

## **HMF Activities Report--Fiscal Year 2007**

### **SUMMARY—FY 2007**

In early 2007 Williams Senior Staff withdrew its support of a plan that would have swapped a small strip of land on the southeast corner of Hopkins Forest for an adjoining wetland complex. However, discussions with several parties including the owners of the parcel, Buxton Lane L.L.C., continued into the summer of 2007, at which time a deal that would protect the wetlands and surrounding lands was struck. As of late summer '07 the land had been subdivided with each division under contract to a different buyer with intentions to preserve its natural condition. This complex series of transactions, which would result in some acreage of wetlands being added to Hopkins Forest, was set for a closing in September 2007.

Meanwhile, research on the amphibian communities in the two vernal pools on the Buxton Lane L.L.C. property continued under the guidance of Hank Art. Williams faculty and students—with the help of collaborators from nearby colleges and community volunteers--continued to monitor a pitfall trap array surrounding the ponds in the fall of 2006 and again in the spring and summer of 2007. During the spring 2007, almost 1300 spotted salamanders, 6000 wood frogs and one lone Jefferson salamander were captured at the site (Table I). Taryn Rathbone '08 will be developing a thesis based on this study.

Summer 2007 was a sampling year for the three stand-level vegetation monitoring studies in Hopkins Forest. Hank Art and his student crew sampled the three tracts: the Beinecke Stand, the Farm/Forest Tract and the Birch Strips. Many of the Forest's other established research projects continued as well, including those on ant/leaf hopper mutualism, garlic mustard growth dynamics, and meteorological and geochemical monitoring. In addition, the northern saw-whet owl banding station was open regularly during the fall 2006. Several studies that had been active in the past few years, including the sugar maple genetics and carbon sequestration in the Beinecke stand, were inactive this year.

Educational programs continued at the Forest: Biology classes made regular visits, while programs and workshops were conducted for schools and the general public. As usual, with its crew of student caretakers, the Forest hosted its normal array of public events, including the annual Fall Festival, Maplefest and Alumni Day.

In 2007 we submitted a proposal to have Hopkins Forest become a gradient site in the National Ecological Observatory Network's Northeast Region.

This was the first summer in the last three that there was not a significant outbreak of Forest Tent Caterpillars (*Malacosoma distria*) in Hopkins Forest; most of the tree stands that were affected heavily in 2006 bounced back this year. Nonetheless, decline in some species, namely hybrid poplars, was evident this year and was likely influenced by the defoliation episodes of 2005 and 2006. Most of the trees in the sugarbush, red oak and Beinecke stands seem to have weathered the outbreak, as these *Malacosoma* outbreaks are part of the evolutionary history of the area.

### **RESEARCH and MONITORING**

#### **Summer 2007 and Ongoing**

Several scientific studies were underway during the past year (Table II).

### Vernal Pool Amphibian Communities

Spring 2007 saw the continuation of a study begun the previous year on amphibian use of two vernal pools on the Buxton Lane LLC (former Alden) property. This study, originally designed to provide information for an environmental review, was broadened this year to ascertain more about movement of *Ambystoma* salamanders and breeding phenologies of a variety of amphibian species. To this end, both pools were again encircled by a drift-fence pitfall trap array; the traps were monitored twice daily during the spring and once daily by summer and fall crews. Taryn Rathbone '08 (working on thesis research) and Jenny Gimian '08 carried out the summer monitoring activities. They were joined by Audrey Werner (supported by Howard Hughes funds) of the Biology Department at MCLA and Joanne Pascias, a student at MCLA, who sampled the ponds' invertebrates. In total, 1,396 spotted salamanders (*Ambystoma maculatum*), 6,268 wood frogs (*Rana sylvatica*), one state-listed (Species of Special Concern) Jefferson salamander (*Ambystoma jeffersonianum*) and hundreds of individuals of seven other species were captured and released over the six plus months of the study. A student in Computer Science, under the guidance of Andrea Danyluk, continued to work on developing a spot recognition program during the summer of 2007; this work continued into the fall of 2007.

