

La Plata county

Known or Likely Species Occurrence

Group	Common Name	Scientific Name	Occurrence	Abundance
Amphibians	<u>Boreal Toad</u>	<i>Bufo boreas</i>	Likely to occur	Unknown
Amphibians	<u>Bullfrog</u>	<i>Rana catesbeiana</i>	Known to occur	Locally Common
Amphibians	<u>Canyon Treefrog</u>	<i>Hyla arenicolor</i>	Likely to occur	Unknown
Amphibians	<u>New Mexico Spadefoot</u>	<i>Spea multiplicata</i>	Known to occur	Unknown
Amphibians	<u>Northern Leopard Frog</u>	<i>Rana pipiens</i>	Known to occur	Locally Common
Amphibians	<u>Red-spotted Toad</u>	<i>Bufo punctatus</i>	Known to occur	Rare
Amphibians	<u>Tiger Salamander</u>	<i>Ambystoma tigrinum</i>	Known to occur	Locally Common
Amphibians	<u>Western Chorus Frog</u>	<i>Pseudacris triseriata</i>	Known to occur	Common
Amphibians	<u>Woodhouse's Toad</u>	<i>Bufo woodhousii</i>	Known to occur	Common
Birds	<u>Acorn Woodpecker</u>	<i>Melanerpes formicivorus</i>	Known to occur	Casual/Accidental
Birds	<u>American Avocet</u>	<i>Recurvirostra americana</i>	Known to occur	Unknown
Birds	<u>American Bittern</u>	<i>Botaurus lentiginosus</i>	Known to occur	Unknown
Birds	<u>American Coot</u>	<i>Fulica americana</i>	Known to occur	Fairly Common
Birds	<u>American Crow</u>	<i>Corvus brachyrhynchos</i>	Known to occur	Fairly Common
Birds	<u>American Dipper</u>	<i>Cinclus mexicanus</i>	Known to occur	Uncommon
Birds	<u>American Goldfinch</u>	<i>Carduelis tristis</i>	Known to occur	Uncommon
Birds	<u>American Kestrel</u>	<i>Falco sparverius</i>	Known to occur	Fairly Common
Birds	<u>American Peregrine Falcon</u>	<i>Falco peregrinus anatum</i>	Known to occur	Rare
Birds	<u>American Pipit</u>	<i>Anthus rubescens</i>	Known to occur	Uncommon

Birds	<u>American Redstart</u>	<i>Setophaga ruticilla</i>	Known to occur	Unknown
Birds	<u>American Robin</u>	<i>Turdus migratorius</i>	Known to occur	Common
Birds	<u>American Tree Sparrow</u>	<i>Spizella arborea</i>	Known to occur	Unknown
Birds	<u>American White Pelican</u>	<i>Pelecanus erythrorhynchos</i>	Known to occur	Unknown
Birds	<u>American Wigeon</u>	<i>Anas americana</i>	Known to occur	Unknown
Birds	<u>Ash-throated Flycatcher</u>	<i>Myiarchus cinerascens</i>	Known to occur	Fairly Common
Birds	<u>Baird's Sandpiper</u>	<i>Calidris bairdii</i>	Known to occur	Unknown
Birds	<u>Bald Eagle</u>	<i>Haliaeetus leucocephalus</i>	Known to occur	Unknown
Birds	<u>Band-tailed Pigeon</u>	<i>Columba fasciata</i>	Known to occur	Uncommon
Birds	<u>Bank Swallow</u>	<i>Riparia riparia</i>	Known to occur	Common
Birds	<u>Barn Owl</u>	<i>Tyto alba</i>	Known to occur	Unknown
Birds	<u>Barn Swallow</u>	<i>Hirundo rustica</i>	Known to occur	Common
Birds	<u>Barrow's Goldeneye</u>	<i>Bucephala islandica</i>	Known to occur	Unknown
Birds	<u>Belted Kingfisher</u>	<i>Ceryle alcyon</i>	Known to occur	Fairly Common
Birds	<u>Bewick's Wren</u>	<i>Thryomanes bewickii</i>	Known to occur	Fairly Common
Birds	<u>Black Phoebe</u>	<i>Sayornis nigricans</i>	Known to occur	Unknown
Birds	<u>Black Rosy Finch</u>	<i>Leucosticte atrata</i>	Known to occur	Unknown
Birds	<u>Black Swift</u>	<i>Cypseloides niger</i>	Known to occur	Uncommon
Birds	<u>Black Tern</u>	<i>Chlidonias niger</i>	Known to occur	Unknown
Birds	<u>Black-billed Magpie</u>	<i>Pica pica</i>	Known to occur	Common
Birds	<u>Black-capped Chickadee</u>	<i>Poecile atricapillus</i>	Known to occur	Fairly Common

Birds	<u>Black-chinned Hummingbird</u>	<i>Archilochus alexandri</i>	Known to occur	Common
Birds	<u>Black-crowned Night-Heron</u>	<i>Nycticorax nycticorax</i>	Known to occur	Unknown
Birds	<u>Black-headed Grosbeak</u>	<i>Pheucticus melanocephalus</i>	Known to occur	Fairly Common
Birds	<u>Black-necked Stilt</u>	<i>Himantopus mexicanus</i>	Known to occur	Unknown
Birds	<u>Black-throated Gray Warbler</u>	<i>Dendroica nigrescens</i>	Known to occur	Fairly Common
Birds	<u>Black-throated Sparrow</u>	<i>Amphispiza bilineata</i>	Known to occur	Rare
Birds	<u>Blue Grosbeak</u>	<i>Guiraca caerulea</i>	Known to occur	Fairly Common
Birds	<u>Blue Grouse</u>	<i>Dendragapus obscurus</i>	Known to occur	Uncommon
Birds	<u>Blue Jay</u>	<i>Cyanocitta cristata</i>	Known to occur	Unknown
Birds	<u>Blue-gray Gnatcatcher</u>	<i>Poliopitila caerulea</i>	Known to occur	Common
Birds	<u>Blue-winged Teal</u>	<i>Anas discors</i>	Known to occur	Unknown
Birds	<u>Bobolink</u>	<i>Dolichonyx oryzivorus</i>	Known to occur	Unknown
Birds	<u>Bonaparte's Gull</u>	<i>Larus philadelphia</i>	Likely to occur	No Occurrence
Birds	<u>Boreal Owl</u>	<i>Aegolius funereus</i>	Known to occur	Rare
Birds	<u>Brewer's Blackbird</u>	<i>Euphagus cyanocephalus</i>	Known to occur	Common
Birds	<u>Brewer's Sparrow</u>	<i>Spizella breweri</i>	Known to occur	Fairly Common
Birds	<u>Broad-tailed Hummingbird</u>	<i>Selasphorus platycercus</i>	Known to occur	Common
Birds	<u>Brown Creeper</u>	<i>Certhia americana</i>	Known to occur	Uncommon
Birds	<u>Brown Thrasher</u>	<i>Toxostoma rufum</i>	Known to occur	Unknown
Birds	<u>Brown-capped Rosy Finch</u>	<i>Leucosticte australis</i>	Known to occur	Uncommon
Birds	<u>Brown-headed Cowbird</u>	<i>Molothrus ater</i>	Known to occur	Common

Birds	<u>Bufflehead</u>	<i>Bucephala albeola</i>	Known to occur	Unknown
Birds	<u>Bullock's Oriole</u>	<i>Icterus bullockii</i>	Known to occur	Fairly Common
Birds	<u>Bushtit</u>	<i>Psaltriparus minimus</i>	Known to occur	Fairly Common
Birds	<u>California Gull</u>	<i>Larus californicus</i>	Known to occur	Unknown
Birds	<u>Calliope Hummingbird</u>	<i>Stellula calliope</i>	Known to occur	Unknown
Birds	<u>Canada Goose</u>	<i>Branta canadensis</i>	Known to occur	Fairly Common
Birds	<u>Canvasback</u>	<i>Aythya valisineria</i>	Known to occur	Unknown
Birds	<u>Canyon Wren</u>	<i>Catherpes mexicanus</i>	Known to occur	Uncommon
Birds	<u>Cassin's Finch</u>	<i>Carpodacus cassinii</i>	Known to occur	Uncommon
Birds	<u>Cassin's Kingbird</u>	<i>Tyrannus vociferans</i>	Known to occur	Fairly Common
Birds	<u>Cattle Egret</u>	<i>Bubulcus ibis</i>	Known to occur	Unknown
Birds	<u>Cedar Waxwing</u>	<i>Bombycilla cedrorum</i>	Known to occur	Rare
Birds	<u>Chimney Swift</u>	<i>Chaetura pelagica</i>	Known to occur	Unknown
Birds	<u>Chipping Sparrow</u>	<i>Spizella passerina</i>	Known to occur	Common
Birds	<u>Cinnamon Teal</u>	<i>Anas cyanoptera</i>	Known to occur	Uncommon
Birds	<u>Clark's Grebe</u>	<i>Aechmophorus clarkii</i>	Known to occur	Unknown
Birds	<u>Clark's Nutcracker</u>	<i>Nucifraga columbiana</i>	Known to occur	Fairly Common
Birds	<u>Clay-colored Sparrow</u>	<i>Spizella pallida</i>	Likely to occur	No Occurrence
Birds	<u>Cliff Swallow</u>	<i>Petrochelidon pyrrhonota</i>	Known to occur	Abundant
Birds	<u>Common Goldeneye</u>	<i>Bucephala clangula</i>	Known to occur	Unknown
Birds	<u>Common Grackle</u>	<i>Quiscalus quiscula</i>	Known to occur	Uncommon

Birds	<u>Common Loon</u>	<i>Gavia immer</i>	Known to occur	Unknown
Birds	<u>Common Merganser</u>	<i>Mergus merganser</i>	Known to occur	Rare
Birds	<u>Common Nighthawk</u>	<i>Chordeiles minor</i>	Known to occur	Common
Birds	<u>Common Poorwill</u>	<i>Phalaenoptilus nuttallii</i>	Known to occur	Uncommon
Birds	<u>Common Raven</u>	<i>Corvus corax</i>	Known to occur	Fairly Common
Birds	<u>Common Redpoll</u>	<i>Carduelis flammea</i>	Likely to occur	No Occurrence
Birds	<u>Common Snipe</u>	<i>Gallinago gallinago</i>	Known to occur	Uncommon
Birds	<u>Common Yellowthroat</u>	<i>Geothlypis trichas</i>	Known to occur	Fairly Common
Birds	<u>Cooper's Hawk</u>	<i>Accipiter cooperii</i>	Known to occur	Uncommon
Birds	<u>Cordilleran Flycatcher</u>	<i>Empidonax occidentalis</i>	Known to occur	Fairly Common
Birds	<u>Dark-eyed Junco</u>	<i>Junco hyemalis</i>	Known to occur	Common
Birds	<u>Double-crested Cormorant</u>	<i>Phalacrocorax auritus</i>	Known to occur	Unknown
Birds	<u>Downy Woodpecker</u>	<i>Picoides pubescens</i>	Known to occur	Uncommon
Birds	<u>Dusky Flycatcher</u>	<i>Empidonax oberholseri</i>	Known to occur	Fairly Common
Birds	<u>Eared Grebe</u>	<i>Podiceps nigricollis</i>	Known to occur	Unknown
Birds	<u>Eastern Kingbird</u>	<i>Tyrannus tyrannus</i>	Known to occur	Rare
Birds	<u>Eastern Phoebe</u>	<i>Sayornis phoebe</i>	Known to occur	Unknown
Birds	<u>European Starling</u>	<i>Sturnus vulgaris</i>	Known to occur	Abundant
Birds	<u>Evening Grosbeak</u>	<i>Coccothraustes vespertinus</i>	Known to occur	Fairly Common
Birds	<u>Ferruginous Hawk</u>	<i>Buteo regalis</i>	Known to occur	Unknown
Birds	<u>Flammulated Owl</u>	<i>Otus flammeolus</i>	Known to occur	Uncommon

Birds	<u>Forster's Tern</u>	<i>Sterna forsteri</i>	Known to occur	Unknown
Birds	<u>Fox Sparrow</u>	<i>Passerella iliaca</i>	Known to occur	Unknown
Birds	<u>Franklin's Gull</u>	<i>Larus pipixcan</i>	Likely to occur	No Occurrence
Birds	<u>Gadwall</u>	<i>Anas strepera</i>	Known to occur	Unknown
Birds	<u>Gambel's Quail</u>	<i>Callipepla gambelii</i>	Known to occur	Uncommon
Birds	<u>Golden Eagle</u>	<i>Aquila chrysaetos</i>	Known to occur	Uncommon
Birds	<u>Golden-crowned Kinglet</u>	<i>Regulus satrapa</i>	Known to occur	Uncommon
Birds	<u>Grace's Warbler</u>	<i>Dendroica graciae</i>	Known to occur	Uncommon
Birds	<u>Gray Catbird</u>	<i>Dumetella carolinensis</i>	Known to occur	Rare
Birds	<u>Gray Flycatcher</u>	<i>Empidonax wrightii</i>	Known to occur	Uncommon
Birds	<u>Gray Jay</u>	<i>Perisoreus canadensis</i>	Known to occur	Uncommon
Birds	<u>Gray Vireo</u>	<i>Vireo vicinior</i>	Known to occur	Rare
Birds	<u>Gray-crowned Rosy Finch</u>	<i>Leucosticte tephrocotis</i>	Known to occur	Unknown
Birds	<u>Great Blue Heron</u>	<i>Ardea herodias</i>	Known to occur	Rare
Birds	<u>Great Egret</u>	<i>Ardea alba</i>	Known to occur	Unknown
Birds	<u>Great Horned Owl</u>	<i>Bubo virginianus</i>	Known to occur	Uncommon
Birds	<u>Greater Roadrunner</u>	<i>Geococcyx californianus</i>	Known to occur	Very Rare
Birds	<u>Greater Sandhill Crane</u>	<i>Grus canadensis tabida</i>	Known to occur	Unknown
Birds	<u>Great-tailed Grackle</u>	<i>Quiscalus mexicanus</i>	Known to occur	Uncommon
Birds	<u>Green Heron</u>	<i>Butorides virescens</i>	Known to occur	Unknown
Birds	<u>Green-tailed Towhee</u>	<i>Pipilo chlorurus</i>	Known to occur	Common

Birds	<u>Green-winged Teal</u>	<i>Anas crecca</i>	Known to occur	Uncommon
Birds	<u>Gunnison Sage Grouse</u>	<i>Centrocercus minimus</i>	Known to occur	Casual/Accidental
Birds	<u>Hairy Woodpecker</u>	<i>Picoides villosus</i>	Known to occur	Uncommon
Birds	<u>Hammond's Flycatcher</u>	<i>Empidonax hammondii</i>	Known to occur	Uncommon
Birds	<u>Harris' Sparrow</u>	<i>Zonotrichia querula</i>	Likely to occur	No Occurrence
Birds	<u>Hermit Thrush</u>	<i>Catharus guttatus</i>	Known to occur	Common
Birds	<u>Hooded Merganser</u>	<i>Lophodytes cucullatus</i>	Known to occur	Unknown
Birds	<u>Horned Grebe</u>	<i>Podiceps auritus</i>	Likely to occur	No Occurrence
Birds	<u>Horned Lark</u>	<i>Eremophila alpestris</i>	Known to occur	Uncommon
Birds	<u>House Finch</u>	<i>Carpodacus mexicanus</i>	Known to occur	Common
Birds	<u>House Sparrow</u>	<i>Passer domesticus</i>	Known to occur	Abundant
Birds	<u>House Wren</u>	<i>Troglodytes aedon</i>	Known to occur	Common
Birds	<u>Indigo Bunting</u>	<i>Passerina cyanea</i>	Known to occur	Rare
Birds	<u>Juniper Titmouse</u>	<i>Baeolophus griseus</i>	Known to occur	Fairly Common
Birds	<u>Killdeer</u>	<i>Charadrius vociferus</i>	Known to occur	Fairly Common
Birds	<u>Lapland Longspur</u>	<i>Calcarius lapponicus</i>	Known to occur	Unknown
Birds	<u>Lark Bunting</u>	<i>Calamospiza melanocorys</i>	Known to occur	Casual/Accidental
Birds	<u>Lark Sparrow</u>	<i>Chondestes grammacus</i>	Known to occur	Fairly Common
Birds	<u>Lazuli Bunting</u>	<i>Passerina amoena</i>	Known to occur	Fairly Common
Birds	<u>Least Sandpiper</u>	<i>Calidris minutilla</i>	Likely to occur	No Occurrence
Birds	<u>Lesser Goldfinch</u>	<i>Carduelis psaltria</i>	Known to occur	Fairly Common

Birds	<u>Lesser Scaup</u>	<i>Aythya affinis</i>	Known to occur	Unknown
Birds	<u>Lewis' Woodpecker</u>	<i>Melanerpes lewis</i>	Known to occur	Uncommon
Birds	<u>Lincoln's Sparrow</u>	<i>Melospiza lincolnii</i>	Known to occur	Fairly Common
Birds	<u>Loggerhead Shrike</u>	<i>Lanius ludovicianus</i>	Known to occur	Unknown
Birds	<u>Long-billed Curlew</u>	<i>Numenius americanus</i>	Known to occur	Unknown
Birds	<u>Long-eared Owl</u>	<i>Asio otus</i>	Known to occur	Uncommon
Birds	<u>MacGillivray's Warbler</u>	<i>Oporornis tolmiei</i>	Known to occur	Uncommon
Birds	<u>Mallard</u>	<i>Anas platyrhynchos</i>	Known to occur	Common
Birds	<u>Marsh Wren</u>	<i>Cistothorus palustris</i>	Known to occur	Unknown
Birds	<u>Mexican Spotted Owl</u>	<i>Strix occidentalis lucida</i>	Known to occur	Unknown
Birds	<u>Mountain Bluebird</u>	<i>Sialia currucoides</i>	Known to occur	Fairly Common
Birds	<u>Mountain Chickadee</u>	<i>Poecile gambeli</i>	Known to occur	Common
Birds	<u>Mourning Dove</u>	<i>Zenaida macroura</i>	Known to occur	Common
Birds	<u>Nashville Warbler</u>	<i>Vermivora ruficapilla</i>	Known to occur	Unknown
Birds	<u>Northern Flicker</u>	<i>Colaptes auratus</i>	Known to occur	Fairly Common
Birds	<u>Northern Goshawk</u>	<i>Accipiter gentilis</i>	Known to occur	Rare
Birds	<u>Northern Harrier</u>	<i>Circus cyaneus</i>	Known to occur	Rare
Birds	<u>Northern Mockingbird</u>	<i>Mimus polyglottos</i>	Known to occur	Rare
Birds	<u>Northern Pintail</u>	<i>Anas acuta</i>	Known to occur	Unknown
Birds	<u>Northern Pygmy-Owl</u>	<i>Glaucidium gnoma</i>	Known to occur	Rare
Birds	<u>Northern Rough-winged Swallow</u>	<i>Stelgidopteryx serripennis</i>	Known to occur	Fairly Common

