

**ADDENDUM TO DRAFT ECONOMIC ANALYSIS OF  
CRITICAL HABITAT DESIGNATION FOR THE MEXICAN SPOTTED OWL**

January 2001

## **INTRODUCTION**

In July 2000, the U.S. Fish and Wildlife Service (Service) published a proposed rule designating critical habitat for the Mexican spotted owl (*Strix occidentalis lucida*), under the Endangered Species Act of 1973 (Act), as amended. Because the Act calls for an economic analysis of the critical habitat designation, the Service released a *Draft Economic Analysis of Critical Habitat Designation for the Mexican Spotted Owl* (DEA) for public review and comment in September 2000 (65 FR 63047).<sup>1</sup>

After public comments were reviewed, the Service made revisions to the areas proposed as critical habitat for the Mexican spotted owl. This Addendum addresses the implications of these changes to the conclusions reached in the DEA and presents revised estimates of economic impacts, when applicable. This Addendum also addresses public comments specific to the DEA. In addition, certain topics addressed in the DEA were reviewed and additional information gathered to enhance the analysis.

## **REVISIONS TO THE DEA**

The following sections detail the revisions to the DEA, based on changes made to the proposed designation, public comments, and additional information. *The section numbers used in this Addendum match those from the DEA, for ease of reference.*

### **2.2 Proposed Critical Habitat Units**

The Service reduced the designation of critical habitat for the owl from the proposed 13.5

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<sup>1</sup> Copies of the *Draft Economic Analysis of Critical Habitat Designation for the Mexican Spotted Owl* are available from the Service through the New Mexico Ecological Services Field Office.

million acres in 72 units to 4.6 million acres in 24 units. Additionally, 1.4 million acres of Tribal land proposed for designation have been entirely excluded from the final designation.

### **2.3.3 Socioeconomic Profiles of the Critical Habitat Areas**

Because the Service has reduced the extent of the designation, the number of counties containing critical habitat has decreased from 50 to 27. The following counties are included in the final designation: McKinley, Rio Arriba, Sandoval, Socorro, and Taos in New Mexico; Apache, Cochise, Coconino, Graham, Mohave, and Pima in Arizona; Carbon, Emery, Garfield, Grand, Iron, Kane, Washington, and Wayne in Utah; and Custer, Douglas, El Paso, Fremont, Huerfano, Jefferson, Pueblo, and Teller in Colorado. The economic and demographic data for the other 23 counties included in the DEA are no longer relevant to the discussion of the baseline profile for areas containing critical habitat.

#### **3.3.1 U.S. Forest Service**

The Service included 3.3 million acres of U.S. Forest Service (USFS) land in Arizona, and 4.2 million acres of USFS land in New Mexico in the proposed designation of critical habitat for the Mexican spotted owl. In the final designation, the Service excluded all USFS lands in Arizona and New Mexico. As a result, the designation of critical habitat for the owl should have no economic impacts on USFS activities in Arizona and New Mexico or on parties using National Forest lands in these states. Specifically, no new formal or informal consultations will be required for activities taking place on USFS lands in Arizona and New Mexico.

The USFS in Colorado indicates that oil and gas leasing is likely to take place in the southern portion of the critical habitat on USFS land in Colorado, not in the northern portion as the DEA indicates. This information does not alter the analysis of potential impacts on USFS lands in Colorado, as contained in the DEA.

#### **3.3.2 Bureau of Land Management**

The DEA concluded that further investigation was called for regarding the effects of critical habitat designation on a proposed land exchange between the Bureau of Land Management (BLM) in Utah and a private party. At this time, the Service reports that not enough information is available for the Service to make an accurate assessment of how the proposed land exchange would impact

the spotted owl and its habitat.<sup>2</sup> As a result, it is unclear if the land exchange will require a consultation or will need to be modified in some way based on that consultation. The Service asserts, however, that any consultation and modifications associated with this land exchange will be attributable to the listing and not the designation of critical habitat for the owl. The areas of BLM land involved in the proposed exchange are adjacent to Zion National Park and proximate to known nesting sites for owls within the Park. As a result, the BLM would have been required to consult with the Service on the land exchange regardless of critical habitat designation.

