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**Eastern
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Finger Lakes National Forest

Annual Monitoring and Evaluation Report

Fiscal Year 2009



Sheep helping control leafy spurge

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Annual Monitoring and Evaluation Report

Finger Lakes National Forest

USDA Forest Service
Eastern Region
Milwaukee, Wisconsin
September 2010

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Executive Summary

This is the fourth Monitoring and Evaluation Report compiled under the 2006 Finger Lakes National Forest (FLNF) Land and Resource Management Plan (Forest Plan). The FLNF monitoring and evaluation plan is described in Chapter 4 of the Forest Plan. As explained in more detail in Chapter 4, monitoring items consist of mandatory components found in every forest plan, as well as monitoring items that are tailored to address FLNF issues raised through public scoping and interdisciplinary team review.

The Annual M&E Report provides an opportunity to track progress towards the implementation of revised Forest Plan decisions and the effectiveness of specific management practices. The focus of the evaluation is on providing short- and long-term guidance to ongoing management. Guidance for development of the Annual M&E Report is provided in Chapter 4 of the Forest Plan and 36 CFR 219.6(a)(3) and (b)(2) requiring monitoring results be evaluated annually and provide for:

- (i) Monitoring to determine whether plan implementation is achieving multiple use objectives
- (ii) Monitoring to determine the effects of various resource management activities within the plan area on the productivity of the land
- (iii) Monitoring of the degree to which on-the-ground management is maintaining or making progress toward the desired future conditions and objectives for the Forest Plan
- (iv) Adjustment of the monitoring program as appropriate to account for unanticipated changes in conditions

The information gained from the Monitoring and Evaluation Report is used to determine how well the desired conditions, goals, objectives, and outcomes of the Forest Plan have been met. At this point, four years after implementation of the revised Forest Plan, however, trends, patterns, and results generally are not clearly defined. Evaluations and conclusions that would lead to changes in the Forest Plan are not expected. Rather, this report focuses more on what we monitored, how it was monitored, how easy and efficient the protocols were to use, and how effective they were at answering the monitoring questions.

Highlights from the Report

In 2009, the FLNF staff monitored 40 items covering 19 areas. Highlights of these monitoring efforts include:

- Forty four livestock ponds were monitored with Burdick Pasture pond dredged to remove sediment and breached areas of the dam repaired; new fencing was built to keep cattle away from the dam
- Seven grasslands, 500 acres, were inventoried for all vascular plants, including both rare plants and Non-Native Invasive Species (NNIS)
- Thirteen additional grasslands (2114 acres) had complete botanical inventory with all NNIS mapped
- Broad scale site inventory surveys for heritage resources were conducted on 1,500 acres
- Improved fencing at Hawes pasture has restored part of the riparian area
- All water control structures in ponds were monitored to determine if water levels were being properly maintained
- Fish population monitoring in ponds resulted in no fish kills reported from low oxygen levels
- Cemetery and Vesa shrublands were monitored to determine the effects of prescribed burns on soils

- Odonates (damselflies and dragonflies) and Lepidoptera (butterflies) were surveyed. Other monitoring included breeding birds and Management indicator species surveys of pastures and forested stands where other butterfly species were identified and noted
- Identified hemlock wooly adelgid on hemlock trees in the Caywood Point area and predator beetles released
- Completed a study from 2008 to document current uses of Special Forest Products in and around the FLNF, and currently considering potential actions to take for sustainable management of SFPs based on this report
- Surveyed NNIS in several areas and implemented new treatment methods, such as broadcast herbicide to treat knapweeds and thistles in over 1100 acres of grasslands, and hand-application of herbicide to treat infestations of several NNIS along the road to Caywood Point
- 2 special areas monitored
- 4 insect or disease agents tracked
- 81 acres hazardous fuels reduction
- Assisted with or conducted 15 education activities or programs

Key Events and Achievements in Fiscal Year 2009

American Reinvestment and Recovery Act (ARRA)

More than \$10 million will be invested in the local economies of Vermont and New York over the next 2 years. Long standing cost sharing partnerships have the capacity to put ARRA funds to work quickly. ARRA projects are not only providing jobs, they are also protecting and conserving natural resources. The Town of Lodi installed a new culvert on Wilkens Road and began clearing trees in 2009 with additional work scheduled for 2010. Cooperative Road maintenance agreements with the towns of Covert and Hector are also funded.

Caywood Point

A large dump consisting of tons of debris from the Boy Scout Camp was cleaned up and removed. Any remaining structures were demolished. The site was also graded and seeded to prevent erosion. In addition, the road to the parking lot was improved. All the materials were recycled. The work completed this year improves access to the point, sustainable trail development, and maintenance to the historic site Queen's Castle or Fossenvue.

Invasive Species Treatments

Mowing and spraying effectively killed targeted non-native invasive species, knapweed and thistle. These plants threaten grasslands important for various wildlife species, particularly nesting songbirds and for livestock forage. Additionally, sheep from Cornell University successfully grazed leafy spurge on the Ahouse West grassland as part of an ongoing study to monitor long-term success in non-native invasive plant control.

Insects and Disease

An outbreak of Hemlock Woolly Adelgid, a small aphid like insect that can damage and kill hemlock stands in Eastern forests within 10 years was discovered in 2009. A predator beetle, *Laricobius Nigrinus*, was released at Caywood Point as part of introductory research to successfully control this insect pest and protect a vital tree species. Surveys continue for Emerald Ash Borer (EAB) now just 100 miles west of the Forest. No EAB were found in 2009 and protocols to monitor potential infestations on the Forest are being set up for 2010. An effort to identify Butternut trees potentially resistant to Butternut Canker disease was launched. DNA analysis of visibly disease free leaf and twig samples will verify that the tree is American Butternut, not the Asian species. This is the first step in identifying trees that can be used to establish a clone bank of potentially disease resistant trees and seed stock for the future.

Stewardship Contracts

A stewardship contract was awarded to cut hay on 28 acres within fields designated as grasslands for wildlife on Mathews Road in Hector. The grasslands are managed to provide grasses and forbs that provide cover and nesting habitat for a wide variety of game and non-game wildlife species. The mowing will also eradicate goldenrod, a highly invasive native plant species that has become established in grasslands Forest-wide. Golden rod can cause substantial habitat changes and reduce or eliminate suitable wildlife habitat for specialized species, especially grassland dependent songbirds. The mowing schedule will be used in various small fields to maintain grasslands habitat and the baled hay will be used by the partner for cattle feed.

Other Project Monitoring

Monitoring of projects, large and small, occurs on all the districts and involves numerous resource professionals across the Forest. Examples include monitoring of pastures for desirable forage and non-desirable non-native invasive species; conducting baseline monitoring for water quality prior to

timber sales; and checking application of mitigation measures to determine if they are appropriate and effective. Often times the monitoring is informal consisting of general field observations. Other times monitoring is more formal and entails following protocols. Results from formal monitoring efforts are generally included in the Annual M&E Reports.

Public Involvement

The Forest Service continues to publish the Finger Lakes National Forest Schedule of Proposed Actions, a newsletter containing information about upcoming and on-going projects to implement the Forest Plan. The purpose of the Schedule is "to give early informal notice of proposals so the public can become aware of Forest Service activities and indicate their interest in specific proposals" (FSH 1909.15, Section 07). We encourage the public to become part of our management process by commenting on project proposals through the National Environmental Policy Act (NEPA) process. Information about planning our projects and project contacts can be found on the Internet at: www.fs.fed.us/r9/forests/greenmountain/htm/fingerlakes/f_proj.htm

Approval

Having reviewed the FLNF Monitoring and Evaluation Report, I am satisfied with its findings and intend to consider recommendations made therein. The Monitoring and Evaluation report meets the intent of both the Forest Plan (Chapter 4) as well as the regulations contained in 36 CFR 219. As always, we encourage public involvement during the process of developing individual project proposals.

/s/ Colleen Pelles Madrid

Date: September 21, 2010

COLLEEN PELLEES MADRID
Forest Supervisor

Table of Contents

1.1	Introduction.....	1
1.1.1	Introduction	1
1.1.2	Monitoring and Evaluation Guide	1
1.1.3	Annual Monitoring and Evaluation Reports	2
2.1	Discussion of monitoring	3
	Partnerships, Information and Education	5
	Forest Plan Implementation	7
	Recreation	15
	Visuals	20
	Heritage	20
	Soil.....	22
	Fish.....	24
	Wildlife	26
	Wildlife: Management Indicator Species	28
	Grazing Resources	29
	Botanical Resources.....	31
	Timber	38
	Special Forest Products.....	39
	Rare Features.....	40
	Insects and Disease	43
	Fire	45
	Payments to Counties.....	46
	Lands.....	48
3.	Research and Studies	49
4.	Adjustments or Corrections to the Forest Plan	50
5.	List of Preparers	51
	Appendix A: Regional Forester Sensitive Species, Rare or Uncommon Natural Communities, and Non-Native Invasive Species.....	A

1.1 INTRODUCTION

1.1.1 Introduction

Monitoring and evaluation (M&E) are required by the National Environmental Policy Act and the National Forest Management Act to determine how well the Land and Resource Management Plan (Forest Plan) is being implemented. The M&E process enables the Forest Service to assess its effectiveness in moving toward stated management goals and desired conditions. The 2006 Forest Plan may be amended or revised to adapt to new information and changed conditions identified through M&E efforts. Through this adaptive management approach, the Forest Plan is kept current.

Monitoring is conducted to accomplish several objectives, including:

- To determine how well the goals and objectives of the Forest Plan have been met
- To determine how closely Forest Plan management Standards and Guidelines have been followed
- To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require a revision to the Plan

Monitoring of the Finger Lakes National Forest (FLNF) began in 1987 with guidance provided in the 1987 Forest Plan. A revised Forest Plan was completed in February 2006 and includes programmatic direction for monitoring and evaluating Forest Plan implementation. Chapter 4 (M&E Chapter) of the 2006 Forest Plan defines the over-arching, strategic questions that must be addressed by the Forest Service through monitoring, including broad timetables and schedules for analysis and reporting.

In addition to direction for monitoring and evaluation, the Forest Plan describes the current state of the FLNF as well as the ideal state, which the Forest Service and interested publics envisioned as the Forest's "desired future condition." The Forest Plan allocated land to different management areas, each with a unique desired future condition, major emphasis, and management direction.

Coordination of management projects to bring about the desired future conditions stated in the Forest Plan is a complex task. The Forest Service wants to ensure that the highest priority projects are located in the most suitable areas, and that management of all resources in a particular area is integrated to improve efficiency and reduce impacts on the natural and social environments.

1.1.2 Monitoring and Evaluation Guide

In addition to the guidance outlined in the 2006 Forest Plan, the FLNF staff completed an M&E Guide in June of 2007. The M&E Guide provides more specific procedural guidance to implement the monitoring strategy outlined in the Forest Plan. The M&E Guide contains specific monitoring elements, along with methods, protocols, and analytical procedures to be followed. The M&E Guide is a suite of monitoring activities that may be used to help managers understand and answer the Forest Plan monitoring questions. The Forest Service will select specific monitoring activities from the M&E Guide during Forest Plan implementation.

1.1.3 Annual Monitoring and Evaluation Reports

Purpose and Scope

The Annual M&E Report provides a forum for the review of current-year findings. This report displays monitoring results including:

- What monitoring activities were completed?
- What Forest Plan monitoring questions were addressed?
- How well did the monitoring address those questions?
- Do future monitoring activities need to be modified?

The Annual M&E Report is prepared by an interdisciplinary Forest Service team that incorporates information gathered from Forest Service specialists, partners, private citizens, and non-profit organizations. The Forest Service is grateful to the people who contribute their monitoring efforts and results and who take an interest in actively participating in the management of the FLNF.

This Annual M&E Report evaluates the results of the monitoring accomplished during Fiscal Year 2009 (October 1, 2008-September 30, 2009), hereafter referred to as FY09. This report describes monitoring items by resource category, provides data pertaining to the effects and effectiveness of Forest Plan management direction, and discusses various resource management efforts in which the FLNF engaged in FY09.

A major part of monitoring and evaluation is to determine if the resource outputs, management costs, returns, and environmental objectives were achieved as predicted in the Forest Plan. To do this, the report compares the objectives stated in the Forest Plan with what was actually accomplished during FY09.

Annual Monitoring and Evaluation Report Outline

The remainder of this report is divided into four chapters.

- Chapter 2 consists of monitoring for 14 elements from the Forest Plan monitoring requirements. Each includes where feasible: background information; brief explanation of the monitoring activities and protocols; and discussion on the evaluation, conclusions, or recommendations.
- Chapter 3 provides a brief summary of on-going research and studies on the Forest.
- Chapter 4 discusses adjustments or corrections to the Forest Plan.
- Chapter 5 is a list of the Forest Service employees that provided information contained in this report.

The activities and outputs we monitor may be traced to one of three sources:

1. NFMA implementing regulations requirements (36 CFR 219 (1982)), which outline specific activities and outputs to be monitored
2. Forest Plan requirements (Chapter 4) selected to facilitate comparison between actual conditions and desired future conditions
3. Questions derived from public comments which are particularly useful for monitoring public satisfaction with the resources and services the FLNF provides.

2.1 DISCUSSION OF MONITORING

The following table (Table 2.1-1) consists of elements from Tables 4.1-3 through 4.1-7 of the Forest Plan. It identifies the resource element, monitoring question and drivers, and frequency

of measurement that are discussed on the pages that follow in this report.

Table 2.1-1: Resource areas, monitoring questions and drivers, and measurement frequency discussed in this report.

	Resource	Monitoring Question(s)	Monitoring Driver	Frequency of Measurement
1	All	How close are actual outputs and services to projected outputs and services?	A quantitative estimate of performance comparing outputs and services with those projected by the 2006 Forest Plan.	Annual
2	All	How close are actual costs to projected costs?	Documentation of costs for carrying out the planned management prescriptions as compared with costs estimated in the Forest Plan.	Annual
3	All	To what extent have Objectives been attained?	Forest Plan Objectives	Annual
4	All	To what extent have Standards and Guidelines been applied?	Forest Plan Standards and Guidelines	Annual
5	All	What are the effects of management practices prescribed by the 2006 Forest Plan?	Forest Plan Management Area Guidance	Annual
6	Transportation System	Is the use of vehicles off roads causing considerable adverse effects on resources or other forest visitors; how effective are forest management practices in managing vehicle use off roads?	36 CFR 295 Use of vehicles off roads shall be planned, implemented and monitored in order to protect resources and visitors from considerable adverse effects, promote public safety, and minimize conflicts with other NFS land uses of the NFS lands	Annual
7	Recreation	Is the quality of the Forest Service trail system and recreation facilities being improved through operation and maintenance?	Forest Plan Goal 12	Annual
8	Soil Quality	To what extent are Forest Service management and restoration activities maintaining or improving soil quality?	Forest Plan Goal 3	1-5 Years
9	Water Resources	To what extent is Forest management affecting water quality, quantity, flow timing, and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland	Forest Plan Goal 4	1-5 Years

		habitats?		
10	Wildlife: Management Indicator Species	To what extent are forest management activities providing habitat for MIS?	Forest Plan Goal 2, Maintain and restore quality, quantity, amount, and distribution of habitats to produce viable and sustainable populations of native and desirable non-native plants and animals.	Annual
11	Native and Desired Non-Native Species	To what extent are management activities contributing toward population viability for native and desired non-native species? To what extent do management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species?	Forest Plan Goal 2	Variable
12	Vegetation	Are harvested lands adequately restocked according to Plan goals?	Lands are adequately restocked as specified in the Forest Plan.	Annual
13	Insects and Disease	Are insect and disease levels compatible with objectives for maintaining healthy forest conditions?	Destructive insects and disease organisms do not increase to potentially damaging levels following management activities.	Annual
14	Interpretation and Education	In what way is the Forest Service providing information and education opportunities that enhance the understanding of the FLNF?	Forest Plan Goal 19	Annual

Partnerships, Information and Education

Evaluation Question:

Are partnerships active and effective on the FLNF and are Forest Service personnel participating in partnership activities?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report

Monitoring Activities: The Forest Service uses many types of agreements to document its work with other organizations and entities. Each of these has specific Congressional legal authorities and requirements. The appropriate instrument depends on what the partnership will accomplish, who will benefit, and who is providing funding. The Forest Service must have appropriate statutory authority prior to entering into any agreement, which could result in the use, obligation, or other commitment of any Forest Service resources.

