

View From a Wetland

News and Technology for Riparian and Wetland Management



Interagency Riparian/Wetland Plant Development Project
Natural Resources Conservation Service
Plant Materials Center
Aberdeen, ID

Number 13 (2007)

Project Contributors

J. Chris Hoag, Wetland Plant Ecologist, Project Leader
Derek Tilley, Range Conservationist, Research Scientist

"Whisky is for drinking, water is for fighting over"- Mark Twain

Introduction

This newsletter is part of the Aberdeen Plant Materials Center's continuing effort to provide technical information to the public on wetland and riparian plants, plant establishment, and their management. This newsletter is the twelfth issue since 1991 when the Interagency Riparian/Wetland Plant Development Project was established.

Riparian Ecology and Restoration Workshops



Class installing a brush mattress on Nov. 8, 2007 at Adobe Ranch near Bishop, CA

As part of the Project's technology transfer efforts, a three-day Streambank Soil Bioengineering Technical Training Session was developed. The first day of the course is devoted to the classroom where basic riparian dynamics, riparian zone vegetation, plant acquisition, and bioengineering techniques are discussed. The second day of the course is half in the classroom discussing local topics and half in the field where participants classify a riparian site and develop a restoration plan based on resources and problems

at the site. On the third day, the participants install a series of bioengineering structures along an eroding section of a stream.

Each year workshops are conducted in different parts of the western United States. If you are interested in attending this course, contact Pat Blaker at Aberdeen PMC for the next scheduled workshop. If you are interested in having a workshop in your area and you have about 30 people that would attend the training, contact Chris Hoag and we will try to schedule a course in your area.

Riparian/Wetland Project Newest Publications

Field Guide for the Identification and Use of Common Riparian Woody Plants of the Intermountain West and Pacific Northwest Regions



Chris Hoag, Wetland Plant Ecologist
Derek Tilley, Range Conservationist
Dale Darris, Conservation Agronomist
Kathy Pendergrass, Plant Materials Specialist

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service



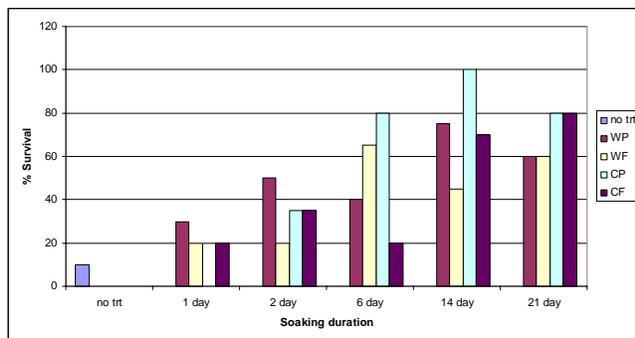
The Aberdeen PMC Riparian/Wetland Project's newest publication in cooperation with the Corvallis

PMC is: ***Field Guide for the Identification and Use of Common Riparian Woody Plants of the Intermountain West and Pacific Northwest Regions.***

The focus of this Field Guide is to provide information on the identification and collection of native plant materials found in riparian areas in the Intermountain West and Pacific Northwestern regions. The Guide is written for practitioners of riparian restoration and streambank soil bioengineering. Species descriptions provide information on the use of native woody plant materials to reduce streambank erosion, collection of propagation material, and typical identification characteristics used to identify the species in the summer and in the winter when there are no leaves or fruits. Full color pictures of the full plant, leaves, bark, twigs, fruit and other identifying characteristics are included for each species. A map of the United States with the states where the plant is found is also included.

This publication will be available on CD or it can be downloaded from the Aberdeen PMC Riparian/Wetland Project website. Printed hard copies will not be available. If you would like a digital copy, please download it from: <http://plant-materials.nrcs.usda.gov/idpmc/riparian.html>

Willow soaking trial



Survival of dormant hardwood cuttings of Peachleaf willows following different presoaking treatments. WP=warm partially submerged, WF=warm fully submerged, CP=cold partial, CF=cold full.

This year the PMC investigated the benefits of pre-soaking dormant cuttings of Peachleaf willow (*Salix amygdaloides*) in a controlled study at the PMC. Dormant hardwood cutting survival of Peachleaf willow increased in greenhouse trials following pre-planting soaking treatments. 100% survival was achieved from soaking cuttings partially submerged in cold water for 14 days. Other soaking treatments resulted in varying levels of success, but nearly all treatments had increased survival rates when compared to the non-soaked control. Cuttings survival

also improved with increasing diameter of cuttings regardless of pre-soaking treatments.

