

## APPENDIX 201D: TYPE CLASSIFICATION PROCEDURE

In typing a stand using basal area, use the following procedure to determine the primary type.

1. Determine the cover type based on the highest distribution by basal area of all merchantable trees in a forest type. For seedling and sapling stands, determine the cover type based on the number of seedlings and saplings by forest type. In some cases no one timber type will reach 50% and you will have to choose the type that best represents the stand.
2. Determine the size class based upon the basal area size class distribution of all merchantable trees within the primary cover type determined above. For seedlings and saplings use 0-5.
3. Determine the density code based on the basal area of all merchantable trees in the primary product class (saw timber or pole timber). For saw timber, combine large and small saw timber. For seedlings and sapling stands use the number of trees in the stand.

Secondary and understory types should be identified when present. These cover types typically provide additional clarity as to the species mix and structure not present in a stand. Secondary types should be selected based on the size class or density of those trees not used in the primary type. The primary type density symbol reflects the total basal area of all species in that product class (poles or sawtimber). Use only the basal area of the secondary type to determine the density of the secondary type. For seedling/sapling stands it should reflect the total stems/acre in that size.

### Example 1

<u>Stand Basal Area</u>	15 sq. ft. of large saw timber oak 15 sq. ft. of large saw timber northern hardwoods 45 sq. ft. of small saw timber northern hardwoods 25 sq. ft. of northern hardwood pole timber <u>10 sq. ft. of aspen pole timber</u> 110 Total Basal Area
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Primary Cover Type:	NH	The primary cover type is northern hardwood because 85 sq. ft. of the 110 sq. ft. are northern hardwoods, for 77% of the total basal area. Because northern hardwood species make up more than 50% of the basal area, this stand is typed as NH.
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(15 sq. ft. of large NH saw timber + 45 sq. ft. of small NH saw timber + 25 sq. ft. of NH pole timber = 85 sq. ft. of NH.)

Size Class:	11-15	The size class is 11-15 because the majority of the northern hardwood basal area is in the small saw timber size class.  (45 sq. ft. of the 85 sq. ft. is in the small saw timber category, which makes up 53% of the total basal area. Conversely, large NH saw timber makes up 18% of the basal area while NH pole timber makes up 29% of the basal area).
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Density:	3	The density code is "3" because a total of 75 sq. ft. are in the saw timber product class.  (15 sq. ft. of oak saw timber + 15 sq. ft. of northern hardwood large saw timber + 45 sq. ft. of northern hardwood small saw timber = 75 sq. ft. of total basal area.)
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Determining Secondary Cover Type	Eliminate the 45 sq. ft. of small saw timber northern hardwoods from consideration in determining the secondary timber type. The secondary timber type will be determined from the following species, basal area and size class:
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15 sq. ft. of large saw timber oak 15 sq. ft. of large saw timber northern hardwoods 25 sq. ft. of northern hardwood pole timber <u>10 sq. ft. of aspen pole timber</u> 65 Remaining Basal Area
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Secondary Cover Type:	NH	<p>The secondary cover type is northern hardwood because 40 sq. ft. of the remaining 65 sq. ft. of basal area are in northern hardwoods.</p> <p>(15 sq. ft. of large saw timber northern hardwoods + 25 sq. ft. of northern hardwood pole timber = 40 sq. ft. of NH.)</p>
Size Class	5-11	<p>The size class is 5-11 because the majority of remaining northern hardwood basal area is pole timber size.</p> <p>(25 sq. ft. of the 40 sq. ft. of northern hardwoods are in the pole timber category making up a majority of the basal area.)</p>
Density	1	<p>The density code is “1” because a total of 25 sq. ft. of basal area are in the secondary type (NH) and size class (5-11).</p>

The final cover type of this example is:

Primary Type: NH 11-15<sup>3</sup>

Secondary Type: NH 5-11<sup>1</sup>

## Example 2

### Stand Basal Area – All merchantable trees are pole timber size (5-11”)

90 sq. ft. of aspen  
15 sq. ft. of basswood  
10 sq. ft. of hard maple  
15 sq. ft. of red oak  
10 sq. ft. of white ash  
700 seedlings and saplings of white pine

Primary Cover Type:	A	The primary cover type is aspen because >50% of basal area in the stand is aspen.  (90 out of 140 sq. ft. for 64% of the basal area).
Size Class:	5-11	The size class is 5-11 because all aspen are in the 5-11” size class.
Density:	4	The density code is “4” because a total of 140 sq. ft. are in the pole timber product class.
Determining Secondary Cover Type		Eliminate the 90 sq. ft. of aspen pole timber from consideration in determining the secondary timber type. The secondary timber type will be determined from the following species, basal area and size class:  90 sq. ft. of aspen (used in primary type) 15 sq. ft. of basswood 10 sq. ft. of hard maple 15 sq. ft. of red oak <u>10 sq. ft. of white ash</u> 50 Remaining Basal Area, plus  700 seedlings and saplings of white pine
Secondary Cover Type:	NH	The secondary cover type is northern hardwood because 35 sq. ft. of the remaining 50 sq. ft. of basal area are in northern hardwoods (basswood, hard maple, white ash).
Size Class	5-11	The size class is 5-11 because all of the remaining northern hardwood species are in the 5-11” size class.
Density	2	The density code is “2” because a total of 35 sq. ft. are in secondary type (NH) and size class (5-11), being 15 sq. ft. of basswood + 10 sq. ft. of hard maple + 10 sq. ft. of white ash.
Understory Cover Type:	PW	The understory cover type is white pine because all 600 seedlings and saplings were determined to be white pine.
Size Class:	0-5	Seedlings and saplings are part of the 0-5” size class.
Density:	2	700 seedlings and saplings per acre are part of Density Code 2.

The final cover type of this example is:

Primary Type: A 5-11<sup>4</sup>  
Secondary Type: NH 5-11<sup>2</sup>  
Understory Type: PW 0-5<sup>2</sup>

### Example 3: Recently Completed Regeneration Harvest with Tree Retention

Stand Basal Area                      25 sq. ft. of large saw timber oak (tree retention)  
And

600 oak seedlings per acre  
100 mixed hardwood seedlings per acre  
700 total seedlings per acre

**REMEMBER: we no longer follow the 2 density rule.**

Primary Cover Type:	O	The primary cover type is oak because >50% of the seedlings are oak.
Size Class:	0-5	The size class 0-5 because 100% of the oak basal area is in the large saw timber size class.
Density:	2	The density code is “2” because a total of 700 seedlings are in the seedling size class
Determining Secondary Cover Type		Eliminate the 700 seedlings per acre of seedlings from consideration in determining the secondary timber type. The secondary timber type will be determined from the following species, basal area and size class:  25 sq. ft. of large saw timber oak (tree retention)
Secondary Cover Type:	O	The secondary cover type is oak because the majority of the basal area considered is oak
Size Class	15+	The size class is 15+ because the majority of the BA is in the 15+ size class
Density	1	The density code is “1” because a total of 25 sq. ft. of basal are is in the secondary type (O) and size class (15+)

The final cover type of this example is:

Primary Type:                      O 0-5<sup>2</sup>  
Secondary Type:                      O 15+<sup>1</sup>

