

6.0 NATURAL RESOURCES REGULATORY COMPLIANCE

6.1 Objectives

The objectives of this section are to:

- Identify and describe potential jurisdictional Waters of the United States, including wetlands, and threatened and endangered species habitats present in the project area that could be a constraint to constructing the proposed project;
- Assess the impacts that the project would have on these resources;
- Identify laws and regulations applicable to the project that address these impacts; and
- Make recommendations to minimize and mitigate impacts on natural resources and suggest strategies to comply with corresponding laws and regulations.

6.2 Methods

We conducted a preliminary reconnaissance level assessment of the project area relative to wetlands and threatened and endangered species using National Wetlands Inventory (NWI) maps, Soil Survey maps, USGS topographic quadrangles, aerial photography, and U.S. Fish and Wildlife Service's (USFWS) threatened and endangered species lists for Weld and Boulder Counties. We conducted a qualitative survey of the natural features of the project area by walking the perimeter of the lake and collecting data on each habitat type and recording it on a U.S. Army Corps of Engineers (Corps) field data sheet. We also recorded a list of plant and animal species observed during this field visit.

We interviewed the Corps Denver Regulatory Office to project possible scenarios for permitting and compliance issues related to Section 404 of the Clean Water Act (CWA) and the National Environmental Policy Act (NEPA). We made recommendations for Endangered Species Act (ESA) compliance based on current USFWS species lists and applicable guidelines.

6.3 Findings

6.3.1 Wetlands

Jurisdictional Waters of the U.S. in the project area cover an area including all surface waters of Union Reservoir plus a relatively small area of shoreline that is not inundated and totals approximately 776 acres. These areas are widest where topography is flattest, which generally is the northern half of the reservoir. The NWI map for Longmont depicts much of the wetlands around the perimeter of the reservoir as lacustrine (lake), littoral (shelf around a lake), flat, artificial, saturated/semi-permanent seasonals (L2FLKY). Wetlands along the shores of the northeastern portion of the reservoir are mapped as lacustrine, littoral, flat, artificial, intermittently flooded/temporary (L2FLKW). This agrees with field observations that this area contains the most emergent vegetation with extensive stands of cattail and bulrush. The northwestern corner of the reservoir near the inflow is mapped as palustrine (vegetated wetlands including marshes and

swamps), emergent, saturated/semi-permanent/seasonals (PEMY). This area is saturated but not inundated.

Areas of the reservoir that are deeper than two meters are deepwater habitats rather than wetlands but are still under the jurisdiction of the Corps as Waters of the U.S. as they connect to the St. Vrain Creek via the outlet canal. These are classified as lacustrine, open water, artificial, intermittently exposed/permanent (L1OWKZ). The ditches on the south side of the reservoir may or may not be under the jurisdiction of the Corps.

Vegetation

Vegetation identified during the field survey is listed in **Table 6.1**.

Soils

Soils within the project area according to the Soil Survey of Weld County (SCS 1980) include:

- Wiley-Colby-Weld
- Heldt silty clay
- Heldt silty clay, 3 to 5 percent slopes
- Nunn clay loam, 0 to 1 percent slopes
- Nunn clay loam, 1 to 3 percent slopes
- Weld loam, 0 to 1 percent slopes
- Weld loam, 1 to 3 percent slopes
- Wiley-Colby Complex, 1 to 3 percent slopes

Figure 6.1 presents a conceptual plan for areas that could be studied for replacement of wetlands due to enlargement of Union Reservoir.

