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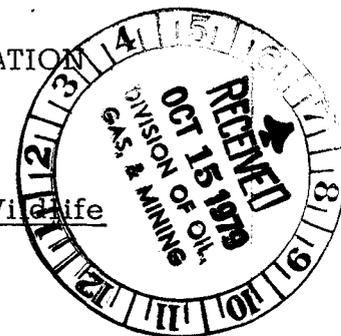
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PRO/007/009

30 CFR, PART 783.20 FISH AND WILDLIFE RESOURCE INFORMATION
SAGE POINT-DUGOUT CANYON PROJECT



General Wildlife Resource Information--All Species of Vertebrate Wildlife

The mine plan area for the Sage Point-Dugout Canyon Project encompasses a portion of the West Tavaputs Plateau in Carbon County, Utah. This area drains into the Price River system which flows into the Green River and ultimately into the Colorado River. The Division publication No. 78-16 "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah" adequately identifies occurrence, relative abundance, status, population trend and habitat use areas for wildlife species that inhabit the West Tavaputs Plateau. Generally speaking, the mine plan area is inhabited on occasion and during different seasons of the year by about 354 species of vertebrate wildlife, (11 fish species, 5 amphibian species, 14 reptile species, 244 bird species and 80 mammal species), some of which are considered to be high interest species for the habitats and local area represented. It is interesting to note that 84 percent of these species are protected. High interest wildlife are defined as all game species; any economically important species; and any species of special aesthetic, scientific or educational significance. This definition would include all federally listed, threatened and endangered species of wildlife.

Since Utah's Division of Oil, Gas and Mining and the U.S. Fish and Wildlife Service have each been provided with a copy of the publication "Vertebrate Wildlife that Inhabit Southeastern Utah"

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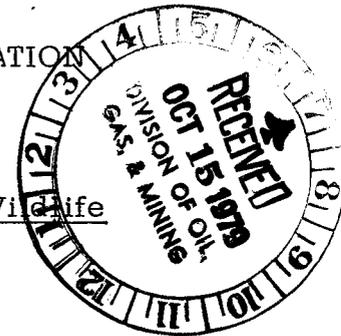
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PRO/007/009

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Since Utah's Division of Oil, Gas and Mining and the U.S. Fish and Wildlife Service have each been provided with a copy of the publication "Vertebrate Wildlife that Inhabit Southeastern Utah" there is no apparent reason why all of the species that occur on the mine plan area should be listed in the application for a mining permit.

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A ranking and display (figure 1) of vertebrate, terrestrial and aquatic wildlife use areas and habitats has been developed. Crucial-Critical wildlife use areas followed in respective importance by High-Priority, Substantial Value and Limited Value wildlife use areas require various levels of protection from man's activities and developments.

Crucial-critical wildlife use areas are "sensitive use areas" necessary to sustain the existence and perpetuation of one or more species of wildlife during critical periods in their life cycles. These areas are limited and lie within high-priority wildlife use areas. All stream sections, reservoirs, lakes and ponds identified by Utah Division of Wildlife Resources as Class 1 or 2 are classified as being crucial-critical. Biological intricacies dictate that significant disturbances cannot be tolerated by the members of an ecological assemblage on crucial-critical sites. Professional opinion is that disturbance to crucial-critical use areas or habitats will result in irreversible changes in species composition and/or biological productivity of an area.

High-priority wildlife use areas are "intensive use areas" for one or more species of wildlife. "Intensive use areas" are not limited and in conjunction with limited value use areas form the substantial value distribution for a wildlife species. All stream sections, reservoirs, lakes and ponds identified by Utah Division of Wildlife Resources as Class 3 are classified as being of high-priority. In addition, wildlife use areas where

surface disturbance or underground activities may result in subsidence that could interrupt underground aquifers and could result in a potential for local loss of ground water and decreased flows in seeps and springs should be considered as being of high-priority to wildlife.

