Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Illinois

Stabilizing Streambanks and Restoring Wetlands Improves Habitat

Waterbody Improved Streambank modification/destabilization contributed to total suspended solids (TSS) impairment of a 6.6-mile segment of Addison Creek in Illinois. Implementing streambank stabilization techniques and wetland restoration measures through section 319 of the Clean Water Act (CWA) enhanced water quality and helped Addison Creek meet TSS water quality goals for its designated water use classifications.

Problem

Data collected in 1998 revealed that Addison Creek was not supporting designated uses for aquatic life, in part because of TSS. This data also suggested that stormwater runoff contributed to the impairment through streambank modification/destabilization. As a result, the Illinois Environmental Protection Agency (EPA) placed a 6.6-mile segment of Addison Creek in Cook County, Illinois, on the 2002 CWA section 303(d) list of impaired waters (Figure 1).

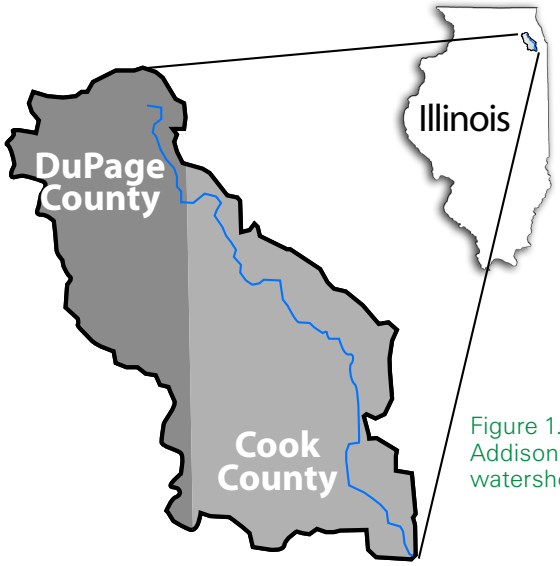

Figure 1. Map of Addison Creek watershed.

Project Highlights

Illinois EPA used CWA section 319 funds to implement three nonpoint source pollution control projects in the Addison Creek watershed since 1998. These projects reduced nonpoint source pollution by applying bioengineering techniques to stabilize approximately 8,720 feet of eroding streambanks. Specific techniques included A-jacks with vegetation, Stabilator toe with vegetation, riprap, lunkers, and vegetated gabion baskets (Figures 2 and 3). The project partners also removed selected trees to allow increased light penetration, built riffles, and planted native forbs, grasses, and sedges. In addition, they restored a 30-foot-wide, 1.29-acre wetland on each side of a 1,300-foot-long section of stream (Figure 4).

Figure 2. A gabion toe (cage filled with earth and rocks) protects the left and right banks in this section of Addison Creek.

Addison Creek is a tributary of Salt Creek, which is also included on Illinois' CWA section 303(d) list. A report containing the total maximum daily loads and the implementation plan for

Figure 3. Streambank stabilization techniques used on this portion of the creek include vegetated banks with an A-Jacks toe on the left bank and a Stabilator toe on the right bank.

Figure 4. Along this section of the creek, the partners restored a streamside wetland and stabilized the streambank with vegetation, riprap, and riffles.

Salt Creek was completed and approved in September 2004.

Results

Although Addison Creek was still identified as not supporting designated uses for aquatic life in 2006, TSS and streambank modification/destabilization have been removed as a cause and source of impairment. TSS did not exceed 116 milligrams per liter in any samples from the Ambient Water Quality Monitoring Network station on Addison Creek between 2000 and 2003. Habitat data collected in 2001 at this station rated bank vegetative protection/stability as good. The segment will remain listed for excess nutrients, various metals, pathogens, total dissolved solids, and flow regime alterations.

Partners and Funding

A combination of $444,561 in section 319 grants and $300,891 in matched costs enabled Addison Creek Conservancy District to implement streambank stabilization practices. The restoration of the riparian buffer zone was completed by the City of Northlake using $296,443 in section 319 funding and $2,000,000 local cost-share. The total cost of this project was $3,041,895.

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