

## Featuring:

- ◆ My Riverbank Stabilization Project
- ◆ Pack River Delta Project Update

## Inside this issue:

- |                                  |   |
|----------------------------------|---|
| Riverbank Stabilization          | 2 |
| Habitat Improvement              | 2 |
| Pack River Delta Project cont... | 3 |
| Tips for willow cuttings         | 3 |
| Upcoming opportunities           | 3 |

## Contact us at:

(208) 263-5310

## My Riverbank Stabilization Project

By Marie Meschke

I live in a swamp next to the Pack River. When we moved here in 1984 and planned to build a house, we did not fully understand the dynamics of the river and the land. Most spring floods (or fall floods) we would see a little bit of the river bank wash away and the undercut deepen. Over many years, the loss of land with each flood became greater, until chunks over three feet in depth would drop off. Fortunately, we had built the house set back from the river on top of a small knoll.

When I did Stewardship Forest, the Department of Lands gave me advice on the forest and the swamp and the riverbank. During a review walk, they suggested I contact the Natural Resource Conservation Service (NRCS) as there were grants available for riverbank stabilization.

I did contact NRCS. We talked about the project in 1998; applied for and received a grant in 1999. A plan was engineered through NRCS. I applied for a permit. The contractors came out to bid the project in late 1999. After a lengthy discussion over a few days, the project was postponed. With more expert help, the project was re-engineered in 2000.

The bank near the driveway and house is an outside river curve. The water from the swamp runs through the sandy soil into the river. Where there is a thin layer of clay, the soil washed over the clay into the river. The river below the bank has a large "sink hole." The engineering had to address the flooding and curve of the river as well as the swamp water moving towards the river.



Marie's riverbank before restoration

In October of 2000 the project started. With a good excavator operator, they created a landing, dug a trench, placed geotextile fabric, and large rock. The bank was rebuilt on an incline; large rock, smaller rock, willow plantings deep into the bank, fabric holding soil, willows, fabric holding soil, willows, and fill dirt. The top was flattened; a

skim of topsoil and a seed mix were added. Under the supervision of a good contractor, the crew worked around the existing conifers and fruit trees and kept them safe, right out to the edge of the riverbank. In November of 2000 the project was completed and looked good.

*Continued on page 2...*

## Pack River Delta Project Update

By Kathy Cousins, IDFG Mitigation Biologist

Equipment was back out on the Pack River delta this December, where Ducks Unlimited and the Idaho Department of Fish and Game (IDFG) are working to test a new technique to create a vegetated rock breakwater. Wood's Hauling and Crushing are also contracted to repair a couple of slumps on the bank full benches. It was anticipated that there might be some repair work needed, as ice often is involved when working during winter months.

Overall, however, the project survived the spring and summer high flows well, and only two small slump areas were found on the bank full benches; one slump area was found between islands 4 and 5, and a second between islands 6 and 7. All of the engineered wood structures stayed in place, and no significant erosion was found on any of the islands.

*Continued on page 3...*

*“Our environment is like a patchwork quilt. Each patch is dependent on those around it. If one part unravels, it affects the rest.”*

*~Hemeon*

## My Riverbank Stabilization Project

Continued...



**The riverbank after reconstruction**

The willow and red osier dogwoods were all cut with permission from the surrounding land. The willows and dogwood leafed out the next spring. The plantings closer to the river and receiving more water from the swamp grew the most. I hand weed every year to make sure no hawkweed or knapweed get started to compete with the willows or any other vegetation.

Over the years, dirt has settled in some of the rocks, and grasses have grown in between rocks and willows. There is a deeper channel of the river next to the rocks; the willows now overhang the river giving shade; and fish swim the channel. Woody debris has collected in the water at the upriver end of the project and the down river end and in the river just below the project.

During heavy floods, the willows and dogwood have been totally underwater; they always survive well. Some willows were broken

by flood debris and are recovering. Some willows were chewed by beaver and are recovering. Moose nibble the willows, especially in the winter. Every fall I cut a few branches and plant them to extend the area of willows. The willow and dogwood continue to grow thicker. Now, a good seven years after the project was completed, the riverbank has survived heavy flooding and is still stable.

The project length of the riverbank blends both up and down river with the natural riverbank. This project is a success for stabilizing the river bank and thereby decreasing the particulates going into the river. This project is a success for protecting my land and home and road. And this project is a success for using native flora, for shading the river, and for providing habitat for local fauna.



**Willow and red osier dogwood growing in the stabilized bank**

## Considering Habitat Improvement?

There are plenty of options for those who want to improve and restore habitat on their property. A habitat improvement project does not need to be expensive or time consuming. It can be as simple as spreading weed-free straw and native grass seed around a disturbed patch of land.

