Technical Notes - 5
Management

September 12, 1934

By T. A. Barrett

APPALACHIAN FOREST EXPERIMENT STATION

The Station has received recent inquiries regarding site index curves for species other than the mixed hardwood stands for which such data are already available, The attached curves for second growth yellow poplar and white pine will be found suitable for approximate site determinations in the Southern Appalachians.

The white pine curves are based upon measurements of 376 dominant and codominant trees growing in mixture with hardwoods, a common form of occurrence in the Southern Appalachians. The poplar curves were based on the height-age relationship of the average tree in the dominant canopy as measured on 89 well stocked sample plots. The poplar curves are particularly applicable to pure, well stocked, even aged stands, but can be used for approximate site determinations in stands of poplar mixed with other species.

The following method is suggested for site determinations of both species when only 3 classes of site are recognized.

1. Determine the total age and height for 10-20 trees in a given locality measuring only dominant and codominant trees that are growing under fairly closed conditions of crown canopy, Avoid isolated or open grown trees;

2. If the trees measured are of approximately the same age (within 10 years) compute an average age and height for the group and determine the site by reference to the curve.

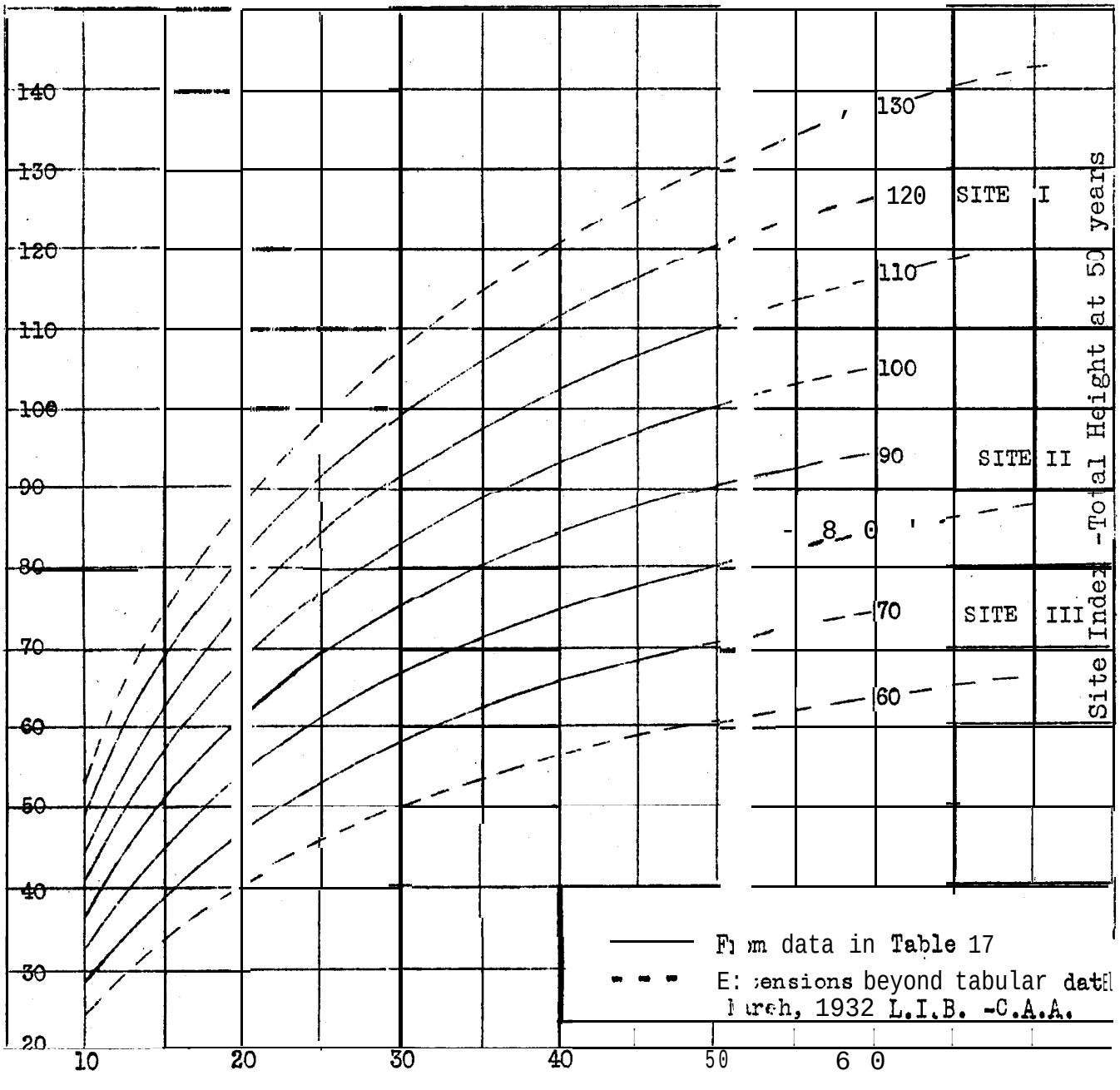
3. If the sample trees measured are of widely different ages determine a site index for each tree and compute an average site for the group.

A limited number of copies of the site curves are available and can be obtained by writing the Appalachian Forest Experiment Station, 223 Federal Building, Asheville, N. C.

