TECHNICAL SPECIALIST REPORT – BURNED AREA EMERGENCY RESPONSE

RESOURCE: ***Wildlife***
FIRE NAME: *Waldo Canyon*
MONTH/YEAR: *7/2012*
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I. POTENTIAL VALUES AT RISK

Potential *values at risk* identified and addressed in this report include wildlife species federally listed as *threatened*, and the *critical habitat* of these species located within and/or in proximity to the Waldo Canyon Fire burned area. Species at risk include the federally listed Mexican spotted owl (*Strix occidentalis lucida*) and Preble's meadow jumping mouse (*Zapus hudsonius preblei*). The primary threat to these species is the potential degradation or loss of residual habitat that did not sustain detrimental impacts during this wildfire event.

II. RESOURCE CONDITION ASSESSMENT

A. RESOURCE SETTING

Mexican Spotted Owl

In Colorado, the Mexican spotted owl is primarily found within rocky cliffs and slot canyons that provide the complex nesting and roosting habitat structure similar to that typically associated with late-seral forest. Suitable breeding habitat occurs within or adjacent to the southeastern portion of the Waldo Canyon burn area within the vertical and horizontal landscape structure of Queens Canyon and Williams Canyon. These sites contain steep canyon walls interspersed with riparian forest of quaking aspen, narrowleaf cottonwood, and willow spp., and sapling-pole and mature stands consisting of white- fir, Douglas-fir, ponderosa pine, blue spruce, Rocky Mountain juniper, twoneedle piñon, Gambel oak, and alderleaf mountain mahogany.

Breeding by this species has been confirmed within the Pikes Peak Ranger District. Spotted owl Protected Activity Centers (i.e. known or historical nest and/or roost sites) were established at Rock and Little Fountain Creeks. These sites occur at the southern boundary of the district, about 11 and 12 miles south of the burned area, respectively. This species has not been detected during surveys conducted at Queens or Williams Canyons during the early 1990's, or during subsequent surveys performed in 2010 and as recently as June of 2012. However, a spotted owl has been documented at Queens Canyon as a museum specimen was collected from this site in 1919. In addition, these canyons also possess *designated critical habitat* and the related habitat features /primary constituent elements associated with spotted owl occupancy. These critical habitat features relate to forest and canyon structure, and maintenance of adequate habitat for prey species (*see* Appendix A, Figure 1). The northwest and southeast portions of the district occur within two critical habitat units that encompass about 21,015 acres of spotted owl habitat. The Waldo Canyon Fire contains about 4,228 acres (i.e. 20%) of this critical habitat.

Preble's Meadow Jumping Mouse

The Preble's meadow jumping mouse (PMJM) occurs in only a few watersheds along Colorado's Front Range and in southeastern Wyoming within an elevation range of 4,650 ft. to 7,600 ft. In Colorado, the PMJM is found in the South Platte River basin to the headwaters of the Arkansas River Basin near Colorado Springs (USFWS 2003, p.3). This species is closely associated with riparian ecosystems that are linear in nature and represent a small percentage of the landscape. Hydrologic regimes that support this species range from large perennial rivers to small ephemeral drainages (USFWS 2003, p.10).

Suitable habitat occurs within or adjacent to the eastern and southern perimeter of the Waldo Canyon burn area along West Monument Creek, Camp Creek, Williams Canyon, Waldo Canyon, and Wellington Gulch. Suitable habitat also occurs intermittently along several miles of Fountain Creek within the communities of Chipita Park and Cascade and cities of Manitou Springs and Colorado Springs. Habitat occupied by this species occurs on the US Air Force Academy along West Monument Creek, about 1 mile downstream of

National Forest System land (Mihlbachler, pers. comm. 2012). Occupied habitat extends 3.6 miles from West Monument Creek and Monument Creek into critical habitat designated within the City of Colorado Springs. The nearest location on National Forest in which occupancy by this species has been verified and critical habitat designated is Trout Creek, located about 11 miles northwest of the burned area.

B. Findings of the On-The-Ground Survey

A field evaluation of habitat conditions was conducting from July 6th -8th. Sites visited that were pertinent to the species of concern included Queens Canyon, Williams Canyon, West Monument Creek, Douglas Creek, Wellington Gulch, as well as several unnamed drainages.

1. Resource condition resulting from the fire

Mexican Spotted Owl

Queens Canyon/Williams Canyon

An estimated 416 acres of suitable spotted owl breeding habitat within Queens Canyon (190 ac.) and Williams Canyon (226 ac.) were burned during this wildfire event. Burn severity within nesting features (i.e. canyon wall crevices/ledges) was minimal, while associated forested features varied from moderate to severe (*see* Appendix A, Figure 2).

Preble's Meadow Jumping Mouse

Camp Creek/Williams Canyon/Waldo Canyon/Wellington Gulch

An estimated 1,162 feet (0.2 mi.) of suitable PMJM habitat was burned during this wildfire event. About 528 feet (0.1 mi.) of this habitat occurred on National Forest System land along Camp Creek within Queens Canyon. Burn severity within the impacted habitats was generally moderate.

