



## Camas Lily Monitoring in the UCBN

### Network parks where resource is being monitored

- Big Hole National Battlefield
- Nez Perce National Historical Park (Weippe Prairie)

### 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 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 (NEPE) and Big Hole National Battlefield (BIHO). Large expanses of camas in bloom were noted by numerous explorers and botanists that entered the Pacific Northwest in the 19<sup>th</sup> century, including the Lewis and Clark expedition, and which 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.



Camas lily (*Camassia quamash*)

### Status and Trends

The National Park Service initiated a camas monitoring program at NEPE and BIHO 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”. Crews use GPS receivers to locate quadrat positions, and then carefully sweep through the dense wetland vegetation to identify all established camas plants. The number of flowering camas plants and the presence of two invasive weeds are also noted at each location. Overall trends in camas density appear to be stable or slightly increasing. BIHO and Weippe Prairie management zone E exhibited the lowest densities. The ratio of flowering to total established camas plants was consistently higher at BIHO than at Weippe Prairie during 2005-2009. Invasion by sulfur cinquefoil (*Potentilla recta*) and orange hawkweed (*Hieracium aurantiacum*), as measured by frequency of occurrence in quadrats, appeared to be stable, and was lowest in management zones A and D and highest in zones B and E, suggesting a possible negative correlation with camas density.

### Monitoring Objectives

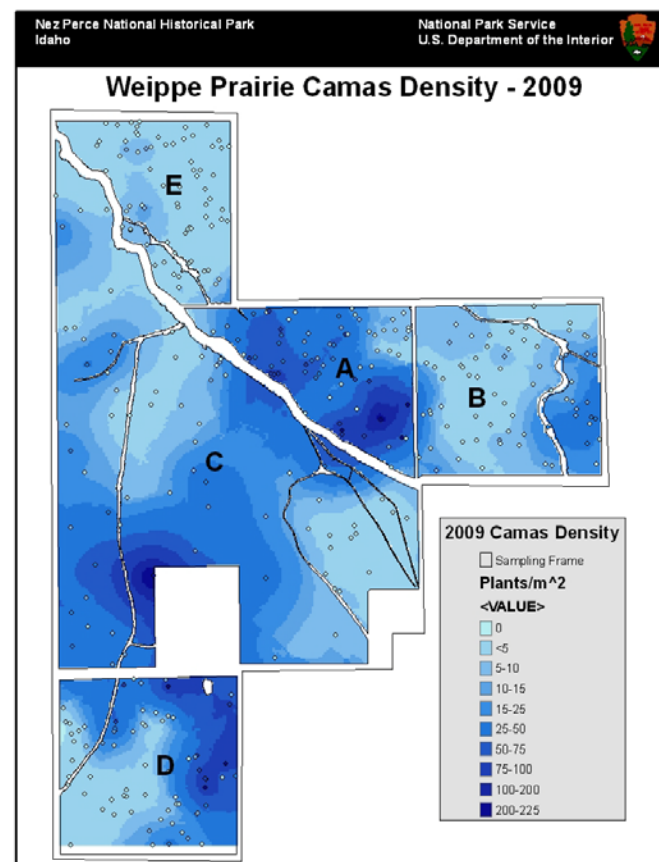
- Estimate status and trend in camas stem density, flowering camas stem density, and frequency of targeted invasive plants in NEPE (Weippe Prairie) and BIHO.

### Management Applications

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

### Contact Information

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Interpolated camas density patterns at Weippe Prairie, using 2009 sample data, shown as points color coded by measured density.