

**POULTNEY METTOWEE WATERSHED PARTNERSHIP  
WATER QUALITY MONITORING REPORT**

**October, 2005**

**Hilary Solomon**

**Introduction**

In February, 2005, the Poultney-Mettowee Watershed Partnership (PMWP) applied for and received a volunteer monitoring grant from the LaRosa Environmental Laboratory in Waterbury, VT. Under this grant program, the Partnership began sampling the Poultney River in 2003. In 2004, four of the original and four new sites on the Poultney River were sampled. This year, the study was expanded to include sites along the Mettowee River and several of its tributaries, as well as the sites sampled in 2004 on the Poultney River. This year a total of 15 sites were monitored (eight in the Poultney Basin and seven in the Mettowee Basin) for E. coli, total phosphorus and turbidity.

**Sampling Locations**

The Poultney-Mettowee watershed encompasses an area of 373 square miles in portions of Addison, Rutland and Bennington Counties. The Poultney River (VT02-01) drains 236 square miles in Vermont and is 40 miles long. It originates in the town of Tinmouth and flows generally northwest until flowing into Lake Champlain at South Bay. The Mettowee River (VT02-05) originates in the town of Dorset and flows northeasterly into New York. The section of the Mettowee River located in Vermont is approximately 23 miles long and its drainage area encompasses 137 square miles.

During the 2005 sampling season, the PMWP sampled eight sites along the Poultney River. Details about site locations can be found in the table to the right. All sites sampled this year are duplicates of sites sampled last year. (Duplicates from 2003 include Daisy Hollow, Barker Bridge, Parker Water Well and the D&H Rail Trail.)

<b>Site</b>	<b>Location</b>
PR01	Daisy Hollow
PR02	Buxton Hollow
PR03	Barker Bridge
PR04	Parker Water Well
PR05	Morse Hollow
PR06	Blue Heaven
PR07	D&H Rail Trail
PR08	Green Road

<b>Site</b>	<b>Location</b>
Mett01	Dorset Hollow
Mett02	Stonebroke Farm
Mett03	Pillemer Farm
Mett04	Hulett Farm
Flower01	Flower Brook in Pawlet
Flower02	Flower Brook upstream Pawlet
Beaver01	Beaver Brook at Rte 133

During the 2005 sampling season the PMWP monitored four sites along the Mettowee River, two sites along Flower Brook and one site on Beaver Brook. These sites are new to the program this sampling season.

## **Methodology**

The PMWP proposal for summer 2005 included seven sample dates between June and August, the peak recreation period. Samples were collected every two weeks at the locations listed above. These sites were tested for *E. coli*, turbidity and total phosphorus in the lab, while field measurements for air temperature, water temperature, water color, water odor and algal growth were recorded in the field.

The PMWP watershed coordinator has been trained by Vermont DEC and elsewhere about quality assurance project plan preparation, sample collection and submission and data delivery procedures. Collection methods recommended by the DEC Lab, or other appropriate protocols, were followed in the field. The QAPP submitted by the Partnership outlines all protocols and methods used during sample collection and delivery. Sample analysis was conducted in accordance with US EPA test methods and Vermont State protocols at the LaRosa Environmental Laboratory in Waterbury, Vermont.

Prior to sampling, the PMWP watershed coordinator provided a training session for each volunteer at their site(s) to demonstrate proper sample collection, field data recording and sample transportation techniques.

## **Results**

The following are graphs of streamflow recorded at USGS gauging stations downstream of Pawlet, VT, on the Mettowee River and near Fair Haven, VT, on the Poultney River. Streamflow was relatively low all summer, with the exception of a peak around June 20, 2005. The water quality monitoring results were also relatively low this year, without the influence of overland runoff resulting from rain events. Measurements at the Poultney River monitoring sites showed low concentrations of *E. coli*, total phosphorus and turbidity, while the sites along the Mettowee and its tributaries showed higher results.

