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## ~~OPERATION AND RECLAMATION PLAN~~

### ~~3.1 — SCOPE~~

~~This Chapter describes the action and procedures of Co-op Mining Company (Co-Op) to satisfy the requirements for underground mining operations and reclamation.~~

### ~~3.2 — SURFACE FACILITIES — EXISTING~~

~~The mine which existed at the present site when mining began had been abandoned for over 30 years and subsequently there is no evidence of long existing facilities.~~

### ~~3.3 — SURFACE FACILITIES — NEW~~

#### ~~3.3.1 Site Selection and Preparation of Proposed Facilities~~

~~Plates 2-4 show the location of all surface facilities. In addition, the maps show an accurate determination of where each facility is in relation to the existing topography as well as structural fixtures such as highways and stream buffer zones.~~

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## **VEGETATION**

### **SCOPE**

~~A reference area, approximately one acre in size was selected in July 1983, encompassing pinyon-juniper-grass and riparian vegetation types (Plate 3-1). The reference area was selected on the basis of similarity with vegetation types which were believed to have occurred within the disturbed area before mining. This was done in conjunction with Mr. Lynn Kunzler of the Utah Division of Oil, Gas and Mining (DOG M). Further discussion with D.O.G.M has determined that there are better reference areas nearer to the mine site, therefore this area will no longer be used as a reference area.~~

~~————— In 1993, reference areas were selected for the Shower House Pad disturbance and the Tank Seam Access Road disturbance. The areas were selected in conjunction with Susan White of the D.O.G.M. These areas are also shown on Plate 3-1. The Shower House Pad reference area will also be used for the shop, sediment pond A, scale house, and coal storage areas. The tank Seam Access Road reference area will also be used for the mine access road.~~

~~————— In 1996, a reference area was selected by Patrick Collins for the proposed Wild Horse Ridge disturbance. In 2001 he selected an area for the Wild Horse Ridge Tank Seam Pad area. This area is shown on Plate 3-1.~~

### **METHODOLOGY**

A reconnaissance-type survey was conducted within each vegetation type believed to have been disturbed, then correlated to reference areas in undisturbed areas. Quantitative sampling was conducted by Larry Germain and Paige Waldvogel, under contract with Mel Coonrod in August 1983. Additional species composition information was compiled in 1982 by the Soil Conservation Service (SCS). Specific efforts were made to locate and identify species proposed or listed as threatened or endangered, noxious weeds and selenium indicators.

## **Wild Horse Ridge Vegetation**

In 2001, Co-Op increased the disturbance to include access roads, portals and a conveyor corridor to access coal reserves in Wild Horse Ridge. The baseline vegetation data is described in [Appendix 3-F](#). Sampling was performed in August of 1996. A [reference area is shown on Plate 3-1](#), and sampling information for the reference area is included in [Appendix 3-F](#). Production information was collected on the proposed disturbed area and reference area in August, 1999. This information will be included in [Appendix 3-F](#).

## **Wild Horse Ridge Tank Seam Vegetation**

The baseline data for the Wild Horse Ridge Tank Seam area is described in [Appendix 3-G](#). Sampling was performed in August of 2001, a reference area is shown on [Plate 3-1](#) and sampling information for the reference is included in [Appendix 3-G](#).

C. W. Mining Company will assure that for the Tank Seam area there will be at least 1,000 plants per acre after reclamation, and that at least half of the woody plants (by number) will be comprised of Mountain Mahogany, Skunkbrush, and Vasey Big Sagebrush.

### **Federal lease U-61048 & U-61049**

In 2004 & 2005 Mt. Nebo Scientific in cooperation with the forest services performed a vegetation survey of all areas on Gentry Mountain located within the permit area. The results of this study can be found on Plate 3-1.

## Wildlife

### **Aquatic Wildlife Habitat and Value Determination**

The only perennial stream's that runs through the Bear Canyon Mine permit area ~~is~~ are Bear Creek and Fish Creek. Only the upper portion of Fish Creek flows through the permit area containing a average of 10gpm during the fall.