### **3.3.4 Department of Defense**

The proposed designation of critical habitat for the owl included 44,394 acres of land on Fort Carson in Colorado. These lands have been excluded from the final designation. Therefore, activities taking place at Fort Carson will be unaffected by the designation of critical habitat.

### **3.4.2 Native American Tribes**

In the proposed designation, the Service included a total of 1.4 million acres of Tribal land in Arizona, New Mexico, and Utah. The Service has excluded all Tribal lands from the final designation of critical habitat for the Mexican spotted owl. Therefore, it is unlikely that the designation will have any direct economic impact on any Tribal entities. Specifically, timber harvesting on San Carlos Apache land and road construction on Navajo Nation land, as described in the DEA, will require no additional consultations beyond what will be required under the listing of the species.

### **3.5 Benefits of Proposed Critical Habitat**

The list of potential benefits of critical habitat designation includes non-resident wildlife viewing. Several parties commented that including this benefit category is not consistent with other Service documents, which indicate that observing the owl from close range would constitute take though harassment. Therefore, the Service believes that non-resident wildlife viewing should not be considered a potential benefit of the designation of critical habitat for the spotted owl.

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<sup>2</sup> Personal communication with Wildlife Biologists, U.S. Fish and Wildlife Service, Salt Lake City Field Office, December 19, 2000.

### **3.3.7 Costs Associated with Impacts**

The DEA reports that the designation of critical habitat could lead to increased costs to the Service of \$30,000 to \$200,000 over ten years as a result of approximately five to ten formal consultations and five to 40 informal consultations attributable to critical habitat. Due to the reduction in size of the final designation and new information on the number of likely consultations attributable to critical habitat designation, the number of estimated consultations has been revised to five to ten formal consultations and five to 20 informal consultations attributable to the critical habitat designation. The estimated costs associated with these consultations would be \$30,000 to \$75,000.

The DEA reports an estimated cost to USFS in Arizona of \$1,000 and \$14,000. As all National Forest lands in Arizona have been excluded from the final designation, critical habitat will no longer result in costs to the USFS in Arizona.

The DEA reports that the Service believes that two or three formal consultations and 12 to 13 informal consultations with the BLM in Colorado could be attributable to the critical habitat designation. Upon further review of the geographic areas included in the final designation, the Service has determined that any future consultations would be attributable to the listing and not the designation. The Service bases this view on the fact that the BLM already consults with the Service for activities in areas that have the primary constituent elements required by the owl. In addition, the Service will not require additional consultations for activities in areas of critical habitat that do not meet the definition of protected or restricted habitat as described in the *Recovery Plan for the Mexican Spotted Owl*.<sup>3</sup> As a result, the Service estimates no additional costs to the BLM in Colorado will be attributable to the designation.

### **SUMMARY OF REVISED ESTIMATES**

Exhibit 1 summarizes revised estimates for potential economic impacts of the designation of critical habitat for the owl. These revised estimates reflect changes to the amount of land designated as well as additional information acquired after the issuance of the DEA. Specific changes involve revised impacts to activities on USFS managed lands in Arizona and New Mexico, Fort Carson in Colorado, San Carlos Apache and Mescalero Apache Tribal land, and the Navajo Nation. These changes reflect the exclusion from the final designation of all USFS land in Arizona and New Mexico, all Tribal lands, and all lands within Fort Carson. Activities that may require

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<sup>3</sup> U.S. Fish and Wildlife Service, *Recovery Plan for the Mexican Spotted Owl, Vol. I*, Albuquerque, NM, 1995, 172 pp.

consultations, the likelihood of new consultations, and the likelihood of project modifications have all been changed to "none" for these lands. Additionally, for BLM lands in Colorado and Utah, the potential for non-substantive reinitiated consultations has been changed to "moderate" and the likelihood of new consultations and the likelihood of project modifications have been changed to "low," reflecting the fact that the Service feels that any consultations and modifications of projects on these lands that occur after the designation would likely be attributable to the listing and not critical habitat.

As described in the DEA, Exhibit 1 presents Federal land uses that occur or could occur in the future in areas designated as critical habitat for spotted owl. In addition, Exhibit 1 indicates the likelihood that additional section 7 consultations with the Service will occur as a result of the proposed designation. Finally, Exhibit 1 notes the likelihood that modifications or other impacts (e.g., project delays) will occur as a result of consultation with the Service.