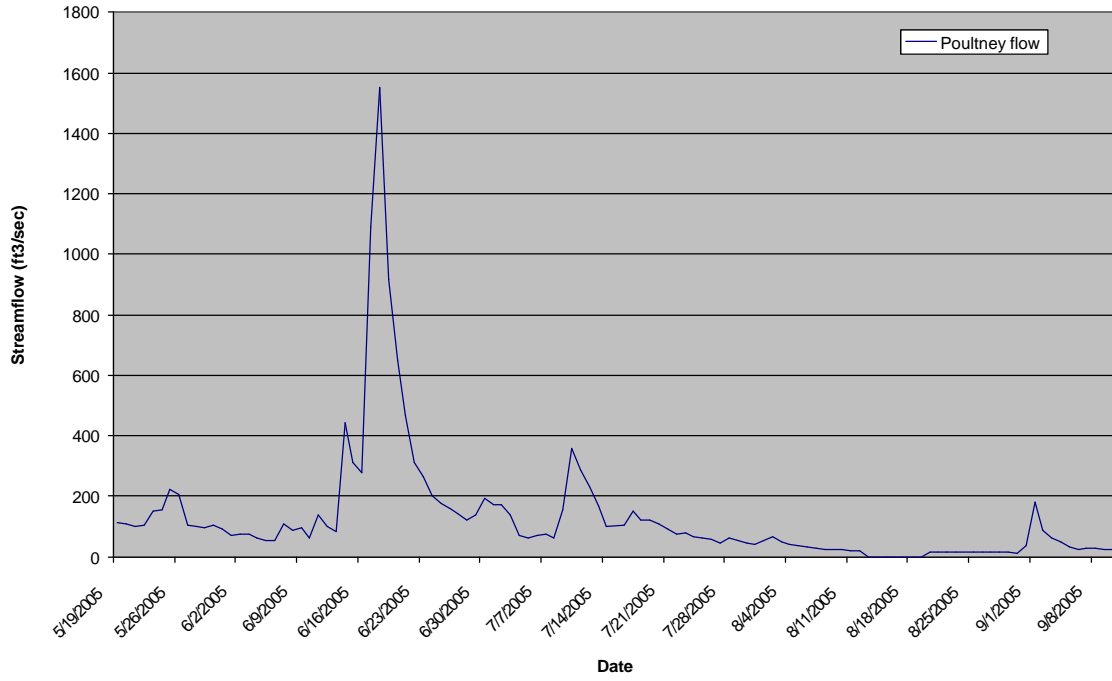
Based on the results of this year's monitoring program, the PMWP will continue to monitor the water quality in the Mettowee Basin and hopes to expand the sampling program to the Castleton and the Lower Poultney next year.

The following pages contain:

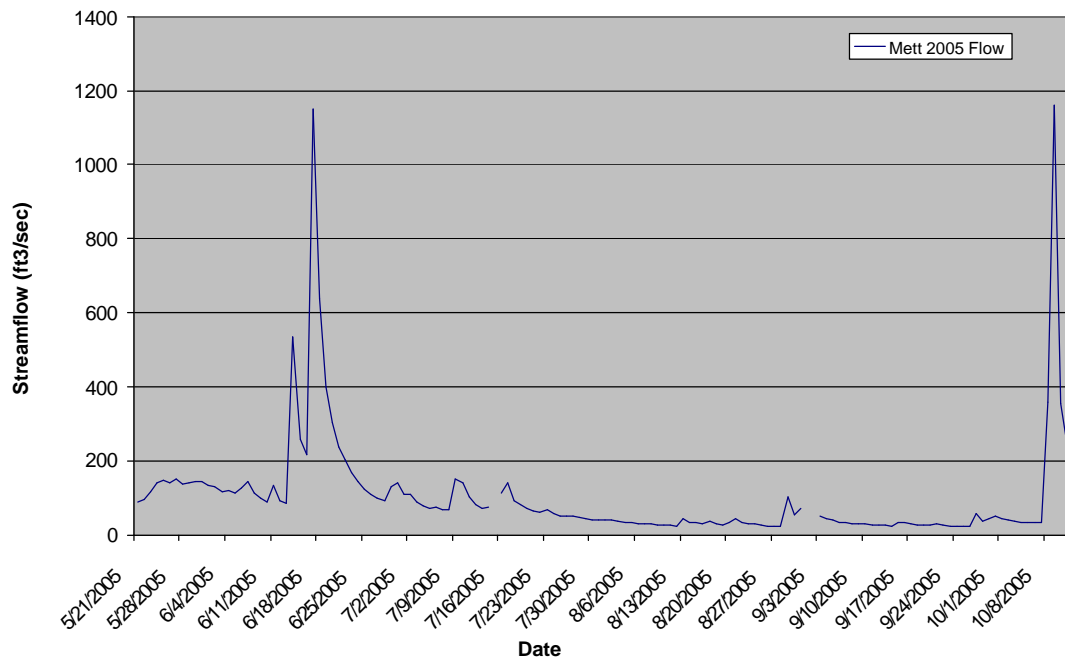
- ? Streamflow information for the Poultney and Mettowee Rivers
- ? Graphed *E. coli* results
- ? Graphed Total Phosphorus results
- ? Graphed Turbidity Results
- ? Data Validation information
- ? Volunteer Training and Field QC Schedules