Bear Creek is a low-quality aquatic environment of little value to the aquatic resources of the area. A biological community most likely occurs in Bear Creek on an intermittent basis. Being present during a portion of those years when runoff is exceptionally high followed by wetter than usual summer and fall precipitation.

Even if the mine was removed, natural conditions would be stressful to aquatic life. Huntington Creek does receive runoff and/or groundwater from the permit area at some times during the yr, but because of Bear Canyon stream's quality, impact from mining will be minimal. All drainage from disturbed areas is passed through sedimentation ponds before discharge, reducing impact potential further.

### **Terrestrial Wildlife Habitat and Value Determination**

Literature and field data were summarized for all terrestrial vertebrates of concern, the species status, and potential perturbation. [Appendix 3-K](#) list all of the vertebrate species of southeastern Utah according to their various ecological classification. All species whose ranges appear to overlap any or all of the potential area of impact are listed.

322.220 of this report. It is doubtful that proposed expansions will seriously impact the other species since no new surface disturbances are planned.

## **Birds**

One species of involved birds ~~is~~are on the ~~endangered~~ sensitive species list: the peregrine falcon (thought to be a year-round resident in southeastern Utah). ~~However, there are no known nesting sites for the peregrine falcon in this area. Because of the suspected transient nature of these birds, no problems are foreseen with the projected development. A Raptor survey was made during 1987 to confirm these assumptions.~~ The Northern goshawk and the golden eagle are Management Indicator Species. The Northern goshawk has not been found in the permit area. Golden eagles are found within the permit area. Both the golden eagle and the peregrine falcon are included in the raptor surveys performed by C. W. Mining Company. Raptor surveys will be performed yearly during the life of the mine. The results of these surveys are included in appendix 3-L. Potential areas of impact are shown on [Plate 5-3A](#). The areas designated for potential impact include the mine site location, ~~and~~ the haul road and utility corridor, and areas of potential escarpment failure. Migratory birds covered by E.O. 13186 may pass through the area.

The more important bird species of the area are listed in [Appendix 3-K](#).

Literature pertaining to the amphibians and reptiles is extensive, but much of it refers to species occurring in the desert areas and has only limited reference to forms inhabiting high elev in Utah. Most of the publication dealing with species lists for the state are old.

The most up-to-date listing for the area under consideration may well be a checklist of Utah amphibians and reptiles (Tanner, 1975), and Utah Division Publication No. 78-16 (Dalton, 1978) (Appendix 3-K) which references a contiguous and similar geographic area.

Amphibians. Based on the literature review, it was determined that probably six species of amphibians inhabit the proposed area of concern which provides substantial value habitat for the three species listed, [the Great Plains Toad, Great Basin Spadefoot, Woodhouse's Toad,](#) . All amphibians are legally protected in Utah, but since the species listed are all widespread throughout similar habitats in Utah, none are treated as high interest species, and therefore, are not individually discussed.

Reptiles. Based on a review of the literature, it was determined that probably 18 species of reptiles occupy the expansion area; this area is considered to be a substantial value habitat for all species. All reptiles have some protection under the Utah code, but since the species listed are all widespread throughout similar habitats in Utah, none are treated as high interest species and, therefore, are not individually discussed.

[Appendix 3-I contains a more detailed discussion of amphibian and reptile species.](#)

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<sup>1</sup>V. Tanner, Amphibians, 1931; Woobury, Reptiles, 1931, and Pack, Snakes, 1930

<sup>2</sup>Other recent literature pertinent to this report are: Schmidt (1953); Stebbins (1954 and 1966); W. Tanner (1953, 1957 a and b, 1966 with Banta, 1969 with Morris and 1972 with Fisher and Willis); and Woodbury (1952).