Birds	<u>Northern Saw-whet Owl</u>	<i>Aegolius acadicus</i>	Known to occur	Uncommon
Birds	<u>Northern Shoveler</u>	<i>Anas clypeata</i>	Known to occur	Unknown
Birds	<u>Northern Waterthrush</u>	<i>Seiurus noveboracensis</i>	Known to occur	Unknown
Birds	<u>Olive-sided Flycatcher</u>	<i>Contopus cooperi</i>	Known to occur	Uncommon
Birds	<u>Orange-crowned Warbler</u>	<i>Vermivora celata</i>	Known to occur	Fairly Common
Birds	<u>Osprey</u>	<i>Pandion haliaetus</i>	Known to occur	Rare
Birds	<u>Pacific Loon</u>	<i>Gavia pacifica</i>	Likely to occur	No Occurrence
Birds	<u>Peregrine Falcon</u>	<i>Falco peregrinus</i>	Known to occur	Rare
Birds	<u>Pied-billed Grebe</u>	<i>Podilymbus podiceps</i>	Known to occur	Uncommon
Birds	<u>Pine Grosbeak</u>	<i>Pinicola enucleator</i>	Known to occur	Uncommon
Birds	<u>Pine Siskin</u>	<i>Carduelis pinus</i>	Known to occur	Common
Birds	<u>Pinyon Jay</u>	<i>Gymnorhinus cyanocephalus</i>	Known to occur	Fairly Common
Birds	<u>Plumbeous Vireo</u>	<i>Vireo plumbeus</i>	Known to occur	Fairly Common
Birds	<u>Prairie Falcon</u>	<i>Falco mexicanus</i>	Known to occur	Uncommon
Birds	<u>Purple Martin</u>	<i>Progne subis</i>	Known to occur	Rare
Birds	<u>Pygmy Nuthatch</u>	<i>Sitta pygmaea</i>	Known to occur	Fairly Common
Birds	<u>Red Crossbill</u>	<i>Loxia curvirostra</i>	Known to occur	Uncommon
Birds	<u>Red-breasted Nuthatch</u>	<i>Sitta canadensis</i>	Known to occur	Fairly Common
Birds	<u>Red-eyed Vireo</u>	<i>Vireo olivaceus</i>	Known to occur	Unknown
Birds	<u>Redhead</u>	<i>Aythya americana</i>	Known to occur	Unknown
Birds	<u>Red-headed Woodpecker</u>	<i>Melanerpes erythrocephalus</i>	Known to occur	Unknown

Birds	<u>Red-naped Sapsucker</u>	<i>Sphyrapicus nuchalis</i>	Known to occur	Uncommon
Birds	<u>Red-necked Phalarope</u>	<i>Phalaropus lobatus</i>	Likely to occur	No Occurrence
Birds	<u>Red-tailed Hawk</u>	<i>Buteo jamaicensis</i>	Known to occur	Fairly Common
Birds	<u>Red-winged Blackbird</u>	<i>Agelaius phoeniceus</i>	Known to occur	Abundant
Birds	<u>Ring-billed Gull</u>	<i>Larus delawarensis</i>	Known to occur	Unknown
Birds	<u>Ring-necked Duck</u>	<i>Aythya collaris</i>	Known to occur	Unknown
Birds	<u>Ring-necked Pheasant</u>	<i>Phasianus colchicus</i>	Known to occur	Uncommon
Birds	<u>Rock Dove</u>	<i>Columba livia</i>	Known to occur	Common
Birds	<u>Rock Wren</u>	<i>Salpinctes obsoletus</i>	Known to occur	Fairly Common
Birds	<u>Rose-breasted Grosbeak</u>	<i>Pheucticus ludovicianus</i>	Known to occur	Unknown
Birds	<u>Rough-legged Hawk</u>	<i>Buteo lagopus</i>	Known to occur	Unknown
Birds	<u>Ruby-crowned Kinglet</u>	<i>Regulus calendula</i>	Known to occur	Common
Birds	<u>Ruddy Duck</u>	<i>Oxyura jamaicensis</i>	Known to occur	Rare
Birds	<u>Rufous Hummingbird</u>	<i>Selasphorus rufus</i>	Known to occur	Unknown
Birds	<u>Sabine's Gull</u>	<i>Xema sabini</i>	Likely to occur	No Occurrence
Birds	<u>Sage Grouse</u>	<i>Centrocercus urophasianus</i>	Known to occur	Unknown
Birds	<u>Sage Sparrow</u>	<i>Amphispiza belli</i>	Known to occur	Casual/Accidental
Birds	<u>Sage Thrasher</u>	<i>Oreoscoptes montanus</i>	Known to occur	Rare
Birds	<u>Sandhill Crane</u>	<i>Grus canadensis</i>	Known to occur	Unknown
Birds	<u>Savannah Sparrow</u>	<i>Passerculus sandwichensis</i>	Known to occur	Unknown
Birds	<u>Say's Phoebe</u>	<i>Sayornis saya</i>	Known to occur	Fairly Common

Birds	<u>Scissor-tailed Flycatcher</u>	<i>Tyrannus forficatus</i>	Known to occur	Unknown
Birds	<u>Semipalmated Sandpiper</u>	<i>Calidris pusilla</i>	Likely to occur	No Occurrence
Birds	<u>Sharp-shinned Hawk</u>	<i>Accipiter striatus</i>	Known to occur	Uncommon
Birds	<u>Short-eared Owl</u>	<i>Asio flammeus</i>	Known to occur	Unknown
Birds	<u>Snowy Egret</u>	<i>Egretta thula</i>	Known to occur	Unknown
Birds	<u>Snowy Plover</u>	<i>Charadrius alexandrinus</i>	Known to occur	Unknown
Birds	<u>Solitary Sandpiper</u>	<i>Tringa solitaria</i>	Known to occur	Unknown
Birds	<u>Song Sparrow</u>	<i>Melospiza melodia</i>	Known to occur	Fairly Common
Birds	<u>Sora</u>	<i>Porzana carolina</i>	Known to occur	Uncommon
Birds	<u>Southwestern Willow Flycatcher</u>	<i>Empidonax traillii extimus</i>	Known to occur	Uncommon
Birds	<u>Spotted Owl</u>	<i>Strix occidentalis</i>	Known to occur	Unknown
Birds	<u>Spotted Sandpiper</u>	<i>Actitis macularia</i>	Known to occur	Fairly Common
Birds	<u>Spotted Towhee</u>	<i>Pipilo maculatus</i>	Known to occur	Common
Birds	<u>Steller's Jay</u>	<i>Cyanocitta stelleri</i>	Known to occur	Fairly Common
Birds	<u>Summer Tanager</u>	<i>Piranga rubra</i>	Likely to occur	No Occurrence
Birds	<u>Swainson's Hawk</u>	<i>Buteo swainsoni</i>	Known to occur	Rare
Birds	<u>Swainson's Thrush</u>	<i>Catharus ustulatus</i>	Known to occur	Rare
Birds	<u>Three-toed Woodpecker</u>	<i>Picoides tridactylus</i>	Known to occur	Uncommon
Birds	<u>Townsend's Solitaire</u>	<i>Myadestes townsendi</i>	Known to occur	Uncommon
Birds	<u>Townsend's Warbler</u>	<i>Dendroica townsendi</i>	Likely to occur	No Occurrence
Birds	<u>Tree Swallow</u>	<i>Tachycineta bicolor</i>	Known to occur	Common

Birds	<u>Tundra Swan</u>	<i>Cygnus columbianus</i>	Likely to occur	No Occurrence
Birds	<u>Turkey Vulture</u>	<i>Cathartes aura</i>	Known to occur	Common
Birds	<u>Vermilion Flycatcher</u>	<i>Pyrocephalus rubinus</i>	Known to occur	Unknown
Birds	<u>Vesper Sparrow</u>	<i>Pooecetes gramineus</i>	Known to occur	Common
Birds	<u>Violet-green Swallow</u>	<i>Tachycineta thalassina</i>	Known to occur	Common
Birds	<u>Virginia Rail</u>	<i>Rallus limicola</i>	Known to occur	Uncommon
Birds	<u>Virginia's Warbler</u>	<i>Vermivora virginiae</i>	Known to occur	Fairly Common
Birds	<u>Warbling Vireo</u>	<i>Vireo gilvus</i>	Known to occur	Common
Birds	<u>Western Bluebird</u>	<i>Sialia mexicana</i>	Known to occur	Fairly Common
Birds	<u>Western Burrowing Owl</u>	<i>Athene cunicularia</i>	Known to occur	Casual/Accidental
Birds	<u>Western Grebe</u>	<i>Aechmophorus occidentalis</i>	Known to occur	Unknown
Birds	<u>Western Kingbird</u>	<i>Tyrannus verticalis</i>	Known to occur	Fairly Common
Birds	<u>Western Meadowlark</u>	<i>Sturnella neglecta</i>	Known to occur	Abundant
Birds	<u>Western Sandpiper</u>	<i>Calidris mauri</i>	Likely to occur	No Occurrence
Birds	<u>Western Screech-Owl</u>	<i>Otus kennicottii</i>	Known to occur	Rare
Birds	<u>Western Scrub Jay</u>	<i>Aphelocoma californica</i>	Known to occur	Fairly Common
Birds	<u>Western Snowy Plover</u>	<i>Charadrius alexandrinus nivosus</i>	Known to occur	Unknown
Birds	<u>Western Tanager</u>	<i>Piranga ludoviciana</i>	Known to occur	Fairly Common
Birds	<u>Western Wood-Pewee</u>	<i>Contopus sordidulus</i>	Known to occur	Fairly Common
Birds	<u>White-breasted Nuthatch</u>	<i>Sitta carolinensis</i>	Known to occur	Fairly Common
Birds	<u>White-crowned Sparrow</u>	<i>Zonotrichia leucophrys</i>	Known to occur	Common

Birds	<u>White-faced Ibis</u>	<i>Plegadis chihi</i>	Known to occur	Unknown
Birds	<u>White-rumped Sandpiper</u>	<i>Calidris fuscicollis</i>	Likely to occur	No Occurrence
Birds	<u>White-tailed Ptarmigan</u>	<i>Lagopus leucurus</i>	Known to occur	Rare
Birds	<u>White-throated Sparrow</u>	<i>Zonotrichia albicollis</i>	Likely to occur	No Occurrence
Birds	<u>White-throated Swift</u>	<i>Aeronautes saxatalis</i>	Known to occur	Fairly Common
Birds	<u>Wild Turkey</u>	<i>Meleagris gallopavo</i>	Known to occur	Uncommon
Birds	<u>Willet</u>	<i>Catoptrophorus semipalmatus</i>	Known to occur	Unknown
Birds	<u>Williamson's Sapsucker</u>	<i>Sphyrapicus thyroideus</i>	Known to occur	Uncommon
Birds	<u>Willow Flycatcher</u>	<i>Empidonax traillii</i>	Known to occur	Uncommon
Birds	<u>Wilson's Phalarope</u>	<i>Phalaropus tricolor</i>	Known to occur	Rare
Birds	<u>Wilson's Warbler</u>	<i>Wilsonia pusilla</i>	Known to occur	Fairly Common
Birds	<u>Wood Duck</u>	<i>Aix sponsa</i>	Known to occur	Unknown
Birds	<u>Yellow Warbler</u>	<i>Dendroica petechia</i>	Known to occur	Fairly Common
Birds	<u>Yellow-billed Cuckoo</u>	<i>Coccyzus americanus</i>	Known to occur	Very Rare
Birds	<u>Yellow-breasted Chat</u>	<i>Icteria virens</i>	Known to occur	Fairly Common
Birds	<u>Yellow-headed Blackbird</u>	<i>Xanthocephalus xanthocephalus</i>	Known to occur	Common
Birds	<u>Yellow-rumped Warbler</u>	<i>Dendroica coronata</i>	Known to occur	Common
Mammals	<u>Abert's Squirrel</u>	<i>Sciurus aberti</i>	Known to occur	Fairly Common
Mammals	<u>American Badger</u>	<i>Taxidea taxus</i>	Known to occur	Uncommon
Mammals	<u>American Beaver</u>	<i>Castor canadensis</i>	Known to occur	Fairly Common
Mammals	<u>American Elk</u>	<i>Cervus elaphus</i>	Known to occur	Abundant

Mammals	<u>American Marten</u>	<i>Martes americana</i>	Known to occur	Uncommon
Mammals	<u>American Pika</u>	<i>Ochotona princeps</i>	Known to occur	Fairly Common
Mammals	<u>Big Brown Bat</u>	<i>Eptesicus fuscus</i>	Known to occur	Abundant
Mammals	<u>Big Free-tailed Bat</u>	<i>Nyctinomops macrotis</i>	Likely to occur	Unknown
Mammals	<u>Bighorn Sheep</u>	<i>Ovis canadensis</i>	Known to occur	Fairly Common
Mammals	<u>Black Bear</u>	<i>Ursus americanus</i>	Known to occur	Common
Mammals	<u>Black-footed Ferret</u>	<i>Mustela nigripes</i>	Known to occur	Extirpated
Mammals	<u>Black-tailed Jackrabbit</u>	<i>Lepus californicus</i>	Known to occur	Uncommon
Mammals	<u>Bobcat</u>	<i>Lynx rufus</i>	Known to occur	Uncommon
Mammals	<u>Botta's Pocket Gopher</u>	<i>Thomomys bottae</i>	Known to occur	Fairly Common
Mammals	<u>Brazilian Free-tailed Bat</u>	<i>Tadarida brasiliensis</i>	Known to occur	Unknown
Mammals	<u>Brush Mouse</u>	<i>Peromyscus boylii</i>	Known to occur	Fairly Common
Mammals	<u>Bushy-tailed Woodrat</u>	<i>Neotoma cinerea</i>	Known to occur	Fairly Common
Mammals	<u>California Myotis</u>	<i>Myotis californicus</i>	Known to occur	Fairly Common
Mammals	<u>Colorado Chipmunk</u>	<i>Tamias quadrivittatus</i>	Known to occur	Fairly Common
Mammals	<u>Common Muskrat</u>	<i>Ondatra zibethicus</i>	Known to occur	Common
Mammals	<u>Common Porcupine</u>	<i>Erethizon dorsatum</i>	Known to occur	Uncommon
Mammals	<u>Coyote</u>	<i>Canis latrans</i>	Known to occur	Common
Mammals	<u>Deer Mouse</u>	<i>Peromyscus maniculatus</i>	Known to occur	Abundant
Mammals	<u>Desert Cottontail</u>	<i>Sylvilagus audubonii</i>	Known to occur	Fairly Common
Mammals	<u>Dwarf Shrew</u>	<i>Sorex nanus</i>	Known to occur	Rare

Mammals	<u>Ermine</u>	<i>Mustela erminea</i>	Known to occur	Uncommon
Mammals	<u>Fringed Myotis</u>	<i>Myotis thysanodes</i>	Known to occur	Rare
Mammals	<u>Golden-mantled Ground Squirrel</u>	<i>Spermophilus lateralis</i>	Known to occur	Fairly Common
Mammals	<u>Gray Fox</u>	<i>Urocyon cinereoargenteus</i>	Known to occur	Uncommon
Mammals	<u>Gunnison's Prairie Dog</u>	<i>Cynomys gunnisoni</i>	Known to occur	Fairly Common
Mammals	<u>Hoary Bat</u>	<i>Lasiurus cinereus</i>	Known to occur	Common
Mammals	<u>House Mouse</u>	<i>Mus musculus</i>	Known to occur	Abundant
Mammals	<u>Least Chipmunk</u>	<i>Tamias minimus</i>	Known to occur	Common
Mammals	<u>Little Brown Myotis</u>	<i>Myotis lucifugus</i>	Known to occur	Abundant
Mammals	<u>Long-eared Myotis</u>	<i>Myotis evotis</i>	Known to occur	Fairly Common
Mammals	<u>Long-legged Myotis</u>	<i>Myotis volans</i>	Known to occur	Common
Mammals	<u>Long-tailed Vole</u>	<i>Microtus longicaudus</i>	Known to occur	Fairly Common
Mammals	<u>Long-tailed Weasel</u>	<i>Mustela frenata</i>	Known to occur	Uncommon
Mammals	<u>Lynx</u>	<i>Lynx canadensis</i>	Known to occur	Very Rare
Mammals	<u>Masked Shrew</u>	<i>Sorex cinereus</i>	Likely to occur	Unknown
Mammals	<u>Mexican Woodrat</u>	<i>Neotoma mexicana</i>	Known to occur	Fairly Common
Mammals	<u>Mink</u>	<i>Mustela vison</i>	Known to occur	Uncommon
Mammals	<u>Montane Vole</u>	<i>Microtus montanus</i>	Known to occur	Common
Mammals	<u>Moose</u>	<i>Alces alces</i>	Known to occur	Rare
Mammals	<u>Mountain Cottontail</u>	<i>Sylvilagus nuttallii</i>	Known to occur	Fairly Common
Mammals	<u>Mountain Lion</u>	<i>Felis concolor</i>	Known to occur	Uncommon

Mammals	<u>Mule Deer</u>	<i>Odocoileus hemionus</i>	Known to occur	Abundant
Mammals	<u>Northern Pocket Gopher</u>	<i>Thomomys talpoides</i>	Known to occur	Common
Mammals	<u>Northern River Otter</u>	<i>Lutra canadensis</i>	Known to occur	Rare
Mammals	<u>Pallid Bat</u>	<i>Antrozous pallidus</i>	Likely to occur	Unknown
Mammals	<u>Pine Squirrel</u>	<i>Tamiasciurus hudsonicus</i>	Likely to occur	Unknown
Mammals	<u>Pinyon Mouse</u>	<i>Peromyscus truei</i>	Known to occur	Common
Mammals	<u>Plains Pocket Mouse</u>	<i>Perognathus flavescens</i>	Known to occur	Unknown
Mammals	<u>Raccoon</u>	<i>Procyon lotor</i>	Known to occur	Fairly Common
Mammals	<u>Red Fox</u>	<i>Vulpes vulpes</i>	Known to occur	Fairly Common
Mammals	<u>Ringtail</u>	<i>Bassariscus astutus</i>	Known to occur	Rare
Mammals	<u>Rock Squirrel</u>	<i>Spermophilus variegatus</i>	Known to occur	Fairly Common
Mammals	<u>Silver-haired Bat</u>	<i>Lasionycteris noctivagans</i>	Known to occur	Common
Mammals	<u>Snowshoe Hare</u>	<i>Lepus americanus</i>	Known to occur	Fairly Common
Mammals	<u>Southern Red-backed Vole</u>	<i>Clethrionomys gapperi</i>	Known to occur	Fairly Common
Mammals	<u>Striped Skunk</u>	<i>Mephitis mephitis</i>	Known to occur	Fairly Common
Mammals	<u>Townsend's Big-eared Bat</u>	<i>Plecotus townsendii</i>	Known to occur	Uncommon
Mammals	<u>Water Shrew</u>	<i>Sorex palustris</i>	Known to occur	Uncommon
Mammals	<u>Western Harvest Mouse</u>	<i>Reithrodontomys megalotis</i>	Known to occur	Fairly Common
Mammals	<u>Western Jumping Mouse</u>	<i>Zapus princeps</i>	Known to occur	Fairly Common
Mammals	<u>Western Pipistrelle</u>	<i>Pipistrellus hesperus</i>	Known to occur	Fairly Common
Mammals	<u>Western Small-footed Myotis</u>	<i>Myotis ciliolabrum</i>	Known to occur	Common

