Nolina interrata is a dioecious (male and female flowers on separate plants) perennial with an underground stem that forms a woody platform and produces many aerial rosettes of leaves. Each rosette consists of 10 to 45 lancelinear, glaucous (covered with a whitish powder) leaves with minutely serrate margins. In some years, rosettes produce a single stalk 1 to 2.5 m (3 to 7.5 ft.) tall with an elongate, compound panicle inflorescence at its apex. The flowers are minute (2 to 4 mm (0.1 to 0.2 in.)) and creamy white. Nolina interrata can be distinguished by its short, thinstalked panicle, which has inconspicuous bracts, and by the absence of any visible above-ground trunk or stem bearing individual rosettes of leaves, a greatly reduced number of leaves per rosette, and minimally expanded leaf bases. It can be distinguished from *Yucca* species by the absence of a rigid spinose leaf tip and leaves with shredding margins. In addition, Yucca species have larger flowers that branch from a single spike rather than a panicle (Dice 1988, 1993).

Nolina interrata grows in chaparral habitat commonly associated with Adenostoma fasciculatum (chamise), Helianthemum scoparium (peak rush rose), Salvia clevelandii (Cleveland sage), and Tetracoccus dioicus (San Diego button bush). Nolina interrata is often associated with other rare plants such as Senecio ganderi (Gander's butterweed), Acanthomintha ilicifolia (San Diego thornmint), Monardella hypoleuca ssp. lanata (felt-leaved monardella), and Fritillaria biflora (chocolate lily) (Oberbauer 1979). The association of N. interrata with these species reflects the distribution of clay soils formed from gabbro soils in the region (Oberbauer 1979, 1991, Beauchamp 1986). Nolina interrata reproduces primarily by asexual means and it does not flower every year; this adaptation may compensate for its lack of consistent flowering. It also may require fire or other disturbance to induce flowering.

The total population size of Nolina interrata is about 9,000 plants. There are nine populations of *N. interrata* in San Diego County, all within a 6 square mile (15.6 square kilometer (km)) area in the Dehesa Valley, immediately east of El Cajon, California. There are no records of extirpated populations. About onethird to one-half of the known populations are protected on a reserve managed by The Nature Conservancy at McGinty Mountain. Another large population, located near Sycuan Peak, is owned by two private landowner consortiums. The remaining few populations are small and occur on

private land (Oberbauer 1979, CNDDB 1992).

Nolina interrata is known from 3 localities in Baja California and ranges as far south as Ensenada (Rancho de la Cruz) in Baja California, Mexico (Fred Hrusa, University of California at Davis, in litt. 1993). One population exists about 16 km (10 miles) northeast of La Mision. Both of these disjunct Mexican populations have fewer than 25 individuals each. Another population has recently been discovered closer to the United States border and it appears to be of comparable size (Jim Dice, CDFG, pers. comm. 1995).

Previous Federal Action

Federal government action on the four plant taxa considered in this rule began as a result of section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94–51, and presented to Congress on January 9, 1975, recommended Berberis nevinii, Fremontodendron mexicanum, and Nolina interrata for endangered status. The Service published a notice in the Federal Register on July 1, 1975 (40 FR 27823), of its acceptance of the report as a petition within the context of section 4(c)(2) (now section 4(b)(3)(A)) of the Act, and of the Service's intention thereby to review the status of the plant taxa named therein, including B. nevinii, F. mexicanum, and N. interrata. On June 16, 1976, the Service published a proposal in the Federal Register (42 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. Berberis nevinii, Fremontodendron mexicanum, and Nolina interrata were included in this Federal Register proposal.

General comments received in relation to the 1976 proposal were summarized in an April 26, 1978, Federal Register publication (43 FR 17909). The Endangered Species Act amendments of 1978 required all proposals over 2 years old to be withdrawn, although a 1-year grace period was given to these proposals. In the December 10, 1979, Federal Register (44 FR 70796), the Service published a notice of withdrawal for that portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired.

The Service published an updated notice of review of plants in the Federal Register on December 15, 1980 (45 FR 82480). This notice included *Berberis*

nevinii, Fremontodendron mexicanum, and Nolina interrata as category 1 candidate taxa (species for which data in the Service's possession are sufficient to support a proposal for listing). On November 28, 1983, the Service published a supplement to the Notice of Review in the Federal Register (48 FR 53640). This supplement treated *F.* mexicanum as a category 2 candidate species (species for which data in the Service's possession indicates listing may be appropriate, but for which additional biological information is needed to support a proposed rule), whereas B. nevinii and N. interrata remained as category 1 species. The listing status of these species has remained unchanged since the 1983 Notice of Review.

Section 4(b)(3)(B) of the Endangered Species Act of 1973, as amended in 1982, requires the Secretary to make findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Berberis nevinii*, Fremontodendron mexicanum, and Nolina interrata because the 1975 Smithsonian report had been accepted as a petition. On October 13, 1983, the Service found that the petitioned listing of these species was warranted, but precluded by other pending listing proposals of higher priority, pursuant to section 4(b)(3)(B)(iii) of the Act. Notification of this finding was published in the Federal Register on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. The finding was reviewed in October of 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, and 1992.

The Service made a final "not warranted" finding on the 1975 petition with respect to Fremontodendron mexicanum and 864 other species in the December 9, 1993, Federal Register (58 FR 64828–45). The species was thus retained under Category 2 on the basis that it may be subject to extinction or endangerment from uncontrolled loss of habitat, from other man-caused changes to its environment, or extinction due to low numbers (58 FR 64840). Since 1993, the Service has completed or obtained survey and other data that adequately describe those factors that are placing *F*. *mexicanum* at risk of extinction. The Service has proceeded to propose this species along with Berberis nevinii, Nolina interrata, and Ceanothus ophiochilus that occupy the same