local publications. Additionally, a spokesperson will be provided for local community and civic organizations as part of the educational program. On-site visits to landowners to identify weed problems and improvise control strategies will be provided at no charge to landowners. A Delta County Weed Program website will be placed within the existing Delta County official site with links to information on identifying and controlling noxious weeds.

3.03 Prevention Measures.

The first priority is to prevent the introduction of any noxious weed to any area not previously infested. The most obvious method is to stop transporting viable seed or propagating plant parts by mechanical means. All equipment should be cleaned when leaving all infested areas to prevent contaminating rights-of-way and the next area entered.

Along these lines, it is strongly recommended that everyone use noxious weedfree certified seed. Feed containing viable noxious weed seeds should not be purchased, transported, or used: Since designated weeds will set seed prior to normal harvest dates, crops need to be treated if they are to be moved from the infested area.

Also to be considered is once seed has reached maturity, it can remain viable for years. During this time, it can re-infest the same area long after the weed problemappears to have been solved, or it can be transported to other areas. This can occur naturally by wind and water or mechanically by movement of vehicles or equipment. Seeds are also transported great distances by domestic animals and wildlife.

Many of the most common weed problems occur in response to disturbed soils. Disturbances can result from a number of conditions including overgrazed pastures, overused turf, clear cut woodlands, pipeline construction and energy/gravel development, improperly maintained road edges, and land development. Land management practices that minimize soil disturbance are invaluable in prevention and control of undesirable plant species.

3.04 Surveying and Mapping

It is the long term goal of the Program to map the major infestations of noxious weeds on the county and state roads using GIS and GPS technology that will allow integration into a layer on the Delta County GIS map.

3.05 Mechanical Control

Mechanical control includes cultivation, mowing, hand pulling and burning. All of these measures, when used correctly, can be of great help when used in conjunction with another type of control. When used alone, they rarely have a positive long-range effect due to the excellent survival ability of noxious weeds. It may, in fact, make the problem worse through spreading seed or plant parts and by eliminating the desirable competitive species on site.

3.06 Biological Control

Biological control is the control of undesirable plants through the use of living organisms. The organism may be an insect, plant, pathogen or livestock, such as sheep, goats or cattle. Recent programs have shown livestock to be very valuable in controlling many weed species. This is especially true in instances of large infestations and in environmentally sensitive areas. When moving livestock from such an infested area for biological control, care should be taken to prevent transportation of seeds to a clean area. If possible, when applicable, livestock should be quarantined for five days to allow all seed to pass through the digestive track. Seed may also need to be sterilized or removed from the animals' hair or wool.

Several varieties of insects which can be used on various plants are commercially available. They may be purchased by individuals to be used as part of an integrated plan. This type of control is still in its infancy. It is being researched and directed by the Colorado Department of Agriculture Insectary in Palisade, Colorado. Ideally, insects will provide an economical and environmentally safe control method. However, there are certain problems associated with this type of control. First, there is a limited supply of all species and purchasing insects may require a large initial investment. The compatibility of herbicides and insects is not well known. Also, participation in this project may preclude the use of certain types of control, which would allow infestations to multiply and set seed. To prevent this, land operators must prepare an integrated plan to effectively control these infestations. Research indicates insects may be a valuable control method to be used in integrated pest management plans in the future.

3.07 Chemical Control

All chemical application must be done according to the label for each individual product. The choice of chemicals and application rates that are used should be the least environmentally damaging as determined by information currently available. This determination may come first from the recommendations in the Colorado Pesticide Guide from Colorado State University Cooperative Extension. It may

also be tempered by the wishes of land owners and the experience of trained personnel associated with the program.

While chemicals are a powerful tool, it must be realized that they are just a tool and must be used only as a part of an integrated management plan.

3.08 Cultural Control

Cultural control means those methodologies or management practices conducted to favor the growth of desirable plants over undesirable plants, including, but not limited to, maintaining an optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in an area, and planting species most suited to an area.

3.09 Environmental Considerations

Environmental concerns including human interactions, water, air, wildlife, fisheries, amphibians, soil, plants and beneficial insects will be considered when selecting and implementing a specific weed control program. Delta County has a large number of vineyards and organic agricultural operations. These will be identified and mapped in order to avoid herbicide applications near these sites.

