

MEMORANDUM | 8 February 2007

**TO** Edward Maillett, Division of Economics, USFWS  
**FROM** Industrial Economics, Incorporated (IEc)  
**SUBJECT** Estimated Economic Impacts of Conservation Efforts in Designated Critical Habitat for the Laguna Mountains Skipper

**SUMMARY OF FINDINGS**

The purpose of this memorandum is to provide information on the coextensive economic impacts of potential Laguna Mountains Skipper (hereinafter referred to as “skipper”) conservation efforts within or affecting areas included in the final critical habitat designation, as described in the Final Rule.<sup>1</sup>

The May 2006 Final Economic Analysis of Proposed Critical Habitat Designation for the Laguna Mountains Skipper (FEA) describes coextensive economic impacts associated with proposed critical habitat as described in the Proposed Rule.<sup>2</sup> The geographic scope of the May FEA is consistent with the proposed habitat as described in the Proposed Rule, and does not reflect changes made to the critical habitat areas in the Final Rule. This memorandum summarizes the coextensive economic impacts of conservation efforts in those areas identified as final critical habitat in the Final Rule.

In the Final Rule designating critical habitat, the Service received additional information during the public comment period that allowed the Service to further refine the critical habitat unit boundaries within the Cleveland National Forest.<sup>3</sup> This re-evaluation resulted in the removal of approximately 420 acres, or 11 percent, from Unit 1 (Laguna Mountain). This re-evaluation did not result in any changes to lands designated in Unit 2 (Palomar Mountain). Exhibit 1 summarizes the areas removed by subunit and landowner.

**EXHIBIT 1. SUMMARY OF AREAS REMOVED FROM FINAL RULE BY SUNIT AND LANDOWNER**

SUBUNIT	AREAS REMOVED FROM FINAL RULE				ACRES DESIGNATED AS CRITICAL HABITAT	PERCENT REDUCTION
	FEDERAL	PRIVATE	STATE	TOTAL		
1A. Laguna Meadow	193	26	0	219	2,610	-8%
1B. Filaree Flat	135	20	0	155	233	-40%
1C. Agua Dulce Campground & Horse Meadow	43	3	0	46	500	-8%
<b>TOTAL:</b>	<b>371</b>	<b>49</b>	<b>0</b>	<b>420</b>	<b>3,343</b>	<b>-11%</b>

Areas removed from the final rule did not result in any changes in the estimate of economic impacts of skipper conservation. The present value high-end economic impact of skipper conservation in the final critical habitat area continues to be \$5.1 million (assuming a seven percent discount rate),

<sup>1</sup> U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Laguna Mountains Skipper; Final Rule, published in the *Federal Register* on December 12, 2006, Vol. 71, No. 238.

<sup>2</sup> U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Laguna Mountains Skipper; Proposed Rule, published in the *Federal Register* on December 13, 2005, Vol. 70, No. 238.

<sup>3</sup> Details of the re-evaluation of the geographic boundaries are described in detail in the Final Rule.

or an annualized impact of \$480,000. In the following sections, we provide additional detail on why the estimate of economic impacts of skipper conservation measures is unaffected by the removal of these areas.

**ECONOMIC IMPACTS IN FINAL CRITICAL HABITAT BY SUBUNIT**

As shown in Exhibit 2, a variety of activities occur within the subunits affected by the boundary re-evaluation. As previously stated, areas removed from the final rule did not result in any changes in the estimate of economic impacts of skipper conservation measures. In the following sections, we provide additional detail on the areas removed from the final rule by activity.

**EXHIBIT 2. SUMMARY OF ECONOMIC ACTIVITIES OCCURRING IN AREAS REMOVED FROM FINAL RULE\***

SUBUNIT	ACRES REMOVED	PERCENT REDUCTION	GRAZING	CAMPING	HIKING	FIRE MGMT	UTILITY
1A. Laguna Meadow	219	-8%	✓	✓	✓	✓	✓
1B. Filaree Flat	155	-40%	✓				
1C. Agua Dulce Campground & Horse Meadow	46	-8%	✓	✓	✓	✓	
<b>TOTAL:</b>	<b>420</b>	<b>-11%</b>					

\* See DEA of the Critical Habitat Designation for the Laguna mountains skipper, dated May 31, 2006.

