

Joe English Reservation – Hemlock Woolly Adelgid, Elongate Hemlock Scale, and Sirococcus fungus Evaluation; January 2016

Areas 1-7 (see attached Joe English Reservation Trail Map) were visited 12/26/15; 12/30/16, and 1/5/2016. Each area was chosen due to its relatively high occurrence of hemlock. Data from the 1996 inventory showed all these areas to have greater than 30% of hemlock. Areas throughout Joe English have scattered patches and individuals of hemlock. It was decided that these outlying areas would not be surveyed and any hemlock would not be treated unless other non-hemlock species were being harvested in their proximity.

Area of Concern	Infestation Severity; Acreage	Safety Issues	Access Issues	Management Options	Economic Viability	Harvest Schedule
1	Severe; 15 acres	high; hiking trail	good access; logged 15 years ago	1. sanitize entire area	positive cash flow	winter 2015/2016
2	Light; 25 acres	high; hiking trail	good access; logged 15 years ago	1. sanitize entire area	positive cash flow	winter 2015/2016 or winter 2021/2022
3	Light; 20 acres	high; hiking trail	need new access; "Timber Trail"?	1. sanitize entire area	positive cash flow	winter 2021/2022; if access is feasible
4	Light; 10 acres	high; hiking trail; high use area	good access on Brook Road	1. sanitize entire area	positive cash flow	winter 2021/2022
5	Light; 20 acres	high; hiking trail	no access; require bridging Joe English Brook	1. sanitize entire area 2. cut back 1 tree height either side of impacted trail and leave rest in place 3. incorporate into a harvest with surrounding non-hemlock areas	negative cash flow; bridge costs; low volumes; possible positive cash flow with harvesting of adjacent non-hemlock areas	winter 2021/2022; access needs to be developed
6	Light/Moderate; 10 acres	none	no access; requires new road off of Brook Road	1. sanitize entire area 2. let grow; may preserve genetic diversity including any heritable resistance if present	negative cash flow; road costs; low volumes	winter 2021/2022; access needs to be developed
7	Light; 10 acres	high; hiking trail	no access; too far from Brook Road	1. sanitize entire area 2. cut back 1 tree height either side of impacted trail and leave rest in place	negative cash flow; long skids; low volumes	winter 2021/2022; access needs to be developed

General Recommendations:

Healthy – take no action unless otherwise noted in the management plan

Light Infestation – take no action now; prepare for treatment in 5-10 years

Moderate Infestation – prepare for sanitation harvest within 5 years

Severe Infestation – sanitation harvest now

Other Considerations:

Forest Structure/Forest Sustainability after treatment – if all areas of concern were harvested, 110 acres of new seedling habitat would be created in the next 5-10 years. The management plan calls for a maximum of around 70 acres of seedling habitat at any one time to maintain sustainability. It's unlikely that every acre of hemlock will be cut; so limiting the area of tree removals should not be an issue.

Areas #5, #6, & #7 would require capital investment to harvest

1. Area #5 has low volumes that would make harvesting just the hemlock uneconomical. Additional cutting in the hemlock's vicinity (white pine and red oak areas) would help the economics; Joe English Brook would have to be forded; study the feasibility of building a timber bridge across Joe English Brook

2. Areas #6 and #7 require new access; either build a road into the Michaud Lot off of Brook Road or develop the ROW into habitat #170 of the Michaud Lot (see attached map). The ROW would also provide ready access to the far southeastern portion of Joe English (good red oak harvesting opportunity)

Logging

1. August-March logging is recommended to prevent spread of HWA & EHS. However, due to the high recreational use during the late summer and fall, it's recommended that winter logging be the preferred time for logging.

2. Conventional logging is recommended as the slash that is left in the woods is the parts of the tree (limbs) that the HWA and FHS feed on. Dragging them through the woods (whole tree harvesting) would only exacerbate the spread of any infestation.