Categorizations of "low", "medium", or "high" likelihood of consultation are based on information from both Service and other Federal Agency staff, and reflect IEc analysis. Classifications do not reflect the number or cost of potential consultations and project modifications; rather they indicate the likelihood that *any* consultation or project modification could result from the designation. For example, if critical habitat designation in a given area will likely result in one new consultation, the likelihood for a new consultation in this area would be classified as "high." If, on the other hand, critical habitat designation in a given area could lead to multiple new consultations, but these consultations are less likely to occur or they are likely attributable to the listing, then the likelihood of new consultations in this geographic area would be classified as "moderate."

**Exhibit 1**

**REVISED SUMMARY OF POTENTIAL CONSULTATIONS AND  
IMPACTS WITHIN CRITICAL HABITAT FOR THE MEXICAN SPOTTED OWL**

| <b>Federal Agency or Tribe</b> | <b>Location</b>                                                        | <b>Current or Future Activities that May Require Consultation</b>                               | <b>Potential for Non-Substantive Reinitiated Consultations</b> | <b>Potential for New or Extended Consultations or Substantive Reinitiations</b> | <b>Potential for Modifications to Projects or Activities Due to Consultation</b> |
|--------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Forest Service                 | Apache-Sitgreaves, Coconino, Kaibab, Coronado, Tonto, and Prescott, AZ | <b>None</b>                                                                                     | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |
|                                | Pike and San Isabel National Forest, CO                                | Fire management, timber sales, vegetation management, oil and gas leasing                       | High                                                           | Moderate                                                                        | Low                                                                              |
|                                | Carson, Cibola, Gila, Lincoln, and Santa Fe National Forests, NM       | <b>None</b>                                                                                     | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |
|                                | Dixie and Manti-LaSal National Forests, UT                             | Grazing, fire management, mining, oil and gas leasing, recreation, road work, timber harvesting | High                                                           | Moderate                                                                        | Low                                                                              |
| San Carlos Apache              | Arizona                                                                | <b>None</b>                                                                                     | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |
| Navajo Nation                  | Arizona, New Mexico, Utah                                              | <b>None</b>                                                                                     | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |
| Mescalero Apache               | New Mexico                                                             | <b>None</b>                                                                                     | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |

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|--------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Bureau of Land Management      | Arizona                     | Hiking, grazing, restoration                                                                                              | Moderate                                                       | Low                                                                             | Low                                                                              |
|                                | Colorado                    | Recreation activities and construction, grazing, land sales and exchanges, road construction, pipeline and powerline work | <b>Moderate</b>                                                | <b>Low</b>                                                                      | <b>Low</b>                                                                       |
|                                | New Mexico                  | Grazing, oil and gas leasing, fire management                                                                             | Moderate                                                       | Low                                                                             | Low                                                                              |
|                                | Utah                        | Grazing, recreation, land exchange                                                                                        | <b>Moderate</b>                                                | <b>Low</b>                                                                      | <b>Low</b>                                                                       |
| Department of Defense          | Camp Navajo, AZ             | Tree thinning, troop training                                                                                             | High                                                           | Low                                                                             | Low                                                                              |
|                                | Flagstaff Naval Observatory | Tree thinning                                                                                                             | High                                                           | Moderate                                                                        | Low                                                                              |
|                                | Fort Huachuca, AZ           | Troop training, prescribed burns, tree thinning, recreation                                                               | High                                                           | Moderate                                                                        | Low                                                                              |
|                                | Fort Carson, CO             | None                                                                                                                      | <b>None</b>                                                    | <b>None</b>                                                                     | <b>None</b>                                                                      |
|                                | Fort Wingate, NM            | None                                                                                                                      | Low                                                            | Low                                                                             | Low                                                                              |
| Bureau of Reclamation          | Utah                        | Dam construction                                                                                                          | High                                                           | Moderate                                                                        | Low                                                                              |

