

US EPA ARCHIVE DOCUMENT



Targeted Watersheds Grant

Mission Creek, MT



Constructed wetland cell after initial vegetation removal and shaping.



Constructed wetland cell after planting and initial flooding cycle.



Placement of pre-vegetated mats within a constructed wetland cell.

Confederated Salish and Kootenai Tribes

The Watershed

The Mission Creek Watershed, located within the boundaries of the Flathead Indian Reservation, in northwestern Montana, is a predominantly rural landscape with a vast irrigation system. The Lower Mission Creek drains about 52,000 acres of irrigated land maintained by the Bureau of Indian Affairs with approximately 410 miles of irrigation canals. Historically, Mission Creek served as a very important spawning area for bull trout, a threatened species. However, rapid residential development, grazing, and irrigation have led to a decline in the bull trout, as well as the native westslope cutthroat trout.

Issues

Water quality assessments pinpoint agricultural runoff and habitat degradation as the leading causes of impairments in Mission Creek. Two irrigation return flows that drain into Mission Creek have elevated levels of *E. coli*, nutrients and suspended sediments. Additional degradation within the watershed is a result of historic land uses on wetlands and floodplains, including intensive livestock production and irrigation practices. Riparian vegetation is either absent altogether or remains as a thin band in many areas. The lack of riparian vegetation contributes to streambank erosion and elevated water temperatures, causing additional water quality problems. Much of the remaining floodplain is dominated by non-native pasture grasses, weeds, and non-native tree species.

Project Activities

- **Pollution Control and Remediation:** A sequenced treatment system comprised of pre-treatment settling ponds and treatment wetlands will remove nutrients and bacteria and capture fine sediments from irrigation return flows before the



Mission Creek Watershed

Leveraged Resources:

EPA Grant: \$569,850

Match in non-federal funds and in-kind services: \$190,000

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water enters Mission Creek. Plant species will be selected to maximize pollutant removal.

- **Stream and Riparian Restoration:**

Activities will include streambank stabilization and revegetation of riparian and wetland areas

- **Restoration of the Natural Hydrology and Stream Corridors:** The sinuosity and length of Mission Creek will be restored by recovering artificially cutoff meanders, so the stream channel more closely resembles the historic pattern and profile. Revegetation techniques will be used, such as bioengineering to stabilize banks, planting containerized shrubs along the streambanks, preserving existing mature vegetation, managing weeds and reseeding disturbed areas.



EPA's Targeted Watersheds Grant program is a competitive grant program designed to encourage collaborative, community-driven approaches to meet clean water goals.

For more information about the selected watersheds, please visit:
<http://www.epa.gov/twg>

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