## Listed or Proposed Endangered or Protected Species of Plants and Animals

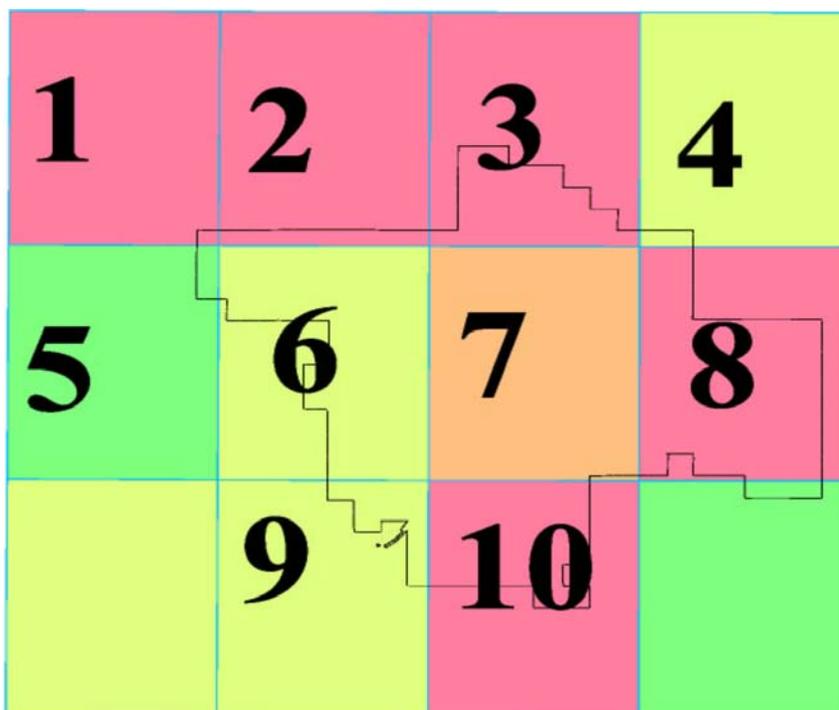
The County Lists of Utah's Federally Listed Threatened(T), Endangered(E), and Candidate(C) Species published September 25, 2006 by the Utah Division of Wildlife Resources (DWR) is shown below.

<u>Common Name</u>	<u>Scientific name</u>	<u>Status</u>
<u>Jones Cycladenia</u>	<u>Cycladenia humilis var jonesii</u>	<u>T</u>
<u>Maguire Daisy</u>	<u>Erigeron maguire</u>	<u>T</u>
<u>Last Chance Townsendia</u>	<u>Townsendia aprica</u>	<u>T</u>
<u>Barneby Reed-mustard</u>	<u>Schoenocrambe barnebyi</u>	<u>E</u>
<u>San Rafael Cactus</u>	<u>Pediocactus despainii</u>	<u>E</u>
<u>Winkler Pincushion Cactus</u>	<u>Pediocactus winkleri</u>	<u>T</u>
<u>Wright Fishhook Cactus</u>	<u>Sclerocactus srightiae</u>	<u>E</u>
<u>Humpback Chub</u>	<u>Gila cypha</u>	<u>E</u>
<u>Bonytail</u>	<u>Gila elegans</u>	<u>E</u>
<u>Colorado Pikeminnow</u>	<u>Ptychocheilus lucius</u>	<u>E</u>
<u>Razorback Sucker</u>	<u>Xyrauchen texanus</u>	<u>E</u>
<u>Bald Eagle – Breeding</u>	<u>Haliaeetus leucocephalus</u>	<u>T</u>
<u>Yellow-billed Cuckoo – Possibly</u>	<u>Coccyzus americanus</u>	<u>T</u>
<u>Mexican Spotted Owl</u>	<u>Strix occidentalis lucida</u>	<u>T</u>
<u>Southwestern Willow Flycatcher</u>	<u>Empidonax traillii extimus</u>	<u>E</u>

A map showing blocks with lists of Utah sensitive species was also downloaded from DWR's web page. (See figure 3-1)

In 2004 C. W. Mining meet with DWR and based on this map it was determined that due to elevation the only possible species of concern for the permit area was the Townsend's Big-eared Bat. DWR also stated that they anticipated the addition of the Flamulated Owl to the threatened and endangered species list in the near future and that it may also be a species of concern.