Substantial value wildlife use areas are "existence areas" for one or more species of wildlife. "Existence areas" represent a herd or population distribution and are formed by the merging of high-priority and limited value wildlife use areas for a species. All stream sections, reservoirs, lakes and ponds identified by Utah Division of Wildlife Resources as class 4 are classified as being of substantial value.

Limited value wildlife use areas are "occasional use areas" for one or more species of wildlife. "Occasional use areas" are not limited and are part of the substantial value wildlife use area for a species. All stream sections, reservoirs, lakes and ponds identified by Utah Division of Wildlife Resources as class 5 or 6 are classified as being of limited value.

Mapping

Vegetation

It is recommended that the company's primary effort be placed on identifying species of vegetation in each association for the purposes of reclamation. Identification of each vegetation association on

appropriately scaled maps along with supportive narration will be required. This information may be available from land management agencies or other sources in government. If not, the services of private consultants may be needed.

It is believed that if satisfactory reclamation is achieved and man's disturbance does not continue or become a factor that most species of wildlife displaced from the mine plan area will return. Without doubt the key to success for enhancing or restoring wildlands will be development of habitats so that the postmining condition as compared to the premining condition will have similar species, frequency and distribution of permanent plants in each vegetative type that will allow for natural plant succession.

Wildlife Use Areas

Figure 1 displays mapable, high value habitat use areas for high interest wildlife on and adjacent to the mine plan area. This display includes stream sections and bodies of water used by high interest fish species and known seeps, springs, wetlands and riparian zones. It should be noted that there are high interest wildlife distributions that are so broad that they cover the entire map and therefore are not illustrated. However, all vertebrate species of high interest wildlife and their distributions are discussed in the following narrative. The narrative also identifies the need, if any, for studies that would be required in order to prepare and evaluate a Fish and Wildlife plan for 30 CFR, part 784.21.

Water

The company will be required to identify and monitor all surface waters for potential impacts from subsidence. Much of this information is available from various governmental sources and should be plotted on the same map with the wildlife use area distribution, due to the value of water to wildlife. The services of a private consultant may be needed to fulfill all the requirements associated with hydrologic monitoring.

Fish and Wildlife Inventory

Aquatic Use Areas

Macrophytes

Since none of the surface waters associated with the project support high interest fish species, the company should not be required to collect any information relative to macrophytes for the ultimate purpose of reclamation. If desired, this information would have to be secured through the services of a private consultant.

Macroinvertebrates

Since none of the surface waters associated with the project support high interest fish species, the company should not be required to collect information relative to macroinvertebrates for the ultimate purpose of reclamation of a high interest fishery. Soldier Creek and Dugout Creek may support "biological communities" (30 CFR, part ~~816~~ 57) which would

necessitate designation of stream buffer zones. Studies for determination of "biological communities" will have to be secured by the company through the services of a private consultant.

Fish--High Interest Species

None of the streams associated with the project are of significant value to Utah Division of Wildlife Resources' fishery management programs. All of the streams on the mine plan area are ranked as having only limited value for any sport fishery. There are no known game fish species on or adjacent to the mine plan area. But, the perennial streams do support as many as 11 species of non-game fishes, all of which are protected (reference the "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah"). The drainages represent either class 5 or class 6 waters in Utah--class 1 streams are the best blue ribbon waters and class 6 streams are dewatered during portions of the year. Due to the limited opportunity for a sport fishery, no specific data has been collected on the mine plan or adjacent areas (figure 1).

It is not recommended that the company be required to provide for any fishery studies. Utah Division of Wildlife Resources has already conducted low levels of study on the project area; these are sufficient since species occurrence, relative abundance, status, population trend and preferred habitat use areas are documented in the afore mentioned publication.

If mine operations are planned that would alter, destroy or discharge effluents into any perennial stream, appropriate state and federal permits along with reclamation plans would be required of the company.

Achievement of reclamation would demand detailed studies of stream velocity correlated to flow, representatives of the stream channel profile, gradient, pool-riffle ratio, substrata types and percent representation and surface water information required for 30 CFR, part 779.16.

783?

