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STATE OF UTAH
NATURAL RESOURCES & ENERGY
Wildlife Resources

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To Mary 007
FILE ACT/007/~~006~~ #2
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Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Douglas F. Day, Division Director

December 13, 1983

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DIVISION OF
OIL, GAS & MINING

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DEC 21 1983

Dr. Diane R. Nielson, Director
Utah Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114

Attn: Steve Cox

Dear Diane:

In response to the request for consultation concerning the nature and level of detail for fish and wildlife resource information to be provided in the Mining and Reclamation Plan (MRP) for the "C" Canyon Mining Project as proposed by Kaiser Steel Corporation, the following recommendations are offered. These recommendations parallel the "Guidelines for Fish and Wildlife Resource Information Required in Utah on Coal Mine Lands." Those guidelines were earlier provided to your office.

WILDLIFE HABITAT AND USE AREA STUDIES

Generally speaking, Utah is comprised of a mosaic of seventeen basic wildlife habitat types--pasture-croplands, urban-parks, riparian-wetland, cliff-talus, barren, cresote bush-joshua tree, desert scrub, prairie, sagebrush, pinion-juniper forest, shrubland, ponderosa forest, aspen forest, parkland, spruce-fir forest, krumholz and tundra. These habitats are appropriately located within a continuum of ecological situations or biomes.

The warm and cold desert situations are typical of the Lower and Upper Sonoran Life Zones, respectively. Cumulatively, the desert situations represent the Desert Biome.

The prairie situation in Utah is representative of part of the Upper Sonoran Life Zone and represents the Grassland Biome.

The submontane situation is typical of the Transition Life Zone. It is representative of the Pinion-Juniper Biome and the Montane Brush Biome. It is of interest to note that the later biome is recognized as an ecotone between the Pinion-Juniper or Grassland Biomes and the Northern Coniferous Biome.

The montane situation is a continuum of habitats represented by the Canadian, Hudsonian and Arctic-Alpine Life Zones. The Canadian and Hudsonian Life Zones cumulatively form the Northern Coniferous Biome. This biome in Utah is considered to include the Aspen-Parkland Biome. The Arctic-Alpine Life Zones equates to the Arctic-Alpine Biome.

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Wildlife use areas typically overlap several adjoining habitat types. Use areas for individual species of animals as well as habitats utilized by multiple wildlife have been ranked as to their relative value to the resource. Habitats or wildlife use areas ranked as being of critical value followed in respective importance by high-priority, substantial and limited valued rankings require various levels of protection from man's activities and developments.

Wildlife habitats ranked as critical or high-priority value are considered to be unique. Wildlife use areas ranked as being of critical or high-priority are of high value to wildlife. Unique habitats and high value use areas should be protected from unnecessary impacts that could result from human or industrial disturbance.

The applicant should provide as part of the MRP detailed topographic maps or aerial photographs of the project and adjacent areas. They should display the aforementioned ecological situations, biomes or wildlife habitats. It is essential that high value use areas and unique habitats for wildlife be displayed for Utah's high interest species. Note, 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. Such a list is identified in the Utah Division of Wildlife Resources' Publication No. 78-16.

The acreage and relative ranked value of all habitat types and high value use areas associated with the project must be documented in the MRP. The MRP must have sufficient descriptive narration specific to each wildlife habitat in each ecological association that has potential for being disturbed so that quantitative as well as qualitative evaluations can be made. As a minimum requirement floral composition, ground cover along with total land cover, forage production and rangeland condition noting successional stage and trend must be provided. This is necessary so that reclamation planning can be sufficient to return the area to its pre-mining condition. Use, if any, by domestic livestock should be discussed.

Maps should also display locations of all seeps, springs, wells, perennial, intermittent and ephemeral streams, lakes, reservoirs and ponds. Such areas fall within the riparian-wetland habitat and are considered unique. Quantity and quality of the various surface waters must be included as part of the MRP. As a minimum the miles of stream as classified by the state water plan along with stream velocity, gradient, width, depth, pool-riffle ratio, substrata type and surface water information required for SMC, Part 779.16 must be identified. Similar but applicable information along with levels of dissolved oxygen and the acres of flat water need be provided for impoundments.