In order to address these concerns C. W. Mining conducted a bat and owl survey and determined that neither of these species were located in the permit area. The results of this survey can be found in Appendix 3-M



**See T&E Species List**

Figure 3-1 Utah Threatened, Endangered, and Sensitive ~~Endangered Mammalian~~ Species in Relation to Permit Area

(created by the Utah Division of Wildlife Resources May 3, 2006)

**T & E Species List**

**Block 1**

Bald Eagle (*Haliaeetus leucocephalus*)

**Block 2**

Northern Goshawk (*Accipiter gentilis*)  
Greater Sage-grouse (*Centrocercus urophasianus*)  
Canada Lynx (*Lynx canadensis*)

**Block 3**

American Three Toed Woodpecker (*Picoides dorsalis*)  
Townsend's Big-eared Bat (*Corynorhinus townsendii*)  
Greater Sage-grouse (*Centrocercus urophasianus*)  
Canada Lynx (*Lynx canadensis*)

**Block 4**

Western Toad (*Bufo boreas*)  
Ferruginous Hawk (*Buteo Regalis*)

**Block 5**

Bonneville Cutthroat Trout (*Oncorhynchus clarkii utah*)  
Columbia Spotted Frog (*Rana luteiventris*)  
Western Toad (*Bufo boreas*)

**Block 6**

Northern Goshawk (*Accipiter gentilis*)  
Greater Sage-grouse (*Centrocercus urophasianus*)  
Canada Lynx (*Lynx canadensis*)

**Block 7**

Northern Goshawk (*Accipiter gentilis*)  
Greater Sage-grouse (*Centrocercus urophasianus*)

**Block 8**

Ferruginous Hawk (*Buteo Regalis*)

**Block 9**

Greater Sage-grouse (*Centrocercus urophasianus*)

**Block 10**

Wright Fishhook Cactus (*sclerocactus wrightiae*)  
Winkler's Pincushion Cactus (*Pediocactus winkleri*)  
Bluehead Sucker (*Catostomus discobolus*)  
Black-footed Ferret (*Mustela nigripes*)  
Bald Eagle (*Haliaeetus leucocephalus*)  
Greater Sage-grouse (*Centrocercus urophasianus*)

There are no endangered or threatened species of mammals in the mine plan area, nor are there any in proximity close enough to be considered (~~Figure 3-1~~). Co-Op is committed to notify the Division in the event any T & E species were observed on the permit area, as well as any critical habitat.

Official U.S. Fish and Wildlife Service Section 7 opinions relating to the aquatic resources of Huntington and Eccles Canyon drainages have indicated that no threatened or endangered species of fish or other aquatic organisms have been found in waters upstream of the lowest 2 or 3 mi of the Price or San Rafael rivers. The organisms of Trail Creek, as presently known, are all common and widely distributed throughout streams of Utah. The aquatic organisms of Bear Creek have representatives of several taxonomic classifications that are limited to low quality environs, but none, as far as is presently known, are rare in the inter-mountain region.

~~One~~ Several species of ~~endangered~~ sensitive raptors, ~~the peregrine falcon,~~ may be found in the mine plan area. Known raptor nest sites within the permit area are shown in [Appendix 3-L](#) and on [Plate 5-3A](#), ~~according to a survey conducted by the Raptor Biologist from the U.S. Fish and Wildlife Service.~~

According to the Utah Division of Wildlife Resources report, there are ~~forty-six~~ fifty-eight current or old raptor nest locations within or near the permit area. The location of the nests are shown on [Plate 5-3A](#) and a description of them and of the raptor surveys is in [Appendix 3-L](#).

No plant species listed as threatened or endangered (U.S. Fish and Wildlife Service, 1982) or proposed for threatened or endangered status (Welsh and Thorne, 1979) was observed on the study area. No plants listed as threatened or endangered are known to occur in the Co-Op permit area (Thompson, personal communication, 1983). The U.S.D.A. Forest Service identified no threatened or endangered plants in their correspondence dated 29 Jan 1991 ([Appendix 3-B](#)). A survey on November 4, 1993 by Robert M. Thompson, USFS Botanist, revealed no threatened or endangered species within the proposed road extension area for the Tank Seam (letter, [Appendix 3-B](#)).

