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INTERAGENCY RIPARIAN/WETLAND PLANT DEVELOPMENT PROJECT

Fourth Quarter 1993 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 93) concentrated on wetland plant seed collections from our Service Area, wetland and riparian evaluations, and continued planning for several Constructed Wetland Systems.

Michael E. Sellers, Wetland Biological Technician

The Biological Technician position was filled July 25, 1993. The new Biological Technician is Mike Sellers. Mike lives in Pocatello and is a graduate student at Idaho State University finishing up his Master's Degree on Mountain Lions. He has had extensive experience with wetlands, cattails, and aquatic communities in Wisconsin where he got his B.S. degree. He has jumped right into the project and has already had a very positive impact the procedures we are using for evaluations. I feel confident that he will continue to improve the product we are trying to provide to the cooperators.

Mike Zierke, Wetland Biological Aid

Mike went from full-time to part-time in September so he could complete the last courses for his B.S. degree at Idaho State University. He has been coming into to work during the week in between classes. He has helped Sellers and myself with local collections and he has completed most of the woody plantings evaluations this year. He will complete his course work in December and will come back full-time in January. He will be completing several papers on the woody planting over the winter. Mike was invaluable to the Project after Trena left, filling in with evaluations, planning, and planting of the woody cuttings. We will be very fortunate to have him back full-time in January.

Wetland Plant Seed Collections

This year we went back to all of the wetland sites where seed had been collected in 1991. We were running extremely low on seed of many of the accession we have been working on. The entire Project staff was traveling from the end of August to the 1st of October throughout our Service Area.

This year we planned on visiting 86 of the original collections sites within our 5 state area. Of the original 106 collection sites, 8 collections of *Polygonum* spp. were dropped and 12 other

collections were selected against because of poor germination, poor performance, or lack of viable seed.

Of the 86 original collection sites visited, we were not able to collect seed from 22 of them because the sites had been grazed, burned, wrongly identified, or somehow destroyed. These accessions will be dropped from evaluation because of the lack of stability of the seed source.

We did collect 10 new collections from sites that were found when enroute or in the same general area. These accessions will be moved into testing this year.

Original Collection sites	106
Dropped Polygonum spp	8
Dropped other accessions	11
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Visited collection sites	87
Collection sites w/o seed	20
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Total sites with seed collected	67
New collections	11
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Total seed collections	77

We had much better luck this year with our seed collections than last year mainly, we believe, because of the increased moisture. Last year we had real problems with the seed filling because of the drought. Vegetative growth at the sites was better that we had ever seen it in previous years.

Species	Collections
Nebraska Sedge, <i>Carex nebrascensis</i>	10
Creeping Spikerush, <i>Eleocharis palustris</i>	13
Baltic Rush, <i>Juncus balticus</i>	15
Threesquare Bulrush, <i>Scirpus americanus</i>	10
Alkali Bulrush, <i>Scirpus maritimus</i>	9
Hardstem Bulrush, <i>Scirpus acutus</i>	19
Water Smartweed, <i>Polygonum amphibium</i>	1
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Total	77

We want to compare seed germination between 1991 and 1993. We did get some seed in 1992 and we will compare germination for this year where possible.

Created Wetland Ponds on the PMC

Evaluations of the different species and accessions were completed this fall. Due to the poor establishment of SCAM2 and SCMA in pond 3 and SCMA in pond 4, we were limited to collecting data from five random points for each of these species. Data from these evaluations will be compiled and analyzed this winter. Those of you that attended the Riparian/Wetland Project Tour in September saw some real changes in the vegetation from last year. It would appear that the live plant transplants are slower in establishment than the greenhouse grown plants. Speculation based on these results tends to indicate that selection of younger plants when transplanting should increase the speed at which the plants establish and spread.

Evaluations of above ground biomass for all accessions will begin within the next two weeks.

1993 Willow Collections planted on the Fish & Game Farm

All of the willows that were collected in March and April of this year were planted on the Fish & Game Farm this summer. They were evaluated twice to get an idea on establishment success this year. We did find that weeds were a major problem affecting establishment. We plan on installing polypropylene geotextile weed barrier next spring on the 1993 collections and the 1994 collections. This will mean an expenditure of about \$3,000, but well worth the price in terms of competition and maintenance.

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*

During the September tour, it was suggested that *Salix wolfii* be dropped because of its limited applicability to a majority of the cooperators. *Salix scouleriana* was also discussed. It is more of an upland willow and not particularly suited for pure riparian situations. Dropping scoulers willow was mentioned.

The collection of additional *Populus* species, specifically Black Cottonwood (*Populus trichocarpa*), was also discussed. Idaho Power felt there was a need for the collections while most of the other cooperators felt there was only limited need because of the tendency for it to cross with other species. Unless further comments are conveyed to us by cooperators not represented at the tour on the need for collections of Black Cottonwood or another species, we will not collect them this winter. The same is true with Scoulers Willow, 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 me as soon as possible.

Poulson Constructed Wetland System Demonstration Site (CWS)

At the present time, we are soliciting bids for construction of phase 1 (Final Polishing Filter) in November. Bids for phase 2 will be solicited this winter with construction to be completed by May 1. We will plant the various components as soon as construction has been completed. The first year will be 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 will be planting our accessions and many of the willows that we have been working on over the years.