6.3.2 Wildlife

We observed 19 species of wildlife during the field visit, 18 of which are birds (**Table 6.2**). Most of these species are wetland dependent. Species that feed on fish and other aquatic species include American coot, American white pelican, belted kingfisher, common carp, double-crested cormorant, great blue heron, great egret, killdeer, common snipe, and western grebe. Species that consume aquatic vegetation include blue-winged teal, common carp, and mallard. Red-winged blackbird, tree swallow, and yellow warbler are songbirds that usually nest adjacent to wetlands and feed on insects. No mammals were observed. However, common mammalian species that likely use the project area include white-tailed (*Odocoileus virginianus*) and mule deer (*O. hemionus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), deer mouse (*Peromyscus maniculatus*), meadow vole (*Mircrotus pennsylvanicus*), and fox squirrel (*Sciurus niger*). Possible aquatic mammals include muskrat (*Ondatra zibethica*) and beaver (*Castor Canadensis*). A variety of amphibians and a few reptiles are likely present as well.

6.3.3 Threatened and Endangered Species

Fourteen species, which are federally listed as threatened or endangered or are candidates for listing, are known to occur, have historically occurred, or could be affected by activities in Weld and Boulder County (**Table 6.3**) (USFWS 2003a). Two species listed as threatened, the Preble's meadow jumping mouse (Preble's) and the Ute Ladies'-tresses orchid (orchid) could possibly, but are unlikely to occur in the project area.

Preble's Meadow Jumping Mouse

Typical Preble's habitat has been described as "*well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity,*" and "*dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs*" (Armstrong et al. 1997). USFWS recommends, "*projects within 300 feet of 100-year floodplains associated with rivers and creeks...be assessed as to their potential impact to Preble's and its habitat*" (USFWS 2004). The ditches in the project area exceed the minimum criteria for potential Preble's habitat.

Ute Ladies'-Tresses Orchid

This threatened orchid usually occurs in "*old stream channels, alluvial terraces, subirrigated meadows, and other sites where the soil is saturated to within 18 inches of the surface at least temporarily during the spring or summer growing seasons*" (USFWS 1992). The ditches in the project area meet the minimum requirements necessitating a survey.

Bald Eagle

No bald eagles or bald eagle nests were observed on the property. In winter bald eagles are transient, and they select areas that provide abundant food and roosting opportunities. Bald eagle use of the reservoir in winter is possible. It's unlikely but possible that bald eagles could someday nest at the reservoir.

Platte River Depletions

Interior least tern, piping plover, and whooping crane occur on the Platte River in Nebraska and can be affected by depletions from the South Platte River (USFWS 2003a). Union Reservoir is in the South Platte River Basin, and will most likely require coordination with the Platte River Recovery Program.

Species Unlikely to Occur on Property

The following threatened, endangered, and candidate species that could occur in Boulder and Weld Counties are unlikely to occur on the property: Mexican spotted owl, black-footed ferret, Canada lynx, boreal toad, greenback cutthroat trout, and Colorado butterfly plant.

Mexican spotted owl, Canada lynx, and boreal toad require forest, which is not present in the project area. Black-footed ferrets only occur in very large prairie dog colonies, which are not present in the project area, and the species has not been found in eastern Colorado for many years. Greenback cutthroat trout require cold-water streams or lakes, which are not present. Colorado butterfly plant has only been found in northern Larimer County in recent years (Colorado Native Plant Society 1997).

Mountain plover was proposed for listing in 1999, but this proposal was withdrawn in September 2003 (USFWS 2003b). Black-tailed prairie dog was a candidate species but this designation was withdrawn in August 2004. Eskimo curlew, a species that likely has been extirpated from Colorado, is no longer included on the USFWS Colorado species list.

6.4 Discussion and Recommendations

Compliance with at least four federal environmental laws will be required to implement the proposed project. These are the Clean Water Act (CWA), Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and Migratory Bird Treaty Act (MBTA).