# Streamflow Data

## Poultney River Streamflow 2005

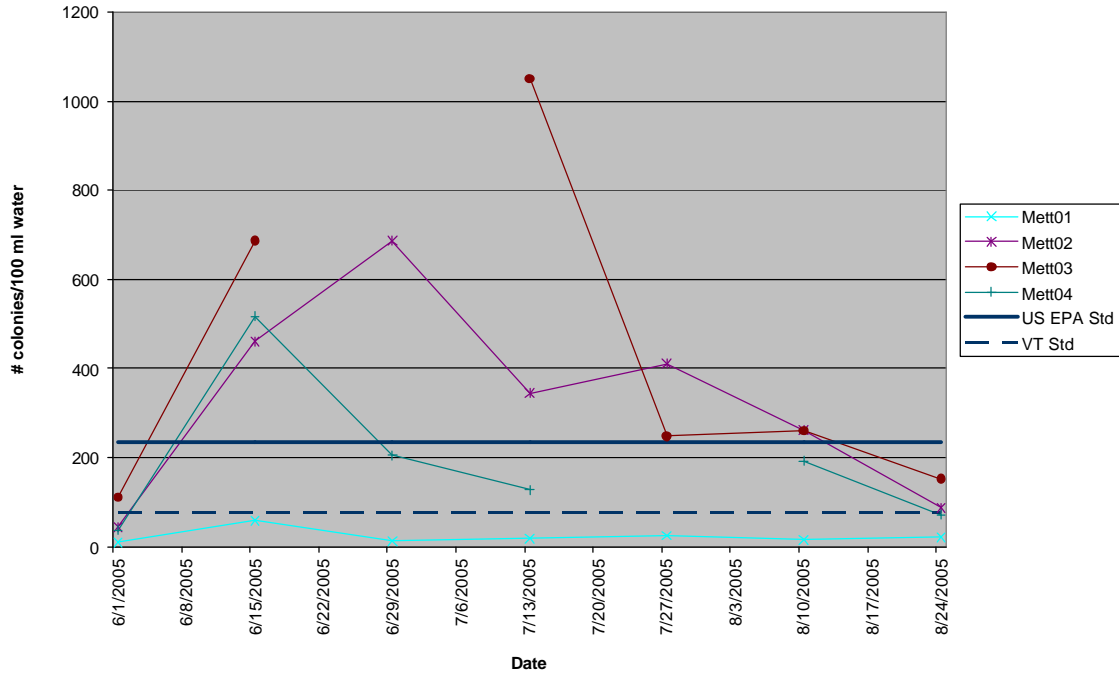


## Mettowee River 2005 Streamflow

