



A Flora of Lava Beds National Monument

Introduction

Lava Beds National Monument in northeast California is located where the Modoc Plateau and the Cascade Range meet. The melding of floras from these different regions, as well as the elevational gradient from sagebrush to pine/fir forests, combines to provide considerable floristic diversity for a Great Basin environment. Remarkably, this national park had not been comprehensively surveyed for vascular plant species. In 2004, to provide complete floristic data for park managers and the public, Southern Oregon University (SOU) graduate student Sean B. Smith began a botanical inventory to develop a comprehensive understanding of flora of Lava Beds National Monument.

Research Objectives

- ◆ Thoroughly survey all of the Monument and compile a list of all vascular plant species encountered.
- ◆ Locate existing, historical voucher specimens and collect additional voucher specimens to produce a complete collection of vouchers for each vascular plant species documented at Lava Beds.
- ◆ Develop a dichotomous key and annotated species list with descriptions of the distribution, location, and habitat affinities for all vascular plants in the Monument.
- ◆ Publish the completed flora in an attractive, user-friendly format with pictures and narrative on flora, vegetation, and geological processes at Lava Beds that have shaped the botanical diversity.

Results and Discussion

An intensive floristic inventory of Lava Beds occurred during the springs and summers of 2005-2007. In 2008, Sean Smith completed his graduate studies as the first successful thesis project completed as a collaborative effort between SOU and the Klamath Network. This project has provided park managers with an up-to-date guide on a previously understudied resource. Sean has continued surveys since graduating. In 2008, he found a small population of heartleaf milkweed (*Asclepias cordifolia*) for the first time. In 2010, he documented five new species during intensive vegetation sampling for the development of a Lava Beds vegetation map. The continued colonization and documentation of new species at Lava Beds after a complete inventory of the park highlights the dynamic nature of a flora and the difficulty in compiling a complete species list, even in a moderately sized park. As of 2010, Sean has collected over 100 voucher specimens and added 96 species to the list of vascular plants known from the park. The total number of vascular plants found at Lava Beds is now 372. Sean prepared text to accompany his floristic data and submitted a manuscript to Oregon State University Press to evaluate for publication of *The Flora of Lava Beds National Monument*.

More Information

Visit the Southern Oregon Digital Archives at: <http://soda.sou.edu:8081/soda/main.jsp?awcollection=Bioregion> and search: Title: A Flora of Lava Beds; to link to the document.

Or, contact Sean B. Smith; Klamath Inventory and Monitoring Network Botanist at Sean_b_smith@nps.gov, 541-552-8570.

Network Web Site: <http://science.nature.nps.gov/im/units/klmn/index.cfm>



Closeup of heartleaf milkweed (*Asclepias cordifolia*).



Sean B. Smith ponders a taxonomic decision on top of Eagle's Nest Butte.

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