

## 2003 Aberdeen Plant Materials Center Progress Report of Activities

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*Aberdeen Plant Materials Center office and greenhouse*

### Who We Are

The mission of the NRCS Plant Materials Program is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. The Aberdeen Plant Materials Center (PMC) was established in 1939 to develop plant materials and techniques for establishment and management of plants for use in resource conservation activities in the Western United States.

There are 26 PMCs nationwide, each serving a particular geographic area. The Aberdeen PMC serves portions of the Intermountain West including southern Idaho, western Utah, Nevada, northeastern California, and southeastern Oregon.

### Program Emphasis

The activities of the Aberdeen PMC are guided by a long-range plan. The priority work areas are:

- Plant releases, seed and plant production
- Rangeland in poor ecological condition
- Riparian and wetland degradation
- Windbreak demonstration
- Technology transfer and education

This document highlights some of the major activities at the PMC during 2003. For detailed information, contact the staff at the PMC or the Idaho-Utah Plant Materials Specialist.

### Integrated Restoration Strategies for Weed Control on Western Rangelands

The PMC is cooperating with the University of Nevada Reno, Oregon State University, Utah State University, Rocky Mountain Research Station, USGS, ARS and BLM to plant and evaluate common studies across the Great Basin to test management strategies for controlling cheatgrass and other annual weeds. A major goal of the project is to increase the ecological understanding of why restoration techniques succeed or fail.

The PMC was responsible for gathering and packaging seed for test plots, the modification of a Truax Roughrider Rangeland Drill for planting the plots, and staff expertise in planting the plots.





A total of 1200 plots were planted in Idaho, Oregon, Nevada and Utah in late October and early November with technical guidance provided by the PMC. The seedings will be repeated next year to help validate the plant testing work. In addition to the drilled plots, the PMC packaged and provided seed to other researchers to test alternative strategies for restoration.

### **Native Plant Testing**

During the summer of 2003, the PMC began a cooperative project with the USDA Forest Service, Region 1 to evaluate six native species for potential use in restoration on Forest Service land in Idaho and Montana. The PMC provided technical assistance to the Forest Service in seed collection procedures. Forest Service personnel collected a total of 52 accessions of bluebunch wheatgrass, Idaho fescue, blue wildrye, tufted hairgrass, Sandberg bluegrass and western yarrow. These collections are currently being cleaned and will be planted at the PMC this coming spring. We will evaluate the collections to determine which collections show promise for restoration work on Forest Service land. The Forest Service has also procured some small-lot seed cleaning equipment for the PMC to use in this project.



*Anatone bluebunch wheatgrass seed production field*

### **Upcoming Plant Releases**

The PMC is cooperating with the Forest Service, Shrub Sciences Laboratory and the Bureau of Land Management to release Anatone bluebunch wheatgrass and Maple Grove Lewis flax. Anatone was originally collected by the Shrub Sciences Laboratory and appears to have better seedling vigor than 'Goldar' which was released by the PMC in 1989. Anatone may be better suited to drier conditions than Goldar which typically needs at least 12 inches of annual precipitation to establish.

'Appar' blue flax was released in 1980 and has been widely recommended as a component of seed mixtures to provide diversity and beauty. It was originally identified as a native species to North America but was later determined to be introduced from Europe. Maple Grove, originally collected in central Utah shows great promise as a native replacement for Appar.

Seed production fields of Anatone and Maple Grove have been established at the PMC and seed was harvested in 2003. Seed will be available to the commercial seed industry pending official release.

### **Breeder and Foundation Seed Production**



The PMC is responsible for Breeder and Foundation seed production of 17 plant releases. During 2003, Foundation seed fields of 'Magnar' basin wildrye, 'Goldar' bluebunch wheatgrass, Anatone bluebunch wheatgrass, 'Nezpar' Indian ricegrass, 'Paiute' orchardgrass, 'Bannock' thickspike wheatgrass, Richfield Selection firecracker penstemon, Clearwater Selection Venus penstemon, Maple Grove Selection Lewis flax, Northern Cold Desert Selection winterfat and Snake River Plains Selection fourwing saltbush were in production. New fields of 'Regar' meadow brome and 'Ephraim' crested wheatgrass were also established.

Foundation seed of the releases from the PMC are provided to seed growers through the University of Idaho Foundation Seed Stocks Program and the Utah Crop Improvement Association.

## Interagency Riparian/Wetland Plant Development Project

The Interagency Riparian/Wetland Plant Development Project was established in 1991. NRCS and several federal, state, local, and private organizations decided more information was needed on how to propagate and plant riparian and wetland plants, how to establish and maintain wetland and riparian vegetation in artificial situations, and other uses related to water quality improvement.