The Colorado Pesticide Sensitivity list will be periodically checked for the names and addresses of chemically sensitive people. No herbicides will be applied near their locations. Whenever possible, these people will be contacted prior to any herbicide application in their general area so that they can avoid traveling in that vicinity.

IV. RESPONSIBILITIES OF THE NOXIOUS WEED PROGRAM

4.01 Strive to identify and contain, reduce or eradicate current weed infestations and reduce or eliminate weed seed production in certain species.

4.02 Monitor for new infestations and new invasive species so as to prevent new encroachments on unincorporated lands in the County.

4.03 Develop and implement Integrated Weed Management Plans for noxious weeds on County owned property, easements, and rights-of-way.

4.04 Protect agricultural production, native plant ecosystems, watersheds, and recreational lands from degradation by noxious weeds by enforcing the Noxious Weed Act and working through cooperative agreements with city, state and federal agencies and adjacent counties and states.

4.05 Preserve the quality of life in rural areas of unincorporated Delta County through desirable plant stewardship and noxious weed management to enhance human health aspects, land values and esthetics.

4.06 Provide technical support and recommendations for noxious weed management and work with landowners, including state and federal agencies, to develop their Integrated Weed Management Plans.

4.07 Educate Delta County citizens on the impact of noxious weeds on the economy and the environment and provide information on Best Management Practices for noxious weeds.

ATTACHMENT A

Authority: Colorado Weed Management Act: C.R.S. Title 35, Article 5.5, as amended

Purpose of C.R.S. Title 35, Article 5.5

Because certain undesirable plants, primarily aggressive non-native invaders, constitute a threat to the "continuous economic and environmental value of the lands of the state", these species must be managed on private and public lands, using integrated management techniques which are the least damaging to the environment and which are practical and economically reasonable.

A Brief Abstract

As mandated by the Colorado Noxious Weed Act, all persons must control noxious weeds on their property if such plants are a threat to neighboring landowners or natural ecosystems. Weed control programs should be integrated in their approach, using all available technologies for effective weed control. To comply with the Law, the Board of County Commissioners must adopt a noxious weed management plan for all unincorporated lands within its jurisdiction. The Commissioners may use employees or contractors to enforce noxious weed control on county lands. Costs for aid control on county property are to be paid from the county noxious weed management fund, if one exists. The Commissioners may enter into cooperative weed management agreements with other governmental agencies.

The Noxious Weed Advisory Board, a commission of resident private landowners, must develop a management plan to be reviewed at least once every three years. At least a majority of the members of the Board must own forty or more acres of property. The Board designates which species are to be managed within the County, thereby establishing the County Noxious Weed List. Additional plants can be added to the list, after a public hearing with 30 days prior notice. The Board can require identified landowners to submit weed management plans when species on the list are found on their property.

The County has the right to inspect premises under at least one of the following conditions:

(a) the landowner requests inspection;
(b) a neighbor files a complaint or report; or
(c) the Weed Program Manager makes a visual observation of a weed infestation from a public right of way (ROW) or a public area.

Before entering private property, the landowner or occupant must be notified of the problem by certified mail. If entry is refused, an inspection warrant may be obtained by the Weed Program. A landowner cannot deny entry to inspect if a warrant is secured. After inspection, a notice of the problem and control recommendations must be sent by mail. Within 10 days of notification, the landowner or occupant must comply with the

recommendations, submit an acceptable weed management plan, or request an arbitration panel hearing. The county has the authority to act in the case of failure to comply with the Act, with an assessment of the cost of control plus overhead expenses, up to 20 percent, charged against the land. Noxious weeds may be declared a public nuisance, subject to all applicable laws and remedies for abatement, including removal or destruction of the weeds.

The County cannot force a private owner to control weeds without first having equal or greater successful control measures on county-owned lands adjacent to the private property in question.

State agencies have the same responsibility as private landowners. Notification by the county is the same as for private landowners. The county has the power to enforce and charge state agencies for weed control on state lands. The county may enter into cooperative agreements for weed management with State and Federal agencies. Public rights-of-way (ROWs), easements, utilities, mining operations, etc., must be in compliance with the management plan and must bear the financial responsibility of weed control.

