



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

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ES/GJ-6-CO-99-F-026

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### Memorandum

To: Geographic Area Regional Director - Southern Ecosystems  
Regional Office, Region 6, Lakewood, Colorado, 60140

From: Field Supervisor, Ecological Services,  
Colorado Field Office, Lakewood, Colorado

Subject: Intra-Service Section 7 consultation and Biological Opinion on Issuance of an  
Incidental Take Permit to Douglas County for Development of a Recreational Trail  
on the Maytag Property, Douglas County, Colorado (ES/GJ-6-CO-99-F-026).

This document constitutes the Biological Opinion prepared pursuant to Section 7 of the Endangered Species Act of 1973, as amended (Act), on the effects of issuing an incidental take permit to Douglas County for the federally threatened Preble's meadow jumping mouse (*Zapus hudsonius preblei*) (Preble's), pursuant to Section 10(a)(1)(B) of the Act. The proposed action involves the construction of a soft-surfaced pedestrian and equestrian trail that crosses areas potentially used by Preble's. The property is located within Section 9, Township 9S, Range 67W in Douglas County, Colorado. The proposed trail is a component of the Parks, Trails, and Open Space Master Plan for Douglas County (as revised in 1998). The Maytag segment is a component of the East Plum Creek Regional Trail that, when completed, will connect Chatfield State Park with El Paso County and the Santa Fe Trail. The trail would allow users to hike, bike, and ride horses. The incidental take would be in the form of potential disturbance to and loss of habitat used by Preble's.

This biological opinion is based on the project proposal as described in Douglas County's (County's) "Habitat Conservation Plan for the Issuance of an Incidental Take Permit under section 10(a)(1)(B) of the Endangered Species Act for the Maytag Trail" (Assessment) of June, 1999, and additional details provided by Douglas County and ERO Resources Corporation (Consultant). The Service has determined that the proposed project may adversely affect the Preble's.

## **CONFERENCE/CONSULTATION HISTORY**

On May 13, 1998, Preble's was listed as threatened under the Act. Full protection for Preble's became effective on June 12, 1998. The subject recreational trail was determined by Douglas County to pose potential adverse impacts to Preble's. The Service began informal consultation with Douglas County on December 28, 1998. During the informal consultation stage, the Service determined that adverse impacts to the Preble's were likely to occur and that a Habitat Conservation Plan should be developed to cover incidental take of the Preble's.

## **BIOLOGICAL OPINION**

This biological opinion is based on information regarding cumulative effects, conditions forming the environmental baseline, the status of the Preble's, and the importance of the project area to the survival and recovery of the species. The data used in this biological opinion constitutes the best scientific and commercial information currently available.

It is the Service's biological opinion that neither the direct nor indirect effects of the proposed project (which includes the implementation of conservation measures agreed to during informal consultation and outlined in this biological opinion) will jeopardize the continued existence of the Preble's. Although the project may adversely affect the Preble's and its habitat along East Plum Creek, the proposed action and conservation measures will avoid the likelihood of jeopardy to the species. No critical habitat has been designated for this species, therefore, none will be affected.

## **DESCRIPTION OF THE PROPOSED ACTION**

The proposed action involves the construction of a soft-surfaced pedestrian and equestrian trail that crosses areas potentially used by Preble's. The property is located within Section 9, Township 9S, Range 67W in Douglas County, Colorado. The proposed trail is a component of the Parks, Trails, and Open Space Master Plan for Douglas County (as revised in 1998). The Maytag segment is a component of the East Plum Creek Regional Trail that, when completed, will connect Chatfield State Park with El Paso County and the Santa Fe Trail. The trail would allow users to hike, bike, and ride horses. The incidental take would be in the form of potential disturbance to and loss of habitat used by Preble's.

The proposed trail and associated facilities will consist of the following impacts outside of Preble's habitat: (1) a main trail 8 feet wide and about 5,820 feet long; (2) two trail loops 4 feet wide and about 3,030 feet long; (3) a trail overlook encompassing about 0.25 acres; and (4) a trailhead consisting of about 1.4 acres. The trail alignment and its associated facilities were

located in coordination with DOW. The trail surface will be soft (crusher fines or crushed recycled concrete) or native surface as appropriate for the trail segment considering use and drainage.

