



Camas Lily Monitoring

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 the historical event memorialized today at Nez Perce National Historical Park's Weippe Prairie. In Weippe Prairie and in many of the region's other wet prairie ecosystems, large expanses of camas in bloom were noted by 19th century explorers and botanists, including the Lewis and Clark expedition, and were frequently described as appearing like "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.

Status and Trends

The National Park Service initiated a camas monitoring program at Weippe Prairie in 2005, assisted 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 plots 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 too. Data for this year shows an increase in camas density in all zones, except D, with an average trend increase of 3% per year. The numbers of flowering camas plants, a measure of population vigor and of the "blue lake" visual effect, were the same or slightly increased from last year. Frequency of occurrence (in each quadrat) of the two invasives monitored at Weippe Prairie, sulfur cinquefoil (*Potentilla recta*) and orange hawkweed (*Hieracium aurantiacum*), appeared to be slightly increasing and very variable among zones. The park has an active eradication program for these weeds, and monitoring will help the park evaluate the effectiveness of this effort over time.

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.

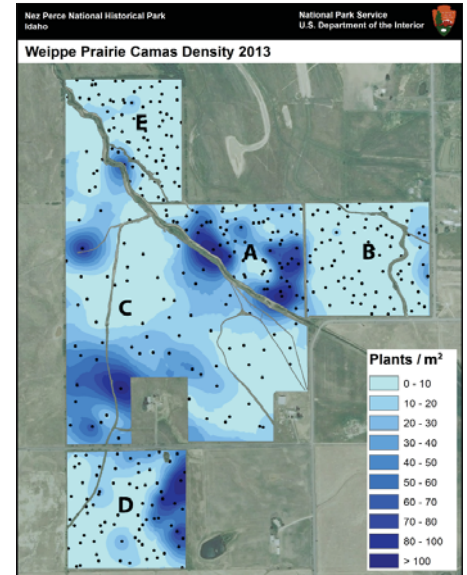
Nez Perce National Historical Park

Objective

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



NPS employee instructing student citizen scientists prior collecting camas lily and invasive species data in the field.



Map of the sampling frames at Weippe Prairie. Each zone shows the variability in camas abundance.