Mammals	<u>White-tailed Jackrabbit</u>	<i>Lepus townsendii</i>	Known to occur	Fairly Common
Mammals	<u>White-throated Woodrat</u>	<i>Neotoma albigula</i>	Known to occur	Fairly Common
Mammals	<u>Wolverine</u>	<i>Gulo gulo</i>	Known to occur	Extirpated
Mammals	<u>Yuma Myotis</u>	<i>Myotis yumanensis</i>	Known to occur	Fairly Common
Reptiles	<u>Blackneck Garter Snake</u>	<i>Thamnophis cyrtopsis</i>	Known to occur	Rare
Reptiles	<u>Collared Lizard</u>	<i>Crotaphytus collaris</i>	Known to occur	Uncommon
Reptiles	<u>Fence Lizard</u>	<i>Sceloporus undulatus</i>	Known to occur	Common
Reptiles	<u>Gopher Snake</u>	<i>Pituophis catenifer</i>	Known to occur	Uncommon
Reptiles	<u>Many-lined Skink</u>	<i>Eumeces multivirgatus</i>	Known to occur	Fairly Common
Reptiles	<u>Midget Faded Rattlesnake</u>	<i>Crotalus viridis concolor</i>	Known to occur	Uncommon
Reptiles	<u>Milk Snake</u>	<i>Lampropeltis triangulum</i>	Known to occur	Rare
Reptiles	<u>Painted Turtle</u>	<i>Chrysemys picta</i>	Known to occur	Fairly Common
Reptiles	<u>Plateau Striped Whiptail</u>	<i>Cnemidophorus velox</i>	Known to occur	Common
Reptiles	<u>Racer</u>	<i>Coluber constrictor</i>	Known to occur	Rare
Reptiles	<u>Sagebrush Lizard</u>	<i>Sceloporus graciosus</i>	Known to occur	Common
Reptiles	<u>Short-horned Lizard</u>	<i>Phrynosoma hernandesi</i>	Known to occur	Fairly Common
Reptiles	<u>Side-blotched Lizard</u>	<i>Uta stansburiana</i>	Likely to occur	Unknown
Reptiles	<u>Smooth Green Snake</u>	<i>Liochlorophis vernalis</i>	Known to occur	Uncommon
Reptiles	<u>Striped Whipsnake</u>	<i>Masticophis taeniatus</i>	Known to occur	Uncommon
Reptiles	<u>Tree Lizard</u>	<i>Urosaurus ornatus</i>	Known to occur	Uncommon
Reptiles	<u>Variable Skink</u>	<i>Eumeces gaigeae</i>	Known to occur	Fairly Common

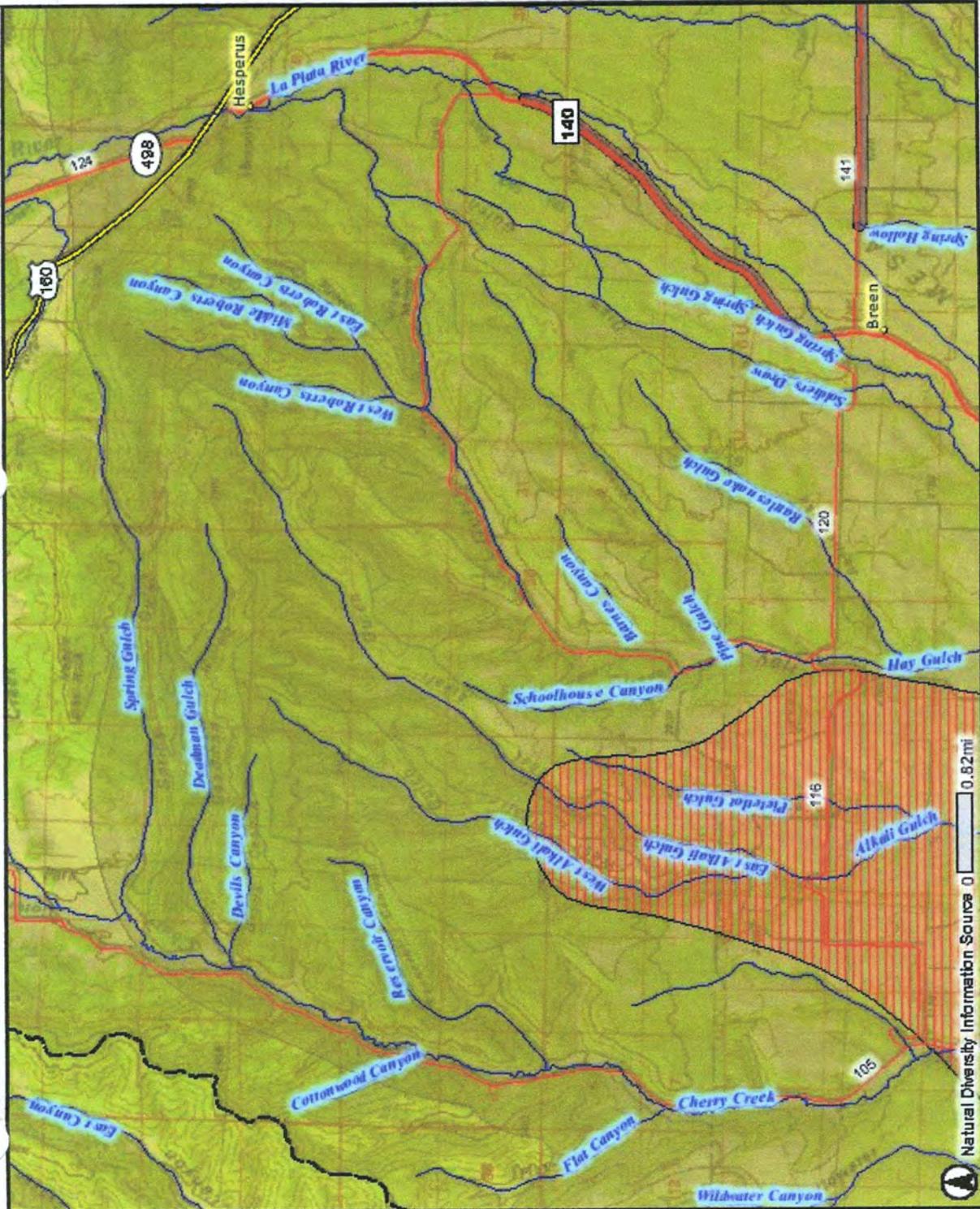
Reptiles	<u>Western Rattlesnake</u>	<i>Crotalus viridis</i>	Known to occur	Uncommon
Reptiles	<u>Western Terrestrial Garter Snake</u>	<i>Thamnophis elegans</i>	Known to occur	Fairly Common
Reptiles	<u>Western Whiptail</u>	<i>Cnemidophorus tigris</i>	Likely to occur	Unknown

Overview Map



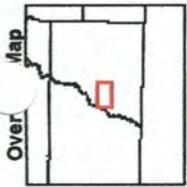
Legend

- Mule Deer Severe Winter Range
- Mule Deer Concentration Area
- Mule Deer Winter Concentration
- Mule Deer Highway Crossings
- Mule Deer Limited Use Area
- Mule Deer Migration Corridors
- Mule Deer Overall Range
- Mule Deer Summer Range
- Mule Deer Winter Range
- County Boundary
- Cities
- Streams 100K
- Highways
- Interstate



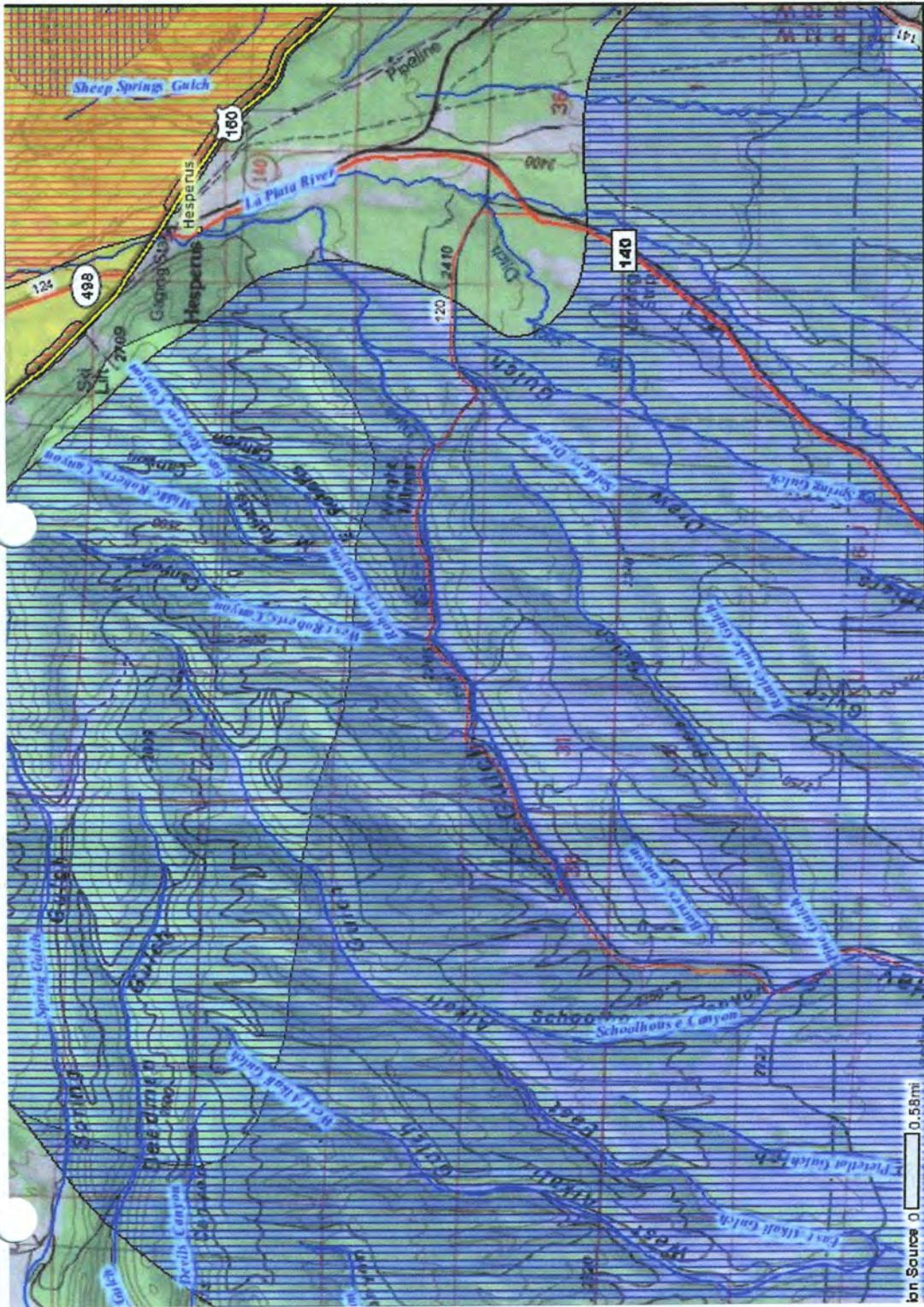
Natural Diversity Information Source 0 0.82mi





Legend

- American Elk Highway Crossings
- American Elk Limited Use Area
- American Elk Migration Corridors
- American Elk Production Areas
- American Elk Resident Population
- American Elk Severe Winter Range
- American Elk Summer Concentration
- American Elk Summer Range
- American Elk Winter Concentration
- American Elk Winter Range
- County Boundary
- Cities
- Cities



May 20, 2015

Mike Savage
Savage and Savage, Inc.
4610 Haystack Drive
Windsor, CO 80550

Dear Mike:

The Colorado Natural Heritage Program (CNHP) is in receipt of your request for information regarding the area of interest for underground coal mining operations in La Plata County, Colorado. In response, I have searched our Biodiversity Tracking and Conservation System (BIOTICS) for natural heritage elements (occurrences of significant natural communities and rare, threatened or endangered plants and animals) documented from the vicinity of the area specified in your request, specifically within a 1.5-mile radius of project area as described by the legal description that Savage and Savage, Inc. provided for the project area.

The enclosed report describes natural heritage resources known from this area and gives location (by Township, Range, and Section), precision information, and the date of last observation of the element at that location. This report includes elements known to occur within the specified project site, as well as elements known from similar landscapes near the site. Please note that “precision” reflects the resolution of original data. For example, an herbarium record from “4 miles east of Colorado Springs” provides much less spatial information than a topographic map showing the exact location of the occurrence. “Precision” codes of Seconds, Minutes, and General are defined in the footer of the enclosed report.

The report also outlines the status of known elements. We have included status according to Natural Heritage Program methodology and legal status under state and federal statutes. Natural Heritage ranks are standardized across the Heritage Program network, and are assigned for global and state levels of rarity. They range from “1” for critically imperiled or extremely rare elements, to “5” for those that are demonstrably secure.

You may notice that some occurrences do not have sections listed. Those species have been designated as “sensitive” due to their rarity and threats by human activity. Peregrine falcons, for example, are susceptible to human breeders removing falcon eggs from their nests. For these species, CNHP does not normally provide location information beyond township and range. Please contact us should you require more detailed information for sensitive occurrences.

There are no CNHP designated Potential Conservation Areas (PCAs) in the general project vicinity and no Network of Conservation Areas (NCAs). In order to successfully protect populations or occurrences, it is necessary to delineate conservation areas. These conservation areas focus on capturing the ecological processes that are necessary to support the continued existence of a particular element of natural heritage significance. Conservation areas may include a single occurrence of a rare element or a suite of rare elements or significant features.



The goal of the process is to identify a land area that can provide the habitat and ecological processes upon which a particular element or suite of elements depends for their continued existence. The best available knowledge of each species' life history is used in conjunction with information about topographic, geomorphic, and hydrologic features, vegetative cover, as well as current and potential land uses. The proposed boundary does not automatically exclude all activity. It is hypothesized that some activities will cause degradation to the element or the process on which they depend, while others will not. Consideration of specific activities or land use changes proposed within or adjacent to the preliminary conservation planning boundary should be carefully considered and evaluated for their consequences to the element on which the conservation unit is based.

The Colorado Division of Wildlife has legal authority over wildlife in the state. CDOW would therefore be responsible for the evaluation of and final decisions regarding any potential effects a proposed project may have on wildlife. If you would like more specific information regarding these or other vertebrate species in the vicinity of the area of interest, please contact the Colorado Division of Wildlife.

The information contained herein represents the results of a search of Colorado Natural Heritage Program's (CNHP) Biodiversity Tracking and Conservation System (BIOTICS), and can be used as notice to anticipate possible impacts or identify areas of interest. Care should be taken in interpreting these data. **Sensitive element records were found that are known from within a 1.5-mile radius of the area of interest, however no observations were found for CNHP watch-listed species (see enclosed species report).** Please note that the absence of data for a particular area, species, or habitat does not necessarily mean that these natural heritage resources do not occur on or adjacent to the project site, rather that our files do not currently contain information to document their presence. CNHP information should not replace field studies necessary for more localized planning efforts, especially if impacts to wildlife habitat are possible.

Although every attempt is made to provide the most current and precise information possible, please be aware that some of our sources provide a higher level of accuracy than others, and some interpretation may be required. CNHP's data system is constantly updated and revised. Please contact CNHP for an update or assistance with interpretation of this natural heritage information.

The data contained in the report is the product and property of the Colorado Natural Heritage Program (CNHP), a sponsored program at Colorado State University (CSU). The data contained herein are provided on an as is, as available basis without warranties of any kind, expressed or implied, including (but not limited to) warranties of merchantability, fitness for a particular purpose, and non-infringement. CNHP, CSU and the state of Colorado further expressly disclaim any warranty that the data are error free or current as of the date supplied.

Sincerely,



Michael Menefee
Environmental Review Coordinator

Enc.





Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within a 1.5-mile radius of the Area of Interest for Underground Coal Operations in La Plata County, Colorado

Report generated: 19 May 2015

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<i>EO_ID</i>	<i>major group</i>	<i>scientific name</i>	<i>common name</i>	<i>Prec</i>	<i>last obs</i>	<i>Town/ Range</i>	<i>Sec</i>	<i>TRS Note</i>	<i>grank</i>	<i>srank</i>	<i>eo- rank</i>	<i>ESA</i>	<i>fed stat</i>	<i>st stat</i>
3,436	Mammals	<i>Corynorhinus townsendii pallescens</i>	Townsend's Big-eared Bat Subsp	S	1993-08-22	035N011W	29		G3G4T 3T4	S2	E	-	BLM USFS	SC
10,761	Mammals	<i>Corynorhinus townsendii pallescens</i>	Townsend's Big-eared Bat Subsp	S	1992-08-03	035N011W	32		G3G4T 3T4	S2	E	-	BLM USFS	SC
5,467	Mammals	<i>Gulo gulo</i>	Wolverine	G	1979-04-99	035N012W			G4	S1	H	-		SE

Appendix 8(3)

FISH AND WILDLIFE CLEARANCE REPORT BLM TRES RIOS FIELD OFFICE

PROJECT NAME: GCC Exploration

Location: T. 35 N., R. 11 & 12 N.

Date Submitted: 20140528

Wildlife Restriction: Raptor timing restriction

Table 1. Survey results.

	A field survey was completed on (date) by (name).	
x	No field survey is required.	
	A field survey is needed, but cannot be completed by required date due to:	
	Inappropriate season	Inadequate lead time
		Higher priorities

SPECIES CONSIDERED

Table 2. Federally listed species for the BLM Tres Rios Field Office based on July 14th, 2010 list from the FWS and the quarterly updates received at the Tres Rios Field Office.

Species	Status	Presence	Project Effects	Rationale
Canada lynx	Threatened	NP	NE	No habitat in project area
New Mexico jumping mouse	Proposed	NP	NE	No habitat in project area
Gunnison sage-grouse	Proposed	NP	NE	No habitat in project area
Gunnison sage-grouse critical habitat	Proposed	NP	NE	No habitat in project area
Mexican spotted owl	Threatened	NS	NE	Drilling will occur outside the breeding season.
Southwestern willow flycatcher	Endangered	NP	NE	No habitat in project area
Yellow-billed cuckoo	Candidate	NP	NE	No habitat in project area
Bonytail	Endangered	NP	NE	No habitat in project area
Colorado pikeminnow	Endangered	NP	NE	No habitat in project area
Greenback cutthroat trout	Threatened	NP	NE	No habitat in project area
Humpback chub	Endangered	NP	NE	No habitat in project area
Razorback sucker	Endangered	NP	NE	No habitat in project area
Uncompahgre fritillary butterfly	Endangered	NP	NE	No habitat in project area

**Project effect determinations are: no effect (NE); may affect (MA); not likely to adversely affect (NLAA); likely to adversely affect (LAA). Presence determinations are: habitat not present (NP); habitat present species not expected to occur (NS); suspected occurrence (S); known occurrence (K)*

Initiation of section 7 consultation with U. S. Fish and Wildlife Service (is) (is not) necessary. No depletions to the San Juan Basin, water source if from the mine water supply. Estimated water use is 3,000 gallons or 0.0092 acre feet of water.

Table 3. Colorado Bureau of Land Management sensitive fish, plant, and wildlife species based on Information Bulletin No. CO-2000-14 (November 2009) for the Tres Rios Field Office.

