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INTERAGENCY RIPARIAN/WETLAND PLANT DEVELOPMENT PROJECT

First Quarter 1994 Progress Report

Project Staff

J. Chris Hoag, Wetland Plant Ecologist
Mike Sellers, Wetland Biological Technician
Mike Zierke, Wetland Biological Aid

Introduction

Work this quarter (FY 94) concentrated on wetland plant evaluations, biomass sampling, planting of greenhouse produced plants at the USBR H Drain, meetings, planning for a CWS in Fallon, NV, planning for professional meeting presentations, and training session development.

Nomenclature Changes

It has come to our attention that we may have been using the wrong scientific name for Common Threesquare, *Scirpus americanus*. The correct nomenclature is *Scirpus pungens*. *Scirpus americanus* is now applied to Olney's Threesquare (*S. olneyii* is no longer accepted). We are using PLANTS (Plant List of Attributes, Nomenclature, Taxonomy, and Symbols) which is the national database that is subscribed to by most federal agencies. This is the most up to date reference for scientific nomenclature available. It is computerized and accessible to the public. Those interested in further information on how to access the database should contact either Scott Peterson at the National Plant Materials Center (301-504-8175) or your agency computer support group.

Analysis of Evaluation Data

Mike Sellers has proven to be a real asset to the Project. He has spent many hours on statistical analysis of the evaluation data. He has used his own computer and a couple of his own programs to plot the data and run regression analysis on it. Initial analysis of the evaluation data collected last year shows some interesting trends that are somewhat different than what our ocular estimates indicated. Survival of SCPU3 greenhouse propagated plants was significantly greater than live transplants. The opposite was true of SCMA and CANE2. Rhizomatous spread of CANE2, JUBA and SCPU3 was significantly greater in greenhouse grown plants versus live transplants. Other species showed no significant difference in spread. Flowering was greater in live transplants versus greenhouse plants for JUBA and ELPA3. SCAC and SCPU3 were the opposite. Other species showed no significant difference. We are now adding in the biomass production and determining whether it will change the initially suggested trends.

Evaluations

Evaluation data collections were completed in October. Biomass samples were collected during the months of October, November, and December with help from Idaho Fish & Game Reservists

and volunteers from the Alternate School in Pocatello. Samples are currently being dried and weighed. These data should provide a check against the ocular estimates.

Preliminary evaluation/biomass data suggests that the accessions that performed the best for the greenhouse grown plants were not necessarily the ones that did the best for the live transplants.

Bibliography of Wetland Papers

We have finally cataloged all of the scientific papers that we have collected over the course of the original literature review and subsequent reviews. Pat Blaker, PMC secretary, has put them into the computer. We have a fairly extensive bibliography for:

Constructed Wetland Systems
General Wetland References
Scirpus pungens (*S. americanus*)
Scirpus acutus
Eleocharis palustris
Scirpus maritimus
Carex nebrascensis
Juncus balticus

Please let us know if you need a copy of any of these.

Technical Assistance Provided

Technical assistance was requested and provided to the following people and organizations:

- * USA Corps of Engineers, Waterways Experiment Station, Wetland section, Vicksburg, MS
- * USA Corps of Engineers, Waterways Experiment Station, Riparian section, Vicksburg, MS
- * L. Headley, Geothermal Water Gardens, Boise, ID
- * Nevada SCS - State Office, Yerrington Field Office, Fallon Field Office, Pauite/Shoshone Indian Nation
- * Arizona SCS - Jim Briggs, Plant Materials Specialist for Nevada and Arizona,
- * USA Corps of Engineers, Sacramento, CA, Stinger Designs
- * USA Corps of Engineers, Walla Walla, WA region, workshop presentation
- * USA Corps of Engineers, John Carr Reservoir, Boydton, VA - Stinger planting
- * Nature Conservancy, Cindy Lunte, Upland and wetland plant recommendations, 1000 Springs CWS
- * US Bureau of Reclamation, American Falls Reservoir section
- * US Bureau of Reclamation, Chris Ketchum, Minidoka Project - Seagull Bay, Poulson CWS, Smith Drain and Sterling Wetlands
- * Idaho SCS - Fairfield suboffice (Centennial Marsh), Wood River RC&D, Gooding SCD
- * Three Rivers RC&D, Paula Jones - Grants, research proposals, alternative funding, proposals
- * US Fish and Wildlife Service - Camas NWR (seedings, cottonwood plantings, erosion control, riparian restoration)

- * John Steinbacher, Idaho Native Nursery - wetland and riparian plant production
- * Mississippi PMC - wetland study coordination, computer communication
- * Robert Newhall, Utah State University
- * Soil and Water Conservation Society, Utah Chapter - Gave a presentation to the Chapter on the project and some of the research we are doing.
- * Idaho Fish and Game - Sterling Wildlife Management Area, Seagull Bay on AFR
- * Idaho Dept. of Transportation - Planning for a Riparian Restoration training session for their Environmental Planners
- * Colorado Cooperative Extension Service, Curt Swift - request for Hoag to give a presentation on riparian planting to a large workshop in Grand Junction (canceled due to lack of travel funds)
- * Utah Water Users Association - request presentation at 4 day workshop on wetland plants, uses, and revegetation.
- * USFS Lucky Peak Nursery, Kay Beall - potential CWS on the nursery ground to filter field runoff.
- * USDA ARS, H. Malund, Kimberly - project setup and sampling procedures.