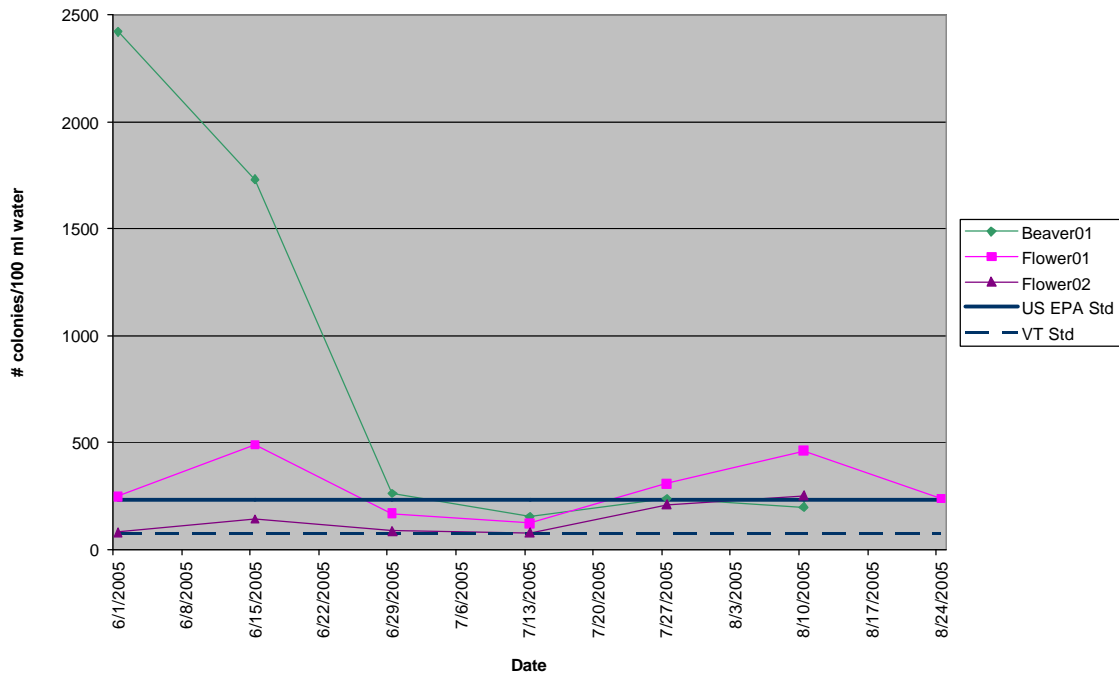


# E. coli Results

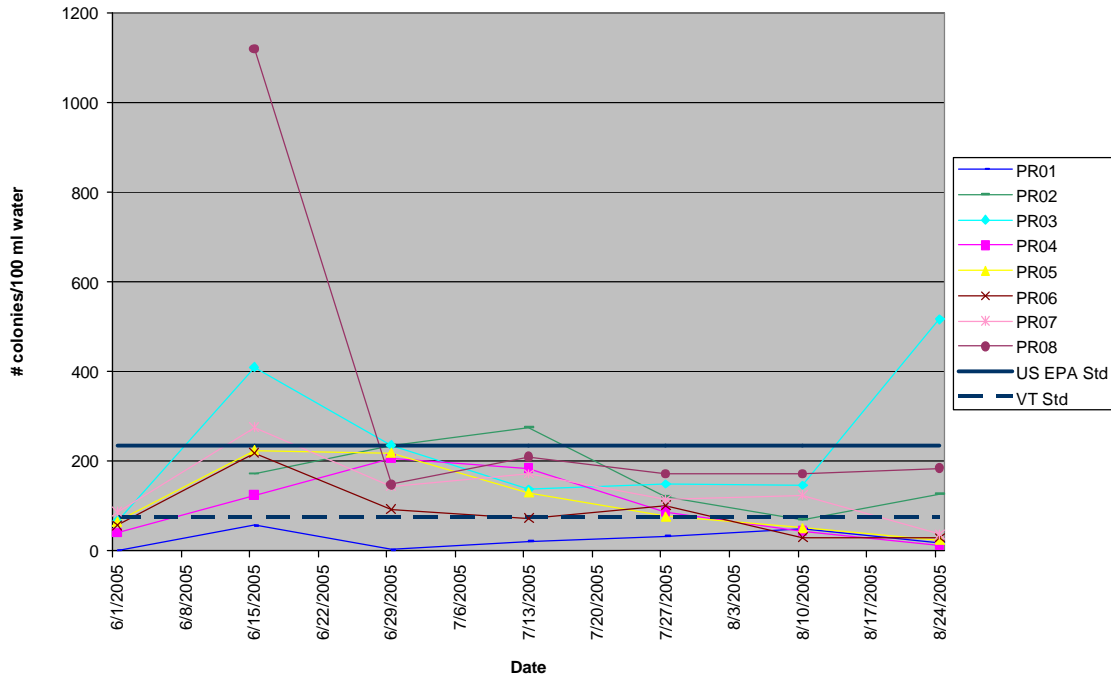
## 2005 E. coli Results for the Mettowie River



