

MEMORANDUM | January 13, 2014

**TO** U.S. Fish and Wildlife Service (Service)  
**FROM** Industrial Economics, Incorporated (IEc)  
**SUBJECT** Screening Analysis of the Likely Economic Impacts of Critical Habitat Designation for the *Ivesia webberi*

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On August 2, 2013, the Service published a proposed rule to designate critical habitat for the Webber's ivesia (*Ivesia webberi*). As part of the rulemaking process, the Service must consider the economic impacts, including costs and benefits, of the proposed rule in the context of two separate requirements:<sup>1</sup>

- **Executive Order (EO) 12866 *Regulatory Planning and Review***, which directs Agencies to assess the costs and benefits of regulatory actions and quantify those costs and benefits if that action may have an effect on the economy of \$100 million or more in any one year; and
- **Section 4(b)(2) of the Endangered Species Act (the Act)**, which requires the Secretary of the Interior to consider economic impacts prior to designating critical habitat.<sup>2</sup>

This memorandum provides information to the Service on the potential for the proposed critical habitat rule to result in costs exceeding \$100 million in a single year. If costs do not exceed this threshold, EO 12866 suggests that a qualitative assessment may be sufficient. This memorandum also identifies the geographic areas or specific activities that could experience the greatest impacts, measured in terms of changes in social welfare, to inform the Secretary's decision under section 4(b)(2).<sup>3</sup>

To prepare this assessment, we rely on: (1) the proposed rule and associated geographic information systems (GIS) data layers; (2) the Service's incremental effects memorandum described in greater detail later in this memorandum; (3) the results of the Service's outreach efforts to other Federal agencies concerning the likely effects of critical habitat; and (4) limited interviews with relevant stakeholders.

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<sup>1</sup> Additional laws and executive orders require the consideration of the distribution of impacts on vulnerable subpopulations, such as small entities and state or local governments. These requirements for distributional analysis are beyond the scope of this memorandum.

<sup>2</sup> Published September 20, 1993. As affirmed by Executive Order 13563, *Improving Regulation and Regulatory Review*, January 18, 2011.

<sup>3</sup> The discipline of welfare economics focuses on maximizing societal well-being. (Just, R.E., D.L. Hueth, and A. Schmitz. 2004. *The Welfare Economics of Public Policy: A Practical Approach to Project and Policy Evaluation*. Edward Elgar Publishing: Northampton, MA.) It measures costs and benefits in terms of the opportunity costs of employing resources for the conservation of the species and individual willingness to pay to conserve those species. Opportunity cost is the value of the benefit that could have been provided by devoting the resources to their best alternative uses. Opportunity costs differ from the measurement of accounting costs (e.g., actual expenses). Welfare economics is recognized by the U.S. Office of Management and Budget (OMB) as the appropriate tool for valuing the costs and benefits of proposed regulatory actions. (U.S. Office of Management and Budget. 2003. *Circular A-4*.)

## FINDINGS OF THE SCREENING ANALYSIS

Critical habitat for *Ivesia webberi* is unlikely to generate costs exceeding \$100 million in a single year. Data limitations prevent the quantification of benefits.

### Section 7 Costs

The economic costs of implementing the rule through section 7 of the Act will most likely be limited to the additional administrative effort required to consider adverse modification. This finding is based on the following factors:

- All proposed units are considered occupied, providing baseline protection;
- Activities occurring within designated critical habitat with a potential to affect critical habitat are also likely to adversely affect the species, either directly or indirectly;
- In occupied habitat, project modifications requested to avoid adverse modification are likely to be the same as those needed to avoid jeopardy; and
- Federal agencies operating in proposed critical habitat areas are already aware of the presence of the species and are also experienced consulting with the Service under section 7 of the Act on other federally listed species. Thus, they are likely to consult even in buffer areas applied to occupied habitat, included in the designation to ensure the protection of pollinator habitat.

According to a review of consultation records and discussions with multiple Service field offices, the additional administrative cost of addressing adverse modification during the section 7 consultation process ranges from approximately \$400 to \$9,000 per consultation (2013 dollars). Based on the project activity identified by relevant action agencies, the number of future consultations is likely to be less than two consultations per year. Thus, the incremental administrative burden resulting from the rule is unlikely to reach \$100 million in a given year.

### Other Costs

- The designation of critical habitat is not expected to trigger additional requirements under state or local regulations. This assumption is based on the Service's past experience and the awareness of state agencies of the presence of the species.
- The designation of critical habitat may cause developers or landowners to perceive that private lands will be subject to use restrictions, resulting in costs. Such impacts, if they occur, are unlikely to reach \$100 million in a given year, based on the small number of acres possibly affected and average land values in those areas.

### Section 7 and Other Benefits

Additional efforts to conserve *Ivesia webberi* are not predicted. If, however, public perception of the effect of critical habitat cause changes in future land use, benefits to the species and environmental quality may occur. Due to existing data limitations, we are unable to assess the likely magnitude of such benefits.

### Geographic Distribution of Costs

Appendix B provides a list of anticipated future section 7 consultations and the units where they will occur. Generally, one to three consultations are anticipated per unit; however, five consultations are anticipated in Units 11 and 16. Costs resulting from public perception of the impact of critical habitat, if they occur, are more likely to occur on private lands located in Units 12, 13, 14 and 15.

## SECTION 1. BACKGROUND

*Ivesia webberi* is a low, spreading, perennial plant (or forb) in the Rose family currently known to occupy only five counties: Plumas, Lassen, and Sierra Counties in northeastern California and Washoe and Douglas Counties in northwestern Nevada. The plant occurs in vernal moist areas on flats, benches or terraces above or adjacent to large valleys at elevations between 4,475 and 6,237 feet. The Service published proposed rules to separately list *Ivesia webberi* as threatened under the Act and to designate critical habitat on August 2, 2013.<sup>4</sup>

The proposed rule would designate approximately 2,011 acres (814 hectares) as critical habitat for *Ivesia webberi*. The proposed critical habitat is divided into 16 units; of which two units include subunits. All areas are considered occupied by the species.<sup>5</sup> Approximately 68 percent of the total proposed designation is located on Federal lands, 11 percent on State land and 21 percent on private lands. Of the proposed acreage, 53 percent (or 1,072 acres) are actively managed for *Ivesia webberi* conservation through the U.S. Forest Service's (USFS) Conservation Strategy.<sup>6</sup> Exhibit 1 provides an overview of the proposed critical habitat units, including land ownership, and whether the unit is currently managed for the conservation of *Ivesia webberi* under the USFS' Conservation Strategy. Overview maps of the designation are included in Appendix A.

