BRIEFING PAPER

BOISE NATIONAL FOREST
1249 Vinnell Way, Suite 200
Boise, ID 83709

TOPIC: Mores Creek Mine Site Partnership Watershed Restoration Project

Dated: June 1, 2006

Background

The Mores Creek watershed was dredge mined around the turn of the century leaving the Mores, Grimes and Elk Creeks with highly altered, disconnected floodplains covered by cobbles at depths of 1 to 15 ft. These cobbles armor the stream bank, prevent channel migration, riparian vegetation growth, and limit fish and wildlife habitat.

The construction of dams within the Boise River Subbasin further affected the ecosystem by disconnecting the anadromous fisheries and their associated influences within the drainage. The Mores Creek watershed remains the only significant tributary to Lucky Peak Reservoir, making Mores Creek critical to the survival of the local, federally listed bull trout (*Salvelinus confluentus).*

Partners

The Forest Service and West Central Highlands Rural Conservation District are the two lead agencies on this project. Other contributors include the Bureau of Land Management, City of Idaho City, County of Boise, Idaho Conservation League, Idaho Division of Fish and Game, Idaho Division of Environmental Quality, U.S. Fish and Wildlife Service, and local landowners and citizens. These partners provide planning and technical expertise, equipment and labor, and funding assistance. Trout Unlimited has also recently joined as a partner with the addition of a local-based position to coordinate and assist in the project. The position will:

- Coordinate with the partners in defining high-priority stream restoration projects, based on fishery potential, existing uses, and stream health.
- Work with technical experts, private landowners, and federal, state and local agency officials to design and implement projects.

- Work with volunteers, conservation groups, and community organizations to build awareness of and support for abandoned mine restoration in Idaho.
- Develop educational activities for each site in response to local needs.
- Develop and implement a media plan in conjunction with Trout Unlimited's communications staff and assist in fund raising.

Purpose

Mores Creek and Grimes Creek are currently on the 303(d) list for exceeding Idaho State water quality standards for temperature. The Idaho DEQ will be developing a TMDL for Mores Creek in 2006. This project will protect and restore the beneficial uses of Mores Creek by reducing water temperature and sediment concentrations.

Habitat surveys, along with cursory temperature profiles within Mores Creek, find limited foraging, migratory, and over-wintering habitat and a thermal barrier between upper and lower Mores Creek. In late summer, warm water flowing from Grimes Creek create a thermal barrier that prevents kokanee and bull trout from migrating upstream of this confluence. Restoring a natural temperature regime to Grimes and Mores Creeks will remove the thermal barrier and improve access for native fishes to upstream spawning and rearing areas, which may provide more bull trout forage.

Four Phased Approach

The Mores Creek Watershed Floodplain Restoration project is part of a four phase project. The numerous project partners have developed a 5-year plan to systematically restore natural processes within the Mores Creek watershed that focuses on increasing floodplain interaction, improving fish and wildlife habitat, improving water quality, and promoting watershed and river restoration education. The entire project will restore 9 miles of Mores Creek, 17 miles of Grimes Creek and 3 miles of Elk Creek.

2006 - Phase 1 (Demonstration Project)

The watershed-scale project builds upon a demonstration project that will restore approximately 0.5 mile of Mores Creek in summer 2006. This design can be applied to additional reaches of Mores Creek on private stakeholder ground as funding becomes

available. The demonstration project will be used to showcase to local landowners along Mores Creek and Grimes Creek what can be accomplished and solicit their participation in further restoration work.

To increase the shading and filtering effects of the riparian zone, mine tailings will be excavated and isolated from Mores Creek creating a floodplain and meanders. The floodplain will be re-vegetated to reduce stream temperature, filter sediments, and reclaim abandoned mine tailings. In-stream fish structures will be placed to provide habitat diversity and strengthen the bull trout population and other coldwater sport fisheries.

Phase 2-4

In 2007, Phase I of the restoration will be complete and the project post-construction monitoring will have been begun. This project will serve as the outdoor education facility for students, contractors, engineers, and resources agency people. The project will continue to evolve and scale up by collecting the necessary data to refine the design restoration approaches for Grimes and Elk Creeks.

Water Quality/Fish Habitat Benefits

- This project would strengthen the Mores Creek population by allowing mixing of the upper and lower Mores Creek populations. These bull trout could then become part of the BOR program to strengthen the population above Arrowrock Reservoir.

- Establishment and survival of the native, riparian plant communities is dependent on the restoration of the hydrologic conditions necessary to sustain them.

- Restoring natural watershed and floodplain function and processes will result in a long-term trend toward habitat recovery with minimal need for further human intervention.

- Restoring historic channel morphology, geometry, and riparian vegetation will result in high-quality and diverse in-stream habitat for migratory bull trout, and other resident fish species.

- In turn, improved migratory and hiding cover habitat conditions are expected to increase the number of bull trout in the restored reaches and improve the health and survival rates of fry and juveniles.

Lead Agencies: West Central Highlands RC&D, USDA Forest Service

Lead Contacts: Russ Manwaring, 208-365-4475-4, wchrcd@idahorcd.org
Hana West, 208-392-6681, hwest@fs.fed.us
Pam Smolczynski, 208-938-1110 ext.14, psmolczynski@tu.org