**TABLE I. Amphibians captured entering pools, spring 2007.**

| Common Name               | Scientific Name                  | Number-outside traps<br>through 6/12/07 |
|---------------------------|----------------------------------|---|
| Spotted Salamander        | <i>Ambystoma maculatum</i>       | 1396                                    |
| Eastern Newt              | <i>Notophthalmus viridescens</i> | 361                                     |
| Red-backed Salamander     | <i>Plethodon cinereus</i>        | 21                                      |
| Northern Dusky Salamander | <i>Desmognathus fuscus</i>       | 2                                       |
| Jefferson Salamander      | <i>Ambystoma jeffersonianum</i>  | 1                                       |
| Wood Frog                 | <i>Rana Sylvatica</i>            | 6268                                    |
| Spring Peeper             | <i>Hyla crucifer</i>             | 262                                     |
| American Toad             | <i>Bufo americana</i>            | 46                                      |
| Green Frog                | <i>Rana clamitans</i>            | 11                                      |
| Pickerel Frog             | <i>Rana pipiens</i>              | 5                                       |
| Bull Frog                 | <i>Rana catesbeiana</i>          | 5                                       |

The vernal pool study received a significant contribution from other institutions and community organizations, including Berkshire Community College (BCC), Massachusetts College of Liberal Arts (MCLA) and the Community Wetlands Group. These entities provided expertise, students and volunteers to help with the collection and processing of data, especially during the busy spring migration period. This study will likely be continued on some level in 2008.

### Vegetation Monitoring

Summer 2007 was a sample year for the three stand-level long term vegetation studies in Hopkins Forest. Professor Hank Art and his student crews sampled the three tracts, the Beinecke Stand, the Farm/Forest tract and the Birch Strips, which are surveyed every five years.

### Ant/Leaf Hopper Mutualism

During the summer of 2007, Professor Manuel Morales continued his research on the role of interspecific communications in the mutualism between ants (*Myrmica*) and leaf hoppers (*Publilia*) on goldenrod plants. Morales and his crew used the fields along Northwest Hill Road to field test some of their experiments on vibrational signaling. In addition, Morales used sites in the lower reaches of the Forest, bordering the Hoosic River, to monitor the non-native red ant (*Myrmica rubra*).

#### Garlic Mustard--Population Dynamics in Forested Ecosystems

Professor Joan Edwards' study of the population dynamics of the invasive garlic mustard plant (*Alliaria petiolata*) continued for the eleventh year in 2007. Sarah Wiley '09, Lindsey Jones '10 and Ruth Yoo '10 provided the field assistance with this study, collecting data on established plots in three different areas of Hopkins Forest: the Beinecke stand, the former mansion site, and the red oak stand.

#### Jewelweed Pollination

In summer 2007, Kim Taylor '08 and Joan Edwards began a study of the effect of nectar quality of jewelweed (*Impatiens*) in flower choice by insect pollinators. Flowers were stocked with nectars of different sugar concentrations and the pollinators were observed to determine the effect of varying nectar quality on flower choice and duration of pollinator visits.

#### Carbon Storage in Soils—University of Pennsylvania

A team of scientists from the University of Pennsylvania, led by Dr. Art Johnson, continued their study of soil carbon in HMF with a follow-up visit in fall 2006. Their primary interest was to ascertain how soil types and landscape legacies may influence soil carbon storage. HMF is of special interest to this team because of its archives of land use histories of many parcels that comprise the current forest, in addition to the geophysical and ecological variety of the landscape.

#### Tufts Carbon Sequestration Study

Tufts University researchers, who in 2006 began a study of carbon storage in the Beinecke stand, did not continue their field activities in the summer of 2007. However, graduate student Minda Berbeco indicated that the team from Tufts intends to resume and expand its study in 2008. A major thrust of this study is to ascertain differential sequestration and respiration rates among tree species.

#### Sugar Maple Genetics

A lack of funding forced Tom Baribault, a Research Associate at the University of Vermont's Proctor Maple Research Center, to suspend his study of sap sugar content of the trees in the sugar maple plantation. The future of Dr. Baribault's research of the 1962 sugar maple plantation remains uncertain.

#### Wood Grain Development in Quaking Aspen

Professor Eric Kramer, of Simon's Rock at Bard, completed the initial phase of his study of the role of Indoleacetic Acid (IAA) in the orientation of wood fibers in quaking aspen (*Populus tremuloides*) in 2005. In summer 2007, while awaiting the lab results for the samples taken previously, Dr. Kramer returned to HMF to collect the tissue surrounding the wounds that were created in previous years; he will next analyze the wood grain orientation subsequent to the wounding episode to determine its relationship to local IAA concentrations. Dr. Kramer intends to publish these results in the near future.

