



## Homes Removed from Harm's Way Along the Missisquoi River

### Full Mitigation Best Practice Story

#### *Orleans County, Vermont*



**Troy, VT** - Just a short drive on River Road southeast of North Troy is an area adjacent to the Missisquoi River that floods every year due to spring thaws and summer's heavy rains. A single-family home on one acre of land and a small farm house with its farm outbuildings on 15 acres were the heaviest hit properties. Each time the cost was about \$20,000 for lost farm animals and crops and for cleaning and repair.

Troy is located in a remote part of Vermont's northern Orleans County. North Troy, located seven miles north of its namesake, is about a mile from the Canadian border. This picturesque little town is designated as a small-and-impoverished community, but it rarely benefits from any type of state or federal grant program. North Troy's town hall is located in the tiny building which used to be the community's school.

In June 2002, Orleans County experienced a flooding event categorized as a 500-year flood. "The June 12, 2002 flood event was a warm season flood event but also had some elements of a cool season flood. It was focused over some of Vermont's steepest terrain, already saturated by a previous rainfall event," reported Scott Whittier, NOAA/National Weather Service.

"Unseasonably strong jet dynamics combined with warm season moisture and stationary low level convergence produced a wide band of moderate to heavy rainfall and a concentrated band of flood-producing excessive rainfall," continued Whittier. At the peak of the flooding, Missisquoi River waters rose to 18 inches on the first floors of both homes.

The disaster declaration resulting from this flood gave the community the opportunity to apply for funds through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP). Collaboration between the Town of Troy, Vermont Emergency Management, the Vermont Agency of Natural Resources, the Vermont Land Trust, the Vermont Housing and Conservation Board, and FEMA succeeded in acquiring the grant, a 90 percent federal share for the project. The remaining 10 percent local share was provided by the property owners from the equity when the land was purchased at the local tax assessment appraisal.

"It was a long, long process, but well worth it," declared Troy Town Clerk Lucille Cadieux. The total cost of the project was approximately \$150,000.

After all the buildings were cleared from the site, an observation deck for viewing wild birds was constructed on the area where the single-family home had stood. A Troy High School community service project provided workers to clean up litter from the area, plant maple trees along the river bank for erosion control, and prepare signage for a primitive campsite on the remaining land.

In addition, a community garden and leased organic vegetable fields are planned for the site. All of the elements of the project are flood-damage resistant. A custom, hand-painted sign was locally produced and erected on the site at the 2007 completion of the project.

As she admired the view from the observation deck amid a chorus of frog songs, Ms. Cadieux exclaimed, "The best part of this project is that when the inevitable floods return, the repetitive damage won't."

### Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region I**

State: **Vermont**

County: **Orleans County**

City/Community: **North Troy**

### Key Activity/Project Information

Sector: **Public/Private Partnership**

Hazard Type: **Flooding**

Activity/Project Type: **Acquisition/Buyouts; Flood Control; Land Use/Planning**

Structure Type: **Wood Frame**

Activity/Project Start Date: **08/2002**

Activity/Project End Date: **08/2007**

Funding Source: **Hazard Mitigation Grant Program (HMGP); Property Owner, Residential**

Funding Recipient: **Local Government**

### Activity/Project Economic Analysis

Cost: **\$150,000.00 (Actual)**

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **Yes**

Federal Disaster #: **1428 , 07/12/2002**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **No Federal Disaster specified**

Year First Tested: **2007**

Repetitive Loss Property? **Yes**

### Reference URLs

Reference URL 1: <http://www.fema.gov/government/grant/hmgp/index.shtm>

Reference URL 2: <http://www.dps.state.vt.us/vem/>

## Main Points

- Specific areas of North Troy experienced flooding every year with June 2002 being one of the worst in history.
- Applied for funds through FEMA's HMGP. Received the grant.
- After all the buildings were cleared from the site, an observation deck for viewing wild birds was constructed on the area where the single-family home had stood.
- In addition, a community garden and leased organic vegetable fields are planned for the site.
- All of the elements of the project are flood-damage resistant.
- Flood may return, but damage will not.



Wild bird sanctuary and viewing area.



Observation deck.



Farmhouse and its outbuildings.



Home damaged by floods.