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Appendix C
Biological Resources Supplemental Information

APPENDIX C

Biological Resources Supplemental Information

This appendix contains four sections as follows:

- A table listing the common and scientific names used in this document (Table C-1)
- A table listing wildlife observed and with high potential to occur in the WPES project area (Table C-2)
- Background information on flora and fauna and on Threatened, Endangered, Candidate, and Sensitive Species
- Risk Assessment for Noxious/Invasive Weeds

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
Plants	
African rue	*Peganum harmala*
alkali bluegrass	*Poa juncifolia*
alkali cordgrass	*Spartina gracilis*
alkali sacaton	*Sporobolus airoides*
American kochia	*Kochia scoparia*
antelope bitterbrush	*Purshia tridentata*
Austrian fieldcress	*Rorippa austriaca*
Austrian peaweed	*Sphaerophysa salsula / Swainsona salsula*
Baltic rush	*Juncus balticus*
basalt springparsley	*Cymopterus basalticus*
basin big sagebrush	*Artemisia tridentata* var. *tridentata*
black henbane	*Hyoscyamus niger*
black sagebrush	*Artemisia nova*
broad-pod freckled milkvetch	*Astragalus lentiginosus* var. *latus*
broom snakeweed	*Gutierrezia sarothrae*
budsage	*Artemisia spinescens*
bur buttercup	*Ranunculus testiculatus*
bushy blazingstar	*Mentzelia dispersa*
camelthorn	*Alhagi camelorum*
Canada thistle	*Cirsium arvense*
Carolina horse-nettle	*Solanum carolinense*
cattail	*Typha latifolia*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
cheatgrass	*Bromus tectorum*
clustered field sedge	*Carex praegracilis*
common crupina	*Crupina vulgaris*
common dandelion	*Taraxacum officinale*
creeping spikerush	*Eleocharis* cf. *palustris*
curl-leaf mountain mahogany	*Cercocarpus ledifolius*
cushion buckwheat	*Eriogonum ovalifolium*
cushion stenotus	*Stenotus acaulis*
dainty moonwort	Dainty moonwort
dainty moonwort	*Botrychium crenulatum*
dalmation toadflax	*Linaria dalmatica*
desert paintbrush	*Castilleja chromosa*
diffuse knapweed	*Centaurea diffusa*
dusty maidens	*Chaenactis douglasii*
Dyer's woad	*Isatis tinctoria*
Eastwood milkweed	*Asclepias eastwoodiana*
Eurasian water-milfoil	*Myriophyllum spicatum*
fiddleneck hawkweed	*Crepis runcinata*
field bindweed	*Convolvulus arvensis*
flixweed	*Descurainia sophia*
fourwing saltbrush	*Atriplex canescens*
giant reed	*Arundo donax*
giant salvinia	*Salvinia molesta*
goats rue	*Galega officinalis*
gray rabbitbrush	*Chrysothamnus nauseosus*
greasewood	*Sarcobatus vermiculatus*
Great Basin wildrye	*Leymus cinereus*
green fountain grass	*Pennisetum setaceum*
green rabbitbrush	*Chrysothamnus viscidiflorus*
hanging bladderpod	*Lesquerella pendula*
hoary cress	*Cardaria draba*
Holmgren buckwheat	Holmgren buckwheat
Holmgren buckwheat	*Eriogonum holmgrenii*
hornwort	*Ceratophyllum* spp.
houndstongue	*Cynoglossum officinale*
Iberian star thistle	*Centaurea iberica*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
Indian ricegrass	*Achnatherum hymenoides*
inland saltgrass	*Distichlis spicata*
Johnson grass	*Sorghum halepense*
Klamath weed	*Hypericum perforatum*
leafy spurge	*Euphorbia esula*
Lemmon's rubberweed	*Hymenoxys lemmonii*
low sagebrush	*Artemisia arbuscula*
lupine	*Lupinus argenteus*
Malta star thistle	*Centaurea melitensis*
matted buckwheat	*Eriogonum caespitosum*
mayweed chamomile	*Anthemis cotula*
meadow milkvetch	Meadow milkvetch
meadow milkvetch	*Astragalus diversifolius*
Mediterranean sage	*Salvia aethiopis*
medusahead	*Taeniatherum caput-medusae*
milkvetch	*Astragalus* spp.
Mojave seablite	*Suaeda moquinii*
Monte Neva Indian paintbrush	*Castilleja salsuginosa*
Monte Neva paintbrush	*Castilleja salsuginosa*
Monte Verde paintbrush	*Castilleja salsuginosa*
Mormon tea	*Ephedra viridis*
Mount Wheeler sandwort	*Arenaria congesta* var. *wheelerensis*
mountain big sagebrush	*Artemisia tridentata* ssp*. vaseyana*
mountain mahogany	*Cercocarpus montanus*
musk thistle	*Carduus nutans*
mustards	*Descurainia* spp.
Nachlinger catchfly	*Silene nachlingerae*
Nevada primrose	*Ericameria watsoni*
nodding thelypody	*Thelypodium flexuosum*
non-native invasive cheatgrass	*Bromus tectorum*
Parish phacelia	*Draba pedicellata*
Pennell beardtongue	*Penstemon leiophyllus* var. *francisci-pennellii*
Pennell draba	*Draba pennellii*
pepperweed	*Lepidium perfoliatum*
perennial pepperweed	*Lepidium latifolium*
pinnate tansymustard	*Descurainia pinnata*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
pinyon	*Pinus monophylla*
poison hemlock	*Conium maculatum*
pondweed	*Potamogeton* spp.
Poverty sumpweed	*Iva axillaries*
poverty weed	*Iva axillaris*
prickly lettuce	*Lactuca serriola*
puncture vine	*Tribulus terrestris*
purple loosestrife	*Lythrum salicaria, L. virgatum, and their cultivars*
purple star thistle	*Centaurea calcitrapa*
rush skeletonweed	*Chondrilla juncea*
rushes	*Juncus* spp.
Russian knapweed	*Acroptilon repens*
Russian thistle	*Salsola kali*
Russian thistle	*Salsola iberica*
salt cedar (tamarisk)	*Tamarix* spp.
salt grass	*Distichlis spicata*
saltlover	*Halogeton glomeratus*
sand cholla	*Opuntia pulchella*
Sandberg bluegrass	*Poa secunda*
Scotch thistle	*Onopordum acanthium*
shadscale	*Atriplex confertifolia*
shadscale spring parsley	Shadscale spring parsley
silverweed	*Potentilla anserine*
Snake Range whitlowcress	*Draba oreibata* v. *serpentine*
snowberry	*Symphoricarpos* sp.
sow thistle	*Sonchus arvensis*
spikerush	*Eleocharis* spp.
spiny hopsage	*Grayia spinosa*
spotted knapweed	*Centaurea maculosa*
squarrose knapweed	*Centaurea virgata Lam.* ssp. *squarrosa*
squirreltail	*Elymus elymoides*
stalked whitlow cress	*Draba pedicillata*
straight-leaf rush	*Juncus* cf. *orthophyllus*