#### Northern Saw-whet Owl Migration Banding

With the assistance of Dr. Ken Schmidt of Texas Tech University, the Northern saw-whet owl (*Aegolius acadicus*) banding station was open once again in 2006. A fourth net was added to the single-tier array of three 12-meter nets along a trail south of the Rosenburg Center, and an audio lure was used to attract the migrating owls into the nets. The station was open on dry, calm nights from dark until around midnight between

September 29 and November 24 (for a total of 42 nights of operation). During this period, 161 saw-whets were captured and banded (Figure 1). This was the highest raw total in the six year history of this station, although, when adjusted for effort, the capture rate fell behind past years. We did catch a record number of owls that were previously banded at other stations (9) and had an impressive number of HMF banded owls turn up at other stations. This increase in recaptures reflects the maturing and expansion of the network of saw-whet owl banding stations in Eastern North America. The HMF station served as the basis for lab activities for two Williams Biology classes as well as two Environmental Science classes from MCLA and students and faculty from Union College and Berkshire Community College.

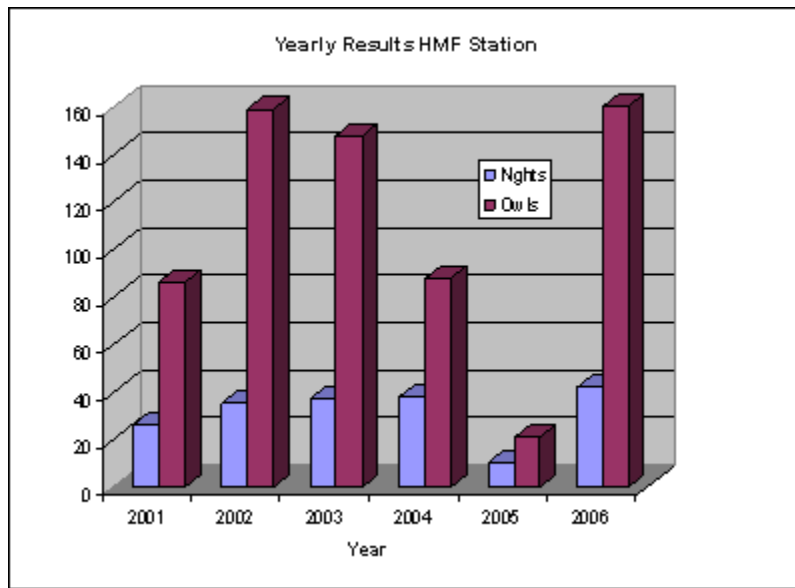


Figure 1. Northern saw-whet owl captures at HMF station 2001-06.

#### Hay-scented Fern Allelopathy

There were no field trials for the study of the allelopathic mechanisms of hay-scented fern (*Dennstaedtia punctilobula*) during 2007. However, students from David Richardson's lab made occasional field collections and processed their samples in Rosenberg Center for later use in the chemistry lab.

#### Habitat Use by Wood Turtles

This past year we continued to study the movements and habitat use of wood turtles (*Glyptemys insculpta*), a Massachusetts 'Species of Special Concern,' in the Hoosic River Valley. Three turtles were equipped with radio transmitters and tracked during the spring and summer months with the assistance of Marjorie Boivin '09 and Nate Joyner, a student from Berkshire Community College.

Sam Streling '09 used data from the past two field stations to conduct a GIS analysis as part of the GIS class.

#### **Watershed/Meteorological Monitoring (Environmental Analysis Lab)**

Once again, the Center for Environmental Studies' Environmental Analysis Lab--under the guidance of David Dethier and Technical Assistant Jay Racela--continued the process of gathering and analyzing meteorologic, hydrologic and biogeochemical data in the Forest. Four weather stations and two stream gauging stations ran continuously throughout the year using digital data loggers. Data from the main weather station continued to be electronically connected to the campus information network making possible real time data downloads via the internet. The Lab also oversaw the operation and data transmission from the 50-meter meteorological

monitoring (MET) tower that stands atop the Taconic Range on the western flank of Hopkins Forest. The monitoring of the thermal spring on the Wire Bridge Farm continued into the summer of 2007, at which time the portable weir and instruments were decommissioned; this ended the two years of monitoring of the spring, which had shown little variation in that time.