Species	Presence	Projects Effects	Rationale
Mammals			
Allen's big-eared bat	S	NI	No roosts will be disturbed
Big free-tailed bat	S	NI	No roosts will be disturbed
Fringed myotis	S	NI	No roosts will be disturbed
Spotted bat	NS	NI	No roosts will be disturbed
Townsend's big-eared bat	NS	NI	No roosts will be disturbed
Desert Bighorn Sheep	NP	NI	Outside species range
Gunnison's Prairie Dog	NP	NI	No colonies in project area
Birds			
American Bald Eagle	S	NI	No activity will occur during the nesting season
American peregrine Falcon	NP	NI	Cliff structure not present in project area
Ferruginous hawk	NS	NI	Outside known breeding range of species
Western Burrowing Owl	NP	NI	No habitat in project area
Colombian sharp-tailed grouse	NP	NI	Outside species range
Northern goshawk	S	NI	Raptor timing restriction to protect raptors
White-faced ibis	NP	NI	No habitat in project area
Brewer's sparrow	NP	NI	No habitat in project area
Black swift	NP	NI	No habitat in project area
Fish, Herps and Amphibians			
Bluehead sucker	NP	NI	No habitat in project area
Colorado River cutthroat trout	NP	NI	No habitat in project area
Flannelmouth sucker	NP	NI	No habitat in project area
Roundtail chub	NP	NI	No habitat in project area
Desert spiny lizard			
Longnose leopard lizard			
Canyon treefrog	NP	NI	No habitat in project area
Northern leopard frog	NP	NI	No habitat in project area
Boreal toad	NP	NI	No habitat in project area
Insects			
Great basin silverspot butterfly	NP	NI	No habitat in project area

Table 4. Birds of Conservation Concern

Species	Presence	Projects Effects	Rationale
Golden eagle	S	NI	No activity will occur during the nesting season
Prairie falcon	NP	NI	No habitat in project area
Flammulated owl	S	NI	No activity will occur during the nesting season
Lewis' woodpecker	S	NI	Timing restriction to protect migratory birds during peak breeding season.
Gray vireo	S	NI	Timing restriction to protect migratory birds during peak breeding season.
Pinyon jay	S	NI	Timing restriction to protect migratory birds during peak breeding season.
Juniper titmouse	S	NI	Timing restriction to protect migratory birds during peak breeding season.
Brown-capped rosy-finch	NP	NI	No habitat in project area
Cassin's finch	NP	NI	No habitat in project area
Grace's warbler	S	NI	Timing restriction to protect migratory birds during peak breeding season.

Only species in Bird Conservation Region 16 that may occur on the Tres Rios Field Office are addressed in table 4

Presence determinations are: habitat not present (NP); habitat present species not expected to occur (NS); suspected occurrence (S); known occurrence (K)

Project Impacts are: No Impact (NI), May impact individuals or habitat (MIH)

MITIGATION MEASURES:

Big Game Species	Activity	Date	Stipulation Applies (yes/no)
Pronghorn	Production	May 1 – July 1 st	No
	Winter Concentration	Dec. 1 st – Apr.30 th	No
Mule Deer	Production	No dates for mule deer production due to species biology	
	Winter Concentration	Dec. 1 st – Apr.30 th	No
Elk	Production	May 15 th – June 30 th	No
	Winter Concentration	Dec. 1 st – Apr.30 th	No
Rocky Mountain Bighorn Sheep	Production	April 15 th – June 30 th	No
	Winter Concentration	Nov 1 st – Apr. 15 th	No
Desert Bighorn Sheep	Production	Feb. 1 st – May 1 st	No
	Winter Concentration	Dec. 1 st – Apr. 15 th	No
Bats			Stipulation Applies (yes/no)
Maternity Sites	Timing Restriction Apr. 15 th – Sept. 1 st		No
Swarming Sites	Timing Restriction Aug 15 th – Oct. 30 th (30 min. prior sunset to 30 min after sunrise)		No
Winter Hibernaculum	Timing Restriction Oct. 15 th – May 15 th		No
Gunnison sage-grouse			Stipulation Applies (yes/no)
Lek Sites	No surface occupancy 0.6 miles		No
Winter Concentration Areas	No surface occupancy on winter concentration areas		No
Nesting habitat	Timing Restriction Mar. 1 st – Jun. 30 th		No
Winter habitat	Timing Restriction Dec. 1 st – Mar. 15 th		No
Noise	Timing Restriction Mar. 15 th – May 15 th Noise may not negatively impact lek sites		No
Sharp-tailed grouse			
Lek sites	No surface occupancy w/in 0.4 miles		No
Nesting habitat	Timing Restriction Mar. 15 th – Jul. 30 th w/in 1.25 miles of a lek location		No
Winter habitat	Timing Restriction Dec. 1 st – Mar. 30 th		No
Noise	Timing Restriction Mar. 15 th – May 15 th Noise may not negatively impact lek sites		No
Migratory Birds			Stipulation Applies (yes/no)
Habitat Type	Timing Limitation		
Pinyon-Juniper	May 1 – June 30		Yes
Sagebrush	May 1 – June 30		No
Spruce-Fir	June 1 – July 30		No
Ponderosa Pine	May 15 – July 15		Yes
Oakbrush	May 15 – July 15		Yes
Raptors			
Species	Type	Buffer	Stipulation Applies (yes/no)
Golden Eagle	Timing Restriction Feb. 1 – July 15	½ mile	Yes
	No surface occupancy	½ mile	No
Bald Eagle	Timing Restriction Feb. 1 – July 15	½ mile	Yes
	No surface occupancy	½ mile	No
Bald Eagle Winter Roost	Timing Restriction Nov. 15 – Mar. 15	½ mile	Yes
	No surface occupancy	½ mile	No
Osprey	Timing Restriction Apr. 1 – Aug. 31	¼ mile	No
	No surface occupancy	¼ mile	No
Peregrine Falcon	Timing Restriction Mar. 15 – July 31	½ mile	No
	No surface occupancy	½ mile	No
Northern Goshawk	Timing Restriction Mar. 1 – Aug. 31	½ mile	Yes
	No surface occupancy	½ mile	No
Burrowing Owl	Timing Restriction Mar. 15 – Aug. 15	¼ mile	No

	No surface occupancy	¼ mile	No
Mexican Spotted Owl	Timing Restriction Mar. 15 – Aug. 31	½ mile of canyon rim.	Yes
Other Raptors	Timing and NSO varies by species	by species	Yes

DISCUSSION:

Surface disturbance is minimal and no long term occupancy of the surface will occur. Impacts to wildlife will primarily be through displacement due to disturbance.

Activity is scheduled to take place in the fall.

No disturbance to raptors, raptor timing limitation

The project proponent must adhere to restrictions for MSO to ensure compliance with ESA.

There is no mapped elk or mule deer critical winter range and therefore on big game timing restrictions are not necessary.

Timing limitations:

May 1 through July 15 to protect migratory birds

March 15 through August 31 to protect Mexican Spotted Owls

February 1 through July 15 to protect nesting Bald and Golden Eagles

November 15 through March 15 to protect Bald Eagle winter roosts

March 1 through August 31 to protect nesting Goshawks

March 1 through July 31 to protect nesting raptors not listed above

Overall Timing Restriction:

November 15 through August 31 – incorporation of all above timing restrictions

Clearance surveys may be conducted in order to work during the above listed timing restrictions.

CONCLUSIONS

The proposed project will not have any impacts on species listed under the Endangered Species Act provide all activity within ½ mile of Mexican Spotted Owl habitat takes place in the fall. Exceptions to timing restrictions may be available provided clearance surveys are conducted for the species of interest.

SPECIALIST (Signature):

Date:

/s/ Nathaniel B. West

20140609

Nathaniel West
Supervisory Wildlife Biologist
BLM Tres Rios Field Office

STATE OF COLORADO

Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE

AN EQUAL OPPORTUNITY EMPLOYER

Bruce McCloskey, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192



*For Wildlife-
For People*

151 E. 16th Street
Durango, CO 80216

4 May 2006

Mr. Michael Savage
Savage & Savage Environmental
4610 Haystack Drive
Windsor, CO 80550

RE: Permit Revision Application for National King Coal LLC
CDMG File C-81-035
Sections 2.04.3, 2.04.10, 2.04.11, 2.05.4 (pages 5-13), 2.05.5, 2.05.6 (pages 1,2)

Dear Mr. Savage:

The Durango Office of the Colorado Division of Wildlife (CDOW) has reviewed the above referenced sections of the National King Coal permit revision application. Due to the small size (>20 ac) of the overall surface disturbance, we concur that the potential impacts to wildlife are minimal.

The application (Section 2.05.4 page 12; "Success Criterion:Woody Plant Diversity") states that sagebrush was not proposed for re-establishment because it was considered "(not) particularly desirable for ungulate wildlife browsers..." While the document fails to identify the sub-species, in general sagebrush is important wildlife winter range forage. If re-establishment was excluded based on value to wildlife, we urge you to reconsider its use. Notwithstanding, the revegetation seed mix/species and success criteria appear appropriate and reasonable for the permit area.

Should you have any questions concerning these comments please contact Melody Miller at 970-247-0855.

Sincerely,

Patt Dorsey
Area Wildlife Manager, Durango

xc: Bredehoft, Spezze, Area File

DEPARTMENT OF NATURAL RESOURCES, Russell George, Executive Director
WILDLIFE COMMISSION, Jeffrey Crawford, Chair • Tom Burke, Vice Chair • Claire O'Neal, Secretary
Members, Robert Bray • Rick Enstrom • Philip James • Richard Ray • Robert Shoemaker • Ken Torres
Ex Officio Members, Russell George and Don Arment

2015 Mexican Spotted Owl Surveys Ute Mountain Ute Tribal Lands, Hay Gulch Area

GCC Energy Lease by Application Project

Prepared for:

GCC Energy

January 2016



Durango, CO
Cortez, CO
Pagosa Springs, CO
Santa Fe, NM
Farmington, NM

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ABBREVIATIONS/ACRONYMS

BLM	Bureau of Land Management
Ecosphere	Ecosphere Environmental Services, Inc.
EMU	Ecological Management Unit
ESA	Endangered Species Act
GCC	GCC Energy, LLC
LBA	Lease By Application
MSO	Mexican spotted owl
NEPA	National Environmental Policy Act
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator

1. BACKGROUND

GCC Energy (GCC) is considering preparing a Lease by Application (LBA) for the underground mining of federal coal reserves near the King II Coal Mine located approximately 4 miles west of Hesperus, Colorado (see Figure 1 in Appendix A). As a result of biological field reconnaissance surveys conducted by Ecosphere Environmental Services, Inc. on nearly 5,500 acres in 2014 (Figure 1, Appendix A), Ecosphere biologists concluded that the mixed conifer forest stands in the drainages of Deadman Gulch, West Alkali Gulch, East Alkali Gulch, West Roberts Canyon, and unnamed drainages off Hay Gulch contain the tree composition, height, and canopy structure preferred by Mexican spotted owl (MSO) for tree nest and roost sites. The MSO is a federally listed threatened species under the Endangered Species Act (ESA). The remaining habitat in the project area is arid, pine-oak forest and not suitable for MSO. Ecosphere encouraged GCC to complete MSO presence/absence surveys during the 2014 and 2015 field seasons. This report summarizes the results of MSO habitat assessment and surveys completed by Ecosphere between April and June 2015; negative survey results and a detailed assessment of area habitat conditions were submitted to GCC in 2014 in a separate report (Ecosphere 2014).

1.1 Project Description

In 2014, GCC submitted an exploration license application to the Bureau of Land Management (BLM) to drill 24 exploration coal cores immediately north of the current King II mine operations. As of early 2016, none of the exploratory cores have been drilled, but are planned to be drilled when snow conditions allow access. Should the exploration program determine that an economically recoverable resource exists, GCC would likely submit an LBA request to the BLM, which would trigger preparation of a National Environmental Policy Act (NEPA) analysis prior to the BLM initiating a public bidding process for the potential lease area. For the purpose of the MSO targeted surveys, the potential future LBA area is estimated at approximately 5,500 acres.

1.2 Purpose of Survey

The MSO is a threatened species federally listed under the ESA (USFWS 1993). Ecosphere determined during habitat studies in 2014 that suitable habitat for MSO does exist within the project area on Ute Mountain Ute tribal lands in the Hay Gulch area and, as a result, MSO protocol (2 years) presence/absence studies were recommended. The recommendation was based on Ecosphere's experience completing NEPA analyses for other coal operations in the region and the fact that many analyses are appealed due to inadequate or incomplete analysis of potential impacts. While underground mining typically has minimal environmental consequences to terrestrial wildlife, GCC nonetheless concurred that it would be prudent to complete the subject presence/absence surveys and to document the results in the future LBA NEPA document, should exploration drilling prove that an economically recoverable resource is present.

2. MEXICAN SPOTTED OWL ECOLOGY

Mexican spotted owls occur in at least two distinct habitat types throughout their range in the western United States—rocky canyonlands and forests in isolated mountain ranges (USFWS 2012). Preferred forested habitat occurs in steep, sometimes rocky canyons that contain mature or old-growth stands of mixed conifer woodlands with complex structure, uneven age, and high canopy cover (USFWS 1995). Preferred canyonland habitat is typically located in steep, narrow canyons with high walls that contain mature-growth trees that provide roosting and nest sites and cliff structures such as caves, potholes, or ledges (USFWS 2012, Willey 1998). Suitability of MSO habitat is primarily limited by three factors: (1) availability of nesting and roosting sites, (2) availability of foraging habitat/prey items, and/or (3) competition for habitat among other raptors (USFWS 2012).

Throughout the year, movement patterns are highly variable with some individuals remaining in the same home range year-round, while others may move a great distance to lower elevation sites for the winter. Dispersing juveniles can travel up to 50 kilometers (31 miles) from the natal territory and will occur in a wide variety of habitats, including those that may differ greatly from typical MSO habitats described in the literature (Ganey and Block 2005; USFWS 2012, Keitt et al. 1995).

2.1 Regional Mexican Spotted Owl Records and Habitat

The nearest known MSO detections to the project location occur at Mesa Verde National Park, located about 10 miles west of the project area, where several owls have been detected historically (G. San Miguel, National Park Service, personal communication, November 2011; Johnson 1997). Mexican spotted owls were also historically present on Ute Mountain Ute Tribal lands in Soda Canyon in 1990 (Johnson 1997). Consistent MSO surveys have not been conducted on the Navajo Nation; however, MSO have been known to occur in the Chuska, Lukachukai, and Carrizo Mountain ranges and on Black Mesa located approximately 80 miles and 110 miles, respectively, to the southwest of the project area on the Navajo Nation (Mikesic 2000, 2008). Additional confirmed presence of MSO in forested habitat has been documented in Archuleta Creek, located 48 miles east of the project area (Anthony Garcia, U.S. Forest Service, personal communication July 31, 2014).

Mexican spotted owl detections are considered sensitive data by federal and tribal agencies, due in part to the endangered conservation status of the species, tribal sovereignty, and the cultural importance of owls to local tribes. Because of this, there is a potential that available information on historic MSO detections in the region may not be complete.

Historical detections within the Four Corners region, including those described above, contain components of both forested and canyon MSO habitat types. Detections of MSO within dispersing distance of the project area are important because habitat patches, even ones that may not exhibit classic MSO habitat characteristics, can be important linkages between other occupied habitat patches.

3. METHODOLOGY

3.1 Mexican Spotted Owl Protocol Surveys

Surveys completed in 2015 for the proposed project followed the 2012 USFWS survey protocol for MSO, which requires that four complete surveys be conducted between March 1 and August 31, with at least two of these surveys completed by June 30 (USFWS 2012). The same calling stations were used for both survey years.

The study included 20 calling stations; 9 of which were located on drainage rims and 11 at the bottom of drainages or on slopes containing suitable habitat (Figure 2 in Appendix A). Calling station names, the Universal Transverse Mercator (UTM) coordinates, and comments about access to each point are included in Table 2 in Appendix C.

Each survey consisted of a minimum of 15-minute periods of calling and listening at each calling station. After initially listening for 2 to 5 minutes for spontaneously calling owls, observers vocally imitated MSO calls approximately every 30 seconds to 1 minute at each station. When owls of any species were detected, observers recorded the time and estimated the distance, and bearing to the owls or other raptors. Calling was discontinued if a predator species (e.g., great-horned owl [*Bubo virginianus*]) was detected; biologists finished stations with predator detections as an active listening station. To avoid bias, the order in which calling stations were visited varied between survey periods. Calling was not conducted in inclement weather or if winds were stronger than a Level 4 on the Beaufort Wind Scale (over 13 miles per hour), or when conditions generally limited the ability to hear an owl. Calling times, stations, and observations (including weather conditions) were noted on datasheets (Appendix D).

Surveys were completed in teams of two biologists, for safety as well as to increase the probability of detecting owls or raptors in the field. At least one biologist from each team had completed MSO survey certification, was experienced in conducting MSO surveys, and was permitted under Ecosphere's USFWS recovery permit (TE819491-0) to conduct MSO surveys.

4. RESULTS

4.1 Habitat

Based on field observations in spring 2014, Ecosphere determined that the mixed conifer forest stands in the drainages of Deadman Gulch, West Alkali Gulch, East Alkali Gulch, West Roberts Canyon, and unnamed drainages off Hay Gulch contain the tree composition, height, and canopy structure preferred by MSO for tree nest and roost sites. Habitat photographs are provided in Appendix B. The remaining habitat in the proposed project area is arid, pine-oak forest and not suitable for MSO (Ecosphere 2014.)

4.2 Survey Results

Nine survey nights, representing approximately 21 hours, were spent surveying for MSO. No MSO were detected during the 2015 surveys completed by Ecosphere. Biologists did not find evidence of recent MSO activity near the call stations (e.g., roost trees, whitewash, or pellets).

Owl species detected during the surveys included great-horned owl, flammulated owl (*Otus flammeolus*), northern saw-whet owl (*Aegolius acadicus*), and northern pygmy owl (*Glaucidium gnoma*). Owl observations are summarized in Table 3—located in Appendix C. There was strong evidence of nesting for flammulated owl in the northern most drainage of Deadman Gulch, East Alkali Gulch, and West Roberts Canyon due to the number and locations of detections as well as the presence of mature aspen, the preferred nesting habitat for flammulated owls. On the first and third survey periods surveyors heard great horned owls near call point GCC-14-06. Adult and juvenile great-horned owls were also detected at this location during 2014 surveys indicating there had been a nest in the area. Inventory data sheets for 2015, which include other owl/raptor species detected, are included as Appendix D.

5. DISCUSSION

Ecosphere identified suitable habitat for MSO in 2014; however, no MSO were detected within the project area during the two-year survey.

The presence of other owl species within the project area, as well as the presence of small lagomorphs, prairie dogs (*Cynomys gunnisoni*), and mice observed by surveyors, and woodrat (*Neotoma* spp.) signs identified during the April 2014 surveys, indicate that habitat elements that could support MSO do exist. The project area is geographically centered between known MSO locations in canyons in southwestern Colorado and southeast Utah, and known MSO locations in forested habitat areas to the south in New Mexico and Arizona. Therefore, habitat patches in the project area may be important linkages for dispersing juvenile or migrating owls. In sum, the absence of owls during the survey period does not negate the potential for MSO to occupy suitable habitat in the future.