In the proposed rule, as well as in a supplemental memorandum in which the Service describes how it expects to implement the critical habitat regulation, a number of threats to the species are identified. The following economic activities are identified as having the potential to pose a threat to proposed critical habitat:

- Federal lands management (USFS and U.S. Bureau of Land Management (BLM));
- Commercial or residential development;
- Livestock grazing;
- Off-highway vehicle use and other recreational activities;
- Wildfire;
- Vegetation management, including fuels reduction activities and management for invasive species; and
- Vegetation or ground-disturbing activities associated with construction, maintenance or use of roads, trails, transmission lines or other infrastructure corridors.

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<sup>4</sup> 2013 Proposed Critical Habitat Designation Rule. 78 FR 46862; and 2013 Proposed Listing Rule. 78 FR 46889.

<sup>5</sup> 2013 Proposed Critical Habitat Designation Rule. 78 FR 46862.

<sup>6</sup> U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. (p. 17-18)

EXHIBIT 1. SUMMARY OF LAND OWNERSHIP (ACRES) IN AREAS PROPOSED AS CRITICAL HABITAT FOR *IVESIA WEBBERI*

UNIT NO.	UNIT NAME	FEDERAL	STATE	PRIVATE	TOTAL	USFS CONSERVATION STRATEGY (% COVERED)
1	Sierra Valley	51	44	179	274	--
2	Constantia	155	--	--	155	--
3	East of HJWA, Evans Canyon	22	100	--	122	--
4	Hallelujah Junction WA	--	69	--	69	--
5A	Dog Valley Meadow	386	--	--	386	386 (100.0%)
5B	Upper Dog Valley	12	--	17	29	12 (41.4%)
6	White Lake Overlook	98	--	11	109	98 (89.9%)
7A	Mules Ear Flat	31	--	34	65	31 (47.7%)
7B	Three Pine Flat; Jeffrey Pine Saddle	3	--	65	68	3 (4.4%)
8	Ivesia Flat	62	--	--	62	62 (100.0%)
9	Stateline Road 1	125	--	7	132	125 (94.7%)
10	Stateline Road 2	65	--	--	65	65 (100.0%)
11	Hungry Valley	56	--	--	56	--
12	Black Springs	116	--	24	140	116 (82.9%)
13	Raleigh Heights	163	--	14	177	163 (92.1%)
14	Dutch Louie Flat	11	--	46	57	11 (19.3%)
15	The Pines Powerline	--	--	32	32	--
16	Dante Mine Road	10	--	4	14	--
<b>Total</b>		<b>1,365</b>	<b>214</b>	<b>432</b>	<b>2,011</b>	<b>1,072 (53.3%)</b>

Source: 2013 Proposed Critical Habitat Designation Rule. 78 FR 46862; U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. (p. 17-18).

**SECTION 2. FRAMEWORK**

Guidelines issued by the U.S. Office of Management and Budget (OMB) for the economic analysis of regulations direct Federal agencies to measure the costs and benefits of a regulatory action against a baseline (i.e., costs and benefits that are “incremental” to the baseline). OMB defines the baseline as the “best assessment of the way the world would look absent the proposed action.”<sup>7</sup> In other words, the baseline includes any existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users affected by the designation of critical habitat. The baseline includes the economic impacts of listing the species under the Act, even if the listing occurs concurrently with critical habitat designation. Impacts that are incremental to the baseline (i.e., occurring over and above existing constraints) are those that are solely attributable to the designation of critical habitat. This screening analysis focuses on the likely incremental effects of the critical habitat designation.

<sup>7</sup> OMB, “Circular A-4,” September 17, 2003, available at [http://www.whitehouse.gov/omb/circulars\\_a004\\_a-4](http://www.whitehouse.gov/omb/circulars_a004_a-4). Circular A-4 provides “guidance to Federal Agencies on the development of regulatory analysis as required under Section 6(a)(3)(c) of Executive Order 12866...” (p. 1)

We consider incremental effects of the designation in two key categories: (1) those that may be generated by section 7 of the Act; and (2) other types of impacts outside of the context of section 7:

- **Incremental section 7 impacts:** Activities with a Federal nexus that may affect listed species are subject to section 7 consultation to consider whether actions may jeopardize the existence of the species, even absent critical habitat.<sup>8</sup> As part of these consultations, critical habitat triggers an additional analysis evaluating whether an action will diminish the recovery potential or conservation value of the designated area. Specifically, following the designation, Federal agencies must also consider the potential for activities to result in the destruction or adverse modification of critical habitat. These consultations are the regulatory mechanism through which critical habitat rules are implemented. Any time and effort spent on this additional analysis, as well as the costs and benefits of implementing any recommendations resulting from this review, are economic impacts of the critical habitat designation.
- **Other incremental impacts:** Critical habitat may also trigger additional regulatory changes. For example, the designation may cause other Federal, state, or local permitting or regulatory agencies to expand or change standards or requirements. Regulatory uncertainty generated by critical habitat may also have impacts. For example, landowners or buyers may perceive that the rule will restrict land or water use activities in some way and therefore value the resource less than they would have absent critical habitat. This is a perceptual, or stigma, effect of critical habitat on markets.

### SECTION 3. ECONOMIC COSTS OF THE CRITICAL HABITAT RULE

In this section, we summarize the results of the screening analysis. We divide our findings into three parts. Part one discusses the likelihood and type of incremental costs arising from the section 7 consultation process. Based on information provided by the Service, the incremental costs of the proposed critical habitat rule are expected to be minor and administrative in nature. As discussed in greater detail below, all areas proposed as critical habitat are considered occupied by the species, where the listing of *Ivesia webberi* as a threatened species under the Act provides baseline protection. Accordingly, when section 7 consultations occur, costs are likely to be limited to the portion of the administrative effort required to address adverse modification during section 7 consultation.

In part two, we discuss the magnitude of administrative costs likely to occur. Based on information provided by the key Federal agencies affected by the critical habitat rule, the number of future consultations is expected to be minimal, less than two per year.

In the final part of this section, we consider the potential for the critical habitat rule to generate other, non-section 7 incremental costs. Specifically, portions of the proposed critical habitat designation are located in close proximity to the Reno/Sparks metropolitan area in Washoe County. Washoe County is predicted to grow at an

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<sup>8</sup> A Federal nexus exists for activities authorized, funded, or carried out by a Federal agency.

annual growth rate of 1.48 percent through 2030.<sup>9</sup> Critical habitat may indirectly impact property values if developers assume the designation will impose restrictions on the use of properties that include areas proposed as critical habitat. To determine whether such impacts are likely to exceed \$100 million, we conduct a bounding analysis based on per-acre land values for vacant properties in close proximity to proposed critical habitat in the Reno/Sparks metropolitan area.

