

## DATA COLLECTION – Paul Smith’s

**July 15, 2007** - [www.paulsmiths.edu/PAGE=1804/page.pl](http://www.paulsmiths.edu/PAGE=1804/page.pl) for transect measurements

**May 10, 2007** - All Transect Sites were measured for the first time in 2007 earlier this week. Data will be available next week and posted appropriately on this site and AWI - Paul Smith's College. For the most part light plant growth was noted.

**February 18, 2007** - A complete scientific assessment of the Milfoil Project from 20 written by Dr. Dan Kelting of the Adirondack Watershed Institute at Paul Smith's college is posted in the Information Archive section of this website.

**December 2, 2006** - Year end data comparing 2005 - 2006 is now available Maps for all three dive cycles are available [www.paulsmiths.edu/PAGE=1870/page.pl](http://www.paulsmiths.edu/PAGE=1870/page.pl)

**July 21, 2006** - Click on the link below for data through today following the second harvest. Both aggregate and by transect location are available.

**June 26, 2006** - Transect site specific comparisons are now available showing year over year growth by [www.paulsmiths.edu/PAGE=1872/page.pl](http://www.paulsmiths.edu/PAGE=1872/page.pl) . NOTE: THE FISH CREEK SITE IS THE UNHARVESTED SITE ON THE OTHER SIDE OF THE STEEL BRIDGE AND SHOWS UNABATED GROWTH. ALSO, PLEASE REMEMBER THESE ARE STEMS PER ACRE MEASUREMENTS.

**June 19, 2006** - [www.paulsmiths.edu/PAGE=1870/page.pl](http://www.paulsmiths.edu/PAGE=1870/page.pl) .

**June 10, 2006** - A complete 2006 Science Plan for the Milfoil Project written by Dr. Dan Kelting of the Adirondack Watershed Institute is now part of the Information Archive.

**June 7, 2006** - A summary of all transect sites comparing 2006 to 2005 is now available by [www.paulsmiths.edu/PAGE=1872/page.pl](http://www.paulsmiths.edu/PAGE=1872/page.pl) . The comparison shows and extrapolation of milfoil stems per acre. Last year in May (250) compared to this year in May (25). Detailed analysis by site will be posted as available using this same link.

**June 6, 2006** - First Transect observations for 2006 will be posted Friday June 9.

**June 2, 2006** - All Milfoil Progress Maps can be found under the Maps Section on the Home Page

**October 26, 2005** - Data for APA presentation can be viewed by [www.paulsmiths.edu/PAGE=1804/page.pl](http://www.paulsmiths.edu/PAGE=1804/page.pl) .

October 9, 2005 - September data is being verified for a presentation to the APA on the 14th of October and will be updated on this site by the end of the week.

August 23, 2005 - This year's dive program officially ended on August 12. Data Collection on transects will continue through October and will be posted. The most current results and analysis can be viewed by [www.paulsmiths.edu/PAGE=1651/page.pl](http://www.paulsmiths.edu/PAGE=1651/page.pl) .

The Fragment Study has not shown any natural flow and transport of EWM through the channel to Upper Saranac Lake. Fragments continue to be transported entangled in boat propellers or jet skis however. This study has not yielded meaningful results and will be discontinued.

Complete data is not yet available on the growth of milfoil in laboratory conditions from transect site core samples. Stay tuned and results will be posted.

August 8, 2005 - all transect sites will be measured this week and then completely reharvested.

Updated July 27, 2005 - Fragment Study Data does not show any significant flow of milfoil through the channel. Transect data has been updated with the first growth data since harvesting all sites on June 13. We believe early data shows progress. [www.paulsmiths.edu/PAGE=1651/page.pl](http://www.paulsmiths.edu/PAGE=1651/page.pl) for current transect data.

Updated June 25, 2005 - Fragment Study Data: [www.paulsmiths.edu/PAGE=1640/page.pl](http://www.paulsmiths.edu/PAGE=1640/page.pl) for the Fish Creek Channel is available. Through June 24th no fragments have been observed. The Channel is monitored weekly.

Updated June 21, 2005 - The first Chart of 2005 measurements from Transect Sites is now available by This data represents growth from early May observation to complete harvesting of the Transect Site in late June. These sites will now be measured monthly and growth figures are extrapolations to plants per acre for meaningful comparison purposes.

Updated June 6, 2005 - All Scientific Information from the Adirondack Watershed Institute at Paul Smith's College can be [www.paulsmiths.edu/PAGE=1382/page.pl](http://www.paulsmiths.edu/PAGE=1382/page.pl)

Updated April 11, 2005

**Below is an Executive Summary of the Science Plan for 2005 and brief recap of 2004. A complete Plan is posted at the Information Archive Link on the Home Page. Updated scientific data will be posted in this section beginning in early May.**

November 21, 2004

Click here for Transect Study Summary data: [www.paulsmiths.edu/PAGE=1528/page.pl](http://www.paulsmiths.edu/PAGE=1528/page.pl)  
Transect Study Data by Location:  
[www.paulsmiths.edu/PAGE=1506/page.pl](http://www.paulsmiths.edu/PAGE=1506/page.pl)

November 9, 2004

Click here for Fish Creek Fragment Study: [www.paulsmiths.edu/PAGE=1469/page.pl](http://www.paulsmiths.edu/PAGE=1469/page.pl)

October 27, 2004

Click here For Data Collection: [www.paulsmiths.edu/PAGE=1410/page.pl](http://www.paulsmiths.edu/PAGE=1410/page.pl) currently updated through September 20, 2004.

