

ECONOMIC IMPACT ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE PREBLE'S MEADOW JUMPING MOUSE: SUMMARY

Background

In July 2002, the U.S. Fish and Wildlife Service (the Service) proposed designating critical habitat for the Preble's meadow jumping mouse (PMJM) (*Zapus hudsonius preblei*) on approximately 57,446 acres in Wyoming (Albany, Converse, Laramie and Platte Counties) and Colorado (Boulder, Douglas, El Paso, Jefferson, Larimer, Teller and Weld Counties).¹ Approximately 28 percent of the designated area is located on federally-owned or managed lands; seven percent on land owned or managed by state agencies; and 65 percent on private land or on land owned or managed by local authorities.



Zapus hudsonius preblei

Major Effects of the Proposed Rule

Activities potentially affected by the designation are residential and related development in Colorado, agriculture in Wyoming, and road and bridge construction and maintenance in both states.

Consultations and resultant project modifications involving the Preble's meadow jumping mouse are estimated to cost \$74 million to \$172 million over the next 10 years, or approximately \$7 million to \$17 million per year. The majority of these costs are associated with residential development projects (\$52 million to \$141 million over 10 years), most of which are associated with units A1 and SP12.

Significant development pressure exists within and surrounding some of the areas in Colorado. The Service consults on development projects when the project overlaps with the proposed critical habitat and there is a Federal nexus. Impacts to residential and related development projects result from administrative costs associated with the consultation process, costs of project delays, and costs of mitigative measures to protect habitat. Given the availability of substitute development sites in the study area, total residential development (i.e., the number of new housing units constructed) is not likely to significantly decline as a result of the proposed critical habitat designation. It is likely, however, that project delays and required project modifications will result in impacts to land owners, developers, and/or housing consumers. Total costs associated with development are forecasted to range from \$57 million to \$142 million over the next ten years.

In Wyoming, critical habitat designation is expected to have a modest impact on agricultural land use. The Service consults on agricultural activities only if a Federal nexus exists. Even if a landowner's agriculture operation includes a Federal nexus, the Service is not likely to stop or change the on-going agriculture activity, since agriculture activities

typically do not adversely modify habitat. Total consultation costs to agriculture in Wyoming are forecasted to range from \$560,000 to \$600,000 over the next ten years.

Road and bridge construction and maintenance consultation costs for the PMJM are estimated to be between \$10 million and \$18 million over the next ten years. These costs account for most of the costs forecasted to occur in Wyoming.

The following table provides a summary of the total forecasted consultation, technical assistance, and project modification costs associated with the listing and proposed critical habitat designation for the PMJM over the next ten years. Costs are presented for the five units which account for more than 80 percent of the costs, other units are combined.

TOTAL SECTION 7 COSTS ASSOCIATED WITH THE LISTING OF AND DESIGNATION OF CRITICAL HABITAT FOR THE PMJM (Reported in thousands)				
Unit	Development	Agriculture	Other	Total
A1	\$40,374 to \$99,935	\$0	\$1,119 to \$3,281	\$41,493 to \$103,216
SP12	\$10,927 to \$27,075	\$0	\$851 to \$2,293	\$11,778 to \$29,368
SP13	\$3,276 to \$8,115	\$0	\$208 to \$520	\$3,484 to \$8,635
SP11	\$1,126 to \$2,855	\$0	\$733 to \$2,043	\$1,859 to \$4,898
NP5	\$0	\$176	\$1,343 to \$1,846	\$1,519 to \$2,022
Other Units	\$1,735 to \$3,527	\$385	\$12,177 to \$19,503	\$14,297 to \$23,415
Total	\$57,438 to \$141,507	\$561	\$16,431 to \$29,486	\$74,430 to \$171,554

Benefits Associated with the Proposed Rule

Although the economic analysis does not quantify the benefits arising from designation of critical habitat for the PMJM, such benefits may include decreased habitat loss; decreased destruction of riparian habitat; creation of substitute habitat (mitigation); preservation of open space; enhanced recreation; improved ecosystem health; education/information; increased support for existing conservation efforts; increased protection for some bird species; and improved knowledge of the PMJM.

Small Business Effects

A significant economic impact on a substantial number of small entities is not expected to result from the designation of critical habitat for the PMJM.

Key Assumptions

The following table presents the key assumptions of this economic analysis, as well as the potential direction of the bias introduced by each assumption.

CAVEATS TO THE ECONOMIC ANALYSIS AND POTENTIAL DIRECTION OF INTRODUCED BIAS ON TOTAL SECTION 7 COSTS	
Key Assumption	Effect on Cost Estimate
The rate of formal and informal consultations will not decrease over time.	++
The presence of other threatened and endangered species (i.e., Ute ladies' tresses orchid, Colorado butterfly plant, etc.) has no influence on consultation/project modification costs.	+
All future developments will be part of either large-scale residential and related or small scale developments subject to consultation.	++
As part of their planning efforts, developers will not account for prospective processing delays or will incur additional costs to avoid delays.	+++
There are no social welfare benefits from the preservation of open space (potentially reflected by increased home values on properties located near mitigation lands).	++
The historic occurrence and cost of project modifications are good predictors of future consultation costs.	?
The characteristics of historic residential and related developments are good indicators of the characteristics of future developments: number of units per development, median home price, etc.	?
Density of future development will remain the same following project modifications resulting from critical habitat.	?
Substitute development lots exist to offset development units lost within critical habitat areas.	-
Private ranchers will seek Federal funding for agricultural improvements, disaster relief, and voluntary conservation activities.	+
- : This assumption may result in an underestimate of real costs. + : This assumption may result in an overestimate of real costs. ? : This assumption has an unknown effect on estimates.	

Additional Information Request

To provide additional support for the analysis the Service solicits specific public comment on the following issues:

1. Are data available to better model residential growth patterns in Boulder, Douglas, El Paso, Jefferson, Larimer, and Weld Counties, Colorado?
2. Are data available to better model the characteristics of future developments?
3. Are data available to better model administrative and project modification costs to developers and private landowners?
4. Are data available to develop more accurate estimates of the number of future consultations, project modifications, and costs for the following activities:
 - Farm Service Agency (FSA) funding for agriculture operational improvements;
 - Natural Resource Conservation Service/FSA funding for voluntary conservation programs;

- Grazing leases on Bureau of Land Management lands;
- Utility projects, such as projects requiring a Clean Water Act section 404 permit from the ACOE and Federal Energy Regulatory Commission licensing of natural gas pipelines;
- Bank stabilization projects;
- Development and implementation of Habitat Conservation Plans;
- Dam/reservoir projects; and
- Gravel mining projects.
- Specific information on additional land use practices, and current or planned activities in proposed critical habitat areas, as well as the anticipated impact of the proposed critical habitat designation on these activities.

Notes:

1. The primary constituent elements identified as critical to the survival of the PMJM are: a pattern of dense riparian vegetation consisting of grasses, forbs, and shrubs in areas along rivers and streams that provide open water during the PMJM active season; adjacent floodplains and vegetated uplands with limited human disturbance; and dynamic geomorphological and hydrological processes typical of systems within the range of the PMJM.