

# *BLM News*

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## **Stream Workshop Focuses on Recovery Techniques**

Natural resource specialists from state, federal, and local agencies along with private landowners participated in a two-day workshop in Elko aimed at learning to restore vegetation in riparian zones and to stabilize stream banks.

Sixty people from Nevada, Utah, and Idaho attended the classroom session on April 12, 2003 and the next day thirty-five of them learned how to apply the knowledge first hand on a stretch of Trout Creek belonging to the Salmon River Cattlemens Association near Jackpot, Nevada. Trout Creek is a test center for riparian projects for the U.S. Department of Agriculture in cooperation with private land owners and the Bureau of Land Management (BLM).

The session was sponsored by an interagency consortium including the Northeast Elko Conservation District, Nevada Division of Forestry, BLM, U.S. Forest Service, Natural Resources Conservation Service (NRCS), Nevada Cooperative Extension, and Northeastern Nevada Stewardship Group.

The workshop was taught by nationally recognized bioengineering and stream mechanics specialists Chris Hoag of the Idaho Plant Materials Center and Jon Fripp with the National Design, Construction, and Soil Mechanics Center, Fort Worth, Texas.

“One of the basic things we focused on was to learn how to identify streams in need of restoration,” said BLM Hydrologist Chuck Keepports. “We also reviewed basic engineering principles for stream systems in order to understand which bioengineering techniques would be helpful.”

“Bioengineering refers to the use of live and dead herbaceous and woody plant materials in combination with natural and synthetic support materials for stabilizing slopes, reducing erosion, and establishing vegetation on streams,” continued Keepports.

Participants learned several practical restoration techniques at the field session on Trout Creek. Willow “mattresses” were constructed by laying live and dead willow cuttings on the stream banks with the bottoms of the cuttings in contact with the water table. The willow

cuttings act as armor against high water events and protect the banks from further erosion. Eventually, the live willow cuttings will root and permanently armor the bank.

Additional techniques included installing revetments made out of juniper trees that were cut down and placed in the water with the tops facing downstream. The junipers provide armoring to the bottom of the stream channel and also capture sediment and deposit it at the base of the willow mattress. Deflectors or “spurs” were built out of willow bunches that were cabled together and anchored in the bank so that they deflect water away from the bank.

“We plan to use some of these techniques on restoration projects. It’s a matter of finding the right project and the right site,” said Keeports. Workshop organizer and Resource Conservation and Development Coordinator for NRCS in Elko Gerry Miller agreed, “Bioengineering gives us tools we know we can use in northeastern Nevada.”

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