6. LITERATURE CITED

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Appendix A – Maps

Figure 1. Vicinity Map

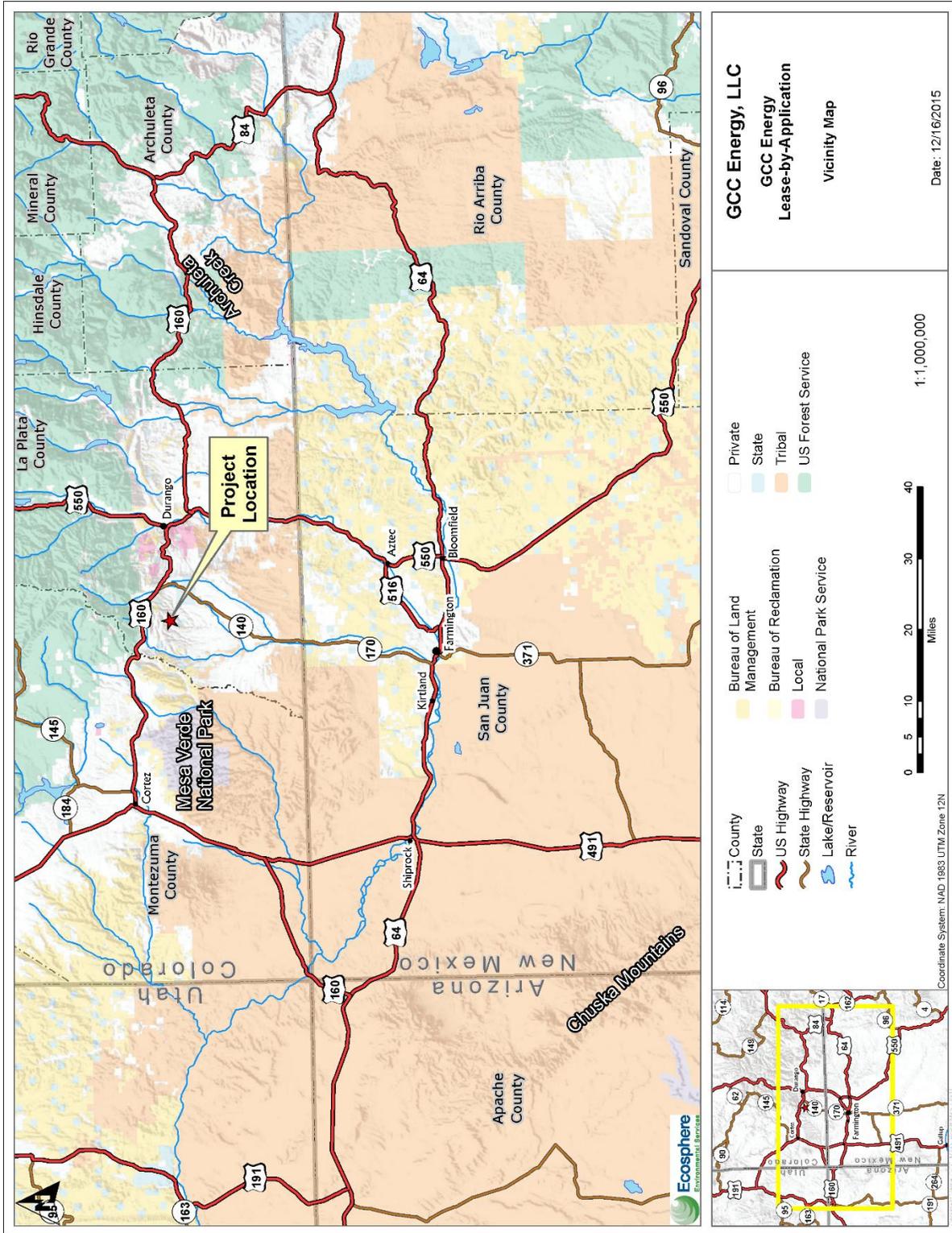
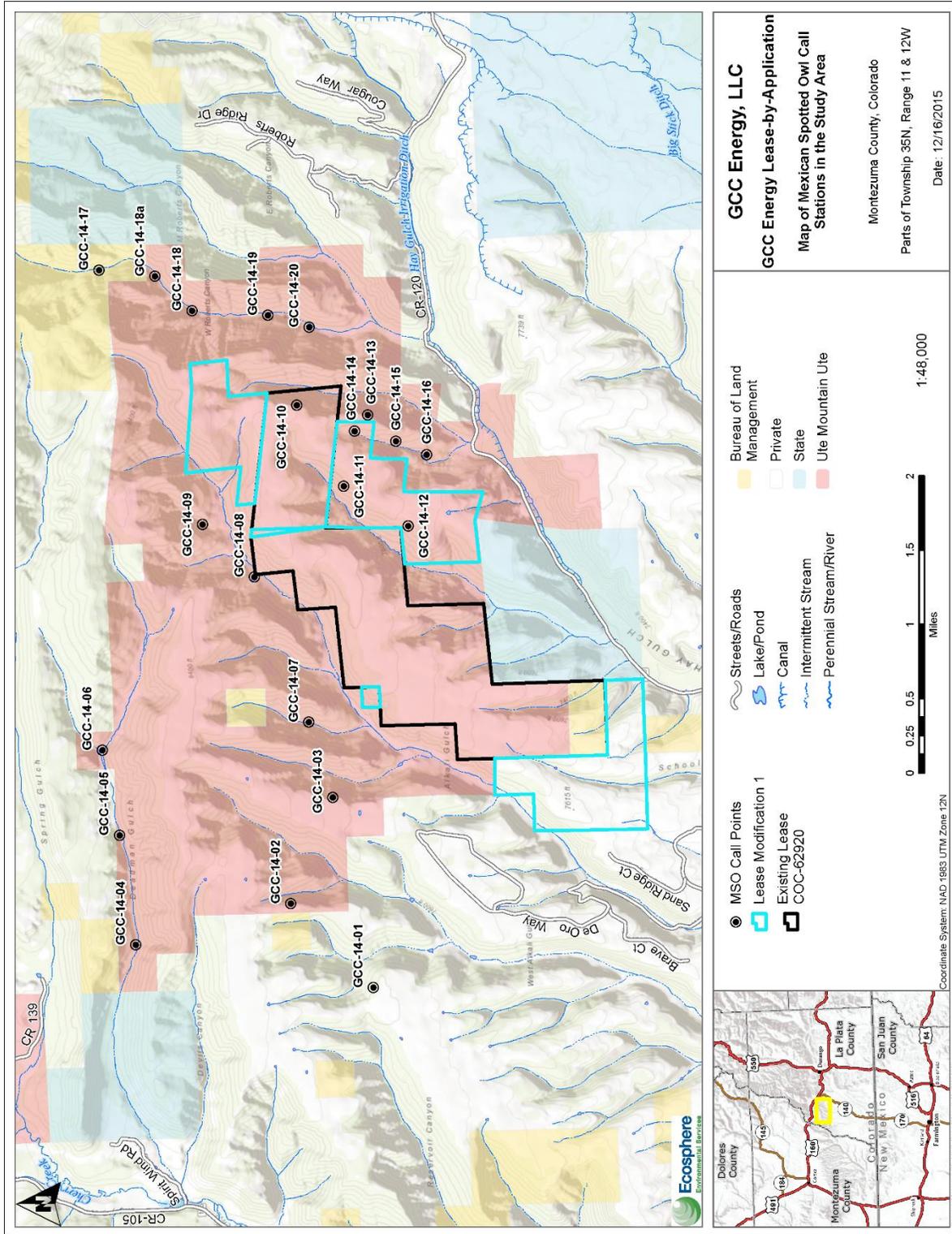


Figure 2. Map of Mexican Spotted Owl Call Stations in the Survey Area



Appendix B – Representative Habitat Photographs



Photograph 1. Call Station GCC-14-07 looking north



Photograph 2. Call Station GCC-14-15 looking west



Photograph 3. Call Station GCC-14-12 looking west



Photograph 4. Looking southeast into West Roberts Canyon

Appendix C – Tables

Table 1. Dates of successfully completed surveys

Survey Period	Dates Completed
1	April 9
2	April 29 and 30, May 3
3	May 20 and 25
4	June 15, 16, 18

CALLING STATION RAPTOR DETECTIONS

Table 2. 2014 and 2015 calling station locations

Calling Station Identifier	UTM Coordinates (NAD83, 12N)		Comments
	Easting	Northing	
GCC-14-02	4129083	751535	Call point overlooking drainage to east
GCC-14-03	4128629	752687	Travel down over-grown two-track to park spot. Hike to call point, overlooking drainage to east.
GCC-14-04	4130762	751089	Call point on two-track; habitat in all directions
GCC-14-05	4130939	752276	Call point on two-track; habitat north and south
GCC-14-06	4131124	753197	Call point is at intersection in road; habitat in all directions
GCC-14-07	4128888	753504	Park along two-track; hike north into drainage to call point; habitat mostly north
GCC-14-08	4129477	755075	Call point along two-track; habitat north and south
GCC-14-09	4130040	755643	Park along two-track; hike north in drainage to call point; habitat north
GCC-14-10	4129020	756938	Park along two-track; hike east to call point overlooking drainage to east
GCC-14-11	4128512	756059	Park along two-track; hike west to call point overlooking drainage to west
GCC-14-12	4127811	755627	Park along two-track; hike west to call point overlooking drainage to west
GCC-14-13	4128252	756829	Call point is located on main two-track overlooking drainage to east
GCC-14-14	4128394	756655	Call point is located on main two-track overlooking drainage to west
GCC-14-15	4127946	756547	Call point is located on main two-track overlooking drainage to west
GCC-14-16	4127612	756400	Call point is located on main two-track overlooking drainage to west
GCC-14-17	4131161	758400	Travel up access roads, entering BLM land. Park at long on two-track; hike to call point; habitat north

Calling Station Identifier	UTM Coordinates (NAD83, 12N)		Comments
	Easting	Northing	
GCC-14-18	4130154	757960	Call point along two-track; habitat surrounding
GCC-14-18a	4130557	758334	Call point along two-track; habitat surrounding
GCC-14-19	4129332	757913	Call point along two-track; habitat surrounding
GCC-14-20	4128885	757783	Call point along two-track; habitat surrounding

Table 3. Owl observations

Species	Survey 1					Total Survey ¹	Survey 2								Total Survey 2	
	April 9 ¹						April 29, 30, May 3 ¹									
Great-Horned Owl	06					1	02									1
Flammulated Owl						0	04 (2)	05	07	08	09	15	17	19		9
Northern Saw-Whet Owl	04	05	07	09	12	5	11	13	18	19 (2)	20					6
Northern pygmy owl						0	17									1

Species	Survey 3										Total Survey 3	Survey 4				Total Survey 4	
	May 20, 25 ¹											June 15, 16, 18 ¹					
Great-Horned Owl	06										1					0	
Flammulated Owl	04	06	05	08	09	10	13	16	18a	20	10	02	03	07	18a (3)	18	9
Northern Saw-Whet Owl	05	11	12								3						0
Northern pygmy owl											0	17					1

¹ Numbers in the columns identified under the survey dates are the calling stations where owls were detected; numbers in parentheses indicate total number of same species detected at a calling station. Numbers in bold are total number of owl species detected per survey period.

Appendix D – Inventory Data Sheets

Initials: K. CARRIS, J. DePiano
 Route: 1

Survey (circle one) 1 2 3 4

Date: 4/9/15



Habitat Block (circle one) 1 2 3 4 PAC: N or S

Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24Hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
02	20:20	20:35	15	0	50	N	N	-	-	-	-	-	-	lots of distant highway noise
03	21:10	21:25	15	0	20	N	N	-	-	-	-	-	-	
06	21:55	22:10	15	0	0	N	N	22:00	GHAW	F	A	308	~250	Female Scaup great-herald
05	22:25	22:40	15	0	10	N	N	22:30	SACW	UNK	A	341	1/2 mi	Very faint in next dr. in view; scambet
04	22:50	23:05	15	0	10	N	N	22:51	SACW	UNK	A	152	~200	High on hill to south scambet
14	23:55	24:10	15	0	0	N	N	-	-	-	-	-	-	low background mechanical noise

Initials: *AW/JSB*

Survey (circle one) 1 2 3 4

Habitat ~~Block~~ (circle one) 1 2 3 4

Route: 2

Date: 4/7/15



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
GCC-14-07	2014	2029	15	0-1	10	N	N	N	N/A	NA	A	50°	200m	NESA 2019 up drainage, come closer as we walked ✓
GCC-14-08	2058	2113	15	0	20	N	N	N	N/A	NA	A	70°	150m	NESA at start
GCC-14-09	2127	2142	15	0	20	N	N	2127	NSW	NA	A	208°	300m	Noswiel 2- from start ✓
GCC-14-10	2205	2220	15	0-1	20	N	N	N	NA	NA	NA	—	—	
GCC-14-12	2040	2255	15	1	30	N	N	2242	NOSW	?	A	280	>500m	very distant ✓
GCC-14-11	2310	2325	15	0-1	10	N	N	N	NA	NA	—	—	—	Thought we heard faint single hoot but only once, nothing confirmed
GCC-14-13	2255	0010	15	0-1	10	N	N	N	N/A	N/A	—	—	—	
GCC-14-15	0020	0035	15	0-1	10	N	N	N	N/A	N/A	—	—	—	

Initials: **LR, HM**

Survey (circle one) **1** 2 3 4

Habitat Block (circle one) **1** 2 3 4 PAC: N or S

Route: **#3**

Date: **4/9/15**



Ecosphere
Environmental Services

Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
14-17 GCC	21:22	21:37	15	>5	0	N	N							Very little bird noise
14-17 GCC	21:50	22:05	15	5	0	N	N							33°F, very still
14-17 GCC	22:11	22:26	15	5	0	N	N							GHOW? 10' low 3500 ft Very faint
14-17 GCC	22:35	22:50	15	>5	0	N	N							33°F
14-17 GCC	22:55	23:10	15	<5	8%	N	N							33°F, road noise
14-16 GCC	23:45	24:00	15	5	15	N	N							FLOW → 210° at 75 M
14-16 GCC	24:05	24:20	15	5	10	N	N							

1:15 hr
(1:05 min)

Initials: KC & TH

Survey (circle one) 1 2 3 4

~~Julia B. L. (cell phone) 781-334-1100~~

Route: 1 & Z

Date: 4/30/15



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24Hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
07	20:15	20:35	15	0	0	N	Y 3/4	20:15	FLOW?	unk	A	344	0.5 mile	still saline & to where hand in eye. A note that not possible to see. possible to see. possible to see. possible to see.
03	21:35	21:50	15	1	10	N	Y 3/4							possibly heard up stream. possible to see. possible to see. possible to see.
02	22:30	22:45	15	1	10	N	Y 3/4	22:35	GHOW?	unk	A	40	0.5 mile	poor with up stream and occasional air traffic. heard a very faint call.
10	23:40	23:55	15	1	10	N	Y 3/4							

Initials: AWC, KC

Survey (circle one) 1 @ 3 4

~~Route: A 1/2/3~~

Route: A 1/2/3

Date: 4/29/15



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
666 04	2030	2045	15	0-3	0	N	Y 1/2		FLAM	U	A	210	100m	precip will
	2037								FLAM	U	A	310	200m	
	2057													
1 05	2051	2106	15	0-3	0	N	Y 1/2		FLAM	U	A	212	100m	COMMERCIAL JETS
	2055													
1 06	2100	2125	15	0-3	0	N	Y 1/2		FLAM	U				WILLOWLAND
	2110													
2 08	2150	2206	16	2-5	0	N	Y 1/2		FLAM	U	A	16	75m	POREWILL TOO
	2152													
2 09	2210	2231	15	0-3	0	N	Y 1/2							
	2216								FLAM	U	A	12	100m	
	2216													
3 114	2255	2310	15	5-10	0	N	Y 1/2							WIND ON RIDGE IS CALM
3 15	2315	2330	15	5-10	0	N	Y 1/2		FLAM	U	A	308	100m	POREWILL
	2316													
3 16	2333	2348	15	3-5	0	N	Y 1/2							

Initials: JLD, AW

Survey (circle one) 1 2 3 4

Habitat Block (circle one) 1 2 3 4 PAC: N or S

Route: #3

Date: 4/30/15



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
GCC-14-17	20:07	20:24	17	>1	2	N	Y 3/4 full							Flow 150° ~.25mi → 150m ✓ N or P, TURKEYS NSWO 220° ~10m 4 and 10° ~100m; re pointing to other, 2nd call was whistle 2 NSWO 140° ~100m Flow 0° ~300m → 200m NSWO 144° ~150m COPW ✓
GCC-14-18	20:37	20:52	15	1-5	5	N	Y							
GCC-14-19	21:00	21:15	15	1-5	10	N	Y							
GCC-14-20	21:26	21:41	15	5	10	N	Y							
GCC-14-13	22:16	22:31	15	2	10	N	Y							NSWO 40° ~150m Coyotes heard east and west
GCC-14-11	22:46	23:06	20	10-12	10	N	Y							NSWO 310° ~.25 mile gusts but quiet in between
GCC-14-12	23:20	23:45	25											Too windy to call point

* Jaime's GPS 153 37.26395 108.10613 in between call stations 14 + 15 large owl seen on road catching mouse, flew away into canyon. Most likely GHOW. 12 min

2015 GCC UMU MSO Surveys

Initials: JLD, DK

Survey (circle one) 1 2 3 4

Habitat Block (circle one) 1 2 3 4 PAC: N or S

Route: 1

Date: 5/20/15



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
GCC 14-02	20:20	20:35	15	1-2	90	N	N							COPO
GCC 14-03	21:08	21:23	15	1	90	N	N							COPO heavy machinery noise to SE FLOW @ 220° ~ 1/4 mile
GCC 14-06	21:51	22:06	15	1	90	N	N							NOSW @ 140° > 1/2 mile FLOW @ 120° 1/2-1/2 mile
GCC 14-05	22:15	22:30	15	1-3	90	N	N							FLOW @ 290 > 1/2 mile COPO
GCC 14-04	22:49	23:04	15	1	90	N	N							COPO
GCC 14-14	00:03	00:18	15	1	90	N	N							-
GCC 14-15	00:25	00:40	15	0	90	N	N							-



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
07	2018	2033	15	Ø	100	N	N	Ø						Moss, flowers
08	2100	2115	15	Ø	100	N	N	2109	FLOWINK	UNK	A	160°	200	
09	2132	2147	15	Ø	100	N	N	2134	FLOWINK	UNK	A	208°	50	Flow flow (y't) heard at us while calling
10	2242	2227	15	5	100	N	N	2128	FLOWINK	UNK	A	80°	>500	
11	2245	2300	15	Ø	100	N	N	2246	FLOWINK	UNK	A	305°	200	
12	2313	2328	15	5	100	N	N	2313	FLOWINK	UNK	A	36°	200	
13	0004	0019	15	10	100	N	N	0010	FLOWINK	UNK	A	30°	500	
16	1228	1243	15	Ø	100	N	N	1235	FLOWINK	UNK	A	300°	300	

Initials: AG, AW

Survey (circle one) 1 2 3 4

Habitat Block ~~(circle one)~~ 1 2 3 4 PAC: N or S

Route: 3

Date: 5/25/15



Calling Station ID	Active (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
6cc 14-17	20:20	20:15	15	0-3	10	N	Y	21:00	Flow	U	A	225	0.25 mi at least	CLEAR, LOTS OF EVENING BIRD ACTIVITY - POSS. BUC NIBS?
GCC 14-18a	20:50	21:05	15	3	10	N	Y ^{1/2} FULL							V. few, 1/4 mi
6cc 14-18	21:15	21:30	15	3	0	N	Y ^{1/2} FULL							QUIET, NOIS, SOUNDS? MORN BRIGHT NO OWLS
6cc 14-19	21:38	21:53	15	3	0	N	Y"							
GCC 14-20	21:56	22:11	15	0.3	10	N	Y"	22:09	Flow	U	A	201	0.25 mi at least	

75 min

2015 GCC UMU MSO Surveys

Initials: AW/DK

Survey (circle one) 1 2 3 4



Date: 6/15/15

Route: 1

Gradient Block (circle one) 1 2 3 4 PAC: N or S

Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
GCC-14-04	2048	2103	15	0-1	10	N	N	1	-	-	-	-	-	-
GCC-14-05	2122	2137	15	5-7	10	N	N	1	-	-	-	-	-	COPO CONT. immature HOW screech heard
GCC-14-06	2143	2200	17	0-1	10	N	N	2156	Grows ✓	U	A	293°	150m	Several times, did not call as much not sure of call
GCC-14-03	2232	2257	15	0	0	N	N	2240	Flow ✓	U	A	170	300m	Came back as we called
GCC-14-02	2322	2337	15	0-1	0	N	N	2324	Flow ✓	U	A	350°	150m	-

Initials: RC, AWC

Survey (circle one) 1 2 3 4

~~Habitat Block (circle one) 1 2 3 4~~ ~~RC~~ ~~AWC~~ ~~MSO~~

Route: Z

Date: 6/16/15



Calling Station ID	Active (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
14-07	21:14	21:30	15	0-1	0	N	N	21:19	FAOW	unk	A	350°	0.3-0.5 mi.	PONDERSA, UPSTREAM
14-08	21:53	21:15	15	"	"	N	N	-	-	-	-	-	-	Night hawk calling
14-09	22:26	22:42	15	"	"	N	N	-	-	-	-	-	-	-
14-12	23:18	23:34	15	6-8	"	N	N	-	-	-	-	-	-	-
14-11	23:45	24:00	15	6-0	"	N	N	-	-	-	-	-	-	-

21:51

Initials: KC, AW

Survey (circle one) 1 2 3 **4**

~~Habitat/Notes (circle one)~~ **1-2-3-4** ~~1-2-3-4~~

Route: **Route 2**

Date: **6/18/15**



Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
14-10	20:52	21:07	15	1-2	30 <small>(overcast)</small>	N	N	-	-	-	-	-	-	poohie calling, night hawks, hermit thrush, calling
GCC 14-13	21:23	21:38	15	3-5	10	N	Y crescent	-	-	-	-	-	-	Nighthawk, common poorwill
14-14	21:45	22:00	15	1-2	10	N	N	-	-	-	-	-	-	None
14-15	22:07	22:22	15	1-2	0	N	N	-	-	-	-	-	-	None
14-16	22:30	22:45	15	1-2	0	N	N	22:32	FLOW	UNK	A	224	300	Also heard 2-3 young calling - low, consistent - no soft - probably poor-will young as 2 poor-will calling at same time; both stopped at same time.

