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INTERAGENCY RIPARIAN/WETLAND PLANT DEVELOPMENT PROJECT

JULY, 1997 TO JANUARY, 1998 SEMI-ANNUAL PROGRESS REPORT

Project Staff

J. Chris Hoag, Wetland Plant Ecologist

Introduction

This progress report covers from July, 1997 through December, 1997. The last Progress Report was completed in September, 1997, so this progress report will be thinner than the previous Report.

Annual Wetland Project Business Meeting

The annual business meeting will be held on March 2, 1998 at 1:00 pm. The NRCS State Office is moving to a new building at 9173 West Barnes, Boise near the US Fish & Wildlife Service and BLM Building at around that time. We do not have an exact meeting location yet, except that it will be in Boise. I will notify all of you in advance as soon as I hear how many are coming. Please call Pat Blaker and let her know if you plan to attend. We will discuss the budget, personnel, project direction, studies that I hope to do, workshops, and I will be passing out your copies of Information Series 10, 11, 12 and the Bioengineering Guide.

Third Annual Newsletter

The third issue of "View From A Wetland" is out for 1996-1997. Copies were mailed to cooperators, NRCS offices, and those on our mailing list throughout our service area along with a request for update on addresses and a note to send back if they wanted to remain on the mailing list. We received many great comments on the articles in the newsletter along with requests for copies. I did include a statement that Information Series 10, 11, and 12 were available. However, I have not quite completed all of them yet which is why you haven't received copies yet. I will send all the sponsors copies as soon as I have completed them. I am still trying to adjust to Mike Sellers not being here. He wrote many of the articles, progress report sections, and portions of the Information Series.

Presentations (posters, papers, talks)

Project personnel presented a number of talks, papers, poster sessions, and workshops from July, 1997 to January, 1998. Below is a list:

Meetings

City of Pocatello Stormwater CWS meeting, Pocatello, ID. CWS to treat stormwater in the city of Pocatello, ID. August 20, 1997, September 4, 1997, and October 22, 1997.

Fairview Wetland Meeting. *Constructed Wetlands for Treatment of Irrigation Wastewater*. July 22, 1997, August 18, 1997, August 28, 1997, Sept. 24, 1997, Sept. 26, 1997, Oct. 6, 1997, Oct. 23, 1997, Oct. 27, 1997, Oct. 30, 1997. American Falls, ID.

Engineering Review of EWP practices using vegetation in North Idaho. Sept. 29 - Oct. 3, 1997
EWP specification development in Eastern Idaho. Meet with construction inspectors and engineers on site. Oct. 27, Oct. 28, Oct. 29, 1997.

Henry's Fork Foundation. Review Sherman Creek near Island Park Reservoir and discuss alternatives for Riparian restoration. Sept. 3, 1997.

Training Sessions and Workshops

Riparian Zone Ecology, Management and Restoration Workshop, Ephraim, UT. Nov. 4, 1997. 20 people attended. Nov. 5 Outdoor session on the San Pitch River, 15 people attended.

Riparian Zone Ecology, Management and Restoration Workshop, Coalville, UT. Nov. 6, 1997. 30 people attended. Outdoor session on the South Fork of the Chalk River, 29 attended.

Applied Fluvial Morphology, Dave Rosgen, instructor. Pagosa Springs, CO. Aug. 10-15, 1997.

Reservoir Erosion Control Workshop. USAE, Waterways Experiment Station. Workshop at Cottage Grove, OR. Work completed on Dorena Lake. Sept. 3-7, 1997.

Technical Papers and Publications

Progress Reports and Newsletters

Hoag, J. C. and Sellers, M. 1997. Interagency Riparian/Wetland Plant Development Project January-July 1997 Progress Report. August, 1997.

Hoag, J. C. 1997. Interagency Riparian/Wetland Plant Development Project July, 1997 - January, 1998 Progress Report. January, 1998.

Hoag, J.C. 1996-1997. *View from a Wetland - News and Technology for Riparian and Wetland Management*, No. 3. Interagency Riparian/Wetland Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 4 pp.

Published Symposium Proceedings

Hoag, J. Chris. 1997. *Constructed Wetland Systems for water quality improvement in of nursery irrigation wastewater*. Proceedings of the Western Forest and Conservation Nursery Association Annual Meeting. August 19-21, 1997, Boise, ID.

Hoag, J. Chris. 1995. *Using dormant pole cuttings to revegetate riparian areas*. Proceedings of V International Rangeland Congress, SLC, UT. July 23-28, 1995. pp 238-239.

Plant Guide/Fact Sheets

Nebraska Sedge (*Carex nebrascensis*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Creeping Spikerush (*Eleocharis palustris*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Baltic Rush (*Juncus balticus*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Hardstem Bulrush (*Scirpus acutus*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Alkali Bulrush (*Scirpus maritimus*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Common Threesquare (*Scirpus pungens*), Wetland Plant Fact Sheet. 1998. Interagency Riparian/Wetland Plant Development Project, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 3 p.