### 3.1 INCREMENTAL COSTS DURING SECTION 7 CONSULTATIONS

Incremental costs arising from the section 7 consultation process generally consist of two components: (1) the implementation of any project modifications requested by the Service through section 7 consultation to avoid or minimize potential destruction or adverse modification of critical habitat; and (2) the administrative costs of conducting section 7 consultation.

In the baseline, section 7 of the Act requires Federal agencies to consult with the Service to ensure that their actions will not jeopardize *Ivesia webberi*. Once critical habitat is designated, section 7 also requires Federal agencies to ensure that their actions will not adversely modify critical habitat. Whether a project will require project modifications to avoid adverse modification that go above and beyond any modifications triggered by adverse effects to the species itself rests on whether the project occurs in a location currently occupied by the species. Specifically, the Service states:

“Once the proposed listing and proposed critical habitat designation for *Ivesia webberi* take effect, the Service does not anticipate differences in the outcome of section 7 consultations in occupied habitat, because actions that affect occupied habitat and its ability to function normally would typically also adversely affect the plants themselves.”<sup>10</sup>

Accordingly additional conservation measures above and beyond those measures required to avoid jeopardy are unlikely for projects located in critical habitat identified as currently occupied by the species.<sup>11</sup> In determining whether a specific critical habitat unit is considered occupied by the respective species, we rely on information regarding species occupancy available from the proposed rule. Specifically, the Service states in the proposed rule:

“We are not currently proposing to designate any areas outside the geographical area presently occupied by the species because its present range is sufficient to ensure the conservation of *Ivesia webberi*.”<sup>12</sup>

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<sup>9</sup> Washoe County, Nevada. 2010. Master Plan - Population Element. Department of Community Development. Reno, Nevada. September 9. p. 4. Accessed online December 1, 2013 at:

[http://www.washoecounty.us/comdev\\_files/cp/population\\_element.pdf](http://www.washoecounty.us/comdev_files/cp/population_element.pdf)

<sup>10</sup> U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. (p. 16)

<sup>11</sup> The Service further states that “most activities likely to undergo consultation as a result of critical habitat are also likely to require consultation as a result of adverse effects to the species.” U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. (p. 19)

<sup>12</sup> 2013 Proposed Critical Habitat Designation Rule. 78 FR 46868.

**Therefore, the incremental costs of the critical habitat designation are likely to be limited to the portion of administrative effort required to address adverse modification during section 7 consultation.**

The Service also notes, however, that in limited instances, it is possible that a specific project or activity may result in adverse effects to the primary constituent elements (PCEs) of the critical habitat without adversely affecting the species. Such instances may result from the species' uneven distribution within each unit and/or the 1,640 foot (500 meter) buffer area established around occupied areas to provide for sufficient pollinator habitat. In such instances, the designation may provide new information to project proponents about the potential presence of the listed plant. If, as a result, a consultation occurs that would not otherwise have been undertaken, the full costs of section 7 consultation and resulting project modifications would be considered incremental.

Information provided by the Service and the USFS and BLM, the two action agencies most likely to consult with the Service in proposed critical habitat areas, indicates that such circumstances are unlikely. Both Federal agencies regularly consult with the Service on potential impacts to listed species under the Act and, moreover, are generally aware of the presence of the *Ivesia webberi*. For example, in 2009, the USFS developed a Conservation Assessment and Strategy for *Ivesia webberi*, identifying threats to the species and establishing management objectives designed to conserve and preserve known populations and subpopulations. In addition, *Ivesia webberi* is classified as a sensitive species by both the USFS and BLM, a threatened species by the Nevada Division of Forestry ((.R.S.) 527.260–.300) and as a “rare, threatened, or endangered” 1B plant by the California Native Plant Society, which requires the plant to be considered during the environmental documentation process under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.).<sup>13</sup>

Based on the relatively small size of the buffer areas and their close proximity to the plant populations, the Service believes that Federal agencies would initiate consultation in the baseline for all projects affecting critical habitat areas because of their potential to directly or indirectly affect the plant, even if the project footprint only intersects the buffer zone.<sup>14</sup> We therefore assume that no new consultations will occur as a result of the species uneven distribution and/or the designation of buffer areas as part of *Ivesia webberi* critical habitat.

### 3.2 ESTIMATED INTENSITY OF FUTURE SECTION 7 CONSULTATIONS

As previously discussed, the majority of areas proposed as critical habitat are managed by USFS (58 percent, 1,164 acres) and BLM (10 percent, 201 acres). The Service conducted outreach with both Federal agencies to better understand the likely effects of the proposed rule on their activities. According to information provided by these two agencies to the Service, the number of consultations occurring within federally-managed areas proposed as critical habitat is estimated to be less than two consultations

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<sup>13</sup> U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. (pp. 14).

<sup>14</sup> Ibid. pp. 19 and 23; U.S. Fish and Wildlife Service. Personal communication on November 19, 2013.

per year.<sup>15</sup> Unit costs of such administrative efforts range from approximately \$400 to \$9,000 per consultation (2013 dollars, total incremental cost for all parties participating in a single consultation). Thus, the annual administrative cost burden on Federal lands due solely to the critical habitat designation is unlikely to reach \$100 million.

The remaining areas proposed as critical habitat include a mix of State lands (214 acres, 11 percent) and private lands (432 acres, 21 percent). While we cannot, at this time, predict the precise number of anticipated future consultations, based on the remote location of these areas and the relatively small number of acres, it is unlikely that the annual consultation rate would result in administrative costs exceeding \$100 million per year.

### 3.3 OTHER, NON-SECTION 7 INCREMENTAL COSTS

The designation of critical habitat for *Ivesia webberi* is unlikely to trigger additional requirements or project modifications under state or local laws or policies. *Ivesia webberi* already receives full protection by the state of Nevada under Nevada Administrative Code 527.010. In California, while *Ivesia webberi* is not listed under the California Endangered Species Act (CESA), the species is classified as a “rare, threatened, or endangered” 1B plant by the California Native Plant Society, which requires the plant to be fully considered during the environmental documentation process under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.).<sup>16</sup> As a result, we do not forecast incremental impacts associated with triggering additional requirements outside of the Act.