sulphur cinquefoil	*Potentilla recta*
Sunnyside green gentian	*Frasera gypsicola*
Syrian bean caper	*Zygophyllum fabago*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
thickspike wheatgrass	*Elymus lanceolatus*
Thurber's needlegrass	*Achnatherum thurberiana*
tumble mustard	*Sisymbrium altissimum*
Tunnel Springs beardtongue	*Penstemon concinnus*
Utah juniper	*Juniperus osteosperma*
Utah serviceberry	*Amelanchier utahensis*
Ute ladies'-tresses orchid	*Spiranthes diluvialis*
water hemlock	*Cicuta maculata*
watercress	*Rorippa nasturtium aquatica*
waterthyme	*Hydrilla verticillata*
Watson goldenbush	*Ericameria watsonii*
waxflower	*Jamesia tetrapetala*
western tansymustard	*Descurainia pinnata*
white horse-nettle	*Solanum elaeagnifolium*
White River catseye	*Cryptantha welshii*
willow	*Salix* spp.
winterfat	*Krascheninnikovia lanata*
Wyoming big sagebrush	*Artemisia tridentata* var. *wyomingensis*
yellow starthistle	*Centaurea solstitialis*
yellow toadflax	*Linaria vulgaris*
Mammals	
American badger	*Taxidea taxis*
badger	*Taxidea taxis*
black-tailed jackrabbit	*Lepus californicus*
bobcat	*Lynx rufus*
bushy-tailed woodrat	*Neotoms cinerea*
coyote	*Canis latrans*
dark kangaroo mouse	*Microdipodops megacephalus*
golden-mantled ground squirrel	*Spermophilus lateralis*
gray fox	*Urocyon cinereoargenteus*
gray fox	*Urocyon cinereoargenteus*
ground squirrels	*Spermophilus spp.*
jackrabbit	*Lepus spp.*
kangaroo rat	*Dipodomys spp.*
Kit fox	*Vulpes macrotis*
least chipmunk	*Tamias minimus*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
mountain lion	*Felis concolor*
mule deer	*Odocoileus hemionus*
Nuttall's cottontail	*Sylvilagus nuttallii*
Piute (Great Basin) ground squirrel	*Spermophilus mollis*
Preble's shrew	*Sorex preblei*
Pronghorn	*Antilocapra americana*
pygmy rabbit	*Brachylagus idahoensis*
pygmy shrew	*Sorex minutus*
Richardson's ground squirrel	*Spermophilus elegans nevadensis*
rock squirrel	*Spermophilus variegates*
sagebrush vole	*Lagurus curtatus*
Townsend's ground squirrel	*Spermophilus townsendii*
white-tailed antelope squirrel	*Ammospermophilus leucurus*
Bats	
California myotis	*Myotis californicus*
fringed myotis	*Myotis thysanodes*
little brown bat	*Myotis lucifugus*
pallid bat	*Antrozous pallidus*
spotted bat	*Euderma maculatum*
Townsend's big-eared bat	*Corynorhinus townsendii*
western small-footed myotis	*Myotis ciliolabrum*
Birds	
American avocet	*Recurvirostra americana*
American crow	*Corvus brachyrhynchos*
American kestrel	*Falco sparverius*
bald eagle	*Haliaeetus leucocephalus*
black-billed magpie	*Pica hudsonia*
black-throated gray warbler	*Dendroica nigrescens*
bobolink	*Dolichonyx oryzivorus*
Brewer's sparrow	*Spizella breweri*
Canada goose	*Branta canadensis*
common nighthawk	*Chordeiles minor*
common raven	*Corvus corax*
Cooper's hawk	*Accipiter cooperi*
eared grebe	*Podiceps nigricollis*
European starling	*Sturnus vulgaris*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
ferruginous hawk	*Buteo regalis*
golden eagle	*Aquila chrysaetos*
gray vireo	*Vireo vicinior*
great horned owl	*Bubo virginianus*
greater sage-grouse	*Centrocercus urophasianus*
green-tailed towhee	*Pipilo chlorurus*
green-winged teal	*Anas crecca*
gulls	*Larus* spp.
horned lark	*Eremophila alpestris*
house sparrow	*Passer domesticus*
juniper titmouse	*Baeolophus griseus*
kestrels	*Falco sparverius*
killdeer	*Charadrius vociferous*
least bittern	*Ixobrychus exilis*
loggerhead shrike	*Lanius ludovicianus*
long-billed curlew	*Numenius americanus*
long-eared owl	*Asio otus*
mallard	*Anas platyrhynchos*
mountain bluebird	*Sialia currucoides*
mountain chickadee	*Poecile gambeli*
mourning dove	*Zenaida macroura*
northern flicker	*Colaptes auratus*
northern goshawk	*Accipiter gentiles*
northern harrier	*Circus cyaneus*
northern pintail	*Anas acuta*
peregrine falcon	*Falco peregrinus*
pinyon jay	*Gymnorhinus cyanocephalus*
prairie falcon	*Falco mexicanus*
red-tailed hawk	*Buteo jamaicensis*
red-winged blackbird	*Agelaius phoeniceus*
relict dace	*Relictus solitarius*
rough-legged hawk	*Buteo lagopus*
sage sparrow	*Amphispiza bellii*
sage thrasher	*Oreoscoptes montanus*
sandhill crane	*Grus Canadensis*
short-eared owl	*Asio flammeus*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
spotted towhee	*Pipilo maculates*
Swainson's hawk	*Buteo swainsoni*
tricolored blackbird	*Agelaius tricolor*
turkey vulture	*Cathartes aura*
vesper sparrow	*Pooecetes gramineus*
western bluebird	*Sialia mexicana*
western meadowlark	*Sturnella neglecta*
western screech owl	*Otus kennicottii*
western scrub jay	*Aphelocoma californica*
western snowy plover	*Charadrius alexandrinus*
white-faced ibis	*Plegadis chihi*
Wilson's phalarope	*Phalaropus tricolor*
yellow warbler	*Dendroica petechia*
yellow-billed cuckoo	*Coccyzus americanus*
yellow-breasted chat	*Icteria virens*
Amphibians	
Columbia spotted frog	*Rana luteiventris*
Great Basin gopher snake	*Pituophis catenifer deserticola*
northern leopard frog	*Rana pipiens*
Pacific tree frog	*Pseudacris regilla*
spadefoot toad	*Scaphiopus hammondi*
Reptiles	
Great Basin gopher snake	*Pituophis catenifer deserticola*
Great Basin rattlesnake	*Crotalus viridis lutosus*
horned lizard	*Phrynosoma platyrhinos*
Northern desert horned lizard	*Phrynosoma platyrhinos*
sagebrush lizard	*Sceloporus graciosus*
short-horned lizard	*Phrynosoma douglassii*
western fence lizard	*Sceloporus occidentalis*
Insects	
Baking Powder Flat blue	*Euphilotes bernardino minuta*
dark sandhill skipper	*Polites sabuleti nigrescens*
Koret's checkerspot	*Euphydryas editha koreti*
Steptoe Valley crescentspot	*Phyciodes pascoensis arenacolor*
White River wood nymph	*Cercyonis pegala pluvialis*