6.4.1 *Section 404 of the Clean Water Act*

A Section 404 permit will most likely need to be obtained from the U.S. Army Corps of Engineers to authorize any filling of jurisdictional Waters of the United States such as placing materials for dam construction within wetlands or ditches. Although inundation of wetlands does not require a permit, once the 404 process is triggered via fill, inundation will be evaluated as an indirect impact to Waters of the U.S. A Nationwide Permit may cover the project if impacts are limited to 0.5 acres. More likely an Individual Permit will be required. With either permit, mitigation will be required to compensate for impacts most likely at a ratio of 1:1 (Franklin 2004). All alternatives would likely need an individual permit. As part of the application process, the Corps would be required to assess the effects of the action on threatened and endangered species under Section 7 of the Endangered Species Act, which requires federal agencies to consult with the U.S. Fish and Wildlife Service on all actions that may affect listed species. Issuing a 404 permit is a federal action. Threatened and endangered species are addressed in Section 5.4.2. The Corps will require the City of Longmont as the applicant to demonstrate that the project will not impact listed species. Issuance of the permit also triggers NEPA, which is addressed in Section 5.4.3.

Relatively intensive mitigation would be required at a 1:1 ratio for jurisdictional waters that were filled by construction of infrastructure for the reservoir expansion. This would involve constructing wetlands at or adjacent to the reservoir via grading, manipulation of hydrology, placement of appropriate soils, and planting wetland vegetation. This could be carried out in the spillway, detention areas, borrow areas, and along the lake shore. **Figure 6.1** shows preliminary proposed study areas for wetlands mitigation. Mitigation for wetlands that would be inundated and converted to deepwater habitats would also have to be mitigated at a 1:1 ratio. However, the intensity of the effort would be less. Designing the reservoir so that much of the shoreline has a shallow shelf would encourage wetlands to form. Increasing the size of the reservoir will also increase the length

of shoreline, which will at least partially and possibly totally compensate for the potential shallow areas lost by dam construction. The Corps may require seeding of these areas (Franklin 2004).

A delineation of jurisdictional Waters of the U.S. would need to be completed and approved by the Corps prior to or concurrently with applying for the 404 permit. Written details including figures can be sent to the Corps for a written response that would narrow down regulatory scenarios based on the specifics of the project (Franklin 2004).

6.4.2 Endangered Species Act

Preble's Meadow Jumping Mouse

The ditches within the project area contains potential Preble's meadow jumping mouse habitat. Although it is unlikely that the species is present based on previous trapping results in the area and marginal habitat, the site clearly exceeds the minimum requirements for assessment (USFWS 2004). Thus, further work should be completed in order to obtain concurrence from USFWS that the project will not affect Preble's.

If a live trapping survey is necessary, based on USFWS recommendations, it should be conducted between June 1 and September 1. This survey takes approximately one week to complete. If no Preble's were captured, a report would be sent to USFWS requesting concurrence that the proposed project will not affect Preble's. This concurrence takes at least 30 days to receive. If Preble's are captured, no development of the site could legally take place within 300 feet of the 100-year floodplain of the ditch without obtaining an incidental take permit from USFWS. Obtaining this permit would require the preparation of a Biological Assessment under Section 7 of the Act.

On February 2, 2005, USFWS published a 12 month finding/proposal to delist Preble's in the Federal Register. This delisting proposal is likely to involve lawsuits and politics and is unlikely to be resolved quickly. Because this project may be years in the future, it is possible the species will be delisted by that time, but the uncertainty and timetable of a possible delisting are such that for now, Longmont should budget for Preble's surveys.

Ute Ladies'-Tresses Orchid

The ditches barely meet minimum criteria for conducting an orchid survey, but a survey would likely be required to obtain a Section 404 permit. This survey can be conducted between approximately July 20 and August 31, when the plant is in bloom. It is unlikely that the species would be found within the project area. If no orchids were found, a report would be sent to USFWS requesting concurrence that the proposed project will not affect the orchid. This concurrence takes at least 30 days to receive. A similar delisting petition finding for the orchid was published on November 4, 2004. The same recommendations apply.

Bald Eagle

No bald eagle nests are currently located at or adjacent to the reservoir. If one were constructed prior to project implementation, the nest tree could not be removed. If the nest was active at the time that construction was scheduled, it would be a significant constraint to development. USFWS generally enforces a one half mile disturbance buffer around bald eagle nests. Bald eagles frequently roosting or feeding at the reservoir in winter could also be a constraint.