A sensitive species, Canyon Sweetvetch (*Hedysarum Occidental* Var *Canone*), was identified within and adjacent to the Bear Canyon disturbed area. Populations were found to be high, especially in the areas on Federal Lease U-024316. Information on this species is presented in [Appendix 3-E](#). Locations of these plants are shown on [Plate 3-1](#) and [3E-1](#). And is discussed in [Appendix 3-F](#), populations were also observed within portions of the proposed Wild Horse Ridge disturbed area, and in the lower portion of Fish Creek outside the permit boundary. Where these plants are located, Co-Op will avoid disturbing them to the extent possible during and subsequent to construction.

In order to re-establish the species in this area upon final reclamation, the topsoil stockpile will be seeded with the species to establish a community on the stockpile. This seed will be obtained from the Canyon Sweetvetch communities located in upper Bear Creek, shown on [Plate 3E-1](#). During the season prior to final reclamation, seed will be harvested from the community established on the topsoil pile, as well as from the other communities within Bear

Canyon. These seeds will be incorporated into the seed mix during seeding following the topsoil redistribution.

Link Trail Columbine (*Aquilegia flavescens* Var. *rubicunda*) also classified as a sensitive species, has been found in three locations in Bear Canyon. The first location is in the vicinity of Big Bear Spring. The second location is in the riparian area of the right fork of Bear Canyon, located below spring SBC-14 near the Wild Horse Ridge Coal Storage Bin. The third site is at the confluence of Bear Creek and the right fork of Bear Creek. The third location is the only sight proposed to be disturbed, where two specimens ~~were~~are observed. The plant was also found in the lower portions of Fish Creek below the permit boundary. Where these plants are located, Co-Op will avoid disturbing them to the extent possible during and subsequent to construction.

### **322.220 Habitats and Areas of High Value**

These areas are shown on ~~Plate 3-2~~. The main areas of high value for vegetation are the riparian areas around springs and streams. These areas extend approximately 0-100 ft. from spring sources. They also occur intermittently along a 30 ft. corridor in the right fork of Fish Creek starting at a point 1,637 ft. west and 1,151 south of the northeast corner of section 18 T16S R8E, and extending past the permit boundary.

Due to the depth of overburden no impact to these areas is expected. Since these area are dependent on the springs and streams within them any impacts to them will be the result of loss of water flow. The water monitoring plan outlined in Chapter 7 will catch any impacts to the water flow. If an impact is noticed the land owner and the Division will be consulted and a site specific mitigation plan will be developed. A detailed discussion of subsidence impacts and protection methods is included in Appendix 5C.

Areas of high value for wildlife include deer and elk calving, fawning, and grazing areas, as well as areas of habitat for Black Bears, Bobcats, and Mountain Lions. All information available on these areas are shown on Plates 3-2, 3-3, 3-4, and 3-5. A more detailed discussion of habitats and areas of high value can be found in Appendix 3-I. Appendix 3-K includes a mitigation plan addressing possible impacts to wildlife.

## **R645-301-332 Subsidence Impacts and Mitigation**

All subsidence will be monitored as shown on [Plate 5-1](#). A detailed description of C. W. Mining Company's subsidence monitoring plan is included in Appendix 5C.

## **R645-301-333 Plant, Fish and Wildlife Impact Avoidance Plan**

### **Protection of Vegetative Resources**

Co-Op has maintained a commitment to reclaim the unused disturbed areas to the extent of the cover of the natural vegetation on the mine plan area. In areas above retreat mining no impacts to vegetation are expected. If vegetation is impacted a mitigation plan will be developed with input from the land owner and the Division of Oil, Gas, and Mining.

### **Projected Impacts of Mining on Vegetative Resources**

Since the Bear Canyon Mine is an underground mine, the overall impact on surface vegetation is minor. The effects of surface operations on vegetation from new construction are on-site erosion and reduction of desirable plant species which reduce forage production and wildlife capacity.