In late July and early August of 2006, the weirs along the South Branch and Main Stem of Birch Brook were dredged and the sediment load weighed by HMF and lab personnel and volunteers. The sediment load removed from the South Branch weir was much lighter this year. Allie Gardner '10 and Eva Breitenbach '10 were hired by CES to assist Jay Racela in running the lab during the past summer.

During the summer 2007, preparations were underway to move to the instrumentation in the main weather station to a more central position in the 3-acre field. This work was scheduled for fall 2007.

**TABLE II. HMF Student Researchers—Summer 2007.**

| <u>Student</u>           | <u>Supervisor</u> | <u>Project</u>                     | <u>Funding</u> |
|--------------------------|-------------------|------------------------------------|----------------|
| Taryn Rathbone '08       | Hank Art          | Vernal Pool Amphibian Monitoring   | Biology        |
| Jenny Gimian '08         | Hank Art          | Vernal Pool Amphibian Monitoring   | Biology        |
| Ben Swimm '09            | Hank Art          | Vegetation Monitoring              | Biology        |
| Emily Porter '10         | Hank Art          | Vegetation Monitoring              | Biology        |
| Shan Wang '11<br>Harvard | Hank Art          | Vegetation Monitoring/Amphibians   | Biology        |
| Sarah Wiley '09          | Joan Edwards      | Garlic Mustard                     | Biology        |
| Lindsey Jones '10        | Edwards           | Garlic Mustard                     | Biology        |
| Ruth Yoo '10             | Edwards           | Garlic Mustard                     | Biology        |
| Reggie Pereira '09       | Morales           | Mutualism                          | Biology        |
| Emily Maclary '10        | Morales           | Mutualism                          | Biology        |
| Martin Sawyer '08        | Morales           | Mutualism                          | Biology        |
| Allison Gardner '10      | Racela            | HydroMeteorology; Lab assistant    | CES            |
| Eva Brietenbach '10      | Racela            | Hydro/Meteorology; Lab assistant   | CES            |
| Marjorie Boivin '09      | Jones/Racela      | Herpetology/Lab Assistant          | CES            |
| Joanne Pascius,<br>MCLA  | Werner/Art        | Vernal Pool Invertebrate Inventory | Outside        |

#### Breeding Bird Point Surveys

During June, Drew surveyed the 44 points that were established throughout the Forest in 2001 to monitor breeding bird populations. This year ranked second in the number of individual birds (477) and number of species (49) counted. The total of 477 represents a 9 percent decrease from the total in 2006--a year when canopies had been significantly defoliated by forest tent caterpillars, which might have had a positive effect on the audibility of bird song. As in years past, the red-eyed vireo was the most abundant species, followed by the ovenbird, American redstart and veery, but the least flycatcher replaced the scarlet tanager in the top five (Table III). These points will continue to be surveyed on an annual basis.

### Rare Species

The population of crooked-stem asters (*Symphiotrichum prenanthoides*) along the Hoosic River Trail was surveyed for the second year. No other rare plant monitoring was conducted during this period.

Two species known to inhabit Hopkins Forest--the Appalachian Brook Crayfish (*Cambarus bartonii*) and the Spring Salamander (*Gyrinophilus porphyriticus*)--were removed from the state's endangered species list by the Massachusetts Natural Heritage and Endangered Species Program and are, thereby, no longer considered to be of conservation concern.

Other rare species that have been monitored in the past include:

- Wild Ginseng (*Panax quincifolia*)
- Glade fern (*Diplazium pycnocarpon*)
- Wood Turtle (*Glyptemys insculpta*)