TABLE C-1
Common and Scientific Names

Common Name	Scientific Name
Springsnails	
Northern Steptoe springsnail	*Pyrgulopsis serrata*
Pulmonates	*Physa* ssp., *Lymnaea* ssp., *Gyraulus* ssp., and *Fossaria* ssp.
southern Steptoe pyrg	*Pyrgulopsis sulcata*
springsnail	*Pyrgulopsis serrata*
Fish	
brook trout	*Salvelinus fontinalis*
largemouth bass	*Micropterus salmoides*
northern pike	*Esox lucius*
rainbow trout	*Oncorhynchus mykiss*
relict dace	*Relictus solitarius*
tiger trout	*Salmo trutta x Salvelinus fontinalis*
Utah chub	*Gila atraria*

TABLE C-2
Wildlife Observed or with High Potential to Occur in the WPES Project Area

Scientific Name	Common Name	Observed (Y/N)	Habitat Type in Project Area
Birds			
Lanius ludovicianus	Loggerhead shrike	Y	Sagebrush/Pinyon-Juniper
Eremophilia alpestris	Horned lark	Y	Sagebrush
Oreoscoptes montanus	Sage thrasher	Y	Sagebrush
Amphispiza bellii	Sage sparrow	Y	Sagebrush
Spizzela breweri	Brewer's sparrow	N	Sagebrush
Sialia mexicana	Western bluebird	Y	Sagebrush/Pinyon-Juniper
Sturnella neglecta	Western meadowlark	Y	Sagebrush/Pinyon-Juniper
Corvus corax	Common raven	Y	All
Circus cyaneus	Northern harrier	Y	Sagebrush
Chordeiles minor	Common nighthawk	Y	Sagebrush/Pinyon-Juniper
Charadrius vociferous	Killdeer	Y	Wetlands/Salt Desert Scrub
Sialia currucoides	Mountain bluebird	Y	Pinyon-Juniper
Gymnorhinus cyanocephalus	Pinyon jay	Y	Pinyon-Juniper
Aphelocoma californica	Western scrub jay	Y	Pinyon-Juniper
Poecile gambeli	Mountain chickadee	Y	Pinyon-Juniper

TABLE C-2
Wildlife Observed or with High Potential to Occur in the WPES Project Area

Scientific Name	Common Name	Observed (Y/N)	Habitat Type in Project Area
Dendroica nigrescens	Black-throated gray warbler	Y	Pinyon-Juniper
Dendroica petechia	Yellow warbler	Y	Pinyon-Juniper near streams
Falco sparverius	American kestrel	Y	Sagebrush/Pinyon-Juniper
Pipilo chlorurus	Green-tailed towhee	N	Sagebrush
Falco mexicanus	Prairie falcon	Y	Sagebrush/Pinyon-Juniper
Falco peregrinus	Peregrine falcon	N	Cliff ledges in Pinyon-Juniper
Accipiter cooperi	Cooper's hawk	N	Pinyon-Juniper woodland and woodland edges
Buteo swainsoni	Swainson's hawk	N	Pinyon-Juniper/isolated trees
Buteo jamaicensis	Red-tailed hawk	Y	All
Pica hudsonia	Black-billed magpie	Y	Sagebrush/Pinyon-Juniper
Buteo lagopus	Rough-legged hawk	N	Agricultural fields, Grasslands
Aquila chrysaetos	Golden eagle	Y	Sagebrush/Pinyon-Juniper
Pooecetes gramineus	Vesper sparrow	N	Sagebrush
Pipilio maculates	Spotted towhee	Y	Pinyon-Juniper
Asio otus	Long-eared owl	N	Woodlands
Asio flammeus	Short-eared owl	N	Grasslands, Sand Dunes, Marshes
Otus kennicottii	Western screech owl	N	Forest edges, Tree cavities
Bubo virginianus	Great horned owl	N	Pinyon-Juniper woodlands
Cathartes aura	Turkey vulture	Y	All
Corvus brachyrhynchos	American crow	Y	All
Agelaius phoeniceus	Red-winged blackbird	Y	Wetland
Numenius americanus	Long-billed curlew	Y	Wetland/Duck Creek
Recurvirostra americana	American avocet	Y	Wetland/Duck Creek
Anas acuta	Northern pintail	Y	Wetland/Duck Creek
Grus canadensis	Sandhill crane	Y	Wetland/Duck Creek
Branta canadensis	Canada goose	N	Wetlands/Aquatic Habitats, Agricultural
Anas platyrhynchos	Mallard	N	Wetlands/Shallow Aquatic Habitats
Anas crecca	Green-winged teal	N	Aquatic Habitats/Winter Resident
Centrocercus urophasianus	Greater sage-grouse	Y	Sagebrush
Colaptes auratus	Northern flicker	Y	Pinyon-Juniper

TABLE C-2
Wildlife Observed or with High Potential to Occur in the WPES Project Area

