

Small Whorled—Big Mission



The small whorled pogonia is not easily detected, a precise and delicately skillful plant that self-pollinates once a year, forming thousands of minute seeds, where the flowers last only a few days. The Marines train to share these subtle characteristics, to infiltrate an environment, skillfully undetected, complete the mission, and then disappear. In partnership with the U.S. Fish and Wildlife Service, the Marines work to protect ecosystems while sustaining military preparedness. The result at Marine Corps Base Quantico is the largest number of small whorled pogonia colonies in Virginia. That's what happens when your best friends are Marines.

The Marines

We're Saving A Few Good Species



Small Whorled Pogonia

(*Isotria medeoloides*)

FAMILY: Orchidaceae

STATUS: Threatened, Federal Register, October 6, 1994

DESCRIPTION AND REPRODUCTION: The small whorled pogonia is a perennial plant in the orchid family. This small orchid arises from a bud on its rootstock in spring and can be identified by its light green, smooth, hollow stem (ranging from a few inches to 8 inches tall) that terminates in a whorl of 5 or 6 light green, somewhat pointed, elliptical leaves. A flower, or occasionally two flowers, is produced at the top of the stem. The small whorled pogonia can be distinguished from a look-alike, the Indian cucumber-root by its smooth stem versus the slightly hairy, wiry stem of the cucumber-root.

Flowering occurs from about late April to mid-June, with greenish-yellow flowers apparently lasting only a few days to a week or so. In the southern part of the small whorled pogonia's range, non-flowering can stand until frost, while in New England, non-flowering plants may be found through August. If pollination occurs, a capsule may be formed which can contain several thousand minute

seeds. In order to germinate and grow, the small whorled pogonia needs a mycorrhizal fungus (a fungus found in the soil that forms a symbiotic root/fungus association). The fungus species particular to the small whorled pogonia is still unknown.

No evidence of insect pollination has been observed; this plant is believed to be self-pollinating. Individual plants may not flower every year; and extended dormancy of a few years has been reported. Often the earliest emerging plants are the largest and may flower.

RANGE AND POPULATION LEVEL: Small whorled pogonia populations range from a single plant to hundreds of plants scattered throughout woods of the U.S. east of the Mississippi River and from southern Ontario to Georgia. When it was first listed in 1982, the small whorled pogonia was known to exist in only 16 counties in 10 states, and one county in Ontario, Canada. Today it is found in Connecticut, Massachusetts, Maine, New Hampshire, Delaware, New Jersey, Pennsylvania, Ohio, Michigan, Illinois, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Tennessee, and Ontario, Canada

In 1994, this plant was reclassified from endangered to threatened because the number of known populations increased from 34 in 1985 to 104 in 1993 and over 25 percent of the populations were protected, one of which was the world's largest known population of over 1,000 plants. Since 1993, additional small populations have been discovered in the southern portion of its range, New Hampshire and Maine. In 1999, one new population was documented for the first time in West Virginia.

HABITAT: The habitat of the small whorled pogonia is not distinctive. This species is usually found in open, somewhat dry, hardwood or mixed hardwood and softwood forests. Maples, oaks, beech and white pines are common tree species. Shrub and herb layers are generally scarce. Small whorled pogonias generally occur on gently sloping ground often in areas of spring run-off (vernal streams), although in Virginia, these orchids were found on the floor of ravines. Many sites have evidence of past agricultural use (particularly in New England) or may be found along old logging roads. Breaks in the canopy may be particularly important, allowing light to get to the forest floor. Once the



forest canopy becomes too dense, small whorled pogonias may go dormant for years.

REASONS FOR CURRENT STATUS: Habitat loss due to development appears to have been a major factor in this species' decline as well as past collecting. Recent (within the past 15 years) residential and commercial developments have destroyed several known populations of this orchid. However, collecting is no longer considered to be a major threat since transplanting the orchid is difficult and rarely successful.

MANAGEMENT AND PROTECTION: Management needs are not fully understood, but some habitat manipulation, in particular manipulation that allows light to break through the forest canopy, may be necessary to maintain certain populations. Effective management will require more information on the life history of this species including the identification of the soil fungus necessary for germination, various habitat parameters including light, soil, moisture, and disturbance effects.

CONSERVATION ACTIVITIES BY THE MARINE CORPS: Marine Corps Base, Quantico, Virginia hosts 14 known colony sites of small whorled pogonia. Botanists annually conduct surveys for small whorled pogonias between June 1 and July 15 prior to any ground disturb-

ing or timber harvesting activities. Protection zones are designated around the known colony sites to avoid disturbances. If any action is proposed within the protection zones, the Marines consult with the U.S. Fish and Wildlife Service and, if necessary, modify the proposed actions as required to ensure the continued existence of the plant. Base natural resources managers monitor each colony annually by counting the number of stems and flowers.

FOR MORE INFORMATION:

Contact the Natural Resources Program at Marine Corps Base Quantico, 703-784-5810, extension 234.

Or read the recovery plan for this species, available from the U.S. Fish and Wildlife Service's Endangered Species Program web site at <http://endangered.fws.gov>.

Or contact:

New England Field Office
U.S. Fish and Wildlife Service
70 Commercial St., Suite 300
Concord, New Hampshire 03301
Telephone: 603/223 2541

Virginia Field Office
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
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