

Managing Young Stands for Climate Resilience

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Bucoda, WA

Reference Materials

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 NORTHWEST NATURAL RESOURCE GROUP LEADERS IN ECOLOGICAL FORESTRY A nonprofit organization whose mission is to strengthen the ecological and economic vitality of Northwest forests and communities by connecting people with the knowledge, skills, and markets they need to steward their land.	 Sustainable Agriculture Research & Education This workshop is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number G142-23-W9216 through the Western Sustainable Agriculture Research and Education program under project number WRGR22-009.

Table of Contents

Environmental Quality Incentives Program (EQIP) & Conservation Stewardship Program (CSP)	1
USDA Stand Density Guide	3
Red alder relative density chart 1	4
Red alder site index curve	5
Red alder cubic foot volume per acre	6
Douglas-fir site index curve	7
Douglas-fir cubic foot volume per acre	8

Environmental Quality Incentives Program (EQIP) & Conservation Stewardship Program (CSP)

To learn more: search for "WA NRCS EQIP" or "WA NRCS CSP" or visit www.nnrg.org/eqip

EQIP

1. Must have a forest management plan that identifies the conservation practices to be implemented.
2. May apply for multiple conservation practices.

CSP

1. Does not require forest management plan. However, all recent management activities must be documented in some fashion.
2. Must meet or exceed protections for at least two of eight *Resource Concerns* for forestland.
3. Minimum annual payment of \$1,500
 - a. Must complete a *Practice* to correct any resource concern not protected (see examples below).
 - b. May complete additional practices as desired.
4. Must complete at least one *Enhancement* that goes above and beyond current conservation practices (see examples below).
5. Must document all costs and steps in implementation of conservation practice(s)

Sample EQIP & CSP Conservation Practices & Payment Rates (2023) ¹				
Practice Code	Practice Name	Description	EQIP Payment Rate/acre*	CSP Payment Rate/acre
106	Forest management plan	<20 acres	\$1,197/\$1,436	NA
106	Forest management plan	20-100 acres	\$1,764/\$2116	NA
165	Forest Management Design and Implementation Activity	<20 acres	\$315/\$378	NA
165	Forest Management Design and Implementation Activity	20-100 acres	\$504/\$604	NA
314	Brush management	Hand tools, medium	\$159/\$191	\$21
315	Herbaceous weed control	Chemical, spot treatment	\$159/\$191	\$21
315	Herbaceous weed control	Hand tools	\$278/\$334	\$37
384	Woody residue treatment	Slash treatment, light	\$190/\$228	\$25
383	Fuel break	Thinning trees and removing fuels (e.g. shrubs, branches, etc.) within 100' of public roads or 200' of structures.	\$2,164/\$2,597	\$288
660	Pruning, stand improvement	Pruning trees to improve timber quality and reduce fire risk. Trees must be pruned to >10' from ground.	\$436/\$524	\$58
490	Tree/shrub site preparation	Hand Site Prep, Individual Spots, Light Vegetation	\$246/\$295	\$32

490	Tree/shrub site preparation	Chemical, ground application	\$193/\$232	\$25
490	Tree/shrub site preparation	Mechanical, Shredding, Light vegetation	\$729/\$875	83
612	Tree/shrub establishment	Reforestation of 1 acre or more, hand planting, protected	\$1,074/\$1,289	\$85
645	Upland wildlife habitat	Pollinator species, annuals	\$137/\$164	\$18
649	Structures for Wildlife	Brush piles	\$281/\$337**	\$37**
649	Structures for Wildlife	Nesting box, small	\$50/\$60**	\$6**
649	Structures for Wildlife	Snag creation	\$27/\$33**	\$3**
649	Structures for Wildlife	Downed large wood	\$297/\$356**	\$39**
666	Forest Stand Improvement	Pre-commercial Thinning, Hand tools, Light	\$316/\$380	\$42