The Colorado Noxious Weed Act established a state weed coordinator position to oversee implementation of the Law. A State Noxious Weed Management Fund was established to fund grants or contracts for weed management practices, with procedures for allocation of funds to appropriate entities. The fund was broadened in 2000 to include grants for educational programs. Counties may levy a tax, upon voter approval, to fund noxious weed management programs.

ATTACHMENT B

Herbicide Guide: The 5 Most Common Noxious Weeds of Delta County
January 1, 2009

Note: All herbicides listed are labeled for roadsides and range and pasture. They are not labeled for turf (yards), golf courses, and public areas. Different formulations of the active ingredients are available for turf use. See your dealer for more information on these products.

Common Target Weeds	Preferred Herbicides (based on experience by Delta County Weed Program)	Application Timing
Whitetop/hoary cress	• Telar + 24D (amine) • Escort/Ally	Spring: late bud-early flower
Russian knapweed	• Milestone • Curtail, Transline, Stinger • Redeem R & P	Spring: Rosette to early flower. Fall: Apply up until first hard freeze. Applications under drought conditions will not be effective.
Canada thistle	Same as Russian knapweed	
Scotch thistle, musk thistle	Same as Russian knapweed, or • Telar • Banvel + 24D (amine)*	Spring: Rosette to early flower. Fall: Rosette Spring: These species are biennials and be controlled by chopping/digging

*Banvel and 24d are very volatile in weather above 85 degrees. Vapor drift can occur and damage non-target species up to ¼ mile away!!

WARNING!!!!

Herbicides must be used with extreme caution. They are poisons and should be treated carefully. Most herbicides can be purchased without an applicator license. Tordon requires a license for purchase. The label is a legal document that outlines the uses and restrictions of the chemical.

READ THE LABEL before buying, before applying and again after using an herbicide. READ THE LABEL before buying to determine if the herbicide is the right one for your situation, if it is labeled for the weeds you are trying to control, for information on the

addition of adjuvant or surfactants, and for other restrictions, such as for grazing and planting.

READ THE LABEL before applying to get the correct rate to use, how to mix and apply the product, what personal protection you may need while mixing and applying the herbicide, and for information on how to dispose of left over mix. READ THE LABEL after applying to check reentry intervals, to check planting and grazing restrictions, and for disposal and clean-up information. Never use more than the recommended rate on the label. Higher rates will cause the tops of the plants to burn down quickly. The herbicide may not have the chance to move into the root zone and the weed may sprout again. And you are wasting money!

Pre-emergent herbicides prevent the germination of seeds and do not work on established perennial weeds. Application timing of pre-emergents is critical; they are usually applied in the spring. Precipitation or irrigation may be needed to move the chemical into the germination zone (the top 3-5 inches of soil).

Post-emergent herbicides work on the growing parts of the weed, including roots. Therefore post-emergent herbicides work on annuals, biennials, and perennials. Drought and heat may reduce the effectiveness of these herbicides. The use of herbicides may be the only effective control method for some species. However, herbicides should be used in conjunction with other methods for the highest level of control. Herbicide use is determined by restrictions and instructions on the product label. Materials or products mentioned in this Plan are based on experience in Delta County or recommendations of Colorado State University Cooperative Extension Service and should not be construed as endorsement by Delta County.

ATTACHMENT C

NOXIOUS WEED INFORMATION RESOURCES

Contacts

- **Delta County Weed Program Coordinator**
  Delta County Fairgrounds
  P.O Box 729
  Hotchkiss, CO. 81419
  970-872-3090
  Fax: 970-872-1250
  e-mail: wcallicutt@deltacounty.com

- **Colorado State University Extension**
  Dr. Curtis E. Swift, Area Extension Agent, Horticulture
  Colorado State University Extension
  2775 US Hwy 50, Grand Junction, CO. 81503
  voice: 970-244-1840
  fax: 970-244-1700

  Delta Office CSU Extension:
  525 Dodge Street:
  970-874-2195

  State Weed Coordinator
  Colorado Department of Agriculture
  Division of Plant Industry
  700 Kipling St., Suite 400
  Lakewood, CO 80215-5894
  303-239-4182
  steve.ryder@ag.state.co.us

- **Colorado Department of Agriculture: Noxious Weed Management Program**
  http://www.colorado.gov/cs/Satellite/Agriculture-Main/CDAG/1167928159176

