



Frequently Asked Questions about the Draft Economic Analysis of the Proposal to Designate Critical Habitat for Five Carbonate Plants

Q. What is an economic analysis and why is it required?

Section 4(b)(2) of the Endangered Species Act, as amended (Act), requires the U.S. Fish and Wildlife Service (Service) to designate critical habitat, based on the best scientific information available, after taking into account the economic impact, or any other relevant impact, of specifying a particular area as critical habitat. We may exclude an area from critical habitat designation, if we determine that the benefits of exclusion outweigh the benefits of including it as critical habitat, unless we determine that such an exclusion would lead to the extinction of the species.

The draft economic analysis on the proposed critical habitat designation for the five carbonate plants was prepared by Economic & Planning Systems, Incorporated (EPS), under subcontract to Industrial Economics, Inc., (IEC), for the Service's Division of Economics.

Q. What methodology was used to develop the draft economic analysis?

To determine the economic impact resulting from the designation of critical habitat for the five carbonate plants, EPS first reviewed the critical habitat Units and developed a comprehensive list of all possible Federal nexuses for lands included in each of the Units. A Federal nexus exists when an action is undertaken, authorized, permitted, or funded by a Federal agency, regardless of ownership of the land. Under section 7 of the Act, if a Federal agency determines an action may affect a federally listed species or its designated critical habitat, it must consult with the Service.

After developing a list of all possible Federal nexuses, the draft analysis identifies whether a specific project or activity would result in a section 7 consultation, and whether the consultation would likely result in any modifications to a project. The draft economic analysis provides an estimate of the possible costs associated with consultations and/or modifications to projects within the proposed critical habitat areas.

Q. What are the conclusions of the draft economic analysis?

The draft economic analysis estimates costs associated with the listing of the five carbonate plants under the Act and the designation of critical habitat could range from \$174 million to \$281 million, over a 60-year time frame. The draft economic analysis estimates that project modifications attributed solely to the designation of critical habitat could range from \$58,000 to \$89,000 over the next 60 years. Unlike previous economic analyses, which traditionally relied on a 10-year time frame to estimate economic impacts, the nature of commercial mining as a long-term economic pursuit requires an expanded time frame to adequately estimate potential costs associated with the proposed rule.

To calculate an average cost of a consultation, the draft economic analysis considered the components of a consultation including costs to conduct surveys, administrative costs to the Service for conducting a consultation, possible costs associated with delays to projects, and costs that could be incurred as a result of conservation measures or modifications necessary to complete projects.

Q. Will the public be given an opportunity to comment on the draft economic analysis and proposed critical habitat for the carbonate plants?

Yes. The Service wants to ensure that any final action resulting from this proposal will be as accurate and as effective as possible. We are actively soliciting comments or suggestions from the public, other government agencies, the scientific community, industry representatives, and other interested parties through 5:00 p.m. on **October 21, 2002**. All comments and information received during the comment period will be considered in any final determination of critical habitat. In particular, we are seeking comments and information regarding:

- (1) Assumptions reflected in the Carbonate Habitat Management Strategy and the draft economic analysis regarding land use practices and current, planned, or reasonably foreseeable activities in the subject areas, including comments or information relating to the potential effects that the designation could have on private landowners as a result of actual or foreseeable State and local government responses due to the California Environmental Quality Act;
- (2) Land use practices and current, planned, or foreseeable activities in the subject areas and their possible impacts on proposed critical habitats;
- (3) Any foreseeable economic or other impacts resulting from the proposed designation of these critical habitats, including impacts that may not have been addressed in the draft economic analysis and, in particular, any impacts on small entities or families;
- (4) Economic and other values associated with designating critical habitat for Astragalus albens, Erigeron parishii, Eriogonum ovalifolium var. vineum, Lesquerella kingii ssp. bernardina, and Oxytheca parishii var. goodmaniana, such as those derived from non-consumptive uses (e.g., hiking, camping, plant-watching/botanizing, enhanced watershed protection, improved air quality, increased soil retention, “existence values,” and reductions in administrative costs); and
- (5) Whether our approach to critical habitat designation could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concern and comments. The reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefits of designation will outweigh any threats to these species due to designation;

All comments and materials should be sent to Field Supervisor, Carlsbad Fish and Wildlife Office, 2730 Loker Avenue West, Carlsbad, California 92008. Comments may also be submitted by electronic mail to **carbplants@r1.fws.gov**. Please submit electronic comments in ASCII file format and avoid the use of special characters and encryption. Please include “Attn: RIN 1018-AI27,” and your name and return address in your message.

All comments and materials received will be available for public inspection, by appointment, during normal business hours, at the Carlsbad Fish and Wildlife Office.