As part of this project, the following conservation measures were proposed by Douglas County in their draft HCP, to reduce and offset potential for impacts to Preble's at the site:

1. The siting of the trail avoids impacts to the maximum extent possible. The trail alignment, trailhead and overlook occur entirely in upland habitats on a bluff that is well elevated and distanced from the East Plum Creek riparian flood plain, except for the unavoidable crossing of two gulches that run perpendicular to the creek. The entire length of trail and all of its associated features are sited outside of the mouse protection area as delineated pursuant to the Service's proposed 4(d) Rule. The trail has been also designed to cross the gulches at locations that are sparsely vegetated, so there will be minimal loss of vegetation.
2. The County will place silt fences around the project site to define the construction limits and minimize disturbance to vegetated areas.
3. Silt fencing will reduce the impacts of siltation to surrounding habitat and downstream areas.
4. The following restoration, enhancement, and mitigation measures will be undertaken by Douglas County:
  - a. Impacts will be further minimized by restrictions proposed on use of the trail (limited to hiking, biking and horseback riding, day use only, leashed pets only, etc.).
  - b. The County will develop and post interpretative information to educate the public about Preble's, its habitat, behavior, and open space uses that are compatible and incompatible with conservation of the mouse.
  - c. The County will continue to provide in-kind services for DOW researchers who are studying mouse behavior and distribution on the Maytag Property and adjoining Ramsour Property.
  - d. 20 gambel oaks (south gulch crossing) and 25 coyote willows (north gulch crossing) will be planted where the trail crosses mouse habitat to provide additional cover in the vicinity of the trail.
  - e. The riparian areas of the property will be managed for Preble's conservation.
  - f. Trail use and construction will be limited to daylight hours when the mouse is generally inactive.

## STATUS OF THE PREBLE'S MEADOW JUMPING MOUSE

Preble's is a small rodent in the family Zapodidae and is 1 of 12 recognized subspecies of the species *Z. hudsonius*, the meadow jumping mouse. Preble's is native only to the Rocky Mountains-Great Plains interface of eastern Colorado and southeastern Wyoming. This shy, largely nocturnal mouse lives in moist lowlands with dense vegetation. It is 8 to 9 inches long (its tail accounts for 60 percent of its length) with hind feet adapted for jumping. Preble's hibernates underground from September to May.

Records for Preble's meadow jumping mouse define a range including Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Elbert, Jefferson, Larimer, and Weld counties in Colorado; and Albany, Laramie, Platte, Goshen, and Converse counties in Wyoming (Kruttsch 1954, Compton and Hugie 1993). Armstrong et al. (1997, p. 77) described typical Preble's meadow jumping mouse habitat as "well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity." Also noted was a preference for "dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs."

Preble's has undergone a decline in range and populations within its remaining range have been lost. Habitat loss and fragmentation resulting from human land uses have adversely impacted Preble's populations. David Armstrong (University of Colorado, pers. com. 1998) concluded that the meadow jumping mouse, in this region as elsewhere, is a habitat specialist, and that its specialized habitat is declining.

Compton and Hugie (1993, 1994) cited human activities that have adversely impacted Preble's meadow jumping mouse including: conversion of grasslands to farms; livestock grazing; water development and management practices; and, residential and commercial development. Shenk (1998) linked potential threats to ecological requirements of Preble's meadow jumping mouse and suggested that factors which impacted vegetation composition and structure, riparian hydrology, habitat structure, distribution, geomorphology, and animal community composition must be addressed in any conservation strategy.

Residential and commercial development, accompanied by highway and bridge construction, and instream alterations to implement flood control, directly remove Preble's meadow jumping mouse habitat, or reduces, alters, fragments, and isolates habitat to the point where Preble's meadow jumping mouse can no longer persist. Corn et al. (1995) proposed that a 100 meter (328 foot) buffer of unaltered habitat be established to protect the floodplain of Monument Creek from a range of human activities that might adversely effect Preble's or its habitat. Roads, trails, or other linear development through Preble's habitat may act as barriers to movement. Shenk (1998) suggested that on a landscape scale, maintenance of acceptable dispersal corridors linking patches of Preble's habitat may be critical to its conservation.

Further information about the biology and status of the Preble's can be found in the "Conservation Assessment and Preliminary Conservation Strategy for Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)" (Shenk, 1998, available upon request).

## **ENVIRONMENTAL BASELINE**

In Douglas County, the Preble's meadow jumping mouse has been captured or has suitable habitat along portions of the South Platte River, and its major tributaries including East Plum Creek, West Plum Creek and Cherry Creek drainages. Additionally, Preble's have been found in Roxborough State Park on Little Willow and Willow Creeks. Based on the availability of potentially suitable habitat and lack of trapping information, Preble's is assumed to occupy appropriate habitat within Douglas County.

Ongoing research by the Colorado Division of Wildlife is occurring on this property. The numbers and distribution of mice on the Maytag property is documented in two quarterly reports by Shenk and Sivert (1999a and 1999b) which are incorporated herein by reference.

## **EFFECTS OF ACTION**

The proposed trail construction will directly affect 0.036 acre of potential Preble's habitat within two ephemeral tributaries to East Plum Creek. Construction of each trail crossing will result in about 0.009 acres of gulch habitat loss and 0.009 acres of temporary effects to the habitat associated with localized disturbance (ie. 0.018 acre disturbance on each of two gulch crossings). The riparian corridor at the project site is assumed to be inhabited by Preble's year-round. The area to be impacted represents a very small portion of the potential Preble's habitat present on the Maytag Property. The project will not significantly impact the ability of Preble's to travel upstream or downstream along these ephemeral tributaries to East Plum Creek once the crossings have been established and revegetated. The project will have no effect on the ability of Prebles' to occupy or travel within the East Plum Creek corridor on the project site.

