

without reducing project yields, increasing costs or affecting a project's water rights. CRO participants requested official Recovery Program concurrence with the CRO concept and process, and the latter were approved by the Recovery Program Management Committee in 2006. Implementation of the CRO process has proven to be possible during most years since 1997. In 1998 and 1999, a total of 65,000 af was released to support spring flows, which on average increased spring peaks by 2,000 cfs. Apparently these contributions were sufficient to mobilize small proportions of the bed in the 15- and 18-mile (Gunnison confluence to Loma) reaches, and overall CRO can assist in providing flows to achieve sediment mass balance and avoid channel narrowing (Pitlick 2007).

Recovery Program activities in the Gunnison River are primary directed toward the Colorado pikeminnow and razorback sucker and no specific activities are designed for the humpback chub or bonytail. However, the two species are included in the flow recommendations (McAda 2003) which the Recovery Program has approved. These recommendations acknowledge the role of Gunnison River flows in the maintenance and improvement of habitat conditions in the Colorado River, where humpback chub and possibly bonytail are present. It is also possible that operation of the Redlands Fish Ladder may allow humpback chub or bonytail to occupy new habitat, and as noted previously bonytail have been stocked in Gunnison River backwaters.

## **5.0 OTHER SPECIES**

### **5.1 Vegetation**

#### **5.1.1 Clay-loving wild buckwheat (*Eriogonum pelinophilum*)**

The clay-loving wild buckwheat is a small shrub that is found in semi-desert shrub communities of adobe hills. It is normally located in specific microhabitats and can be associated with shadscale and mat saltbush. Its range is restricted to small acreages in Delta and Montrose Counties and primary threats include fragmentation or clearing of habitat for urban development and off-road vehicle use. In the early 20<sup>th</sup> century, habitat was probably more extensive and was probably cleared for agricultural lands. Soils supporting the species are derived from Mancos shale (Lyon and Williams 1998).

The species is not associated with riparian lands along the Gunnison River and would not be affected by the proposed operation changes. The buckwheat does occur in the vicinity of laterals and canals on the eastern side of the Uncompahgre Valley. This is the same area where selenium/salinity control improvements are a priority. Consequently, Reclamation will survey all selected work areas in order to identify and avoid disturbing populations of this species.

#### **5.1.2 Uinta Basin hookless cactus (*Sclerocactus glaucus*)**

The Uinta Basin Hookless Cactus is a small cactus normally found on gravelly alluvial soils or in clay between 4,500 and 6,000 feet and can be associated with shadscale, sagebrush, greasewood, saltbush, and other desert vegetation. In Colorado it is reported

from Montrose, Delta, Gunnison, Garfield, and Mesa Counties and is also found in Utah. Threats may include trampling from grazing, recreation use of lands, off-road vehicle use, and development on some lands. Past reports include populations on benches along the Gunnison River from Hotchkiss downstream (Lyon and Williams 1998). The species is not associated with riparian lands along the Gunnison River and would not be affected by the proposed action.

### **5.1.3 Jones' cycladenia (*Cycladenia humilis* var. *jonesii*)**

The Jones' cycladenia is a small herbaceous perennial listed as threatened and restricted to the canyonland area of the Colorado Plateau in eastern Utah and a small portion of Arizona. This plant is found in gypsiferous soils in mixed shrub-pinon juniper communities. Threats include off-road activity and mineral development. The species is not associated with habitats that might be affected by the proposed action.

## **5.2 Wildlife**

### **5.2.1 Western yellow-billed cuckoo (*Coccyzus americanus*)**

The western yellow-billed cuckoo is a candidate for listing under the ESA. The species breeds in large blocks of riparian habitats, in particular cottonwood woodlands, and dense understory foliage appears to be important. Based on historical accounts, the species was localized and uncommon along Colorado drainages while being locally common in other western areas (Fish and Wildlife Service 2005). The species was probably never common in western Colorado and was considered extremely rare by Kingery (1998). In 1998, 242 miles of riparian habitat were surveyed along six rivers in west-central Colorado with only one cuckoo detected (Dexter 1998). In 2008 breeding of this species was confirmed along the North Fork of the Gunnison River; and cuckoos were observed during the breeding season at 6 locations near Hotchkiss and on 1 near Paonia (Beason 2008).

Cottonwood woodlands have been lost or fragmented in the study area due to clearing for towns and agriculture, filling and diking of lowlands, development of recreation sites in woodlands, fires, invasion of tamarisk and other non-native plants, and reduction of spring peaks that are important for regeneration of cottonwood stands.

Increased spring peaks with the proposed action may have some benefit to the regeneration of cottonwood stands which could provide habitat for the cuckoo; however, without long-term protection, cottonwood woodlands will continue to be degraded through other activities.

