

Forest Monitoring

"Keep it simple & meaningful"



Importance of Monitoring

Changes in climate and forest conditions are often difficult to detect through personal experience over relatively short timescales, although many foresters and other observers have anecdotal evidence of changes they have seen in the woods over the past several decades. As with any threat, the ability to respond effectively is contingent on good information about existing and new conditions. Therefore, it is useful to implement additional forest monitoring protocols that are simple and cost-effective, but also help move beyond anecdotes to provide real baseline data and feedback about changes over time.

Background

The first task is to identify a few things that might be changing and that pose either a threat or opportunity if they change. It is better to keep the list short – if you later identify other items, add them to the monitoring system as it evolves. Talk with colleagues in areas already experiencing some of the changes you think are important. Next, talk with experts working in forests that are already dealing with the items you have identified and discuss thresholds or turning points they use to track changes, e.g. what marks success or failure, or levels that necessitate action.

The following monitoring protocol was developed in 2012 by Manomet, Inc. and New England Forestry Foundation as part of a [Climate Adaptation Plan](#) for the Allen-Whitney Memorial Forest, a 700-acre parcel in Manchester, Maine. It is an example of simple monitoring practices that can be implemented in conjunction with a planned timber cruise or on-going forest inventory, with minimal additional time in the field. Landowners and forest practitioners should consider implementing these, or similar procedures, tailored to capture the potential areas of concern on their lands.

Note: Each change factor was chosen based on the perceived threat at the time. Emerald Ash Borer was not seen as a likely problem in 2012, but if this work was done in 2015 EAB would be included.

Example Monitoring Procedure

TREE DATA

Hemlock tree crown condition (transparency; thinness) in anticipation of Hemlock Woolly Adelgid becoming a problem. Assess each hemlock tree as MODERATE or LIKELY TO DIE by observing crown condition:

Normal	0 – 10% transparency
Moderate	11 – 50% transparency
Likely to die	> 51% transparency

PLOT DATA

Invasive Species – # of plants per plot (a clump of stems counts as one plant)

None	
Low	1
Moderate	2 – 4
High	5 – 7
Very High	> 7

Deer Browse Impact – % of regeneration browsed

None	
Low	>0 – 10%
Problem	11- 50 %
Too late	> 50%