Q. What are the carbonate plants?

The San Bernardino Mountains support a diversity of specialized natural habitats resulting from their geographic position between desert and coastal environments; and their geological history, elevation, and uncommon geological substrates. Within the northeastern portion of the San Bernardino Mountains in

southern California, outcrops of carbonate substrates, primarily limestone and dolomite, occur in a series of bands extending about 35 miles from east to west along the desert-facing slopes. This portion of the mountains is generally referred to as the 'carbonate belt'. Mining activities do occur within the carbonate belt.

The five carbonate plants are found within the carbonate belt. These plants generally grow in soils that are derived from limestone, dolomite, or other substrates rich in calcium carbonate, hence the name 'carbonate plants'. The five plants occur in scattered populations within the carbonate belt at elevations ranging from 3,842 to 8,800 feet.

The Service listed four of the carbonate plants as endangered, and one as threatened, under the Endangered Species Act, as amended, on August 24, 1994. The five carbonate plants are:

- ▶ **Cushenbury milk-vetch** (*Astragalus albens*) is a small, short-lived perennial member of the pea family that is typically found on carbonate soils along rocky washes and gentle slopes within pinyon woodland, pinyon-juniper woodland, Joshua tree woodland, and blackbush scrub communities. The plant produces purple flowers that bloom from March to May. Populations of this federally endangered plant are scattered along the carbonate belt from Dry Canyon, southeast to the head of Lone Valley.
- ▶ **Cushenbury buckwheat** (*Eriogonum ovalifolium* var. *vineum*) is a federally endangered plant that is a member of the buckwheat family. It grows in low, dense mats that are typically 6 to 10 inches in diameter, but can reach 20 inches in diameter. The flowers of this plant are whitish-cream colored, but can darken to a reddish or purple hue with age. Populations of this plant are found within the carbonate belt from White Mountain, east to Rattlesnake Canyon.
- ▶ **San Bernardino Mountains bladderpod** (*Lesquerella kingii* ssp. *bernardina*) has the most restricted distribution of the carbonate plants and is found only on soils derived from dolomite. A member of the mustard family, bladderpod grows 4 to 8 inches tall and can be seen blooming from May to June. It is listed as endangered.
- ▶ **Cushenbury oxytheca** (*Oxytheca parishii* var. *goodmaniana*) is found in scattered populations from White Mountain, east to Rattlesnake Canyon. A small, wiry member of the buckwheat family, this endangered plant usually grows to 2 to 12 inches tall and has white to rose or greenish-yellow petals.
- ▶ **Parish's daisy** (*Erigeron parishii*) is a small perennial herb that grows 4 to 12 inches tall and flowers from May through June. A member of the aster family, the federally threatened Parish's daisy has the widest geographic distribution of the carbonate plants.

Q. What are the primary constituent elements essential to the conservation of the carbonate plants?

The primary constituent elements for the carbonate plants are those habitat components essential for the primary biological needs of the species and its dormant seeds. Habitat components essential for the five carbonate plants are found in vegetation communities classified as, but not limited to, pinyon woodland, pinyon-juniper woodland and forests, Joshua tree woodland, white fir forests, subalpine forest, canyon live

oak woodlands and forests, and blackbush scrub in the San Bernardino Mountains, San Bernardino County, California. These habitat components provide for: (1) individual and population growth, including sites for germination, pollination, reproduction, pollen and seed dispersal, and seed dormancy; (2) areas that allow for and maintain gene flow between sites through pollinator activity; (3) areas that provide basic requirements for growth such as water, light, and minerals; and (4) areas that support pollinators and seed dispersal organisms.

Each of the carbonate plants has a separate set of primary constituent elements, as follows:

Cushenbury milk-vetch: (1) soils derived primarily from Bird Spring Formation, upper and middle members, and Undivided Cambrian parent materials that occur on hillsides or along rocky washes with limestone outwash between 1,171 and 2,013 m (3,864 and 6,604 ft); (2) soils with intact, natural surfaces that have not been substantially altered by land use activities; and (3) plant communities that have areas with an open canopy cover and little accumulation of organic material on the surface of the soil (e.g., leaf litter);

Cushenbury buckwheat: (1) soils derived primarily from Bird Spring Formation, upper and middle members, and Bonanza King Formation parent materials that occur on hillsides between 1,400 and 2,400 m (4,600 and 7,900 ft); (2) soils with intact, natural surfaces that have not been substantially altered by land use activities; and (3) plant communities that have areas with an open canopy cover (generally less than 15 percent cover) and little accumulation of organic material on the surface of the soil (e.g., leaf litter);

San Bernardino Mountains bladderpod: (1) soils derived primarily from Bonanza King Formation and Undivided Cambrian parent materials that occur on hillsides or on large rock outcrops between 2,098 and 2,700 m (6,883 and 8,800 ft); (2) soils with intact, natural surfaces that have not been substantially altered by land use activities; and (3) plant communities that have areas with an open canopy cover and little accumulation of organic material on the surface of the soil (e.g., leaf litter);