## E. coli Results for Mettowie Tributaries

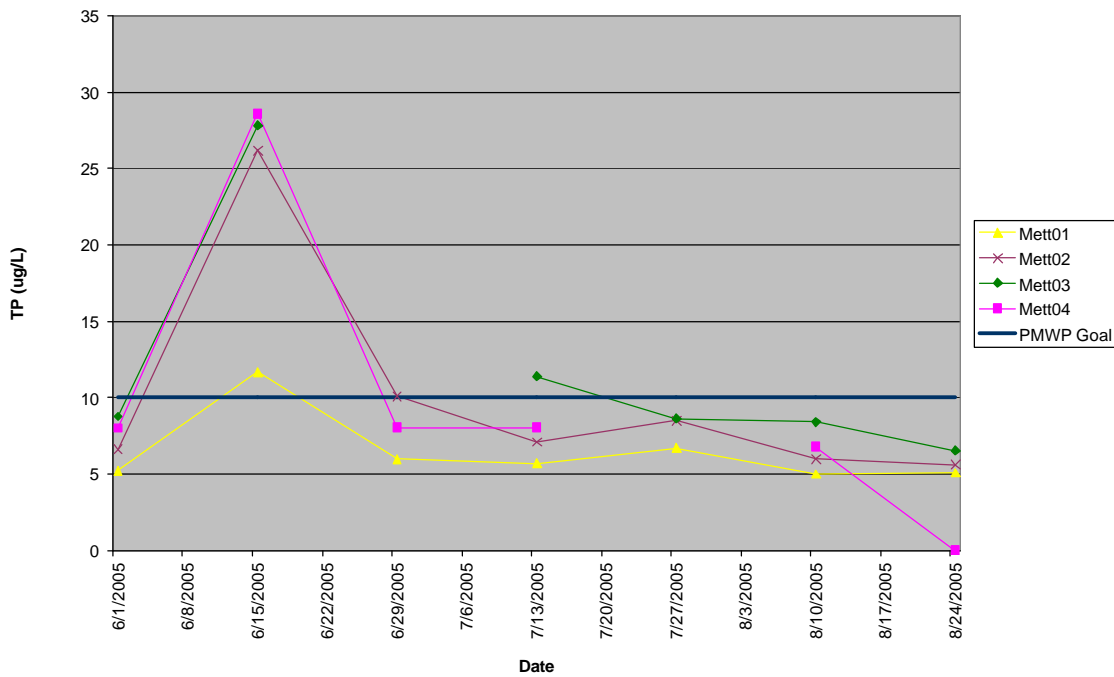


### 2005 E. coli Results for the Poultney River