During FY09 the Green Mountain and Finger Lakes National Forest (GMFL) worked with 59 partners or partnership groups. Much of the trail and resource maintenance, conservation and education efforts and wildlife conservation programs and projects would not be possible without the help of our many valuable partners. Partners include individuals, non-profit agencies, other federal and state agencies, profit organizations, and universities and colleges.

Formal Agreements: During FY09, there were a total of 46 signed grants and agreements and 33 modifications that provided or obligated \$839,616 worth of cash, goods, and services to the GMFL from partners, and \$595,393 worth of cash, goods, and services to partners from the GMFL.

Volunteer Agreements: In FY09, 328 volunteers provided 32,567 hours of service at an appraised value of \$659,664 to the Green Mountain and Finger Lakes National Forests.

Total to the Forest: Including formal and volunteer agreements, partners gave a total value of \$1,499,280 to the GMFL in FY09. This includes:

- cash contributions of over \$4776,106
- in-kind contributions of over \$25,836
- non-cash contributions of over \$337,714

Total to Partners: Contributions also went to various partners for the work they provided to support the GMFL. In FY09, there was over \$571,394 in funds and over \$23,999 in non-cash contributions that were obligated and/or provided by the GMFL to partners, including: challenge cost-share agreements, law enforcement agreements, and roads agreements. There were also partnerships where Forest Service's and partner's funds combined to pay for land improvements.

The GMFL has had numerous on-going informal agreements with State, county, local and other federal agencies, and non-profits that benefit the Forests. These informal partnerships have not been documented through the formal agreement process and are not accounted for in the numbers listed above; however, they do greatly benefit the GMFL.

Evaluation and Conclusions: Formal and informal agreements with State, county, local and other federal agencies, and non-profits can increase the amount of management and educational activities that occur on the GMFL. Partnerships also increase the ownership that these

organizations have in the GMFL. These agreements also provide GMFL staff with an opportunity to contribute to work that partner organizations value.

Recommendations: Continue working with existing partners and volunteers and cultivate new partners and volunteers where there is an interest from partner groups, and a potential benefit to the GMNF and nearby communities.

Evaluation Question:

How many agreements for fire management have been developed and maintained with outside partners?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: see FY08 M&E Report

Monitoring Activities: Managing agreements is a continuous and on-going process requiring coordination with all parties and attention to policy changes. Agreements require updates every 5 years using the current template.

Evaluation and Conclusions: In FY09, Finger Lakes staff converted agreements to the current template, met with cooperators and updated the 5 agreements maintained with local Volunteer Fire Departments. Agreements with the following communities are now updated: Schuyler County, Lodi, Ovid, Interlaken, and Trumansburg.

Recommendations: Partnership agreements provide valuable services that help the Forest Service achieve desired management objectives. It is essential that agreements be kept current. Consider the development of agreements with outside partners, namely the Montezuma National Wildlife Refuge (NWR), in order to utilize NWR personnel and resources for implementing hazardous fuels projects including prescribed fire.

Evaluation Question:

Did teacher professional development in Forest stewardship occur?

Background: As described in the 2006 Forest Plan, the role of the FLNF reflects a history of demonstration and education that the Forest Service will continue to provide into the future. As a public land base that is close to several colleges and universities, it is the responsibility of the Forest Service to further the understanding and management of sustainable management of natural resources. The Forest Service is committed to promoting an awareness of natural resource management and a strong conservation ethic. Included in the role of the FLNF is the importance of working with local schools and communities to provide educational opportunities on the Forest.

Monitoring Activities: In alignment with the role of the FLNF, the Forest Service provided the following opportunities and assistance related to teacher professional development and opportunities to enhance the understanding of the FLNF:

1. Participated in Forest Field Days, Empire Field Days, and the Hector Fair where they passed out posters and information to teachers who visited the booth.
2. Participated with the Backbone Ridge History Group Passport in Time cemetery maintenance project—"Remember the Spirit of the Backbone"

3. Presentations on History of the Finger Lakes National Forest, Fossenvue, the nature and importance of Heritage sites on Forests,
4. Presentation to 4th Graders in the Farmer Boy Project about the agricultural history of the Finger Lake National Forest & Region
5. Participated in North East Forest Products Equipment Expo at Watkins Glen Race Track
6. Participated in Conservation Field Days at Samson State Park
7. Presentation at Ithaca College for incoming freshman
8. Participated in Cornell University Urban Landscape
9. Participated in National Public Lands Day

Recommendations: Continue to provide professional teacher development opportunities through the continuation of these programs and work toward ideas that get families and children into the natural world.

Forest Plan Implementation

Evaluation Question:

How do actual outputs compare to those projected in Forest Plan Appendix D, Proposed and Probable Practices, specifically related to heritage, recreation, roads, vegetation, rare, ecological, wildlife, and fisheries resources?

Monitoring Question: How close are actual outputs and services to projected outputs and services?

Monitoring Driver: A quantitative estimate of performance comparing outputs and services with those projected by the 2006 Forest Plan.

Background: See FY07 M&E Report.

Monitoring Activities: There were numerous outputs and services provided on the FLNF during FY 2009. These outputs are displayed in Table 2.1-2 Estimated and Actual Outputs Achieved in Fiscal Year 2009.

Evaluation and Conclusions: In 2009, resource areas' outputs ranged from zero to achieving the entire decadal estimate. Wildlife pond maintenance and heritage notably over achieved output estimates with nine wildlife ponds maintained and 1,500 acres surveyed for heritage resources. Although timber volume was offered and sold in 2007, the actual harvests have not yet occurred. This explains the lack of vegetation management outputs which should change in the near future.

Recommendations: Continue to monitor outputs and services to determine if there are shortcomings in services provided and/or if adjustments should be made to the estimated outputs.

Table 2.1-2 Estimated and Actual Outputs Achieved in Fiscal Year 2009 Forest Plan Appendix D, Proposed and Probable Practices					
Activity or Practice	Unit of Measure	Estimated Amount (Decade 1)*	Actual Amount Achieved in FY09	Actual Amount Achieved since 2006	Average amount achieved per year Since 2006
Recreation Resources					
Trail Improvement	Miles	3-6	0	0	0
Trail Maintenance – to standard	Miles	50-200	10	35	11.67
Trail Rehabilitation	Miles	20-40	NA	0	0
Trail Maintenance – total system	Miles	380	10	27	9
Vegetation Management					
Site Preparation/ Reforestation	Acres	250	0	0	0
Stand Improvement	Acres	80-120	0	0	0
Thinning Harvest	Acres	250-300	0	0	0
Shelterwood Regeneration	Acres	100-150	0	0	0
Shelterwood Removal	Acres	50-100	0	0	0
Selection Harvest	Acres	325-375	0	0	0
Clearcut	Acres	30-50	0	0	0
Wildlife, Fisheries, Rare Plant, Rare or Outstanding Natural Community Resources					
Shrub Opening Maintenance	Acres	1,000-1,500	164	532	177.33
Wildlife Pond Maintenance	Ponds	6	9	15	5
Pasture Maintenance					
Mowing	Acres	7,500-10,000	1,013	4028	1342.67
Liming	Acres	500-1,000	235	49.3	164.33
New Fencing	Miles	4-6	2.7	4.55	1.52
Reconstruct Fence	Miles	20-30	20	23.3	7.77
New Stock Pond	Ponds	3	0	0	0
Facilities	Facilities	5	0	3	1
Total Forage Production	Animal Unit Month	108,500	9,179	31352	10450.67
Non-Commercial Clearcutting of Aspen	Acres	80	0	0	0
Monitor condition of sites and species under special forest product permits	Sites	All	0	2	.67
Inventory for TES species and rare or outstanding natural communities	Acres	1,600	2,122	3,499	874.75

Table 2.1-2 Estimated and Actual Outputs Achieved in Fiscal Year 2009 Forest Plan Appendix D, Proposed and Probable Practices					
Activity or Practice	Unit of Measure	Estimated Amount (Decade 1)*	Actual Amount Achieved in FY09	Actual Amount Achieved since 2006	Average amount achieved per year Since 2006
Monitor known rare or outstanding ecological, biological, or geological features, including TES occurrences	Sites	All	2 rare or outstanding ecological features;	99	33
Prepare conservation plans for each rare or outstanding area	Sites	7	0	0	0
Establish RNAs	Sites	2	0	0	0
Protect known occurrences of TES species	Sites	All	All	All	All
Protect, and where feasible, improve or restore habitat conditions for TES species	Sites	All	0	368	122.67
Protect important habitat sites for TES bats	Roost and den trees	Adequate numbers of roost and den trees	Adequate	Adequate	Adequate
Update conservation assessments for RFSS	Species	All	0	0	0
Fish Stocking	Ponds	6	3	17	5.67
Fish Surveys	Surveys	3	1	4	1.33
Heritage Resource Protection Acres Surveyed	Acres	250-750	1,500	6700	2233.33
Agreements w/County Law	Agreements	2	1	4	1.33
NF land signs placed and/or maintained	Signs	20-30	0	42	10.5

Evaluation Question:

How do actual outputs compare to those projected in Forest Plan Appendix D, Proposed and Probable Practices, specific to timber offered and sold?

Monitoring Question: How close are actual outputs and services to projected outputs and services?

Monitoring Driver: A quantitative estimate of performance comparing outputs and services with those projected by the 2006 Forest Plan.

Background: See FY07 M&E Report.

Monitoring Activities: Forest Activity Tracking System (FACTS) was used to monitor timber offered and sold along with the type of timber harvesting practices used to implement the Forest Plan.

Evaluation and Conclusions: FLNF staff offered and sold 505 thousand board feet (MBF) or 821 hundred cubic feet (CCF) of sawtimber and pulpwood in FY 2007, roughly 200% of the Forest Plan Allowable Sale Quantity (ASQ) annual average of 258 MBF (420 CCF). ASQ is the maximum amount of timber volume that may be offered and sold during the 10 years of Decade 1, expressed on an annual basis. The harvest of this timber will occur in 2010.

Recommendations: Continue to monitor. With three years of Forest Plan implementation underway, and only one timber sale offered, it is too early to conclude that timber offerings will exceed the decadal ASQ. As such, the Forest Service will continue to monitor the sale of timber and pulpwood from the Finger Lakes National Forest. Currently, there are no projected new offerings of timber sales for the immediate future.

Estimates of Management Practices	Annual Acres in Decade 1 Acres	Acres Completed FY 2008	% of Annual Acres
Even-aged Regeneration Harvest	16	0	0
Even-aged Intermediate Harvest	35	0	0
Uneven-aged Harvest	36	0	0
Total Harvest	87	0	0

Evaluation Question:

To what extent is the Forest Service providing a mix of products, services, and amenities?

Monitoring Question: How close are actual costs to projected costs?

Monitoring Driver: Documentation of costs associated with carrying out the planned management prescriptions as compared with costs estimated in the Forest Plan.

Background: The cost of implementing the 2006 Forest Plan was based on current budgets for all program areas except the timber outputs. The cost of implementing the 2006 Forest Plan timber outputs was estimated to be \$315,000. The Washington and Region 9 Offices of the Forest Service track some outputs related to Forest Plan implementation, otherwise known as targets, on a yearly basis. Cost of providing these outputs can be estimated through FLNF staff work plans.

Monitoring Activities: Table 2.1-4 displays the targets that were achieved on the Green Mountain

and Finger Lakes National Forests in 2009, and the estimated cost for achieving that target. Information is presented as a collective report for the Green Mountain and Finger Lakes (GMFL) National Forests for FY09 as the information is tracked regionally in a combined report.

Table 2.1- 4: Fiscal Year 09 Target Accomplishments and Estimated Cost		
TARGET ACTIVITY	AMOUNT ACCOMPLISHED	ESTIMATED COST
Inventory and Monitoring		
Annual monitoring requirements completed	16 items	\$198,781
Inventory data collected or acquired to standard	34,295 acres	\$140,805
Forest Planning		
Amendments Underway	1	\$48,426
Facilities		
Forest administrative and other facilities maintained to standard	20 facilities	\$190,092
Recreation sites managed to standard	101 sites	\$64,309
Hazardous Fuels		
Treated to reduce the risk of catastrophic wildland fire	6,208 acres	\$115,693
Lands		
Land Acquisitions/adjustments	17 acres	\$149,323
Boundaries marked	17 miles	\$123,896
Non Recreation Special use permits administered to standard	44 permits	\$65,160
Non Recreation Special use applications processed	16 applications	\$64,295
Rights Of Way acquired	1 easement	\$5,000
Vegetation and Watershed		
Forest vegetation established	441 acres	\$60,000
Timber stand & genetic tree improvement	173 acres	\$35,873
Treated annually for noxious weeds and invasive plants	2,186 acres	\$72,407
Range land vegetation improved	1,366 acres	\$38,675
Soil and Water resource acres improved	58 acres	\$50,730
Wildlife, Fish and Threatened, Endangered and Sensitive Species		
Lake habitats restored or enhanced	32 acres	\$62,654
Stream habitats restored or enhanced	115 miles	\$214,225
Terrestrial habitats restored or enhanced	1120 acres	\$365,569
Range		
Grazing allotments managed to 100% standard	4,882 acres	\$71,546
Recreation		
Heritage assets managed to standard	39 assets	\$28,980
Recreation site capacity	443,580 PAOT days	\$261,537

operated to Standard		
Number of interpretive and conservation education plans implemented	1 Plan	\$46,645
Recreation special use authorizations administered to standard	20 permits	\$90,009
Trails improved to standard	0 miles	\$0
Trails maintained to standard	250 miles	\$260,6320
Wilderness Areas managed to standard	4 areas	\$73,527
Roads		
Roads decommissioned	1.5 miles	\$5,000
High clearance roads maintained	26 miles	\$70,000
Passenger car roads improved	9 mile	\$340,000
Passenger car roads maintained	69 miles	\$245,000
Lands covered by motor vehicle use map (MVUM) – includes development of the GM MVUM	16,212 acres	\$28,586
Timber		
Timber volume sold	7776 ccf	\$314,196

Evaluation and Conclusions: Tracking costs of Forest Plan implementation activities will provide program managers unit cost information that is helpful in the development of work plans and out-year planning. Over an extended period, tracking these costs can be used to develop management activity unit cost trend information. This will enable managers to make more informed decisions about the costs of management activities.