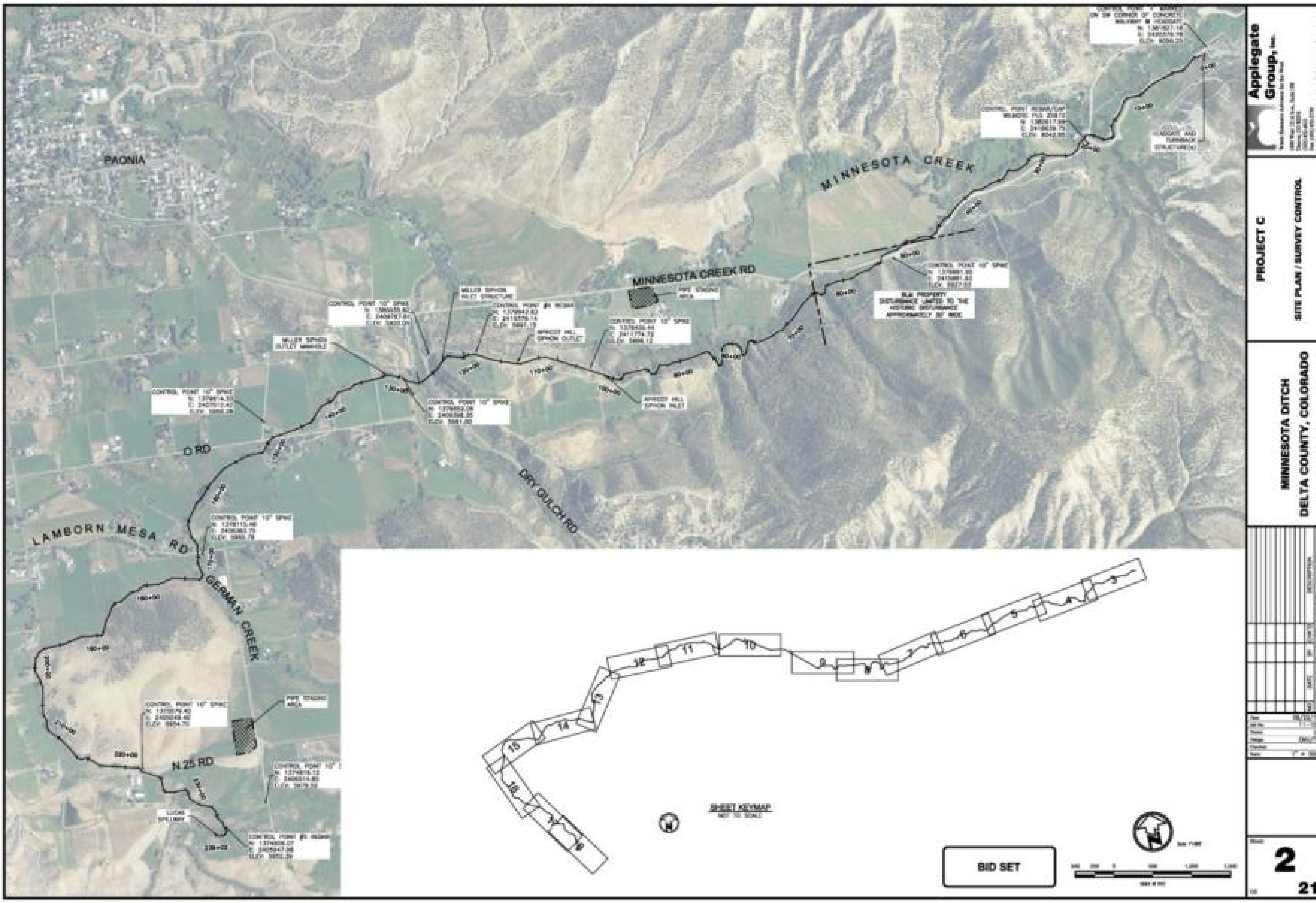
  Colorado Department of Agriculture
  Division of Plant Industry
  Biological Control Section
  Palisade Insectary
  P.O. Box 400
  Palisade, CO 81526
  970-464-7916

On Line Information:

Note: There are more on-line sites than can be listed here. These sites have links to dozens of the most useful sites for weed identification and control.

