CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: *Solanum nelsonii*

COMMON NAME: Popolo

LEAD REGION: Region 1

INFORMATION CURRENT AS OF: February 2003

STATUS/ACTION (Check all that apply):
___ New candidate
_X_ Continuing candidate
    _X_ Non-petitioned
    ___ Petitioned - Date petition received: ___
        ___ 90-day positive - FR date: ___
        ___ 12-month warranted but precluded - FR date: ___
        ___ Is the petition requesting a reclassification of a listed species?
    ___ Listing priority change
        Former LP: __
        New LP: ___
Latest date species became a Candidate: _____
___ Candidate removal: Former LP: ___ (Check only one reason)
    ___ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.
    ___ F - Range is no longer a U.S. territory.
    ___ M - Taxon mistakenly included in past notice of review.
    ___ N - Taxon may not meet the Act's definition of "species."
    ___ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant, Solanaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Hawaii

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Hawaii

LEAD REGION CONTACT (Name, phone number): Scott McCarthy, 503-231-6131

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Pacific Islands (Ecological Services), Christa Russell, 808-541-3441

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

This species is known from eight populations totaling fewer than 300 individuals, declining rapidly on all islands, including the Remote Islands National Wildlife Refuge. Typical habitat is coral rubble or sand in coastal sites. This species is found on the islands of Hawaii, Molokai, Niihau, Nihoa, and Pearl and Hermes. In the past, this species was also found on the islands of Maui, Oahu, Kauai, Midway, and Laysan, but is probably extinct in these locations, due primarily to coastal development and the introduction of alien plant species. Varieties of this species were considered unthreatened, but even with varieties no longer recognized, the species has declined and is extremely threatened, especially on the main islands.

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change):

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Coastal habitat is prime area for resort and urban development, which threatens native coastal plant communities in the main Hawaiian Islands (Joel Lau, The Nature Conservancy; Bill Garnett, private consultant; Rick Warshauer, U.S. Geological Survey-Biological Resources Division; pers. comms., 1995). Lowland and coastal areas have been most affected by development and other human activities. Coastal strand has been replaced on most islands by human habitation, starting with the first Hawaiians in 300-600 A.D. The few remaining remnant coastal strand communities, habitat for *Solanum nelsonii*, are often species poor, but were very likely more diverse prior to human impact. Recreational impacts, such as off-road vehicles and trampling by tourists, have made many of these remaining strand communities on the main Hawaiian islands unsuitable for *Solanum nelsonii* survival (Cuddihy and Stone 1990; Marie Bruegmann, Service, pers. comm. 1997).

Sand mining is a threat to the largest remaining population in the main islands, located on Molokai (J. Lau, pers. comm., 1995)

B. Overutilization for commercial, recreational, scientific, or educational purposes.

None known.

C. Disease or predation.

None known.

D. The inadequacy of existing regulatory mechanisms.

The largest populations in the northwestern Hawaiian Islands are on public land owned by the Service and operated as national wildlife refuges. The State of Hawaii does not recognize this species as endangered until it is Federally listed as endangered.

E. Other natural or manmade factors affecting its continued existence.

Alien plant species are the major threat to this species (J. Lau, B. Garnett, R. Warshauer, pers. comms., 1995). The original native flora of Hawaii consisted of about 1,000 species, 89 percent of which were endemic. Of the total native and naturalized Hawaiian flora of 1,817 species, 47 percent were introduced from other parts of the world and nearly 100 species have become pests (Smith 1985; Wagner *et al*. 1990). Naturalized, introduced species compete with native plants for space, light, water, and nutrients (Cuddihy and Stone 1990). Some of these species were brought to Hawaii by various groups of people, including the Polynesian immigrants, for food or cultural reasons. Plantation owners, alarmed at the reduction of water resources for their crops caused by the destruction of native forest cover by grazing feral animals, supported the introduction of alien tree species for reforestation. Ranchers intentionally introduced pasture grasses and other species for agriculture, and sometimes inadvertently introduced weed seeds as well. Other plants were brought to Hawaii for their potential horticultural value (Cuddihy and Stone 1990; Scott *et al*. 1986).

FOR RECYCLED PETITIONS:

a. Is listing still warranted? ___

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ___

c. Is a proposal to list the species as threatened or endangered in preparation? ___

d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners): The largest population in the main Hawaiian Islands is on private land on Molokai, owned by The Nature Conservancy. The largest populations in the northwestern Hawaiian Islands are on the Remote Islands National Wildlife Refuge, managed by the Service.

PRELISTING (Describe status of conservation agreements or other conservation activities): None.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Most of the information in this form is based on the results of a meeting of 20 botanical experts held by the Center for Plant Conservation in December of 1995, and has been updated by personal communications with Joel Lau of The Nature Conservancy, Bill Garnett (private consultant), Rick Warshauer of USGS-Biological Resources Division, and Robert Hobdy of Hawaii's Division of Forestry and Wildlife.

Cuddihy, L.W., and C.P. Stone. 1990. Alteration of native Hawaiian vegetation; effects of humans, their activities and introductions. Coop. Natl. Park Resources Stud. Unit, Hawaii. 138 pp.

Scott, J.M., S. Mountainspring, F.L. Ramsey, and C.B. Kepler. 1986. Forest bird communities of the Hawaiian Islands: Their dynamics, ecology, and conservation. Studies in Avian Biology 9:1-429. Cooper Ornithological Society, Los Angeles.

Smith, C.W. 1985. Impact of alien plants on Hawai`i's native biota: in Stone, C.P., and J.M.

Scott (eds.), Hawaii's terrestrial ecosystems: preservation and management. Coop. Natl. Park Resources Stud. Unit, Univ. Hawaii, Honolulu, pp. 180-250.

Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawai`i. University of Hawaii Press and Bishop Museum Press, Honolulu. Bishop Mus. Spec. Publ. 83:1-1853.

LISTING PRIORITY (* after number)

THREAT

Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5 *
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude:

Imminence:

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, removal of candidates, and listing priority changes.

Approve: Rowan Gould March 6, 2003
Acting Regional Director, Fish and Wildlife Service Date

Concur: _____ _____
Director, Fish and Wildlife Service Date

Do not concur: _____ _____
Director, Fish and Wildlife Service Date

Director's Remarks:

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Date of annual review: 2/03
Conducted by: _____

Comments:

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