Comments received regarding proposed designations of critical habitat in various locations throughout the United States indicate that the public perceives critical habitat designation as potentially resulting in incremental changes to private property values, above and beyond those associated with specific forecast project modifications under section 7 of the Act.<sup>17</sup> These commenters believe that, all else being equal, a property that is inhabited by a threatened or endangered species, or that lies within a critical habitat designation, will have a lower market value than an identical property that is not inhabited by the species or that lies outside of critical habitat. This lower value results from the perception that critical habitat will preclude, limit, or slow development, or

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<sup>15</sup> Based on information provided by the Service, USFS and BLM identified a total of 16 projects and/or programs likely to require future consultation. USFS and BLM did not specify a time frame for their forecast of future consultations in proposed critical habitat areas. Absent specific information on the expected time frame, we assume the action agencies estimated future consultations based on a time frame of ten years. OMB supports this time frame stating that “for most agencies, a standard time period of analysis is ten to 20 years, and rarely exceeds 50 years.” Based on a time frame of ten years, we estimate an annual consultation rate of 1.6 (i.e., 16 consultations divided by ten years). Appendix B includes a complete list of the future consultations likely to occur on lands proposed as critical habitat and managed by the USFS and BLM. (U.S. Office of Management and Budget, February 7, 2011. “Regulatory Impact Analysis: Frequently Asked Questions (FAQs).” Accessed on December 17, 2013 at: [http://www.whitehouse.gov/sites/default/files/omb/circulars/a004/a-4\\_FAQ.pdf](http://www.whitehouse.gov/sites/default/files/omb/circulars/a004/a-4_FAQ.pdf).)

<sup>16</sup> U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*.

<sup>17</sup> See, for example, public comments on the potential impact of designating private lands as critical habitat for the Northern spotted owl (as summarized in Industrial Economics, Incorporated. *Economic Analysis of Critical Habitat Designation for the Northern Spotted Owl: Final Report*. Prepared for the U.S. Fish and Wildlife Service. November 20, 2012. (p. 5-21) and the cactus ferruginous pygmy owl (as summarized in Industrial Economics, Incorporated. *Economic Analysis of Critical Habitat Designation for the Cactus Ferruginous Pygmy-Owl*. Prepared for the U.S. Fish and Wildlife Service. June 1999. p. 44)).

somehow alter the highest and best use of the property. Public attitudes about the limits and costs that the Act may impose can cause real economic effects to the owners of property, regardless of whether such limits are actually imposed. Over time, as public awareness grows of the regulatory burden placed on designated lands, particularly where no Federal nexus compelling section 7 consultation exists, the effect of critical habitat designation on properties may subside.

To evaluate the possible magnitude of such costs, we conduct a bounding analysis. We estimate per-acre land values for undeveloped, vacant parcels in the vicinity of the proposed designation where the likelihood of development in the foreseeable future is greatest. Public perception may diminish land values by some percent of these total values. Data limitations prevent us from estimating the size of this percent reduction or its attenuation rate.

The total value of the properties represents the upper bound on possible costs rather than a best estimate of likely costs and is not supported by the limited, existing academic literature investigating endangered species-related public perception effects.<sup>18</sup> Assuming the entire value of the parcel is lost would likely overstate impacts. In addition, these properties may experience perception-related effects as a result of the presence of the listed *Ivesia webberi*, possibly reducing the incremental portion of the impact attributable to critical habitat by an uncertain amount.

According to the Service, land use within areas proposed as critical habitat includes a mixture of rangeland and forest land at the urban interface.<sup>19</sup> To identify areas of proposed critical habitat that may be subject to pressure in the foreseeable future as either rangeland (grazing) or to support the development of nearby urban areas, we focus our analysis on the subset of critical habitat units that are located close to or within the Reno/Sparks metropolitan area in Washoe County.<sup>20</sup> Relevant acres include land that is: (a) privately owned, (b) not protected by a conservation easement, and (c) of a land cover suitable for grazing or development activity (i.e., we exclude land that has been developed, as well as barren rock, wetlands and open water).<sup>21</sup> Based on these three criteria, we identify approximately 114 acres of private, vacant land in two Washoe County census tracts. Exhibit 2 summarizes these acres by census tract and critical habitat unit. This estimate may overstate the number of acres available for grazing or development activities because, while we exclude areas that are publicly-owned or permanently conserved, we are not able to account for local zoning or land

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<sup>18</sup> For a discussion of the available literature describing potential perceptual effects resulting from the Act, see Industrial Economics, Incorporated. Memorandum to the U.S. Fish and Wildlife Service on "Supplemental Information on Land Values - Critical Habitat Designation for the *Ivesia webberi*." December 17, 2013.

<sup>19</sup> U.S. Fish and Wildlife Service. October 31, 2013. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Designate Critical Habitat for *Ivesia webberi*. pp. 22.

<sup>20</sup> The Service also identified development activities as a threat in three additional critical habitat units. Of these three units, one unit falls entirely within lands managed by the USFS (Unit 10) and two units (Units 9 and 16) occur in remote areas based on satellite imagery, where the future pressure for development is likely low.

<sup>21</sup> Land ownership was determined using GIS data provided by the US Fish and Wildlife Service on November 5, 2013. Land protection status was determined using U.S. Geological Survey, Gap Analysis Program (GAP). November 2012. Protected Areas Database of the United States (PADUS), version 1.1 (CBI Edition). Downloaded from: [gapanalysis.usgs.gov/padus/](http://gapanalysis.usgs.gov/padus/) on November 25, 2012. Land cover was determined using U.S. Geological Survey. National Land Cover Database 2006 (NLCD2006). Downloaded from: [www.mrlc.gov/finddata.php](http://www.mrlc.gov/finddata.php) on April 30, 2011; Census tracts were determined using U.S. Census Bureau. 2013 TIGER/Line Files. Downloaded from: <http://www.census.gov/geo/maps-data/data/tiger-line.html> on December 11, 2013.

use restrictions, or geographic features such as slope that may further limit suitability for development.

Using data obtained from the Washoe County Assessor, we conclude that the total value of these 114 acres is unlikely to exceed \$100 million. Because costs resulting from public perception of the effect of critical habitat designation would likely represent some fraction of this total value, such perceptual effects are unlikely to exceed a threshold of \$100 million in a given year.<sup>22</sup>

**EXHIBIT 2. PRIVATE, VACANT ACRES SUITABLE FOR FUTURE GRAZING OR DEVELOPMENT ACTIVITY, BY CENSUS TRACT AND CRITICAL HABITAT UNIT**

CENSUS TRACT	AFFECTED CRITICAL HABITAT UNITS	TOTAL DEVELOPABLE LAND	DEVELOPABLE LAND OVERLAPPING PROPOSED CRITICAL HABITAT	PERCENT OF TOTAL DEVELOPABLE LAND PROPOSED AS CRITICAL HABITAT
26.19	Unit 12 & 13	3,980 ac	37 ac	0.9%
10.14	Unit 14 & 15	1,347 ac	17 ac	5.7%
<b>Total:</b>		<b>5,327 ac</b>	<b>114 ac</b>	<b>--</b>

Sources: Land ownership was determined using GIS data provided by the US Fish and Wildlife Service on November 5, 2013. Land protection status was determined using U.S. Geological Survey, Gap Analysis Program (GAP). November 2012. Protected Areas Database of the United States (PADUS), version 1.1 (CBI Edition). Downloaded from: [gapanalysis.usgs.gov/padus/](http://gapanalysis.usgs.gov/padus/) on November 25, 2012. Land cover was determined using U.S. Geological Survey. National Land Cover Database 2006 (NLCD2006). Downloaded from: [www.mrlc.gov/finddata.php](http://www.mrlc.gov/finddata.php) on April 30, 2011; Census tracts were determined using U.S. Census Bureau. 2013 TIGER/Line Files. Downloaded from: <http://www.census.gov/geo/maps-data/data/tiger-line.html> on December 11, 2013.

