



Western Prairie Fringed Orchid Monitoring at Pipestone National Monument

Importance: *A threatened species*

The western prairie fringed orchid (*Platanthera praeclara*) is a perennial native to the central and eastern Great Plains. It is one of many plant species that has declined because of the extensive loss of habitat. In 1989, the US Fish and Wildlife Service listed the orchid as *threatened* under the Endangered Species Act of 1973. Pipestone NM supports a large population, making the monument vital to recovery of the species.

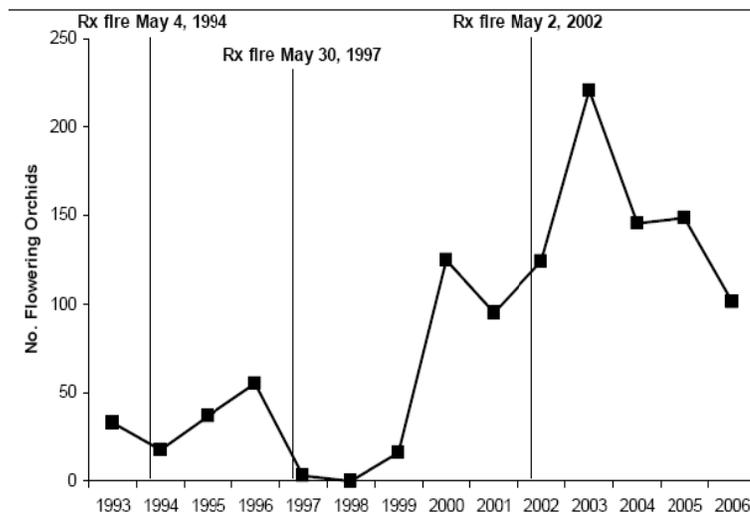


Long Term Monitoring: *Assessing trends in population size¹*

The Heartland Network Inventory and Monitoring Program has worked with park staff to assess western prairie fringed orchid population trends since 1993. A park crew counts plants by slowly sweeping through the search unit looking for flowering orchids. They use a GPS receiver to record locations of plants and to log other information, such as height and number of flowers per plant. Heartland Network staff then examines population trends relative to growing conditions and management activities.

Status and Trends: *Overall increase in the population size since 1993*

Park and network staff counted only one desiccated flowering orchid in 2007 that did not produce seed. This follows two abnormally dry years. The last six years have seen an overall population increase and the 2007 decline in *flowering* orchids may represent normal fluctuation in response to extreme weather. Additionally, scientists found that:



Changes in abundance of flowering orchids between 1993 and 2006. Only one desiccated orchid was found in 2007.

1. Timing of prescribed fire, coupled with other factors, such as weather, may have an impact on flowering orchid populations.
2. Scientists observed desiccated plants, aborted seed capsules, and small seed capsules between 2005 and 2006 and no seeds capsules for 2007. Population recovery must then rely on the seed-bank or below ground vegetative structures.
3. The orchid population recovered from its lowest point in 1998 to see an overall increase in population. However, the small population and fragmented landscape make the Pipestone NM orchids vulnerable to environmental change.

Heartland Network Inventory and Monitoring Program of the National Park Service. Visit www1.nature.nps.gov/im/units/htln/index.htm.

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¹ Young, C.C., L.W. Morrison, J.L. Haack, and G. Wagner. Summary Report: Western Prairie Fringed Orchid Monitoring at Pipestone National Monument, 1993-2007. Natural Resource Technical Report NPS/HTLN/NRTR-2007/059. National Park Service, Fort Collins, Colorado.