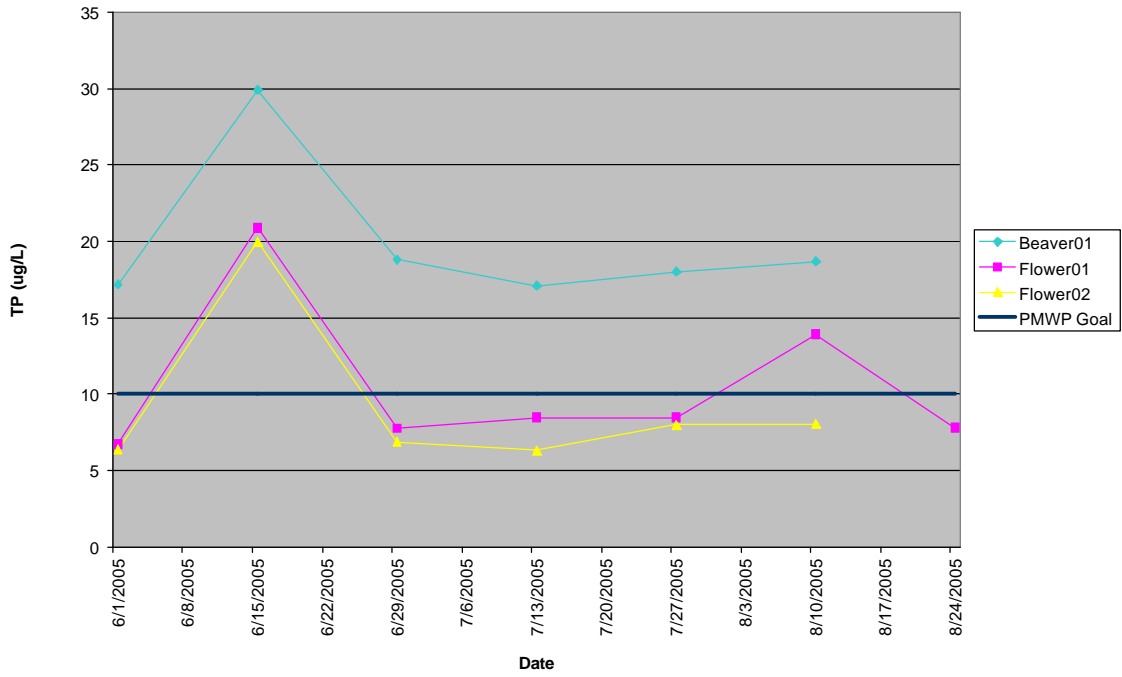


### Total Phosphorus Results

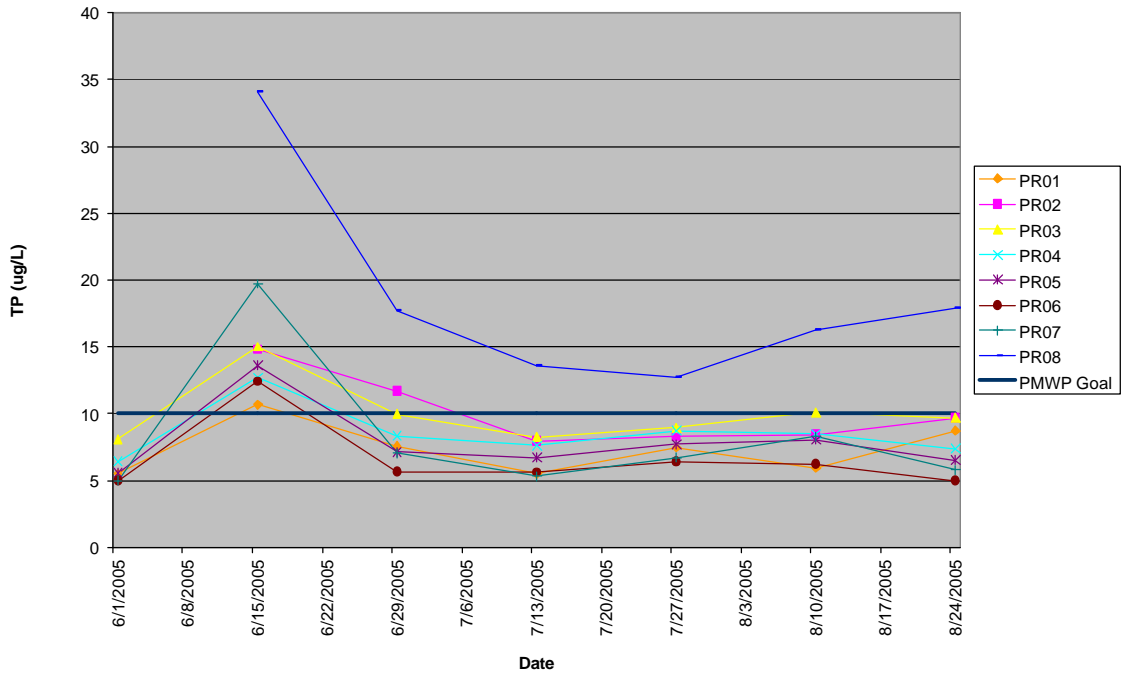
#### 2005 Phosphorus Results for the Mettowie River