Click here to view 12 transect study locations: [www.paulsmiths.edu/PAGE=1393/page.pl](http://www.paulsmiths.edu/PAGE=1393/page.pl)

Click here for Plant Inventory by Transect Location: [www.paulsmiths.edu/PAGE=1410/page.pl](http://www.paulsmiths.edu/PAGE=1410/page.pl)

Continuous monitoring of the Overall Program will be done by The Watershed Institute at Paul Smith's College. Data will be maintained on their website and can be accessed above. Monitoring of transect locations is done every 30 days and will end October 31, 2004. Data will again be collected at each of the 12 Transect Study sites as early after 'ice out' as practical. That will complete the first full year of Data Collection. Each site will then be cleared the first week of June and the measurement cycle started again.

Data will begin to appear on this site shortly after the last dive is recorded. Currently a plant species list can be found by clicking on data collection link above. Thus far 24 species of plants have been identified in the 12 transect study areas and it is clear that a fairly robust regrowth of indigenous plants is occurring.

Tuesday, May 25: Transect Process Starts in Back Bay: [www.paulsmiths.edu/PAGE=1392/page.pl](http://www.paulsmiths.edu/PAGE=1392/page.pl)



Dr. Dan Kelting - Director of the Adirondack Watershed Institute at Paul Smith's College begins the process of placing the first transect in one of twelve (12) preselected locations. Each location will have four (4) transects. A transect is an underwater line or tape that designates a harvested Eurasian Milfoil site. The sites and transects will be monitored over twice monthly over the next three dive seasons to track regrowth of EWM and native plants. This data will be available on this site as the season progresses.

This page is intended to be dynamic, so check frequently for additional links, maps and current data.

## **SCIENCE PLAN UPDATE 2004-2005**

### **Executive Summary**

**The Adirondack Watershed Institute at Paul Smith's College produces all scientific plans, data and physical measurements for the Upper Saranac Lake Milfoil Project. Operational responsibility for day-to-day operations is the responsibility of Tim LaDue – Crew Chief. Overall project management and funding is the responsibility of the Upper Saranac Lake Foundation.**

#### **Scientific Objectives:**

1. **Conduct an independent assessment of the manual control efforts on Upper Saranac Lake.**
2. **Measure the effectiveness of control (duration, methods).**

3. Understand the effectiveness of control (sediment variability).
4. Estimate the potential for milfoil regeneration from seed.
5. Determine the significance of Fish Creek Ponds as a milfoil source.

## **2004 Summary of Work**

In 2004, thirteen sites with historically high milfoil populations were selected for study. At each site a combination of the line intercept method and fixed plot method were used to monitor presence and abundance of aquatic plants. The methods have been used for over 100 years in forest ecosystem studies and have since been adopted as standard methods in aquatic ecosystem studies. The methods used are the same as those used on Lake George since the late 1980's.

Two to four transect lines were established at each site, with the ends of each line marked with rebar, PVC pipe and georeferenced with GPS. The starting point for each transect was the near shore endpoint in one (1) meter of water. The other end of each transect was determined by a line perpendicular to the shoreline and five (5) meters in depth. The length of each transect therefore depends on the slope of the lake bottom.

A scuba diver swam the length of each transect and recorded the presence of Eurasian Milfoil every three meters. Additionally, abundance was recorded at 1, 3, and 5 meter depths along each transect line, in one meter square plots. Abundance was measured by counting the number of stems by species and estimating percent of canopy cover by species.

Water transparency, temperature and dissolved oxygen were also measured at each site. The original plan called for 5 measurements per site. Due to start up difficulties, actual measurements varied between 3 and 5 in 2004.

## **2005 Work Plan**

**Transects** - Pending approval from the New York State Department of Conservation, each of the 13 study sites will be marked by four corner buoys. This will facilitate controlled harvesting of milfoil in the transect sites, and decrease the amount of time needed to locate each underwater site.

Instead of just recording the presence of milfoil along each transect line, actual stems will be counted in one (1) meter wide bands in each three (3) meter transect segment. This change will increase the bottom surface area sampled for milfoil and will allow for more accurate scaling of milfoil stem counts. Plant height will also be recorded based on a four-point scale.

**Two additional sites will be incorporated** – One in Square Bay and the other in Saginaw Bay to measure regrowth after the removal of Benthic mats. Following the removal of mats in mid May, a single 45 meter transect line will be placed along the centerline of the previously matted areas. Measurements will be the same as previously described and will be conducted 5 times between May and September. Each set of measurements will be collected in the same one-week period.

**Sediments** will be collected from each site for use in a greenhouse study of seed viability, and for texture and nutrient analysis. Sediments will be collected in May at each transect in 8-12 feet of water. AWI will conduct the texture analysis, and University of Vermont will perform the nutrient analysis.

**Seed Viability** – Containers from each transect site will be placed in controlled, environmental conditions in the laboratory with optimal temperature and light conditions. Seedling emergence will be measured by direct counts and recorded on a weekly interval. The study will end when seedling emergence approaches zero. Previously published studies suggest the maximum germination period is 8 weeks. Comparisons, correlations and projections can be made based on sediment type and will assist in our planning assumptions for future years.

**Fragmentation** – A fragmentation survey will be conducted on the Fish Creek Pond's outlet into Upper Saranac. Milfoil fragments will be captured by a net system moved along transects positioned at the inlet, outlet and three zones within the channel itself. By measuring at several locations, we should be able to determine both output into Upper Saranac and the amount of filtering that takes place within the channel. The study will commence the first week in June and will be repeated weekly until the end of September. An additional benefit will be data on stream volume and flow rates that will help with other water quality studies of Upper Saranac.

**Reporting** – Like 2004, monthly and weekly progress reports will be published on the AWI website and will be accessible from [www.uslf.org](http://www.uslf.org).