Scientific Name	Common Name	Observed (Y/N)	Habitat Type in Project Area
Mammals			
Canis latrans	Coyote	Y	All
Vulpes macrotis	Kit fox	N	Sagebrush
Urocyon cinereoargenteus	Common gray fox	Y	Rocky, mountain forests
Odocoileus hemionus	Mule deer	Y	Sagebrush
Antilocarpa americana	Pronghorn	Y	Sagebrush
Lepus californicus	Black-tailed jackrabbit	Y	All
Sylvilagus nutallii	Mountain cottontail	Y	Sagebrush/Pinyon-Juniper
Brachylagus idahoensis	Pygmy rabbit	Y	Sagebrush
Spermophilus elegans nevadensis	Richardson's ground squirrel	N	Rocky habitats in Pinyon-Juniper/Sagebrush
Amnospermophilus leucurus	White-tailed antelope squirrel	N	Sagebrush
Spermophilus lateralis	Golden-mantled ground squirrel	N	Sagebrush
Spermophilus townsendii	Townsend's ground squirrel	N	Sagebrush
Spermophilus variegates	Rock squirrel	N	Rocky habitats in Pinyon-Juniper
Spermophilus mollis	Piute (Great Basin) ground squirrel	N	Sagebrush
Tamias minimus	Least chipmunk	N	Rocky habitats in Pinyon-Juniper
Taxidea taxis	American badger	N	Sagebrush
Sorex minutus	Pygmy shrew	N	Sagebrush
Felis concolor	Mountain lion	N	Pinyon-Juniper
Antrozous pallidus	Pallid bat	N	Rocky cliffs, Low scrub
Corynorhinus townsendii	Townsend's big-eared bat	N	Caves and mines
Euderma maculatum	Spotted bat	N	Caves, rock crevices
Myotis californicus	California myotis	N	Coniferous forest, cliffs, caves
Myotis cilioabrum	Western small-footed myotis	N	Rocky cliffs, forested, grassland
Myotis lucifugus	Little brown myotis	N	Coniferous forest , riparian
Amphibians			
Rana pipiens	Northern leopard frog	Y	Aquatic
Fish			
Relictus solitarius	Relict dace	Y	Aquatic

TABLE C-2
Wildlife Observed or with High Potential to Occur in the WPES Project Area

Scientific Name	Common Name	Observed (Y/N)	Habitat Type in Project Area
Reptiles			
Pituophis catenifer deserticola	Great Basin gopher snake	Y	Wetland
Sceloporus graciosus	Sagebrush lizard	Y	Sagebrush
Sceloporus occidentalis	Western fence lizard	Y	Sagebrush/Pinyon-Juniper
Phrynosoma platyrhinos	Northern desert horned lizard	Y	Sagebrush
Crotalus viridus lotus	Western/Great Basin rattlesnake	Y	Sagebrush

Background Information on Flora and Fauna and on Threatened, Endangered, Candidate, and Sensitive Species

Federally Protected Species

Bald Eagle

In the western United States, bald eagles nest near waterways that provide abundant food sources and build their nests in large trees. However, historical records indicate bald eagles utilized cliffs for nesting near Pyramid Lake, Nevada (Linsdale, 1936 as cited in FWS, 1986) and in 1985, a pair nested on a cliff on an island at Pyramid Lake, Nevada (FWS, 1986). They usually nest the same territories each year and often use the same nests repeatedly. Their home range is between 1,700 and 10,000 acres, depending on food availability.

Bald eagles prey on a wide variety of fish, waterfowl, small mammals, and carrion (Stalmaster, 1986). In portions of the western United States, eagles forage on warm-water and non-game fish, waterfowl, and small mammals (FWS, 1986). Areas that provide open water, wetlands, shrub steppe, and other foraging habitats near forests or single large trees are particularly important for bald eagles. Because of the lack of water, wintering eagles in Nevada occur as small groups near isolated water bodies and often prey on jackrabbits (*Lepus* spp.) (FWS, 1986). During winter, bald eagles use perches that are near food sources. Bald eagles commonly perch on artificial structures such as powerline poles and towers. Night roosts used during winter typically provide eagles with protection from the weather. Wintering eagles sometimes roost in permanent communal night roosts, with multiple birds per tree, although eagles also roost individually.

Yellow-Billed Cuckoo

The yellow-billed cuckoo is relatively common east of the Rocky Mountains, but habitat degradation and loss of riparian habitat in the West has led to the cuckoo's candidate status. The yellow-billed cuckoo's historic breeding range extended through most of North America from southern Canada to Mexico. The recent range of yellow-billed cuckoos includes populations in Arizona, New Mexico, and California (66 FR 38611). Historically, yellow-

billed cuckoos were found along the lower Truckee River, Lahontan Valley (Oakleaf, 1974), and along the Colorado River in southern Nevada (Neel, 1999). The most recent documentation of the yellow-billed cuckoo nesting in Nevada was a pair in observed in Lincoln County in 1979. Since 1990, there have been only sporadic sightings of single birds in Nevada (Neel, 1999). Surveys conducted in 2000 by NDOW (2001, as cited in 66 FR 38611) in southern Nevada documented 19 yellow-billed cuckoo (4 pairs and 11 unpaired birds) with no nests being found. NDOW estimated the summer population of yellow-billed cuckoo is between 20 and 30 birds statewide.

The yellow-billed cuckoo is a riparian obligate species that requires dense cottonwood-willow forested tracts of at least 16.8 hectares, including a minimum of 3.0 hectares of closed-canopy broadleaf forest (Laymon and Halterman, 1987). A wide band of cottonwood canopy closure is required, as is a healthy midstory of willow (Gaines and Laymon, 1984; Laymon and Halterman, 1987; Franzreb and Laymon, 1993; Hughes, 1999). In addition, cuckoos appear to prefer dense understory foliage as an important habitat component.

State Protected Species

Townsend's Big-Eared Bat

Townsend's big-eared bat is found throughout western North America from British Columbia south to the Isthmus of Tehuantepec, eastward to the Black Hills of South Dakota, across western Texas, and eastward to the Edwards Plateau. Isolated populations exist in the gypsum caves of northeastern Texas, Oklahoma, and Kansas, and in limestone regions of Arkansas, Missouri, Illinois, Indiana, Ohio, Kentucky, Virginia, and West Virginia (NatureServe, 2006). This species is found primarily in abandoned mines and caves, but is rarely found in crevices. This species is usually associated with forested community types and riparian areas. Townsend's big-eared bats migrate in the winter and reproduce in late spring to early summer. Like most bats, this species is an insectivore and will eat moths and caddisflies. Townsend's big-eared bat tends to hibernate singly, but can occur in clusters during winter in some areas (Schmidly, 1991).

Pallid Bat

The pallid bat is found in Western North America from south-central British Columbia (Okanagan Valley; low numbers) south through the western U.S. to southern Baja California, central Mexico, southern Kansas, southern Texas; and Cuba (NatureServe, 2006). The pallid bat often roosts in colonies of between 20 and several hundred individuals. Summer maternity colonies are found within warm rock crevices, abandoned mines, caves, hollow trees, and in cavern-like building features (for example, attics). This species has also been documented roosting in large conifer snags (Texas State Parks, 2006). This species breeds between October and February. Young are generally born between May and July depending on local climatic variables. Female pallid bats can give birth to a single pup, twins, and sometimes triplets, with twins being most common. Maternity colonies disband between August and October (Texas State Parks, 2006). This species remains relatively inactive during the winter, but is not known to migrate. Pallid bats are believed to hibernate as solitary individuals or in small numbers. Occasional winter activity has been reported in southern portions of its range. Pallid bats are primarily insectivorous, and feed from the ground and occasionally when in flight (Texas State Parks, 2006).