If modification of flows is anticipated, instream flow requirements must be determined to meet the needs of the existing fishery and "biological community". Such baseline information would allow for development of mitigation or reclamation plans that would allow for maintenance or re-establishment of any fishery or "biological community". This information is not generally available and would necessitate the services of a private consultant.

It is important to note that no federally listed threatened or endangered fish species inhabit the mine plan or adjacent areas. The endangered humpback chub and Colorado squawfish inhabit the Green and Colorado rivers. Additionally, the humpback (razorback) sucker and the bonytail chub also inhabit the Green and Colorado rivers. It is likely that these species will one day be listed as threatened and endangered, respectively. It is not believed that implementation and operation of the company's project will impact these species.

Terrestrial Use Areas

Unique Habitat Types

The riparian zones associated with drainage bottoms (ephemeral or intermittent), or perennial streams--30 CFR, part 701.5--seeps, springs, wetlands and flood plains are ranked as being crucial-critical to all aquatic and terrestrial wildlife species. These areas are highly productive in terms of herbage produced and use by wildlife as compared to surrounding areas (figure 1).

Amphibians

Five species of amphibians, all of which are protected, are known to inhabit the biogeographic area in which the mine plan and adjacent areas are located (reference the "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah"). None of these amphibians are federally listed as threatened or endangered species. It is not recommended that the company be required to provide for any studies concerning amphibians. Utah Division of Wildlife Resources has already conducted low levels of study on the project area; these are sufficient since species occurrence, relative abundance, status, population trend and preferred habitat use areas are documented in the afore mentioned publication.

Reptiles

Fourteen species of reptiles, all of which are protected, are known to inhabit the biogeographic area in which the mine plan and adjacent areas are located (reference the "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah"). None of those reptiles are federally listed as threatened or endangered species. It is not recommended that the company be required to provide for any studies concerning reptiles.

Utah Division of Wildlife Resources has already conducted low levels of study on the project area; these are sufficient since species occurrence, relative abundance, status, population trend and preferred habitat use areas are documented in the afore mentioned publication.

To date no snake dens, which are protected, have been identified on or adjacent to the mine plan area.

Birds

Two hundred forty-four species of birds, all of which are protected, are known to inhabit the biogeographic area in which the mine plan and adjacent areas are located (reference the "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah"). For all of those species of avifauna Utah Division of Wildlife Resources has already conducted low levels of study on the project area; these are sufficient since species occurrence, season of inhabitation, relative abundance, status, population trend and preferred habitat use areas are documented in the afore mentioned

publication. Therefore, it is recommended that the company only be required to provide for intensive raptor surveys. Baseline raptor studies will be addressed in the following discussions which are oriented only to species of high interest to the state of Utah.

Ruffed and blue grouse inhabit the mountain brush, aspen and spruce-fir vegetation zones on and adjacent to the mine plan area. Both of these grouse nest and brood their young between early March and mid August. This is a crucial-critical time period for maintenance of their populations.

Ruffed grouse for the most part are dependent upon wildlands vegetated by aspen and spruce-fir vegetation and that are located within one-quarter mile of stream courses. It is within this zone that drumming logs and nests (March 1 to May 30) are usually located. This zone is also a crucial-critical, yearlong use area for ruffed grouse. Mature clones of male aspen trees are crucial-critical winter use areas for ruffed grouse between December 1 and February 28 each year (figure 1).

Blue grouse utilize the mountain brush and spruce-fir areas of wildlands and are not dependent upon stream courses. The mountain brush zones provide crucial-critical breeding territories for blue grouse between March 15 and June 15 each year. The high elevation, mature stands of Douglas fir are crucial-critical winter range for blue grouse during December, January and February each year (figure 1).

A substantial value, yearlong use area for sage grouse is located throughout the higher montane elevations of the mine plan and adjacent areas. This same area also represents high-priority, summer range for sage grouse between August 16 and November 14 each year. There are no known crucial-critical strutting grounds and their associated brooding areas or wintering areas for sage grouse on the mine plan or adjacent areas (figure 1).