- Colorado Weed Management Association: http://www.cwma.org/
- Colorado State University Extension-Tri River Area: http://westernslopegardening.org/
- Weed Fact Sheets: http://www.colostate.edu/Dept/CoopExt/Adams/weed/factsheet.htm
- Colorado Department of Agriculture: Noxious Weed Management Program http://www.colorado.gov/cs/Satellite/Agriculture-Main/CDAG/1167928159176
- National Invasive Species Information Center: http://www.invasivespeciesinfo.gov/index.shtml
- Center for Invasive Plant Management: http://www.weedcenter.org/
- Managing Invasive Plants: http://www.fws.gov/invasives/staffTrainingModule/index.html
- Weed Science Society of America: http://www.wssa.net/

APPENDIX F – SITE PLAN


PAONIA
MINNESOTA CREEK
MINNESOTA CREEK RD
O RD
DRY GULCH RD
LAMBORN MESA RD
GERMAN CREEK
N 25 RD
SHEET KEYMAP
NOT TO SCALE
BID SET
Applegate Group, Inc.
PROJECT C
SITE PLAN / SURVEY CONTROL
MINNESOTA DITCH
DELTA COUNTY, COLORADO
2
21

APPENDIX G – COMMENT LETTERS

From: Reed, Linda C
To: Stroh, Terence L. (Terry)
Subject: Minnesota Canal Draft EA Comments
Date: Friday, July 27, 2012 3:39:58 PM
Attachments: Comment Sheet. Draft AE July27 2012.doc

Terry,
Attached are BLM's comments on the draft EA for the Minnesota Canal and Reservoir Company Piping Project 2012-2014.

Please incorporate our suggestions as you deem appropriate.

Linda
240 5322

Draft EA Minnesota Canal and Reservoir Company Piping Project 2012-2014
Staff Comments, BLM, Uncompahgre Field Office, July 2012

Name	Title	Page # and Section #	Comment
Linda Reed	Realty Specialist	Page 8, 3.4	Veg and Land Use, 1st paragraph, last sentence: "MCRC would obtain easements….on **public land** and private property."
Linda Reed	Realty Specialist	Page 10	Proposed Action, 1st paragraph, insert as 2nd sentence in paragraph: "On lands managed by the BLM, all construction, operation and maintenance will be contained within the footprint of existing disturbance of the canal and access road."
Linda Reed	Realty Specialist	Page 16, 3.12	Rec Resources, 2nd sentence states canal on BLM is approximately 1600 feet in length. The project was estimated to be approximately **2000 feet** in length during onsite visit on May 7, 2012 with Craig Ullmann & BLM reps Glade and Linda.
Linda Reed	Realty Specialist	Page 17	last sentence, delete the word "previously" and insert "**in Chapter 4**" "…measures described in Chapter 4…"
Linda Reed	Realty Specialist	Page 19	Item 6 Insert at the end of the paragraph: "**On the public land construction holes or pipeline trenches left open overnight shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through**."
Linda Reed	Realty Specialist	Page 20	Item 11. I think this paragraph should be revised and should be inserted as the # 2 paragraph following paragraph #1: "construction activities confined…." 2. **Public Lands**- MCRC will limit the construction footprint within the BLM **managed** lands to the….approximately 30 feet. **Due to topography and vicinity of the county road**, the area of disturbance **on the public land** is narrower than other, more typical sections of the canal.
Edd Franz	Outdoor Recreation Planner	General Comment	The EA appears to be missing the sections on Wild and Scenic Rivers, Wilderness, Wilderness Study Areas, and lands with wilderness characteristics. The proposed project appears to have no potential to affect any of these