1994 Willow Collections

Next March and April we will again be out collecting willow cuttings. We will be concentrating on the following species:

Drummond Willow, *Salix drummondii*
 Lemmon Willow, *Salix lemmonii*
 Peachleaf Willow, *Salix amygdaloides*
 Black Willow, *Salix nigra*

The collection of additional *Populus* species, specifically Black Cottonwood (*Populus trichocarpa*), is still questionable.

WE NEED INPUT ON WHETHER TO COLLECT THEM OR NOT.

We need to get locations of good stands of the different species for the March and April collection dates. Anybody that can provide locations, ANY locations, please contact us as soon as possible.

Willow Evaluations and Analysis

Trout Creek, NV.

The second evaluation of Trout Creek on September 24 only included the sections established in 1992 and 1993. Initial survival rate for '92 was 61.4%, while 1993 was 74.9%. These numbers are consistent with the first evaluation earlier in the year. Native accessions had the highest survival rates for both years. Most mortality was due to stream dynamics or planting location.

American Falls Reservoir

The Sandy Cove site evaluation has been completed, but the final numbers have not been entered into the computer. Ocular evaluations indicate the 1990 section had excellent establishment and

growth, while 1991 and 1992 stands seem to have been affected negatively by the drought years. Reduced reservoir levels, sediment deposition, cliff slumping, and wind erosion have contributed to nearly 90% failure of these plantings.

The "Stinger" rip-rap plantings of 1991 had a survival rate of 80% for both the Laurel willow and Northwest poplar. 1992 had a survival rate of less than 4% due to extremely low water levels of the reservoir and planting in the wrong planting window. The 1993 plantings had 100% success until rip-rap maintenance was performed, which destroyed one cutting.

Field 28 Research (1993 Native willow collection planting)

The native willows planted in Field 28 were evaluated in August. A survival rate of over 82% out of 1520 total cuttings was documented. We are testing different cutting lengths in addition to species to see what is the best cutting length to plant for the best establishment. This year we will increase the species list and perform several new tests on cutting establishment.

Poulson Constructed Wetland System Demonstration Site (CWS)

Phase 1 (Final Polishing Filter) has been completed and looks great. The total cost was about \$5,500. Bids for Phase 2 will be solicited in February with construction to be completed by June 1. We will plant the various components as soon as construction has been completed. The first year will be used for plant establishment and collection of baseline data.

USBR H-Drain project, Paul, ID

The H-Drain Constructed Wetland System is in cooperation with the Minidoka Project, USBR, Burley, Idaho. This project deals with the planting of both wetland plants and willows in a CWS designed and constructed by the USBR. The drain collects irrigation waste water from surrounding farms in the A & B Irrigation District. The Project has contracted with USBR to plant the various components this fall and next spring. We planted about 2000 plants of our accessions in November with the help of Idaho Fish & Game Reservists and volunteers from the Idaho Youth Ranch. We had planned on planting several thousand more plants, but we were frozen out. We will be finishing the planting this spring with more greenhouse produced plants and some live transplants collected from native wetlands near the site.

Nature Conservancy Constructed Wetland System, Hagerman, ID

The constructed wetland system that is being built on Nature Conservancy owned land at Thousand Springs near Hagerman, ID is almost completely built at this time. We are planning on planting wetland plant seed and Garrison Creeping Foxtail on the Primary Grass Filters this spring. We will also fill in with live plants on 3 foot spacing to ensure good growth and coverage. Originally, only the sediment basin and the primary filter were to be built this fall, but the North Side Canal Co. has pushed really hard and also completed the shallow wetland and over 1/2 of the deep water pond. We should be able to plant all of the components this spring to ensure good establishment by 1995.

Planting Wetland Plants - Training Opportunities

We will be planting numerous areas with greenhouse propagated plants and live transplants for native wetlands this next spring. This will be a good opportunity for any of the cooperators to gain experience in how to collect and plant wetland plants. The 1000 Springs CWS at Hagerman is only an hour and a half drive from Boise. H Drain is near Paul, ID and it is only about 2 1/2 hours from Boise. If any of you want to be involved in the plantings or you want us to put on a training session for some of your people, please let us know as soon as possible.

Professional Paper Presentations

We have submitted an abstract for a paper to be presented at the Society of Wetland Scientists in May at Portland, OR. The title is *Use of Greenhouse propagated wetland plants versus live transplants to vegetate constructed or created wetlands*. We will also be presenting two 1 hour training sessions to attendees of the Utah Water Users Association Workshop at St. George in March, 1994. The title of the presentation is *Wetlands, Wetland Plant Communities, and Constructed Wetland Systems for Water Quality Improvement*. Hoag will be making two presentations to a combined group of USA Corps of Engineer and US Bureau of Reclamation employees on: *Selection And Acquisition Of Woody Plant Species And Materials For Riparian Corridors And Shorelines*, and *Use Of Willow And Cottonwood Cuttings For Vegetating Shorelines And Riparian Areas* in March, 1994.

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