CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Other proposals

A. Proposal: Remove *Lewisia tweedyi* (= *Cistanthe tweedyi*) from Appendix II.

B. Proponent: United States of America

C. Supporting Statement

1. Taxonomy

1.0. Division Magnoliophyta (angiosperms, flowering plants)
1.1. Class Magnoliopsida (dicotyledons)
1.2. Order Caryophyllales (Chenopodiales, Centrospermae)
1.3. Family Portulacaceae

1.4. Scientific Name

The name *Lewisia tweedyi* (A. Gray) B.L. Robinson, 1897 is used in CITES Appendix II, but the species was in 1990 reclassified as *Cistanthe tweedyi* (A. Gray) Hershkovitz, which will be used hereafter in this proposal (*cf*. Kartesz 1994, Hershkovitz 1990).

1.5. Other Synonyms: *Calandrinia tweedyi* A. Gray
Oreobroma tweedyi (A. Gray) Howell
Lewisia aurantiaca A. Nelson

1.6. Common Names:Tweedy's bitterroot, Tweedy's lewisia, mountain rose

1.7. Code numbers:

2. Biological Parameters

2.1. Distribution (map in Annex 1)

The Wenatchee Mountains of the Cascade Range in northwestern U.S.A. and southwestern Canada — in Chelan, Kittitas and Okanogan counties of northwestern Washington (Kennison and Taylor 1979) and the Walathian Mountains of southern British Columbia (Chuang 1974). Its range is characterized as in the arid transition zone.

2.2. Habitat Availability

Open *Pinus ponderosa* forests on well-drained hillsides in talus and soil pockets in rocky sites, and also on barren rocky slopes and roadside cuts, at 670-2,285 m in elevation. Soils derived from sandstone, granite, basalt and/or volcanic ash, which are deep and well drained but often holding moisture below the surface (Hogan 1990/1996). There is some indication that populations may also be present on serpentine soils within the range (Gamon 1996).

2.3. Population Status

At the time of Kennison and Taylor's status report (1979), approximately 35-40 sites of *Cistanthe tweedyi* had been located. However there are more populations than previously thought. Dozens of new sites have been found since and it has been determined that the species is less threatened than previously thought (Gamon 1996).

Individuals in most populations are scattered and sparse, but plants occasionally occur in clumps. Many of the populations
are easily accessible in Wenatchee and Okanogan National Forests (in the state of Washington). The Canadian populations are few, with few individuals in each population (Straley 1985).

Cistanthe tweedyi is much more widespread than the literature would indicate (Davidson 1996). Although basically evergreen, the leaves of *C. tweedyi* can disappear in drier years, leaving only dormant buds (Doonan 1991/1996). This might influence the lower than actual estimates of its abundance.

Little detail is known about its actual population status and the data can be deceiving. Besides its deciduous character in times of little water, *Cistanthe tweedyi* often grows in marginal forest lands. When the light intensity of its site is reduced because of the developing canopy, the plant stops flowering, producing only vegetative growth. As a result the plants are often not noticed. When the canopy is interrupted by fire, wind or other disturbance and sun reaches the forest floor, entire unseen communities can come into bloom (Davidson 1996).

2.4. Population Trends

There are no fewer than 60 new occurrences recorded and the species is actually quite plentiful (Thomas 1996). It is not known whether the new populations being found are populations that were not known at the time of the Kennison and Taylor (1979) status report, or may also include increases to the total population of this species. Repeated observations of plants in road-cuts, however, would seem to indicate that some populations may be increases since 1979 (Gamon 1996). At the very least, populations are stable (Kruckeberg 1996, Davidson 1996).

2.5. Geographic Trends

The more recently found populations are within the previously described range of this species and do not constitute an enlargement of its range. The presence of the species in roadside cuts indicates that it may have some tolerance for disturbance (Gamon 1996).

2.6. Role of the Species in its Ecosystems

Low-growing succulent perennial herb. Associated species include *Pinus ponderosa, Larix occidentalis, Pseudotsuga menziesii, Delphinium nuttallianum* var. *lineapetalum, Ranunculus glaberrimus, Saxifraga bronchialis, Heuchera cylindrica, Sedum lanceolatum* and *Sedum divergens* (Kennison and Taylor 1979, Doonan 1991/1996, Chuang 1974).

2.7. Threats

Collection has historically been considered as a threat (Kennison and Taylor 1979), but may be overstated. Pressure on wild specimens is considered light to nonexistent (Goroff 1996). There is thought to be almost no threat from international trade (*e.g.* Ceska 1996). Most known populations occur in National Forests or Provincial Parks or other public lands and are accorded some protection from collection. Because of its large taproot, *Cistanthe tweedyi* does not transplant easily. Data
on collection of plants, seeds or cuttings is not known.

The major long-term threat to *Cistanthe tweedyi* is from potential habitat destruction resulting from logging and the road building associated with it (Kruckeberg 1996).

3. Utilization and Trade

3.1. National Utilization

Cistanthe tweedyi is an attractive rock and alpine garden plant, and in some demand by hobbyists. The large salmon-pink flowers, fleshy leaves and evergreen habit of *C. tweedyi* "make it the most attractive of all lewisias for the garden" (L.H. Bailey Hortorium 1976, Hitchcock *et al*. 1964). This species is regularly offered for sale in appropriate U.S. nurseries and actively propagated from cuttings and seeds. There is some indication that there is trade in wild plants within the state of Washington, but its extent is unknown (Gamon 1996).