**GRAZING**

In Unit 1, four allotments fall within the proposed critical habitat boundaries. Economic impacts associated with these allotments are quantified where proposed critical habitat is greater than five percent of the total allotment area. Based on this criteria, the DEA estimates economic impacts for only one of the four allotments in Unit 1, the Laguna Meadows allotment.

As shown in Exhibit 3, the boundary re-evaluation reduces the percentage of each allotment designated as critical habitat. For the Laguna Meadows allotment, the percent of the allotment designated as critical habitat falls from 44 percent to approximately 39.5 percent. However, the economic impact estimate for the Laguna Meadows allotment was based on conversations with the permittee rather than on the percent of the allotment designated as critical habitat. As a result, the acreage reduction in this allotment does not affect the estimated economic impact. The remaining three allotments continue to fall below the five percent threshold, and therefore also do not affect the economic impact estimate for grazing activities.

**EXHIBIT 3. SUMMARY OF CHANGES BY AFFECTED GRAZING ALLOTMENT**

ALLOTMENT	% CRITICAL HABITAT	
	PROPOSED RULE	FINAL RULE
Indian Creek	0.61%	0.04%
Laguna Meadows	44%	39.48%
Pine Creek	0.09%	0.09%
Laguna	1.42%	1.24%

#### CAMPING

The DEA estimates welfare losses due to ongoing campground capacity reductions and closures initiated in 1997 in five campgrounds across subunits 1A (Laguna Meadow) and 1C (Filaree Flat). The Cleveland National Forest implemented these skipper conservation measures in order to protect skipper habitat and in particular, to reduce recreation interactions with large distributions of the skipper's host plant, *Horkelia clevelandii*. The areas removed from the final rule did not change the campgrounds affected by skipper conservation measures.

#### HIKING

The estimate of future economic impacts of skipper conservation measures to hiking activities is based on spatial data of the distribution of the skipper's host plant, *Horkelia clevelandii*. The areas removed from the final rule did not include any patches of *Horkelia clevelandii* (i.e., all *Horkelia clevelandii* patches continue to be designated as critical habitat under the final rule). As a result, removal of these areas did not impact the estimate of economic impacts of skipper conservation on hiking activities.

#### FIRE MANAGEMENT

As described in the DEA, Cleveland National Forest (CNF) will be conducting forest health and fuels treatment activities across the forest over the next five to 10 years. As part of these efforts, trees will be removed from forested areas within proposed critical habitat. Impacts on fire management activities are likely to be greatest in proposed critical habitat areas that overlap with Wildland and Urban Interface (WUI) areas. The boundary re-evaluation reduces the total area of critical habitat that overlaps WUI areas by approximately 11 percent in Unit 1. However, given that this reduction is relatively small compared to the total acres critical habitat area that continues to overlap WUI areas (885 acres) in Unit 1, the removal of these areas is not expected to affect the economic impact estimated for fire management activities.

#### UTILITY

Within proposed critical habitat areas, there are five SDG&E power transmission lines, 136 SDG&E power transmission poles, and 20,000 feet of aerial AT&T cable lines that cross subunit 1A (Laguna Meadow). Based on discussions with CNF and the utility providers, the DEA assumes that one to two projects per year, per utility provider will incur additional costs due to skipper conservation measures between \$800 to \$25,000 per project. As a result of the boundary re-evaluation, the total number of acres designated as critical habitat in subunit 1A fall by approximately eight percent. Given that the reduction is relatively small compared to the total acres that continue to be designated as critical habitat in subunit 1A, the removal of these areas is not expected to affect the economic impact estimated for utility activities.

Exhibit 4 highlights the final critical habitat area, as well as areas proposed for critical habitat that were subsequently removed from the final rule as a result of the boundary re-evaluation.

EXHIBIT 4. FINAL CRITICAL HABITAT DESIGNATION FOR THE LAGUNA MOUNTAINS SKIPPER, DECEMBER 2006