Sample CSP Enhancements for Forestry

Practice Code	Enhancements	Payment Rate/Acre
E384A	Biochar production from woody residue	\$5,536.11
E386D E386E	Enhanced field borders to increase wildlife or pollinators food and habitat along the edge(s) of a field	\$758.66
E420A	Establish pollinator habitat	\$510.11
E612B	Planting for high carbon sequestration rate	\$843.86
E612C	Establishing tree/shrub species to restore native plant communities	\$1,086.19
E612D	Adding food-producing trees and shrubs to existing plantings	\$254.55
E612E	Cultural plantings	\$2,215.19
E612G	Tree/shrub planting for wildlife food	\$2,585.15
E666G	Reduce forest density and manage understory along roads to limit wildfire risk and improve habitat	\$354.63
E666J	Facilitating oak forest regeneration	\$662.39
E666K	Creating structural diversity with patch openings	\$698.12
E666O	Snags, den trees, and coarse woody debris for wildlife habitat	\$64.92
E666P	Summer roosting habitat for native forest-dwelling bat species	\$242.59
E666R	Forest songbird habitat maintenance	\$246.89

1 Rates can vary depending on treatment type. Please check current EQIP & CSP Payment Schedules on the USDA's website.

*First payment amount listed refers to the normal payment rate. Second payment rate is for forest owners who qualify as *historically underserved* (e.g. minority, women, new/beginning forest owners, etc.).

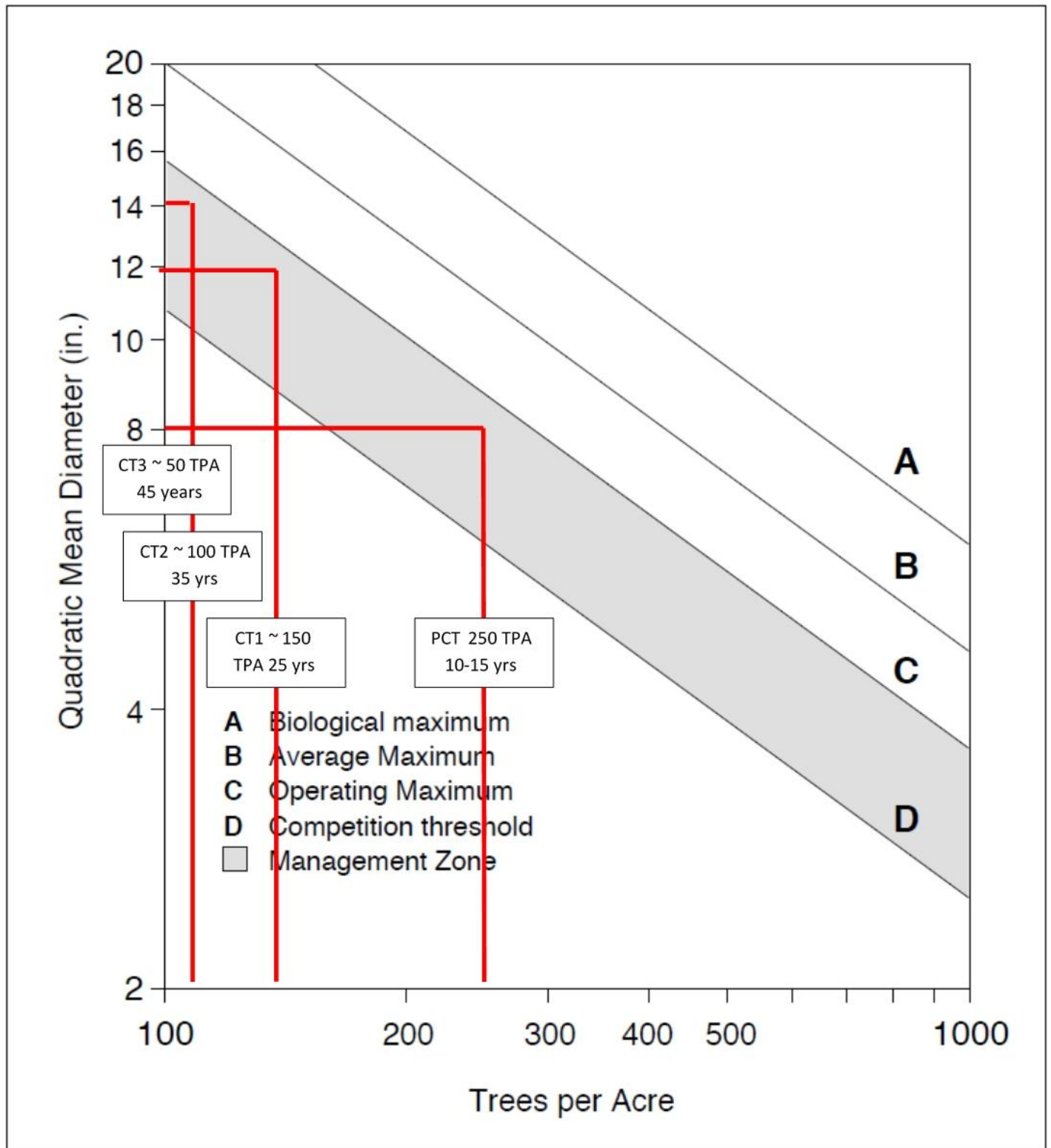
**Wildlife structures are paid by the unit, not by the acre.