Technical Papers

Hoag, J.C. and M. Zierke. 1998. *A reference guide for the collection and use of ten common wetland plants of the Great Basin and Intermountain West. Updated with pictures.* Riparian/Wetland Information Series No. 13, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 13 pp.

Sellers, M.E. and J.C. Hoag. 1998. *Getting "Bang for your buck" on your next wetland project.* Riparian/Wetland Information Series No. 11, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 4 pp.

Hoag, J. Chris. 1998. *Guidelines for planting, establishment, and maintenance of constructed wetland systems.* Riparian/Wetland Information Series No. 12, USDA - NRCS, Plant Materials Center, Aberdeen, ID. 4 pp.

Riparian Zone Ecology, Restoration, and Management Workshops

Riparian workshops will be held in Oregon and California this year. The following is a breakdown of the sessions and dates.

Idaho (tentative)

North of Shoshone, ID with ITD April 2-3, 1998

Oregon

Ontario, OR March 31-April 1, 1998

California (Tentative)

South Lake Tahoe, May, 1998

The Riparian Zone Ecology workshops are open to NRCS employees, other federal agencies, SCD's, state agencies, private organizations, and anyone interested in Riparian areas and Bioengineering. Call us for more information.

Bioengineering Manual Update

We have just finished the rough draft stage and are into the final review stage for the Bioengineering Manual we have been promising for a year. Our present time table is to have the final reviews done in February. We have had almost 30 professionals review and comment on the Guide so it has taken much more time than we anticipated to read all the comments and then figure out how to get them in the guide in a reasonable form. We are hoping to get the changes in and the final form ready for printing by March. We will be sending each of the sponsors a number of copies for them to distribute to their own organizations. We have enough money in our budget to print a first run. After those are gone we will have to get more money to print a second run (if we have the requests for it). Please let me know how many copies you want for you individual organization.

Scarraw Dairy Animal Waste CWS

This project is still progressing. This will treat milkhouse wastewater and some corral wash water for a 900 cow dairy. This is an excellent opportunity to see if we can design a system to

handle high salts and ammonia. Construction is taking place as we speak. Planting will probably take place in May or June, 1998.

Arimo Ranch (Marsh Creek)

The Arimo Ranch Research and Demonstration Site located on Marsh Creek south of Pocatello is starting to wind down in terms of active planting. This demo site is designed to test a planned grazing system versus total exclusion, and planting (accelerated revegetation) versus no planting (natural revegetation). Starting in 1995, we have been planting woody riparian species using various bioengineering techniques, and developing new bioengineering methods in grazed and ungrazed (excluded) sections.

We have reached a point where we will not plant any more at the demo site. We will continue to evaluate the bioengineering techniques already installed. We will continue documenting changes in the riparian zone on the Arimo Ranch this coming year.

Ft. Hall Wetland Plant Nursery

We have contracted with the BOR to provide assistance to the Shoshone-Bannock Indian Tribes at Ft. Hall, ID in developing a wetland plant nursery. We are training tribal members in how to collect wetland plant seeds, clean the seeds, and produce wetland plant plugs.

We help the tribe develop specifications for a greenhouse and that greenhouse should be constructed this winter near the Ft. Hall High School. High school teachers will run the wetland plant propagation program with the help of high school students.

Ceder Draw CWS

Mike and I evaluated the Ceder Draw CWS in early fall of last year. The bays have filled in nicely with most plants. The JUBA and CANE2 were outstanding. We have experienced trouble with the ELPA3 and SCPU3. They are much thinner than they were last year. I don't think that we have the water schedule quite right for them. The Willow bay was looking really good until later in the summer and now many of the willows have died. This is again probably the water schedule. Chuck Brockway was supposed to start much more intensive water quality sampling this summer. I have not seen the results of that sampling yet. Limited WQ sampling in June, 1997 indicated that 65% of TSS, 26% of Ammonia, 36% of TKN, 17% of NO_x, 43% of TP and 16% of OP was removed. This was a very limited sample that shows the potential of the system.

Nature Conservancy CWS

Mike and a TNC Intern sampled the NC CWS this summer. It is looking great. Very limited sampling of this system indicates that 65% of TSS, 26% of Ammonia, 36% of TKN, 17% of NO_x, 73% of TP, and 73% of OP were removed. The plants have responded well to changes in the water levels that Mike O'Brien worked out last summer. This summer, we hope to operate the system in a more normal fashion and see how the system responds. Enclosed are some of the plant data collected during the evaluation this summer. Transects in the Primary filter show that the three main species, JUBA, CANE2, and ELPA3, have continued to fill in nicely. The weeds that were found last year are declining in abundance. Garrison has moved into the wetland section, but occurs only in very small areas. The shallow wetland transects show that the Bulrush that Chris and Mike O'Brien planted are filling in. As of this last summer they had a total coverage of about 17% while open water covered 83%. I would expect them to continue filling in and that ratio to decline. Automated sampling stations were installed this summer and data from those stations should be available in the near future.