**TABLE III. Trends of the 15 most abundant species on HMF point counts, 2001-07.**

| Rank | Species                     | Mean<br>(per 44 points) | Trend |
|------|-----------------------------|-------------------------|-------|
| 1    | Red-eyed Vireo              | 76.3                    | 0.05  |
| 2    | Ovenbird                    | 55.3                    | 0.10  |
| 3    | American Redstart           | 39.3                    | 0.01  |
| 4    | Veery                       | 22.4                    | 0.04  |
| 5    | Scarlet Tanager             | 16.1                    | 0.01  |
| 6    | Black-capped Chickadee      | 15.0                    | -0.01 |
| 7    | Chestnut-sided Warbler      | 12.6                    | -0.03 |
| 8    | Wood Thrush                 | 12.1                    | -0.08 |
| 9    | American Crow               | 10.6                    | -0.09 |
| 10   | Least Flycatcher            | 10.0                    | 0.16  |
| 11   | Eastern Wood Pewee          | 9.9                     | 0.07  |
| 12   | American Robin              | 9.7                     | 0.02  |
| 13   | Hermit Thrush               | 9.6                     | 0.10  |
| 14   | Black-throated Blue Warbler | 9.1                     | 0.02  |
| 15   | Blue Jay                    | 9.0                     | 0.12  |

### Information Management

Chris Warren of the Office of Informational Technology (OIT) continued to work with HMF researchers to improve the accessibility of HMF data via the internet. Both long-term vegetation and meteorologic data can now be accessed via the web; the weather data can be viewed in real time.

### EDUCATION and OUTREACH

#### Classes

During the fall semester, BIOL/ENVI 203—*Ecology* (Morales) and BIOL 225—*Natural History of the Berkshires* (Art) held several lab sessions at the Forest. The spring saw some use of the Forest by classes including BIOL 302/ENVI 312--*Communities and Ecosystems* (David Smith), ENVI 102--*Introduction to Environmental Science* (Stoll/Bingeman) and BIOL 102--*The Organism* (Morales/Ting). The Forest also hosted

field trips by classes from Massachusetts College of Liberal Arts, Berkshire Community College and Antioch New England. These colleges took part in field activities ranging from saw-whet owl banding, to wood turtle tracking to amphibian/vernal pool monitoring (Appendix).

## Public Outreach

### Community Events

Once again HMF hosted several events for the public and college communities. Events were generally well attended and well received by visitors. The following events were held the past year:

- **Fall Festival**—The Fall Festival was held on Sunday, September 24<sup>th</sup> and, on an overcast afternoon, drew more than 100 visitors. Traditional forest and harvest activities—beam hewing, shake-splitting, cross-cut sawing, apple butter and cider production and live fiddle music--were featured. Weather forced closure of the canopy walkway.

- **Fall Family Days**--This was the seventh year that events were planned for the fall family weekend with a guided trail hike held on Saturday, October 28.

- **An Afternoon with Tom Wessels**—Tom Wessels of Antioch New England Graduate School gave a presentation/hike program at the Forest on Sunday, October 29<sup>th</sup> 2006. The program was based on his book, 'Reading the Forested Landscape' and drew a good crowd of about 50 people.

- **Maple Festival**— "Maplefest" was celebrated on Saturday, March 10<sup>th</sup>, drawing a good turnout of 280 on a seasonable late winter afternoon. People came to see sugaring exhibits and demonstrations and to taste HMF produced syrup served over pancakes and 'on snow'.

- **Amphibian and Reptile Workshop**—On April 8, 2006 we once again hosted a reptile and amphibian day with Tom Tynning of Berkshire Community College. This event drew an uncharacteristically small crowd due to the cold, rainy conditions.

- **Spring Family Days**—This annual event was held on April 21<sup>st</sup>. A morning bird walk and an afternoon hike attracted a number of participants.

- **Alumni Day**—HMF again offered a variety of activities, including hikes, trips up the canopy walkway, and children's activities, during this year's Alumni Weekend (June 9<sup>th</sup>). As usual, a good crowd of approximately than 150 took advantage of a pleasant spring day to partake of the activities, though the Taconic Trail hike was cancelled due to a lack of interest.

- **Macro-invertebrate Workshops**--HooRWA hosted a series of public workshops on benthic macro-invertebrate monitoring at the Rosenburg Center in fall 2006.

### Schools

School groups from Williamstown and Clarksburg, MA made several visits to the Forest for forest and aquatic based programs. Once again, participants from the Urban Scholars program visited HMF for a program on stream life in July and several regional summer programs visited the Forest as well (Appendix).

### Publicity

The local press published articles announcing the hunting season and community events in the Forest. In addition, the North Adams Transcript interviewed forest personnel for contributions to articles on forest tent caterpillars and the maple sugaring season.