### 2005 Mettowee Tributaries Phosphorus Results

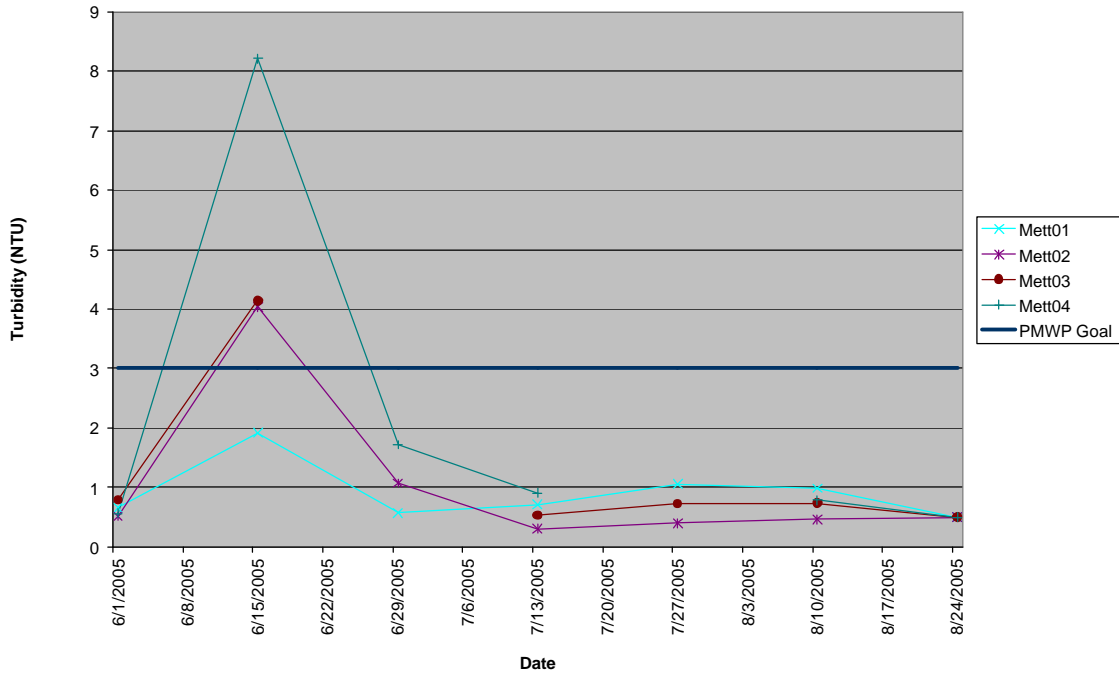


### 2005 Phosphorus Results for the Poultney River

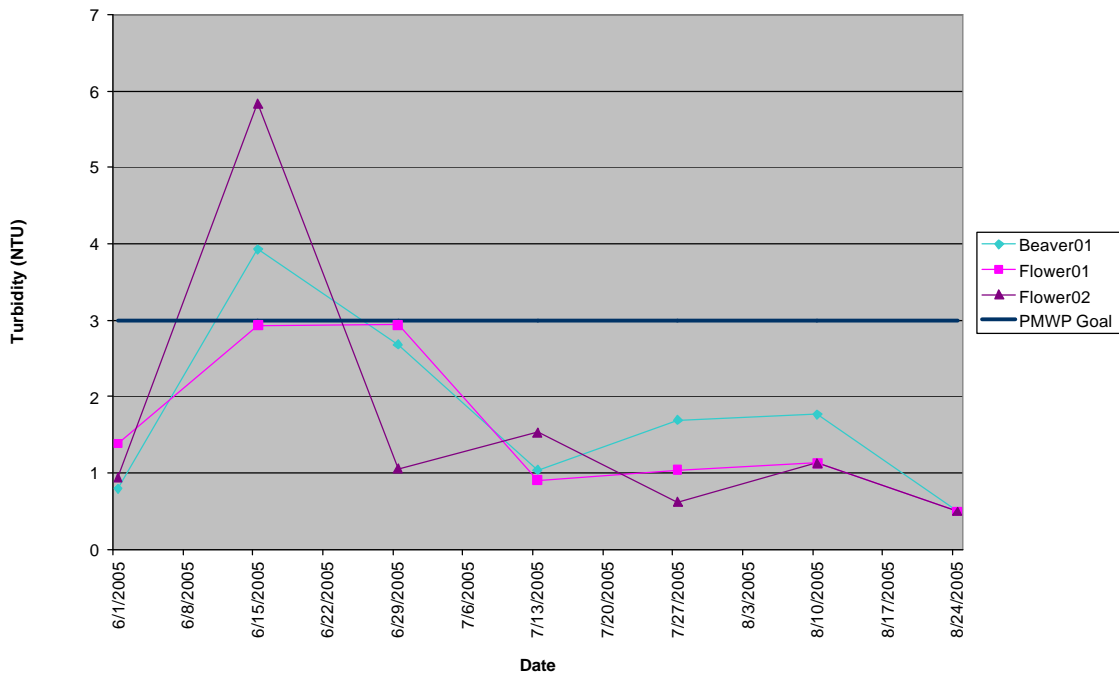


# Turbidity Results

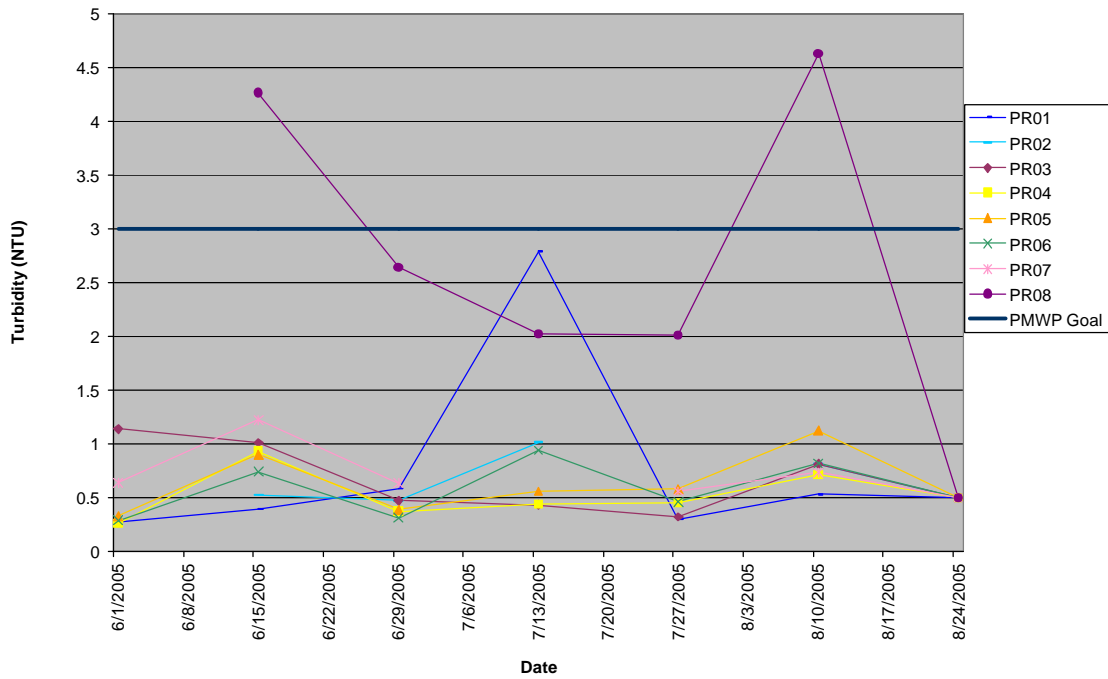
## 2005 Mettewee River Turbidity Results



## 2005 Mettewee Tributaries Turbidity Results



### 2005 Poultney River Turbidity Results



### Data Validation Results

All data have been validated according to Vermont DEC and PMWP protocols and have been accepted as usable data.

### Volunteer Training and Field QC Schedule

Name	Date	Activity
Karen	5/27/05	Training
Mandy Hulett	5/31/05	Training
Andrew Wilkinson	5/31/05	Training
MSCC	5/31/05	Training
Marli Rupe (and Kim)	5/31/05	Training
Sally Fenton	6/1/05	Training
Bruce Scott	6/10/05	Training
Deanna Mach	6/10/05	Training
Karen	6/15/05	Field QC
Mandy Hulett	6/15/05	Field QC
Andrew Wilkinson	6/15/05	Field QC
Deanna Mach	6/15/05	Field QC
Bruce Scott	6/29/05	Field QC
Marli Rupe (and Kim)	7/13/05	Field QC
Sally Fenton	7/13/05	Field QC
MSCC	8/10/05	Field QC

