

Big Hole Willow Bank Project

Background for Volunteer Day

In southwest Montana, an ambitious and ground-breaking conservation success story is being written. Known as the Candidate Conservation Agreement with Assurances, or CCAA, it is a program that encourages state and federal agencies to work cooperatively with private landowners to develop and implement voluntary habitat restoration projects that benefit the last population of fluvial Arctic grayling. Under the CCAA, these agencies are focusing their efforts on protecting and restoring this native fish in the upper 80 miles of the Big Hole River and few key tributary streams. The streams have been degraded and habitat impaired over the past 150 years in large part because of agricultural practices. One of the critical components of restoring these streams is installing riparian fences and aggressive revegetation of the stream banks and floodplain with native vegetation. In the upper Big Hole, this means primarily willows and sedges.

Willows have a very deep, binding root mass that provides resistance to erosion as well as over-head cover. These components provide for excellent fish habitat. This project involves planting on priority reaches in the upper Big Hole River. Riparian revegetation effort involves the planting of 10-cubic inch containerized willows that have an established root mass. Willow transplants which have an established plug of roots, have a much higher survival rate (nearly 97%) than simply cutting and sprigging willow branches in the ground (roughly 44% survival at this altitude). Planting of this material focuses on floodplain areas, exposed point bars, and stream banks along the green line. The role of these plants includes providing deep-binding root mass to provide stability; providing over-hanging shade to maintain cool water temperatures; providing cover from avian predators; and providing floodplain roughness.

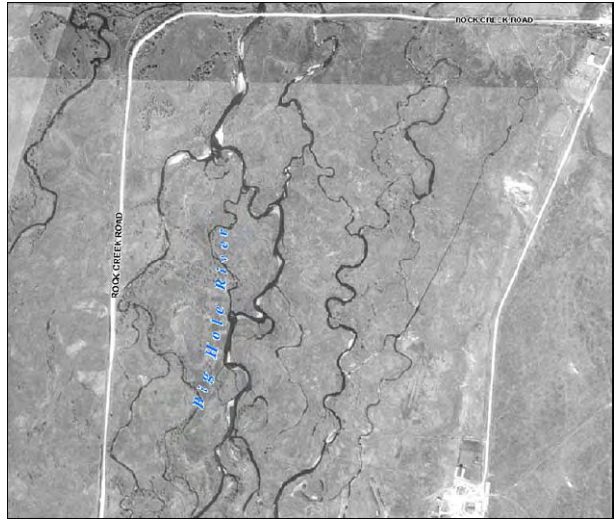
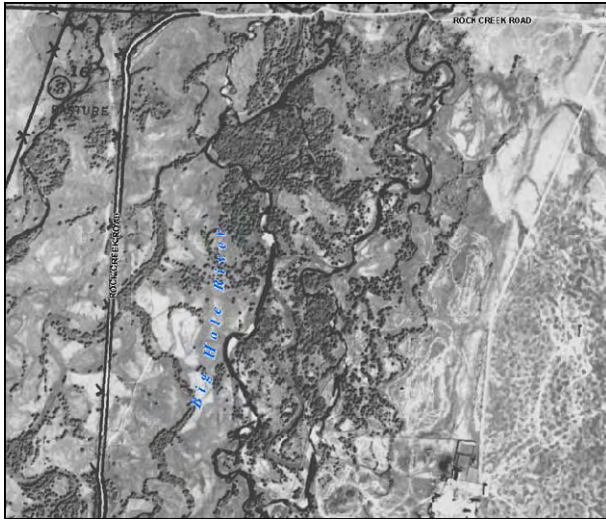
Willows are collected in the Big Hole. Six species of willows will be collected: Bebb's, Booth, Geyer, Sandbar, Lemon and Whiplash. Bebb's and Booth make up about 85% of the willows collected and are by far the two most dominant species of willow in the upper Big Hole.

This is where the volunteer effort comes in. Volunteer willow collection will occur **March 30th thru April 2nd. Meet at Jackson Hot Springs each morning at 9:00 am.** Please bring water, lunch and snacks, and hand-pruners if you have them. Dress for the weather and bring gloves, hats, ipods, sunscreen, etc. Also, last year we had some difficulty crunching through the snow so bring snow shoes if you'd like. Lodging is available at Jackson Hot Springs Lodge (406-834-3151) and at the Nez Pierce Motel in Wisdom (406-689-3254).

The willow whips collected by volunteers during that week will be transported to the Montana State Nursery in Missoula to be rooted under controlled conditions and placed in cold storage to simulate natural dormancy. Later, the dormant rooted plants will be transported back to the upper Big Hole, where a corps of agency staff, volunteers and landowners will help plant the willows throughout the stream banks, point bars and floodplain.

Preliminary survival monitoring indicates that all of the spring plantings last year were successful – estimates show a 95% survival rate through the first growing season. Long term monitoring of the riparian vegetation community, willow planting survival, fishery, and water quality, and bird community will continue throughout the 20 – year life of the CCAA.

(See photos next page)



Upper Big Hole willow community upstream of Wisdom, Montana in 1945 (left) versus 1995 (right).



Willow Collection Day – Upper Big Hole – Winter 2007



Willow Planting Days – Upper Big Hole – Spring 2008