

**EMERGENCY PETITION TO LIST THE SAN FRANCISCO MANZANITA
(*ARCTOSTAPHYLOS FRANCISCANA*) AS AN ENDANGERED SPECIES**



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INSTITUTE

*Building a healthy and sustainable global community for people
and the plants and animals that accompany us on Earth*

PETITIONER

December 14, 2009

NOTICE OF PETITION

Wild Equity Institute
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Lead petitioner the Wild Equity Institute and co-petitioners the Center for Biological Diversity and the California Native Plant Society formally request that the Fish and Wildlife Service (“FWS”) list the Franciscan or San Francisco manzanita, *Arctostaphylos franciscana*, as an endangered species under the federal Endangered Species Act (“ESA”) on an emergency basis pursuant to 16 U.S.C. § 1533(b)(7) and 50 CFR § 424.20. If FWS does not find that the species deserves emergency protection, the Wild Equity Institute formally requests that *A. franciscana* be listed as an endangered species pursuant to the procedures specified at 16 U.S.C. § 1533(b)(3) and 50 C.F.R. § 424.14(b). The Wild Equity Institute formally requests that critical habitat for the species be designated concurrent with this listing.

To the extent genetic studies indicate that the recently discovered *Arctostaphylos* individual in the Presidio near Doyle Drive in San Francisco, CA is a hybrid, the Wild Equity Institute petitions FWS to list the hybrid under FWS’ proposed policy on treatment of intercrosses and intercross progeny, 61 Fed. Reg. 4,710 (Feb. 7, 1996), on an emergency basis, in addition to petitioning to list *A. franciscana*. To the extent the individual discovered is determined to be a newly discovered species, the Wild Equity Institute petitions to list this previously unknown species on an emergency basis in addition to petitioning to list *A. franciscana*.

The petition is filed under § 553(e) of the Administrative Procedure Act, § 1533(b)(3) of the ESA, and 50 C.F.R. § 424.14(b). FWS has jurisdiction over this petition. This petition sets in motion a specific administrative process as defined by 50 C.F.R. § 424.20 and § 424.14(b), placing mandatory response requirements on FWS.

The Wild Equity Institute is a non-profit organization dedicated to building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth. The Wild Equity Institute submits this petition on its own behalf and on behalf of its members, board, and staff, with an interest in protecting the San Francisco manzanita and its habitat. The Center for Biological Diversity is a co-petitioner. The Center for Biological Diversity is a national nonprofit conservation organization with more than 240,000 members and online activists dedicated to the protection of endangered species and wild places. The California Native Plant Society is a co-petitioner. The California Native Plant Society is a non-profit organization whose mission is to conserve California native plants and their natural habitats. Their nearly 10,000 members work to promote native plant appreciation, research, and conservation through 33 chapters located statewide.

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EXECUTIVE SUMMARY

The San Francisco manzanita existed historically in three populations in San Francisco. But by 1947, the last plant in the wild was lost to development. Fortunately, cuttings from this plant were preserved and the species survived in botanical gardens. Originally petitioned for Endangered Species Act protection by the Smithsonian Institution in 1975, and proposed for listing by the Fish and Wildlife Service in 1976, 41 Fed. Reg. 24524, 24541 (June 16, 1976), the species was nonetheless never protected under the Endangered Species Act.

However, in recent weeks an incredible discovery has been made: a previously overlooked individual San Francisco manzanita plant has been found in the wild, more than six decades after all wild populations were thought to have been lost. This rediscovery breathes new hope into reintroduction and recovery efforts for the species.

The Endangered Species Act, the world's most comprehensive and effective law promoting the protection and recovery of threatened wildlife and plants, must now—finally—be invoked to protect the San Francisco manzanita. The Endangered Species Act's recovery planning process, its requirement that management be based on the best available science, and its track record in preventing imperiled species from going extinct will be essential tools in establishing a robust and viable San Francisco manzanita population in its historical habitats. Working together under the protections and procedures provided by the world's most effective conservation law, we can ensure that the San Francisco manzanita does not go extinct in the wild a second time.

This petition seeks to designate the San Francisco manzanita, *Arctostaphylos franciscana*, as an endangered species under the ESA on an emergency basis. In the alternative, this petition seeks to list *Arctostaphylos franciscana* under the FWS' normal petition processing rules and regulations established at 16 U.S.C. § 1533(b)(3) and 50 C.F.R. § 424.14(b).¹ In either case, this petition requests that critical habitat be designated for the San Francisco manzanita concurrent with the listing of this species.

As a recognized species, the San Francisco manzanita is a listable entity under the ESA. Because existing regulatory mechanisms to protect the species are inadequate; because the population's remaining wild habitat is at risk of being modified and destroyed; and because other factors are affecting the species, *A. franciscana* should be listed as an endangered species under the ESA.

