

# ASSISTED MIGRATION STANDARDS FOR PLANTS

(draft of August 2004)

Note: The more of these 9 standards that apply to the plant species, subspecies, or population in question, the stronger is the case for assisted migration. Terms marked by \* are defined below.

## A. ECOLOGICAL STANDARDS FOR ASSISTED MIGRATION

**1. NEEDINESS.** The plant is highly threatened or endangered in the wild in its current range\*.

**2. IRREVERSIBLE PROBLEMS IN CURRENT RANGE.** Ecological change (habitat disruption, introduction of exotics, loss of vital partners, shift in fire regime, etc.) and/or climate change is a major cause of the plant's threatened status in its current range and that remedial efforts in that range are or would be unsatisfactory for recovery.

**3. SUITABILITY OF TARGET RANGE.** There is evidence (e.g., specimens thriving in botanical gardens or on other grounds within the target range) that the problems of ecological or climate change could be lessened or overcome by assisted migration.

**4. LOW RISK FOR RECIPIENT ECOSYSTEMS.** Dispersal mode, pathogens it may carry, and other characteristics pose little or no concern that the plant will become noxious to other organisms (especially rare or threatened organisms) in the target range\*, given the oversight and precautions established in implementation plans.

**5. BARRIERS TO UNASSISTED MIGRATION.** Corridors adequate for unassisted and timely movement do not currently exist and are not actively being promoted. In the case of plants, unassisted migration through an "adequate" corridor may nevertheless fail to be "timely," if advance at a natural and unassisted pace is deemed too slow for population survival or thrival.

**6. RECONSTRUCTING PAST RANGE.** The historical\*, near-time\*, or deep-time range\* of the plant encompassed the target range and/or the kinds of life communities now found in the target range.

## B. ORGANIZATIONAL STANDARDS FOR VOLUNTEER ACTION:

**7. WILLING VOLUNTEERS / PRIVATE PROPERTIES.** A group of people, "plant guardians," has manifested to pursue assisted migration for the plant in question and to do so on private lands in the target range, and from private seed stocks or cuttings, such that no governmental permits would be required. This group may or may not include professional botanists and horticulturalists,

and not all members of the group will necessarily agree on actions that a subset determines to take.

**8. ACCESSIBILITY AND ACCOUNTABILITY.** The group of Plant Guardians has established a means (e.g., a website) by which plans, actions, and results undertaken by an individual or group can be publicly posted and through which interested parties can communicate advice, concerns, and offers to assist.

**DEFINITIONS:**

- \* **Assisted migration** - Human actions intended to help a species, subspecies, or population establish and maintain populations in natural life communities outside of its current range.
- \* **Current range** - where the plant is found "in the wild" right now.
- \* **Historic range** - the range of confirmed specimen locations as evidenced by written or other human records.
- \* **Near-time range** - the range of the plant during prehistoric human occupation.
- \* **Deep-time range** - the range of the plant (species or genus) in any time period from its origin to the arrival of the first humans.
- \* **Target range** - the chosen destination(s) for assisted migration, representing (1) future range that will keep apace with climate change, (2) recovery of historic, near-time, or deep-time range or life communities, or (3) a suitable range justified by nothing more than compatibility with the ecological requirements of an imperiled plant and low risk factors of the recipient life community.
- \* **Plant guardians** - A network of individuals who have jointly and publicly stepped forward to advocate and act in behalf of a particular plant, including the possible need for assisted migration. The group may or may not include credentialed botanists, horticulturalists, or other scientists.