

# Washington DNR West Side Stand Development Stage (SDS) Form

Version 1.0 (Revised and updated February 2024)

Date	Assessor name	Primary Twn-Rge-Sect	Timber sale/activity name	Timber sale unit number(s)	FMA's assessed
05/15/2024	Sam Lake	T17R04W S 2,3,9,11	Broke	1-5	318253,318254,318255, 318256,318258

## Instructions

Key each distinct forest stand type in the project area (e.g. timber sale units) in terms of Stand Development Stage (SDS), per the [Van Pelt guide](#), pages 46-47. Distinct stand type is defined as a >5-acre area that is in a different SDS than other parts of the project area. Walk enough of the stand (informed as needed by remote inventory data) to cover the project area. If the entire project area is the same stage, record just one SDS.

This form does **not** replace the *WDNR West Side Old Growth Assessment Form*. Please use that form to conduct old growth assessments.

## Stand development stages observed (add rows as needed if several stand types are present)

Unit number	Sector of unit, if applicable (e.g. N, S, E, W, NE, NW, SE, SW, ...or 'all' or 'remainder' or whatever makes sense)	Approximate acres	SDS (Van Pelt guide pg. 46-47) see appendix for crosswalk to other DNR-relevant classifications
1	All	73	Biomass Accumulation/Stem Exclusion
2-5	All	117	Biomass Accumulation/Stem Exclusion

\*SDS classes are, in order: Cohort Establishment, Canopy Closure, Biomass Accumulation/Stem Exclusion, Maturation I, Maturation II, Vertical Diversification, Horizontal diversification, Pioneer Cohort Loss.

\*Important additional notes on the Van Pelt key are included at the bottom of this form.

## Notes / rationale

## Photo documentation



Photo on Left: U2 Bole Zone.



Photo on Right: U3 Bole Zone



Photo on Left: U4 Bole Zone



Photo on Right: U5 Bole Zone



Unit 1 Bole Zone



U1 Understory, looking toward edge of unit on B-1000 rd.

## Appendix – Cross walk between stand development classification systems

### Crosswalk between stand development terms used in this guide and terms used in other DNR publications.

OG Guide	DNR Glossary	Essential Ecological process, elements and other notes
Cohort establishment phase	Ecosystem initiation	Establishment of cohort individuals
Canopy closure	Competitive exclusion: sapling exclusion	Canopy closes
Late canopy closure and early Biomass accumulation/stem exclusion	Competitive exclusion: pole exclusion	Inter-tree competition is the dominant ecological process. Live trees compete with each other for resources (light, water, nutrients). Loss of stems <2" dbh due to shading; Self pruning begins
Biomass accumulation /stem exclusion and early Maturation I	Competitive exclusion: large tree exclusion	Inter-tree competition is the dominate ecological process. Live trees compete with each other for resources (light, water, nutrients). Loss of stems <5" dbh due to shading.
Maturation I	Understory development  And  Botanically diverse	A shift of the dominate mortality processes occurs from inter-tree competition to stochastic events (disease, wind, fire, pests) resulting in stem loss of larger trees (dominant and co-dominant) and a loss of shade. Openings in the canopy appear, allowing regeneration of shade tolerant species. High rate of biomass accumulation is maintained. In later stages, rate of live biomass accumulation begins to decrease. Continued understory development and stochastic stem loss. Stages generally lacking large down woody debris and large snags.
Maturation II	Botanically diverse	Development of additional species in lower and mid canopy. Large down woody material and large snags are generally absent or at low levels.
Vertical diversification	Niche diversification	Development of additional species in lower and mid canopy to abundant additional species at all canopy levels and increasing levels of large down woody debris and large snags.
Horizontal diversification	Fully functional	More stochastic stem losses create larger gaps. High accumulation of large woody debris, large snags.

Development stages used in this guide from Franklin et al. 2002. DNR stages adapted from Carey et al 1996 and Franklin et al 2002.

## **Appendix B: Broke Stand Development Stage Field Review**

Completed 04/12/2024

### **Unit 1 VRH 73 Acres**

Van Pelt Guide Key Scores: Biomass Accumulation/Stem Exclusion- Individual DF Tree Score 0

This is a single cohort stand of Douglas-fir, Western Hemlock and Western Red Cedar. The majority of this unit is on a very flat slope and the three species listed above comprise the single canopy layer. The canopy is very closed and mortality observed is from inter-tree competition. The understory is very scant even for small woody shrubs as little to no light reaches the understory. Some shrubs and smaller hemlock are observed along road edge where edge effect allows light to reach below the canopy. The canopy Douglas-firs have tight bark, branch stubs all the way down, and no epicormic branches were observed.

The down woody debris in this unit is comprised of legacy cedar fell and buck that was left behind and serve as nurse logs in some locations. Smaller diameter material exists from the inter-tree competition listed above that is standing dead or has fallen over. Hand cut stumps from original harvest are observed throughout.

