



Camas Lily Monitoring

Nez Perce National Historical Park

Importance: A culturally and ecologically significant species

Camas lily (*Camassia quamash*) is a perennial bulb-producing plant that was and remains one of the most widely utilized traditional plant foods of the Nez Perce people, and was a focal resource at many of the significant historical events memorialized today by Nez Perce National Historical Park and Big Hole National Battlefield. Large expanses of camas in bloom were noted by numerous explorers and botanists that entered the Pacific Northwest in the 19th century, including the Lewis and Clark expedition, and were frequently described as “blue lakes” when viewed from a distance.

The extent of the wet prairie ecosystem type has been drastically reduced in the Columbia Basin as a result of agricultural conversion, irrigation and flood control development, and other land use practices. Camas populations today are well below historic levels in many locations, including those at Weippe Prairie and along the Big Hole River.

Objective

- Estimate status and trend in camas stem density, flowering camas stem density, and frequency of targeted invasive plants.



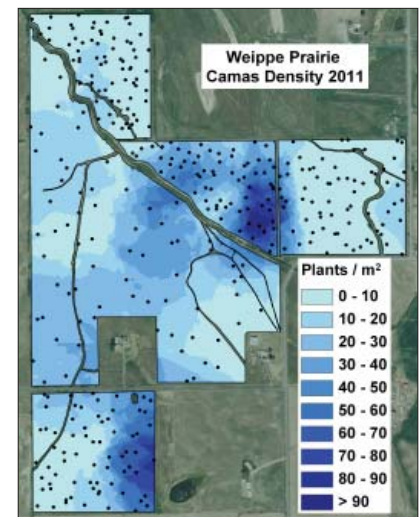
Camas lily (*Camassia quamash*).

Status and Trends

The National Park Service initiated a camas monitoring program in 2005, assisted in large part by student “citizen scientists” who have been participating in annual spring field data collection. Camas is measured by counting the number of individual stems within narrow sampling frames or “quadrats.” Field crews use GPS receivers to locate quadrat positions, and then carefully sweep through the dense wetland vegetation to identify all established camas plants within each quadrat. The number of flowering camas plants and the presence of invasive weeds are noted at each location. Trend in camas density is increasing across the site at an average annual rate of approximately 12%, reflecting the “passive restoration” initiated since NPS acquisition from private agriculturalists in 2003. Consecutive wet springs in 2010 and 2011 may also be positively influencing this site. Invasion by sulfur cinquefoil (*Potentilla recta*) and orange hawkweed (*Hieracium aurantiacum*), as measured by frequency of occurrence in quadrats, appears to be stable or slightly declining in Weippe Prairie; although, this is highly variable among management zones. The park has an active eradication program for these weeds, and monitoring will help the park evaluate the effectiveness of this effort.

Management Applications

- Assess park ecological condition.
- Support park resource planning and land health reporting efforts.
- Provide feedback on the timing and success of park management and restoration activities.
- Inform integrated assessments of climate change impacts on park resources.



Current distributions of camas density within each of the 5 Weippe Prairie management zones (A-E), located at Nez Perce National Historical Park.