TWO EROSION CONTROL PROJECTS

Two streambank erosion control projects were completed this year with funds from Fisheries Across America and the Lake Champlain Basin Program. One was at Boquet Fields Farm in Wadhams, owned by Ellis Jones with crop land leased to Mike Christian who is raising brome grass for goats. The other was in Whallonsburg near the old Essex railroad station where Russ Bailey and Shelle Sucharski live.

Local Residents Cooperate: Neither project could have been completed without local assistance. Live, dormant willow posts were sawn from trees belonging to Bill Drummond, Lauren Murphy, and Bob Perry in Essex. (The Vermont arborist and assistant were Greg Smith and Mark Brasure.) Although Russ Bailey and Shelle Sucharski provided most of the labor for the Whallonsburg project, twelve volunteers came to help them plant seedlings:Josh Hance, Sarah Bliss, Nicole Belsile, Teresa Yocum, Christel MacDougal, Bryant LaFarrier, Miranda Reynolds, Jason Walker, Nick Bailey, Eve Fine, Rob Huestis, and Corey Jaques. Juleigh Edwards helped plant innumerable seedlings at the Boquet Fields Farm project in Wadhams.

Agency & Other Group Cooperation: John Dickerson, Plant Materials Specialist for the USDA in Syracuse, brought a dump truck load of live stakes and whips (shrub varieties that propagate from cuttings) that were planted at both sites. The Wadhams site was a joint effort between BRASS and USDA Natural Resource Conservation Service (NRCS). BRASS took responsibility for the shaping and planting of the streambank, and NRCS planted a buffer zone of trees through a cooperative agreement (Conservation Reserve Program, CRP) with the landowner. NRCS employees who helped plant were Rich Redman, Joe Wetzstein, and Sandra Primard. The last 400 pine seedlings were put into the ground by Tom Wahl and Ken Kogut from NYSDEC, Terry Ruck from NRCS, and Marc Usher from the Greater Adirondack RC&D.

The Wadhams Project: The owner, Ellis Jones, requested assistance from BRASS and NRCS in 1997. The November 1995 flood entered his barn, rose to the base of the house, and 15 horizontal feet of streambank eroded in front of the house for nearly 100 feet. By the end of ‘96 two other major floods occurred, eroding more embankment near thehouse and at the downstream bend of the farm field. Mr. Jones worried that continued erosion would jeopardize the safety of the farm buildings, and everyone was concerned about the huge quantities of sandy sediment entering the river from downstream erosion.

Near the house: BRASS and NRCS felt the house and farm buildings to be safe from erosion if a treed buffer zone could be planted between the house and the river where no trees remain. Streambanks on both sides of the river near the house are tall and steep, with 50% experiencing slumping despite mature trees at the top of most banks. Therefore, tree seedlings were planted along the top of the bank by

the house to enlarge the width of rooted vegetation and limit future streambank erosion. BRASS also planted rooted seedlings and dormant "stakes" on the bank slope.

Downstream Section: The width of the river at the downstream end of the field is too shallow and too wide so the river's current can't efficiently move sediment and there is stress on the outside meander bank. According to Juleigh Walker who lives in the farmhouse, some 40-feet of outside bend erosion and lateral adjustment has occurred over the past 6 years. Trees that formerly lined this downstream area have all been lost to erosion.

To keep the erosive forces off the outside meander until rooted vegetation can take hold, seventeen 35-foot long trenches were dug from the bank slope back into the farm field at an upstream angle to the river. They were sloped to an 8-foot depth to accommodate planting of mature trees and dormant black willow posts. Prior to planting anything, however, Scotch pines and box elder trees were cut from a nearby woods and laid into the trenches with 10-15 feet of the tree tops sticking out into the water to deflect the current back into the middle of the river. After planting the live material, the trenches were backfilled and machine tamped to near ground level, then additional rooted seedlings were planted. In this manner, a series of fairly mature vegetated stands were established at an angled frequency along the embankment. (According to recent articles by professionals in erosion control, flood prone areas with only a fringe of vegetation parallel to the river are more apt to experience erosion behind this vegetation than if vegetation extends perpendicular to the river.)

The face of the 800-foot eroding embankment was shaped by an excavator supplied by contractor Skip Yocum and operated by Rob Huestis, while Daniel (D.J.) Koenig provided valuable help with plantings. Live seedlings and whips (the tops of live shrubs that can root if cut while dormant and placed into moist soil) were planted along the "toe" area, the face of the slope was seeded to a conservation grass mix, and erosion control fabric was held in place by live stakes driven deeply into the embankment.

In addition, where the river appeared to want to cut a channel across the end of the field, NRCS planted a whole 3-acre section into tree seedlings, duplicating what existed on the property: box elder, elm, ash, butternut, white birch, poplar, white pine and Scotch pine.

All told, over 8,000 seedlings, 60 dormant black willow posts, and a truck full of live 15' long stakes cut into approximately 2,000 stakes and whips were planted.

The Whallonsburg Project: Massive streambank erosion occurred on this property in the flood of November 1996, at which time residents of the small owner-built log house were evacuated by emergency personnel. A 300 l.f. embankment suffered severe sloughing and erosion. Soon afterwards, house and

property were leased with option to buy to Russ Bailey who requested erosion control assistance from BRASS. BRASS considered building a "live" log cribbing structure along the bank in front of the house, but the length would have been considerable (>450') in order to tie the crib back into stable embankments. Rip rap would have been expensive and nearly impossible given the bank height (~13 feet) and ability to key stone into the streambed 2' below channel bottom.

Because of the close proximity of house to the eroding embankment, Russ only wanted the bank shaped to remove over-hanging material and to even out the gouges and gullies. Therefore, material that was taken off the top was placed on the lower bank near the mean water line. Once tamped into place, live cuttings and rooted seedlings of red osier dogwood, streamco and bankers willow, and alader were planted near the "toe." Top soil and fertilizer were added to the sandy face, then seeded to conservation grasses. Erosion control fabric, like at the Wadhams project, was held in place by live stakes pushed deep into the embankment.

Russ and Shelle are aware of the need to keep vegetation and their roots on the slope as well as at the top of the bank. Therefore, they planted maples, ash, locust, and shrubs as a buffer zone to provide root stability to the streambank edge and encourage wildlife.