The bald eagle was proposed for delisting in 1999, but this action has been delayed. It is possible that the species could be delisted prior to project implementation, but it would still receive significant protection from the Bald Eagle Protection Act and MBTA.

Platte River Depletions

If this project depletes water from the Platte River basin it would be subject to Section 7 consultation. This consultation would likely be covered by the Platte River Recovery Implementation Program, which is expected to be approved and will streamline consultations. The program would initiate large scale mitigation measures across the basin that would allow sufficient water to reach Nebraska via the Platte River. Expansion of reservoirs in the Front Range has already been factored into this program. Currently consultation over depletion issues generally involves financial payments to compensate for water depletions.

6.4.3 National Environmental Policy Act

The Corps is responsible for NEPA compliance on all of their individual permits, and as such they draft an environmental assessment (EA) for most permits. For a project with substantial impacts, they can require the applicant to prepare the EA. The Corps speculated that for impacts greater than approximately five acres (including inundation), they would likely require the applicant (Longmont) to prepare the EA (Franklin 2004). Both the baseline and shoreline options of the 13-foot and 19-foot raises would likely trigger the need for Longmont to prepare an EA. Impacts from the five-foot raise alternatives may fall below this threshold. It is unlikely that an environmental impact statement (EIS) would be needed for this project. An EA of this scale generally is completed in one to two years depending on complexity, controversy, and changes in the proposed action.

In an EA the effects of the proposed action, alternative actions, and no action on all relevant resources are evaluated. Major issues for this project would likely include wildlife, recreation, and homeowner displacement. Other resources that are typically evaluated in a NEPA document include but are not limited to socioeconomics, environmental justice, water quality, wetlands, threatened and endangered species, plants, geology, soils, cultural resources, air quality, noise, visual resources, and hazardous waste. Mitigation would need to be built into the EA to avoid a “significant” impact that would trigger the need to prepare a larger EIS. Some of this mitigation would be covered in the 404 permit, but other mitigation such as compensating displaced homeowners, moving roads and recreational features will need to be addressed. Many of these mitigation measures can be built into the design of the proposed action.

Results of surveys such as the Preble's, orchid, and wetland delineation surveys addressed above would be incorporated into the EA. Additional studies could be needed for the EA such as an archaeological survey and a Phase I Environmental Site Assessment.

6.4.4 Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits direct killing of birds other than legal hunting and destruction of active nests. For this project compliance can be built into mitigation measures in the EA that would likely focus on not cutting down trees or inundating shorter vegetation or ground that could contain nests during the breeding season.

6.4.5 Summary

The following actions would need to be carried out relative to the CWA, ESA, NEPA, and MBTA, prior to implementing this project:

- Contact the Corps with project details to get a written response, which spells out details of regulatory compliance;
- Conduct a delineation of jurisdictional Waters of the U.S. and submit to Corps;
- Conduct a Preble's meadow jumping mouse habitat assessment or possibly live trapping survey and submit to USFWS;
- Conduct a Ute ladies'-tresses orchid habitat assessment or survey and submit to USFWS;
- Prepare an EA for the Corps; and
- Prepare a Section 404 permit application and wetland mitigation plan and submit to Corps.