75

Initials: JLD, HKM

Survey (circle one) 1 2 3 4

Habitat Block (circle one) 1 2 3 4 PAC: N or S

Route: #3

Date: 6/18/15



Ecosphere
Environmental Services

Calling Station ID	Arrive (24hr)	Depart (24hr)	Total Minutes	wind speed (mph)	cloud cover (%)	precip (Y/N)	Moon visible (Y/N) + phase if Y	Detection (24Hr time)	Species	Sex	Audio (A) or Visual (V) or Both (A/V)	Bearing (degrees)	Distance (meters)	Habitat/Notes:
GCC-14-17	20:45	21:00	15	1-3	0	N	N							NCPD ~ 100m @ 60°
GCC-14-18	21:14	21:29	15	3-5	0	N	N							COPO: FLOW @ 215 @ 140° ~ 80m OFF FLOW ~ 50m @ 219 @ 345° FLOW @ 180° ~ 75m
GCC-14-18	21:35	21:50	15	2-3	0	N	N							FLOW ~ 1/4 mi. @ 180°
GCC-14-19	21:59	22:14	15	1-3	0	N	N							COPO
GCC-14-20	22:23	22:38	15	3-5	0	N	N							

7C min



ENVIRONMENTAL CONSULTANTS

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Technical Memorandum

To: Mr. Tom Bird
GCC Energy, LLC
6473 County Road 120
Hesperus, Colorado 81326

From: Eilene Lyon, SWCA Environmental Consultants

Date: April 11, 2014

Re: **Natural Resources Survey of Nine Proposed Drill Holes on State Land for the King II Mine, La Plata County, Colorado / SWCA Project No. 28487**

INTRODUCTION

GCC Energy, LLC (GCC), is proposing to conduct exploration core drilling for coal at nine locations on state land managed by the Colorado State Land Trust within the State Permit Boundary for the existing King II Mine. The overall project area is located approximately 9 km (5.5 miles) southwest of Hesperus, Colorado, in La Plata County (Figure 1). All of the proposed drill holes would be accessed via existing two-track roads. No ground-disturbing activity is planned or required for use of these existing roads. The survey area around each drill hole is 91 × 91 m (300 × 300 feet [2.07 acres]) centered on each drill hole, with the exception of the CO-14-01 and CO-14-07 holes, adjacent to land owned by the Ute Mountain Ute Tribe. At CO-14-01 and CO-14-07, the survey area was thus shifted east to keep it within state land boundaries. The surveys are required by the Colorado Department of Reclamation, Mining, and Safety (CODRMS) in order for GCC to obtain approval for the exploration program. The drill holes are located in the U.S. Geological Survey Durango West, Colorado 7.5-minute quadrangle map.

GCC selected SWCA Environmental Consultants (SWCA) to conduct natural resource surveys of the drill hole locations to demonstrate compliance with the requirements of the CODRMS. The objectives of this technical memorandum are to 1) describe vegetation communities in the project areas, 2) evaluate habitat suitability for both federal and state listed special status species, and 3) conduct an assessment for potential jurisdictional water of the U.S. in the proposed project areas to determine if Clean Water Act Section 404/401 permit compliance is necessary.

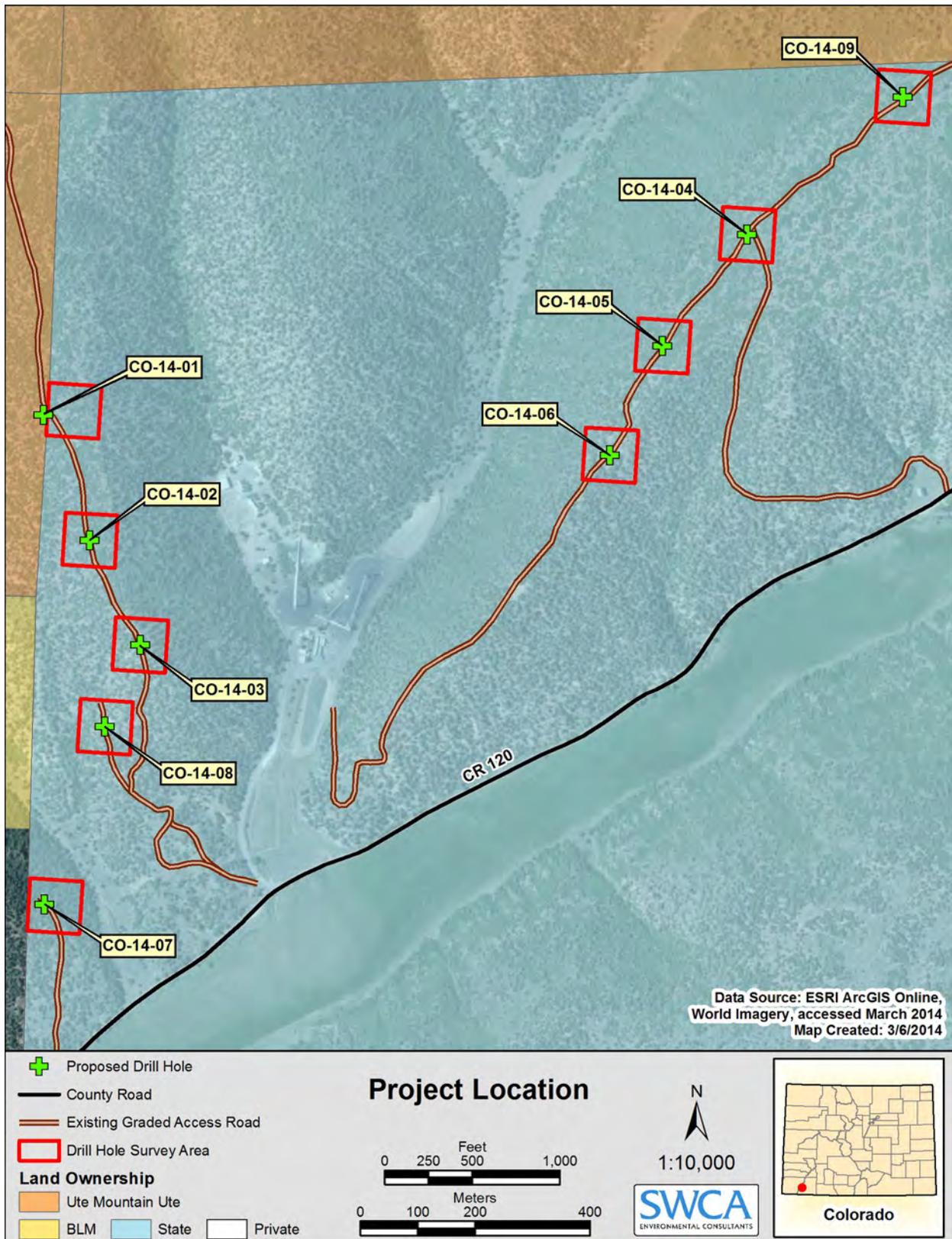


Figure 1. Project areas and vicinity.

METHODS

Prior to the field surveys, U.S. Geological Survey topographic maps were reviewed to determine the location, elevation, soil types, and potential habitat types within the project areas. Wetland and drainage data were evaluated using National Hydrography Dataset maps and geographic information system (GIS) data. SWCA biologist Eilene Lyon conducted the surveys on February 26 and 27, 2014. Coordinates provided by GCC were used to locate the proposed drill hole sites. The field surveys consisted of a pedestrian survey of the project areas to assess general vegetation and habitat as they relate to Colorado special status species. All plant species were identified, with the exception of some dormant, dead, or newly emergent plants. A list of wildlife species and sign observed was compiled.

U.S. Fish and Wildlife Service (USFWS) and Colorado Parks and Wildlife (CPW) lists of threatened, endangered, proposed, and candidate species, as well as species of special concern, for La Plata County were obtained for review prior to the site visit.

RESULTS

General Characteristics

The average elevation of the nine project areas is 2,311 m (7,583 feet) above mean sea level, ranging from 2,228 to 2,368 m (7,310–7,768 feet). According to the Western Regional Climate Center¹ for the period of 1996 to 2008, normal annual precipitation for the general project area averaged 32.08 cm (12.63 inches), based on information for Durango, Colorado. The precipitation falls close to evenly throughout the year, with the exception of the driest months of May and June. Average annual snowfall was 178.6 cm (70.3 inches) based on data from 1948 to 1991. The average annual temperature for the area is 8.17°C (46.7°F), with an average annual maximum temperature of 17.0°C (62.6°F) and an average annual minimum temperature of -0.67°C (30.8°F).² The weather during the surveys was sunny and cool with a slight breeze on the first day, and overcast with nearby thunderstorms on the second day. Noise from mining activity was low to moderately high, depending on the slope of each site. The noise level was highest at CO-14-03. Photographs of the project areas are at the end of this technical memorandum.

Soils

Soils in five of the project areas are Pulpit loam, which is found on mesas with slopes ranging from 3% to 12%. Pulpit loam is a well-drained sandy to clay or silty clay loam derived from loess. It has a typical profile of loam to clay loam and silty clay loam to fine sandy loam, 0 to 88.9 cm (0–35 inches). Soils in four of the project areas are Lazear-Rock outcrop complex, which is found on side slopes of mesas and land breaks with 12% to 65% slopes. This complex is a well-drained, very stony to clay loam residuum or slope alluvium derived from sandstone and shale. The profile of Lazear-Rock outcrop complex is very stony loam to stony loam, loam and clay loam, 0 to 38.1 cm (0–15 inches). One other soil type is present at one project site: Archuleta-Sanchez complex. This complex is found on mountainsides, hillsides, and ridges with 12% to 65% slopes. This complex is a well-drained loam to gravelly clay loam with interbedded sandstone and shale. The profile of Archuleta-Sanchez complex is loam, clay loam, loam to gravelly clay loam, 0 to 30.48 cm (0–12 inches).³ Table 1 lists the soils at each of the well pad sites. Some cryptobiotic soils were found in the CO-14-02 and CO-14-09 project areas.

¹ Western Regional Climate Center. 2014. Colorado Climate Summaries. Available at: <http://www.wrcc.dri.edu/COMPARATIVE.html> and <http://www.wrcc.dri.edu/summary/lcdus08.html>. Accessed March 2014.

² Ibid.

³ Natural Resources Conservation Service. 2014. Web Soil Survey. Available at: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed February 2014.

Table 1. Soil Types at Nine Drill Hole Sites

Drill Site	Soil Type
CO-14-01	Pulpit loam, 3%–12% slopes
CO-14-02	Pulpit loam, 3%–12% percent slopes
CO-14-03	Lazear-Rock outcrop complex, 12%–65% percent slopes
CO-14-04	Pulpit loam, 3%–12% percent slopes
CO-14-05	Pulpit loam, 3%–12% percent slopes
CO-14-06	Archuleta-Sanchez complex, 12%–65% slopes (west side); Lazear-Rock outcrop complex, 12%–65% slopes (east side)
CO-14-07	Lazear-Rock outcrop complex, 12%–65% slopes
CO-14-08	Lazear-Rock outcrop complex, 12%–65% slopes
CO-14-09	Pulpit loam, 3%–12% percent slopes

Source: Natural Resources Conservation Service.⁴

Vegetation

The project areas are located in the Colorado Plateau pinyon-juniper woodlands landcover type at the lower elevations and transition into the Rocky Mountain Gambel oak–mixed montane shrubland at the higher elevations. The landform is eroded sandstone/shale mesas and foothills. The dominant species in the pinyon-juniper woodland are twoneedle pinyon (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) with co-dominant Rocky Mountain juniper (*J. scopulorum*) at higher elevations. The understory ranges from absent to shrubs or graminoids.⁵ The understory contained predominantly Gambel oak (*Quercus gambelii*), big sagebrush (*Artemisia tridentata*), mountain mahogany (*Cercocarpus montanus*), banana yucca (*Yucca baccata*), Indian ricegrass (*Achnatherum hymenoides*), and toadflax penstemon (*Penstemon linarioides*). Vegetation cover in this plant community ranges from 50% to 85%.

The dominant species in the Rocky Mountain Gambel oak–mixed montane shrubland are Gambel oak, either alone or co-dominant, with a variety of mesic montane shrubs such as serviceberry (*Amelanchier* sp.), snowberry (*Symphoricarpos* sp.), and bitterbrush (*Purshia tridentata*).⁶ Other dominant species include scattered twoneedle pinyon and juniper, along with Utah serviceberry (*Amelanchier utahensis*), roundleaf snowberry (*Symphoricarpos rotundifolius*), sagebrush, mountain mahogany, and cliff fendlerbush (*Fendlera rupicola*). Herbaceous plants include blue grama (*Bouteloua gracilis*), toadflax penstemon, Ives’ fournered daisy (*Tetaneuris ivesiana*), and sulphur-flower buckwheat (*Eriogonum umbellatum*). Vegetation cover in this plant community ranged from 70% to 85%. Smooth brome (*Bromus inermis*) was found in some of the previously disturbed areas, particularly the clearing around CO-14-01, probably as a result of reseeding efforts. Table 2 lists the plant species identified in the project areas. Figure 2 shows the map of vegetation communities in the project areas.

Soil surface in the general project area is largely undisturbed aside from the two-track roads and old sections of barbed wire fencing. During the survey, there were a few weedy species found in or near these disturbances: pale madwort (*Alyssum alyssoides*), horehound (*Marrubium vulgare*), common mullein (*Verbascum thapsus*), and redstem stork’s bill (*Erodium cicutarium*). None of these were found over extensive areas; however, redstem stork’s bill is a Class B noxious weed and common mullein is a Class C noxious weed in the state of Colorado.⁷ List B species have populations of varying densities throughout the state and control measures are determined on a local basis. List C species are widespread and may be

⁴ Ibid.

⁵ NatureServe. 2003. Landcover Descriptions for the Southwest Regional GAP Analysis Project. Available at: <http://www.slco.org/watershed/pdfWLibr/landcoverSWRegionalGapAnalProj2004.pdf>.

⁶ Ibid.

⁷ U.S. Department of Agriculture. 2014. Colorado State-listed Noxious Weeds. Available at: <http://plants.usda.gov/java/noxious?rptType=State&statefips=08>. Accessed March 2014.

subject to control if they threaten agricultural land.⁸ Additional disturbance could expand the presence of these two species. There was no evidence of recent grazing by domestic livestock.

Table 2. Plants Observed at the GCC Proposed Drill Hole Areas in La Plata County, Colorado, on February 26–27, 2014

Common Name	Scientific Name
Banana yucca	<i>Yucca baccata</i>
Big sagebrush	<i>Artemisia tridentata</i>
Bird's-beak	<i>Cordylanthus</i> sp.
Blue grama	<i>Bouteloua gracilis</i>
Broom snakeweed	<i>Gutierrezia sarothrae</i>
Cliff fendlerbush	<i>Fendlera rupicola</i>
False goldenaster	<i>Heterotheca</i> sp.
Fineleaf hymenopappus	<i>Hymenopappus filifolius</i>
Gambel oak	<i>Quercus gambelii</i>
Horehound	<i>Marrubium vulgare</i>
Indian ricegrass	<i>Achnatherum hymenoides</i>
Ive's fournerved daisy	<i>Tetraneuris ivesiana</i>
Milkvetch	<i>Astragalus</i> sp.
Mountain mahogany	<i>Cercocarpus montanus</i>
Mullein	<i>Verbascum thapsus</i>
Oregon grape	<i>Berberis repens</i>
Pale madwort	<i>Alyssum allyssoides</i>
Pinyon pine	<i>Pinus edulis</i>
Prairie sagewort	<i>Artemisia frigida</i>
Redroot buckwheat	<i>Eriogonum racemosum</i>
Redstem stork's bill	<i>Erodium cicutarium</i>
Rock goldenrod	<i>Petradoria pumila</i>
Rocky Mountain juniper	<i>Juniperus scopulorum</i>
Rocky Mountain penstemon	<i>Penstemon strictus</i>
Rubber rabbitbrush	<i>Ericameria nauseosa</i>
Smooth brome	<i>Bromus inermis</i>
Snowberry	<i>Symphoricarpos rotundifolius</i>
Spanish bayonet	<i>Yucca harrimaniae</i>
Springparsley	<i>Cymopterus</i> sp.
Sulphur-flower buckwheat	<i>Eriogonum umbellatum</i>
Tansy mustard	<i>Descurainia pinnata</i>
Toadflax penstemon	<i>Penstemon linarioides</i>
Tulip prickly pear	<i>Opuntia phaeacantha</i>
Utah juniper	<i>Juniperus osteosperma</i>
Utah serviceberry	<i>Amelanchier utahensis</i>
Whipple's cholla	<i>Cylindropuntia whipplei</i>
Wild crab apple	<i>Peraphyllum ramossissimum</i>

⁸ Colorado Weed Management Association. 2014. Noxious Weed Information. Available at: <http://www.cwma.org/noxweeds.html#list>. Accessed March 2014.

