

**Monitoring the Natural Resources of State Forest, Park and Reservation Properties
of the Department of Conservation and Recreation
October 1, 2009**

In an effort to provide the citizens of the Commonwealth of Massachusetts with a view of the forest resource management that takes place on state forests, parks and reservations, we offer the following information. Please note that stakeholder Annual Reports summarizing yearly activity are also posted on our web page. The latest report (2008) can be found at

<http://www.mass.gov/dcr/stewardship/forestry/docs/2008%20Annual%20Stakeholder%20Report.pdf>

The Bureau of Forestry within the Division of State Parks and Recreation conducts natural resource monitoring efforts on forested state forest, park and reservation property. This can be divided into short term or relatively small scale monitoring (pre and post treatment project inventory and monitoring) and long term or large scale monitoring (continuous forest inventory, long term ecological monitoring, and research). The recently approved District Forest Resource Management Plans seen at <http://www.mass.gov/dcr/stewardship/forestry/manage/planning.htm> provide the following direction for monitoring (note that editorial comments added to the text are *italicized in green*):

VIII. Inventory, Monitoring, and Evaluation

The Department is committed to the principles of adaptive management. Adaptive management uses the best information available to make decisions on the management of the DSPR system lands, monitors the results for effectiveness, and uses new information as it becomes available. The following is a summary of adaptive management inventory procedures:

1. Project Level Management

DCR is already conducting long-term ecological monitoring on various sites throughout the state, in cooperation with the University of Massachusetts. The continuation of these monitoring activities is an important component of this Forest Resource Management Plan. *Intensive Monitoring Areas (IMA) that will study the difference between forest reserves and managed forests and Long term ecological monitoring (LTEM) plots are being established in conjunction with the Continuous Forest Inventory (CFI). See this site for an explanation of CFI:*

http://www.mass.gov/dcr/stewardship/forestry/docs/Monitoring_of_our_Forest_Resources_with_CFI.pdf

Reports of baseline data of Established Large Scale Forest Reserves can be found at:

<http://www.mass.gov/dcr/stewardship/forestry/index.htm>

A. Inventory

a. Initiate all management projects with a general walk through of areas most likely to meet objectives (see individual property appendices – Management Practices)

b. Project and silvicultural prescriptions require the quantitative documentation of stocking level, species composition and quality of overstory and regeneration. If necessary, this data should be collected. *Here is an example of the silvicultural narrative that contains site level, pre project monitoring information:*

<http://www.mass.gov/dcr/news/publicmeetings/forestry/fnm.pdf>

c. Inventory selected area for cultural resources

d. Inventory selected area for rare landforms, habitats, and species. *At this writing the Massachusetts Natural Heritage and Endangered Species Program (NHESP) has conducted two field inventories of proposed silvicultural projects.*

e. Inventory selected area for invasive species

B. Monitor

i. During treatment monitor for:

a. Best Management Practices compliance

b. Road and Infrastructure Condition

c. Natural Heritage Requirements

d. Cultural Resource Protection

e. Silvicultural Prescription

f. Forest Product Accountability

g. Other Contractual Requirements

The Management Forestry Program uses a Bureau of Forestry Inspection Form that documents periodic monitoring and administration of vegetative treatments. Contractors are evaluated immediately post treatment for compliance and adherence to standards (See C below).

ii. Post Treatment (approximately 5 years after treatment) monitor for:

a. Forest health

b. Regeneration success and composition

c. Best Management Practices

d. Invasive species

e. Unauthorized ORV use

g. Road and boundary conditions

C. Evaluate

i. Contractor performance

ii. Departmental personnel performance

iii. Fulfillment of FRMP and silvicultural objectives

iv. Effectiveness of the treatment

2. District Level Management

A. Inventory

Begin by 2023; after that every subsequent 15 year planning cycle

1. Re-measure Bureau's Continuous Forest Inventory plots
2. Road conditions
3. Boundary Condition

B. Monitor

Begin by 2023; after that every subsequent 15 year planning cycle

1. Forest health
2. Biodiversity
3. Regeneration
4. Best Management Practices
5. Invasive species
6. Unauthorized ORV use
7. Road and boundary conditions
8. Forest Reserves
9. New information
10. New public issues
11. Unauthorized digging and collecting around historic archaeological sites and features
12. Soil productivity including the loss of nutrients such as calcium
13. Ecological monitoring at the landscape, stand and species level to compare biodiversity in Forest Reserves and active management areas

C. General Program Management Review

To be conducted at the District level every 5 years

- a. Plan implementation
- b. Monitoring and Evaluation Efforts
- c. Currency of FRMP
- d. Public Involvement
- e. Relationships with others

D. Evaluate and report

i. Monitoring data should be evaluated against the desired condition of the FRMP to determine the effectiveness of the Plan and the need to update it.

ii. A report should be prepared summarizing the results. This report will consider if:

- a. Additional treatments are needed to meet the desired conditions
- b. Desired conditions need to be modified because of survey, inventory, or new information
- c. Existing management guidelines are effective and complete
- d. Any new information, research or new issues need to be considered.