



Photomonitoring the Doan Creek Restoration

Network parks where resource is being monitored

- Whitman Mission National Historic Site

Importance: Restoration of park riparian habitat for fish and wildlife

Doan Creek was diverted into an irrigation ditch almost 100 years ago. The original channel was filled and the water used to irrigate pasture, eliminating the creek's connection to the Mill Creek watershed and its viability as an important steelhead supporting stream. The National Park Service and numerous partner organizations have joined forces in an ambitious effort to restore Doan Creek by constructing a more natural meandering channel with pools, gravel riffles, and woody debris jams. This will create habitat for steelhead and other native fish. A riparian forest buffer consisting of willows and other native woody vegetation will be planted along the stream to facilitate recovery by promoting bank stability, cooler water temperatures, and habitat for birds and other wildlife.

Status and Trends

The National Park Service initiated a photomonitoring program in Whitman Mission in 2006 to capture the changes underway along Doan Creek. Fifteen permanent photopoints were strategically located along Doan Creek. 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 composition and abundance of weedy herbaceous vegetation. Willows and other desirable woody species were planted in 2007, and repeat photography will provide a way to measure plant community development over time.

Monitoring Objectives

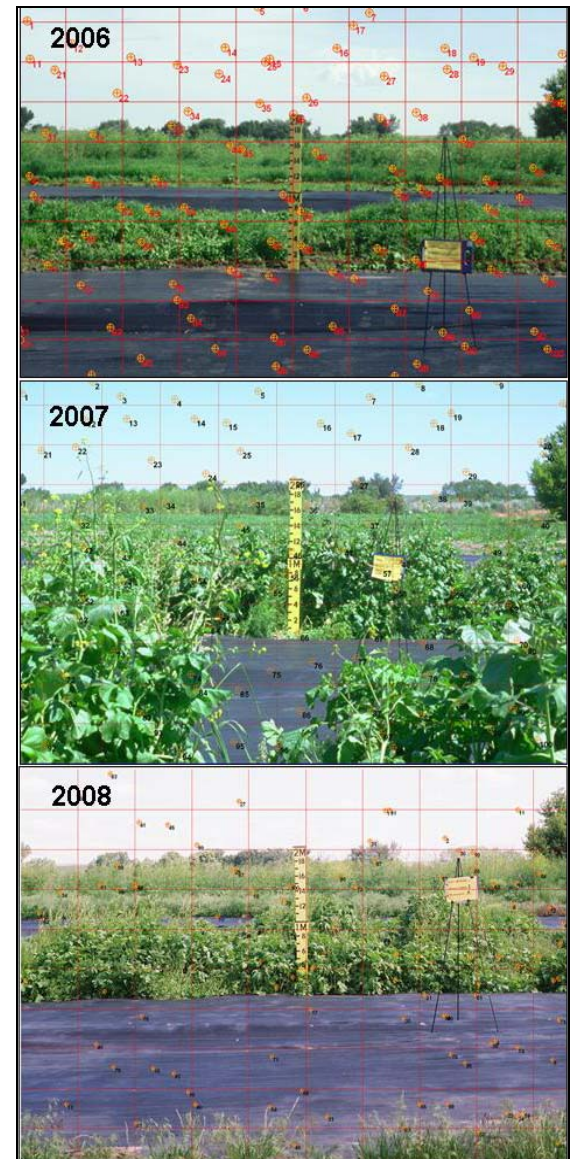
- To track qualitative and quantitative changes in vegetation cover and composition along Doan Creek following habitat restoration.
- To evaluate the utility of photomonitoring for detecting vegetation and stream morphology change in NPS riparian monitoring programs.

Management Applications

- Provide feedback on the rate and extent of vegetation change along the restored Doan Creek, and ultimately aid in the long-run assessment of project success.

Contact Information

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Repeat photographs are analyzed for change using a point-intercept approach similar to that used by botanists sampling horizontally in sampling frames or "quadrats". Here the sampling frame is the quadrat. The meter board provides a vertical reference point from which measurements of plant height can be made.