

A Summary Report on the Status of Three Listed Plants in SW Missouri
Kevin Eulinger and Mike Skinner, Southwest Region

Work began on February 15, 2005 on a U.S. Fish and Wildlife Service Section 6 grant to search for and update records for federally listed geocarpon (*Geocarpon minimum*), Missouri bladderpod (*Physaria filiformis*) and Mead's milkweed (*Asclepias meadii*). The project's main emphasis is to assess the current status of each species and determine population abundance and viability for meeting recovery plan objectives. This project is funded through December of 2006 and the report that follows is a summary of the accomplishments completed in 2005, the first field season of the project.

METHODS

Information regarding the previously known localities for each species was found within the Heritage Database System. Element Occurrence Records for each species were printed, which provided a historical account of each record, site description, directions to site and other related information. Topographic maps and aerial maps were printed that included data points and polygons for each record to indicate the exact location of each record on the landscape. County plat books were used to obtain specific driving directions and to determine current property ownership in order to contact landowners for permission to access their property. Public land managers were contacted and informed of the project and permission to access public lands to conduct the survey was requested. Private landowner contacts were accomplished primarily by sending information to the landowner by mail. Landowner packets included a brief letter introducing myself and outlining the purpose of the survey. Also included in the letter was general information regarding the federally listed species on their property, an informative pamphlet regarding the species, and information on policy regarding federally listed plants on private land. Included was a consent form for the landowner to sign and indicate whether permission was granted or denied to conduct the survey. The majority of private landowners were contacted in this manner. However, some landowners were contacted directly over the telephone or by stopping at their residence and personally asking for permission to conduct the survey on their property.

RESULTS

Geocarpon minimum

Geocarpon monitoring began on March 31 and ended on April 20, 2005. The Heritage Database contains information on 26 known geocarpon sites in 7 counties in southwest Missouri. Over 30 public and private landowners were contacted and I successfully visited 21 of the 26 known locations. I also visited 7 additional locations that contained suitable habitat where geocarpon might be found. Of the 28 total sites visited, geocarpon was found in 20 of those locations (71%), one of which was a new location and was added to the Heritage Database. Approximately 32,837 total plants were found among all of the sites. The top 9 sites contained over 1000 plants each and represent 83% of the total number of plants found across all sites. Of the top 9 sites, 4 are owned by USA Corps of Engineers, 2 more are jointly owned by the USA Corps of Engineers and private landowners, 1 is owned jointly by The Nature Conservancy and a

private landowner, 1 is owned by the Missouri Department of Transportation and the last site is privately owned.

Physaria filiformis

Missouri bladderpod monitoring began on April 26 and ended on May 20, 2005. The Heritage Database contains information on 62 known bladderpod sites in 4 counties in southwest Missouri. Over 80 public and private landowners were contacted and I obtained permission to visit 51 of the 62 sites known within the Heritage Database. Of the 51 sites visited, 36 contained plants (71%) and 1 new location was added to the Heritage Database. Approximately 207,664 total plants were found among all sites visited. Of that total, 98% of all plants found come from only 9 locations, which indicates a vast majority of the populations contain very few plants. The top 9 sites are owned by the Missouri Department of Conservation, the National Park Service, and private landowners.

Asclepias meadii

Mead's milkweed monitoring began on May 26 and ended on June 29, 2005, but continued monitoring on fruiting plants ended in late-August. The Heritage Database contains information on 59 extant populations of Mead's milkweed in 14 counties throughout Missouri. Approximately 50 public and private landowners were contacted and I obtained permission to visit 32 sites known within Heritage and 4 additional sites in areas not previously known to contain Mead's milkweed. Of the 36 sites visited, only 7 sites contained plants. There were a total of 212 plants found among the 7 sites; only 22 plants produced a flower and only 5 of the flowering plants produced fruit. The top 5 sites contain 98% of all plants found and are owned by the Missouri Department of Conservation, the Department of Natural Resources, The Nature Conservancy, and 1 private landowner. These numbers do not include totals from Mead's milkweed populations found on igneous glades in the Tam Sauk Mountains. These populations are monitored by the Department of Natural Resources and data from 2005 has not been obtained from those plants.

ADDITIONAL ACCOMPLISHMENTS IN 2005

Geocarpon

- Transplanted geocarpon soil from Pearl Glade to sandstone outcrops on Bois D'Arc Conservation Area in hopes of establishing a new population
- Transplanted geocarpon soil within Pearl Glade in an effort to expand the geocarpon population on this site
- Presented summary of the Section 6 project at the Missouri Natural History Biologist meetings in Springfield, Missouri
- Submitted 36 Element Occurrence Record updates to the Heritage Database System for geocarpon and sandstone glade communities

Missouri Bladderpod

- Transplanted bladderpod soil from Bois D'Arc CA to a limestone glade outcrop on Bois D'Arc that has not previously been known to contain bladderpod

- Measured large, early arriving, winter rosette's at Rocky Barrens to determine success in spring of 2006. Measured length, width, counted the number of leaves and flagged each plant to determine its success for next year
- Attended and presented summary information at the Missouri bladderpod 5-year review meeting held by the U.S. Fish and Wildlife Service in Springfield, Missouri
- Burned glade containing Missouri bladderpod on Rocky Barrens CA
- Cut eastern red cedar, walnut, perfumed cherry and Osage orange on limestone glades at Rocky Barrens CA
- Met with personnel at Ritter Springs Park in Springfield to discuss cedar removal on previously known bladderpod site
- Submitted 66 Element Occurrence Record updates to the Heritage Database System for Missouri bladderpod and limestone glade communities

Mead's Milkweed

- Conducted large-scale searches for Mead's milkweed at Wah Kon-Tah, Paintbrush Prairie and South Fork Prairie with personnel from The Nature Conservancy, Ozark Audubon Chapter, Kansas City Chapter of the Missouri Native Plant Society and the Missouri Department of Conservation
- Re-established permanent monitoring plots for Mead's milkweed at Niawathe Prairie. Followed research conducted by Sherry Morgan in 1983-1985 to locate 41 out of 47 stake locations for Mead's milkweed. Re-established the plots with new stakes and included newly found plants
- Collected two fruiting pods from Niawathe Prairie to be propagated at Powell Gardens
- Attended and presented at the Missouri Mead's Milkweed recovery team meeting in Jefferson City, Missouri
- Coordinated with the Department of Natural Resources to conduct a large-scale survey and establish permanent monitoring plots for Mead's milkweed at Prairie State Park in 2006
- Submitted 74 Element Occurrence Record updates to the Heritage Database System for Mead's milkweed and prairie communities

OBJECTIVES FOR 2006

- Re-visit all geocarpon sites and focus on locating new sites by reviewing old survey records and aerial photographs
- Re-visit as many bladderpod sites as possible and focus on sites that were not visited in 2005 and sites that were visited but did not contain plants
- Devote considerably greater effort to searching for Mead's milkweed. Emphasize areas that have received 2005 fall burns. Employ more field assistance to help thoroughly search for plants in sites previously known to contain a relatively good population of Mead's milkweed. Establish more permanent monitoring plots in sites with good populations
- Submit report thoroughly documenting work conducted under the Section 6 Grant