Name	Title	Page # and Section #	Comment
			resources, but there needs to be something showing that these resources were considered, but found not to be present.
Amanda Clements	Ecologist	Pg 8 3.4	Unusual format for BLM. First paragraph in this section looks like a design feature of the proposed action, does not seem to fit in this section.
Amanda Clements	Ecologist	Pg 10 3.4	Typically the riparian and wetland resources are included in a separate section, and specific streams are mentioned if the project occurs near them. You might adapt this format by identifying these resources with a subheading under this section. Secondly, a more complete discussion of impacts on vegetation impacts under the proposed action would be desirable, including likelihood of success of reclamation efforts, and anticipated resulting vegetation community-at least on BLM. Also for BLM we need reference to Land Health Standards for Standards 1-5, and anticipated impacts to them. Take a look at the EAs we have online for an example of this, and our discussions of cumulative impacts, which this write up probably also needs.
Ken Holsinger	Biologist	11 3.5	CDOW is now Colorado Parks and Wildlife (CPW)
Ken Holsinger	Biologist	11 3.5	The project area is also described as a winter forage area for the bald eagle and is within the historic range of Gunnison Sage Grouse.
Ken Holsinger	Biologist	11 3.5	I suggest a discussion of Northern Leopard Frogs which likely inhabit the canal; reason being that for the BLM lands this is considered a Sensitive Species and an analysis of impacts/ tradeoffs, loss of habitat from dewatering the canal but net improvement of H_2O quality in native channels. Almost certain the species is present have been found in other comparable systems in the area.
Ken Holsinger	Biologist	12 3.5	Habitat units? Please define as a biologist I am unfamiliar with what this is or means and thus it is difficult to assess the tradeoffs that may occur as a result of implementing the proposed action.
Ken Holsinger	Biologist	12 3.5	Will the new diversion system allow for aquatic species movement above and below the diversion on Minnesota Creek? Please clarify, if it does not then analyze the impacts accordingly. Since it is not clear to me this subject seems a bit vague.
Ken Holsinger	Biologist	14 3.6	No discussion of effected environment for Razorback Sucker?
Ken Holsinger	Biologist	15 3.6	For listed plants an analysis of no effect without survey to confirm is a bit

Name	Title	Page # and Section #	Comment
			premature, while I agree with the call here the final should support the no effect call with the survey citation with dates of survey, and area surveyed. Discussion of how habitats are not suitable would also document the call.
Ken Holsinger	Biologist	Wildlife overall	Suggest discussion on timing of construction and how that may or may not influence wildlife, specifically big game if construction occurs during the winter, migratory birds if construction occurs during nesting periods. BLM has timing limitations for big game winter ranges, an analysis of how if construction is occurring in the winter this does or does not apply any possible mitigation that could minimize impact? From the Uncompahgre RMP: To protect wintering big game and crucial habitats, no surface disturbing[1] activities shall occur from December 1 through April 30. Exceptions or variances to this restriction will be considered and evaluated according to UFO policies[2]. [2] Exceptions and variances to standard restrictions and protection measures must be requested in writing to the BLM authorized officer or BLM biologist. Such requests are evaluated on a case-by-case basis and may be granted by a BLM biologist depending on animal or herd status, topographic characteristics, site context, weather severity, and other factors, provided species and habitats are adequately protected. Any modifications to prescribed restrictions, and the rationale behind those decisions, will be documented in the project case file(s). In some cases, site characteristics and/or conditions may warrant expanding buffer distances to ensure adequate protection of species.
Ken Holsinger	Biologist	Wildlife overall	Being a federal action the project should consider the migratory bird treaty act and how impacts may or may not be mitigated for specific species covered under the act. Assuming construction would occur during the fall and winter impacts are likely minimal but that should be stated.
Ken Holsinger	Biologist	Wildlife overall	As with Amanda, a more complete discussion on what revegetation and weed management will look like post construction. Knapweed will likely increase with the disturbance, how will minimizing the spread of weeds be accomplished?