The entire mine plan and adjacent areas provide substantial value, yearlong habitats for chukar. Nesting occurs during April and May and brooding extends into mid July. This is a crucial-critical period for maintenance of the population. Nesting and brooding areas have not been identified to date. Winter ranges (December 1 to February 15) and all water sources on a yearlong basis are crucial-critical for chukars on their use areas (figure 1).

Mourning doves normally inhabit the entire mine plan and adjacent area between May 1 and September 15 each year; they nest throughout most of this period. Successful nesting activities and any water sources are crucial-critical to maintenance of the mourning dove population.

The mine plan and adjacent areas provide only limited value habitats for waterfowl. Stock ponds and perennial streams can become locally important during peak migration periods in the spring (March 15 to May 15) and fall (August 15 to October 15).

The mine plan and adjacent areas provide habitats for turkey vultures, bald and golden eagles, four species of falcons, nine species of hawks and nine species of owls. Nesting habitat exists for most of these species and each species has a specific crucial-critical period for which their aerie needs protection from disturbance. Generally speaking aeries need protection from significant or continual disturbance within a radius of one-quarter mile of the nest; only during the period of time that the nest is occupied. Species specific protective stipulations are available from Utah Division of Wildlife Resources and the U.S. Fish and Wildlife Service.

} should be part of wildlife plan

It is important to note that golden eagles are year-around residents of the mine plan and adjacent areas. It is likely that they nest in the same general area. Golden eagle nests are extremely sensitive to disturbance within a one-quarter mile radius of the nest when active between the period of April 15 and June 15. The one-quarter mile buffer zone may need to be increased to one-half mile if the disturbance originates from above and in direct line of sight to the eagle aerie.

The endangered bald eagle is a winter resident (November 15 to March 15) on the mine plan and adjacent areas. As a result, the area represents a substantial value, winter use area for bald eagles. There are no known or suspected high priority concentration areas or crucial-critical roost trees for bald eagles on or adjacent to the mine plan area. Therefore, it is not currently recommended that Eureka be required to conduct any

studies relavent to bald eagles.

The endangered peregrine falcon is a year-around resident of Carbon and Emery counties. No sightings are known to have been made on or adjacent to the mine plan area, however, their occasional presence would not be unlikely. Additionally, no aeries are known or suspected to be on or adjacent to the mine plan area. Therefore, no studies should be required of the applicant concerning peregrines.

Currently, little is known concerning numbers of raptor breeding territories or locations of aerie sites on or adjacent to the mine plan area. Due to the extreme sensitivity of these birds to disturbance, high levels of study are required. It is not recommended that the company be required to conduct extensive raptor studies over the entire mine plan or adjacent areas. It is recommended, however, that they be required to provide for a baseline intensive inventory of raptor breeding territories and identification of aerie sites within a one-mile radius of proposed portal facilities, load-out sites or any other facility development that will result in continual or significant disturbances during the raptor breeding season (February through June). These type of studies can be accomplished by contracting Utah's Division of Wildlife Resources, the U.S. Fish and Wildlife Service or qualified private consultants. } !

Mammals

Eighty species of mammals, of which 26 percent are protected, are known to inhabit the biogeographic area in which the mine plan and adjacent areas are located (reference the "Species List of Vertebrate Wildlife that Inhabit Southeastern Utah"). For all of those species of mammals Utah Division of Wildlife Resources has already conducted low levels of study on the project area--species occurrence, relative abundance, status, population trend and preferred habitat use areas are documented in the afore mentioned publication. Those studies are sufficient except for data needs relative to the suspected presence of the endangered black-footed ferret. Therefore, it is recommended that the company not be required to provide for studies of all mammals. Studies, if needed, concerning the black-footed ferret will be addressed in the following discussions which are oriented only to species of high interest to the state of Utah.

Mule deer (herd unit 27b) and elk (Range Creek herd unit) normally utilize the high-priority summer ranges between May 16 and October 31 each year. Fawning/calving and rearing processes for deer and elk take place on the summer range between May 16 and July 15. In the instance of moose their population is sparse and the higher elevation areas (summer range) are ranked as being of only substantial value for moose. Use by moose of the summer range usually extends from May 16 through November 30.