Recommendations: Continue to track Forest Plan implementation achievements and estimated costs to develop trend information, and improve efficiency and effectiveness.

Evaluation Question:

What activities have occurred in management areas? How have these management actions helped to achieve the desired future condition of the management area? Have activities occurred that detract from the desired future condition of the management area?

Monitoring Question: What are the effects of management practices prescribed by the 2006 Forest Plan?

Monitoring Driver: Forest Plan Management Area Guidance

Background: See FY07 M&E Report.

Monitoring Activities: A number of projects implemented in 2009 were reported to have clearly moved MA conditions toward the desired future condition for the respective management areas (MAs). These projects are:

Forest-wide Invasive Plant Control

The FLNF staff began implementing the Invasive Plant Control EA on 1267 acres of grassland in ten pastures through a contract with a local herbicide applicator. Grasslands were treated to eliminate bull and Canada thistles; spotted, brown, and meadow knapweeds. Grasslands were surveyed for rare plants and wildlife in need of protection before treatment.

Caywood Point Dumpsite Debris Removal

Durable metal goods and rubber tires disposed of along a 400 foot section of stream were removed, the NNIS species were controlled, and native vegetation was re-established in the stream corridor. This project will improve the hydrological and ecological function of the stream and associated riparian habitat. By removing the dump and restoring the site at Caywood Point, these activities achieve management direction intended to protect soil, water and riparian areas along streams, and maintain and protect the special recreational and educational value this northerly stream provides, an important objective for the Caywood Point Recreation and Education Special Area.



Caywood Point Dump Site Clean-up

Caywood Point Gate Installation and Bridge Removal

A single arm gate and associated rock closure north of the gate 0.5 miles from SR 414 along FR H38 (Caywood Point Road) was constructed to improve access to the Caywood Point Recreation and Education Special Area Management Area that provides access to Seneca lake and the historic Queen's Castle. During summer and fall months the gate will be opened and vehicular access will be allowed 0.5 miles along FR H38, to the proposed new gate location. Caywood Point Road was changed from an Operational Maintenance Level (OML) 1 to an OML 3 from mile 0.0 to mile 0.5. During winter months the existing gate located at the intersection of SR 414 and FR H38 will remain closed to vehicular traffic. A steel truss bridge closest to the lake was removed to reduce the public trespass and a timber bridge off the main trail was removed to alleviate potential safety related issues.

Hector Grazing Association Permit Re-issuance

The 1999 Allotment Management Plan (AMP) was updated in 2009 in order to bring the AMP into compliance with the 2006 FL Forest Plan. The AMP identifies area-specific strategies to implement livestock grazing and allotment management on the FLNF, and is the primary tool to implement activities in the Grassland for Grazing MA. The updated plan contains changes in the amount of land grazed, the number of animals grazed, the grazing prescriptions, watering area improvements, and invasive plant control methods. The AMP is implemented through a permit with the Hector Grazing Association. This permit was re-issued in 2009.

Wildlife Openings Maintenance

Implementation of a 5 year long project to maintain 1649 acres of grassland/shrubland began in 2009. The range of natural communities in the openings to be treated varies, and includes meadows covered by grasses and forbs, pastures, shrublands and thickets, encroaching trees, vineyards, and a blueberry patch. Maintenance activities entail the use of prescribed fire, prescribed fire and mowing, prescribed fire and strip mowing, prescribed fire and hand cutting, hand cutting and mowing, mowing, and chipping. The Wildlife Opening Maintenance project is intended to meet the desired future condition for following Management Areas (MAs): Grassland for Grazing which emphasizes pasture management for domestic livestock while also providing important wildlife habitat, Grasslands for Wildlife which emphasizes the maintenance of grassland/shrubland openings for wildlife habitat, Shrublands which emphasizes the maintenance of brushy openings for wildlife habitat and fruit production and Oak Hickory which emphasizes continuous forest cover but also provides for permanent and temporary openings.

Evaluation and Conclusions: These projects were designed to achieve Forest Plan objectives, to move the respective MAs closer to DFC for that MA, and to implement Forest Plan standards and guidelines.

Recommendations: Continue management activities that improve the DFC for the respective MA. Develop projects that will move toward the DFCs in other management areas. Continue to monitor progress in reaching DFCs.

Evaluation Question:

Are standards, guidelines, and mitigation measures being implemented on projects consistent with Forest Plan and project National Environmental Policy Act (NEPA) direction? Are these measures effective at achieving the desired results? Are there other measures that could be more effective?

Monitoring Question: To what extent have Standards and Guidelines been applied?

Monitoring Driver: Forest Plan Standards and Guidelines

Background: See FY07 M&E Report.

Monitoring Activities: S&Gs, design criteria and mitigations are monitored by individual resource specialists to determine if they are being implemented correctly; and, if implemented correctly, are these measures achieving the desired results.

Evaluation and Conclusions: The Caywood Point Dumpsite Removal project brings the stream corridor into compliance with Soil, Water and Riparian Area Protection and Restoration S-1 and implements NNIS S&Gs. The Invasive Plant Control project was designed to implement NNIS S&Gs on a forest-wide scale by minimizing the adverse effects of non-native invasive plant species on FLNF resources and by providing a wider range of available treatment methods.

No projects were reported to fail to implement Forest Plan Standards and Guidelines S&Gs) or National Environmental Policy Act (NEPA) decision mitigation measures.

Recommendations: Continue monitoring of projects by resource specialists to determine if projects are meeting their respective resource's S&Gs and mitigation measures. Continue to monitor and validate the effectiveness of S&Gs and measures. Conduct interdisciplinary monitoring field visits on larger and more complex projects that may occur in the future.

Evaluation Question:

Did any project require guideline deviation or a Forest Plan amendment to modify a standard? If so, what was the project? Which standard was changed or which guideline required deviation? What was the rationale for the change or deviation?

Monitoring Question: To what extent have Standards and Guidelines been applied?

Monitoring Driver: Forest Plan Standards and Guidelines

Background: See FY07 M&E Report.

Monitoring Activities: There were no amendments to the Forest Plan and no known deviations from guidelines in 2009.

Evaluation and Conclusions: Not Applicable.

Recommendations: None.

Recreation

Evaluation Question:

Is the Forest Service reducing deferred maintenance on developed recreation facilities and sites? Is the Forest increasing the number of recreation facilities that are maintained to standard?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: The FLNF has a number of small recreation facilities, and like most National Forest, has a limited budget to operate and maintain all the sites. The Forest is pursuing partners that can contribute to a portion of the maintenance, but this may not be sufficient to meet long term needs. With a desire to provide high quality recreation the Forest needs to monitor and determine if the management of recreation facilities is being improved. The recreation site monitoring that is being used began in FY 1999 as a result of Congressional direction regarding deferred



Potomac Shelter

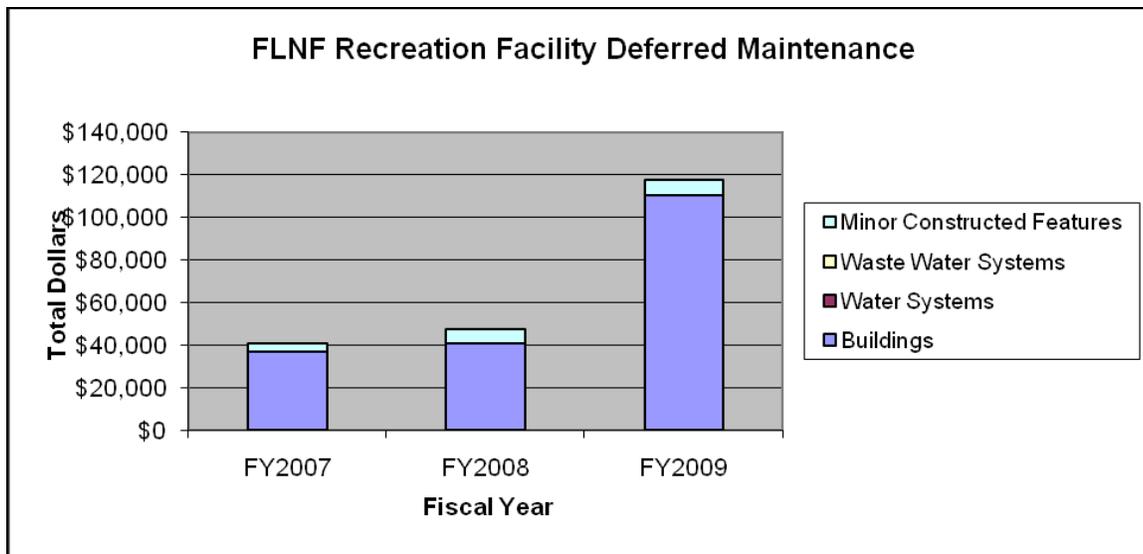
maintenance reporting. The Forest has completed a substantial level of monitoring and data clean-up since that time. During the first years of this process the Forest was required to sample approximately 20% of the facilities in any given year. The same strategy will continue to keep data current for Forest Plan monitoring through the life of the plan.

Monitoring Activities: During FY 2009, there were ten recreation site deferred maintenance condition survey completed on the FLNF due to a transition in staff and a focus to complete

monitoring on the Green Mountain NF. In order to stay on the 20% schedule, a total of four sites need to be monitored on the FLNF per year.

Evaluation and Conclusions: The protocols being used are consistent with national direction and provide very good information to answer this monitoring question. A more thorough review of FLNF recreation site data was completed in FY 2007 in conjunction with a comprehensive Recreation Facility Analysis. It appears the existing protocols will be adequate to maintain data sufficiently to answer this monitoring question. In the future, changes in national standards may require an adjustment in monitoring procedures.

At the end of FY 2009 deferred maintenance for recreation facilities on the FLNF was approximately \$117,652. This represents a 147% increase from FY 2008. This increase is due to an updated condition survey on the Queen’s Castle at Caywood Point. This historic structure is in need of repairs to the foundation. All other deferred maintenance expenses are relatively the same as in previous years.



	FY2007	FY2008	FY2009
Buildings	\$37,299	\$40,750	\$110,394
Water Systems	\$0	\$0	\$0
Waste Water Systems	\$0	\$0	\$0
Minor Constructed Features	\$3,748	\$6,848	\$7,258
Total	\$41,047	\$47,598	\$117,652

Recommendations: Continue to use the existing protocols for monitoring recreation site deferred maintenance. Focus on updating the INFRA databases the same year deferred maintenance projects are completed in the field for more accurate reporting of figures. Monitor recreation facilities on a more consistent 20% (or 4 sites) per year schedule to ensure consistency in reporting.

Evaluation Question:

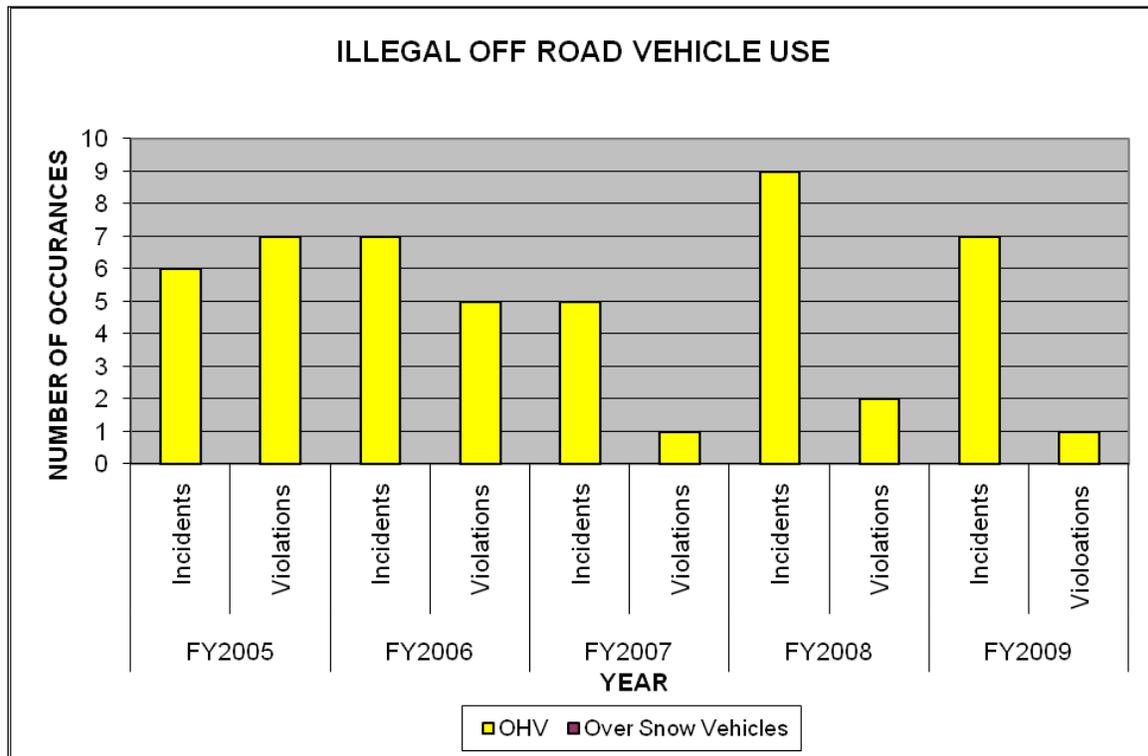
What are the trends in the illegal use of vehicles off roads?

Monitoring Question: Is the use of vehicles off roads causing considerable adverse effects on resources or other forest visitors; how effective are forest management practices in managing vehicle use off roads?

Monitoring Driver: 36 CFR 295 Use of vehicles off roads shall be planned, implemented and monitored in order to protect resources and visitors from considerable adverse effects, promote public safety, and minimize conflicts with other uses of the National Forest System lands

Background: There is a long standing concern about the illegal use of motor vehicles on the FLNF. This is well documented in both the 1987 and the 2006 Forest Plans. In addition this is a national issue that prompted a significant change in policy and direction regarding wheeled motorized vehicles. Though a substantial issue, the development of monitoring protocols is difficult due to the scattered nature of violations that often happen in remote areas at nights and during time periods when there are few patrols available. It was decided to utilize existing protocols used by law enforcement personnel as the starting point for monitoring this activity. Additionally, site specific analyses also document unauthorized vehicle use as part of the description of existing conditions.

Monitoring Activities: In FY2009, monitoring continued in conjunction with routine law enforcement patrols. Additionally, a focused effort of trail condition monitoring was completed and incidents of illegal use of vehicles off road were also recorded. As patrols and trail condition inventories document incidents or the issuance of notices of violation, the records are recorded and entered into a database. Data is entered and stored in the Law Enforcement and Investigation Management Attainment and Reporting System (LEIMARS). Retrieved data can be used to show some trends, though there are some limitations since the data is dependent on the availability of personnel.



Additionally, through site-specific analyses efforts are made to assess the existing condition of unauthorized wheeled motorized uses. There were no site specific analyses on the FLNF that assessed unauthorized motorized uses in FY2009.