Vegetated areas adjacent to the disturbed areas are protected from coal fines primarily by utilization of dust controls, such as water sprays on the coal handling facilities and watering of the coal haul roads. One of the major areas that indicates collection of coal fines, is located in the canyon below the Upper Storage Pad. However, the actual impact has not been determined.

In order to eliminate the potential of coal fines migrating to surface waters, this area was added into the disturbed area boundary in 1992. Runoff will be directed to sediment ponds, see [R645-301-742.300](#). Areas in Bear Canyon surrounding the mine site will be routinely monitored and additional preventative and/or control actions will be taken if additional affected areas are identified.

Waste dumping or other disturbance on undisturbed areas is not permitted. Disturbed area perimeter markers delineate the boundaries of disturbance. Employees are trained not to dump or otherwise disturb areas outside those boundaries.

Renewable vegetative resources exist within the wild Horse Ridge subsidence zone in the form of timber and grasslands which are used for grazing. As discussed in [Appendix 35-C](#), minimal detectable subsidence is expected on the surface. Past experience has shown that tension fractures which result from subsidence are localized and minimal, so these resources should not be impacted. Further discussion is contained in [Appendix 35-C](#).

### **Mitigating Measures to be Employed to Reduce Impacts on Vegetative Resources**

All recontoured areas will be planted and revegetated during the first appropriate season following grading and redistribution of topsoil. This program will include any necessary addition of remedial treatments to the soil. A suitable, permanent and diverse vegetative cover has been selected on the basis of appropriate land management agency requirements and will be established on all reclaimed areas. The schedule of the program is presented in [R645-301-](#)

could increase mortality and reduce reproductive success temporarily, but the effect would be temporary because of the continued survival of the breeding population in contiguous areas and to the high densities of these species.

Birds. Only one species found in the vicinity of the mine permit area is on the endangered species list: ~~The peregrine falcon is not known to nest within the permit area.~~ However, several sensitive species may be present. The Golden Eagle is found on escarpments in and around the permit boundary which is a USFS Management Indicator Species.

Potential impact on bird species would be escarpment failure and loss of riparian habitats. No loss of riparian habitat is expected. Escarpment failure and protection of escarpments and riparian areas inside the affected area are discussed in Appendix 5C. ~~limited to the proposed new construction areas. Impacts, however, should be minor since the areas involved are small and since equivalent habitat is readily available close by.~~ (See Raptor Survey UDWR -- [Appendix 3-I](#)).

~~Prior to construction of surface facilities, Co-Op will work with the UDWR in developing a mitigation plan for potential impacts to raptor nest utilization in the vicinity of Wild Horse Ridge.~~

Amphibians. The three amphibians occurring in the permit area occupy similar habitats throughout the region and are unlikely to be affected in any major way by planned activities.

Reptiles. Reptiles found in the permit area are located in many other similar habitats and their populations will not be seriously impacted by planned activities. UDWR personnel will be notified if any denning sites are discovered during mining or construction.

Aquatic Wildlife. Since there are no high quality streams in the surface operation areas, little impact to aquatic wildlife is expected. Huntington Creek, the closest high quality stream to the permit boundary, is located a considerable distance from the surface operation, 1.5 miles. This high quality fishery is protected through Co-Op's Sediment Control Structures ([R645-301-742.300](#)).

## Lease Areas

In most areas above mining no substantial impact is expected due to the depth of cover.

The possible impacts to the areas of high value is the formation of subsidence cracks. If this happens it will be mitigated as described in R645-301-358.

Another area of concern is along the escarpments. It has been determined that the only possible determined impact of escarpment failure is the possible loss of a raptor nest. If this happens it will be mitigated as described in R645-301-358.

## **Mitigating Measures to be Employed to Protect Fish and Wildlife**

Maximum effort will be made to minimize habitat disturbance and loss. Surface activity will be minimal. Construction will be scheduled to minimize conflict with deer and elk use periods.