TABLE 6.1

CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
PLANTS SPECIES IDENTIFIED DURING SITE VISIT

<i>Common Name</i>	<i>Scientific Name</i>	<i>Wetland</i>	<i>Upland</i>
Alfalfa	<i>Medicago sativa</i>	X	X
Green ash	<i>Fraxinus pennsylvanica</i>	X	X
Barn yard grass	<i>Echinochloa oryzoides</i>		X
Boxelder	<i>Acer negundo</i>	X	X
Canada thistle	<i>Cirsium arvense</i>		X
Cocklebur	<i>Xanthium</i> sp.		X
Common cattail	<i>Typha angustifolia</i>	X	
Common sunflower	<i>Helianthus annuus</i>		X
Coyote willow	<i>Salix exigua</i>	X	
Crack willow	<i>Salix fragilis</i>	X	
Curly dock	<i>Rumex crispus</i>	X	
Sedge	<i>Cyperus</i> sp.	X	
Dandelion	<i>Taraxacum officinale</i>		X
Hemp dogbane	<i>Apocynum cannabinum</i>	X	
Spike rush	<i>Eleocharis</i> sp.	X	
Field bindweed	<i>Convolvulus arvensis</i>		X
Kochia	<i>Kochia scoparia</i>		X
Showy milkweed	<i>Asclepias speciosa</i>	X	X
Nightshade	Solanaceae family		X
Plains cottonwood	<i>Populus deltoides</i>	X	X
Prickly pear	<i>Opuntia</i> sp.		X
Quackgrass	<i>Elytrigia repens</i>		X
Rabbitbrush	<i>Chrysothamnus</i> sp.		X
Rabbit foot grass	<i>Polypogon monspeliensis</i>		X
Reed canary grass	<i>Phalaris arundinacea</i>	X	
Russian olive	<i>Elaeagnus angustifolia</i>	X	X
Siberian elm	<i>Ulmus pumila</i>		X
Smartweed	<i>Polygonum</i> sp.	X	
Tamarisk	<i>Tamarix ramosissima</i>	X	

TABLE 6.2

CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
WILDLIFE SPECIES IDENTIFIED DURING SITE VISIT

<i>Common Name</i>	<i>Scientific Name</i>
American coot	<i>Fulica americana</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
Blue-winged teal	<i>Anas discors</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Common carp	<i>Cyprinus carpio</i>
Common grackle	<i>Quiscalus quiscula</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Killdeer	<i>Charadrius vociferus</i>
Mallard	<i>Anas platyrhynchos</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Common snipe	<i>Gallinago gallinago</i>
Tree swallow	<i>Tachycineta bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
Western grebe	<i>Aechmophorus occidentalis</i>
Western kingbird	<i>Tyrannus verticalis</i>
Yellow warbler	<i>Dendroica petechia</i>