Evaluation and Conclusions: As a starting point, data entered the last five fiscal years is displayed. This shows current trends and provides baseline quantitative data to which monitoring can be added annually. Data are separated into Incidents (includes warnings and visual identification of a violation) and Violations where somebody receives a citation for the infraction. Starting in FY2007, data has been entered to show the differences between summer off-highway vehicles and over snow vehicles. There have been no incident reports or violation notices for over snow vehicles on the FLNF since 2007.

The data shows a relatively consistent trend from FY2005 to FY2009 for incidents and violations of illegal off road use on the Finger Lakes NF. There was a drop in incidents and violations in 2007. Law enforcement personnel think the drop may be related to a reduction in actual staff time in the field due to other assignments or may mean fewer incidents are actually occurring. This observation may be reinforced with the return of the previous years' trends in 2008 and 2009 where the FLNF was fully staffed and better equipped to monitor illegal OHV activity. The data in any given year is dependent on availability of law enforcement personnel so short term trends like this need to be considered accordingly. Two consecutive years of significantly higher, or lower, data would indicate a probable change in the amount of illegal use but further monitoring should occur to validate this information. Though it is desirable to use this protocol since it is an existing national data system, it is recognized that more work is needed to refine these protocols to expand on this information.

Recommendations: Continue to work with law enforcement to refine methods of collecting and analyzing data so that summer off-highway vehicle and over snow vehicle incidents are accurate and mapped with GIS. Add more qualitative data such as narratives based on site specific project analyses and monitoring.

Evaluation Question:

Is the amount of deferred maintenance on the FLNF trail system being reduced?

Monitoring Question: Is the quality of the Forest Service trail system and recreation facilities being improved through operation and maintenance?

Monitoring Driver: Forest Plan Goal

Background: The FLNF has a popular and diverse trail system, and like most National Forests, has a limited budget to operate and maintain the trails. There are a few partners that contribute to some portion of the maintenance, and FLNF staff is pursuing the development of additional cooperators. Though desirable, this still may not be sufficient to meet long term needs. With a desire to provide high quality recreation and trails, FLNF staff monitors to determine if the system is being improved. The trail system monitoring currently being used began in FY 1999 as a result of Congressional direction regarding deferred maintenance reporting. Some level of monitoring and data clean-up has been completed since that time. During the first years of this process, FLNF staff was required to sample 20% of the trail system in any given year. More recently the national trail monitoring strategy has changed to a sample of pre-selected trails nationwide.

Monitoring Activities: In FY 2009 the Forest completed monitoring on one trail in the FLNF, the Interloken Trail.

Evaluation and Conclusions: The protocols normally used for this monitoring are consistent with national direction and provide very good information to answer this monitoring question. In FY 2007, monitoring procedures were reviewed and it was determined that the national sampling procedure will be insufficient to maintain accurate data on a long-term basis for local needs. It is recognized that surveys can be completed to a higher standard as long as survey procedures meet national requirements.

The FY 2007 baseline deferred maintenance costs for the FLNF trail system is \$72,596. The current FY09 deferred maintenance cost has increased significantly to \$1,123,646 after completing a condition inventory for the Interloken Trail. The high cost of deferred maintenance on the Interloken Trail is attributed to the need to replace a large amount of no-deck puncheon. This trail feature is used to provide resource protection of wet areas along the trail and is constructed of running planks of dimensional lumber on a wood base. There are long sections of this feature that have reached the end of its service life span.

Recommendations: Continue to use the existing monitoring protocols for the near-term, and consider utilizing our own sampling procedures to ensure the data is updated. Changing national direction that is trending toward reduced sample size is reducing the quality of our data. It is recommended that a larger sample be completed when funding allows.

It is also recommended that, in conjunction with planned trail data clean-up, deferred maintenance data be critically reviewed and updates for future monitoring reports be completed.

Evaluation Question:

How well is the Forest using partnerships to assist in the operations and maintenance of the Forest trail system?

Monitoring Question: To what extent have objectives been attained?

Monitoring Driver: Forest Plan Objective

Background: The 2006 Forest Plan emphasizes cooperative trail management with user groups. Utilizing partners to assist in maintaining trails helps stretch appropriated budgets while at the same time creating community interest in a sustainable trail system. The FLNF staff has had limited success in the past with developing long-term relationships with user groups to assist in the management of the trail system. It was decided that there would be an emphasis in developing strong relationships for cooperative trail management for long-term goals of reducing deferred maintenance and providing diverse, high quality recreation opportunities.

Monitoring Activities: In FY2009, monitoring consisted of keeping track of individual volunteers and organizations that assisted in trail management activities. All partners working on the trail system enter into a written agreement with the Forest that outline the terms and conditions of the cooperative relationship. These written instruments are kept on file at the District office.

Evaluation and Conclusions: In general, there are two types of partners that assist in trail management activities on the FLNF that include trail organizations or clubs and individual or group volunteers. Trail organizations that assisted in trail maintenance activities in FY09 included the Twin Lakes Snowmobile Club and Finger Lakes Trail Association. The Forest also had numerous individual and group volunteers from local colleges, boy scouts and interested citizens that assisted in trail maintenance activities.

The most efficient type of partners are those that are technically proficient in trail management, and can generate and supervise their own workforce requiring very little oversight from FS staff. The Twin Lakes Snowmobile Club and Finger Lakes Trail Association are models of these types of organizations. Utilizing individual and group volunteers for trail management activities do require more direct oversight from FS staff, but also provide opportunities for gaining public support of Forest resources and creating the next generation of trail managers.

Recommendations: Continue to monitor how well partners are being utilized to cooperatively manage the trail system on the FLNF. In the future, improve monitoring of the amount of time spent by organizations working on trails. Better define the benefits of cooperative trail maintenance in terms of budget, benefits to community health and support for FLNF programs.

Visuals

Evaluation Question:

Is the FLNF being managed in accordance with the Forest Plan Visuals Standards and Guidelines (S&Gs) and are the Visuals S&Gs and any additional site-specific design criteria effective in helping to meet the Visual Quality Objectives (VQOs)?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: A patchwork pattern of forested areas and open pastures, shrublands and grasslands have created a unique aesthetic for which the Finger Lakes National Forest is characterized. Although timber has not been harvested on the FLNF since 2002, past monitoring has shown that visual quality was achieved through strict application of S&G's.

Monitoring Activities: In FY09 visual monitoring on the overall appearance of the FLNF was accomplished while doing field work on project planning for future projects.

Evaluation and Conclusions: The overall appearance of the FLNF met the VQO's.

Recommendations: Continue to monitor the visual resource for compliance with Forest Plan standards and guidelines. Look for opportunities for visual enhancement along roads, trails and recreation sites within the Forest.

Heritage

Evaluation Question:

Have Heritage Resource program management objectives (FLNF Plan Goal #10) related to: backlogged site evaluations; meeting curation guidelines; increasing partnerships for Section 110 activities; consulting with Tribes; and incorporating heritage components into historic building management plans been addressed?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: These needs were identified in the course of Forest Plan Revision, and have been addressed incrementally since FY06-FY07.

Monitoring Activities: Some of the objectives were identified in the annual heritage program of work, and included in the heritage work plans. These included substantial Section 110 and Partnership activities, continued work with Tribes, and historic building management.



Backbone Ridge History Group Doing Cemetery Restoration

Evaluation and Conclusions: Progress was made on all these fronts – Section 110 (“Heritage outreach”) activities were numerous: the FS partnership with the Backbone Ridge History Group continues and expands to great mutual benefit; the FS relationship with the Western Michigan University archaeological field and research team continues; site evaluation backlog was addressed tangentially by improving the quality of information in our site data base (“I-Web”); contact with the Seneca Nation of Indians, who

have a vested interest in the FLNF Forest, continued; proposal and design for the restoration of the National Register of Historic Properties-listed “Queen’s Castle” moved forward; and the so-called “Headquarters Building” is receiving over-due maintenance from the Hector Grazing Association tenants.

Recommendations: Continue with these activities and, as possible, address site evaluation, curation and historic building needs, particularly the Queen’s Castle at Caywood Point.

Evaluation Question:

Have Heritage Resources across the FLNF been inventoried and protected?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report.

Monitoring Activities: A Forest Service archaeologist (on detail from the White Mountain National Forest) and a Hector Ranger District employee conducted broad-scale site inventory surveys on the FLNF. At the same time, they monitored the condition of known sites within the survey areas.

Evaluation and Conclusions: While direct observation is a reasonable and direct method for assessing site condition, the frequent lack of baseline data (i.e., prior condition reports to compare with the present condition) makes it difficult to document change over time. By establishing baseline information through off-site sources (e.g., through interviews with long-term Forest employees and volunteers interested in historic sites), at least informal baseline for site conditions for a majority of the 100+ historic period sites on the Forest could be established. The resulting knowledge about the nature of condition change over time (e.g., changes caused by natural

processes vs. human activity) will help inform the Forest Service about how to minimize these changes. It is relevant to note here that the results of the 2006 SUNY Brockport archaeological field school research includes the conclusion that sites located in grazing allotments that otherwise appear (visually, at least) to be severely compromised do, in fact, yield interesting and useful data. Thus, the appearance alone (and visual surface evidence of site disturbance) does not mean the site is not worth protecting.

Recommendations: Continue both inventory and monitoring activities in combination with establishing better baseline data about site conditions.

Soil

Evaluation Question:

Were Forest Plan Standards and Guidelines (S&Gs) and mitigation measures implemented on selected projects, and to a lesser extent, were they effective in protecting the soil, water and wetland resources? Are soil quality standards met?

Note: For additional information related to soil resources, see Section 5: Forest Plan Management Area Guidance, Evaluation Question #5.

Monitoring Question: To what extent are Forest Service management and restoration activities maintaining or improving soil quality?

Monitoring Driver: Forest Plan Goal 3

Background: See FY07 M&E Report.

Monitoring Activities:

- 1. Shrublands treated via prescribed burning.** The Cemetery and Vesa shrublands were monitored in the spring of 2008 to determine the effects of prescribed burns on soils. Monitoring was observational, and based on the fact that low intensity burns have minor effects on soil chemical, biological and physical properties. Specifically, a low intensity burn means:
 - The soil organic layers (called the O-horizons) are not fully consumed.
 - Erosion and stream sedimentation are absent following a burn.In 2008, FLNF staff observed whether these two conditions were met in two burned areas.
- 2. Riparian Fencing in Pastures.** Riparian areas, including stream and wetlands, are being fenced in FLNF grazing pastures. The purpose of fencing is to exclude livestock grazing from these areas. Over the long-term we expect this will improve stream water quality, aquatic habitats, riparian vegetative cover, and stream bank stability. FS staff monitored the Tunison and Hawse pastures in 2008. A stream, wetland, and their riparian areas were fenced in the Tunison Pasture in 2007 and 2008. Fencing in the Hawes pasture was installed several years ago.
- 3. Soil Quality Standards.** Soil quality standards are currently being revised for National Forests in the northeastern U.S., a major factor in our decision not to monitor compliance with standards in 2008. Revisions are expected to be done by 2010, at which time FS staff will initiate compliance monitoring. In the meantime, FS staff conducted the shrubland and riparian area monitoring (see items 1 and 2 above), which are other types of soil quality monitoring.



FLNF Soil Scientist determines how much of the soil organic layers remain following a prescribed burn.

Evaluation and Conclusions:

1. **Shrub lands treated via prescribed burning.** Both burned shrub lands met the two criteria for a low intensity burn. Specifically,

- In the Cemetery shrub land, approximately 90% of the ground surface was burned. Very little of the area (an estimated 1%) burned hot enough to fully consume the organic horizon. Overall, an average of 50% of the organic layer was consumed by fire. There was no soil erosion or stream sedimentation.

- In the Vesa shrub land approximately 75% of the ground surface was burned. No areas burned so hot as to fully consume the organic layer. Overall, an average of 50% of the organic layer was consumed by fire. There was no soil erosion or stream sedimentation.

2. Riparian Fencing in Pastures.

Fencing in the Tunison pasture was well located and installed, and should improve the condition of surface waters and wetlands in the pasture. In the Hawse pasture, fencing has enabled part of the riparian area to revegetate. Cows and calves, however, occasionally get inside the fenced area due to a gate being left open. This has slowed stream bank revegetation and stabilization. FS staff plans to follow-up by installing a gate that automatically closes or a turnstile design, so that cows will not pass through it.

Recommendations: Continue to monitor the effectiveness of pasture fencing on stream water quality, aquatic habitats, riparian vegetative cover, and stream bank stability. Also, annually monitor the effects of projects, focusing on those with the highest risks or effects to soils.

Water

Evaluation Question:

What is the existing status of water quality on the FLNF, and how are Forest Service management activities affecting water quality?

Monitoring Question: To what extent is Forest Service management affecting water quality, quantity, flow timing, and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland habitats?

Monitoring Driver: Forest Plan Goal 4

Background: See FY07 M&E Report.

Monitoring Activities: Water quality is a critical component of aquatic, riparian, fisheries, and wetland resources. In 2008, the water quality monitoring on the FLNF consisted of continuing the monitoring of control streams and ponds, recreational fishing ponds, and for the second year,

monitoring a future timber sale. All monitoring was conducted bi-weekly from late spring to early fall.

Evaluation and Conclusion: The 2008 water quality monitoring at the control sites showed elevated levels of phosphorus above NY State standards, probably due to historic agricultural land use practices.

The 2008 water quality monitoring at the recreational fishing ponds showed elevated levels of phosphorus and turbidity, due to runoff and sedimentation from nearby agricultural land and historic agricultural land use practices.

The 2008 water quality monitoring of a future timber sale showed normal levels of turbidity.

Recommendations: Continue water quality monitoring of: control streams and ponds, recreational fishing ponds, and active timber sales.

Riparian, vernal pool, and wetland habitats are being identified on the FLNF by surveys and inventories being conducted during the planning stages of inter-disciplinary projects, in order to protect, manage, and improve the condition of those resources. Monitor riparian, vernal pool, and wetland habitats before and after management activities to determine management effects. Continue water quality and flow monitoring on the FLNF as long as funding is available.

Fish

Evaluation Question:

Are fish populations in ponds being maintained at levels sufficient to support recreational fisheries or natural reproduction? If not, is supplemental stocking or habitat improvement required?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Standards and Guidelines for Fisheries

Background: Many ponds on the FLNF contain a healthy population of Largemouth bass. This is the result of a forest-wide stocking program that began in 1981 when approximately twenty ponds were stocked with bass. Fish surveys in the late 1980s focused on documenting bass survival and identifying the ponds where bass were being sustained through natural reproduction. This pond monitoring has continued on a regular basis since that time.

Our management objective is to maintain a number of quality wildlife ponds throughout the forest through fish habitat improvements, and enhancing recreational fishing opportunities by improving access and aquatic resource education and interpretation. Supplemental stocking of bass and non-game fish such as bluegill and Golden shiner has been done as needed based on data gathered from monitoring surveys.

Monitoring Activities: In 2009, visual observations were conducted at several ponds as District staff conducted management activities such as fencing and mowing around the ponds.

Evaluation and Conclusions: In 2009, no fish kills were reported. Fish kills occur when decaying organic material in the pond results low oxygen level.

To support the put-and-take fishery in Foster, Potomac and Ballard ponds, NYDEC stocked approximately 560 brook trout. Additional stocking of Rainbow trout by the Forest Service into Potomac Pond help support the 2009 Kid's Fishing Derby.