Fairview CWS

The Fairview CWS located in Power County right next to American Falls Reservoir is moving right along. Remember that this is the CWS that I started back in 1993, but it was canceled

because of bureaucratic red tape. It was revived by Neil Poulson, the landowner, in 1997. We have gotten funding from BOR, Simplot, Power County, and the Power SCD. Construction started in October and was not completed. Additional construction will occur this summer based on funding. This CWS will treat a very low volume of water from a single farm that uses furrow irrigation. This project has been redesigned to be a pure research project so we can take exact measurements and get much better data than any other project we have. All the components will be replicated and automatically sampled. Poulson has also developed some water quality sampling protocols for sampling low levels of nutrients. Previous sampling protocols were developed by sewage treatment plants and were based on much higher levels than what we are finding in irrigation wastewater. The courts are also requiring much lower level detection procedures. These protocols will make our job a lot easier.

Clear Lake Grade ITD Mitigation Wetland Evaluation

We continued to monitor the Clear Lake Grade mitigation wetlands near Buhl for ITD. The wetlands have continued to fill in. Several problems were noted this year. First the Russian Olive trees are much bigger and much more visible. Second the intermediate wheatgrass that was planted as a cover has taken over much of the saturated zone around the wetlands. It has filled in to a point where it is starting to crowd out some of the wetland species that grow in the same zone. A different species of upland grass that is not so aggressive should probably be used in future mitigation projects. I would also suggest a lower seeding rate.

New Publications from the Riparian/Wetland Project

I am presently working on several new publications. I hope to complete them this winter.

First, I took the *Reference Guide for the collection and use of ten common wetland plants of the Great Basin and Intermountain West* that I did last year updated it with more information that I got from Nancy Shaw, had Pat add several plant pictures to each species sheet, and changed it to Riparian/Wetland Project Information Series No. 13. A copy of the Reference Guide is attached.

I am finishing three additional Information Series papers. One on *Seed Germination Enhancement for Carex nebrascensis (Nebraska Sedge)*, Riparian/Wetland Project Information Series No. 10 that Mike started before he left. This is the hardest because of all the data involved. Another one on *Getting "Bang For Your Buck" On Your Next Wetland Project*, Riparian/Wetland Project Information Series No. 11. Mike had also started this one before he left and I just had to finish it. The last one is *Guidelines for planting, establishment, and maintenance of constructed wetland systems*, Riparian/Wetland Project Information Series No. 12 which I wrote earlier this year for another project and fleshed out with more information.

I am also working on Tech Note 32, *User's Guide To Propagation And Establishment Of Native Shrubs And Trees In Riparian Areas* with Dan Ogle. I am adding information on willows, cottonwoods, and dogwoods. This should be a great publication when we get it done.

I have also put together 6 *Wetland Plant Fact Sheets* for each species of wetland plant that I released this last year. These fact sheets have information on description, hydrology, seed collection, cleaning of the seed, propagation, establishment and maintenance of the stands, insect and disease problems, wildlife and livestock uses, anticipated conservation uses, and released accessions. It also has a line drawing of the plant done by Gary Bentrup. Copies of these Fact Sheets are attached.

I am presently working on a poster paper that will advertise the wetland plant releases that we made last year. I will have a couple of pictures, some general information about the species and a description of where it will be used in a wetland.

New PMC Computer

I am also the system administrator for the Unix and windows computers at the PMC. Recently the unix computer that we received in the early 1980's started to die. We were able to get another computer for Division 2 in North Idaho to replace it. We sent the computer to Ft. Collins to have our Plant Materials Evaluation Software loaded on it and it will be sent back in two weeks. I will be spending some time getting everything moved over to it. We are also scheduled to be place on the LAN/WAN/VOICE system this year which will put us on the internet and email finally. The entire office will be rewired and re-tooled for this new computer system. We are really looking forward to the upgrade.

West Region Plant Materials Meeting

At the end of April, we will be attending a West Region wide plant materials gathering in which all the PMCs and PMSs in the West will meet and discuss what we are doing and to coordinate any studies that are being done at other PMCs. This will be a great opportunity to show off some of the things we have accomplished at the Interagency Riparian/Wetland Plant Development Project. I hope to show off the Bioengineering Guide and some of the newer publications. The Aberdeen PMC seems to be leading the pack when it comes to studies and technology transfer.

The Interagency Riparian/Wetland Plant Development Project is sponsored and funded by: USDA Natural Resources Conservation Service (Idaho & Utah), USDI Bureau of Land Management, USDI Bureau of Reclamation, US Fish and Wildlife Service, US Forest Service, Idaho Fish and Game, Idaho Transportation Dept., and Idaho Power Co.

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