**SECTION 4. SECTION 7 AND OTHER ECONOMIC BENEFITS**

The primary intended benefit of critical habitat is to support the conservation of threatened and endangered species, such as *Ivesia webberi*. Quantification and monetization of species conservation benefits requires information on: (1) the incremental change in the probability of *Ivesia webberi* conservation that is expected to result from the designation; and (2) the public’s willingness to pay for such beneficial changes.<sup>23</sup>

As described in this memorandum, additional efforts to conserve *Ivesia webberi* are not predicted. If, however, perceptual effects cause changes in future land use, benefits to the species and environmental quality may occur. Due to existing data limitations, we are unable to assess the likely magnitude of such benefits.<sup>24</sup>

<sup>22</sup> For additional detail describing our identification of acres most likely to be subject to development pressure in the foreseeable future and the value of these acres, see Industrial Economics, Incorporated. Memorandum to the U.S. Fish and Wildlife Service on “Supplemental Information on Land Values - Critical Habitat Designation for the *Ivesia webberi*.” December 17, 2013.

<sup>23</sup> The actions undertaken to achieve conservation can also generate other types of environmental improvements. Estimation of the value of these additional benefits requires quantification of the physical changes and information about the public’s willingness to pay for such improvements.

<sup>24</sup> For a detailed discussion of these data limitations, see Flight, M. and R. Unsworth, Industrial Economics, Incorporated. 2011. *Quantifying Benefits of Critical Habitat Designation for Listed Species*. Memorandum to Douglas Krofta, U.S. Fish and Wildlife Service.

## SECTION 5. SUMMARY

In conclusion, the section 7-related costs of designating critical habitat for *Ivesia webberi* are likely to be limited to the additional administrative effort required to consider adverse modification in a small number of consultations. This finding is based on several factors, including:

1. All proposed units are considered occupied, providing baseline protection resulting from the listing of the species as threatened under the Act;
2. Activities occurring within designated critical habitat with a potential to affect the species' habitat are also likely to adversely affect the species, either directly or indirectly;
3. Project modifications requested to avoid adverse modification are likely to be the same as those needed to avoid jeopardy in occupied habitat; and
4. Federal agencies operating in proposed critical habitat areas are already aware of the presence of the *Ivesia webberi* and are also experienced consulting with the Service under section 7 of the Act on other federally listed species. Thus, in the baseline, they are likely to consult even in buffer areas surrounding the species included in the designation to ensure protection of pollinator habitat.

The incremental administrative burden resulting from the designation is unlikely to reach \$100 million in a given year based on the small number of anticipated consultations and per-consultation costs. Furthermore, because *Ivesia webberi* already receives protection by both the state of Nevada and California, it is unlikely that the designation of critical habitat will trigger additional requirements under state or local regulations. Finally, costs resulting from public perception of the effect of critical habitat, if they occur, are unlikely to reach \$100 million in a given year, based on the small number of acres possibly affected and average land values in the vicinity of those acres.

Additional efforts to conserve *Ivesia webberi* are not predicted. If, however, other effects, such as public perception, cause changes in future land use, benefits to the species and environmental quality may occur. Due to existing data limitations, we are unable to assess the likely magnitude of such benefits.

In summary, critical habitat for *Ivesia webberi* is unlikely to generate cost impacts exceeding \$100 million in a single year. The magnitude of likely benefits is highly uncertain, and quantification would require primary research and the generation of substantial amounts of new data, which is beyond the scope of this memorandum and Executive Order 12866.<sup>25</sup>

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<sup>25</sup> Executive Order 12866 directs agencies to base regulatory decisions on "the best reasonably obtainable scientific, technical, economic, and other information concerning the need for, and consequences of, the intended regulation" (58 FR 51736). For a detailed discussion of data limitations associated with the estimation of critical habitat benefits, see Flight, M. and R. Unsworth, Industrial Economics, Incorporated. 2011. *Quantifying Benefits of Critical Habitat Designation for Listed Species*. Memorandum to Douglas Krofta, U.S. Fish and Wildlife Service.