3.2. Legal International Trade

Because of its great beauty, *Cistanthe tweedyi* is sought after by alpine garden and rock garden enthusiasts in other countries. Many consider it impractical to import plants from the U.S. because of the added cost of permits, shipping and handling, phytosanitary requirements, *etc*. Since it is relatively fast and easy to grow from seed, that is the preferred method of obtaining the plants (van Beusekom 1996). In addition, there are significant stocks of cultivated plants in Europe which are being used for cultivation (*e.g*. Cullen and Maxwell 1989). They include select horticulturally "improved" clones from artificially propagated stock (Davidson 1996).

The World Conservation Monitoring Centre (WCMC) has very few records of this species, and none at all indicating trade in specimens of wild origin. Their records are:

1986: U.S.A. reported importing 1 from Germany
1991: U.S.A. reported importing 3 from U.K.
1994: Canada reported importing 150 (artificially propagated) from U.S.A. and exporting 2 (artificially propagated) to U.S.A.
1995: U.S.A. reported exporting 1 to Italy and 500 to destination unknown, all artificially propagated

3.3. Illegal Trade: Existence and extent unknown.

3.4. Actual or Potential Trade Impacts

Nurseries respond to economics, and the economics of *Lewisia*, as well as their population dynamics, are considered to make them safe (Russell 1996).

3.4.1. Live specimens: There have been reports of collection of *Cistanthe tweedyi* from the wild by hobbyists and commercial growers, but there is no evidence of international shipment. Trade in plants is not substantial, if it exists, and there is thought to be little or no digging occurring at present (Davidson 1996). "It seems crazy why anyone would dig plants, they are so easy from seed and cuttings" (Thomas 1996).

3.4.2. Parts and derivatives: Wild seeds are reportedly collected for cultivation.

4. Conservation and Management

4.1. Legal Status

4.1.1. National

Those populations occurring on public lands managed by the U.S. Forest Service are protected from collection without permission. Although *Cistanthe tweedyi* was on the State of Washington Sensitive Species List in

1981, its status was changed in 1982
to the Monitor - Group 3 list (*i.e*. more abundant and/or less threatened than previously thought), which is maintained by the state's Natural Heritage Program (Gamon 1996). (The Washington list is only advisory, and there is no state endangered species law).

Similar protection exists in Canada where populations exist in Manning Provincial Park.

Because it was found sufficiently secure within its range, *C. tweedyi* in 1985 was removed from consideration for listing under the U.S. Endangered Species Act (USFWS 1985, 1996).

4.1.2. International: Currently in Appendix II of CITES (but not its seeds).

4.2. Species Management

4.2.1. Population Monitoring

None known. The species is more abundant than previously thought, and therefore is "not ... a particularly high conservation priority ..." (Gamon 1996).

4.2.2. Habitat Conservation

The majority of the extant sites occur on public lands such as National Forests and Provincial Parks.

4.2.3. Management Measures: None.

4.3. Control Measures

4.3.1. International Trade

No applications to export U.S. plants from the wild have been made in the last decade (USFWS 1996). The commercial international trade in *Cistanthe tweedyi* appears to be in seed, which is not regulated for the species in Appendix II (seeds are a standard exclusion, and *C. tweedyi* has not been an exception to the standard).

4.3.2. Domestic Measures

Protection of the species *in situ* is accomplished by National and Provincial laws that manage the pertinent public lands. *Cistanthe tweedyi* is on the Monitor — Group 3 list maintained by the State of Washington's Natural Heritage Program.

5. Information on Similar Species

Cistanthe tweedyi is distinctive, being readily distinguished from the species of *Lewisia* (Mathew 1989) by its larger flowers, variously characterized as salmon-colored, yellowish, apricot
or pale apricot-pink. Two to five flowers are borne on a loose bracteate terminal raceme, each flower measuring 5-8 cm across (Hitchcock *et al*. 1964, Chuang 1974).

6. Other Comments

Canada, the only other range State, has reported to the United States that it fully supports the proposal. Several plant conservation specialists in British Columbia and the State
of Washington, in providing information for the draft proposal, indicated that they have no objection to the proposed removal of this species from CITES regulation.

Comments were sought via a notice (28 August 1996) in the U.S. *Federal Register* 61(168): 44324-44332,

with a closing date for the public of receipt at the U.S. Fish and Wildlife Service/OSA, Washington, D.C. by 11 October 1996. As usual with the U.S. process, comments will be summarized in a forthcoming *Federal Register*.

7. Additional Remarks

Cistanthe tweedyi is relatively common in the more specialized horticultural trade (*e.g*. Cullen and Maxwell 1989). It is tap-rooted, *i.e*. it has a large, simple, conical root forming a center around which divisions are arranged (Rowley 1987). It is easily reproduced by cuttings, as rosettes can be removed from the heavy carrot-like root, and it grows readily from seed — flowering in 3 years (Foster 1968/1982). Although successful cultivation of *C. tweedyi* can be difficult (it was long considered the most temperamental of lewisias), if attention is paid to the conditions under which it grows in the wild, gardeners can grow it "to perfection" (Hogan 1990/1996).

Reclassification of *Lewisia tweedyi* and species from several other genera into *Cistanthe* Spach was made in 1990 (and 1991), and reflects new morphological and cladistic data within the family Portulacaceae. *Cistanthe tweedyi* is still widely known by its former name, *Lewisia tweedyi*; the taxonomic community is not of one accord with respect to the recent reclassifying of this species (and various others) in *Cistanthe* (Davidson 1996). *Cistanthe tweedyi* was kept in a separate section of the genus *Cistanthe* (as it had been in *Lewisia*), being assigned to the monotypic section *Strophiolum* (Hershkovitz 1990, Mathew 1989).

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