## RECREATION

This year numerous hikers, horse-back riders, skiers and nature observers took to the trails of the Forest in their recreational pursuits. Once the weather finally got cold in late January, the HMF cross-country trails were

groomed by Williams Facilities personnel and got some use by local skiers. Fortunately, the year was a quiet one insofar as trespassing and public use problems were concerned. With the exception of some trespass from all-terrain vehicles and mountain bikes on the Taconic Crest the Vermont trails, problems remained minimal.

### **Williams Outing Club**

The Outing Club cabin accommodated hostellers regularly during 2006-07. The cabin was also used during *Maplefest* in March. The Outing Club lean-to was used sparingly by the Williams Community; use by unauthorized persons was not noted this year, although the remoteness of the facility prevents us from monitoring it closely. The low-ropes course also continued to be very popular, getting used by community and college members on approximately 12 occasions. Outing Club naturalists scheduled some events in the Forest including a winter night walk in January and woodcock watch in April 2007.

### **Hunting**

Again in fall 2006, HMF hosted its annual special permit deer hunt during the Massachusetts shotgun season. As usual, no hunting was permitted in Vermont, New York or east of Northwest Hill Road, nor was archery hunting allowed. Eighty-nine hunters, overwhelmingly from Massachusetts, harvested 14 (mostly antlerless) deer during the twelve day season according to our unofficial sign-in. The success rate of 15.7 was the second highest since 1999. Numbers of hunters and deer taken have remained relatively stable since that time (Table IV). Williams College security officers, along with Williamstown police officers, were hired to provide security during the hunt. The season went smoothly with no problems reported.

**TABLE IV. Hunting effort and deer harvested at HMF past eight seasons.**

| <b>Year</b>            | <b>1999</b> | <b>2000</b> | <b>2001</b> | <b>2002</b> | <b>2003</b> | <b>2004</b> | <b>2005</b> | <b>2006</b> | <b>Mean</b> |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Permits Issued         | 110         | 86          | 90          | 86          | 86          | 100         | 93          | 89          | 92.5        |
| Total Deer Harvested   | 13          | 9           | 9           | 20          | 10          | 8           | 10          | 14          | 11.6        |
| Success Rate (percent) | 11.8        | 10.5        | 10.0        | 23.3        | 11.6        | 8.0         | 10.8        | 15.7        | 12.6        |

### **MAPLE SUGARING**

The spring of 2007 was a disappointing one for maple sugaring, with sap and finished syrup production lagging well behind that of recent years. Poor yields were likewise reported throughout Southern New England. A very mild early winter might have been the culprit in part, as the sap that ran during mild January days was unavailable for harvesting later in the season. There might have also been some impacts from the caterpillar defoliation of 2006, but his link is more tenuous. The tapping season went late this year, continuing into mid-April, but flows were light and many trees gave up running early in spite of seemingly good conditions. Ultimately, a meager total of 1,225 gallons of sap was gathered and boiled into approximately 26 gallons of finished syrup, both significant departures from our 8-year average (Table V). Sap quality seemed about normal this year and boiling efficiency was satisfactory as well; these factors did not appear to affect the overall decline in output. During the sugaring season, we again hosted the 'Maplefest' celebration, which attracted a good crowd.

**TABLE V. Summary of 2007 sugaring activities and departure from previous years.**

|  | <b>2007 Season</b> | <b>Percent Difference</b><br>from 2000-06 norm |
|--|--------------------|--|
|  |                    |  |



|                          |      |       |
|--------------------------|------|-------|
| Trees tapped (taps used) | 127* | -2.2  |
| Tapping Period (days)    | 47   | +22.3 |
| Tap Nights               | 5455 | +13.3 |
| Gallons of Sap           | 1225 | -37.3 |
| Days (sessions) Boiled   | 10   | -4.1  |
| Hours (boiling)          | 46   | -50.3 |
| Gallons Syrup (approx.)  |      |       |
| Raw Syrup Drawn Off      | 28   | -28.9 |
| Finished Syrup           | 26   |       |

\*Most figures are approximate

## FACILITIES/MANAGEMENT

### Wire Bridge Farm

Joel Burrington of Pownal, VT continued to cultivate corn and hay on the Wire Bridge Farm parcel. He did some minor work on the road in the spring to enable continuing easy access to the site.

### - Timber Management--Vermont Parcel

No management activities were conducted on the Vermont parcel that we enrolled in the Vermont Use Value Appraisal Program in 2004. That parcel is due for some silvicultural improvement in the next few years as set out in its management plan.