Direct seeding of wetland plant species

The PMC has been investigating possibilities for direct seeding of wetland species for several years. We've investigated every crazy idea that we, or anyone else could think of from broadcasting with imprinters, to hydroseed mulches to pelletized seed. Several techniques have shown promise in greenhouse and small scale trials. In the 2004 issue of *View from a Wetland*, we highlighted Submerseed™, a seeding method involving binding seeds to small pebbles using clay and polymers. Submerseed is an effective way of delivering seed into shallow standing water where the use of heavy equipment would be impossible. Hydroseeding also had good establishment results in our tests, especially when applied with Fertil Fibers™ Nutrimulch. Fertil Fibers is designed to stimulate soil microbial action and provide a slow-release fertilizer. In our tests, plots seeded with Fertil Fibers and a tackifier had excellent establishment and plants appeared to be larger and have more vigor.



Baltic rush in 2006 establishment trial seeded with 500 PLS/ft². The flat in the top right corner was planted with Fertil Fibers Nutrimulch.

Brush spurs and brush revetments encourage silt deposition

One reason that we install brush spurs and brush revetments is to slow the water velocity near the bank, which allows silt deposition. Once this deposition occurs, it is important to take advantage of this new planting medium. In a project at Grand Teton National Park, brush spurs were installed between rock barbs and brush revetments were installed on the bank between the other treatments. After a summer of average stream flow, we found more than one foot of sediment deposited around the revetment trees along the bank. At this point, there are basically two options. One is the do nothing and through the summer some of that sediment will be washed away. The second

option is to plant wetland plants in the deposited sediment. These plants will spread via rhizomes through the sediment and increase the roughness along the bank in conjunction with the riparian woody species that were planted in the original design.



Willows sprouting around brush revetment on the Snake River at GTNP



Sedge plugs planted in accumulated sediment around the base of a brush spur on the Snake River at GTNP

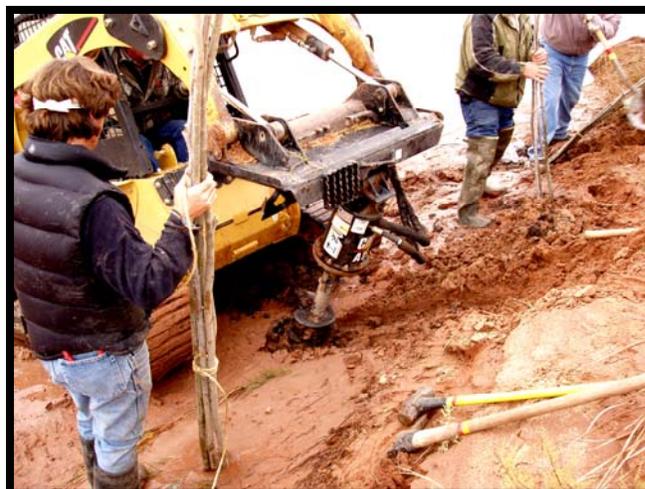
Often a 2 phase planting plan where the second phase is to plant into the accumulated sediment is a great way to quickly improve the plant community along the toe of the bank.

Protecting the waterjet pump

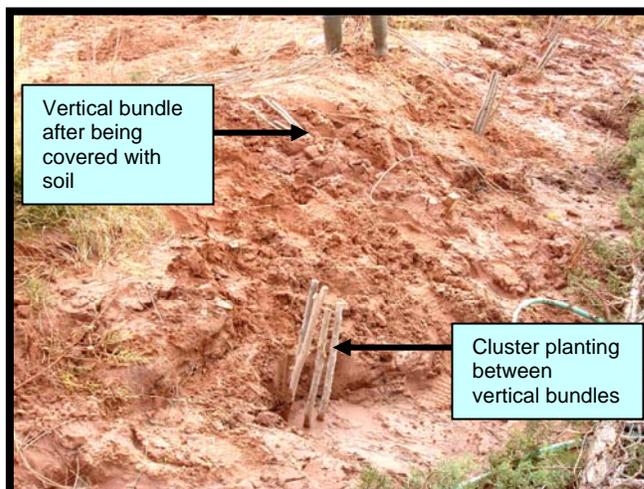


Often when placing the waterjet suction hose end in the water, the bed has a lot of fine sediments that the foot valve sits in. This fine sediment is sucked through the pump. Over time this sediment can cause wear on the impeller blades. A simple solution is to place the suction end of the hose in a 5 gal bucket that is placed on the bed. This way when the pump is turned on, it will not pick up the sediment off the bed. Point the bucket upstream and the flow into the bucket should match the suction rate.