Spotted Bat

The spotted bat is a former Candidate species and is currently a state protected species as well as a BLM sensitive species. The spotted bat's range is from eastern Washington, Oregon, and California, east to Idaho, Montana, Arizona, Utah, western Colorado, and Texas, and though New Mexico and Utah (NatureServe, 2006). This species is primarily solitary, but has been known to roost in small groups. The spotted bat's roost sites are consistently associated with caves, and in cracks and crevices in cliffs and canyons (NatureServe, 2006). This species is found in a variety of habitats including desert to montane coniferous stands of open ponderosa pine, pinyon-juniper woodland, canyon bottoms; open pasture and hayfields; and herbaceous wetlands and riparian areas (NatureServe, 2006). Young are believed to be born in mid-to-late June depending on the local climate. This species feeds primarily on nocturnal beetles and moths. The pallid bat occupies coniferous stands in summer and migrates to lower elevations in late summer/early fall (NatureServe, 2006).

Western Small-Footed Myotis

The western small-footed myotis occurs throughout western North America from southern Saskatchewan, southern Alberta, and southern British Columbia south through the western United States (not including coastal areas north of southern California) into central Mexico (NatureServe, 2006). This species inhabits desert, badland, and semiarid habitats, and more mesic habitats in the southern part of its range (NatureServe, 2006). This myotis prefers to forage on small insects over rocks instead of water. During the summer it roosts in rock crevices, caves, tunnels, under boulders, beneath loose bark, or in buildings. Maternity colonies are often found in barns and buildings (NatureServe, 2006). The western small-footed myotis hibernates in caves and mines. Young are born late May through July.

Little Brown Myotis

The little brown myotis is widespread in North America from Alaska-Canada boreal forests south through most of the contiguous U.S. This species is generally missing from the southern Great Plains region (NatureServe, 2006). The southwestern populations formerly assigned to this species have now been assigned to *M. occultus* (Piaggio et al., 2002; Simmons, in Wilson and Reeder in prep.). As a result, the southwestern boundary of its range includes southern California (except extreme southeast), Nevada, northern Utah, northern Colorado, and perhaps northeastern New Mexico (Piaggio et al. 2002; NatureServe, 2006). The little brown myotis gives birth to one young in late spring to early summer. Winter concentrations may include tens of thousands. Little information is available for summer range. Studies have shown that this species has adapted to using human-made structures for resting and maternity sites; it also uses caves and hollow trees (NatureServe, 2006). The little brown myotis generally forages on flying insects in woodlands near water (NatureServe 2006). During winter, this species requires a relatively constant temperature of about 40 degrees F and 80 percent relative humidity. They will use caves, tunnels, abandoned mines, and similar sites. Maternity colonies are commonly found in warm sites in buildings and other structures, and occasionally this species will use hollow trees.

California Myotis

The Californian myotis occurs in western North America, from extreme southern Alaska south through British Columbia and the western U.S. to southern Baja California and

Guatemala (Wilson and Reeder, 1993). In the U.S., this species is found throughout the desert Southwest, and in lowlands to Montana, Utah, and Colorado. The full extent of the California myotis winter range is unknown, though it has been found in California, Nevada, Utah, Arizona, and Texas (Barbour and Davis, 1969). This species is found at elevations up to 6,000 feet. Females give birth to a single young between late May and mid-June. This species forages on insects from the air over forested and riparian/wetland areas. It is known to hibernate, but active bats regularly have been caught in Nevada in fall and winter, frequently in temperatures below 43 degrees F.

Ferruginous Hawk

The ferruginous hawk is known to breed in eastern Oregon and Washington, southern Alberta, southern Saskatchewan, extreme southwest Manitoba, northern Nevada, Utah, Wyoming, Montana, North Dakota, South Dakota, Nebraska, New Mexico, Arizona, and Colorado. This species is a non-breeding resident primarily in the southwestern and south-central U.S., south to Baja California and in the central mainland of Mexico. Non-breeding species have the greatest numbers in western Texas, eastern New Mexico, and western Oklahoma (Root, 1988; NatureServe, 2006).

The ferruginous hawk inhabits grasslands and sagebrush habitats in western North America. Within the BLM Ely District, the greatest percentages of ferruginous hawk nest sites are within juniper stringers on big sagebrush or black sagebrush knolls and within 2 miles of white sage (Perkins 1982). Mature ferruginous hawks arrive on their breeding grounds late February-early March. This species can be found within their breeding habitat from late February through early October.

Ferruginous hawk density and productivity are closely associated with cycles in prey abundance (Woffinden, 1975; NatureServe, 2006). During the breeding season, this species primarily feeds upon mammals, but they are also known to prey upon other birds, amphibians, reptiles, and insects (NatureServe 2006). Habitat suitability also takes into account the vulnerability of prey species. Ferruginous hawks avoid dense vegetation that reduces their ability to see prey.

Greater Sage-grouse

The greater sage-grouse is a ground dwelling bird that can grow up to 2 feet in height and 30 inches in length (FWS, 2004). This species can be found in elevations ranging from 4,000 to over 9,000 feet.

The greater sage-grouse is a species of concern in Nevada because of a decline in suitable habitat, which has resulted from unsuitable land uses and management of sagebrush ecosystems. Overgrazing, increased land clearing for agricultural purposes, and invasion of non-native species have negatively impacted sagebrush ecosystems and have made these communities more susceptible to severe wildfire outbreaks (Paige and Ritter, 1999).

In Nevada, some livestock management practices have altered sage-grouse habitat over the past 100 years. Livestock facilities such as spring developments, water pipelines, and fencing can lead to distribution of livestock into areas previously undisturbed, contributing to long-term changes in plant communities that can reduce the overall health of sagebrush habitats (BLM, 2000). Severe wildfire and the spread of invasive and noxious weeds also

significantly alter sagebrush ecosystems to the detriment of the greater sage-grouse. Power lines, fences, roads, and urban development have an adverse impact on greater sage-grouse populations (Braun 1998). These types of structures provide perches for raptor species to prey on sage-grouse and can also lead to sage-grouse mortality as a result of collision with guy wires (BLM, 2000). Another threat to sage-grouse in Nevada is the expansion of the pinyon-juniper community type in the Great Basin. Encroachment of pinyon-juniper into sagebrush shrubland may lead to a decline in habitat for sage-grouse (BLM, 2000).