To support a put-grow bass fishery in Teeter, Turtle, Gorge and South Gorge Ponds 4-6 inch Largemouth bass were stocked.

Recommendations: Conduct regularly scheduled fish populations monitoring in wildlife ponds to determine if natural reproduction is evident. Where natural reproduction is not occurring, or winter-kill has reduced fish populations, supplemental stocking may be done.

Evaluation Question:

Is habitat quality and quantity being maintained in FLNF ponds? Is aquatic vegetation encroaching upon more of the surface area of the ponds? Are water control structures well maintained and do they support adequate water levels in ponds?



Finger Lakes Pond Frog

Monitoring Question: To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species?

Monitoring Driver: Forest Plan Goal 4

Background: One of the FLNF Plan objectives is to provide suitable fish habitat in ponds for resource protection and recreational fishing purposes. Over the past decade or so, the FLNF staff has completed several fish habitat improvement projects to enhance habitat conditions for fish and other aquatic species in several ponds. These activities have included placement of trees and root fans for fish shelter

and protective cover. The structures also provide quality habitat for aquatic insects, amphibians, and other invertebrate species such as crayfish. Periodic habitat inventories and fish surveys provide the monitoring information necessary to determine if habitat improvement projects would benefit aquatic species in the ponds. In addition, other activities such as maintaining water control structures and dredging to deepen ponds and to reduce over-abundant aquatic vegetation have been performed over the years to maintain suitable habitat for fish and other aquatic species.

Monitoring Activities: Visual observations were made of pond vegetation while staff conducted management activities around the ponds.

In FY08, all water control structures in ponds were monitored to determine if water levels were being properly maintained. No other habitat monitoring was conducted in 2009.

Evaluation and Conclusions: Visual observations showed no significant increase in aquatic vegetation or aquatic invasive species with the exception of Foster Pond where a Forest visitor complained about the amount of Elodea on the pond surface. Elodea (*Elodea Canadensis*) is a native plant that provides fish and wildlife habitat value in ponds and lakes.

In FY08 all water control structures were functioning properly at all of the wildlife ponds except for Burdick pond where the outlet structure has been clogged with debris.

Recommendations: Continue to monitor the Elodea in Foster Pond. If the spread of the plant begins to reduce the quality of recreational fishing partial removal may be considered.

In FY09, environmental analysis was conducted for a project to lower the pond level to reduce impacts from beavers plugging the outlet. This project will be implemented in 2011 or when funds become available.

Wildlife

Evaluation Question:

Do we have bald eagles on/near the FLNF? Are they nesting? Are they nesting successfully? Do they need site-specific protection or habitat management?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Goal 2

Background: See FY07 M&E Report.

Monitoring Activities: In FY09 Forest Service staff continued working cooperatively with local conservation organizations, and State and Federal agencies. Each year, as the New York and Nation-wide bald eagle population increases, individuals eagles are sighted more often in and around the FLNF. Each sighting is noted, considered, and follow-up actions including area surveys and monitoring occur to determine the status of the bird sighted.

Evaluation and Conclusions: Given the visibility of the Bald Eagle to the general public and to agencies tasked with tracking populations of this species, it is likely that the FLNF staff will be made fully aware of any nesting eagles located on the FLNF. If and when this happens, a more site specific analysis of the management guidelines for the area hosting such a nesting pair would need to be evaluated.

Recommendations: No changes needed at this point.

Evaluation Question:

Do Indiana and Eastern Small-footed bats roost, forage, hibernate on the FLNF? Do they need protection or habitat management?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Goal 2

Background: See FY07 M&E Report.

Monitoring Activities: In FY09 FLNF, staff did not initiate or participate in any monitoring activities on the FLNF. The FLNF staff did continue working cooperatively with State and Federal agencies in monitoring and surveying for bats.

Evaluation and Conclusions: No further evaluations or conclusions were made as the result of the FY09 monitoring year.

Recommendations: The FLNF staff will continue to participate in woodland bat survey and monitoring; efforts designed to better understand how, and where, all woodland bats and the federally endangered Indiana bat in particular, use the NY landscape.

Evaluation Question:

Do West Virginia whites occur on the FLNF? Do they need protection or habitat management?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Goal 2

Background: See FY07 M&E Report.

Monitoring Activities: Monitoring activities included primarily volunteers who spent hundreds of hours in FY09 surveying for odonates and lepidopteron spp. Surveys occurred at various times of the year, and have provided information on over 50 individual butterfly species and over 60 individual species of damselflies and dragonflies. Other monitoring activities were not as focused, but included several hours of directed surveys of pastures and forested stands for breeding birds and Management indicator species, where other butterfly species were identified and noted.

Evaluation and Conclusions: Monitoring activities to this point have resulted in a relatively complete documentation of all lepidopteron species occurring on the FLNF, but are not complete enough to provide a basis for any conclusions at this point.

Recommendations: Continue to work with volunteers and staff to survey and monitor sites for lepidopteron species including the West Virginia White, and increase the number of sites monitored each year as time and funds allow.

Evaluation Question:

What are the population trends of northern goshawk on the FLNF and adjacent lands?

Background: Due to the size of the Finger Lakes National Forest, Goshawk populations are restricted to one or two pairs of nesting birds. Goshawk pairs require large territories with a wide variety of habitat conditions to nest forage and raise their young.

Monitoring Activities: Monitoring activities for Goshawks primarily consists of documenting reported sightings of goshawks, and visiting active nest sites when these sites have been found and reported to the Biologist.

Evaluation and Conclusions: Over the years it has been common for forest visitors, volunteers and staff to report seeing, or hearing goshawks or goshawk nests. In general there seems to be an active nest somewhere in the southern portion of the FLNF each year, and one in the Northern portion of the FLNF each year. The Goshawk pair nesting in the southern portion of the FLNF is generally reported more often as its nesting sites are in close proximity to local trails and forest facilities.



Goshawk Nest

Recommendations: Continue to monitor Goshawks by documenting reported sightings and nest stands. These records can be used to aid in the development of FLNF vegetation management plans for the protection and habitat enhancement of the local pairs.

Evaluation Question:

What are the conditions of grasslands and pastures on the FLNF? What are the vegetative conditions and wildlife use patterns of grazed and non-grazed grasslands? Do maintenance programs produce desired conditions?

Background: Grasslands on the FLNF have been established for many years and are maintained primarily through the use of livestock grazing, and mechanical treatments such as mowing or burning. The Grasslands on the FLNF continue to provide a refuge for grassland species such as Neotropical birds, and game animals such as deer and turkey. The Grasslands on the FLNF are becoming increasingly impacted by the invasion of nonnative invasive species (NNIS), and other vegetation invasives wherever management activities such as grazing and mowing have not occurred.

Monitoring Activities: There are a variety of Monitoring activities that occur on the grasslands of the FLNF. Grassland birds are monitored on select pastures each year to determine species composition prior to management activities. Pasture ponds have been monitored for odonates, and the grasslands and surrounding habitats have been surveyed for butterflies. While conducting these monitoring activities, and surveys, notes are compiled regarding the percent cover of various invasive species such as the native goldenrods and NNIS.

Evaluation and Conclusions: The spread of NNIS will continue to alter grassland habitats. Grasslands for grazing and grasslands for wildlife are often dominated by grassy and herbaceous vegetation. Infestations of NNIS, such as shrubs or densely growing species such as multiflora rose could cause substantial habitat changes and reduce or eliminate suitable habitat for grassland nesting birds.

Recommendations: Continue to increase the use of herbicides, mowing, prescribed fire, and grazing to maintain healthy vegetative conditions of the grasslands on the FLNF. Rely heavily on yearly monitoring of grassland birds and invasive species to direct resources to the areas of greatest need.

Wildlife: Management Indicator Species

Evaluation Question:

What are population trends of Management Indicator Species (MIS)? To what extent are MIS responding to Forest Service management of suitable habitat?

Monitoring Question: To what extent are forest management activities providing habitat for MIS?

Monitoring Driver: Forest Plan Goal 2, Maintain and restore quality, quantity, amount, and distribution of habitats to produce viable and sustainable populations of native and desirable non-native plants and animals.

Background: See FY07 M&E Report.

Monitoring Activities: FLNF staff continues working cooperatively with local volunteers, conservation organizations, and State and Federal agencies to gather data for FLNF MIS. In FY09

FLNF staff and volunteers collected data on American woodcock, and ruffed grouse and chestnut-sided warblers. Monitoring was done in an effort to add data and continue the pursuit of quantifiable information that will determine the trends of populations and their habitats as the result of the FLNF's management practices. Each monitoring activity was completed using forest staff and volunteers following protocols established for that purpose in 1982.

Evaluation and Conclusions: MIS survey data have been collected since the mid 1980's. This data was assessed in FY2001 in an effort to detect trends; data collected since then has not changed that assessment.

Recommendations: Continue collecting data and assessing every opportunity to increase effectiveness and methods of data gathering, and public participation.

Evaluation Question:

What are habitat trends for MIS? To what extent is FS management accomplishing desired distribution of age class and habitat type as desired and outlined in Forest Plan objectives?

Monitoring Question: To what extent are forest management activities providing habitat for MIS?

Monitoring Driver: Forest Plan Goal 2, Maintain and restore quality, quantity, amount, and distribution of habitats to produce viable and sustainable populations of native and desirable non-native plants and animals.

Background: See FY07 M&E Report.

Monitoring Activities: In FY09 monitoring activities including species specific surveys and general biological surveys for chestnut-sided warblers, ruffed grouse, American woodcock, and the grassland bird species were conducted.

Evaluation and Conclusions: The survey and monitoring protocols are effective in that they are easy to follow, and they can and do provide information that can be duplicated each year. The monitoring protocols, however, are limited in the amount of data they can provide, and one must use the data in conjunction with other information gathered at the state and even regional levels. It is clear that the desired conditions for forest age class and species composition will be difficult to obtain. Local opportunities exist to improve and maintain habitats necessary for the maintenance of MIS populations and habitats.

Recommendations: Continue to increase monitoring, evaluation, and partnerships with the goal of obtaining more and greater reliability of data.

Grazing Resources

Evaluation Question:

Is the Forest Service maintaining forage production sufficient to support approximately 10,000 Animal Unit Months (AUMs) annually?

Monitoring Question: To what extent have Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: Field measurements to evaluate forage availability was not formally done in 2009 because of limited available time for staff already involved in spraying contracts for non-native invasive plants. However, visual estimates while doing other work in pastures throughout the season does indicate that significant summer rainfall did provide for good overall forage growth. Also, livestock owners reported good weight gains on stock overall in FY09. Forage measurements are planned in FY10 that will provide an assessment of productivity on pastures.

Monitoring Activities: Typically, up to 30 samples per pasture are collected of cool season grasses and forbs. The sampling scheme used divides all 39 pastures into six forage productivity classes. Samples are taken from one pasture of each representative soil type within each class. Clippings of each forage type (grasses, legumes and undesirables) are collected and dried to determine a green weight to dry weight conversion factor.

Evaluation and Conclusions: Although the early mowing of goldenrod and herbicide treatments for nonnative invasive plants successfully reduced targeted vegetation in FY09, repeated herbicide treatments are needed for knapweed and thistles in an effort to reduce the surviving seed bank within the soil. Monitoring is planned to assess the effectiveness of this ongoing treatment intended to enhance forage quality and grassland habitat conditions.

Recommendations: Goldenrod and non-native invasive species continue to pose management challenges to long-term livestock grazing and forage production. Control activities approved in the environmental assessment completed in 2008 guide the efforts to improve forage and wildlife habitat within grasslands. The use of herbicides, experimental sheep grazing, rotational grazing with cows, biological controls (i.e. release of approved insects), and earlier mowing for goldenrod are expected to contribute toward long-term enhancement of forage quality in pastures. These activities should continue.

Evaluation Question:

Is the Forest Service providing functioning livestock watering facilities to support approximately 10,000 Animal Unit Months (AUMs) annually?

Monitoring Question: To what extent have Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report

Monitoring Activities: Forest Service rangeland staff and Hector Cooperative Grazing Association (HGA) annually inspect all watering facilities in place to assess maintenance and adequacy of systems. HGA provided maintenance activities throughout 2009 including valve and cement trough repair in two pastures. In FY09 the Association also built replacement fencing in Horton Pasture to exclude livestock from the upper pond. Total Animal Unit Months in 2009 supported with functioning watering facilities was approximately 9,179 AUMs.

Evaluation and Conclusions: Of the 44 manmade ponds forest wide providing water to livestock, reviews throughout 2009 indicate that although all were functioning, several require dredging to remove sediment and to repair earthen dams damaged from nearly 40 years of natural, rodent (i.e. beaver and muskrat), and livestock-caused bank erosion. The Burdick Pasture pond was dredged in 2009 to remove sediment and to repair breached areas of the dam on it. New fencing also was built to keep cows away from the dam. Additional ponds identified in the 2008 Allotment

Management Plan environmental assessment will continue to be prioritized for repair as funding allows. Also, repair and replacement of pipeline and trough fixtures will continue to ensure livestock watering needs are met.

Recommendations: HGA should continue seeking innovative ways to fund watering facility maintenance needs. HGA routinely provides maintenance and monitoring of watering areas, but, additional new fencing to enhance water quality and riparian protection in pastures for wildlife and livestock will result in increased costs. Monitoring is expected to continue in 2010 to ensure livestock facilities are providing sufficient water.

Botanical Resources

Evaluation Question:

What are the population trends for sensitive plants on the FLNF? To what extent is management sustaining or enhancing habitat conditions for populations?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Goal 2

Background: See Fy08 M&E Report.

Monitoring Activities: No changes to the plant RFSS list have occurred since it was updated in FY06, and FLNF staff continue to track 15 plant species (see Appendix A). The Forest Botanist maintains a list of species to be evaluated during the next region-wide RFSS list update; this list currently has twelve species on it, of which ten were found in grasslands, one was found in a hedge row, and one in a pond. During the waiting period, any management activities that might affect rare plants not on the RFSS list would be discussed, along with potential protective measures, with NYNHP. Monitoring activities in FY09 (see Table 1) have included:

- Botanical inventory of 2,122 acres of grasslands, with all rare plants and non-native invasive plants documented for each of the grasslands.
- Most populations of RFSS that occur at Caywood Point.
- In total, 8 plants on the RFSS list (13 populations) were monitored by Forest staff and contractors; plants monitored included:
 - 3 species of wildflowers (3 populations)
 - 2 species of grasses, sedges, and rushes (2 population)
 - 4 species vines, shrubs, and trees (9 populations)
- New occurrences were found of the following RFSS:
 - *Celastrus scandens* (4 populations)
 - *Juglans cinerea* (2 populations)

Eleven populations of rare plants that are not RFSS were monitored because they were newly discovered in either grasslands or at Caywood Point (some are not likely of viability concern, while others may be evaluated during the next RFSS list update):

- *Allium cernuum*
- *Carex annectans*
- *Carex hirsutella*
- *Crataegus boyntonii*
- *Epilobium strictum*
- *Gentiana clausa* -2 populations

- *Glyceria melicaria*
- *Lobelia cardinalis*
- *Teucrium canadense*
- *Symphyotrichum firmum*

Monitoring protocols were consistent with NRIS TES Plants, the new USDA Forest Service corporate database.