The disturbed areas will be reseeded within the next growing season and the resulting seral succession will actually benefit deer and elk. Habitat loss due to construction is limited to the size of the disturbed area and will be small. All water in the permit area is perennial, but of poor quality. Any water sources necessary to wildlife will be provided. In addition, riparian habitat will be enhanced. Structures that pose a barrier or hazard will be provided with passageways, buffers, fences, or other necessary protection, as directed by UDWR ([Appendix 3-J](#)). Co-Op is committed to reclaim all disturbed land and remove all support facilities in accordance with [R645-301-540](#) upon completion of mining to prevent damage to fish, wildlife and related environmental values.

The applicant will inform employees of the vulnerability of local wildlife and will admonish them to avoid all harassment or unnecessary activity. In addition the training film offered by the UDWR "Coal Mining and Wildlife" will be shown annually to all employees.

In addition, Co-Op has agreed that in the event that escarpment failure due to subsidence impacts any raptor nests within the permit area, that Co-Op will notify UDWR and the U.S. Fish and Wildlife Service and take whatever action is recommended in order to mitigate such loss. ~~At this time no raptor nest are at risk due to their absence from all areas of potential impact. Raptor nests will be safeguarded from subsidence by maintaining a min of a 100' barrier to the outcrop.~~ In areas where raptor nest may be impacted C. W. Mining will try to adjust their timing so that these areas will not be undermined during the nesting season. In the event we are unable to do this, obstructions such as fencing will be placed over the nest to prevent them from being used. If a nest is lost due to escarpment failure C. W. Mining will meet with U. S. Fish and Wildlife, and the Utah Division of Wildlife Resources to develop a mitigation plan.

UDWR authorities will be consulted, in the event a need for pesticides becomes necessary to control rodents or insects during reclamation. No control measures will be used without prior approval by all parties concerned.

In order to mitigate a possible impact to a red tail hawk nest during the WHR construction DWR required C.W. Mining Company performed a Raptor prey base study in 2005. The results of this study are included in Appendix 3N. ~~will require some mitigation for the loss of Big Game Habitat and for the potential loss of raptor nesting during the construction and operation of the facilities. C. W. Mining Company is working with the Division of Wildlife Resources to develop a raptor prey base study and will complete the study in the summer of 2003 for mitigation.~~

In the event that a crack forms that interferes with any migratory paths, C.W. Mining will seal the cracks in a method acceptable to the land owner.

### **Stream Buffer Zone**

Current surface facilities are in the upper reaches of the Bear Creek drainage, which is a tributary of Huntington Creek drainage. Appropriate sedimentation ponds have been constructed. This coupled with coal pile drainage ditches, clear water diversion, water bars, and wind erosion control measures within the permit area disturbed areas, will assure protection from mining impact of aquatic resources far downstream from the mine. Thus, no aquatic biological community determinations have been made relative to surface activities. Stream buffer zones are established along Bear Creek as determined by DOGM to insure protection of the stream channel. Stream buffer zone signs are in place at approximately 200 foot intervals along Bear Creek.

### **FISH AND WILDLIFE MONITORING**

Bear Creek does not warrant a biological or habitat monitoring effort since it is naturally of poor quality. Water quality will be monitored as outlined in [R645-301-731.200](#). Data collected will be correlated with water quality and hydrology measurements discussed in [R645-301-731.200](#). If subsidence should become evident in the drainage area that contributes to Bear Creek or Fish Creek, monitoring of aquatic macroinvertebrates and habitat changes will be instated using approved methodology to collect data as the base for impact evaluation. [Plate 7-4 shows all water monitoring sites used to determine impacts to flows and watersheds.](#)

Co-Op has monitored all existing power transmission lines in order to determine use by raptors. No use was observed, Co-Op will take all necessary measures to ensure the poles and/or

structures are safe. All new poles and power transmission facilities will be constructed to be raptor protected, and will conform with designs shown in both the Avian Power Line Interaction Committee's (APLIC) publications, "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994," and, "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996". ~~In April 1988 DOGM consented to allow suspension of raptor surveys unless new disturbances warrant a clearance survey (Appendix 3-L).~~

C.W. Mining will perform raptor surveys every year during the mine life.