The sage-grouse breeding season extends from mid- March to mid-June. Male sage-grouse gather to perform courtship displays in areas known as leks. Leks are defined as “a traditional display ground where two or more male sage-grouse have attended in two or more of the previous five years” (Connelly et al., 2003). Leks are usually open areas in sagebrush communities that are surrounded by denser sagebrush cover. Lek sites are the same areas generally used from year to year, assuming new disturbance (natural or man-made) has not forced the grouse to abandon the area.

Studies have shown that large expanses of habitat are needed to allow for connectivity between various residential populations of sage-grouse. The majority of sage-grouse nests are located under sagebrush plants (Connelly et al., 2004) . On average, the most nests are located within 4 miles of the lek, but can be up to 12 miles away from the lek (NDOW, 2004a). Sage-grouse nesting habitat consists primarily of big sagebrush communities that have 15-38 percent canopy cover with a grass and forb understory (Connelly et al., 1991, Gregg et al., 1994, Sveum et al., 1998). Brood rearing habitats are used from April through August. Hens will move their broods to moister sites with more succulent vegetation (black sagebrush and low sagebrush) June through July.

In the winter months, the greater sage-grouse diet consists primarily of sagebrush leaves and buds. The taller Wyoming sagebrush is preferred for foraging this time of year. The sagebrush must be at least 10 to 12 inches above snow level to provide both foraging and cover requirements. When snow accumulation is above average, grouse will move down and feed on sagebrush species present at lower elevations (Patterson, 1952, as cited in Connelly et al., 2004).

Pygmy Rabbit

Pygmy rabbits are found in eastern Washington, Oregon, northeastern California, Idaho, Montana, Nevada, western Utah, and southwest Wyoming. Pygmy rabbits inhabit shrublands, typically in dense stands of old growth sagebrush. This species digs its own burrows in deep, loose soils. Distribution of this species is patchy in the Great Basin (NDOW, 2005a).

Pygmy rabbits are active year round and are primarily seen at dusk and dawn. Pygmy rabbits primarily forage on big sagebrush, but will also forage on grasses and forbs in mid-to-late summer (NatureServe, 2006; Green and Flinders, 1980; Lyman, 1991). This species breeds spring to early summer. Threats to this species include habitat loss, predation, introduced diseases, and low population sizes. Protection of well-developed sagebrush is the most effective and practical means of managing and conserving pygmy rabbit habitat.

Risk Assessment for Noxious/Invasive Weeds

Oden, Eric/BOI

From: Diana Leiker [Diana.Leiker@edaw.com]
Sent: Wednesday, February 28, 2007 8:41 AM
To: Oden, Eric/BOI
Subject: Re: Fwd: White Pine Energy Project-Noxious WeedRisk Assessment

Attachments: Risk Assessment for Noxious FINAL 070205.doc

Risk Assessment for Noxious FI...

>>> <Bonnie_Waggoner@nv.blm.gov> 2/5/2007 3:39 PM >>>
Hi Diana -

The Weed Risk Assessment for the White Pine Energy Station EIS is complete and ready to go!

Thanks again!

Bonnie M. Waggoner
Noxious & Invasive Weed Coordinator
Bureau of Land Management - Ely District HC 33 Box 33500 Ely, NV 89301
office: 775-289-1827
cell: 703-244-1705
fax: 775-289-1910

"Diana Leiker" <Diana.Leiker@edaw.com>
02/05/2007 02:09 PM

To
<Bonnie_Waggoner@nv.blm.gov>
cc

Subject
Re: Fwd: White Pine Energy Project-Noxious Weed Risk Assessment

Hi Bonnie,
Your edits have been incorporated into the risk assessment. If you could send me a confirmation email that the risk assessment is complete that would be great. I will send the appropriate BMPs onto the editors for inclusion in the DEIS.

Thanks!

Diana

Diana Leiker
Natural Resource Specialist
EDAW, Inc
1809 Blake St., Suite 200
Denver, CO 80202
303-308-3556

Risk Assessment for Noxious/Invasive Weeds

Project Name: White Pine Energy Project

Directions: This document is intended for electronic use. Adjust the spacing as necessary. Retain one copy of this document with your project files. Provide the Weed Coordinator with a second copy of the form and a project map.

Date Risk Assessment was completed: May 31-June 12, 2004

Steps taken to complete Risk Assessment: EDAW conducted field reconnaissance for biological resources of concern in the White Pine Energy Station (WPES) project area in June 2004 to collect data necessary for completing a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) for the proposed action and an alternative action. EDAW used the protocol provided by the Bureau of Land Management (BLM) through the Tri-County Weed Program for all project facilities with the exception of the portion of the proposed transmission line that spans the Egan Range. The protocol involved field teams traveling along the centerline of the proposed corridors for the water pipeline, railroad track spurs, and the transmission power line rights-of-way (ROWs). Both noxious and invasive species were included during data collection for the risk assessment.

At every 0.25 mile, the field teams recorded the approximate density (ocular estimate) of each invasive species present according to the following schedule:

No weed present	0 plants/m^2
Light infestation	1–5 plants/m^2
Moderate infestation	6–25 plants/m^2
Heavy infestation	25–50 plants/m^2
Very heavy infestation	51+ plants/m^2

At each mile point, there was a count of invasive weed species using one square meter (9.6 square feet) quadrat frames. Quadrats were not used for the transmission ROW, because the alignment of the transmission line was not defined at the time surveys were completed. In the Egan Range portion of the SWIP (Southwest Intertie Project) alignment, EDAW selected random points within 0.5-mile-wide SWIP corridor and recorded weed densities accordingly.

If the centerline of a proposed corridor followed a previously existing linear disturbance (such as a road or trail), then one quadrat was placed immediately adjacent to the edge of the disturbance and the second quadrat was placed just outside the roadside/trail infestation on the same side as the first quadrat.

Complete noxious weed mapping will occur prior to construction.

Project Description: The White Pine Energy Project is a coal-fired generation facility to be located on BLM-administered land in Steptoe Valley. Project components with potential impacts to vegetation resources include the power plant ROW, electric transmission facilities ROW, water supply system ROW, rail spur ROW, substation ROW, access ROW, and additional construction ROW (including minerals materials sale), and Moriah Ranches Seeding Project). Table 1-1 summarizes project features and approximate long-term and short-term impacts resulting from each feature.