Charles Koch

Forester

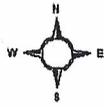
January 23, 2016

Amherst Conservation Commission Joe English Reservation Trail Map

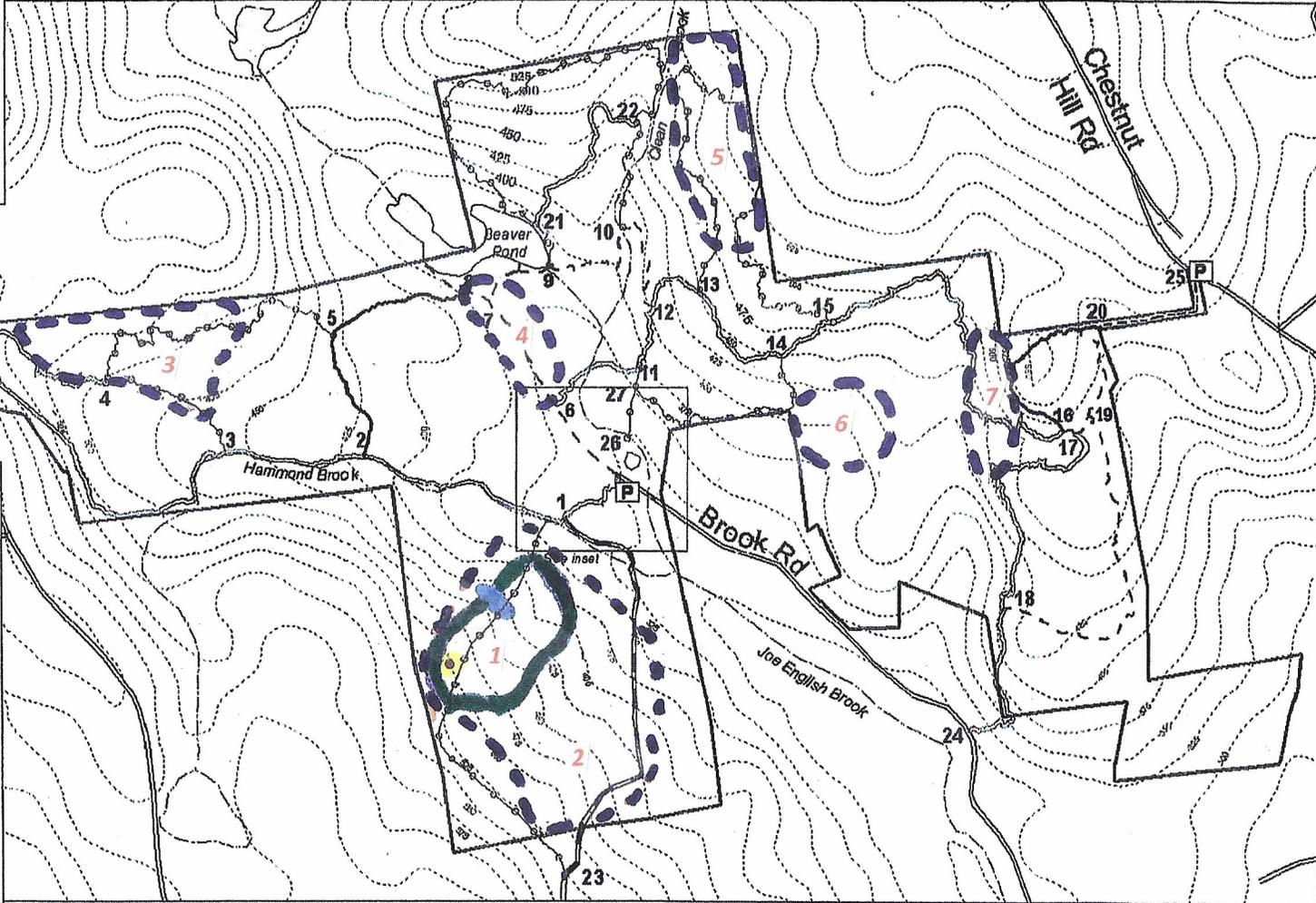
-  Beetle Release
-  Impact Plots
-  General Light Infestation
-  Heavy HWA & EHS

Hiking Trails	 Parking Area
 Blue	 Streams
 Orange	 Local Roads
 Red	 25' Contour Interval (as labeled)
 Yellow	 Joe English Conservation Area
 Bicentennial	
1 Trail Junction #	

500 0 500 1000 Feet



Barbody Mill Center, PMG
Highland Trail (Blue)
Hammond Brook Trail (Blue)
Hammond Brook
Brook Road
Joe English Brook
N.T.S.