You can dramatically improve riparian habitat and build stream bank stability by planting native willow and red osier dogwood. Cuttings can easily be taken locally and directly planted with no financial investment and a little time. Supplies for sediment control such as straw wattles and erosion control blankets can be purchased locally and easily installed with a little consultation from the

NRCS or the PRWC. See [www.panhandleSEEP.org](http://www.panhandleSEEP.org) for more erosion and sediment control resources.

More complicated projects such as stream bank stabilization can be initiated by a simple call to Greg Becker, NRCS District Conservationist at (208)263-5310. A variety of grants and cost-share options are available to help with restoration costs. Of course the least expensive option is to protect our wetlands and native vegetation in the first place. But if we already have disturbed land, it is well worth the effort to restore any impacted area. Improving habitat not only builds ecological health and diversity, but also provides real added value to your property.

# Pack River Delta Project Update

Continued...



**The rock breakwater on the Pack River delta**

The plantings did equally as well, with native grasses being found on all islands and the emergent vegetation thriving. Some grazing and browsing was recorded on all islands. Evidence of beaver chews were found on three islands and on the fascines on the bank full benches. Elk, moose and deer tracks are frequently observed; a bear track was found this November south of island 4.

It is hoped that the new technique to create a vegetated rock breakwater will provide a restoration option

for the Clark Fork River delta. The plan is to take apart a portion of the rock breakwater protecting island 8, and rebuild it with layers of rock, soil and willow pole plantings, and then monitor its performance. The wind and wave forces in the Clark Fork River delta are much greater than those found in the Pack River delta and are eroding away valuable wildlife habitat. Ducks Unlimited and IDFG are partnering to propose a plan to protect areas of high erosion with breakwaters, and then create wetland areas behind the protection using similar bioengineering techniques tested in the Pack River delta.

Certainly, the Pack River delta project has shown that restoration is a viable alternative to implementing mitigation to address the impacts of the Albeni Falls dam on the Lake Pend Oreille delta wetland areas. And further, this project would not have been possible without the assistance and support of the community. IDFG wishes to express their sincere gratitude to all the volunteers and visitors who have provided their time and support!

Kathy Cousins  
IDFG Mitigation Biologist

*“We define our landscapes as much as they define us.”*

*~ unattributable*

## Tips for taking willow cuttings...

**Timing:** The best time of year to take willow cuttings is after the first hard frost and throughout the dormant season, usually December through March. The time of year will also depend on whether the cuttings will be stored after cutting or immediately planted.

**Species:** Willows, poplars, and redosier dogwood are some species which can be successfully planted in riparian areas from hardwood cuttings.

**Cutting:** Whip cuttings should be a minimum of 4 ft. long with a basal diameter of at least 1/2 - 3/4 inches. Cuttings should have at least 2 nodes. Pole cuttings will be longer with a larger diameter. The longer length allows cuttings to be planted deeper and into the mid-summer moisture zone which increases the survival rate. Cuttings should be cut at a diagonal and trimmed down to a single

stem. Always use sharp, clean tools such as loppers and pruners.

**Storage:** Cuttings should be kept cool and dry until they are planted. Bundle the cuttings with the bottom ends together. Wrap them in a plastic bag with some peat moss to absorb moisture. Cuttings should be stored in the dark at temperatures between 24°F and 32°F. Cuttings can be stored for several months.

**Pre-plant Conditioning:** If planting is done soon after cuttings are collected, soak the cuttings upright in a bucket of water for 24 hours before planting. Do not soak them longer than 9 days or they will start to root. Rooted cuttings must be planted differently than pole cuttings. We will cover planting techniques in our spring newsletter!

## Upcoming Opportunities

**March** **Water Quality Monitoring** will resume again in March when the Pack River is not frozen. See you in the spring!

*Let us know if there is a topic you are interested in seeing the River Ranger or if you would like to submit an article about your land and relationship with your watershed... Please contact Jessica, PRWC Watershed Coordinator (208) 255-5545.*



**Willow bundles on the Pack River Delta**



## Pack River Watershed Council

### **The Pack River Watershed Council**

c/o Bonner SWCD  
1224 Washington Ave., Suite 101  
Sandpoint, ID 83864  
208-263-5310

### **Tri-State Water Quality Council**

101 N. 4th Ave.  
Sandpoint, ID 83864  
208-265-9092

### **Bonner SWCD & NRCS**

1224 Washington Ave., Suite 101  
Sandpoint, ID 83864  
208-263-5310

***“The mission of the Pack River Watershed Council is to improve water quality and riparian habitat in the Pack River watershed for people, fish , and wildlife through education, collaboration, and cooperative projects.”***

***Thanks to Avista Watershed Council Funding, we are able to print and distribute this newsletter.***

For more information about the Pack River Watershed Council contact Jessica Erickson, Watershed Coordinator (208) 255-5545