Evaluation and Conclusions: In previous years we reported discrepancies between different sources of data for many populations and imprecise location data for many populations, making relocation difficult, at best. Progress was made when several populations of RFSS at Caywood Point were relocated in FY09. The highlight of the season was that, due to the large number of grasslands inventoried, more new populations of RFSS and other rare plants were found than in any previous year.

Recommendations: With the completion of the Finger Lakes Invasive Plant Control environmental assessment, more and new types of management are occurring in Finger Lakes grasslands that in the past. These management activities have the potential to greatly improve habitat for rare plants if implemented with suitable protective measures. The two recommendations are to 1) monitor these grassland plants after management activities and 2) continue botanical inventories until all grassland have been inventoried.

As was recommended in FY08, search for small patches of *Lilium canadense* (Canada lily) that have been reported elsewhere on the FLNF. While the one known location was searched in FY08, with negative results for the second time, no searches in new sites have occurred. Search the known site one last time prior to searching for new sites for this species.

A management plan for *Veronicastrum virginicum* (Culver's root) where it occurs along a town highway is still needed.

As was recommended in previous years, a plan for managing NNIP at Caywood Point was developed to prevent competition between NNIP and RFSS. Some NNIP control worked occur along the road to Caywood Point in FY09, but the entire site still needs a more careful inventory and treatment plan in order to maintain viable populations of the RFSS that occur there.

Continue cultivating local partnerships with individuals and organizations who are interested in rare plants in order to expand the capacity of FLNF staff to monitor rare plant populations. While new partnerships are beginning to develop regarding invasive plant control (e.g., the Finger Lakes Native Plant Society provided input during project development), there is still a need to develop partners for rare plant monitoring.

In previous years, a desire to develop a more standardized approach to monitoring RFSS was reported. While the data collection protocol is standard, a more streamlined form that works well for both NYNHP and NRIS is still needed.

Table 1: Plants on the RFSS list monitored in FY09, including new populations:

Scientific Name <i>Common Name</i>	# populations monitored	Results	Action needed
<i>Arabis drummondii</i> Drummond rockcress	1	Only 2 plants found; late in season	Monitor earlier in season in future
<i>Carex tuckermanii</i> Tuckerman's sedge	2	1 new population	Monitor post grassland management
<i>Celastrus scandens</i> American bitterweet	5	1 known population that is stable; 4 new populations on grassland edges	Monitor post grassland management
<i>Juglans cinerea</i> Butternut	2	1 population of 50+ trees, many appear healthy 1 population of 2 trees	Monitor more closely to look for signs of butternut canker
<i>Morus rubra</i> Red mulberry	1	Known location stable, but NNIP infestations nearby	Treat nearby NNIP
<i>Oryzopsis racemosa</i> Black-fruit mountain-ricegrass	1	Known location stable, but NNIP infestations nearby	Treat nearby NNIP
<i>Quercus muehlenbergia</i> Chinquapin Oak	1	Known location stable, but NNIP infestations nearby	Treat nearby NNIP
<i>Solidago squarrosa</i> Squarrose goldenrod	1	Known location stable, but NNIP infestations nearby	Treat nearby NNIP
<i>Solidago ulmifolia</i> Elmleaf goldenrod	1	Known location stable, but NNIP infestations nearby	Treat nearby NNIP

Evaluation Question:

To what extent are non-native invasive species impacting other Forest resources?

Monitoring Question: To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species?

Monitoring Driver: Forest Plan Goal 2

Background: The impact of non-native invasive species (NNIS) of concern on the FLNF has been monitored by surveying the extent of infestations in areas FLNF staff want to protect, or in areas most likely to be sources of seeds or plant propagules that could be dispersed to areas to be protected. It also includes determinations of invasiveness and the results of treatment efforts. Prior to FY09, monitoring focused on surveying the extent of infestations, in preparation for developing a proposal to treat invasive plants across the FLNF. In FY09, treatment also began (beyond hand control of small infestations), along with monitoring of treatment effectiveness.

FLNF staff and volunteers have surveyed the extent of infestations along many roads, trails, and developed recreation sites (all are potential sources of seeds or other plant propagules for dispersal), as well as Special Areas, candidate Natural Research Areas, sites of known TES (Threatened, Endangered, or Sensitive Species), grasslands, woodlands, and project sites (places FS staff want to protect). In general, surveys of natural communities have focused on edges of habitats rather than interiors, e.g., woodland edge rather than deep into the woods, because edges tend to be more susceptible to infestation and are easier to access for surveys. Results of edge surveys can then suggest where to focus future surveys of habitat interiors. Most sites surveyed have had infestations of one or more NNIS, although in some cases infestations are small and isolated. Some species that had rarely been noted ten or more years ago (anecdotally, prior to

formal data collection) are now widespread. Some ponds have been surveyed, and aquatic NNIS have been found as well. The FLNF list of non-native invasive plant species (and species groups) includes two trees, twelve shrubs, two woody vines, two herbaceous vines, eight herbaceous species, two grasses, and three aquatic plants (see Appendix A). Late in FY08, an environmental assessment (EA) for Invasive Plant Control was completed, and implementation began in FY09.

Monitoring Activities: In May through September 2009, the following monitoring activities occurred:

- Two Special Areas, The Gorge Ecological Special Area and Caywood Point, were monitored for NNIS by FLNF staff. Along the road to Caywood Point, monitoring also occurred to determine initial effectiveness of treating NNIS there.
- The Vesa Road garlic mustard site controlled annually by volunteers was monitored by FLNF staff, and manually treated by volunteers again in 2009. Site restoration, which began in 2008, continued in 2009.
- Ground disturbing projects that were surveyed for rare plants were surveyed for NNIS at the same time.
- Seven grasslands (about 500 acres) that were inventoried late in the FY08 growing season for all vascular plants, including both rare plants and NNIS, were inventoried again early in FY09 to provide a more complete list of vascular plants occurring in each of the grasslands. Thirteen additional grasslands (2114 acres) had complete botanical inventory, with all NNIS mapped, in FY09.
- Following broadcast herbicide in nine grasslands (over 1000 acres), initial monitoring occurred to determine if treatment was effective in killing knapweeds and thistles.

Because Special Areas are areas to be protected from ecological degradation, they were considered important to monitor. The Vesa Road garlic mustard site controlled annually by volunteers was monitored to determine the effectiveness of hand-pulling garlic over a period of several years, and to determine whether nearby toothwort plants might become established in the absence of garlic mustard. Sites of proposed projects were monitored to evaluate the potential for NNIS to spread during project implementation, per Forest Plan direction; for example, McBride grassland was monitored for NNIS prior to when hay will be cut through stewardship contracting in FY10. Grasslands were monitored because NNIS can affect forage quality for domestic animals and habitat for wildlife, as well as compete for water, sunlight, and nutrients with rare plants (RFSS) that occur there. Caywood Point was monitored because it is an area that is valuable to so many resource areas. All data was gathered using the USDA Forest Service Natural Resources Information System (NRIS) protocol, to be entered into the NRIS corporate database. All sites monitored provide baseline information that can be used during ongoing implementation of the Invasive Plant Control Project.

Evaluation and Conclusions: While monitoring indicated the extent of NNIS infestations, FLNF staff does not currently have a means of quantifying the effect of NNIS on other resources. Monitoring protocols were otherwise efficient and easy to use.

Relatively small infestations of honeysuckle and multiflora rose were found along the Gorge Trail. Caywood Point is heavily infested with several species of NNIS, some of which surround populations of rare plants on the RFSS list.

Results of monitoring the volunteer garlic mustard control site continue to show a gradual reduction in garlic mustard at this site over time. In 2009, FLNF staff continued to work with Cornell Plantations to develop sources of native plant materials that can be used for site restoration, and were able to plant hundreds of seedlings of ten native species at the Vesa Road site, further restoring this site.

Grasslands for which botanical inventory was completed all had infestations of several species of NNIS. Common woody NNIS in grasslands were multiflora rose, common buckthorn, border privet, morrow honeysuckle, and autumn olive. Norway maple, tree-of-heaven, and common and Japanese barberry also occurred in small patches in some grasslands or their edges. Common herbaceous NNIS were thistles and knapweeds. Garlic mustard, leafy spurge, purple loosestrife, and common reed also occurred in small patches in some grasslands or their edges. Vine NNIS found infrequently were periwinkle and swallowwort. Each of the three aquatic NNIS – Eurasian watermilfoil, curly pondweed, and water chestnut – occurred in one or more grassland ponds. Although some infestations were small and isolated, many (especially multiflora rose, common buckthorn, thistles, and knapweeds) were spread across entire grasslands. Details are provided in table 1, below. Most grassland will require an extensive investment of time and funding to control all the infestations that occur there.

Previously, it was reported that monitoring results pointed to the need to develop a plan for integrated pest management for all NNIS, forest-wide. The Invasive Plant Control Project EA was completed in FY08, and implementation began in FY09. Broadcast herbicide was used to treat knapweeds and thistles in over 1100 acres of grasslands, and hand-application of herbicide was used to treat infestations of several NNIS along the road to Caywood Point. Initial monitoring indicated that the herbicide had effectively killed these species.

Recommendations: In FY08 we reported the need to begin implementing the Invasive Plant Control project in FY09 and in future years. Implementation began in FY09, and should continue in future years. Effectiveness of treatments should be monitored, followed by adaptive management.

In previous years we reported that, despite a few years of manual control of small patches of NNIS in the Cotton Mill project area, a more effective and efficient “toolbox “ of treatment options was needed. The Finger Lakes Invasive Plant Control Project was ready to implement in FY09 and provides the necessary toolbox, but no money was available to continue work in this project area. In FY10 and future years, as timber is harvested, it will continue to be an important project area for NNIS treatment.

In FY08 all plots established for long-term measurements of leafy spurge had been destroyed. In FY09, rather than reestablish these plots, plans were developed to introduce beetles to control this NNIS, an activity that was authorized through the Finger Lakes Invasive Plant Control Project EA. Monitoring the effectiveness of this control method will be needed over the next several years.

Previously the need to continue grassland botanical inventory was reported, in effect monitoring the effect of NNIS on other resources (forage, wildlife habitat). Approximately 2600 acres were inventoried in FY09 (results reported above), but there are still about 1500 acres that need to be inventoried. In addition, the grasslands that were treated with herbicide to remove thistles and knapweeds need additional treatment and ongoing monitoring to determine effectiveness of treatments.

Continued garlic mustard control, followed by site restoration with native species along the Vesa Road site is needed until no NNIS remain. While initial efforts have focused on garlic mustard, future efforts must include other species.

Monitoring natural communities adjacent to infested trails and roads to determine the extent to which these infestations are predictive of infestations on adjacent less disturbed land is still needed.

Continuing to develop partnerships and collaboration to address wide-spread and abundant NNIS infestations across the FLNF is an ongoing need, as is continuing and increasing education and outreach to facilitate public awareness and involvement in this facet of natural resource management. This includes the need to share information about known NNIS infestations along roads maintained by local towns. This need still exists.

Based on the number and size of infestations at Caywood Point, which is a valuable site for many resources (especially rare plants and recreation), a treatment plan should be developed for NNIS, and the results monitored.



Vesa RD vinca before treatment



After clearing area of vinca



Area being replanted with native vegetation



Native vegetation being re-established

Table 1: NNIS found in 20 FLNF grasslands (about 2600 acres) in FY09. Each grassland was inventoried once early in the growing season and once late in the growing season, with the goal of capturing the majority of vascular plant species that occur there. A few grasslands had late season inventory in 2008 and early season inventory in 2009. Most had both inventories in 2009.

Grasslands → (P = pond present, N = no pond) Non-Native Invasive Plants (X=present) ↓	Ahouse LR (N)	Aman East (P)	Auble (P)	Bales (P)	Ballard (P)	Burdick (P)	Butcher Hill (P)	Cook A (N)	Cronk (N)	Curatola (N)	Dunn (N)	Hawes (P)	Horton (P)	McBride (N)	North Wilkens (P)	Peterson (P)	Smith West (N)	South Velie (P)	South Wilkens (P)	Terry Berry (P)
Aquatic																				
Eurasian watermilfoil											X									?
Curly pondweed		X	X				X													
Water chestnut			X																	
Terrestrial or riparian																				
<i>Trees</i>																				
Norway maple		X								X						X				
Tree-of-heaven													X							
<i>Shrubs</i>																				
Barberries						X	X	X	X			X		X	X					
Autumn olive	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Border privet	X	X	X	X		X										X				
Honeysuckles	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Multiflora rose	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Common buckthorn	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Vines</i>																				
Swallowwort														X	X			X		
Periwinkle														X	X					
<i>Grasses</i>																				
Common reed					X															
<i>Herbaceous</i>																				
Garlic mustard	X	X					X	X		X		X		X	X	X		X		X
Knapweeds	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Thistles	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Purple loosestrife						X							X							

Timber

Evaluation Question:

Are lands adequately restocked according to stocking surveys?

Monitoring Question: Are harvested lands adequately restocked according to Plan goals?

Monitoring Driver: Lands are adequately restocked as specified in the Forest Plan.

Background: See FY07 M&E Report

Monitoring Activities: No first year evaluation surveys were completed in stands by FLNF staff in FY09, as no recent reforestation has taken place. Were it to occur, the work involves visiting harvested stands and sampling the new regeneration using numerous 1/700 and 1/100 acre sized circular plots in each stand to count seedlings and saplings. A plot is considered stocked if at least one acceptable seedling or sapling occurs in it. The plot data is summed and a percent of total stocking is determined for each stand. The results are reported in the Forest Activity Tracking System (FACTS) data base.

Evaluation and Conclusions: Reforestation monitoring is an integral part of National Forest management operations, and has standardized requirements. Monitoring protocols have been rigorously tested, certifications of successful reforestation have requisites, and procedures are detailed in the Forest Service Handbook (FSH 2409.17, Silvicultural Practices). Reforestation success is measured on new plantations or harvested stands in years one, three, and five (if needed) following the planting or other regeneration effort. Successful reforestation is assured when new stands are certified as “free to grow” by year five.

Recommendations: This monitoring item is on track. Continue to conduct first, third, and if necessary fifth year plantation survival evaluations to determine if survival and growth of any new planted stock is adequate following reforestation efforts, and that adequate reforestation has been undertaken and achieved on all other units of regeneration harvesting.

Evaluation Question:

Is the maximum opening size for even- aged harvesting being met and are we accomplishing resource objectives. Are we meeting wildlife habitat regeneration objectives in both size and quantity of openings by habitat types? This is a required Forest Plan monitoring item. It helps whether we have met standards for maximum opening size and scenic integrity.

Monitoring Question: Are maximum size limits for harvest areas appropriate, and should these limits be retained?

Monitoring Driver: Opening size is consistent with Forest Plan S&G 2.3.5 – Openings, and NFMA requirement on opening size.

Background: See FY07 M&E Report

Monitoring Activities: No new timber sales were offered in FY09.

Special Forest Products

Evaluation Question:

How many and what special forest products (SFPs) do people gather? How many require permits, and how many permits were issued annually, for which products/species? How many requests for permits were denied? How many SFPs are being evaluated for permit requirement?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report.

