BIRCH CONDITION SURVEY

Objectives: To evaluate birch dieback and decline and collect information on possible contributing factors. Targeted primarily for paper birch stands that have been defoliated by birch leaf miner and/or birch skeletonizer. The form can also be used for yellow birch, with some modifications. Choose paper birch stands that you know were previously defoliated and shouldn't be cut in the near future with preference for sites on state lands or belonging to a well-known cooperator. Discuss any possible state land sites with the state lands forester. Figure on doing the survey annually for about 5 years.

METHODS

SURVEY TYPE: Write "paper" or "yellow" in front of "birch" to indicate target species.

PLOT ESTABLISHMENT

Plot layout: Use Vermont Hardwood Tree Health Survey Procedure, with 5 prism points laid out in cardinal directions, with point 1 to the north and point 5 in the center. Points are 2 chains apart from center to center.

When: Paper birch and yellow birch should be evaluated during July or August (same window as FHM).

PLOT DATA

1.   Location: Local name plus town.

2.   VT Atlas Grid Number: Use the grid to be supplied to indicate the plot location in the Vermont Atlas and Gazetteer. There should be a three digit number (forget the last three "0's" in the atlas) after East and after North. (ex.: location of Tafts Corners in Williston would be E 340 N 712).

3.   Years Defoliated: Record the years of known defoliation (1990, 1991, etc.) within the past ten years.

4.   Elevation: Record to nearest 30 feet (10m).

POINT DATA

1.   Point Number: Prism point 1, 2, 3, 4 or 5.

2.   Slope: Take percent slope across point center by standing 50 feet uphill from center and sighting on second person 50 feet downhill.

3.   Aspect: Take in degrees azimuth from point center looking downslope.

4.   Outcrops: Check if present.

5. Drainage: Record whether site is poorly drained, well drained, or excessively drained. Refer to soil survey definitions for descriptions of drainage classes.

TREE DATA

Mark all trees that fall within a 10 BAF prism point with heavy duty (arctic) flagging or metal tags at base of trees. For trees under 5.0 inches in diameter, record only species, dbh, and crown class. Evaluate all trees 5.0 inches dbh and greater that fall within your point, regardless of species.

1. Tree Number: Number trees consecutively, beginning with the first tree to the right of north.

2. Record species code from appendix II of forest health monitoring field guide. Paper birch = 375, yellow birch = 371, etc.

3. DBH: Record to nearest inch.

4. Crown Class: (1) open grown (2) dominant (3) codominant (4) intermediate (5) overtopped (suppressed).

5. Crown Vigor: Use NAMP ratings (1) healthy, <10% dieback, (2) light decline, 10-25% dieback, (3) moderate decline, 26-50% dieback, (4) severe decline, >50% dieback, (5) standing dead (6) dead tree on ground or removed.

6. Percent crown dieback: Record in 5 percent increments (FHM standards: 5 = 1-5, 10 = 6-10, etc.)

7. Foliage Transparency: Record in 5 percent increments (FHM standards).

8. Crown Density: Determine the crown outline and record the amount of crown, including branches, that blocks the sun (5% increments, FHM procedures). Those unfamilier with this measurement will receive training on procedures.

9. Discoloration: Record for fully expanded foliage that is more off-color than green if 30% or more of the leaf area and 50% or more of the crown area is affected. Record total leaf area affected in 10% classes.

10. Damaged Foliage: Record for shredded, distorted, mined, or defoliated foliage (after full leaf expansion) where 30% or more of the leaf area and 50% or more of the crown area is affected. Record total leaf area affected in 10% classes.

11. Stem Wounds: Record only if wood is exposed and wound exceeds 10% of the circumference of the tree. Record

for widest wound present, in 10% classes (ex: if tree is 30 inches in circumference and wound is 8 inches wide at widest point, 8 ÷ 30 = 26.6% so record as 30%. If multiple wounds or root wounds are present, record in remarks.

12. Cankers/Lesions: Record if cankers or lesions (including sugar maple borer) exceed 20% of the circumference affected, in 10% classes (as for wounds). Put name of known canker (ex: Nectria) in remarks.

13. Stem Breakage: Record as present (1) if the main stem below the crown is broken.

14. Crown Breakage: Record in 10% classes if any of the crown stem or more than 20% of the branches are broken or missing.

15. Beetles: Record as present (1), or absent (0), entry or exit holes of ambrosia beetles (look for yellow bleeding on birch) or other wood-boring insects other than bronze brich borer.

16. Bronze Birch Borer: Record as present (1) or absent (0). Look for lumpy bark on the stems of low vigor trees (see page 232 in Johnson and Lyons' "Insects That Feed on Trees & Shrubs.)

17. Inonotus obliquus (formerly *Poria obliqua*): Record as present (1) or absent (0).

18. Conks: Record all other fungus fruiting structures as present (1) or absent (0).

19. Seams: Record length of longest seam or crack present, to the nearest foot, or record (0) if absent.

20. Sapsucker: Record sapsucker damage as present (1) or absent (0).

21. Remarks: Use for anything you feel is impacting the tree but not covered elsewhere.

BIRCH CONDITION SURVEY

CREW _____

LOCATION _____

POINT # _____

PLOT DATA

VT ATLAS GRID E_____ N_____

ELEV. _____

DATE _____

YEARS DEFOLIATED _____

POINT DATA

ASPECT (°AZ) _____

SLOPE (%) _____

OUTCROPS _____

DRAINAGE _____

TREE DATA

Trees ≥ 5" DBH

	All Trees																				
TREE # 1	SPP. 2	DBH 3	CRN. CLS. 4	CRN. VIG. 5	% DIE. 6	% TRNS. 7	CRN. DENS. % 8	DISC. FOL. 9	DAM. FOL. 10	STEM WDS. 11	CNKR/ LES. 12	STEM BRK. 13	CRN. BRK. 14	BTLS. 15	BZ. B. BORER 16	OBLIQ. 17	CONKS 18	SEAMS 19	SAP-SCKR 20	REMARKS 21
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