No Bikes or Motorized Vehicles Allowed

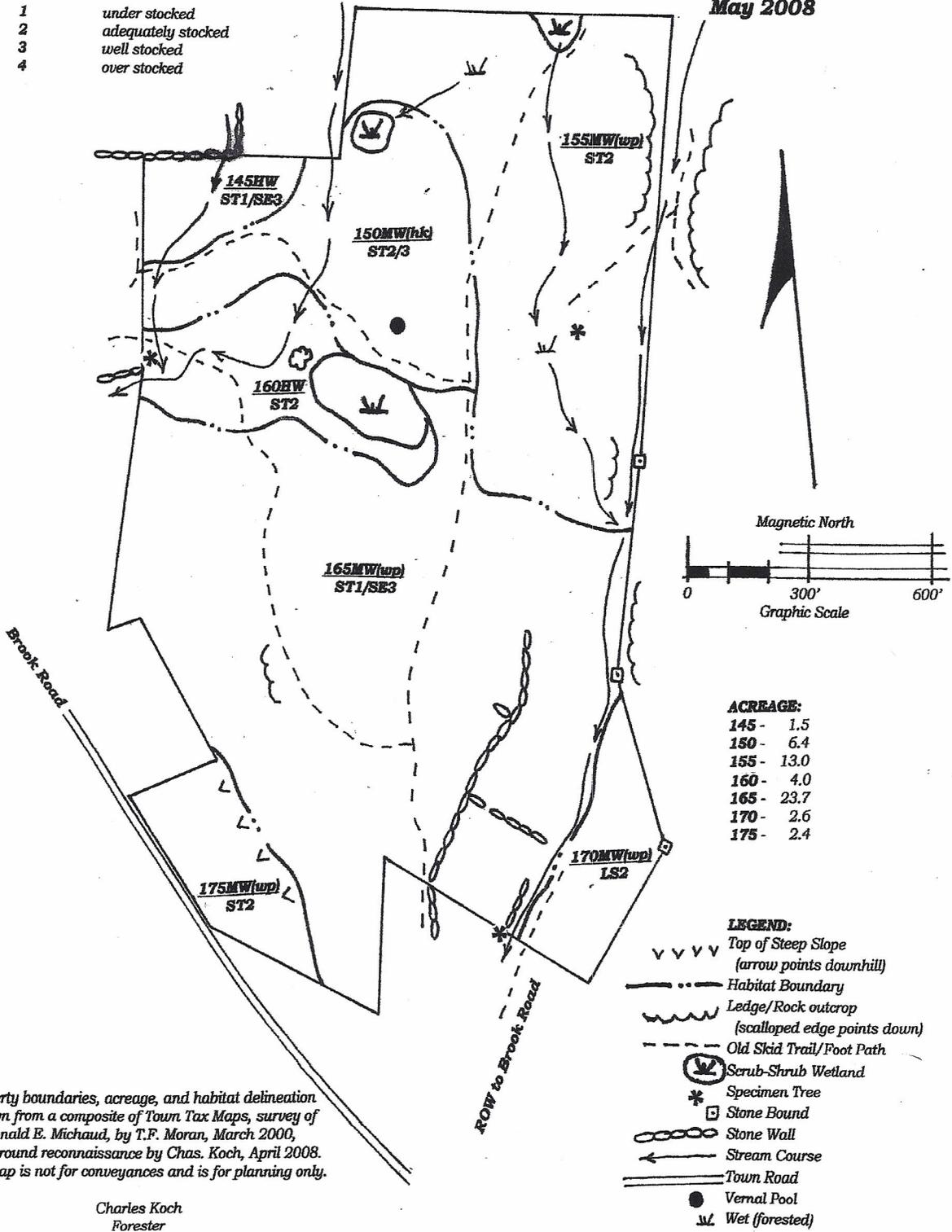
HABITAT BASE MAP

HABITAT KEY:

- HW** 75%+ hardwood
MW(wp) mixedwood (50%+ white pine)
MW(hk) mixedwood (50%+ hemlock)
SE seedling/sapling (50%+ of dominant trees <2" dbh)
ST sawtimber (50%+ of dominant trees >12" dbh)
LS large sawtimber (50%+ of dominant trees >16" dbh)

- 1** under stocked
2 adequately stocked
3 well stocked
4 over stocked

Michaud Lot
Amherst Conservation Commission
Brook Road
Amherst, New Hampshire
53.6 acres
May 2008



ACREAGE:

- 145 - 1.5
- 150 - 6.4
- 155 - 13.0
- 160 - 4.0
- 165 - 23.7
- 170 - 2.6
- 175 - 2.4

LEGEND:

- ∇ ∇ ∇ ∇ Top of Steep Slope (arrow points downhill)
- Habitat Boundary
- ~ Ledge/Rock outcrop (scalloped edge points down)
- - - Old Skid Trail/Foot Path
- Ⓢ Scrub-Shrub Wetland
- * Specimen Tree
- Stone Bound
- ⊖ Stone Wall
- Stream Course
- Town Road
- Vernal Pool
- ∟ Wet (forested)

Property boundaries, acreage, and habitat delineation drawn from a composite of Town Tax Maps, survey of Ronald E. Michaud, by T.F. Moran, March 2000, and ground reconnaissance by Chas. Koch, April 2008. This map is not for conveyances and is for planning only.

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