WILDLIFE STUDIES

Low Level Studies

The MRP must identify all species of vertebrate wildlife (aquatic, avian, amphibian, reptilian and mammalian species) having potential to inhabit environs associated with the project. For each species a low level study of the literature considering relative abundance, status as protected or non-protected, population trend and preferred habitats or use areas must be presented. Note that for avifauna the season of use must also be identified.

Medium Level Studies

Medium level studies need to be presented in the MRP for all high interest species of vertebrate wildlife having potential to inhabit the project area. Such studies would not represent a field inventory. Typically, medium level studies would represent a summary from the literature describing critical and high priority requisites of an animal that must be understood in order to develop and evaluate a mitigation plan.

High Level Studies

High level studies of selected wildlife inhabiting high value use areas or unique habitats will be required in order to gather data needed for preparation and evaluation of a mitigation plan. Such studies can require original field work. They also necessitate intensive literature searches in order to develop an appropriate discussion in the MRP. High level studies must in all cases locate and describe any unique habitat or high value wildlife use area within one-half mile of planned surface disturbed areas.

When a "biological community" (SMC 816.57 and UMC 817.57) or fishery is present a vegetation buffer zone along the stream must be determined. Aquatic macro-invertebrates provide forage for fish and serve as a pollution index. The invertebrates and fish are prey for predators dependent upon the aquatic resource. Thus, macroinvertebrate information may need to be included with the applicant's MRP. If the fishery provides benefits to Utah's anglers, fishery information may also be needed.

Fishery information will be provided by Utah Division of Wildlife Resources at the applicant's expense.

Sampling for aquatic macroinvertebrate populations will necessitate the services of a private consultant. This work should be conducted each year in early spring before runoff and again in late fall. The consultant should also collect supportive data relative to historic coal sediments through core samples of the stream's substrata along with recordation of basic water chemistry measurements. Water chemistry measurements should consider temperature, pH, conductivity, alkalinity (total and bicarbonate), sulfate, chloride, sodium, potassium, magnesium, calcium, nitrogen (nitrate), orthophosphate, turbidity, hardness, oil and grease, total dissolved solids, bacteria (total and fecal) and heavy metals (copper, mercury, lead, zinc and cadmium).

Also, instream flow requirements must be determined for waters to be altered to meet the needs of the existing or potential fisheries, "biological community" and maintenance of existing riparian or wetland zones.

A high level study of breeding raptors will be required of the applicant and must become part of the MRP. Winter use by bald eagles must also be determined. Such study must identify whether or not high value habitat for these birds exists on the mine plan area, and if nesting is evident within one-half mile of planned surface disturbed areas. Similar information must be provided in the MRP for the pileated woodpecker, Williamson's sapsucker, Lewis woodpecker, great blue heron, long-billed curlew, band-tailed pigeon, sandhill crane, black swift, western bluebird, Scott's oriole and Grace's warbler. Note, these high level studies need not be conducted along the access road unless plans change and the road is to be constructed through a riparian area.

Impact Assessment

The applicant must include as part of the MRP a detailed assessment of impacts that will result from the project on wildlife use areas, habitats and the species of animals. Detailed discussions must be directed toward high value use areas, unique habitats and high interest species of wildlife.

Mitigation Planning

The applicant must identify impact avoidance procedures and mitigation efforts that will be utilized to protect all wildlife, their use areas and habitats.

Diane, the applicant can secure data for low and medium level studies of vertebrate wildlife from the Division as a service of state government. Such data has already been assimilated from the literature. We also have mapped the high value use areas for high interest species of vertebrate wildlife. High level studies for macroinvertebrates and high interest vertebrate wildlife must be contracted by the applicant. Some of this work may require Division permits. The mapping of wildlife habitats must also be contracted by the applicant. For some limited or specialized work the Division will consider accepting a contract. All other contract work would necessitate the services of a qualified consultant.

Thank you for an opportunity to provide input into this area of concern.

Sincerely,

Douglas F. Day
Director

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