This petition reviews the taxonomy, biology, and natural history of the San Francisco manzanita, the threats faced by the species, the factors FWS must consider in listing it as an endangered species, and recommends that critical habitat be concurrently designated with the listing of the species.

¹ To the extent genetic testing determines that the *Arctostaphylos* individual is a hybrid, petitioners request listing this hybrid pursuant to the FWS' proposed policy on intercrosses and intercross progeny on an emergency basis, in addition to petitioning to list *A. franciscana*. To the extent genetic testing determines that the *Arctostaphylos* individual is a new species, petitioners request listing this newly discovered species in addition to petitioning to list *A. franciscana*.

I. SYSTEMATICS

A. Taxonomy

San Francisco manzanita is a rare manzanita endemic to San Francisco. The species has a complicated taxonomic lineage. Originally described as a full species, *Arctostaphylos franciscana* (Eastwood 1905), subsequent treatments first submerged San Francisco manzanita within *Arctostaphylos hookeri*, (McMinn 1939), and then considered the manzanita a subspecies of *A. hookeri* (Munz 1958; Wells 1993).

Furthermore, San Francisco manzanita has been confused with another endangered manzanita endemic to San Francisco: the Raven's or Presidio manzanita, *A. montana* ssp. *ravenii*. This confusion occurred in part because certain identifying characteristics were not emphasized by early botanists, and in part because the two species historically occurred together in mixed populations in San Francisco (USFWS 2003). Even Dr. Peter Raven originally classified his namesake manzanita as *A. franciscana* (USFWS 1984). Raven's and San Francisco manzanita nonetheless have different ploidy levels, which indicates that these two entities presumably could not freely interbreed as a single population of one species, despite their similarities (USFWS 2003).

San Francisco manzanita was classified as *Arctostaphylos hookeri* ssp. *franciscana* for many years, and this classification has been used in numerous scientific and legal documents, including Federal Register documents published by the U.S. Fish and Wildlife Service and standard classification guides. However, recent studies of molecular markers (Markos et al. 1999; Boykin et al. 2005; Wahlert 2005) shows that San Francisco manzanita is not closely related to other *A. hookeri* species, and the San Francisco manzanita is once again considered a separate taxon, *A. franciscana* (Parker et al. 2007).

Although it is always possible that new genetic information may alter current taxonomic classifications, such evidence would not affect the status of *A. franciscana*: the species is remarkably rare, and only one individual is known to exist in the wild.

Table 1. Taxonomic Classification of the San Francisco Manzanita.

Kingdom	Class	Order	Family	Genus	Species
Plantae	Magnoliopsida	Ericales	Ericaceae	Arctostaphylos	franciscana

B. Species Description

San Francisco manzanita is a low, spreading to ascending evergreen shrub in the heath family (Ericaceae). It has oblanceolate leaves (longer than wide, wider toward the tip), relatively larger and more reddish fruits than Raven's manzanita that are 6 to 8 millimeters (0.24 to 0.32 inch) wide, and relatively larger urn-shaped corollas that are 5 to 7 millimeters (0.2 to 0.28 inch)

long. By comparison, the Raven's manzanita has round leaves, a prostrate growth habit that persists in cultivation, smaller fruits that are 4 to 5 millimeters (0.15 to 0.19 inch) wide, and nearly spherical flowers that are 4 to 5 millimeters (0.15 to 0.19 inch) long (USFWS 2003).

II. ECOLOGY OF *A. FRANCISCANA*

A. Distribution

Like Raven's manzanita, San Francisco manzanita is endemic to bedrock outcrops of maritime scrub in San Francisco. Historic localities that supported San Francisco manzanita included: (1) the former Laurel Hill Cemetery; (2) the former Masonic Cemetery (near Lone Mountain); and (3) Mount Davidson, in the south-central part of the City. Nearly all historical localities in San Francisco were outcrops of serpentine except for Mount Davidson, which suggests limited historic and prehistoric distribution and only local abundance (USFWS 2003).

A photo of A. franciscana at the former Laurel Hill Cemetery, circa 1937.

Up to three apparently distinct clones of San Francisco manzanita are maintained in cultivation. Differences between clones persist after propagation, suggesting that they are genetic individuals. Roof (1980) reported that he salvaged plants of San Francisco manzanita from the Laurel Hill site between 1938 and 1940, possibly multiple clones, from which modern collections are derived. The plants are propagated by vegetative cuttings with moderate difficulty but are easily cultivated, and thrive on neglect after they are established on a wide range of substrates, including dune sand in Strybing Arboretum, not a natural substrate for this shrub.

Recently a single plant was discovered in the Presidio, near Doyle Drive. This single plant is near historical occurrences of the species. This plant is threatened by road construction projects, but negotiations are on going to determine the fate of the plant.