APPENDIX A | OVERVIEW MAPS OF PROPOSED *IVESIA WEBERRI* CRITICAL HABITAT

EXHIBIT A-1 PROPOSED *IVESIA WEBBERRI* CRITICAL HABITAT: UNITS 1-4

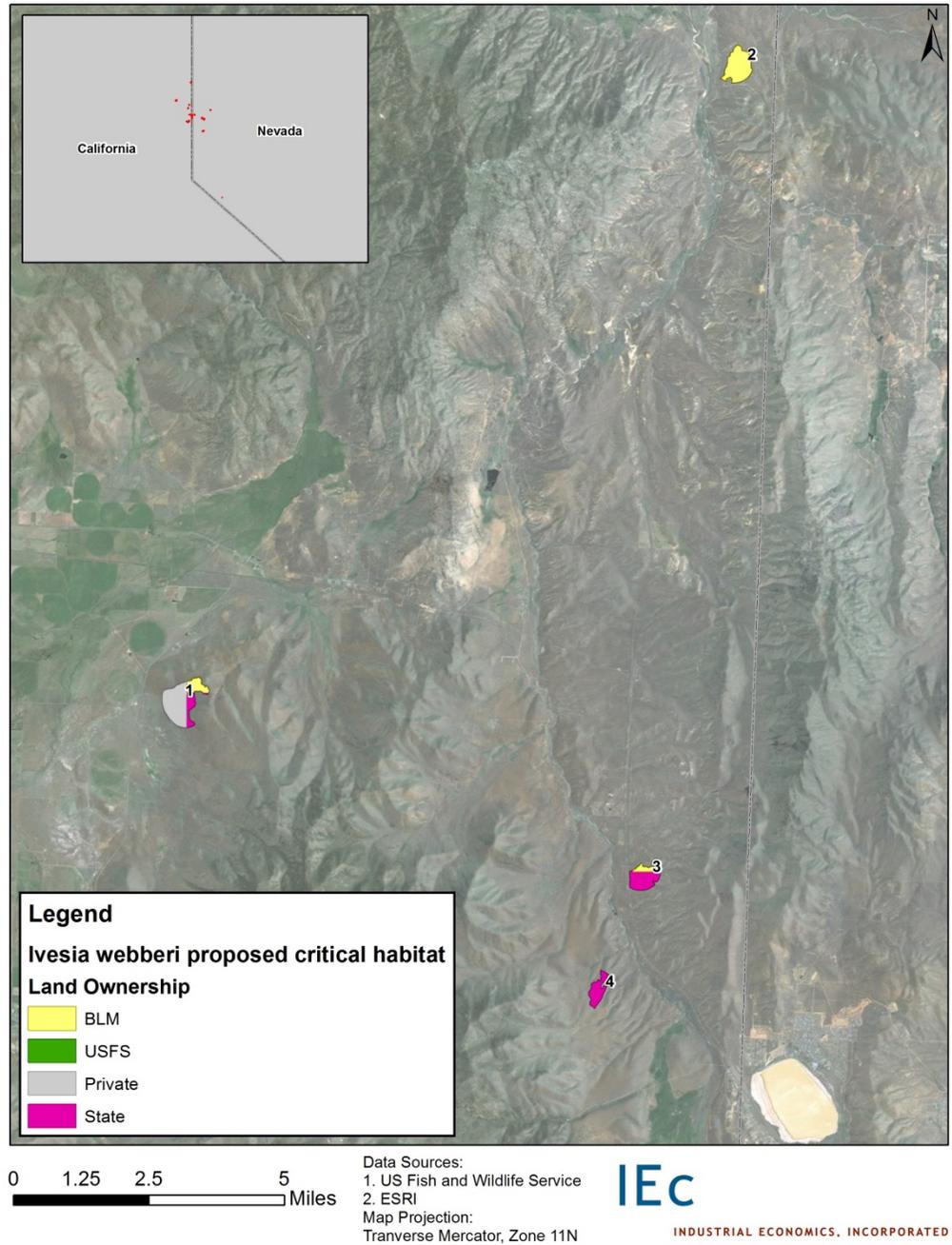


EXHIBIT A-2 PROPOSED *IVESIA WEBBERRI* CRITICAL HABITAT: UNITS 5-10

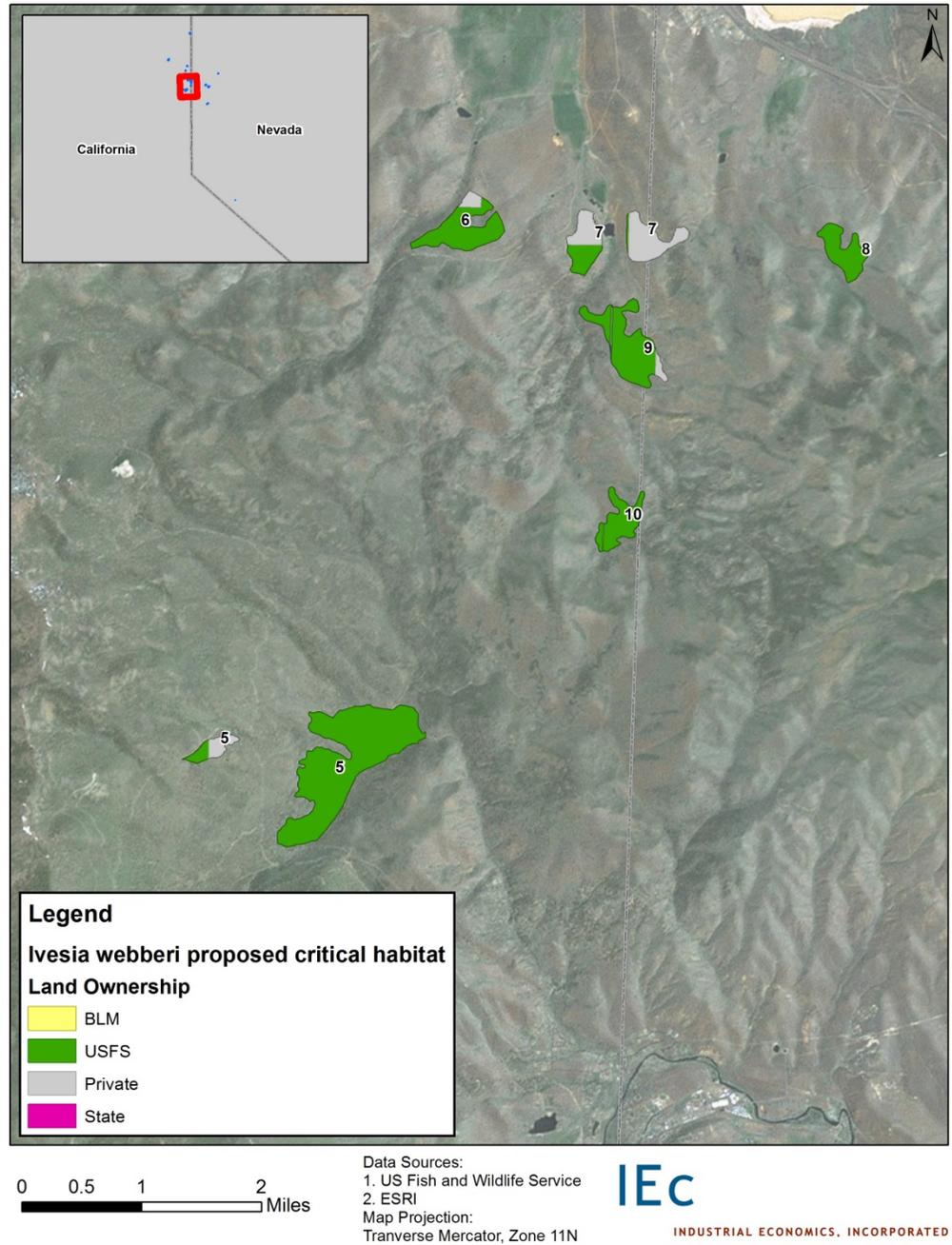


EXHIBIT A-3 PROPOSED *IVESIA WEBBERRI* CRITICAL HABITAT: UNITS 11-13

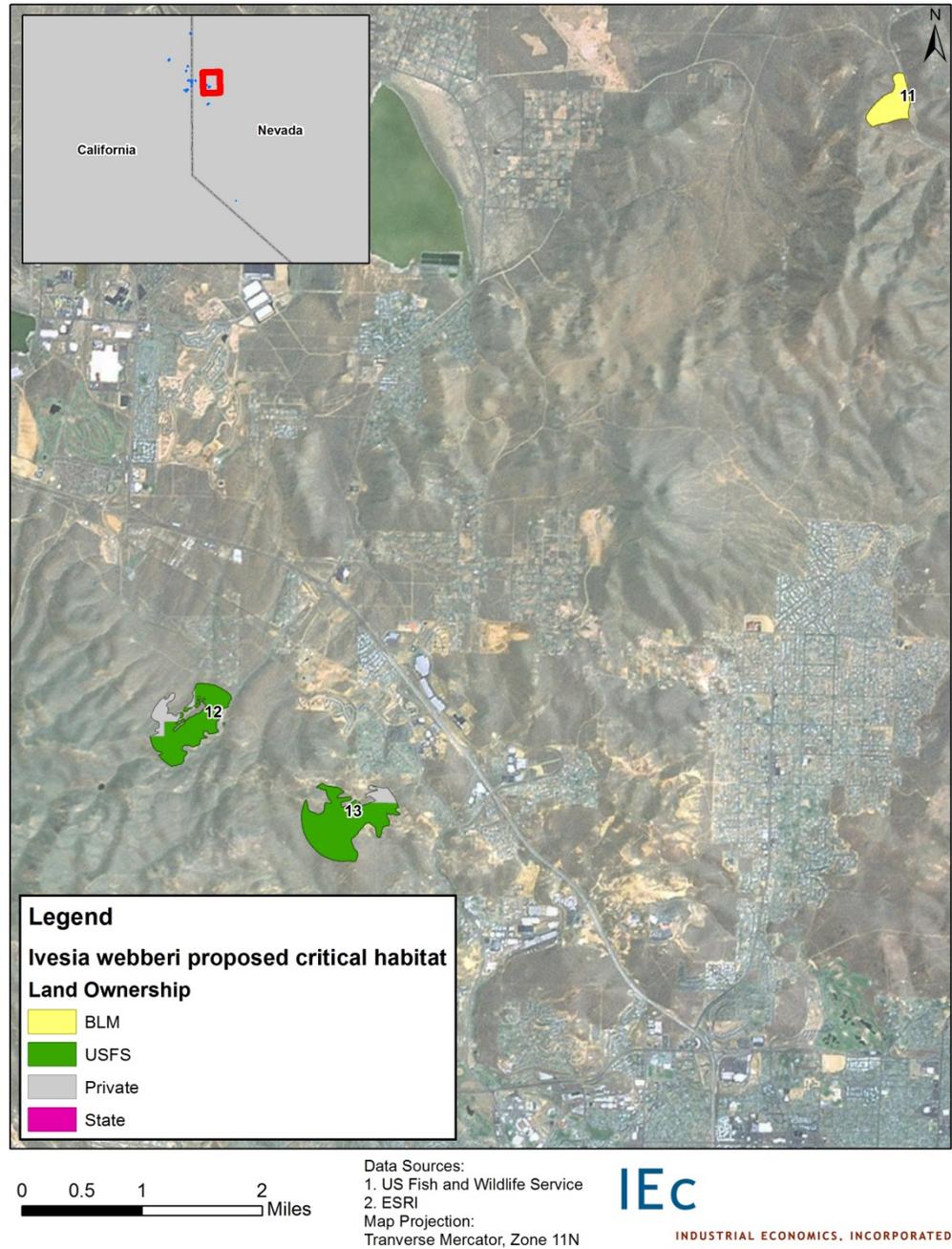


EXHIBIT A-4 PROPOSED *IVESIA WEBERRI* CRITICAL HABITAT: UNITS 14-15

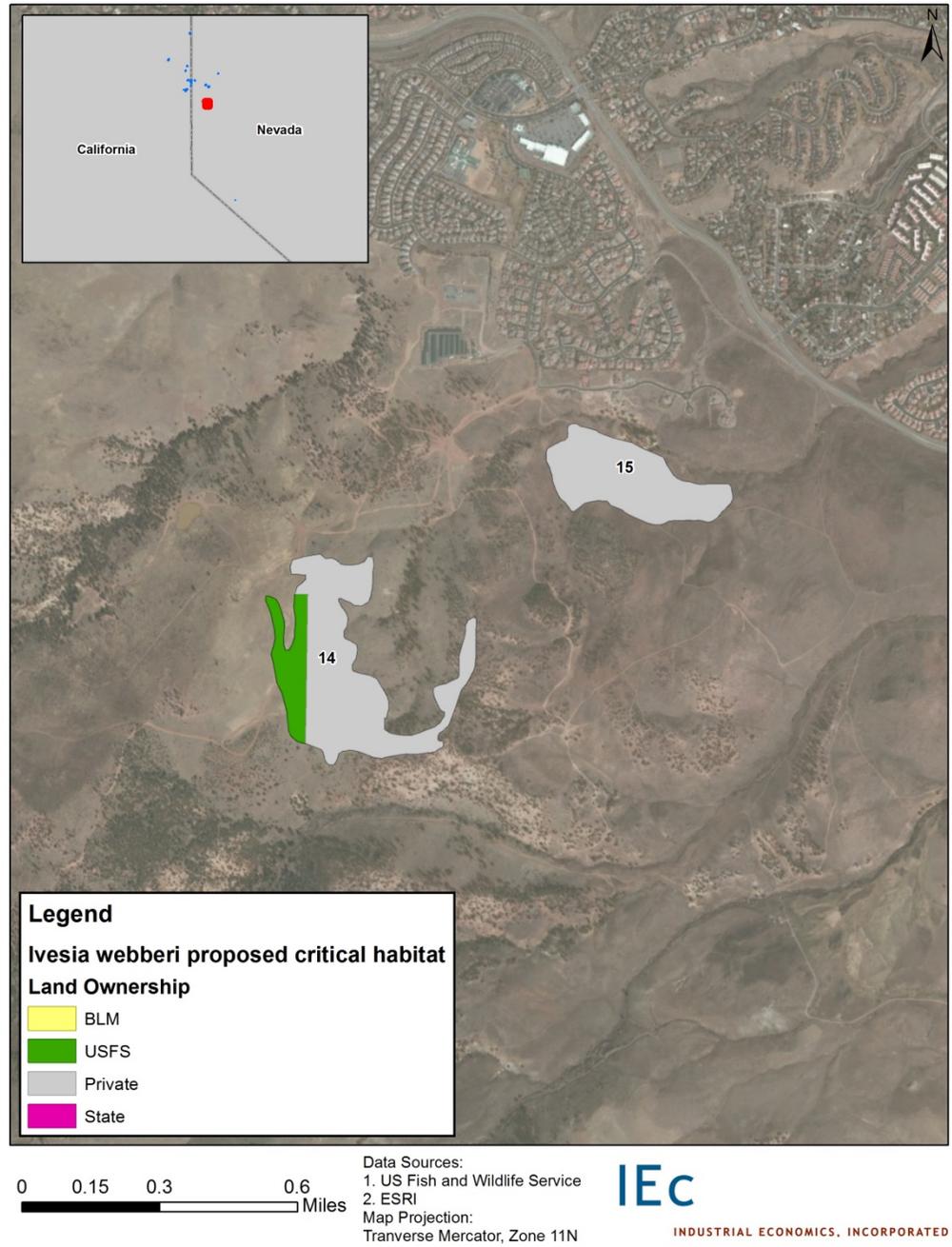
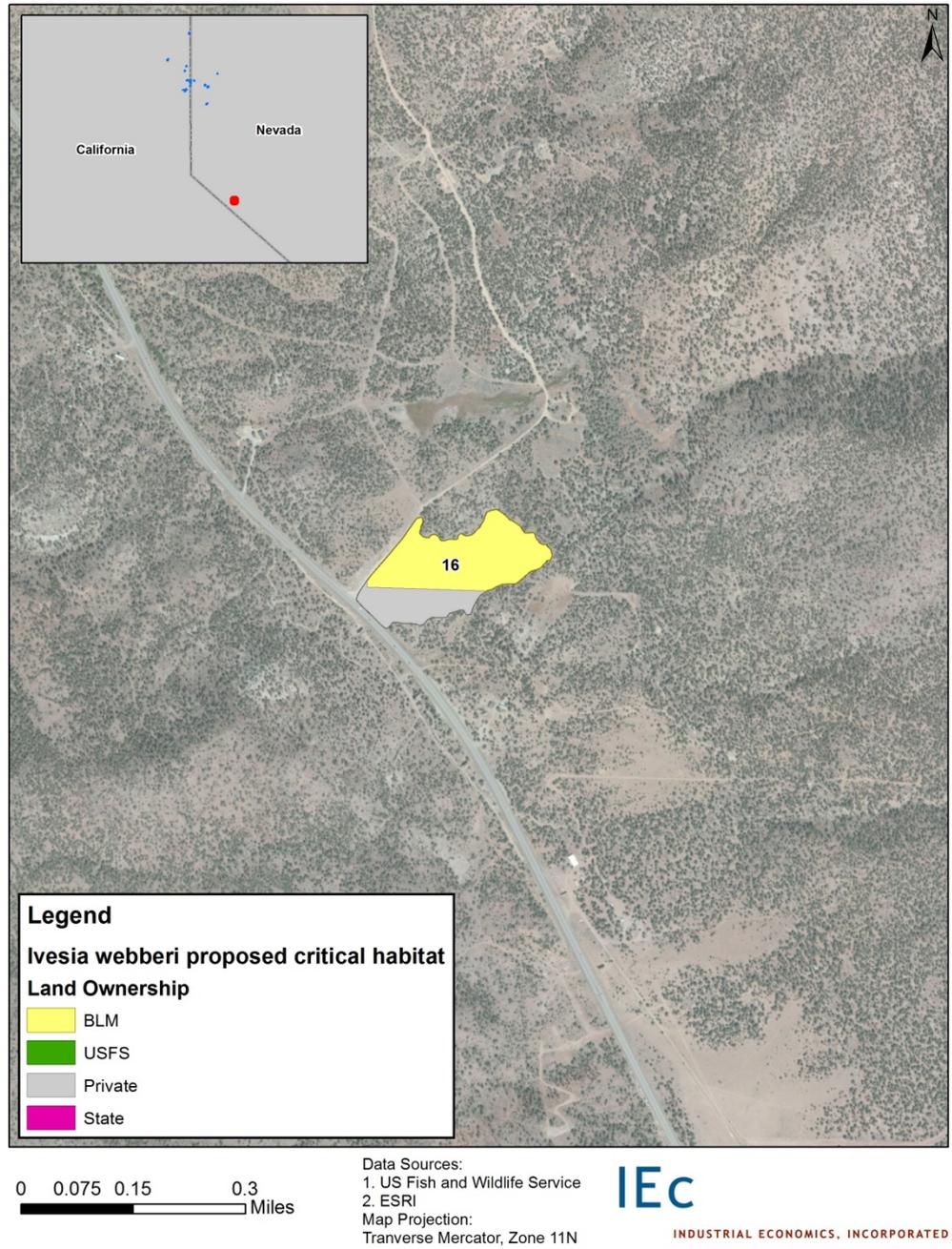


EXHIBIT A-5 PROPOSED *IVESIA WEBBERRI* CRITICAL HABITAT: UNIT 16



APPENDIX B | PLANNED PROJECTS ON FEDERAL LANDS BY CRITICAL HABITAT UNIT

EXHIBIT B-1. PLANNED PROJECTS ON FEDERAL LANDS BY CRITICAL HABITAT UNIT

UNIT NO.	UNIT NAME	PROJECT DESCRIPTION	ACTION AGENCY
1	Sierra Valley	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
2	Constantia	Constantia North Allotment Permit Renewal (2018)	BLM
		CCDO Resource Management Plan (2016) <sup>1</sup>	
		Travel management plan <sup>1</sup>	