Cushenbury Oxytheca: (1) soils derived primarily from upslope limestone, a mixture of limestone and dolomite, or limestone talus substrates with parent materials that include Bird Spring Formation, all members; Bonanza King Formation; Monte Cristo Limestone, middle and lower members; and Sultan Limestone, Crystal Pass member between 1,440 and 2,372 m (4,724 and 7,782 ft); (2) soils with intact, natural surfaces that have not been substantially altered by land use activities; and (3) plant communities that have areas with an moderately open canopy cover (generally between 25 and 53 percent; Neel 2000);

Parish's daisy: (1) soils derived primarily from upstream or upslope limestone, dolomite, or quartz monzonite parent materials that occur on dry, rocky hillsides, shallow drainages, or outwash plains between 1,171 and 1,950 m (3,842 and 6,400 ft); (2) soils with intact, natural surfaces that have not been substantially altered by land use activities; and (3) plant communities that have areas with an open canopy cover.

Q. What areas have been proposed as critical habitat?

We are proposing to designate a total of 13,180 acres of land as critical habitat for the five carbonate plants.

Proposed critical habitat for each of the plants is as follows:

Cushenbury milk-vetch:	4,365 acres
Cushenbury buckwheat:	6,955 acres
San Bernardino Mountains bladderpod:	1,025 acres
Cushenbury Oxytheca:	3,150 acres
Parish's daisy:	4,420 acres

Due to the considerable overlap in the habitats for each of the plants, the total proposed critical habitat for the five carbonate plants is 13,180 acres. Approximately 86 percent (11,280 acres) of the proposed critical habitat is on Federal land, most of which is managed by the U.S. Forest Service's San Bernardino National Forest (SBNF). A small portion of the proposed critical habitat is on land managed by the Bureau of Land Management (BLM). Areas proposed as critical habitat are identified in three separate units:

All lands proposed as critical habitat support known populations of the plants and/or contain one or more of the primary constituent elements that provide for the life cycle needs of these plants.

Q. Will the Forest Plan provide adequate protection for the carbonate plants?

The long-term survival and conservation of the carbonate plants is dependent upon a number of factors, including the protection and management of existing populations and habitat. The U.S. Forest Service (USFS) is currently revising its Land and Resource Management Plans (Forest Plans) for the Angeles, Cleveland, Los Padres, and San Bernardino National Forests in southern California. The Service is working closely with the USFS to ensure that all federally listed species that occur on USFS lands are adequately protected.

Q. What other conservation or management plans are being developed for the carbonate plants?

In September 1997, we published a Draft San Bernardino Mountains Carbonate Endemic Plants Recovery Plan. The Draft Recovery Plan identifies actions needed to conserve and recover the carbonate plants including protecting significant existing populations, restoring habitat, reintroducing plants, and implementing appropriate management measures such as monitoring and surveying. We are currently working on revising the Draft Recovery Plan.

Since the listing of the carbonate plants pursuant to the Act, the SBNF, the Service, BLM, and mining interests have been engaged in a broad, cooperative effort to develop the Carbonate Habitat Management Strategy (CHMS). The CHMS will address the conservation of carbonate habitat within a 160,300 acre portion of the San Bernardino Mountains. The goals of the CHMS are to protect the carbonate plants and their habitats; minimize impacts or mitigate for unavoidable impacts from projects within the CHMS area; provide for streamlined project reviews within the planning area; and to guide habitat restoration activities.

Q. What happens if my private property is designated as critical habitat for the carbonate plants?

The designation of critical habitat will not affect private landowners unless they are undertaking an activity that requires Federal funding, permitting, or authorization. If a project on private land does require Federal permitting, funding, or authorization, and the project may affect designated critical habitat for the carbonate plants, the Federal agency would be required to consult with the Service.

Q. Does the designation of critical habitat create preserves?

No. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve or preserve. It does not allow government or public access to private lands and will not result in closure of the area to all access or use.

Q. How will any final designation of critical habitat affect activities for which a party has already consulted with the Service under section 7 of the Act?

Regulations require Federal agencies to reinitiate consultation with the Service on previously reviewed actions if critical habitat is designated after the initial consultation, and if those actions may adversely affect critical habitat. This applies only to Federal agencies which have retained some type of involvement or control over the action, or if such involvement is authorized by law. Federal agencies may request to reinitiate consultation with the Service if a project may affect critical habitat.

Q. What happens if a project is reviewed as part of a reinitiation of consultation and the Service determines it will adversely modify critical habitat?

It is highly unlikely that an activity that was reviewed and permitted by the Service under section 7 of the Act, prior to the designation of critical habitat, will be changed. During a consultation, we must determine if the proposed action will “jeopardize the continued existence” of a species by asking the question “*will the project appreciably reduce the likelihood of the species’ survival and recovery?*” A project that will “destroy or adversely modify” critical habitat is one that will appreciably reduce the value of habitat for the survival and recovery of the species. Regardless of whether critical habitat has been designated, we must still consider the effect a project may have on the continued existence and recovery of a listed species.

Prepared by: U.S. Fish and Wildlife Service
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