USDA Stand Density Guide

	A	B	C	D	E
Shade Tolerance Class	Species	Minimum Reforestation Density (<2" dbh)	Young Stand Density (2-9" dbh)	Older Stand Density (≥10" dbh) Thin To:	Thin Again When:
Very Shade Tolerant	Subalpine fir	9' x 9'	9' – 11'	D + 3	D + 0
	Pacific silver fir	or	or		
	Western red cedar	538 spa	360-538 spa		
Shade Tolerant	Western hemlock	10' x 10'	10' – 12'	D + 4	D + 1
	Sitka spruce	or	or		
	Englemann spruce	436 spa	302-436 spa		
	Grand fir				
Moderately Shade Tolerant	Douglas-fir (coastal)	11' x 11' or 360 spa	11' – 13' or 258-360 spa	D + 5	D + 2
Moderately Intolerant	Douglas-fir (inland, S.I.>100)	12' x 12'	12' – 14'	D + 6	D + 3
	Ponderosa pine (S.I.>100)	or 302 spa	or 222-302 spa		
	Western white pine				
Intolerant	Red alder	13' x 13'	13' – 15'	D + 7	D + 4
	Western larch	or	or		
	Lodgepole pine	258 spa	194-258 spa		
	Black Cottonwood				
Intolerant (edaphic)	Douglas-fir (inland, S.I. 80-100)	14' x 14'	14' – 16'	D + 8	D + 5
	Ponderosa pine (S.I. 80-100)	or 222 spa	or 170-222 spa		
Intolerant (edaphic-climate)	Douglas-fir (inland, S.I. <80)	15' x 15' or 194 spa	15' – 17' or 151-194 spa	D + 9	D + 6