TABLE C-3
Estimated Acres of ROWs and Disturbed and Reclaimed Areas for the Proposed Action

	ROWs		Disturbed and Reclaimed Areas		
	Temporary (acres)[a]	**Permanent (acres)[b]**	**Short-Term[a] (acres)**	**Reclaimed (acres)**	**Long-Term[c] (acres)**
Power Plant ROW	0	1,281	1,281	0	1,281
Electric Transmission Facilities ROW					
Duck Creek Substation ROW	0	60	60	0	60
Thirtymile Substation ROW	0	77	77	0	77
Duck Creek to Thirtymile 500-kV Line ROW	0	774	249	199	50
Falcon-Gonder 345-kV Interconnection ROW	0	9	8	7	1
SWIP 500 kV Interconnection ROW	0	122	40	34	6
Water Supply System ROW					
Linear Facilities ROW (30-foot wide temporary)	48	0	48	48	0
Linear Facilities ROW (40-foot wide permanent)	0	64	64	48	16
Ground Water Well ROW (8 wells)	0	4	4	3	1
Construction Staging Area ROW	2	0	2	2	0
Rail Spur ROW					
Temporary ROW (30-foot wide)	5	0	5	5	0
Permanent ROW (35- to 70-foot wide)	0	9	9	0	9
Access ROW					
Power Plant ROW Access	0	6	6	0	6
Duck Creek Substation ROW Access	0	1	1	0	1
Thirtymile Substation ROW Access	0	2	2	0	2
Additional Construction ROW					
Electric Distribution Line	6	0	6	6	0
Off-Site Borrow Area	40	0	40	40	0
Total	**101**	**2,409**	**1,902**	**392**	**1,510**

[a] Construction
[b] Construction plus life of Station
[c] Operations

Project Location (See DEIS Figure 1-1)

If the proposed action will require regular traffic between the site of the proposed action and another site such as a gravel pit or mill, please consider the other site to be part of the project area.

The proposed WPES would be located within the Egan Resource Management Plan (RMP) area. The Egan RMP (BLM, 1984b) identifies several thousand acres of public land for disposal in Steptoe Valley, north of Ely, including land in the area of the proposed Station. Land disposal of the power plant ROW is consistent with the Egan RMP.

The power plant ROW would be located entirely in White Pine County, Nevada, approximately 26 miles south of the White Pine County/Elko County line and approximately 40 miles west of the Nevada/Utah border. Prominent landmarks in the area of the power plant ROW include U.S. Highway 93 (U.S. 93) and the Schell Creek Range (in the Humboldt National Forest) to the east; Duck Creek and the Egan Range to the west; and Goshute Lake to the north. The communities of McGill and Ely are approximately 22 miles and 34 miles south of the power plant ROW, respectively, and Great Basin National Park is 60 miles to the southeast.

The proposed and alternative actions would include a water supply system, temporary distribution lines, a rail spur (approximately 11,000 linear feet of track). The proposed water supply system would extend 13 miles north from the proposed power plant ROW. The alternative water supply system would extend 8 miles south from the alternative power plant ROW. An approximately 2-acre ROW would be temporarily be used for the staging area for placement of materials and equipment during construction. An access road would be located along the water pipeline and electrical distribution line for maintenance purposes and to provide access to each well site. Roads would typically be 10 feet wide.

The electrical transmission facilities for the project would consist of overhead 500-kV (3) and 345-kV (2) electric transmission lines and two electric substations. The first 500-kV line would require a 200-foot ROW and would be approximately 32 miles long, running from Duck Creek to Thirtymile Substation. The project includes two approximately 2.5 mile long, 200 foot wide, 500-kV transmission lines to interconnect the planned SWIP 500-kV transmission lines to the Duck Creek Substation. Two 0.2 mile long, 345-kV lines with 160-foot ROWs would interconnect the Falcon-Gonder 345-kV transmission line to Thirtymile Substation.

The Duck Creek Substation would be located adjacent to and immediately south of the power plant ROW. The Thirtymile Substation would be located in Section 19, Township 18 North, Range 61 East.

A 1.3-mile long rail spur would be constructed from the existing Nevada Northern Railway (NNR) to a rail loop that would be constructed on the proposed power plant ROW. A single span or simple 3-span trestle bridge would be used to cross Duck Creek. These bridge types were chosen to minimize impacts to wetland communities and maintain surface flows in Duck Creek. The alternative rail spur would be 3 miles long and also be constructed from the existing NNR to a rail loop that would be constructed on the alternative power plant ROW.

One or more borrow areas, via minerals materials sale, would be established to provide earth and rock materials during site preparation and throughout the construction process for concrete and asphalt mixes, road base, lining of dikes, and rock surfaced areas. A temporary ROW for the off-site borrow areas would cover approximately 40 acres within the area identified in Figure 1. A fence, berm, or signs would be established at the borrow area entry to prevent public access. Upon completion of construction the borrow area(s) would be recontoured and reclaimed in accordance with BLM regulations. The borrow pit will be deemed free of noxious weeds by a qualified specialist before it is used.

The Moriah Ranches Seeding Project is a habitat enhancement project that would restore existing pasture to better ecological condition and increase forage for livestock and wildlife. The project would be designed to create a habitat mosaic that provides cover for sage-grouse and antelope. The project would be located 16 miles north of McGill and immediately west of U.S. 93.

Neither the minerals material sale area, staging areas, access roads outside of project feature ROWs, or the Moriah Ranches Seeding area were surveyed for noxious weeds because the location of these areas was not defined at the time field surveys were completed. These areas would be included in pre-construction noxious/invasive weed surveys. The following sections discuss the ratings for Factor 1 and Factor 2 of the Risk Assessment. A summary of field data is included as Tables 2 and 3.

Factor 1

A definition of Factor 1 appears in the Attachment below. Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area. For this project, the factor rates as **(list rating and score**) at the present time**: Moderate (7)**. This rating was based on the following findings:

Due to the large extent and nature of the project, the White Pine Energy Project has a moderate (7) likelihood of spreading noxious/invasive species throughout the project area, despite the proposed implementation of an integrated weed management plan. This finding is based on the field observations recorded for each project feature in June of 2005. There were two noxious weed species present within the project ROWs. There were additional noxious weed species such as Canada thistle (*Cirsium arvense)* and Scotch thistle (*Onorpodum acanthium*) observed outside of the project ROWs, primarily in Butte Valley along existing access roads. In addition species such as tall whitetop (*Lepidium latifolium),* musk thistle (*Carduus nutans*), Russian knapweed (*Acroptilon repens)*, and spotted knapweed (*Centaurea maculosa)* are known to occur within the general area and may be present along travel routes. Travel to and from the ROWs may increase the spread of noxious weeds without proper mitigation.