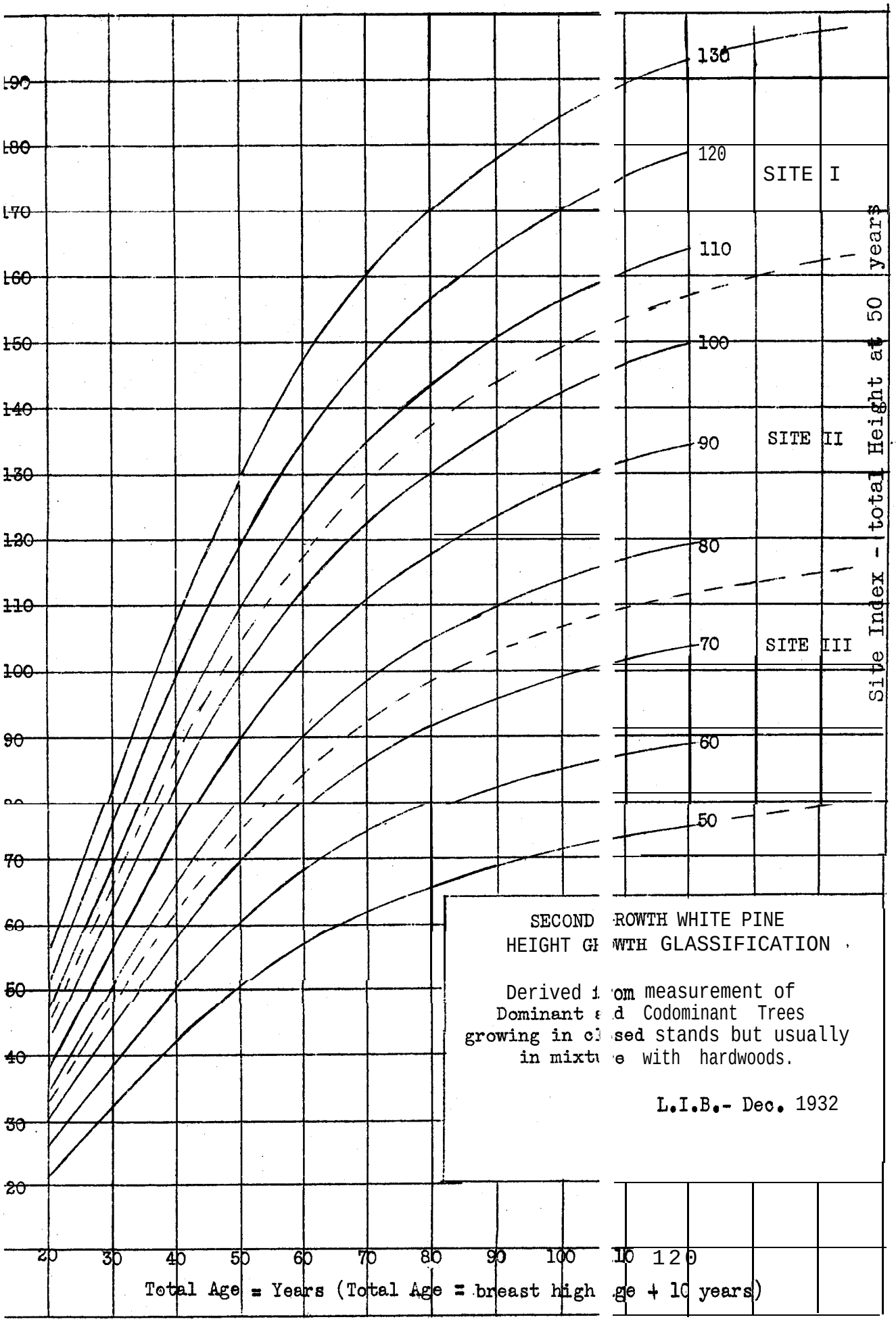
SECOND GROWTH YELLOW POPLAR

HEIGHT GROWTH CLASSIFICATION

Derived from Table 17, U.S.D.A. Tech ical Bulletin No.356, "Yellow Poplar Character stics Growth and Management by E.F. McCart y



Total Age - Years (Total Age = breast high age + 3 yrs.


130
120
110
100
90
80
70
60
50
SITE I
SITE II
SITE III
Site Index - total Height at 50 years
190
180
170
160
150
140
130
120
110
100
90
70
60
50
40
30
20
20 30 40 50 60 70 80 90 100 110 120
Total Age = Years (Total Age = breast high ge + 10 years)
SECOND ROWTH WHITE PINE
HEIGHT GR WTH GLASSIFICATION
Derived f om measurement of
Dominant a d Codominant Trees
growing in cl sed stands but usually
in mixtu e with hardwoods.
L.I.B.- Dec. 1932

Technical Note -4
Management

Asheville, N. C.

Appalachian Forest Experiment Station

Growth of Appalachian Hardwood Forests.

Description

North facing cove between 3000 and 3400 fee in elevation on the Duncan Ridge, Union County, Georgia. Area is known locally as the Sosebee Cove. Condition of the timber and quality of the site are exceptional. The present report deals with a #proximately five acres of the cove occupied almost entirely by yellow poplar.

The area may have been under cultivation for a few years but this could not be determined definitely as local inhabitants disagreed on this point. The area is in government ownership and there has been no past cutting in the stand. Fire history has been favorable, very few scars being present,

Date of examination - July, 1931

Stand per Acre

Species	Board foot volumes Scribner Dec.C, in trees 12" d.b.h. and larger.	Number of trees 12" d.b.h. and larger.
Yellow poplar	23,295	90
Black cherry	368	1
Black locust	1,026	5
Chestnut (alive	2,973	10
Basswood (Linn)	434	3
White ash	197	1
Hickory	246	1
Totals	28,559	111

Growth

The stand was relatively even aged, varying from 53 to 65 years with an average of 58 years.

Average annual growth per acre $\frac{28559}{58}$ = 492 board feet per acre since inception of stand. Current annual growth for decade 1922 - 1931 was 392 board feet per acre. Increment borings show stand to be slowing up in growth due to heavy stocking.