Red alder relative density chart

Puettmann 1993



Red alder site index curve

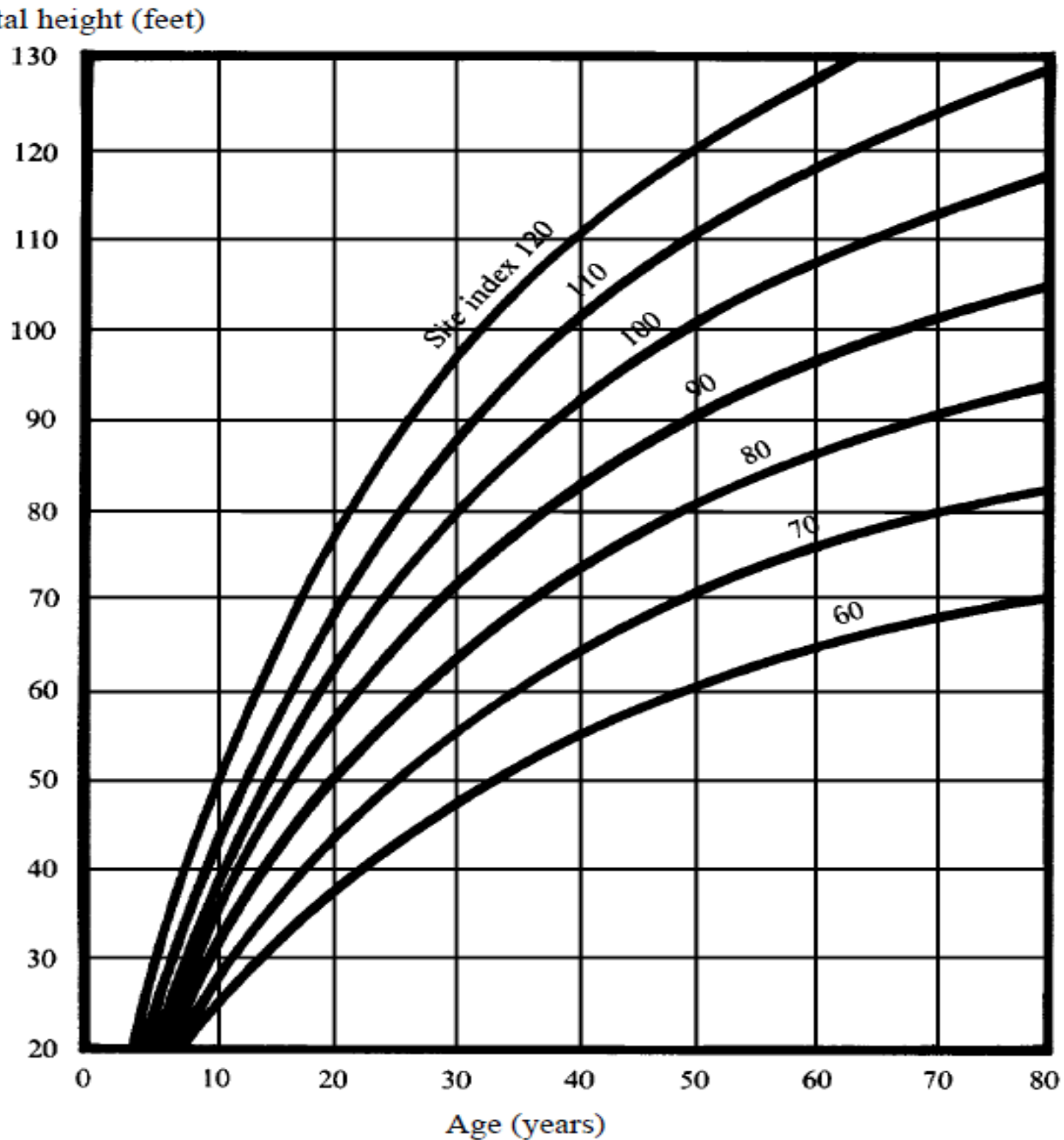
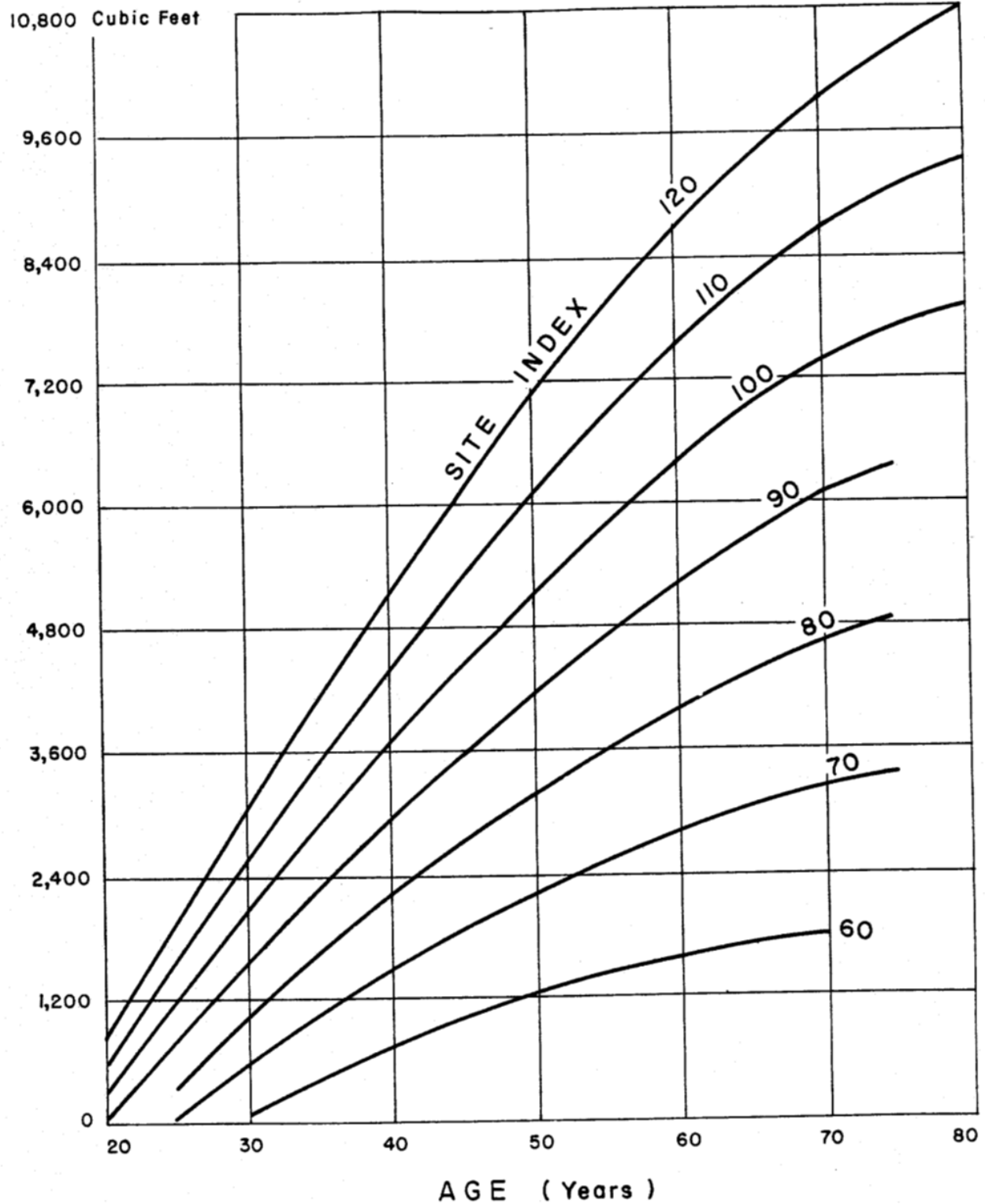