Monitoring Activities: Currently, the FLNF monitors the number and type of SFPs for which permits were issued for gathering, as well as those for which permits were denied. In FY09, 38 permits were issued for the following products:

<u>Product</u>	<u>Quantity</u>
• Firewood	110 cords
• Dead/down wood	0
• Saplings	0

FLNF staff monitored fuelwood permits for compliance and issued citations for any unauthorized fuelwood cutting; 2 citations were issued.

Also during FY09, we completed a study, which was recommended during plan revision by Marla Emery of the NRS, to assess the uses of special forest products in and around the FLNF. The study, completed by Clare Ginger of the University of Vermont, local ethnographer Virginia Nickerson, and Marla Emery, documented:

- a more accurate listing of SFPs for the FLNF,
- identification of SFPs that merit further study or active management to assure sustainability,
- commodity chains for selected commercial species,
- a description of social, cultural, and economic values of gathering on and around the FLNF,
- guidelines for determining sustainable harvest thresholds, and
- potential strategies for collaborative management planning with SFP gatherers.

A final draft of the report was submitted in August of 2009. The Forest Service is currently considering potential actions to take for sustainable management of SFPs based on this report.

Evaluation and Conclusions: Firewood is the only product that has been gathered over the past 8 years on the FLNF. However, the past two years have seen significant increases in this use. The cords gathered this year were double that of last year (which were five times that of the previous year), and were almost five times the average for the decade. Permits increased one and a half times over last year. No environmental conditions of concern were noted in association with permits this year.

Firewood requests are trending upwards, although it is not clear if it will continue to increase or level off at this higher level of use. The FLNF is actively evaluating opportunities for additional

firewood harvesting to meet this demand. Given that timber harvesting on the FLNF is well below the Allowable Sale Quantity established in the 2006 Forest Plan, and that the focus of firewood harvesting is on readily accessible dead and down trees, this increase in firewood demand is probably sustainable.

Several changes in regulations and policy regarding permitting of collection of botanical products for personal use are still being developed at the national level. A final rule on these changes was published in FY09 but implementation was deferred indefinitely to accommodate public comment and concerns. The new rule, when or if it is implemented, may require FS staff to establish more explicit sustainable harvesting levels for many products. The assessment of special forest product uses for the GM&FL NF that was completed this year will be critical in helping to establish these sustainable harvest levels. The report identified two plant species or groups in need of management attention (ginseng, lady's-slippers), and four plant species that merit further study to determine if active management would be advisable or feasible (fiddleheads, wild leeks, sweetgrass, and black ash). Ginseng is currently not known from the FLNF, and collecting of lady's-slippers is currently not allowed by the State of New York as these species are considered "exploitatively vulnerable" under state law. Sweetgrass and black ash are not known from the FLNF. The researchers recommend working with gatherers and others to assess and monitor conditions for fiddleheads and wild leeks, and also to refine general and species-specific sustainable management guidelines for gathering of special forest products. The researchers also suggested opportunities to work with communities and gatherers on outreach and education activities around special forest products.

Recommendations: Use the results of the SFP study to identify general sustainable harvest guidelines for SFPs gathered on the FLNF, and develop a strategy for studying and evaluating if additional management guidelines are needed for fiddleheads and wild leeks. Investigate opportunities for outreach and education with local communities and gatherers.

Rare Features

Evaluation Question:

To what extent are rare and outstanding biological, ecological, or geological features on the FLNF being protected, maintained, or enhanced? To what extent do ecological types recognized on the Forest accurately represent the diversity of ecosystems and potential natural vegetation on the Forest?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report.

Monitoring Activities: Two sites of ecological significance were visited during FY09: The Gorge Ecological Special Area, and Caywood Point Recreation and Education Special Area. The Gorge had not been visited since initially evaluated for rare plant potential habitat in 2000. This site has not been ranked by the New York Natural Heritage Program (NYNHP), and so initial monitoring visits gathered data needed to evaluate size, quality, and context for ranking. Another objective was to evaluate non-native invasive plant (NNIP) conditions, because original evaluation reports indicated minimal incursions of NNIP at these sites. Caywood Point has been visited every year since 2006 due to the diversity of natural communities and rare plants there, significant NNIP infestations, and the various projects being proposed and implemented there.

At each site, field notes are taken addressing the condition and quality of the site, as well as its landscape context. Information gathered included basic site and topographic characteristics, size, species lists, natural community descriptions, and descriptions of threats, disturbances, management needs, maturity, connectivity, and landscape condition. These notes are then incorporated into site reports that are prepared during the winter months. In addition, separate NNIS reporting forms were completed for areas where NNIS were noted.

The following conditions of interest were noted:

- Scattered NNIP along Gorge Trail but seems to be limited to near the trail at certain locations. Some garlic mustard was found at the trailhead; multiflora rose and honeysuckles were found scattered along the middle of the trail.
- Some tree cutting along the Gorge Trail was noted at a point in the ravine where the trail intersected the stream that appeared to be a camping and/or gathering spot. It appears most cutting is of down wood, but there are user-created trails and fire rings there. This area does not appear to have NNIP currently but should be monitored to make sure NNIP do not get established there and that recreational activities do not result in cutting of live trees or erosion of streambanks and sedimentation of the stream, as well as root compaction.
- Road reconstruction, parking lot construction, dump removal, and facility removal at Caywood Point had the potential to impact the natural communities and rare plants at the site. Rare plant locations were flagged and impacts evaluated to ensure that negative impacts would be minimal. Due to heavy NNIP infestations, monitoring and control of infestations was planned and implemented for the road and parking lot work. For work completed in September or earlier in 2009, impacts to the natural communities were minimal and no rare plants were impacted.
- A local botanist located two new rare plant populations at Caywood Point, one of which we validated and marked for protection during any recreation projects in the area. These plants are not currently on the Regional Forester's Sensitive Species (RFSS) list; they were reviewed during Plan revision, and might have been added to the RFSS list if they had been known to occur on the FLNF at that time.
- An infestation of hemlock wooly adelgid (*Adelges tsugae*; HWA) was initially discovered at Caywood Point during a training survey led by Mark Whitmore (Department of Natural Resources, Cornell University) in March 2009. This non-native invasive insect has been killing hemlock trees in the East for many years now, but had not been located on the FLNF before. A follow-up survey was conducted in April 2009 by staff from the Forest Service (FLNF), Northeastern Area Forest Service State and Private Forestry, NY Department of Environmental Conservation (DEC), and the Department of Natural Resources, Cornell University. Approximately 20 hemlock trees were confirmed to be infested with HWA in the vicinity of a steep gorge near the northern boundary of Caywood Point along the eastern shore of Seneca Lake. This hemlock stand in the ravine is considered an old remnant with some very old trees. This is the first HWA infestation known from the FLNF, and leads to significant concerns for other ravine hemlock forests on the Forest, several of which are also Ecological Special Areas or candidate Research Natural Areas (e.g. the Ravine, the Gorge, Mill Creek, Sawmill Creek). These sites were checked in 2009 and no HWA was detected at any of them. Because of the small size of the infestation (due to our early detection), this site has excellent research potential.

Based on discussions with GMFL staff, forest health managers with the Forest Service's State and Private Forestry office in Durham, NH, and entomologists and other scientists with NY DEC, Cornell University, and University of Massachusetts, the Forest Service decided to initiate control of this insect by cooperatively releasing and monitoring establishment of 100-200 predator beetles (*Laricobius nigrinus*), in October of 2009, within the infested hemlock stand at Caywood Point.

Evaluation and Conclusions: Only one of the three sites planned for monitoring was monitored this year due to higher priority projects, including road, facility, and trail work being planned and implemented at Caywood Point, another special area that is monitored. With continued work at Caywood Point over the next year or two, monitoring may be limited to only one additional special area per year. At this rate only one round of special area monitoring will be completed by 2013 instead of the desired 2011, although this level of monitoring is still a large improvement over past efforts

Protocols continue to be effective. The monitoring continues to demonstrate the importance of gathering precise GPS coordinates for special features so they can be relocated efficiently. The Forest Service continue to struggle with finding time to transcribe paper forms into computer databases, but the cost of rugged handheld data recorders continues to limit the ability to eliminate paper forms or field books.

The presence and abundance of NNIP continues to be a concern with Special Areas. Very few areas are uninfested, although some, like The Gorge, appear to have limited amounts of NNIP that could be controlled effectively. It is likely that most of the Special Areas will have NNIP infestation concerns that will need to be addressed. It is important to continue to document these infestations on the NNIS program forms immediately following the monitoring so that information and management can be effectively coordinated. It is also likely that as a result of NNIP concerns, and other potential issues, sites will need to be visited more frequently than the 5-year cycle developed in 2006, particularly if management actions are undertaken. It will be important to prioritize sites for monitoring, with least disturbed examples possibly being visited less frequently.

Three years of monitoring have found that impacts to the integrity of ecologically significant sites and features on the FLNF are most often associated with recreational uses, further complicated by the heavy NNIP infestations. A stronger relationship between recreation and ecology staff is important to effectively mitigate some of these impacts. The ecology and recreation programs continue to strive toward a close working relationship so that management of recreation use within these special areas can support their ecological integrity.

The FLNF continues to assess additional data and analysis required to determine final status of Old Forest Areas of Interest (OFAIs) identified and evaluated by Kathy Engel, Susan Weiner, Dr. Peter Marks, and others (see the FY08 Monitoring and Evaluation Report). The FLNF agreed in 2007 to limit vegetation management within these OFAIs until final status determinations can be made, assuming these areas were validated as being at least 100 years old since stand origin, with limited levels of disturbance. Data provided in 2008 suggested that all the stands visited so far remain viable candidates in the evaluation process.

Recommendations: Continue to monitor, if possible, 3 ecologically significant sites on the FLNF, and evaluate their condition and quality to determine if management actions are needed. Consider developing a volunteer corps of monitors for these sites in the future once they have all received at least one visit by Forest Service staff.

Work with recreation and NNIP staff to develop action plans for all sites visited so far that require NNIP control and other mitigations to address concerns noted. Continue to monitor ongoing work at Caywood Point and to develop a restoration plan to address NNIP and HWA issues and mitigate recreation development issues.

Continue working with partners on the evaluation of OFAIs in the context of all areas identified as ecologically significant (e.g. Ecological Special Areas [ESAs], candidate Research Natural Areas [cRNAs], Future Old Forest [FOF]). Develop a process for this broader type of assessment that will

produce recommendations for appropriate management designations for both OFAIs and other areas of ecological significance. Consider partnering with the New York Natural Heritage Program to target quantitative plot data gathering in these old forest patches as well as in the “reference area network” of ESAs, cRNAs, Caywood Point, and FOF.

Insects and Disease

Evaluation Question:

To what extent have destructive insects and disease organisms increased?

Monitoring Question: Are insect and disease levels compatible with objectives for maintaining healthy forest conditions?

Monitoring Driver: Destructive insects and disease organisms do not increase to potentially damaging levels following management activities.

Background: Annual surveys provide monitoring methods that help track trends in insect and disease (I&D) activity on the Forest. Monitoring of insect and disease pathogens can be employed to determine when, how much, and what kinds of management actions, if necessary, should take place to prevent or suppress undesirable I&D agents. As the FLNF provides a portion of host material for a variety of I&D agents found within the Finger Lakes region of New York, this monitoring element is best undertaken in a more “landscape” context with adjacent landowners, municipalities and local, state and federal monitoring organizations. For instance, monitoring of emerging insect or disease agent threats, such as the emerald ash borer, an exotic insect pest, has become a national monitoring effort since spreading from the original detection point in Michigan. In this case, early detection efforts are the combined focus of forest research and management organizations at the state, federal and university levels.

Monitoring Activities: In FY09, a number of insect and disease monitoring efforts were undertaken on the Finger Lakes National Forest, in concert with numerous individual and agency partners. In particular, Durham (NH) Field Office (DFO) Forest Health Protection personnel coordinated aerial and ground surveys to detect and assess impacts of a variety of insect and disease agents.

A field visit from the Cornell University Entomologist and training to identify hemlock wooly adelgid resulted in it being identified on hemlock trees in the Caywood Point area. Upon verification, a team was put together to help assess the area affected, form a rapid response plan. It was decided to work with researchers planning on studying HWA and releasing predator beetles them on other locations in New England. The goal was to secure the inland biotype of *L. Nigrinus* and arrange for release on the Finger Lakes NF as well. This was done and beetles were released at the Caywood Point site in October 2009.

The following insects and diseases were tracked, and listed in the table below. Also listed are the organizations or agencies involved in, and the dates and types of insect and disease (I&D) monitoring efforts used.

Insect or Disease Agent	Organization & Date of Monitoring	Type of Monitoring Effort
<i>Sirex noctilio</i> preliminary hazard ratings established for selected pine stands	Northeastern Area State & Private Forestry, USDA Forest Service, July 2009	Destructive sampling of individual trees; collection of this wood wasp for rearing at Cornell lab
<i>Cerceris fumipennis</i> surveys undertaken	Northeastern Area State & Private Forestry, USDA Forest Service, July 2009	Survey for predatory wasps nest to locate emerald ash borers and beetles it collects
Emerald ash borer surveys of high risk areas in order to provide early detection	Northeastern Area State & Private Forestry, USDA Forest Service, July 2008	EAB visual tree surveys in campgrounds, as firewood movement may provide first introduction of this insect
Preliminary assessment of defoliated hardwood stands	Northeastern Area State & Private Forestry, USDA Forest Service, July 2009	Walk-through surveys of defoliated stands and determination of causal agent for defoliation
<i>Tsugea adelges</i> survey/training led to first discovery of this invasive insect at Caywood Point on Lake Seneca	Cornell University Entomology Dept., NY DEC, FLNF and Partners 2/2009	Walk thru training with foliage inspection. Mapping/description of infestation site.
<i>Laricobius nigrinus</i> - beetles are secured from ID and released at Caywood Point to evaluate biological control of HWA	University of Massachusetts, Amherst Department of Plant, Soil and Insect Sciences Div. of Entomology, 10/2009	Release of inland strain of <i>L. nigrinus</i> beetles to feed on HWA insects.

Evaluation and Conclusions: Mortality increased on the FLNF in areas defoliated by forest tent caterpillars in 2008. That defoliation and possibly other stand stressors like overstocking or septoria leaf spot from the wet spring led to 75 acres of scattered mortality in birch, beech and maple stands in 2009. Stand overstocking, site conditions and possible impacts from *Sirex noctilio*, led to 155 acres of red pine needle discoloration from annosus and Armillaria root rot diseases. In addition, 145 acres of red pine has died from the advanced stages of annosus root rot.

Recommendations: As these organisms are causing damage on their own and not following management activities, recommendations are to include these areas in future integrated resource planning. Timber harvest and timber salvage operations can be used to help restore forest health and native species to the Finger Lakes.

Continue annual aerial and on-the-ground insect and disease detection monitoring efforts with local neighbors, partners and forest staff.

Continue cooperative research studies for bio-control of HWA with *Laricobius* beetles, trap tree study for *Sirex* and monitoring for new invasive species.

Fire

Evaluation Question:

How many wildfires were suppressed with no reportable accidents/injuries or damage to private property? How many acres of private property burned from fires with ignition on Forest Service land?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report

Monitoring Activities: There were no reportable wildland fires in FY09 on the FLNF.

Evaluation and Conclusions: Based on FLNF vegetation conditions and observed fire weather conditions for FY2008, fire preparedness and other fire management actions were adequate and consistent with the level of risk. In April, one GMFL firefighter responded to six local fires near the FLNF in New York, assisting NY Forest Rangers on fires that were near, but not threatening National Forest land.