2. Consequences of the fire on the values at risk

Mexican Spotted Owl

The Waldo Canyon Fire resulted in a reduction in the extent and suitability of spotted owl breeding habitat within Queens Canyon and Williams Canyon. This wildfire also resulted in a substantial loss in habitat essential to the recovery of this species, as about 20% of the critical habitat on the district was burned during this event. More frequent and higher magnitude flood events generated from the burned area may further degrade residual habitat, as well as impact the unburned suitable habitat of this species within Queens and Williams Canyon (*see* Appendix A, Figure 3 and 4).

Queens Canyon/Williams Canyon

An estimated 5,800 feet (1.1 mi.) of riparian vegetation is at risk of being inundated with sediment. About 1,584 feet (0.3 mi.) of this vegetation occurs on National Forest System land along Camp Creek. Sediment deposition may degrade or eliminate the unburned riparian vegetation within these canyons, which function as sources of fruit and seed for prey species. This residual plant cover is an important component of the mosaic vegetation communities associated with spotted owl breeding habitat.

Preble's Meadow Jumping Mouse

The Waldo Canyon Fire resulted in a reduction in the extent and suitability of PMJM habitat within several drainages. The magnitude of offsite impacts to the habitat of this species will vary depending on flood event intensity and location. Habitat conditions within Williams Canyon, Waldo Canyon, and Wellington Gulch are adequate to support this species, but due primarily to urban development, are less developed and extensive than known occupied sites. West Monument and Monument Creeks contain high quality habitat in the form of well-developed riparian areas with adjacent, relatively undisturbed grassland communities. Impacts to occupied sites or habitat within these creeks may be detrimental to individual Preble's and the habitat that is essential to the recovery of this species (Ellwood, pers. comm. 2012; Mihlbachler, pers. comm. 2012). High magnitude flood events generated from the burned area may directly destroy nest sites, food resources, and hibernation sites of this species. These events may also result in changed

channel structure and lead to stream entrenchment, floodplain abandonment, and loss of riparian vegetation that obstructs habitat connectivity and facilitates the colonization of invasive plant species.

Camp Creek/Williams Canyon/Waldo Canyon/Wellington Gulch/West Monument
An estimated 8,400 feet (1.6 mi.) of riparian vegetation is located immediately downstream of the burned area. About 3,100 feet (0.6 mi.) of this vegetation occurs within National Forest System land along Camp Creek and West Monument Creek (*see* Appendix A, Figure 2).

Fountain Creek
Suitable PMJM habitat occurs intermittently along about 11 miles of Fountain Creek within the communities of Chipita Park and Cascade and cities of Manitou Springs and Colorado Springs.

West Monument Creek and Monument Creek (US Air Force Academy)
Preble's meadow jumping mouse inhabits an estimated 462 acres (4 mi.) of the riparian habitat of West Monument and Monument Creeks. Habitat occupied by this species occurs about 1 mile from the Pike National Forest.

Monument Creek (City of Colorado Springs)
Preble's meadow jumping mouse inhabits an estimated 274 acres (2 mi.) of riparian habitat along Monument Creek. This site is designated as the critical habitat of this species and is located about 4 miles downstream of the Pike National Forest.

III. EMERGENCY DETERMINATION

The risk assessment derived a likely probability of damage with major consequences resulting in a high risk to wildlife species federally listed as *threatened*, and the *critical habitat* of these species located within and/or in proximity to the Waldo Canyon Fire burned area.

IV. DISCUSSION/SUMMARY/RECOMMENDATIONS

In summary, the prescribed treatments are intended to prevent permanent impairment of ecosystems that provide habitat and other ecological conditions important to the conservation of species federally listed as *threatened*, as well as the *critical habitat* of these species. Land treatments are designed to minimize damage caused by more frequent or increased runoff and sediment transport across steep slopes and erosion from drainage channels associated with the burned area. These treatments are intended to minimize the potential degradation or loss of habitat that is critical to the recovery of the Mexican spotted owl and Preble's meadow jumping mouse on or adjacent to National Forest System lands. In addition, treatments may prevent direct impacts to habitats occupied by the Preble's meadow jumping mouse located in proximity to the Pike National Forest.

V. REFERENCES

Ellwood, L. 2012. Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Ecological Services, Colorado Field Office. Denver, CO. Conversation with Leslie Ellwood on July 10, 2012 regarding potential impacts of flood events on Preble's meadow jumping mouse and Mexican spotted owl habitat.

Mihlbachler, B. 2012. Natural Resources Manager, U.S. Fish and Wildlife Service, USAF Academy. Conversation with Dr. Brian Mihlbachler on July 11, 2012 regarding the occupancy of Preble's meadow jumping mouse on the Air Force Academy and associated habitat concerns from increased flood events.

Napper, C. 2006. Burned Area Emergency Response Treatments Catalog (BAERCAT). 0625 1801P. San Dimas, CA: U.S. Department of Agriculture, Forest Service, San Dimas Technology and Development Center. 204 p.

U.S. Fish and Wildlife Service. 2003. Preble's Meadow Jumping Mouse Recovery Plan, Colorado. Region 6,

Lakewood, Colorado. 95 p.

U.S. Fish and Wildlife Service. 2011. Draft Recovery Plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision. U.S. Fish and Wildlife Service. Albuquerque, New Mexico, USA. 376 p.

VI. APPENDICES

A. Waldo Canyon Fire - Habitat Conditions of Wildlife Species at Risk
B. Map - Wildlife Values at Risk