### **Streambank Soil Bioengineering Technical Training**



As part of our technology transfer program, a three-day Streambank Soil Bioengineering Technical Training Workshop was developed. This workshop was formally a two day workshop, but based on popular demand, has been expanded to a three day course. The first day and a half of the workshop is devoted to the classroom where basic riparian dynamics, riparian zone vegetation, plant acquisition, bioengineering techniques, woody plant propagation, case studies, and project planning are discussed. The afternoon of the second day is held in the field discussing a proposed restoration site. The participants utilize the knowledge gained in the classroom to develop restoration plan alternatives. The plan alternatives are then discussed and the selected plan for the project site is discussed with the group. The third day is spent at the project site where participants install a series of bioengineering treatments on an eroding section of streambank based on the selected project plan.

This year, Streambank Soil Bioengineering Technical Training workshops were held in: Carson City, NV, Alturas, CA, Panquitch, UT, Santa Maria, CA, Elko, NV, Grand Forks, ND, and Grand Teton National Park, WY.

To get the best engineering information on rivers to the workshop participants, Jon Fripp, Stream Mechanics Civil Engineer at the USDA NRCS National Design,



Construction, and Soil Mechanics Center in Ft. Worth, TX, Tom Moody, Civil Engineer, Natural Channel Designs, Flagstaff, AZ, and Stephanie Yard, Civil Engineer, Natural Channel Designs, Flagstaff, AZ have helped with the organization of the course and presentation of materials at the workshops.

### **Conferences and Symposia**

The project presented a number of technical papers at the following conferences and symposia:

- Idaho State University Wetland Conference Poster Paper, *Wetland Plant Releases*, 100 people, Pocatello, ID
- Conservation of Natural Resources class, *Wetlands and wetland vegetation*, 19 students, Idaho State University, Pocatello, ID
- Society of Ecological Restoration Annual Meeting presentation, *Wetland Seed Collection and Processing*, 75 people, Portland, OR
- Society of Ecological Restoration Annual Meeting presentation, *Waterjet Stinger: a new method for establishing unrooted dormant cuttings using water*, 150 people, Portland, OR
- Riparian Ecology Class presentation, *Discussion of riparian areas, restoration techniques, and riparian vegetation*, 10 students, USU, Logan, UT
- Coalbed Methane Summit presentation, *Constructed Wetland Systems to treat water from coalbed methane mining*, 77 people, Sheridan, WY
- Native American Plant Summit presentation, *Wetland Seed Collection and processing*, 32 people, Grand Coulee, WA
- Society of Soil and Water Conservation Annual Meeting, *Riparian Streambank soil Bioengineering Workshop*, 27 people, Spokane, WA

### Technical Assistance to NRCS Field Offices and other agencies

- Medicine Lodge Creek Bioengineering assessment and plan development, Dubois, ID
- Bank Stabilization discussion of Coeur d' Alene River Basin, 20 people, Coeur d' Alene, ID
- Technical Assistance in Teton River Canyon after flood analysis, 5 people, Driggs, ID
- Lapwai Creek SVAP effort, Lewiston, ID

### Restoration of Fox Creek, a tributary of the Teton River, near Driggs, ID



Fox Creek is a spring-fed stream in the Teton Valley that was dredged and widened in the past. Riparian vegetation was significantly reduced because of this history of construction, spraying and improper grazing management. The Creek has a steady flow with a relatively small increase in flow during spring runoff. The landowners are interested in restoring Fox Creek and have teamed up with the Corps of Engineers, a group called the Friends of the Tetons, and Gillilan Associates, Inc. from Montana. The project objectives are to decrease the stream width and to reestablish woody vegetation. Work completed this fall included constructed pools. The spoil materials from this construction are being used to narrow the channel. This spring, the stabilization of streambanks through planting of riparian woody and herbaceous species and installation of bioengineering treatments will begin. The design for the next treatment section of the Creek downstream will also be completed.

Spring fed streams are much different to work on than typical snow melt streams and the information gathered about the planning and installation of treatments will be helpful throughout the West.



### Wetland Restoration, Enhancement, and Management publication

Check out the new publication, Wetland Restoration, Enhancement, and Management, by the USDA NRCS Wetland Sciences Institute. This publication comes with a searchable CD that has a number of papers written on wetland restoration and enhancement techniques, Ecological monitoring, wetland maintenance, and papers on individual invasive, noxious, and problem plant species. It also has regional issues that will help the reader with specific problems identified in various parts of the country.

### Aberdeen Plant Materials Center Website

The Plant Materials Program web page at <http://Plant-Materials.nrcs.usda.gov/> has further information on plant releases, publications, current studies, and service area for all 26 PMCs in the United State.

For information specifically about the Aberdeen Plant Materials Center, go to <http://www.plant-materials.nrcs.usda.gov/idpmc/>.

The Interagency Riparian/Wetland Plant Development Project has produced a large number of publications on wetland plant species, transplanting techniques, propagation protocols, and management techniques. It has also produced a number of publications on riparian plants (mainly woody species), harvesting techniques, planting techniques, and how to use riparian plants in Streambank Soil Bioengineering treatments for streambank erosion control. These publications can be downloaded from the Interagency Riparian/Wetland Plant Development Project website located at <http://www.plant-materials.nrcs.usda.gov/idpmc/riparian.html>