## **CUMULATIVE EFFECTS**

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions in that area unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act if there are adverse effects or potential for take of a federally-listed species.

There will be no significant adverse cumulative effects to resources due to the small area of disturbance and short period of construction. The proposed trail will directly affect 0.036 acres

of gulches occasionally used by Preble's. Managing the property as open space will have cumulate beneficial effects for Preble's conservation, recreation, and conservation of the County's rural character. However, recreation in the area will increase with construction of the trail and its future linkage to the regional trail system. Trail usage and visitation of the Maytag property will result in habitat disturbance primarily from trampling of vegetation. One of the actions taken by Douglas County to reduce this possible effect is to define and clearly mark trails and will fence areas that appear to have problem off-trail use. Also, increased visitation of the property provides an opportunity to educate the public on Prebles' conservation issues. Current land use and zoning of the area is recreational open space and therefore, few additional adverse impacts due to future development are expected to occur.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Service so that they become binding conditions of any grant or Section 10(a) permit issued to Douglas County, as appropriate, for the exemption in section 7(o)(2) to apply. The Service has the continuing duty to regulate the activity covered by this incidental take statement. The Service must ensure that Douglas County is required (1) to assume and implement the terms and conditions and (2) to require trail users to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the Section 10(a) permit or grant document, or the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Service will require Douglas County to report the progress of the action or its impact on the species as specified in the incidental take statement.

The Service anticipates incidental take of Preble's through direct killing will be difficult to detect due to their small size and secretive nature. However, the following level of take can be anticipated by the loss of food, cover, and other essential habitat elements. The Service anticipates that the proposed action will result in incidental take of an undetermined number of

Preble's through loss of approximately 0.036 acre of suitable habitat. In this biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

## **REASONABLE AND PRUDENT MEASURES**

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of Preble's, and therefore should be added to the Section 10(a) permit requirements:

1. During trail construction, the area of proposed impact will be fenced with snow fence or a similar visible barrier to prevent inadvertent impacts to habitat outside the construction footprint.
2. Douglas County or its designated contractor will monitor the extent of habitat impacted to ensure that it does not exceed the authorized area.
3. Douglas County will monitor all aspects of the proposed restoration, enhancement, and mitigation plan to ensure project completion and success.

## **TERMS AND CONDITIONS**

In order to be exempt from the prohibitions of section 9 of the Act, the Service must ensure that Douglas County complies with the following terms and conditions which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The section 10(a)(1)(B) permit, as evaluated in this Biological Opinion, will include permit conditions that require that the mitigation measures provided in the Project Description section to avoid, minimize, and compensate for adverse impacts to the Prebles' and its habitat be completed.
2. The Service will include, as a permit condition, that any incidental take of Prebles' must comply with all terms and conditions of said section 10(a)(1)(B) permit.
3. The Service will include, as a permit condition, that workers onsite will be informed by Douglas County or its designated contractor as to the reason for and importance of limiting impacts to vegetated habitat outside the fenced work area.

4. The Service will include, as a permit condition, that work will be supervised at all times by an onsite individual from Douglas County or by an authorized representative.
5. The Service will include, as a permit condition, that the permittee must provide a report to the Service, which includes photographic documentation of site conditions prior to construction and at completion of construction.
6. The Service will include, as a permit condition, that the permittee conduct annual monitoring of both on-site revegetation efforts and off-site mitigation efforts. Monitoring will extend for at least three growing seasons (or until such time as the Service determines that proposed revegetation and mitigation has been successfully completed). Monitoring reports shall be forwarded to the Service after each growing season and prior to December 1 of each calendar year.
7. In the unlikely event that a Preble's mouse (dead, injured, or hibernating) is located during construction, the Colorado Field Office of the Service (303)275-2370 or the Service's Law Enforcement Office (303)274-3560 will be contacted immediately.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take (loss of approximately 0.036 acres of riparian habitat) is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Service will include, as a permit condition, that Douglas County shall immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

## **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that may be used to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service recommends that the following conservation measures be incorporated into any permit issued:

1. Revegetation with appropriate native grass mixes will occur in all areas of proposed construction not planted with willow.

## CONCLUSION

This concludes formal consultation on the proposed action of section 10(a)(1)(B) permit issuance to Douglas County for the development of a recreation trail on the Maytag Property. As required by 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion; (4) a new species not covered by this opinion is listed or critical habitat designated that may be affected by this action. In instances where the amount or extent of incidental take is exceeded, and operations causing such take should cease pending reinitiation.

If you have any questions concerning this Biological Opinion, please contact Lee Carlson, Field Supervisor of the Service's Colorado Field Office at (303) 275-2370.

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