Recommendations: Although, fire risk is low, fire staffing and other preparedness actions should be continuously monitored during fire season.

Evaluation Question:

To what extent have hazardous fuels been reduced?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: See FY07 M&E Report

Monitoring Activities: FLNF staff treated 4 units totaling 81 acres using prescribed fire to reduce hazardous fuels in 2009. Additionally, grazing and mowing for range management and wildlife improvement provided secondary benefit for hazardous fuels reduction, with nearly 6000 acres being mowed and/or grazed.

Fire Regime Condition Classes, both pre and post treatment observations were made. Post treatment observations showed a move to an improved condition class, and all treatments were reported in Forest Activities Tracking System (FACTS).

Evaluation and Conclusions: All hazardous fuel treatments on the FLNF were initially effective in FY09. Hazardous fuels treatments also provided secondary benefit objectives, which included ecosystem restoration, and wildlife habit maintenance and improvement.

Recommendations: Continue the use of prescribed fire on the FLNF as a vital tool for the reduction of hazardous fuels, to maintain wildlife habitat, for timber stand improvements, and to restore and enhance ecosystems. Mechanical treatment should also supplement prescribed fire treatments in order to effectively reduce larger diameter woody vegetation that may not be fully treated utilizing only prescribed fire.

Evaluation Question:

Is prescribed fire being effectively used as a tool to meet management objectives set forth in the Forest Plan? Are prescribed burns meeting the fire effect objectives set forth in each burn plan?

Monitoring Question: What are the effects of management practices prescribed by the 2006 Forest Plan?

Monitoring Driver: Forest Plan Management Area Guidance

Background: See FY07 M&E Report

Monitoring Activities: Four prescribed burn units were treated in FY09 for a total of 81 acres. Pre- and post-burn monitoring was conducted on all of the prescribed burns implemented in FY09. Monitoring focused on measuring pre- and post-dead fuel accumulations as well as examining fire's effects on reducing woody encroachment (mortality).

The resource objectives of each prescribed burn are:

- to truncate approximately 80% of invading woody vegetation consisting of shrubs and tree seedlings/saplings through repeated fire entrances
- promote an increase of native grasses and forbs to cover approximately 90% of the unit by repeated fire entrances, maintaining an open grass like state

Although, site specific, the majority of the burn plans had prescribed fire objectives and acceptable range of results being: To reduce the 1hour fuels by 75% and 10 hour fuels by 50%.

Evaluation and Conclusions: Post burn results from prescribed fire implementation did show success in reducing overall fuel loads of the burn units. 1- hour and 10-hour fuels were reduced to acceptable levels as prescribed. 100 hour and 1000 hour accumulations were not a considerable factor for these units, therefore not evaluated. Mortality of small diameter woody vegetation (shrubs and tree seedlings/saplings) occurred at acceptable levels for prescribed burns that were implemented later in the spring season. Burns implemented in early spring produced less mortality. In all of the units, there were small increases of native grasses and forbs. Fire Regime Condition Class improvements were obtained in all burn units. Although monitoring showed that prescribed burning in spring produced favorable results for reducing light dead fuels (1hr and 10hr) and small diameter woody vegetation, promotion of native grasses and forbs and effecting increased mortality in woody vegetation could be accomplished during growing season burns.

Recommendations: Continue the use of prescribed fire as a tool for managing hazardous fuels on the FLNF.

Payments to Counties

Evaluation Question:

What was the amount paid to each FLNF town through PILT, 25% fund or Secure Schools? What type of communications has occurred on this topic with each town?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: There are two types of federal payments reaching municipalities that have U.S. Forest Service land: 1) Payments in Lieu of Taxes (PILT); and (2) Public Law 106-393 – **Secure Rural Schools and Community Self-Determination Act of 2001—reauthorized in 2008.**

PAYMENTS IN LIEU OF TAXES (PILT)

Generally, federal lands may not be taxed by State or local governments unless they are authorized to do so by Congress. Since local governments are often financed by property or sales taxes, this inability to tax the property values or products derived from the federal lands may affect local tax bases significantly. Instead of authorizing taxation, Congress created various payment programs designed to make up for lost tax revenue.

Under current federal law, local governments are compensated through various programs for losses to their tax bases due to the presence of most federally owned land. The most widely applicable program, while run by the Bureau of Land Management (BLM), applies to many types of federally owned land, and is called "Payments in Lieu of Taxes" or PILT. The level of PILT payments is calculated under a complex formula which takes into account figures such as acres of eligible lands, population, and previous year payments from other federal agencies. The PILT, made in or around October, is indexed by the inflation rate and set by federal law. Congress, however, rarely appropriates the full amount of the PILT.

Each town can receive additional PILT dollars if they contain other federal lands, such as National Park Service or Army Corps of Engineer lands. Not all federal acres within the towns however, are entitled to PILT payments.

SECURE SCHOOLS ACT

The **Secure Rural Schools and Community Self-Determination Act of 2001** (Secure Schools Act) was reauthorized for four years in 2008. This law was promulgated by Congress to restore stability and predictability to the annual payments made to states and counties containing National Forest System lands for the benefit of schools and roads. In New York, the funds are used for roads. Prior to the passage of the Secure Schools Act, these payments were based upon income generated by the U.S. Forest Service, typically through timber sales. As this timber sale-related income fluctuated and generally waned, communities that relied on the annual payments for the support of their schools suffered from a lack of funding stability and predictability, to the detriment of their educational systems. The Secure Schools Act severs the tie between rural school funding and timber sale income so as to offer rural school systems continual, level funding. The full distribution for 2008 was made in January of 2009.

PILT and Secure Rural Schools Funding: New York Counties

County	Acres	PILT 2010 (100%)	Secure Schools 2010	PILT 2009 (100%)	Secure Schools 2009
Schuyler	10887	4,037	Not available until December 2010	13,564	20,861
Seneca	5,242	3,335		7,607	8,603
					29,464

Evaluation and Conclusions: Towns are sent information regarding payments as soon as it is released.

Recommendations: Continue informing towns of the status of the Payment to Counties legislation as well as the yearly appropriations.

Lands

Evaluation Question:

To what extent has the FLNF land base been adjusted through purchase, exchange, transfer, interchange, boundary adjustment and donation?

Monitoring Question: To what extent have Forest Plan Objectives been attained?

Monitoring Driver: Forest Plan Objectives

Background: FS staff captures opportunities to meet the Land and Resource Management Plan (Forest Plan) and National Strategic Plan goals through purchase, donation, exchange, transfer and conveyance of lands to improve public access, provide outdoor recreation, conserve watersheds, contain non-native invasive species, sequester carbon and prevent forest fragmentation. FS staff also aims to improve legal public use of National Forest System lands by acquiring rights-of-way for roads and trails. National Forest System lands have been increased and consolidated to reduce fragmentation and encroachment, and achieve maximum public benefits for recreation, biodiversity, critical habitat conservation, and effective management.

FY09 Land Adjustment Activities: None occurred during FY09.

Monitoring Activities: FS staff communicates with a variety of conservation partners, including the Finger Lakes Land Trust. The Trust will assist FS staff in the land adjustment program through identifying a variety of opportunities for land conservation.

Evaluation and Conclusions: The information gained from our partners and the willingness of local participation continues to highlight the importance of partnerships and community involvement.

Recommendations: Continue to work with partners, national and state entities, counties, townships and communities to help identify, evaluate and subsequently adjust the Forest's land base.

3. RESEARCH AND STUDIES

Contemporary uses of special forest products in and around the Green Mountain and Finger Lakes National Forest. This research project was undertaken as an agreement in 2008 between the University of Vermont and the GMNF to document current uses of Special Forest Products in and around the Green Mountain and Finger Lakes National Forests, and was completed in August 2009. Findings will broaden understanding of forest uses and values of local communities, and provide a basis for sustainable management of these products. The research was conducted by Marla Emery, a Research Geographer with the Northern Research Station; Clare Ginger, an Associate Professor with the University of Vermont; and Virginia Nickerson, a local Ethnographer, with help from Diane Burbank, an Ecologist with the GM&FL NFs, David Lacy, an Archaeologist with the GM&FL NFs, and Erik Lilleskov, Research Ecologist with the Northern Research Station.

Establishment of a Butternut (*Juglans cinerea*) Clone Banks on Green Mountain and Finger Lakes National Forests

In 2009 GMNF personnel collected twig samples from healthy (possibly resistant) butternut trees for analysis to determine which trees are pure butternut (butternut can hybridize with Japanese walnut). In the winter dormant season scions were collected for grafting onto black walnut rootstock for establishment of the clone banks. This project will be ongoing for many years after the establishment of the clone banks as research and breeding is accomplished to produce canker resistant butternut.

4. ADJUSTMENTS OR CORRECTIONS TO THE FOREST PLAN

Administrative corrections to the Forest Plan are defined at 36 CFR 219.31(b) in the 2000 Planning Rule and may be made at any time. Administrative corrections are not plan amendments or revisions, and do not require public notice or the preparation of an environmental document under Forest Service NEPA procedures. Administrative corrections include the following:

1. Corrections and updates of data and maps,
2. Updates to activity lists and schedules (proposed actions, anticipated outcomes, projected range of outcomes);
3. Corrections of typographical errors or other non-substantive changes; and
4. Changes in monitoring methods other than those required in a monitoring strategy (referring to the requirements for monitoring sustainability criteria in the 2000 rule.)

Corrections (“errata”) to the Final Environmental Impact Statement to accompany the Forest Plan are permitted by Forest Service Environmental Policy and Procedures Handbook, FSH 19809.15, Chapter 10, Sections 18.1 and 18.2.

Following release of the 2006 Forest Plan, the staff of the FLNF began gathering information and errors contained within the final documents. In August 2007, the FLNF staff issued one administrative correction to the Forest Plan. The correction was made available on the following website: http://www.fs.fed.us/r9/gmfl/nepa_planning/plan_amendments/index.htm

The administrative correction is to:

- Remove an error in the second objective under Goal 5 by changing the term fire use to prescribed fire.

No administrative Corrections were made in fiscal year 2009.

We will likely issue administrative corrections in the future. Corrections as well as the corrected pages from the set of Plan documents will be posted at the above internet link and we encourage people to use this resource for accessing the most up to date information on administrative corrections. We will continue to provide opportunity for public involvement at the project level and during any substantive changes to the Forest Plan.

There have been no amendments to the revised Forest Plan.

5. LIST OF PREPARERS

The following people collected, evaluated, or compiled data for the fiscal year 2009 Monitoring and Evaluation Report:

Name	Position
Melissa Reichert	Interdisciplinary Team Leader/Forest Planner
Diane Burbank	Ecologist
Nancy Burt	Soil Scientist
Chris Casey	Silviculturist
Mary Beth Deller	Botanist
Kathleen Diehl	Partnership and Conservation Education Coordinator
Diana Wormwood	Law Enforcement Program Assistant
Pam Gaiotti	Budget and Accounting Officer
Rob Hoelscher	Wildlife Biologist
John Kamb	Engineer
Carol Knight	Environmental Coordinator
Dave Lacy	Archaeologist and Heritage Resource Specialist
Donna Marks	Landscape Architect
Dan McKinley	Wildlife and Fisheries Program Manager
Erin Small	Fire Planner
Doreen Urquhart	Realty Specialist
Chad VanOrmer	Recreation, Wilderness and Heritage Program Manager
Chris Zimmer	Assistant Ranger

APPENDIX A: REGIONAL FORESTER SENSITIVE SPECIES, RARE OR UNCOMMON NATURAL COMMUNITIES, AND NON-NATIVE INVASIVE SPECIES

FLNF Regional Forester Sensitive Species (RFSS): Plants, 2007

Arabis drummondii
Baptisia tinctoria
Carex tuckermanii
Celastrus scandens
Juglans cinerea
Lilium canadense
Morus rubra
Phegopteris hexagonoptera
Piptatherum racemosum (= *Oryzopsis racemosa*)
Quercus bicolor
Quercus muehlenbergii
Shepherdia canadensis
Sisyrinchium mucronatum
Solidago squarrosa
Solidago ulmifolia
Veronicastrum virginicum

RARE OR UNCOMMON NATURAL COMMUNITIES RECOGNIZED AS SIGNIFICANT BY THE FLNF (based on Forest Plan-FEIS, 2006, Table 3.10-3)

Site Name	2006 Plan Management Area Designation
Hector Oak Woods	Candidate Research Natural Area
Potomac Creek Woods	Ecological Special Area
Blueberry Patch¹	Ecological Special Area
Sawmill Creek Ravine	Candidate Research Natural Area
Townsend Road Oak Woods	Ecological Special Area
Mill Creek Ravine	Ecological Special Area
The Ravine	Ecological Special Area
The Gorge	Ecological Special Area
Potomac Ravine	Ecological Special Area
Breakneck Creek	Ecological Special Area
Caywood Point Cliff Forest and Woodland²	Recreation and Education Special Area
¹ Includes South of Blueberry Patch and Blueberry Patch Swamp ² This site was discovered in 2005 between the draft and final EIS; while it did not receive the same level of evaluation as the other sites, it is considered an exemplary area and was recognized as a distinct part of the Recreation and Education Area in which it occurs.	

Provisional List of Invasive Plant Species for Finger Lakes National Forest

Originally created by F. Robert Wesley (1995)

Update by MaryBeth Deller (2004 & 2007)

Species listed in federal noxious weed legislation

1. *Heracleum mantegazzianum* – Giant hogweed

Other NNIS of concern on the FLNF

2. *Acer platanoides* – Norway maple
3. *Ailanthus altissima* – Tree of heaven, ailanthus
4. *Alliaria petiolata* – Garlic mustard
5. *Berberis thunbergii* – Japanese barberry
6. *Berberis vulgaris* – Common barberry
7. *Celastrus orbiculatus* – Oriental bittersweet
8. *Centaurea jacea* – Brown knapweed
9. *Centaurea x moncktonii* – Meadow knapweed
10. *Cirsium arvense* – Canada thistle
11. *Cirsium vulgare* – Bull thistle
12. *Cynanchum rossicum* (=Vincetoxicum rossicum)
13. *Elaeagnus umbellata* – Autumn olive
14. *Euphorbia esula* – Leafy spurge
15. *Ligustrum vulgare* – Common privet
16. *Ligustrum obtusifolium* – Border privet
17. *Lonicera japonica* – Japanese honeysuckle
18. *Lonicera maackii* – Amur honeysuckle
19. *Lonicera tatarica*, *L. xylosteum*, *L. morrowii* and hybrids – Shrub honeysuckles
20. *Lythrum salicaria* – Purple loosestrife
21. *Microstegium vimineum* – Japanese stilt grass
22. *Myriophyllum spicatum* – Eurasian watermilfoil
23. *Phragmites australis* – Common reed
24. *Polygonum cuspidatum* (=Fallopia japonica) – Japanese knotweed
25. *Potamogeton crispus* – Curly pondweed
26. *Rhamnus cathartica* – Common buckthorn
27. *Rhamnus frangula* – Smooth buckthorn
28. *Rosa multiflora* – Multiflora rose
29. *Trapa natans* – Water chestnut
30. *Vinca minor* – periwinkle