The majority of weed infestations observed within the proposed and alternative alignments were concentrated along existing access roads, areas previously burned, overgrazed sections, and disturbed areas such as borrow pits. Therefore, the final integrated weed management plan would need to address mitigation measures and best management practices to minimize spread of noxious/invasive weeds in these travel corridors. Given the extent of weed infestations in some areas, it is likely that despite mitigation, invasive weeds may spread in the project area.

The water pipeline for both the proposed and alternative actions would need to be monitored closely post construction to ensure the re-seeding effort is successful to minimize the risk of spreading noxious/invasive species that exist within or adjacent to the ROW.

For the proposed action, risk of spread is moderate to high within the ROWs for the water pipeline, transmission corridors, and power plant.

For the alternative action the risk of spread of noxious/invasive species is moderate to high throughout all project features.

Factor 2

A definition of Factor 2 appears in Appendix A. Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area. For this project, the factor rates as **(List rating and score)**. This rating was based on the following findings:

A definition of Factor 2 appears in Appendix A. Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area. For this project, the factor rates as **(list rating and score)**: **Moderate (7)**. This rating was based on the following findings:

This rating is based on the current conditions (Tables 2 and 3) within the proposed and alternative project areas and the impacts (total acreage) that would result from construction and operation of the project on the vegetation communities. An increase in the spread of noxious and invasive species as a result of future projects occurring in Steptoe and Butte Valleys would increase the potential for cumulative effects to native plant communities.

Risk Rating:

The Risk Rating is obtained by multiplying Factor 1 by Factor 2. For this project, the Risk Rating is **(score and rating**): **Moderate (49)**

It is important to note that field surveys were conducted in June of 2005. It is probable that weed densities have changed since this time. As a result this risk assessment can only address conditions as they were in 2005. Pre-construction surveys will capture more accurate and detailed information on noxious/invasive weed occurrence in the project area.

Based on this risk rating, preventative management measures **are** needed for this project. Preventative management measures developed for this project are as follows:

I. Pre-construction surveys for noxious and invasive species would be conducted by qualified specialists. Weed populations will be mapped during surveys using GIS.

II. White Pine Energy Associates (WPEA) would be responsible for monitoring and treating identified weed populations within the designated ROWs for the lifetime of the project. Forms of noxious weed treatment would need to be approved by the BLM's Noxious Weed Coordinator. Herbicide treatments within the project ROWs would be reported to the BLM.

III. WPEA would be responsible for ensuring construction crews clean their vehicles prior to entering and upon leaving construction areas.

IV. Areas where re-seeding would occur would be monitored for up to 5 years to ensure native plants, which have been disturbed during project construction, return to areas of the ROW.

V. Materials (gravel, dirt, seeds, etc.) brought into the project area must originate from a weed free source.

The final EIS will include an integrated pest management plan along with a detailed re-seeding plan which will include treatment and monitoring of noxious/invasive species. A list of Reclamation Best Management Practices is included in the DEIS.

Based on this risk rating, project modifications are/**are not (circle one)** needed for this project. Project modifications developed for this project are as follows.

Weed Risk Assessment completed by: Diana Leiker, EDAW/AECOM

Reviewed by/Date Reviewed: _____ _____

Noxious Weed Coordinator Date

Attachment:

Factor 1

NONE (0): Noxious/invasive weed species not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.

LOW (1-3): Noxious/invasive weed species present in areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.

MODERATE (4-7): Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.

HIGH (7-10): Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

Factor 2

Low to Nonexistent (1-3): None. No cumulative effects expected.

MODERATE(4-7) : Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely, but limited.

HIGH(7-10) : Obvious adverse effects within the project area and probable expansion of noxious weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

Risk Rating

NONE (0): Proceed as planned.

LOW (1-10): Proceed as planned. Initiate control treatment on noxious weed populations that get established in the area.

MODERATE (11-49): Develop preventative management measures for proposed project to reduce the risk of introduction or spread of noxious weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor area for at least 3 consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

HIGH (50-100): Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed sites and controlling existing infestations of noxious weeds prior to project activity. Project

must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

TABLE C-4
Weed Densities for the Proposed Action

Species	Common Name	Noxious or Invasive	Transmission Lines	Water Supply System	Rail Spur	Power Plant Site
Cardaria draba	Hoary Cress	Noxious	—	—	-	-
Bromus tectorum	Cheatgrass	Invasive	Moderate	High	Low to Moderate	High
Descurainia sophia	Flixweed	Invasive	Moderate	Moderate	Low	Moderate
Sisymbrium altissimum	Tumble mustard	Invasive	—	Moderate to High	—	—
Salsola iberica	Russian thistle	Invasive	Moderate to High	High	—	—
Halogeton glomeratus	Halogeton	Invasive	High	Low to Moderate	Moderate	—
Lepidium perfoliatum	Pepperweed	Invasive	Low	—	—	—
Ranunculus testiculatus	Bur buttercup	Invasive	Moderate to High	—	—	—
Convolvulus arvensis	Field bindweed	Invasive	—	—	—	—
Kochia scoparia	American kochia	Invasive	—	—	Low to Moderate	—
Potentilla recta	Sulphur cinquefoil	Noxious	Low	—	—	—
Taraxacum officinale	Common dandelion	Invasive	Low to Moderate	—	—	—
Lactuca serriola	Prickly lettuce	Invasive	—	Low	—	—

TABLE C-5
Weed Densities for the Alternative Action

Species	Common Name	Noxious or Invasive	Transmission Lines	Water Supply System	Rail Spur	Power Plant Site
Cardaria draba	Hoary Cress	Noxious	—	—	Moderate	High
Bromus tectorum	Cheatgrass	Invasive	Moderate	Low to Moderate	High	High
Descurainia sophia	Flixweed	Invasive	Moderate	High	—	High
Sisymbrium altissimum	Tumble mustard	Invasive	—	Low to Moderate	—	—
Salsola iberica	Russian thistle	Invasive	Moderate to High	Moderate	—	—
Halogeton glomeratus	Halogeton	Invasive	High	Low to Moderate	—	—
Lepidium perfoliatum	Pepperweed	Invasive	Low	—	—	—
Ranunculus testiculatus	Bur buttercup	Invasive	Moderate to High	—	—	—
Convolvulus arvensis	Field bindweed	Invasive	—	—	—	—
Kochia scoparia	American kochia	Invasive	—	—		—
Potentilla recta	Sulphur cinquefoil	Noxious	Low	—	—	—
Taraxacum officinale	Common dandelion	Invasive	Low to Moderate	—	—	—
Lactuca serriola	Prickly lettuce	Invasive	—	—	—	—

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