B. Reproduction

San Francisco manzanita can be propagated through cuttings with moderate difficulty. Once established they can thrive with little maintenance. The species is able to establish on a wide range of substrates, including dune sand and on other non-natural substrates for the species. The species therefore has good soil adaptability and a high potential for reintroduction on various substrates. San Francisco manzanita sets viable seed that can be propagated as well. The individual found at Doyle Drive also appears to exhibit spontaneous rooting, a reproductive strategy heretofore unknown in the species. This unique plant has unmatched conservation value for potential propagation success.

III. LISTING FACTORS

Section 4(a)(1) of the ESA and regulations at 50 CFR part 424 set forth general listing criteria. If a species' existence is imperiled by one or more of the following five factors, it must be listed as “threatened” or “endangered.”

A. Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

The San Francisco manzanita was declared extinct in the wild because its known habitats were destroyed by urban development. The rediscovered plant could suffer the same fate in the absence of the collaborative protections of the Endangered Species Act. The individual *A. franciscana* found in the Presidio is within the footprint of the Doyle Drive project, a multi-year road design project. The project, already approved and on a rigid time schedule, currently faces no federal ESA prohibition from taking the plant, even though the plant is found on federal property and therefore the take prohibitions found at 16 U.S.C. §1538(a)(2) would apply to the plant.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

San Francisco manzanita has remained unlisted for over sixty years, and in that timeframe a robust nursery trade has been established for the species. Because the genetic makeup of the remaining extant individuals is limited, and because the genus can readily hybridize, unregulated propagation and trade of the species in the commercial market may have a detrimental impact on reintroduction and conservation efforts by undermining the genetic stock of the species.

C. Disease or Predation

The San Francisco manzanita is at risk of succumbing to various plant diseases during translocation. Root and stem breakage caused by the translocation process can increase risk of water stress and fungal pathogen infections. Moreover, irrigation with tap water is known to add increased risk of pathogen infection.

D. The Inadequacy of Existing Regulatory Mechanisms

There are currently no regulatory mechanisms that protect the San Francisco manzanita. The plant is not protected under the federal or state Endangered Species Acts; no recovery plan exists for the species (although it is discussed at some length in recovery plans for other species), and there are no HCPs or other conservation agreements that can provide the same level of protection as the ESA. There is no assessment of the species' status or threats under any California Environmental Quality Act or National Environmental Policy Act review, in part because projects affecting the species are already approved and presumed that the species did not exist on the project site. *See, e.g.,* http://www.presidioparkway.org/project_docs/

E. Other Natural or Manmade Factors Affecting its Continued Existence

Climate change may affect the long-term viability of the species by changing environmental conditions and reducing the suitability of existing habitats for reintroduction efforts. Unregulated off-leash dog walking in the Presidio and the Golden Gate National Recreation Area may threaten cuttings and translocated plants. Special events in the Presidio can draw tens-of-thousands of people, with the potential for inadvertent take of individual plants or disturbance of habitat or seed bank. Moreover, the species is so rare that stochastic effects may impede recovery or cause the species to go extinct.

VIII. CRITICAL HABITAT

Petitioners request that the FWS designate critical habitat for San Francisco Manzanita concurrent with the emergency listing. Species with critical habitat protected are twice as likely to recovery than those that do not have such habitats preserved. Critical habitat is also essential to recovery planning, requiring projects that may affect the species to not jeopardize the species and not adversely modify critical habitat.

VIV. PROCESSING OF THIS PETITION

This petition is submitted under the provisions of the ESA, 16 U.S.C. §§1531 et seq., 50 C.F.R. 424.14, and the APA, 5 U.S.C. §533. As a petition to list a species as endangered, FWS is required to process this petition within a predetermined time frame as defined by CFR 424.14(b), to the maximum extent practicable. The regulations require FWS to make a finding within 90 days of receipt of this petition as to whether a finding of 'endangered' may be warranted. The finding shall be promptly published in the Federal Register. 50 CFR 424.14(b)(1). Within 12 months of receiving this petition, FWS is required to find that this petition is not warranted, is warranted, or warranted but precluded, and shall promptly publish notice of such intention in the Federal Register. 50 CFR 424.14(b)(3). The Wild Equity Institute fully expects FWS to comply with these mandatory deadlines.

SIGNATURE PAGE

This EMERGENCY PETITION TO LIST THE SAN FRANCISCO MANZANITA (ARCTOSTAPHYLOS FRANCISCANA) AS AN ENDANGERED SPECIES is hereby submitted to the Secretary of Interior.

Respectfully submitted this 14th day of December, 2009.

A handwritten signature in black ink that reads "Brent Plater". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Brent Plater
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