### - Weather Station Field

During 2006-07 the expanded three plus acre weather station field was mowed once and monitored. The field has become well established with an even cover of cold-season grasses that were planted in 2005; it will continue to be mowed until a research/demonstration plan is devised for the site. Meanwhile, in 2007 plans were underway to relocate the instruments in Weather Station I (including the anemometer tower, precipitation gauge and gauging shed) 50 feet to the west. Contractors were set to start the job of relocating the station in fall of 2007.

### - Permanent Plots

During the summer 2007, student workers continued to re-paint the cruise lines that connect the 400 permanent vegetation plots of the Forest. The plots are spaced along a grid at one hundred yards (east-west) by two hundred yards (north-south). Eleven of the thirteen east-west running cruise lines have been repainted during the last three summers.

### - Rosenburg Center/Moon Barn

The Rosenburg Center was again used for classes, lab set-ups, public events, workshops, and as an exhibit space for visitors. The 100 year old building officially went 'wireless' in late 2006 as the Williams Information Technology Department installed wireless access points. Once again, the Moon Barn was used for public exhibit space only for special events such as the annual Fall Festival. Due to an increased demand for storage space, we have had to use this historic building primarily for storage the past few years.

### - Entry Kiosk

In spring 2007 the Williams Carpentry Shop fashioned a new tri-paneled main kiosk to replace the aging one across from the Rosenburg Center. In addition to a mounted map box, the new version will feature space to post temporary notices as well as a message board to enable forest users to leave messages. Students were at work lettering of the sign as of August 2007.

#### Canopy Walkway

This past year the canopy walkway was open for public visitation several times, although rainy weather curtailed its use somewhat. Several community groups, in addition to Williams programs, used the facility, which passed its annual safety inspection in the spring.

#### Vehicle/Machines

The one-year-old Toyota Tacoma 4x4 pick-up truck ran well and required no major expenditures. The John Deere 'Gator' trail vehicle continues to perform well and has required only routine maintenance since its acquisition in 2002.

#### Roads/Trails

This past year we continued to monitor soil and botanical resources along the Hoosic River Trail as part of a conditional agreement that permits horseback riding on that trail. Nine transects along the trail were surveyed--through quantitative measurements and photography--for a third year to detect possible soil erosion. In addition, we sampled six one square meter plots along the trail to monitor a population of crooked-stemmed aster (*Symphiotrichum prenanthoides*). These plots will be surveyed again next year to detect possible impacts from increased traffic on the trail. Once again, the entry road to the Rosenburg Center was resurfaced in the spring of 2007 with funding from the Facilities Department.

#### **Caretaking**

As in the past, HMF relied on student caretakers for a major part of its maintenance, upkeep and outreach activities (Table VI). The fall and spring semesters had a regular crew of eight to ten students, each working about 3 to 6 hours per week under the leadership of head caretaker Kim Taylor '08 and Lizzie Koltai '07 respectively.

The fall crew kept busy preparing for and hosting the Fall Festival, keeping up with trail maintenance, and decommissioning the pitfall/drift-fence array for the amphibian study. In the spring, a major effort was the redeployment of this trap array as well as the maple sugaring campaign. The spring crew was also instrumental in hosting *Maplefest*.

**TABLE VI. Student caretakers academic year 2006-07.**

|                      |                          |
|----------------------|--------------------------|
| Liz Gleason '08      | Anna Candino '07         |
| Kim Taylor '08       | Will Ford '08            |
| Ariel Heyman '08     | Chip Knight '08          |
| Elizabeth Koltai '07 | Ryan Peltier '08         |
| Dylan Rittenburg '10 | Rebecca Kane '10         |
| Ben Swimm '09        | Tyler Zara '09           |
| Chris Sherman '07    | Cooper Jones '08         |
| Camille Bevans '09   | Alessandra DeMarchis '10 |

A summer caretaking crew--consisting of Steven Cheng '10 and Jenna Barbary '09, with part-time help from

Allison Seyferth '08--labored throughout the summer. The crew worked on many of the regular summer tasks—mowing, gardening, equipment maintenance, hosting programs, trail and water-bar maintenance—in addition to repainting the permanent plot cruise lines.