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|--------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| National Park Service          | Grand Canyon National Park, AZ                                                       | Controlled burns, road work, housing development, and rail maintenance | High                                                           | Moderate                                                                        | Low                                                                              |
|                                | Chiricahua, Coronado and Walnut Canyon National Monuments, Saguaro National Park, AZ | Recreation, controlled burns, grazing                                  | Moderate                                                       | Low                                                                             | Low                                                                              |
|                                | Bandelier National Monument, NM                                                      | Controlled burns, trail maintenance                                    | High                                                           | Moderate                                                                        | Low                                                                              |
|                                | Canyonlands, Capitol Reef, and Zion National Parks, UT                               | Recreation, road and trail maintenance                                 | High                                                           | Low                                                                             | Low                                                                              |

Note: Changes from DEA are in bold.

Sources: Information in table is based on personal communication with personnel at regional and field offices in the Service, USFS, BLM, NPS, Reclamation, U.S. Army, U.S. Navy, Navajo Nation, and San Carlos Apache Tribe. All communication was conducted from August to December 2000.



Exhibit 2 presents revised estimates of the costs of consultations that could result from critical habitat designation. These revised estimates reflect changes to the amount of land designated as well as additional information acquired after the publishing of the DEA. Specifically, the cost to the Service has been revised to reflect the reduced number of consultations anticipated as a result of critical habitat designation. Also, the estimated cost to USFS in Arizona has been changed to "none" to reflect the exclusion of all USFS land in Arizona from the final designation. Lastly, the Service estimate of the cost to BLM in Colorado has been changed to "none" to reflect the fact that the Service believes that any consultations with the BLM in Colorado will be attributable to the listing and not critical habitat designation.

In Exhibit 2, the column of expected costs labeled "Service Estimate" represents estimates made using information from the Service on the likely number of consultations attributable to critical habitat designation for the spotted owl over the next ten years. The column of expected costs labeled "Agency Estimate" represents estimates made using information from affected Federal agencies on the likely number of consultations over the next ten years. Both Service and agency estimates use information from affected Federal agencies on the amount of time involved in consultations and the value of that time.

**Exhibit 2**

**SUMMARY OF REVISED ESTIMATED COSTS ASSOCIATED WITH  
CONSULTATIONS ATTRIBUTABLE TO CRITICAL HABITAT FOR THE MEXICAN SPOTTED OWL  
OVER TEN YEARS**

| Federal Agency            | Location                                       | Expected Costs              |                          |
|---------------------------|------------------------------------------------|-----------------------------|--------------------------|
|                           |                                                | Service Estimate            | Agency Estimate          |
| Fish and Wildlife Service | Arizona, Colorado, New Mexico, and Utah        | \$30,000 to <b>\$75,000</b> | Not Applicable           |
| Forest Service            | Colorado (Pike and San Isabel National Forest) | None to \$170,000           | \$100,000 to \$2,200,000 |
|                           | Utah (Manti-LaSal National Forest)             | None                        | \$22,000 to \$48,000     |
|                           | Arizona                                        | <b>None</b>                 | <b>None</b>              |
| Bureau of Land Management | Colorado                                       | <b>None</b>                 | \$6,000                  |
|                           | Utah                                           | None                        | \$100,000 to \$120,000   |
| National Park Service     | Arizona (Grand Canyon National Park)           | None to \$1,000             | \$72,000                 |
|                           | New Mexico (Bandelier National Monument)       | \$12,000                    | None                     |
| Department of Defense     | Arizona (Fort Huachuca)                        | \$2,000 to \$3,000          | \$6,000                  |
|                           | Arizona (Flagstaff Naval Observatory)          | \$1,000 to \$2,000          | None                     |
| Bureau of Reclamation     | Utah                                           | \$5,000 to \$6,000          | \$5,000 to \$6,000       |

Note: Changes from **DEA** are in bold.

Source: IEC analysis based on information provided by the Service and other Federal agencies.

As shown in Exhibit 2, it is expected that the overall cost of designation of critical habitat for the Mexican spotted owl should not exceed \$2.5 million over ten years. The upper-range estimate of \$2.2 million for U.S. Forest Service in Colorado represents the greatest possible cost to an individual Federal agency. In most cases, though, costs for Federal agencies, and for individual units, are expected to be considerably lower than this high estimate.