Case Study: Fragile Land Retirement and Wetland Creation

Concerns:
Runoff from the adjacent highway was moving down a slope and eroding the clay soil, resulting in lower crop yields in that part of the field. On the other side of the field, next to Halls Creek Drain, a natural spring caused wet soil. Field tile installed in the mid-90s made the wet area more farmable, but runoff from the tiles entered directly into the drain, potentially affecting water quality.

Solution:
In 1992, 3.1 acres of land next to the road were retired and planted with 2000 seedlings. In 2013, a wetland was constructed in the wet area. The tile drains now empty into the pond rather than entering directly into the drain. Trees, aquatic vegetation and wildflowers were planted around the pond, and additional trees were planted along Halls Creek Drain to widen the buffer strip.

Benefits:
The trees that Tom has planted on the slope, around the pond and along the drain help to:
• Stabilize erodable areas and reduce soil loss,
• Slow and filter runoff.

The constructed wetland has helped to achieve Tom’s goal of contributing to water quality improvements in Halls Creek Drain:
• The pond will store stormwater and overland runoff, allowing sediment to settle out,
• Aquatic plants will filter out nutrients and pollution,
• Wildflowers planted around the wetland provide nectar and habitat for pollinators and other wildlife.

“...The thing I’m happiest with is that I no longer have water leaving the property directly into a watercourse...cutting off the drains was a good first step.”
Project Timeline:

1992 – Farmland next to the highway retired and planted with trees

June 2012 – Harvested winter wheat and planted a cover crop of red clover and radish to protect the exposed soil in preparation for wetland creation and plantings in 2013

Spring 2013 – Excavated pond and machine planted trees in area around wetland; initial herbicide treatment applied to the trees

November 2013 – Planted aquatic plants around wetland edge

April 2014 – Sprayed second application of herbicide on trees

June 2014 - Planted native wildflowers around the high wetland slopes

Aquatic vegetation planted around the edge of the pond filter out nutrients and pollution.

Native wildflowers planted along the top of the pond slope provide food and habitat for pollinators and other wildlife.

1600 trees were machine planted in 4.4 acres of retired land around the wetland.

Aquatic plant species include:
- Blue Vervain
- Common Boneset
- Green-headed coneflower
- Joe-Pye Weed
- Monkey-flower
- Swamp Milkweed
- Wild Blue Flag

Native wildflowers include:
- Big Bluestem
- Brown-eyed Susan
- Foxglove Beardtongue
- New England Aster
- Sky Blue Aster
- Swamp Milkweed
- Wild Bergamot

Tree species include:
- Black Cherry
- Hackberry
- Bitternut Hickory
- Sugar Maple
- Burr Oak
- Norway Spruce
- Tamarack

By the numbers:

17 acres of fragile land retired
3600 trees planted
1944 aquatic plants and 1008 native wildflowers planted around wetland
0.4 acre wetland created
$7,503.20 for pond excavation
$3,092.76 for trees, wildflowers and aquatic plants (in 2013)