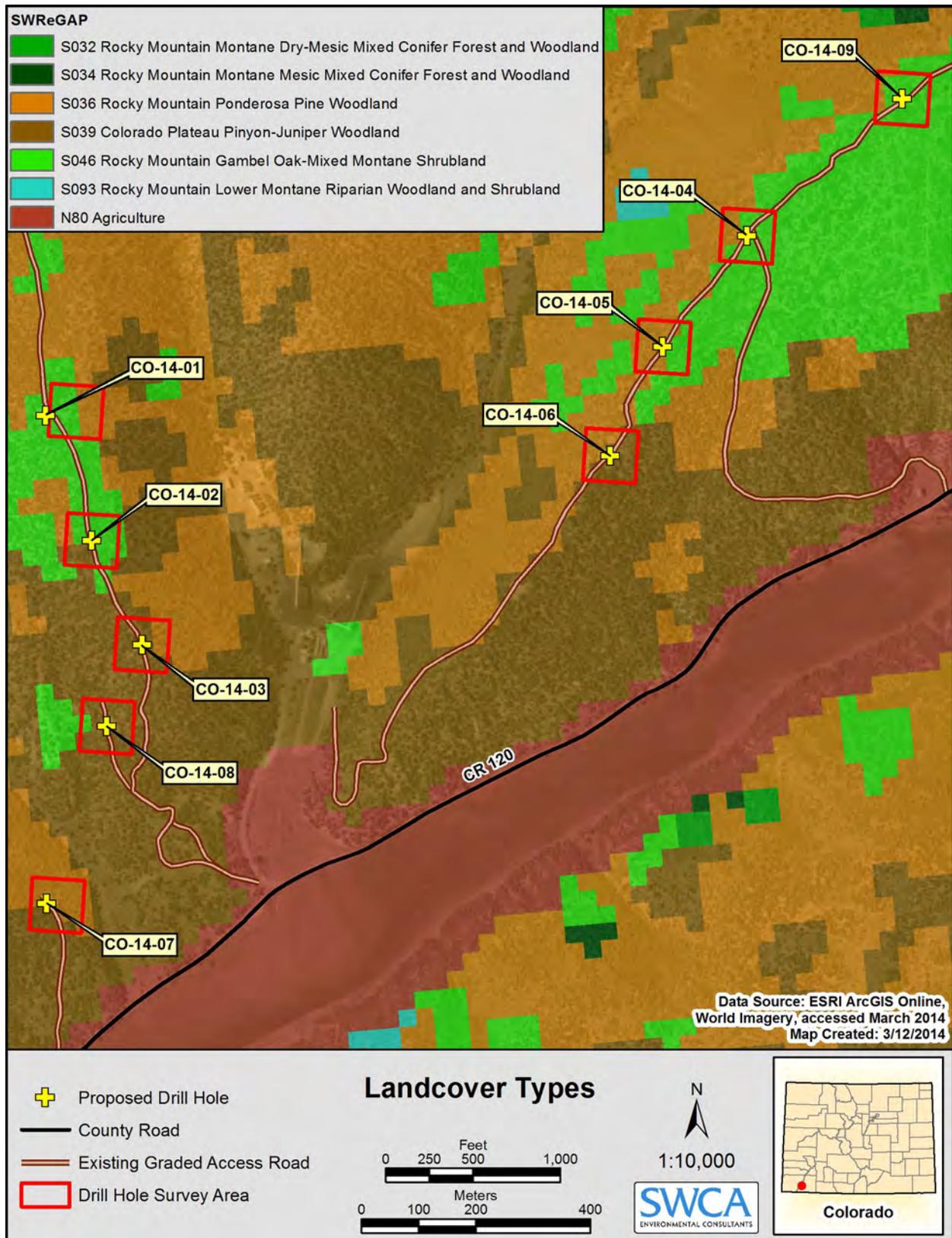


Figure 2. Southwest Regional Gap Analysis Project landcover types for the project areas.

Wetlands

No wetlands, surface waters, or potential jurisdictional waters of the U.S. were identified in the project areas.

General Wildlife

Visual observations of wildlife species at the project areas were minimal. Most observations consisted of scat and tracks. Table 3 lists the wildlife observations made during the surveys.

Table 3. Wildlife Observations at the GCC Proposed Drill Hole Sites in La Plata County, Colorado, on February 26–27, 2014

Common Name	Scientific Name	Sign
Birds		
American robin	<i>Turdus migratorius</i>	Audible
Bushtit	<i>Psaltriparus minimus</i>	Visual, audible
Mountain chickadee	<i>Poecile gambeli</i>	Visual, audible
Northern flicker	<i>Colaptes auratus</i>	Audible
White-breasted nuthatch	<i>Sitta carolinensis</i>	Audible
Mammals		
Black bear	<i>Ursus americanus</i>	Scat
Bobcat	<i>Lynx rufus</i>	Scat
Cottontail rabbit	<i>Sylvilagus</i> sp.	Scat
Coyote	<i>Canis latrans</i>	Scat
Elk	<i>Cervus canadensis</i>	Scat, tracks
Mule deer	<i>Odocoileus hemionus</i>	Scat, tracks
Raccoon	<i>Procyon lotor</i>	Scat
Woodrat	<i>Neotoma</i> sp.	Scat
Invertebrates		
Spider	Class Arachnida	Visual

Special Status Species

Of the 41 species listed for the state of Colorado by the USFWS, only eight have the potential to occur in La Plata County. These species are Schmoll's milkvetch (*Astragalus schmolliae*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), and North American wolverine (*Gulo gulo luscus*). Schmoll's milkvetch is strictly endemic to Chapin Mesa in Mesa Verde National Park and does not occur in the project areas.⁹ The project areas lack suitable habitat features for the other seven listed species. The USFWS list of threatened, endangered, proposed, and candidate species for La Plata County is provided in Appendix A.

Of the 67 special status species listed by the State of Colorado, only six have the potential to occur in La Plata County: burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), American peregrine falcon (*Falco peregrinus anatum*), bald eagle (*Haliaeetus leucocephalus*), Townsend's big-eared bat (*Corynorhinus townsendii pallescens*), and Botta's pocket gopher (*Thomomys bottae rubidus*). The project areas lack suitable habitat elements for the breeding of any of these listed raptors. No potential hibernacula for Townsend's big-eared bat were located in the project areas. No gopher mounds were observed within the project areas. Table 4 lists the special status species for the State of Colorado.

In 2007, the CPW mapped ranges and migration corridors for species of concern and economic value. These maps indicated that the project area is 1) winter range for bald eagle, 2) overall range for black bear

⁹ Heil, K.D., S.L. O'Kane, Jr., L.M. Reeves, and A. Clifford. 2013. *Flora of the Four Corners Region – Vascular Plants of the San Juan River Drainage*. St. Louis: Missouri Botanical Garden Press.

(*Ursus americanus*), 3) winter range and resident population area for elk (*Cervus canadensis*), 4) overall range for mountain lion (*Puma concolor*), 5) summer and winter range for mule deer (*Odocoileus hemionus*), and 6) overall range for wild turkey (*Meleagris gallopavo*). The CPW did not observe or map any migration corridors for these species within the project boundary. No peregrine falcon activity was located in the project vicinity at the time the maps were created.¹⁰

Table 4. Federal and State Special Status Species for Colorado

Common Name	Scientific Name	Status	
		Federal	Colorado
Plants			
Parachute beardtongue	<i>Penstemon debilis</i>	T	--
Penland beardtongue	<i>Penstemon penlandii</i>	E	--
Dudley Bluffs bladderpod	<i>Lesquerella congesta</i>	T	--
Colorado butterfly plant	<i>Gaura neomexicana</i> var. <i>coloradensis</i>	T	--
Colorado hookless cactus	<i>Sclerocactus glaucus</i>	T	--
Knowlton's cactus	<i>Pediocactus knowltonii</i>	E	--
Mesa Verde cactus	<i>Sclerocactus mesae-verdae</i>	T	--
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	T	--
Mancos milkvetch	<i>Astragalus humillimus</i>	E	--
Osterhout milkvetch	<i>Astragalus osterhoutii</i>	E	--
Penland alpine fen mustard	<i>Eutrema penlandii</i>	T	--
DeBeque phacelia	<i>Phacelia submutica</i>	T	--
North Park phacelia	<i>Phacelia formosula</i>	E	--
Pagosa skyrocket	<i>Ipomopsis polyantha</i>	E	--
Dudley Bluffs twinpod	<i>Physaria obcordata</i>	T	--
Clay-loving wild buckwheat	<i>Eriogonum pelinophilum</i>	E	--
Sleeping Ute milkvetch	<i>Astragalus tortipes</i>	C	--
White River beardtongue	<i>Penstemon scariosus</i> var. <i>albifluvis</i>	C	--
Schmoll's milkvetch	<i>Astragalus schmolliae</i>	C	--
Invertebrates			
Uncompahgre fritillary butterfly	<i>Boloria acrocneema</i>	E	--
Pawnee montane skipper	<i>Hesperia leonardus Montana</i>	T	--
Fish			
Bonytail chub	<i>Gila elegans</i>	E	E
Humpback chub	<i>Gila cypha</i>	E	T
Pikeminnow	<i>Ptychocheilus lucius</i>	E	T
Razorback sucker	<i>Xyrauchen texanus</i>	E	E
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	E	T
Arkansas darter	<i>Ethostoma cragini</i>	C	T
Mountain sucker	<i>Catostomus platyrhynchus</i>	--	SC
Rio Grande sucker	<i>Catostomus plebeius</i>	--	E
Lake chub	<i>Couesius plumbeus</i>	--	E
Iowa darter	<i>Etheostoma exile</i>	--	SC
Orangethroat darter	<i>Etheostoma spectabile</i>	--	SC
Rio Grande chub	<i>Gila pandora</i>	--	SC
Roundtail chub	<i>Gila robusta</i>	--	SC
Brassy minnow	<i>Hybognathus hankinsoni</i>	--	T
Plains minnow	<i>Hybognathus placitus</i>	--	E
Common shiner	<i>Notropis cornutus</i>	--	T
Stonecat	<i>Noturus flavus</i>	--	SC
Colorado River cutthroat trout	<i>Oncorhynchus clarki pleuriticus</i>	--	SC
Rio Grande cutthroat trout	<i>Oncorhynchus clarki virginalis</i>	--	SC
Suckermouth minnow	<i>Phenacobius mirabilis</i>	--	E
Northern redbelly dace	<i>Phoxinus eos</i>	--	E
Southern redbelly dace	<i>Phoxinus erythrogaster</i>	--	E
Flathead chub	<i>Playgobio gracilis</i>	--	SC
Birds			
Whooping crane	<i>Grus americana</i>	E	E
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	T
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	E

¹⁰ Colorado Parks and Wildlife. 2007. District 326 Wildlife GIS Maps.

Common Name	Scientific Name	Status	
		Federal	Colorado
Least tern	<i>Sterna antillarum</i>	E	E
Piping plover	<i>Charadrius melodus</i>	T	T
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	PT	SC
Lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>	PT	T
Burrowing owl	<i>Athene cunicularia</i>	—	T
Ferruginous hawk	<i>Buteo regalis</i>	—	SC
Gunnison sage grouse	<i>Centrocercus minimus</i>	—	SC
Sage grouse	<i>Centrocercus urophasianus</i>	—	SC
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	—	SC
Mountain plover	<i>Charadrius montanus</i>	—	SC
American peregrine falcon	<i>Falco peregrinus anatum</i>	—	SC
Greater sandhill crane	<i>Grus canadensis tabida</i>	—	SC
Bald eagle	<i>Haliaeetus leucocephalus</i>	—	T
Long-billed curlew	<i>Numenius americanus</i>	--	SC
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>	--	SC
Plains sharp-tailed grouse	<i>Tympanuchus phasianellus jamesi</i>	--	SC
Amphibians			
Northern cricket frog	<i>Acris blanchardi</i>	--	SC
Boreal toad	<i>Anaxyrus boreas</i>	—	E
Western narrow-mouthed frog	<i>Gastrophryne olivacea</i>	—	SC
Plains leopard frog	<i>Lithobates blairi</i>	--	SC
Northern leopard frog	<i>Lithobates pipiens</i>	--	SC
Wood frog	<i>Lithobates sylvatica</i>	--	SC
Couch's spadefoot	<i>Scaphiopus couchii</i>	--	SC
Reptiles			
Colorado checkered whiptail	<i>Aspidoscelis neotesselata</i>	--	SC
Midget faded rattlesnake	<i>Crotalus oreganus concolor</i>	--	SC
Long-nosed leopard lizard	<i>Gambelia wislizenii</i>	--	SC
Yellow mud turtle	<i>Kinosternon flavescens</i>	--	SC
Common kingsnake	<i>Lampropeltis getula</i>	--	SC
New Mexico threadsnake	<i>Leptotyphlops dissectus</i>	--	SC
Texas horned lizard	<i>Phrynosoma cornutum</i>	--	SC
Round-tailed horned lizard	<i>Phrynosoma modestum</i>	--	SC
Mammals			
Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>	—	SC
New Mexico meadow jumping mouse	<i>Zapus hudsonius luteus</i>	PE	--
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	—	SC
Gunnison's prairie dog	<i>Cynomys gunnisoni</i>	C	--
Black-footed ferret	<i>Mustela nigripes</i>	E	E
Canada lynx	<i>Lynx canadensis</i>	T	E
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T	T
Gray wolf	<i>Canis lupus</i>	E	--
Wolverine	<i>Gulo gulo luscus</i>	PT	E
Botta's pocket gopher	<i>Thomomys bottae rubidus</i>	--	SC
Northern pocket gopher	<i>Thomomys talpoides macrotis</i>	--	SC
Kit fox	<i>Vulpes macrotis</i>	--	E
Swift fox	<i>Vulpes velox</i>	--	SC

Note: C = Candidate; E = Endangered; SC = Species of Concern; T = Threatened; PT = Proposed Threatened; PE = Proposed Endangered

Sources: Bureau of Land Management,¹¹ Colorado Parks and Wildlife,¹² U.S. Fish and Wildlife Service,¹³ Colorado Natural Heritage Program,¹⁴ and U.S. Fish and Wildlife Service.¹⁵

¹¹ Bureau of Land Management. 2009. Colorado Director's State Sensitive Species List.

¹² Colorado Parks and Wildlife. 2014. List of Threatened and Endangered Species. Available at: <http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/ThreatenedEndangeredList/Pages/ListOfThreatenedAndEndangeredSpecies.aspx>. Accessed February 2014.

¹³ U.S. Fish and Wildlife Service. 2014. Natural Resources of Concern. Available at: <http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action>. Accessed January 2014.

¹⁴ Colorado Natural Heritage Program. 2014. CNHP Conservation Status Handbook (Tracking Lists). Available at: <http://www.cnhp.colostate.edu/download/list.asp>. Accessed March 2014.

DISCUSSION

At this time, no federally listed species are known to regularly occur in the project areas, thus no effects on any federally listed species or habitat are expected to occur in the project areas. The project areas are clearly beyond the known geographic or elevational range of the federally listed species, do not contain vegetation or landscape features known to support these species, or both. However, the lead permitting agency has the authority and final decision regarding what effect this project would have on any federally listed species and whether to require species-specific surveys for any protected species. The method of drilling proposed by GCC does not include new surface disturbance, but access to some of the sites would require some clearance of vegetation that has encroached on the existing two-track roads. This largely undisturbed forest and shrub habitat is likely to be a desirable area for breeding birds. Because this project is expected to occur during the breeding season for migratory birds (May–September), SWCA recommends that breeding bird surveys be conducted within 15 m (50 feet) of the drilling sites prior to vegetation disturbance and drilling.

¹⁵ U.S. Fish and Wildlife Service. 2014. Listings and Occurrences for Colorado. Available at <http://www.fws.gov/Endangered>. Accessed March 2014.



Photo 1. Drill site CO-14-01, view from the center stake facing east



Photo 2. Drill site CO-14-02, view from the center stake facing west



Photo 3. Drill site CO-14-03, view from the center stake facing north



Photo 4. Drill site CO-14-04, view from the center stake facing east



Photo 5. Drill site CO-14-05, view from the center stake facing west



Photo 6. Drill site CO-14-06, view from the center stake facing south



Photo 7. Drill site CO-14-07, view from the center stake facing north



Photo 8. Drill site CO-14-08, view from the center stake facing west



Photo 9. Drill site CO-14-09, view from the center stake facing south

APPENDIX A

U.S. Fish and Wildlife Service Natural Resources of Concern



U.S. Fish and Wildlife Service

Natural Resources of Concern

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

Western Colorado Ecological Services Field Office
764 HORIZON DRIVE, BUILDING B
GRAND JUNCTION, CO 81506
(970) 243-2778
<http://www.fws.gov/mountain-prairie/es/Colorado/>
<http://www.fws.gov/platteriver/>

Project Name:

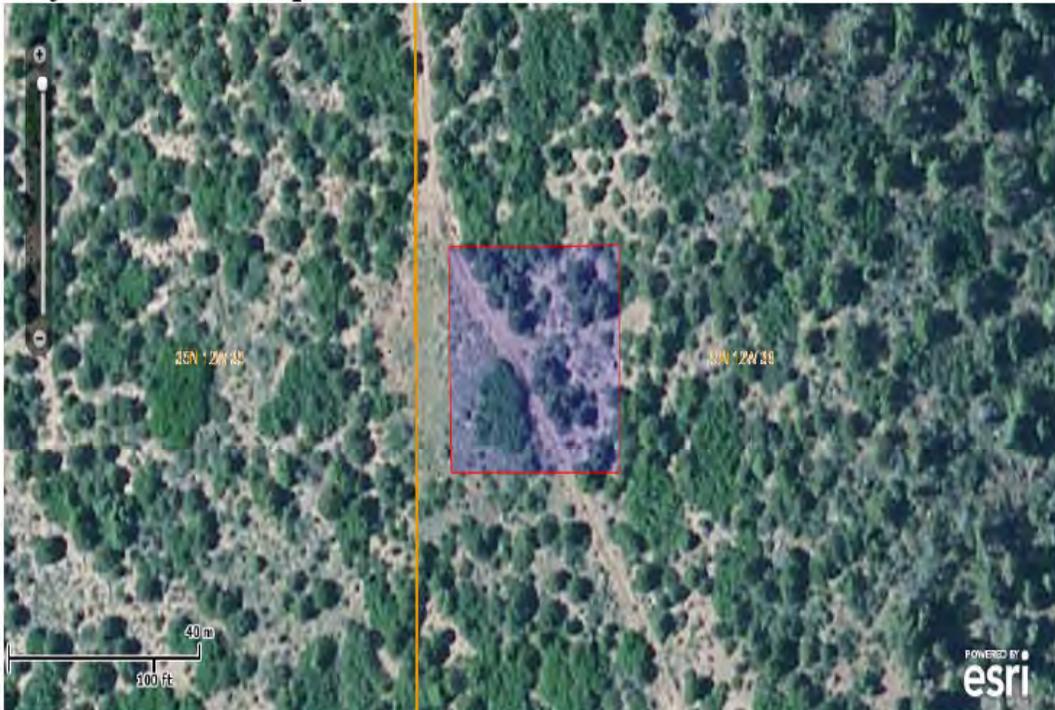
Hay Gulch



U.S. Fish and Wildlife Service

Natural Resources of Concern

Project Location Map:



Project Location Measurements:

Area : 0.0 ac.

Length : 0.1 mi.

Project Counties:

La Plata, CO

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-108.1369625 37.2497278, -108.1365599 37.2497298, -108.1365591 37.2494269, -108.1369553 37.2494268, -108.1369625 37.2497278)))



Natural Resources of Concern

Project Type:

Mining

Endangered Species Act Species List (USFWS Endangered Species Program).

