



Photomonitoring at Weippe Prairie, Idaho

Importance: Status and Trend of a Degraded Stream

Nez Perce National Historical Park acquired Weippe Prairie and a 2 km stretch of Jim Ford Creek in 2003. Past agricultural land use of Weippe Prairie involved site drainage and re-channelization of the creek, resulting in an eroded channel and a reduced native riparian plant community. Nez Perce NHP staff and regional National Park Service (NPS) scientists initiated a photomonitoring program at permanent sites along Jim Ford Creek to support its integrated riparian monitoring program. In 2007, Oregon Museum of Science and Industry (OMSI) high school citizen science students assisted in the establishment of photopoints. In 2009, 2011, and 2012 photopoints were re-photographed, providing the first opportunity for change detection.

2012 Status

Twelve permanent photopoints were strategically located along Jim Ford Creek and old drainage canals. Precise measurements of the distance between the camera and photopoints, camera focal length, and camera height above ground were made in order to ensure exact replication of photo geometry each year. This careful approach will allow quantitative as well as qualitative interpretation of the changes that occur over time. To date, observed changes have primarily been in the continued erosion of stream and canal banks. For example, headcuts seem to be progressing upstream while streamside vegetation is being washed downstream. Relocation and re-photography of sites has been challenging and instructive in terms of the level of precision needed in site measurements and leveling of equipment. In 2011 park staff decided to take photos monthly instead of every two years in order to understand not only long term trends, but also seasonal changes within the Weippe Prairie site.

Management Applications

- Provide information on the rate and extent of vegetation and channel bank morphology
- Provide information on change along Jim Ford Creek
- Support Weippe Prairie site management planning and assessment of any eventual restoration efforts.

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<http://www.nps.gov/nepe/index.htm>

<http://twitter.com/#!/NezperceNP>

<http://www.facebook.com/DiscoverNezPerceNationalHistoricalPark>

Objectives

- To track qualitative and quantitative changes in vegetation cover and composition and stream channel morphology along Jim Ford Creek.
- To evaluate the utility of photomonitoring for detecting vegetation and stream morphology change in NPS riparian monitoring programs.

2007- June



2009- July



2011- June



2012- January



Repeat photographs are analyzed for change. Note the missing shrub on the right and the erosion of the stream's bank.