TABLE 6.3

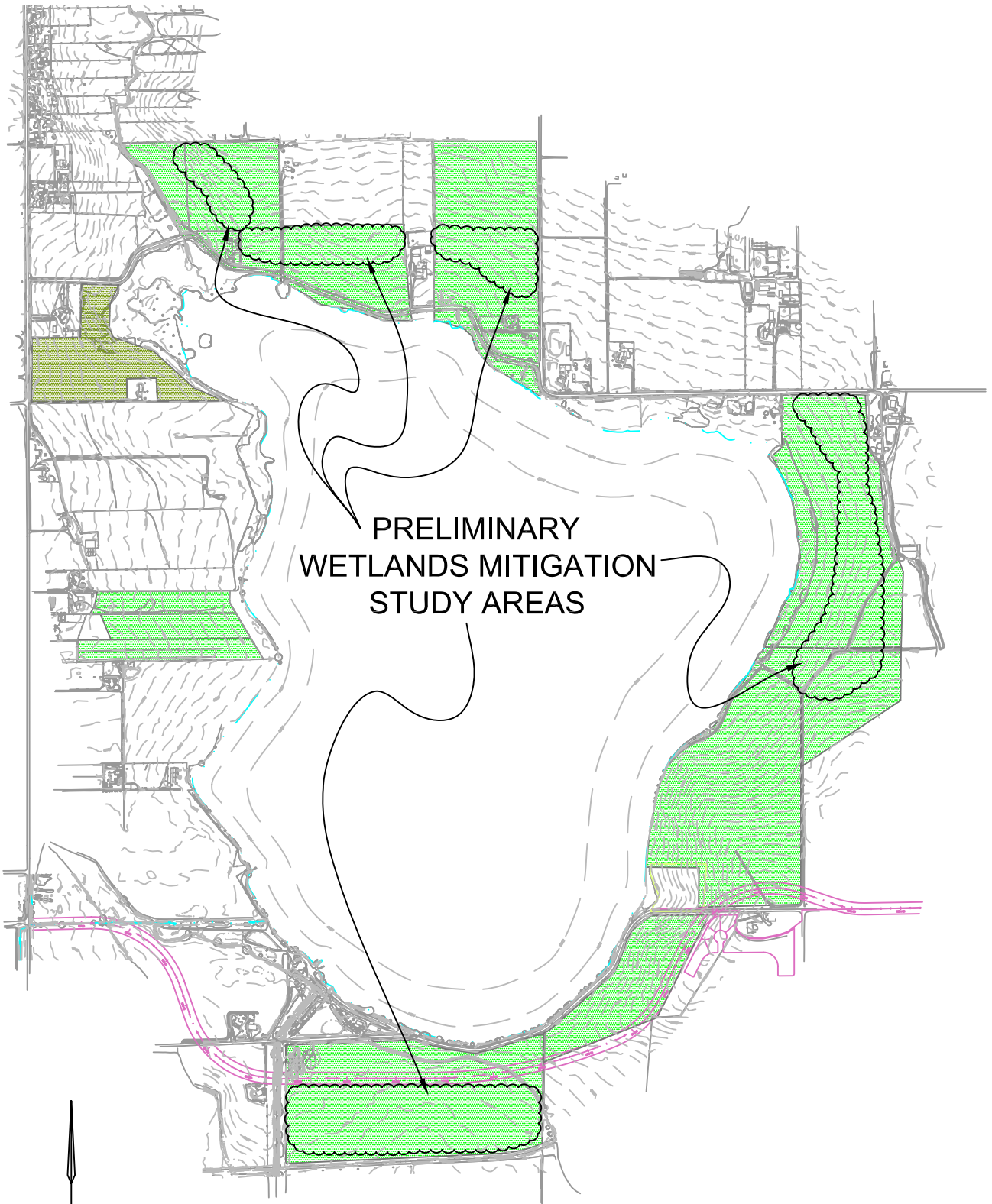
CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
 FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES THAT OCCUR
 OR HAVE HISTORICALLY OCCURRED IN WELD AND BOULDER COUNTIES, COLORADO

<i>Common Name</i>	<i>Scientific Name</i>	<i>Status</i>
<u>Birds</u>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	T, PD
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T
Whooping crane*	<i>Grus americana</i>	E
Interior least tern*	<i>Sterna antillarum athalassos</i>	E
Piping plover*	<i>Charadrius melodus</i>	T
<u>Mammals</u>		
Black-footed ferret	<i>Mustela nigripes</i>	E
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T, PD
Canada lynx	<i>Lynx canadensis</i>	T
<u>Amphibians</u>		
Boreal toad	<i>Bufo boreas</i>	C
<u>Fish</u>		
Greenback cutthroat trout	<i>Oncorhynchus clarki</i>	T
Pallid sturgeon*	<i>Scaphirhynchus albus</i>	E
<u>Plants</u>		
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	T
Colorado butterflyplant	<i>Gaura neomexicana coloradensis</i>	T

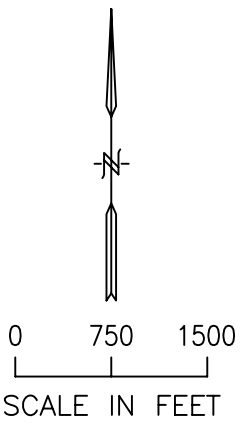
Notes: E=Endangered, T=Threatened, PD=Proposed for Delisting, C=Candidate for Listing,

*Water depletions in the South Platte River drainage may affect these species in downstream reaches in other states.


Source: USFWS 2003a



PRELIMINARY
WETLANDS MITIGATION
STUDY AREAS



JOB NO. 43-0033.283.01

<p>UNION RESERVOIR PRELIMINARY WETLANDS MITIGATION STUDY AREAS</p>	 <p>FIGURE: 6.1</p>
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