Another way to plant vertical bundles



At a recent workshop in Utah, Tom Moody (NCD, Engineer, Flagstaff, AZ) came up with another way to plant vertical bundles. We had access to a small trackster with a 6 in auger. Tom had the operator place the auger almost parallel to the bank and auger down at an angle. The vertical bundle was then placed in the hole and laid up in bank in the normal trench. This way the base of the bundle can be placed much deeper than normal which ensures it is in the lowest water table even when the stream water level drops.



Additional Information

All publications are now available on the Internet in Adobe Acrobat format. Download each paper below by going to <http://www.Plant-Materials.nrcs.usda.gov/idpmc/riparian.html>.

Idaho PM Tech. Notes can also be downloaded from: <http://www.id.nrcs.usda.gov/programs/plant.html>.

If you do not have access to the Internet or would like to receive a hard copy of a publication, contact us.

Bioengineering Information

- 1) *The Practical Streambank Bioengineering Guide*
- 2) *Streambank Soil Bioengineering Field Guide for Low Precipitation Areas*

Individual Wetland Plant Fact Sheets – Description, ecology, collection, propagation, management, and uses of 6 different wetland species.

Riparian/Wetland Project Information Series

(Publications in red are new)

- **No. 2** - Selection and Acquisition of Woody Plant Species and Materials for Riparian Corridors and Shorelines.
- **No. 3** - Use of Willow and Cottonwood Cuttings for Vegetating Shorelines and Riparian Areas.
- **No. 6** - Seed and Live Transplant Collection Procedures for 7 Wetland Plant Species.
- **No. 7** - Use of Greenhouse Propagated Wetland Plants Versus Live Transplants to Vegetate Constructed or Created Wetlands.
- **No. 8** - Constructed Wetland System for Water Quality Improvement of Irrigation Wastewater.
- **No. 9** - Design Criteria for Revegetation in Riparian Zones of the Intermountain Area.
- **No. 10** - Perigynium removal and cold-moist stratification improve germination of *Carex nebrascensis* (Nebraska sedge).
- **No. 11** - Getting "Bang for your Buck" on your next Wetland Project.
- **No. 12** - Guidelines for Planting, Establishment, Maintenance of Constructed Wetland Systems.
- **No. 13** – A Reference Guide for the Collection and Use of Ten Common Wetland Plants of the Great Basin and Intermountain West.
- **No. 14** - Harvesting, Propagating and Planting Wetland Plants.
- **No. 15** - Costs and considerations of streambank bioengineering treatments.
- **No. 16** – Riparian Planting Zones.

- **No. 17** – Waterjet Stinger: A tool to plant dormant unrooted cuttings of willows, cottonwoods, dogwoods, and other species.
- **No. 18** - Streambank Soil Bioengineering Considerations for Semi-Arid Climates.
- **No. 19** - Simple Identification Key to Common Willows, Cottonwoods, Alder, Birch, and Dogwood of the Intermountain West.
- **No. 21** - *Wetland Plants: Their Function, Adaptation and Relationship to Water Levels.*
- **No. 22** - *How to Manipulate Water in a New, Restored, or Enhanced Wetland to Encourage Wetland Plant Establishment*

Idaho NRCS PM Technical Notes

- **No. 4** - Reading Seed Packaging Labels and Calculating Seed Mixtures.
- **No. 6** - The Stinger, a tool to plant unrooted hardwood cuttings of willow and cottonwood species for riparian or shoreline erosion control or rehabilitation.
- **No. 13** - Harvesting, Propagating and Planting Wetland Plants.
- **No. 21** - *Planting Willow and Cottonwood Poles under Rock Riprap.*
- **No. 23** - *How to Plant Willows and Cottonwoods for Riparian Rehabilitation (Revision).*
- **No. 32** – User's Guide to Description, Propagation and Establishment of Native Shrubs and Trees for Riparian Areas of the Intermountain West.
- **No. 38** - User's Guide to Description, Propagation and Establishment of Wetland Plant Species and Grasses for Riparian Areas in the Intermountain West.
- **No. 39** - Waterjet Stinger: A tool to plant dormant unrooted cuttings of willows, cottonwoods, dogwoods, and other species.
- **No. 40** - Biology, history and suppression of Reed canarygrass (*Phalaris arundinacea* L.).
- **No. 42** – Willow Clump Plantings.
- **No. 43** - Tree Planting, Care and Management

For a copy, write or call:

USDA, NRCS, Plant Materials Center
Interagency Riparian/Wetland Project
P.O. Box 296
Aberdeen, ID 83210

Phone - (208) 397-4133

Email – chris.hoag@id.usda.gov

derek.tilley@id.usda.gov