### **5.2.2 Mexican spotted owl (*Strix occidentalis lucida*)**

The Mexican spotted owl is a threatened species and occurs in rocky canyons and forested mountains generally below 9,500 feet. The Mexican spotted owl has the largest geographic distribution of any of the *S. occidentalis* subspecies. Historically, the owl

ranged from the southern Rocky Mountains in Colorado; the Colorado Plateau in southern Utah; southward through Arizona, New Mexico, and far western Texas; in Mexico through the Sierra Madre Occidental and Oriental mountains and the southern end of the Mexican Plateau. Presently, the owl's range reflects the historic range, but owl numbers are much reduced and habitat is patchy. The primary threat Mexican Spotted Owls face is the loss of mature trees to timber harvesting and to stand-replacement fires, especially in steep canyons and in riparian zones. Several blocks of critical habitat have been designated in Colorado outside of the project area. Potential habitat for the species occurs in the project area; however, the proposed action would have no effect on this habitat.

### **5.2.3 California condor (*Gymnogyps californianus*)**

The California condor is an extremely rare member of the vulture family. By 1982 only 22 condors existed and a captive breeding program began. The species was reintroduced to the Colorado Plateau in 1996 with the release of 6 birds in northern Arizona. Recovery goals include establishment of geographically separate populations in California and Arizona. Threats include lead poisoning, collisions with powerlines, and shooting. Released birds have made intermittent travels into the project area; however, there is no long-term use. Potential habitat for the species would not be affected by the proposed action.

### **5.2.4 Southwestern willow flycatcher (*Empidonax traillii extimus*)**

The southwestern willow flycatcher nests in dense riparian vegetation and are thus vulnerable to impacts associated with modification of riparian habitats such as channelization, recreational development, grazing, and agricultural conversion (Kingery 1998). The subspecies does not occur in the Gunnison Basin but potential habitat occurs in the Dolores and Lower Colorado river basins. Critical habitat has not been proposed in the project area.

Increased spring peaks with the proposed action in the Colorado River may have some minor benefit to the regeneration of cottonwood and willow riparian stands which could provide habitat for the willow flycatcher; however, overall no effect is projected on this subspecies.

### **5.2.5 Black-footed ferret (*Mustela nigripes*)**

The black-footed ferret is one of the most endangered mammals in North America. The ferret is associated with prairie dog towns and was once believed extinct. A reintroduction program is underway, including introductions in northwest Colorado. At the present time, there are no known populations in the Gunnison Basin. Potential habitat is fragmented in the basin, with prairie dog towns separated by cropland and other human developments. Historical presence in the basin is not known. The proposed action should have no effect on this species or its potential habitat.

### **5.2.6 Canada lynx (*Lynx canadensis*)**

Lynx may have disappeared from Colorado by about 1973. Sightings prior to that time were few, scattered throughout mountainous areas of the state. In 1999 a program of lynx restoration began in the San Juan Mountains, and by 2005 more than 200 animals had been released, a number of litters of kittens had been born, and lynx were expanding throughout the high country and occasionally beyond. Lynx reproduction has not been confirmed in 2007 and 2008, possibly related to snowshoe hare declines. The lynx is found in dense sub-alpine forest and willow corridors along mountain streams and avalanche chutes, the home of its favored prey species, the snowshoe hare.

Reintroduced lynx have entered the Gunnison Basin where potential habitat occurs at higher elevations. The potential exists that the species will become permanently established in the basin.

The proposed action should have no effect on existing lynx populations or potential habitat.

### **5.2.7 Gunnison's prairie dog (*Cynomys gunnisoni*)**

The Gunnison's prairie dog lives along the Colorado Plateau in southeastern Utah, southwestern Colorado, and portions of New Mexico and Arizona. Certain populations, including some in the Gunnison Basin, are considered as a candidate for listing under the ESA. Populations are considered to occur in two range portions – montane populations at higher elevations and prairie populations at lower elevations. The montane populations are considered as candidates for listing.

Habitat for the montane populations includes plateaus, benches, and intermountain valleys with grass-shrub-mountain meadow vegetation. There is an approximately 250 acre colony in the Curecanti Recreation Area at Blue Mesa Reservoir. Many factors influence populations including urban and agricultural development, other land conversions, grazing, poisoning, and recreational shooting; however, sylvatic plague is the most significant factor. This plague is a non-native pathogen that arrived in North America around 1900 (Seglund et al. 2005, Fish and Wildlife Service 2008).

The proposed action should have no effect on populations or habitat of this species.

### **5.2.8 Uncompahgre fritillary butterfly (*Boloria acrocne*)**

This butterfly is listed as endangered and has a very small known range in the mountainous areas of Gunnison, Hinsdale, and Chaffee counties of southwestern Colorado. All known colonies are associated with patches of snow willow above 12,500 foot elevation.

The proposed action should have no effect on populations or habitat of this species.