



## Kid's Creek Storm Water Project

January 2005 through September 2007

The Grand Traverse Bay watershed is one of the premier tourist and outdoor recreation regions in the state of Michigan. Its natural resource base and beauty contribute significantly to the quality of life enjoyed by year-round residents, and the area's continued growth and relative prosperity. Storm water inputs are a primary concern throughout the Kid's Creek subwatershed because of the resulting changes to hydrologic flow and potential to contribute to excessive sediment, nutrients, and toxins to the bay and its watershed. Due to a high amount of impervious surfaces (24.7% in Boardman Lake watershed and greater than 40% in downtown areas), the city of Traverse City generates large amounts of storm water during rain and snow melt events and city officials consider storm water to be a high priority issue. The goal of this project was to protect and restore the aquatic life and coldwater fishery designated uses in the Kid's Creek subwatershed in Traverse City, and subsequent downstream portions of the Boardman River, from further water quality degradation due to excessive sedimentation and storm water inputs. This project resulted in the implementation of numerous practices to treat storm water.

### Best Management Practices:

- Stabilized 4 stream bank erosion sites on Kid's Creek totaling 160 feet.
- Stabilized 700 feet of streambank on Boardman River and provide recreational access.
- Installed one rain garden in residential Traverse City neighborhood (100 ft<sup>2</sup>).
- Installed modular (pervious) pavement at two locations in Traverse City neighborhood (568 ft<sup>2</sup>).
- Installed 750 square feet of buffer strip along Kids Creek at Munson Hospital.
- Completed inventory of all stormwater entry points to GT Bay and contributing waters within TC city limits; Develop system of stormwater BMPs for use in improving WQ in Traverse City.

### Annual Load Reductions:

- 184 tons Sediment
- 159 pounds P, 318 pounds N

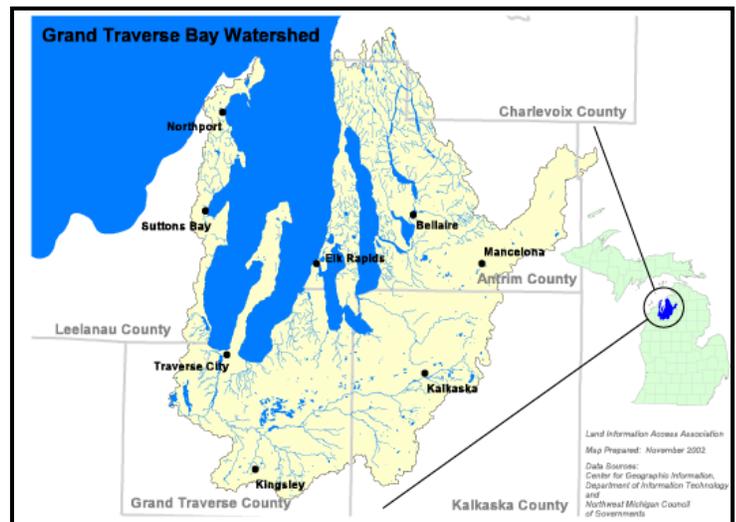


**Grant Amount: \$116,600**

**Match Funds: \$ 47,400**

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**Total Amount: \$164,000**



### Partners involved:

- Grand Traverse Conservation District
- City of Traverse City
- Lindy Lazar (Graphic Design)
- Pannier Graphics (sign fabrication)

### I&E Activities:



- Installed educational sign at Boardman River streambank restoration location.
- Developed storm water toolkit tailored to GT Bay watershed needs and issues.



**Boardman River - Farmers Market Site Before:**  
Erosion caused by foot and waterfowl traffic and stormwater runoff coming from banks



**Boardman River - Farmers Market Site After:**  
Flat sheets of quarried rock to prevent further erosion while still allowing for foot traffic.

**Grand Traverse Bay Watershed**

Quick Facts About Grand Traverse Bay ..... Volume of Water: 9 trillion gallons .....

..... Surface Area: 277 Miles ..... Length of Shoreline: 132 miles .....

**Before Restoration**

- This section of the Boardman River that you see here was once experiencing severe erosion caused by foot traffic and stormwater runoff off the banks.
- The large duck populations in this area made the problem worse as ducks continuously trampled up and down the banks looking for food. Duck waste made the water extremely and foul that was bad for the river and creates a hazard to human health.
- Erosion caused serious sediment to wash into the river and cover up valuable fish habitat.
- Not only are eroding streambanks a problem for water quality they can also be hazardous for people and are an eyesore for our beautiful riverfront area in Traverse City.

**After Restoration**

- The Watershed Center and The City of Traverse City realized that this section of river was used by a wide variety of groups who enjoyed the scenic view. The river because of this, a more "risky" type of bank stabilization approach was used.
- The flat sheets of quarried rock you see along center of the river have fully stabilized the bank and prevent sediment from eroding into the Boardman River, while still allowing people access to the river.
- Not as long ago reality showed this river at nearly a state of non-existence, we were able to keep our beach.
- Now people are starting to realize the value of riverfronts as a place where responsibly meets nature.

**What You Can Do**

- Stay on the rock steps along the riverbank to keep banks from eroding.
- Reduce Run: Reducing the debris and other material both here and at other urban watershed areas so they will never streamflow.

..... Average Depth: 180 feet ..... Deepest Point: 590 feet .....

..... Maximum Length: 32 miles ..... Maximum Width: 10 miles .....

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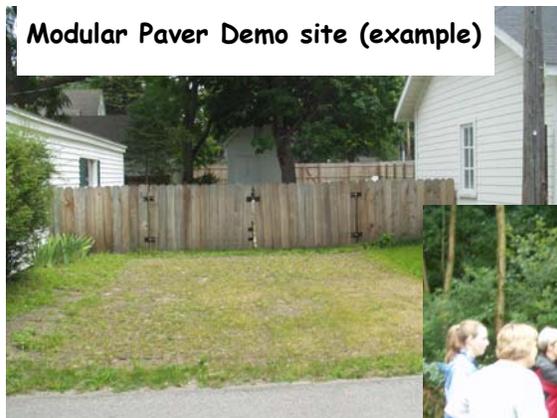
**Educational Sign by Farmers Market Site.**



**Kids Creek streambank restoration site example**

**GRAND TRAVERSE REGION  
STORMWATER MANAGEMENT TOOLKIT**

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**Modular Paver Demo site (example)**



**Rain Garden (one year after installation)**