Elk utilize the high-priority winter range between November 1 and May 15 each year and during the same period mule deer migrate to lower areas which serve as high-priority and crucial-critical winter ranges. During the winter (December 1 to May 15) moose are attracted to crucial-critical riparian areas. Some riparian areas are utilized as yearlong range by moose. The crucial-critical, yearlong ranges for moose are not only critical for wintering activities but also to calving activities of moose between May 15 and July 15 each year (figure 1).

The habitats lower in elevation than the high-priority winter range for mule deer are ranked as being of only limited value to deer and are utilized by small numbers of deer as yearlong range (herd unit 27b and 29). The riparian areas are critical to the survival of these deer (figure 1).

Agriculture areas on or adjacent to the mine plan area are utilized yearlong by mule deer. Their use is intensified during the winter and spring periods resulting in significant depredation to agricultural crops.

Pronghorn antelope are found (Icelander herd) yearlong on their habitat use area. Therefore, the entire use area is ranked as being of yearlong, high-priority value to the antelope herd. Crucial-critical periods include the fawning season (May 12 to June 20) and periods of severe snow conditions during winter (figure 1).

It should be noted that the entire lease area provides substantial value, yearlong habitat for cougar and black bear. Crucial-critical periods for these species are when females are accompanied by their young.

The entire mine plan and adjacent areas provide substantial value, yearlong habitats for cottontail rabbits (mountain cottontail above 7,000 feet elevation and desert cottontail below 7,000 feet elevation). The young are born between April and July each year. This is a crucial-critical period for maintenance of the population.

The snowshoe hare is entirely dependent upon the fir-spruce vegetation type as a yearlong habitat use area. The coniferous vegetation provides crucial-critical breeding areas for the snowshoe hare between April 1 and August 15 each year (figure 1).

The mine plan and adjacent areas provide substantial value habitats for kit fox and bobcats--both of these species are high interest wildlife. Almost nothing is known of population dynamics and habitat use areas for these two species on or adjacent to the mine plan area. Generally speaking bobcats inhabit (substantial value use area) the montane habitats extending from the pinion-juniper vegetation type up to the highest elevations in the area of concern. The substantial value use area for kit fox is associated with the desert shrub community and may extend into the pinion-juniper vegetation type. Without doubt a crucial-critical period for both of these species is when they are rearing young. Dens while being inhabited are also crucial-critical use areas for both species.

Portions of the mine plan and adjacent areas provide substantial value habitats for several of Utah's furbearer--beaver, ermine, long-tailed weasel, mink, black-footed ferret (potential habitat), badger, striped skunk,

spotted skunk and muskrats (note the muskrat is not a furbearer but is a high interest species). For all of these species their breeding/rearing seasons, dens, lodges or prairie dog colonies in the instance of a verified black-footed ferret are of crucial-critical value to maintenance of the populations.

It is important to note that areas supporting prairie dogs on or adjacent to the mine plan area are potential habitats for the endangered black-footed ferret. Utah lies on the western edge of the black-footed ferrets historic range and a specimen was verified from the Blanding area in the early 1950's. Unverified sightings of black-footed ferrets have persisted from throughout southeastern Utah to the present. It is recommended that Eureka not be required to conduct extensive studies on or adjacent to the mine plan area. It is, however, recommended that Eureka either avoid impacting prairie dog colonies or secure consultation from the U.S. Fish and Wildlife Service concerning right-of-ways and special use permits on federal lands as to whether or not any evidence of black-footed ferrets can be found in prairie dog colonies to be impacted. If physical evidence exists indicating presence of black-footed ferrets, Eureka should be required to provide for intensive studies concerning black-footed ferrets in prairie dog colonies to be impacted.

Locate
P. dog
colonies

Currently, there are no other known high interest wildlife species or their habitat use areas on or adjacent to the mine plan area. It is not unreasonable to suspect that in the future some additional species of wildlife may become of high interest to the local area, Utah or the nation. If such is the case, the required periodic updates of mine and reclamation plans can be adjusted and appropriate recommendations made.