There are a total of 8 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the Has Critical Habitat column may or may not lie within your project area. See the Critical habitats within your project area section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Birds	Status		Has Critical Habitat	Contact
Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire	Threatened	species info	Final designated critical habitat	Western Colorado Ecological Services Field Office
Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>) Population: Entire	Endangered	species info	Final designated critical habitat	Western Colorado Ecological Services Field Office
Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS	Proposed Threatened	species info		Western Colorado Ecological Services Field Office
Fishes				
Colorado pikeminnow (<i>Ptychocheilus lucius</i>) Population: except Salt and Verde R. drainages, AZ	Endangered	species info	Final designated critical habitat	Western Colorado Ecological Services Field Office



Natural Resources of Concern

Razorback sucker (<i>Xyrauchen texanus</i>) Population: Entire	Endangered	species info	Final designated critical habitat	Western Colorado Ecological Services Field Office
Flowering Plants				
Schmoll milk-vetch (<i>Astragalus schmolliae</i>)	Candidate	species info		Western Colorado Ecological Services Field Office
Mammals				
New Mexico meadow jumping mouse (<i>Zapus hudsonius luteus</i>) Population:	Proposed Endangered	species info		Western Colorado Ecological Services Field Office
North American wolverine (<i>Gulo gulo luscus</i>) Population:	Proposed Threatened	species info		Western Colorado Ecological Services Field Office

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#)).

There are no refuges found within the vicinity of your project.



U.S. Fish and Wildlife Service

Natural Resources of Concern

FWS Migratory Birds ([USFWS Migratory Bird Program](#)).

Most species of birds, including eagles and other raptors, are protected under the Migratory Bird Treaty Act (16 U.S.C. 703). Bald eagles and golden eagles receive additional protection under the [Bald and Golden Eagle Protection Act](#) (16 U.S.C. 668). The Service's [Birds of Conservation Concern \(2008\)](#) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C. 1531 et seq.).

Migratory bird information is not available for your project location.

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

There are no wetlands found within the vicinity of your project.

IPaC

IPaC resource list

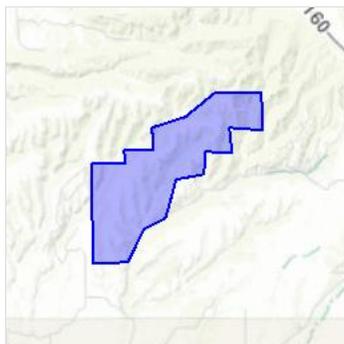
Project information

NAME

King II Lease Modification

LOCATION

La Plata County, Colorado



Local office

Western Colorado Ecological Services Field Office

☎ (970) 243-2778

📠 (970) 245-6933

445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711

<http://www.fws.gov/mountain-prairie/es/Colorado/>
<http://www.fws.gov/platteriver/>

Endangered species

This resource list is for informational purposes only and should not be used for planning or analyzing project level impacts.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to “request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action” for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Review section in IPaC or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by creating a project and making a request from the Regulatory Review section.

Listed species¹ are managed by the [Endangered Species Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

Mexican Spotted Owl <i>Strix occidentalis lucida</i>	Threatened
There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/8196	
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i>	Endangered
There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/6749	

Fishes

NAME	STATUS
Colorado Pikeminnow (=squawfish) <i>Ptychocheilus lucius</i>	Endangered
There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/3531	
Razorback Sucker <i>Xyrauchen texanus</i>	Endangered
There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/530	

Flowering Plants

NAME	STATUS
Chapin Mesa Milkvetch <i>Astragalus schmolliae</i>	Candidate
No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/4807	

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse <i>Zapus hudsonius luteus</i>	Endangered
There is a final critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/7965	
North American Wolverine <i>Gulo gulo luscus</i>	Proposed Threatened
No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/5123	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The [Migratory Birds Treaty Act](#) of 1918.

2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data <http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The migratory birds species listed below are species of particular conservation concern (e.g. [Birds of Conservation Concern](#)) that may be potentially affected by activities in this location, not a list of every bird species you may find in this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the [AKN Histogram Tools](#) and [Other Bird Data Resources](#).

NAME	SEASON(S)
Bald Eagle <i>Haliaeetus leucocephalus</i> http://ecos.fws.gov/ecp/species/1626	Year-round
Black Rosy-finch <i>Leucosticte atrata</i> http://ecos.fws.gov/ecp/species/9460	Year-round
Black Swift <i>Cypseloides niger</i> http://ecos.fws.gov/ecp/species/8878	Breeding
Brewer's Sparrow <i>Spizella breweri</i> http://ecos.fws.gov/ecp/species/9291	Breeding
Brown-capped Rosy-finch <i>Leucosticte australis</i>	Year-round
Burrowing Owl <i>Athene cucularia</i> http://ecos.fws.gov/ecp/species/9737	Breeding
Cassin's Finch <i>Carpodacus cassinii</i> http://ecos.fws.gov/ecp/species/9462	Year-round
Ferruginous Hawk <i>Buteo regalis</i> http://ecos.fws.gov/ecp/species/6038	Wintering
Fox Sparrow <i>Passerella iliaca</i>	Breeding
Golden Eagle <i>Aquila chrysaetos</i> http://ecos.fws.gov/ecp/species/1680	Year-round
Grace's Warbler <i>Dendroica graciae</i>	Breeding
Gray Vireo <i>Vireo vicinior</i> http://ecos.fws.gov/ecp/species/8680	Breeding
Juniper Titmouse <i>Baeolophus ridgwayi</i>	Year-round
Lewis's Woodpecker <i>Melanerpes lewis</i> http://ecos.fws.gov/ecp/species/9408	Year-round
Loggerhead Shrike <i>Lanius ludovicianus</i> http://ecos.fws.gov/ecp/species/8833	Year-round
Olive-sided Flycatcher <i>Contopus cooperi</i> http://ecos.fws.gov/ecp/species/3914	Breeding

Peregrine Falcon <i>Falco peregrinus</i> http://ecos.fws.gov/ecp/species/8831	Breeding
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> http://ecos.fws.gov/ecp/species/9420	Year-round
Prairie Falcon <i>Falco mexicanus</i> http://ecos.fws.gov/ecp/species/4736	Year-round
Sage Thrasher <i>Oreoscoptes montanus</i> http://ecos.fws.gov/ecp/species/9433	Breeding
Short-eared Owl <i>Asio flammeus</i> http://ecos.fws.gov/ecp/species/9295	Wintering
Swainson's Hawk <i>Buteo swainsoni</i> http://ecos.fws.gov/ecp/species/1098	Breeding
Virginia's Warbler <i>Vermivora virginiae</i> http://ecos.fws.gov/ecp/species/9441	Breeding
Western Grebe <i>Aechmophorus occidentalis</i> http://ecos.fws.gov/ecp/species/6743	Breeding
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> http://ecos.fws.gov/ecp/species/8832	Breeding
Willow Flycatcher <i>Empidonax traillii</i> http://ecos.fws.gov/ecp/species/3482	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAA/NCCOS models: the models were developed as part of the NOAA/NCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project](#) webpage.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEMA](#)
[PEMC](#)
[PEMCh](#)

FRESHWATER POND

[PABFh](#)

OTHER

[PUSAh](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <https://ecos.fws.gov/ipac/wetlands/decoder>

Not for consultation

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Appendix 8(3)

King I



Telephone:
(303) 259-2416
Fax:
(303) 259-4816

Telephone:
(303) 385-4528
Fax:
(303) 385-4638

October 16, 1987

State of Colorado, Department of Natural Resources
Mined Land Reclamation Division
423 Centennial Building, 1313 Sherman Street
Denver, Colorado 80203-2273

Attention: Peter V. O'Connor

Re: King Coal Mine Raptor Protection

Dear Peter:

This letter is in response to your request concerning the raptor protection practices currently in effect at King Coal Mine.

To our knowledge, there has never been a case of raptor electrocution at our mine. Due to the very small layout of our surface high voltage facilities, any large bird electrocution would be immediately noticed. We attribute this lack of raptor electrocution primarily to the surrounding topography which consists of high, steep hillsides which virtually surround the mine site. To quote the publication entitled "Suggested Practices for Raptor Protection on Powerlines" distributed by Rapture Research Foundation, Inc., "The use of powerline poles as perch sites varies according to topography, season and abundance of prey. Powerlines that traverse steep and broken terrain, where many natural perch sites are available, receive little use compared to those in flat, broad valleys where natural perch sites are absent."

In addition to topography making our powerlines unfavorable for use as raptor perches, exhibit No. 1 of the aforementioned publication, concerning the use of wood crossarm braces, is also in effect.

To the best of my knowledge, there are no other situations at the King Coal Mine site which endanger the raptor population in any way.

If there are any questions in this matter, please contact Tom Bird at 303/385-4528.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Bird', is written over a large, circular, light-colored scribble or stamp.

Tom Bird
Mine Superintendent

SUGGESTED PRACTICES FOR RAPTOR PROTECTION

ON POWERLINES

A report prepared in the public interest,

distributed by Raptor Research Foundation, Inc., for Edison Electric Institute

SUGGESTED PRACTICES FOR RAPTOR PROTECTION ON POWERLINES

In early 1972, a group of western utilities¹ with the assistance of the Edison Electric Institute, coordinated a workshop with various Federal and State agencies and other interested groups² to study the problems associated with raptor electrocution occurring on powerlines. It was determined that grounding practices on distribution and transmission lines from 4 kV through 69 kV along with certain configurations of transformer banks, fused cutouts, lightning arresters and conductor phase spacings could be a substantial cause of raptor deaths. Subsequent studies have proved that the solution to the problem lies more with engineering expertise than with a biological approach.

The electrocution problem appears to be greater in the western United States — primarily Colorado, Idaho, Nevada, Utah and Wyoming — because the eagle population is greater there. Recent studies also document electrocution losses of egrets, herons, crows, ravens, wild turkeys and other birds of prey, but current evidence shows that 90% of all electrocution victims are golden eagles. This loss of eagles is significant; but pesticide contaminations, loss of habitat, and illegal shooting remain the most threatening problems to raptors in general. The latter two mortality factors, which lead directly from land use patterns and irresponsible use of firearms, are of particular importance to eagle conservation.

The Department of the Interior has coordinated the counting of eagle electrocutions in the United States in cooperation with the electric utility industry and various State and private conservation agencies. Since initiation of this program, approximately 500 raptors, principally golden eagles, have been found at the base of power poles. A number of these deaths can be attributed to other causes including diseases, poisoning and irresponsible use of firearms. The count also showed 98% of the eagles electrocuted were young, inexperienced golden eagles that were just learning to fly. They had not yet attained the skill and precision necessary to negotiate a safe landing or take-off from a powerline pole supporting three or more conductors, transformer banks, fused cutouts or other equipment necessary to transmit or distribute electric energy.

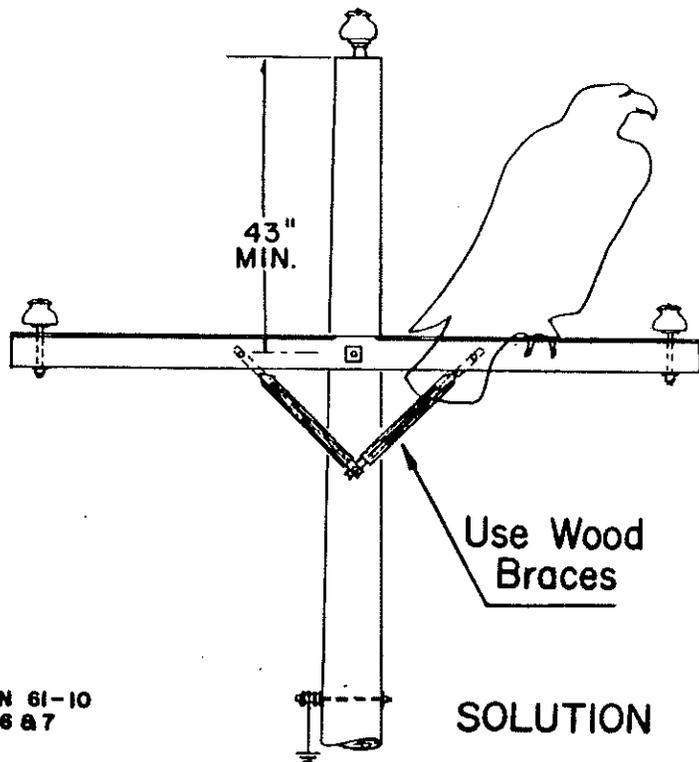
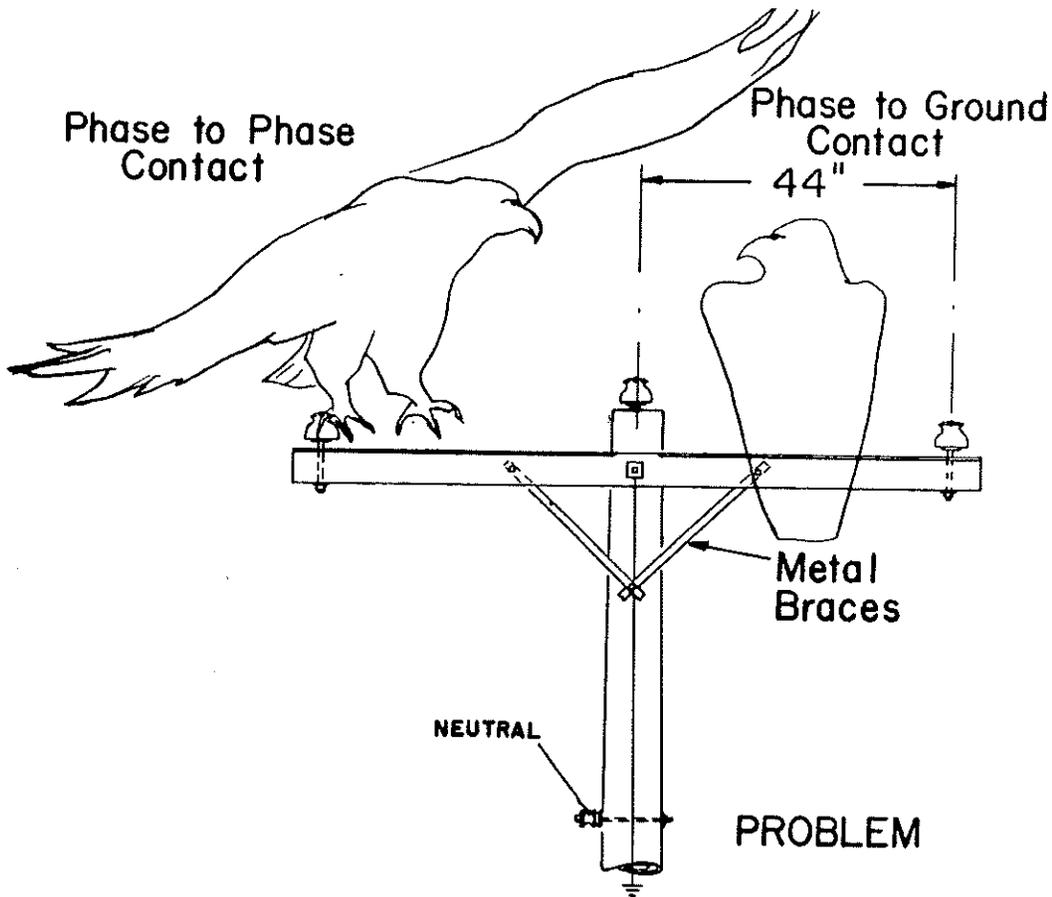
To deal with the factors that contribute to raptor electrocutions, it is necessary to know some things about the birds: how they hunt, where they live and nest, and their art of flying. Eagles and hawks prefer to perch on elevated sites where prey species might be observed over a wide radius and where air currents are more favorable for flight. The preferred power pole perch, for instance, is more often one where the crossarm is perpendicular to the prevailing wind and commands considerable hunting territory. The use of powerline poles as perch sites varies according to topography, season and abundance of prey. Powerlines that traverse steep and broken terrain, where many natural perch sites are available, receive little use compared to those in flat, broad valleys where natural perch sites are absent. Most electrocutions take place during the wintering period when peak populations of eagles and hawks are present. At this time, resident birds, as well as migrants, tend to concentrate in mountain valleys, adjacent foothills and grasslands where food supplies are most abundant and available. During this period, powerline poles receive heavy use as perches, as evidenced by droppings on crossarms and castings beneath the poles. Losses may be expected if lines in these areas are not properly designed or modified.

Through the efforts of many, including Dr. Richard R. Olendorff, Bureau of Land Management (BLM), Washington, D. C., Mr. Erwin L. Boeker, U. S. Fish & Wildlife Service, Denver, Colorado, and Mr. Morlan W. Nelson, recognized authority on birds of prey and Birds-of-Prey Consultant to the Idaho Power Company, more has become known about the eagle's habits and habitats. This information has been used by the electric utility industry to pinpoint and then minimize or eliminate the problem through design changes on certain portions of existing, as well as future, lines.

On March 27, 1972, the Rural Electrification Administration (REA) issued Bulletin 61-10 which was titled "Protection of Bald and Golden Eagles from Powerlines". This bulletin dealt with the causes of raptor electrocutions from certain grounding practices that made it difficult for large birds of prey to fly away from or roost on powerline poles or appurtenances without simultaneously contacting an energized conductor and a ground, thereby causing a completed circuit and electrocution. With this bulletin, the REA specified that all cooperatives would change grounding and construction practices to eliminate the possibility of electrocution. Some of the suggested designs, alterations and additions of special perches can be seen in Exhibits 1 through 4 in the Appendix. Suggestions for increasing phase spacings on pre-1962 standard construction were included. Exhibit No. 2 shows that pole ground wires could be gapped and still provide lightning protection to the powerline. This procedure eliminates a positive ground during normal operation of the line, thus minimizing the possibility of simultaneous contact between an energized conductor and ground. It was not intended that all existing lines be altered, but it was implied that preferred poles would be modified when multiple electrocutions at specific locations could be documented and proved.

¹ Idaho Power Company, Pacific Gas & Electric Company, Pacific Power & Light Company, Public Service Company of Colorado, Tucson Gas & Electric, Utah Power & Light Company.

² Colorado Division of Wildlife, National Audubon Society, National Wildlife Federation, Rural Electrification Administration, U. S. Fish and Wildlife Service.



*Wooden
Braces
are in use*

REFERENCE:
REA BULLETIN 61-10
FIGURES 6 & 7

EXHIBIT No. 1

June 1995



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/CO:OSM
TAILS 65413-2010-I-0146

10-07-19-10

July 16, 2010

Memorandum

To: Natural Resource Specialist, Office of Surface Mining, Reclamation and Enforcement,
Denver, Colorado

From: *for* Western Colorado Supervisor, Fish and Wildlife Service, Ecological Services, Grand
Junction, Colorado *Paul S. Glatt*

Subject: King II Coal Mine 160-acre Lease Addition

The Fish and Wildlife Service (Service) has reviewed your June 16, 2010, consultation request regarding the subject coal mine. The mine is located on Ute Mountain Ute land in portions of T. 35N, R. 11W, section 19 and T. 35N, R. 12W, section 24, 25, 26, and 35. The proposed project will add 160 acres to the lease for underground mining.

You determined that the proposed project may affect and is likely to adversely affect Colorado pikeminnow (*Ptychocheilus lucius*) and razorback sucker (*Xyrauchen texanus*) because of the 8.61 acre-foot water depletion associated with the proposed lease expansion. Therefore you requested formal consultation. Mining will take place at the same rate as previously mined portions of the coal mine. Therefore, the depletion amount is the same amount as previously addressed in a March 3, 2006, biological opinion (ES-6-RO-06-F-GJSJ001). Consequently, we concur with your determinations for the endangered fishes but an additional biological opinion is not necessary. Concurrence on "no effect" determinations for other species addressed in your June 16, 2010, letter is also not necessary. This concludes consultation for the proposed action.

If the Service can be of further assistance, please contact Terry Ireland at the letterhead address or (970) 243-2778, extension 16.