Figure 2.—Site index curves, showing height growth of red alder on sites of different quality (adapted from Worthington and others, 1960; see "For Further Reading," page 8).

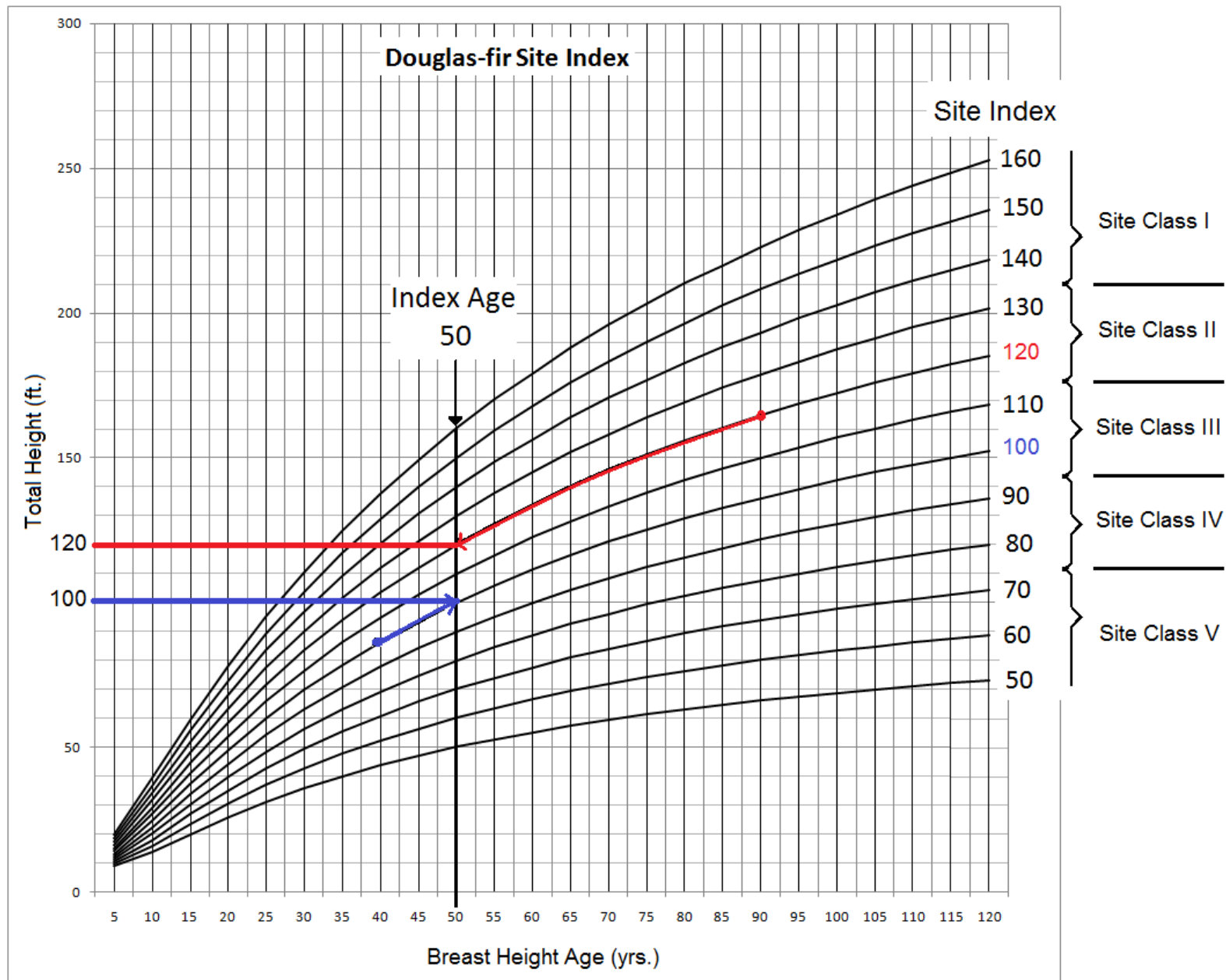
Red alder cubic foot volume per acre (trees >9.5" DBH)

Example: at harvest age of 30 years w/Site Index 100: 2,000 ft³/acre (~10 MBF/acre)

VOLUME



Douglas-fir site index curve



Douglas-fir cubic foot volume per acre (all trees)

Example: at harvest age of 30 years on Site Class II: 4,000 ft³/acre (~20 MBF/acre)