Name	Title	Page # and Section #	Comment
			What does reveg success look like? What will be done if reveg fails? What materials and methods will be used to manage weeds? Are they approved for use on public lands? Pesticide Use Proposal and Application Record are needed for herbicides applied on public lands. Given that weeds are currently established on the canal and have not been managed in the past how will that be different into the future? Will weeds be treated prior to construction to minimize exacerbating the issue? What seed mix will be applied on public lands should be disclosed (we can help with this just ask). These things all help support a FONSI. Without addressing these things it is a bit difficult to fully consider the impacts/tradeoffs.
Julie Jackson	Rec. Planner	Proposed Action	Structure of the EA is confusing. Proposed Action seems to be incomplete without citing that there is additional information in Chapter 4. Also seems to me that part of the Proposed Action in Chapter 1 should probably be stated in Chapter 2 for the Proposed Action.
Julie Jackson	Rec. Planner	Chapter 3	Visual Resource Management analysis is missing
Julie Jackson	Rec. Planner	Chapter 4; #1	Where are the construction staging areas going to be located?
Julie Jackson	Rec. Planner	Chapter 3 Access and Transportation	There doesn't seem to be any specific information on the access that will be used such as a highway or county roads. Also are there any traffic safety concerns that need to be addressed.
Glade Hadden	Archaeologist		No comments, no additional recommendations.
Jedd Sondergard	Hydrologist	General	There is no discussion of impacts to soils. Given the amount of disturbance required to fill and reclaim the existing ditch alignment, some discussion should be included. The types of things that should be addressed might include soil types, construction and reclamation on steep slopes, erosion potential and compaction of the soil profile.
Jedd Sondergard	Hydrologist	Chapter 2; Pg 4	The proposed action mentions isolated sections of the canal would remain in place to provide storm water conveyance. These locations should be identified on a map. More specifically do any of these locations occur on BLM?
Jedd Sondergard	Hydrologist	Chapter 3; Pg 5	Please include a total decreed amount in table 1.
Jedd Sondergard	Hydrologist	Chapter 3; Pg 6	Please include the water quality standards for Minnesota Creek in table 2.
Jedd Sondergard	Hydrologist	Chapter 3; Pg 17	In the cumulative impacts section, perhaps Thane could provide the proper language here, but I believe it should be, "there are no leased BLM parcels within

Name	Title	Page # and Section #	Comment
			the project area." This would replace, "there is no BLM-016 oil and gas leases active within the project reach."
B. Krickbaum	NEPA Coord.	Prop Action	First 4 sentences (first 7 lines) really aren't the proposed action (the PA on page 1, that is). It is background information. The proposed action is lacking a lot of information. What size pipe? How deep will it be buried? What is the width of the disturbed area? Is the pipe buried in the old ditch the entire way, part way, or not at all? What happens to the old ditch – buried? Will disturbed areas be seeded? Do you stockpile topsoil for use in reclamation?
B. Krickbaum	NEPA Coord.	Prop Action	Why is there a "Proposed Action" in Chapter 1 as well as Ch 2? Chapter 1 actually says more about the project than the PA in Ch 2, which doesn't really say anything about what is proposed. The content of the PA in Ch 2 is mostly background information. The content of the PA in Ch 1 should be included in Ch 2, in addition to the information that is lacking (see my comment above).
B. Krickbaum	NEPA Coord.	Prop Action	For BOR: BOR will need to coordinate with BLM during implementation for reclamation. Disturbed areas on BLM will likely need to be seeded, with a seed mix required by BLM Uncompahgre Field Office.

Name	Title	Page # and Section #	Comment

COLORADO PARKS & WILDLIFE

300 W New York Ave • Gunnison, Colorado 81230
Phone (970) 641-7060 • FAX (970) 641-7883
wildlife.state.co.us • parks.state.co.us

July 23, 2012

Bureau of Reclamation
Western Colorado Area Office
2764 Compass Drive, Suite 106
Grand Junction, CO 81506

RE: Draft Environmental Assessment, Minnesota Canal and Reservoir Company Piping Project 2012-2014

Dear Sirs,

Thank you for allowing our comments to be considered regarding the above named project. Colorado Parks and Wildlife (CPW) has several concerns regarding the proposed project.

- Due to this project being located in severe winter range for both mule deer and elk CPW recommends that, in order to protect wintering big game animals, no construction be done during the wintering time periods from 12-15 to 3-31 yearly.
- If the pipe is being installed into a deep trench (three feet or deeper) the trench should be equipped with exit berms along the length of the canal trench every ¼ mile during construction so that entrapped wildlife can escape from the trench if they were to fall into the trench.
- As was mentioned in the draft EA, the use of BMPs for storm water and erosion control is extremely important to protect water quality in the drainage.
- All disturbed areas should be immediately re-vegetated in order to minimize long term disturbance.
- A weed management plan developed to address noxious weeds that may establish as a result of the ground disturbance.

Thank you for considering these comments. If you have any questions regarding these comments please contact Paonia District Wildlife Manager, Kirk Madariaga at 970-527-4419.

Sincerely,

J Wenum
Area Wildlife Manager – Gunnison

cc: Tom Spezze – Regional Wildlife Manager – Southwest Region
Kirk Madariaga – District Wildlife Manager - Paonia