3	East of HJWA, Evans Canyon	Plumas Station Allotment Permit Renewal (2016)	BLM
		CCDO Resource Management Plan (2016) <sup>1</sup>	
		Travel management plan <sup>1</sup>	
5A	Dog Valley Meadow	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup> Barricade installation project (2014)	USFS
5B	Upper Dog Valley	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
		Barricade installation project (2014)	
6	White Lake Overlook	Programmatic consultation for fuels reduction activities <sup>1</sup>	USFS
7A	Mules Ear Flat	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
7B	Three Pine Flat; Jeffrey Pine Saddle	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
8	Ivesia Flat	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
9	Stateline Road 1	Bordertown Transmission Line project	USFS
		Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	
10	Stateline Road 2	Bordertown Transmission Line project	USFS
		Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	
11	Hungry Valley	Paiute Allotment Permit Renewal	BLM
		CCDO Resource Management Plan (2016) <sup>1</sup>	
		BIA ROW	
		Nevada Bell ROW	
		Travel management plan <sup>1</sup>	
12	Black Springs	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS
13	Raleigh Heights	Motorized vehicle management project	USFS
		Washoe County land conveyance	
		Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	
14	Dutch Louie Flat	Programmatic consultation for invasive species management and fuels reduction activities <sup>1</sup>	USFS

UNIT NO.	UNIT NAME	PROJECT DESCRIPTION	ACTION AGENCY
16	Dante Mine Road	Buckeye Allotment Permit Renewal (2016)	BLM
		CCDO Resource Management Plan (2016)	
		NV DOT ROW	
		Fiber optic cable maintenance project	
		Power line vegetation management activities	
<p><u>Notes:</u></p> <ol style="list-style-type: none"> <li>Some projects may apply to multiple units.</li> <li>No projects were identified for units not listed in this table (i.e., Units 4 and 15).</li> </ol> <p><b>Acronyms:</b> BIA: Bureau of Indian Affairs; BLM: Bureau of Land Management; CCDO: BLM Carson City District Office; NV DOT: Nevada Department of Transportation ROW: Right of Way; USFS: U.S. Forest Service</p>			