

## Jefferson Slough Eurasian Watermilfoil Management Plan and Project Highlights

In 2011, a 20-acre infestation of Eurasian watermilfoil (*Myriophyllum spicatum*; EWM), was identified within a 4-mile segment of Jefferson Slough near Whitehall, Montana. This aquatic invasive plant is known to impede boat traffic, clog irrigation ditches and pump intakes, displace native aquatic plants, and reduce the abundance and diversity of macroinvertebrates, fish, mammals, and birds within infested areas. Between 2012 and 2015, Jefferson County developed and adopted the Jefferson Slough Eurasian watermilfoil management plan, which outlined three steps aimed at achieving the goals of controlling, and eventually eradicating this infestation. The three steps outlined in the management plan included:

1. Disrupting and killing existing infestations of EWM within Jefferson Slough by:
  - a. Applying aquatic herbicide to the infested segment of the Slough
  - b. Relocating the Slough through a newly constructed and narrower channel adjacent to the existing channel and backfilling any remaining EWM in the abandoned channel,
  - c. Hand pulling any small infestations not eliminated by the first two direct control actions
2. Preventing the recurrence of EWM infestations by modifying Jefferson Slough's aquatic habitat to a configuration that does not support EWM by:
  - a. Constructing a narrower channel more capable of transporting fine sediments and reducing EWM habitat suitability
3. Create and maintain hydrologic conditions unlikely to support EWM by improving water and sediment management within and upstream of Jefferson Slough by:
  - a. Modifying irrigation infrastructure along Jefferson Slough to enable periodic flushing flows and reduce the accumulation of fine sediments
  - b. Implementing riparian and stream restoration projects that effectively reduce sediment delivery to Jefferson Slough
  - c. Installing a sediment trap on Sheep Rock Creek to eliminate large sediment pulses during intermittent flows.

Between 2015 and 2017, Jefferson County either initiated or completed several phases of the Jefferson Slough Eurasian watermilfoil management plan, including:

- Design of irrigation infrastructure modifications at Herschel Dam, Davis Dam, and Slaughterhouse Slough diversion,
- Initial application of Endothall herbicide through EWM infested reach in August, 2016.
- Completion of Jefferson Canal blowout stabilization and sediment reduction project.
- Relocation of a 50-foot wide, 3,800-foot long segment of Jefferson Slough through a newly constructed channel averaging 20 feet wide.
- Backfilling of abandoned channel segment to bury any remaining EWM left following initial herbicide application.
- Second round of aquatic herbicide in July, 2017.

In 2016 and again in 2017, monitoring efforts documented the distribution and abundance of EWM throughout Jefferson Slough. Thus far, results have indicated initial success in eliminating EWM through the relocated channel segment and limited success in the effectiveness of herbicide treatments in reducing the abundance of EWM within the infested reach.



*Construction of narrower channel adjacent to infested segment of Jefferson Slough.*



*Newly constructed channel segment immediately following seeding and hydro-mulching.*



*Before and after photos of Jefferson Canal blowout stabilization project upstream of Jefferson Slough.*

For additional information, you may contact:

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