USBR Smith Drain Created Wetland and USBR Sterling Created Wetland

The Project has contracted with USBR to vegetate newly constructed created wetlands around the edge of American Falls Reservoir. These wetlands are being constructed by impounding 2 bays on the northwest side of the Reservoir. We will plan on planting the disturbed areas with our wetland and riparian plants. These 2 sites will serve as off-center test sites for our selected accessions. We will be able to test inundation tolerances, establishment, spread, and longevity at these sites.

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 in construction phase at this time. We are planning on planting wetland plant seed and Garrison Creeping Foxtail on the Primary Grass Filters this fall. Next spring, we will fill in with live plants on 3 foot spacing. We are also hoping that the shallow wetland will be built this fall so we can start planting it next spring. We are planning to use some of the Project accessions so the data collected will give us additional information on off-center performance of the plants to help support a release and to support our constructed wetland system theories.

American Falls Reservoir

Evaluations have been completed on all of the willow and cottonwood plantings that the Project has completed in previous years. Previous years' plantings were under water for up to 4 months because of the high water year. American Falls Reservoir was held at 1-2 feet over maximum fill for about a month. Most of the plants had sprouted and grown up enough so that at least 6 inches of the stems were out of the water. We are finding some problems with establishment of the cutting last year and this year. We won't know exactly what has happened until the data has been analyzed this winter.

Trout Creek, NV; Riparian Off-Center Test Site Planting

The Trout Creek Riparian Off-Center Test Site in northeastern Nevada near Jackpot was evaluated in the spring and again in the fall this year. This is a continuing research effort to perfect riparian planting methods and to test different willow and cottonwood species. The previous two years plantings appeared to be establishing quite well. This year's planting is establishing and appears to be doing well. Next year will give us a much better idea on success or failure.

Planting Willow and Cottonwood Cutting Technical Note

After 2 years of hard work, I finally finished the SCS Technical Note-- How to Plant Willows and Cottonwoods for Riparian Rehabilitation. This paper has a wide range of information on all aspects of planting willows and cottonwood cuttings. It also has a large literature citation section. I will be mailing copies to all the cooperators who did not go on the September tour.

Minutes of the September Tour

The Interagency Riparian/Wetland Plant Development Project tour and business meeting was held on September 8 & 9. The following cooperators were in attendance:

Dan Ogle, PMS, SCS, Idaho
Jim Weston, SRC, SCS, Utah
Wayne Owen, USFS, Idaho
Nancy Cole, Idaho Power, Boise
Roger Rosentreter, BLM, Idaho
Chris Ketchum, USBR, Minidoka Project
Mike and Kris O'Brien, Nature Conservancy, Hagerman, Idaho
Tony Apa and Dale Turnupseed, IDF&G, Jerome, Idaho
Chris Hoag, Interagency Riparian/Wetland Plant Development Project
Mike Sellers, Interagency Riparian/Wetland Plant Development Project

I would like to thank everyone for their attendance and participation.

The tour began in Boise, ID on September 8. The tour began with a stop at the Nature Conservancy CWS site near Hagerman, ID. Mike and Kris O'Brien, and Chris Hoag gave a short briefing on what has happened to date. At our second stop Chris Ketchum elaborated on the progress that has been made at the USBR H-Drain CWS near Paul, ID. Nancy Cole lead the tour at our last stop for the day, Idaho Power's Milner Dam wetland mitigation site located west of Burley, ID.

On September , Chris Hoag began the day with a tour of our new PMC office building and green houses followed by a slide show on the Interagency Riparian/Wetland Plant Development Project. During the buisness meeting the following were issues/subjects were discused/agreed upon:

- * The Advisory Committee approved the purchase of a hand held power auger for willow plantings in areas where the use of "stinger" is impracticable.
- * The Advisory Committee approved the purchase of a weed barrier and drip irrigation system for the willow cuttings. This will greatly reduce the weed problem and should increase the survival of the cuttings.
- * The Advisory Committee approved the purchase of two additional tanks for the propagation of wetland plants in greenhouse. This will increase our capacity by 29%.
- * The Polygonum spp. (complex) "problem". We discused the concern over this species/complex weedy nature and whether or not it was wise to continue in the collection and evaluation of this species. It was decided that we would keep some in one of the ponds in order to study its competitiveness with other species. It was also decided that collections and testing of Polygonum amphibium should continue. If anyone knows of a good stand of this species I would appreciate hereing from you.
- * The publication of a short note on how to plant Polygonum spp. will be made available to interested persons/agencies.

* Roger Rosentreter sent a sample of the "mystery Carex" to Nancy Shaw for positive identification. She identified it as Carex hystricina (porcupine sedge).

* We discussed the need to research the possibilities of using submergent species in deep water ponds. Ideally, we would like to use species which will provide food for wildlife as well as provide a means of nutrient removal. Let us know if you have any more ideas pertaining to species selection.

* We also discussed testing one other forb species that would function both as a "filter" and as wildlife food. Further input would be appreciated.

After the business meeting Chris lead a tour of the created wetland ponds, followed by a tour of the 1993 willow plantings on the Fish & Game farm. Dan Ogle discussed alternative release procedures and gave everyone a hand out on the subject. We finished the tour with a visit to the Poulson CWS Demo Site

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