## MEETINGS/COORDINATION

### Affiliations

#### National Ecological Observatory Network (NEON):

In 2007 we began an association with NEON and its Northeast regional hub site at Harvard Forest. HMF has applied to become a regional gradient site; in addition, we were nominated for a seat on the NEON governing board.

Taconic Crest Trail Consortium: This consortium--which works to promote sustainable recreational use of the 35 mile trail and coordinate its management and maintenance activities—met in June 2006 to discuss protection and security issues. A new trail register was installed at the Petersburg Pass trailhead (in Hopkins Forest) in July 2007.

Hoosic River Watershed Association (HooRWA): HooRWA, with new Monitoring Director Kelly Nolan, used the Rosenburg Center wet lab as its base for monitoring operations in 2006-07. Several Williams students worked (with CES funding) with Kelly Nolan on benthic macro-invertebrate collections and processing throughout the year.

Bird Clubs: HMF continued to collaborate with North Berkshire Audubon on bird counts and bird walks. In addition, the Forest has become a destination for regional bird club members during the fall owl banding season. Drew gave a presentation on the saw-whet study at a meeting of the Allen Bird Club on May 5, 2007 in Springfield, Mass.

## ADMINISTRATIVE

### HMF Users Committee

The Hopkins Forest Users Committee--charged with oversight of the management and planning activities for the Forest--is composed of College faculty, staff and students who have vested research or teaching interests in the Forest (Table VII). Under the direction of David Dethier (on leave in 2006-07), the committee met and corresponded occasionally to decide matters of forest management and policy.

**TABLE VII. HMF Users Committee--2006-07.**

| <b>Faculty</b>       | <b>Department</b> | <b>Ex-officio</b> | <b>Affiliation</b>      |
|----------------------|-------------------|-------------------|-------------------------|
| David Dethier, Chair | Geosciences       | Karen Merrill     | CES Director            |
| Hank Art             | Biology           | Scott Lewis       | WOC Director            |
| Joan Edwards         | Biology           | Jay Racela        | CES, Envi. Analysis Lab |
| David Smith          | Biology           | Drew Jones        | HMF Manager             |
| Manuel Morales       | Biology           |                   |                         |

### FUTURE --What is in store for 2007-08?

In the coming year we intend to integrate the newly acquired Buxton Lane L.L.C. vernal pool parcel into Hopkins Forest. Once in full ownership of this land, we may continue and expand the amphibian study with

some support from the Howard Hughes program. In addition, we will complete the re-location of the main weather station and revisit the issue of establishing research and demonstration plots in the west and north reaches of the weather station field. We will also continue to work with Senior Staff to complete the purchase of the Wire Bridge Farm and to fully integrate this facility into our programs at Hopkins Forest.

**Appendix – Non-Williams Institutional Users of HMF 2006-07.**

| <b>Organization</b>                   | <b>Location</b>  | <b>Department/Program</b> | <b>Type of Use</b>  |
|---------------------------------------|------------------|---------------------------|---|
| Berkshire Community College           | Pittsfield       | Environmental Science     | Vernal pools, owl banding, turtle tracking                    |
| Massachusetts College of Liberal Arts | North Adams      | Environmental Science     | Class field trips: vernal pools, owl banding, turtle tracking |
| Massachusetts College of Liberal Arts | North Adams      | Biology                   | Class Field Trip  |
| University of Pennsylvania            | Philadelphia, PA | Biology                   | Soil Research   |
| Simon's Rock of Bard                  | Great Barrington | Physics                   | Tree Research   |
| Union College                         | Schenectady, NY  | General                   | Owl Banding   |
| Conway School of Landscape Design     | Conway, MA       | Graduate Program          | Tours with Hank   |
| Antioch New England Graduate School   | Keene, NH        | Graduate Program          | Owl banding   |
| Hoosic River Watershed Association    | Williamstown     | Monitoring                | Monitoring lab, workshops                                     |
| Williamstown Elementary School        | Williamstown     | Various grades            | Outreach Programs   |
| Urban Scholars                        | New York         | Sponsored by Williams     | Stream Studies  |
| Clarksburg Elementary                 | Clarksburg       | School Classes            | Outreach Programs   |
| Berkshire Science Camp                | Williamstown     | Summer Camp               | Vernal pools  |
| Project Leap                          | Bennington, VT   | After School              | Canopy Walkway  |
| Williamstown Preschool                | Williamstown     | General                   | Outreach Program  |