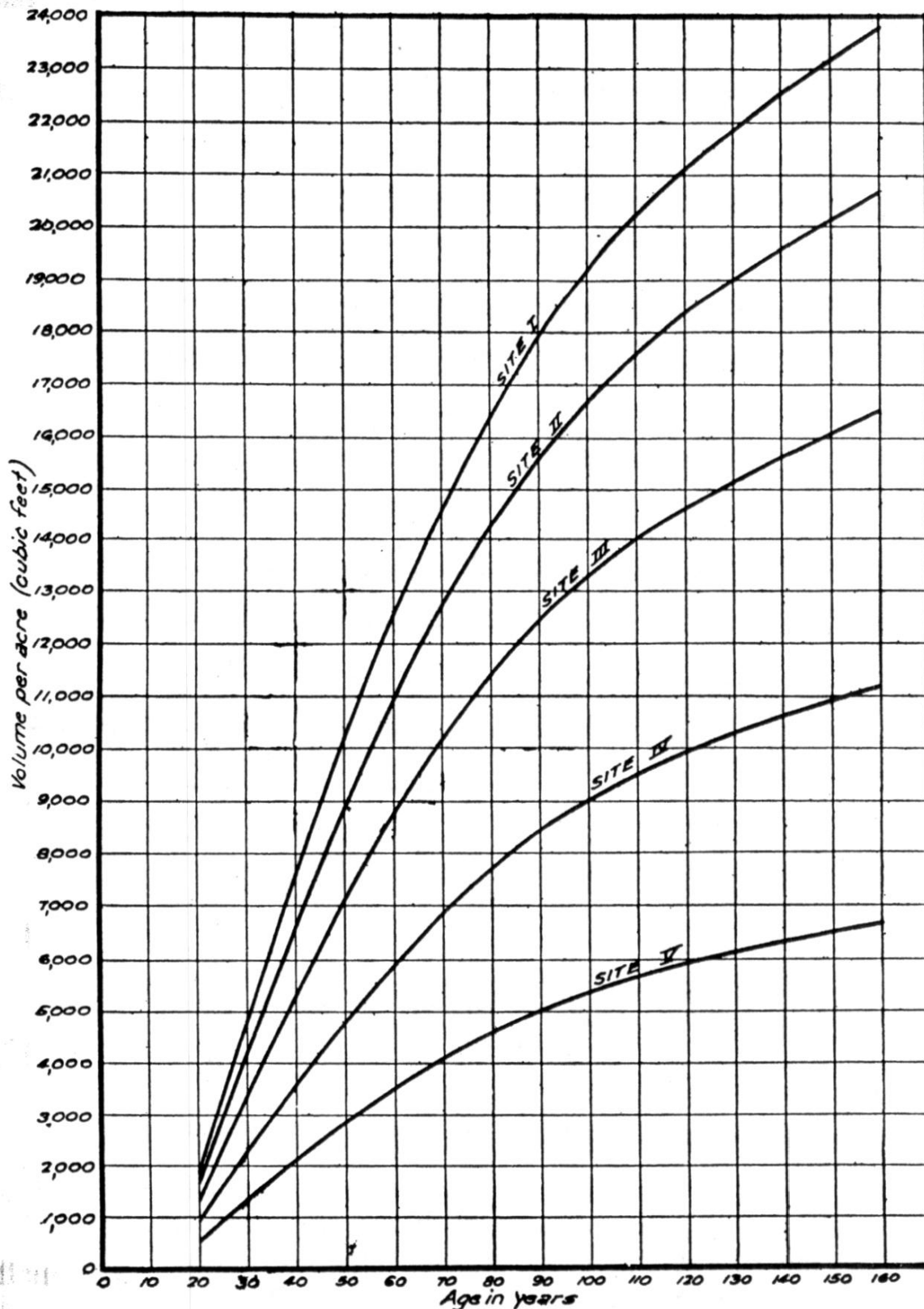


FIGURE 6.—Total yield per acre in cubic feet