### **Units 2-5 VRH 117 Acres**

Van Pelt Guide Key Scores: Biomass Accumulation/Stem Exclusion- Individual DF Tree Score 0

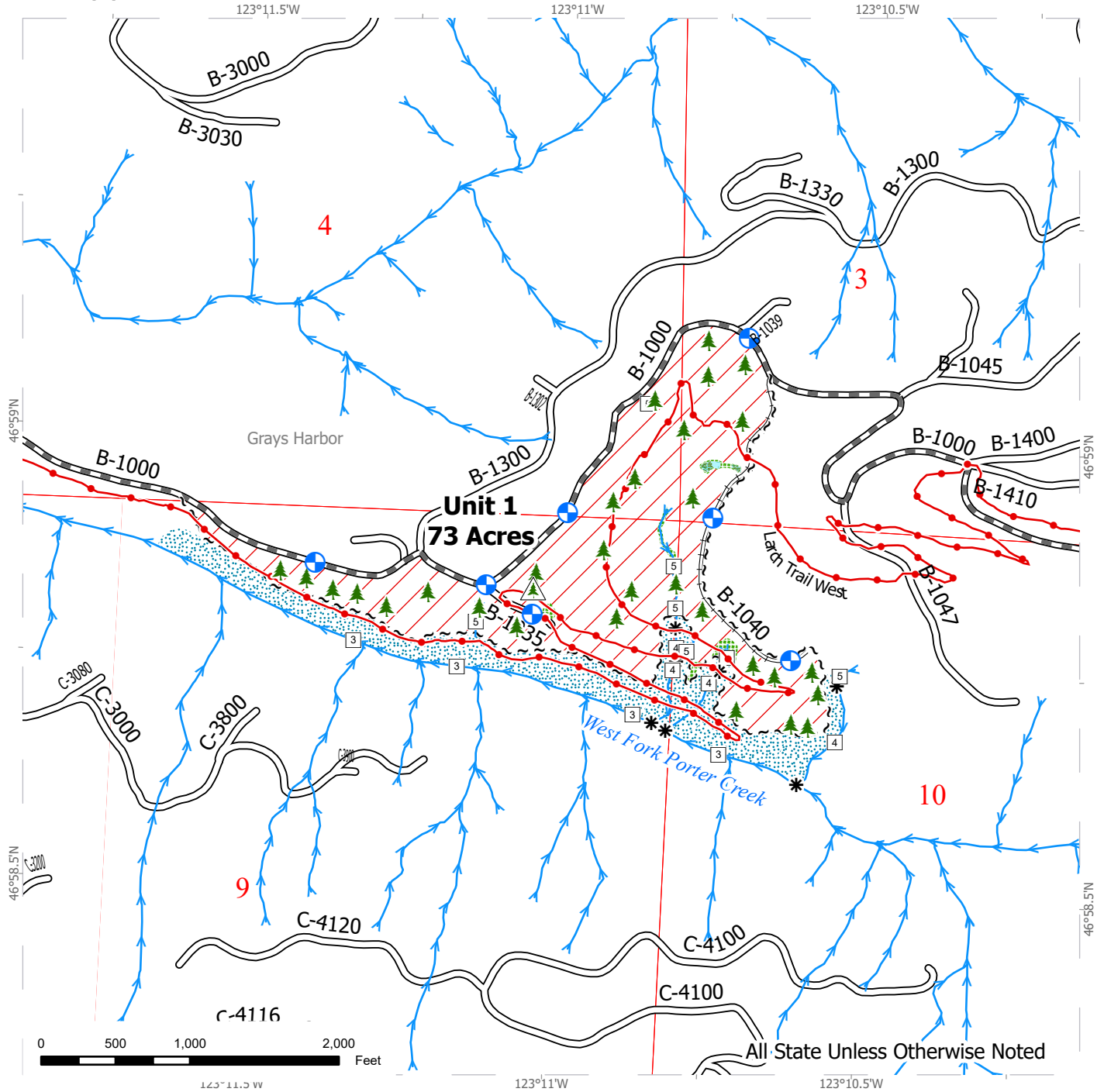
Units 2-5 are third growth row planted trees, with stand origin around 1965-66. The canopy is primarily Douglas-fir along with noble fir as you move higher in elevation. These stands appeared to have had a commercial thinning as evident by more modern stumps observed throughout unit. The understory is scant as the canopy is closed. It is likely that the thinning occurred with such a prescription that did not open the canopy up enough to allow for understory development. Salal is the primary understory plant. Douglas-firs observed all have tight bark, branch stubs all the way down, and have no epicormics present.

There is little to be found for down woody debris either legacy or of more recent harvests. The thinning that occurred here captured the timber that would have otherwise contributed to small diameter down woody debris from inter-tree competition mortality.

# TIMBER SALE MAP

**SALE NAME:** BROKE  
**AGREEMENT#:** 30-105211  
**TOWNSHIP(S):** T17R4W  
**TRUST(S):** Charitable/Educational/Peal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Purchase (2)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Grays Harbor, Thurston  
**ELEVATION RGE:** 1000-2520

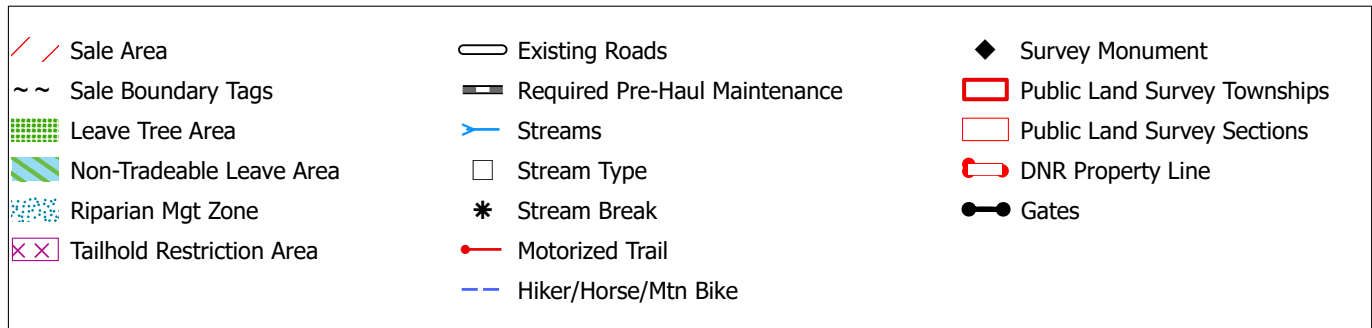
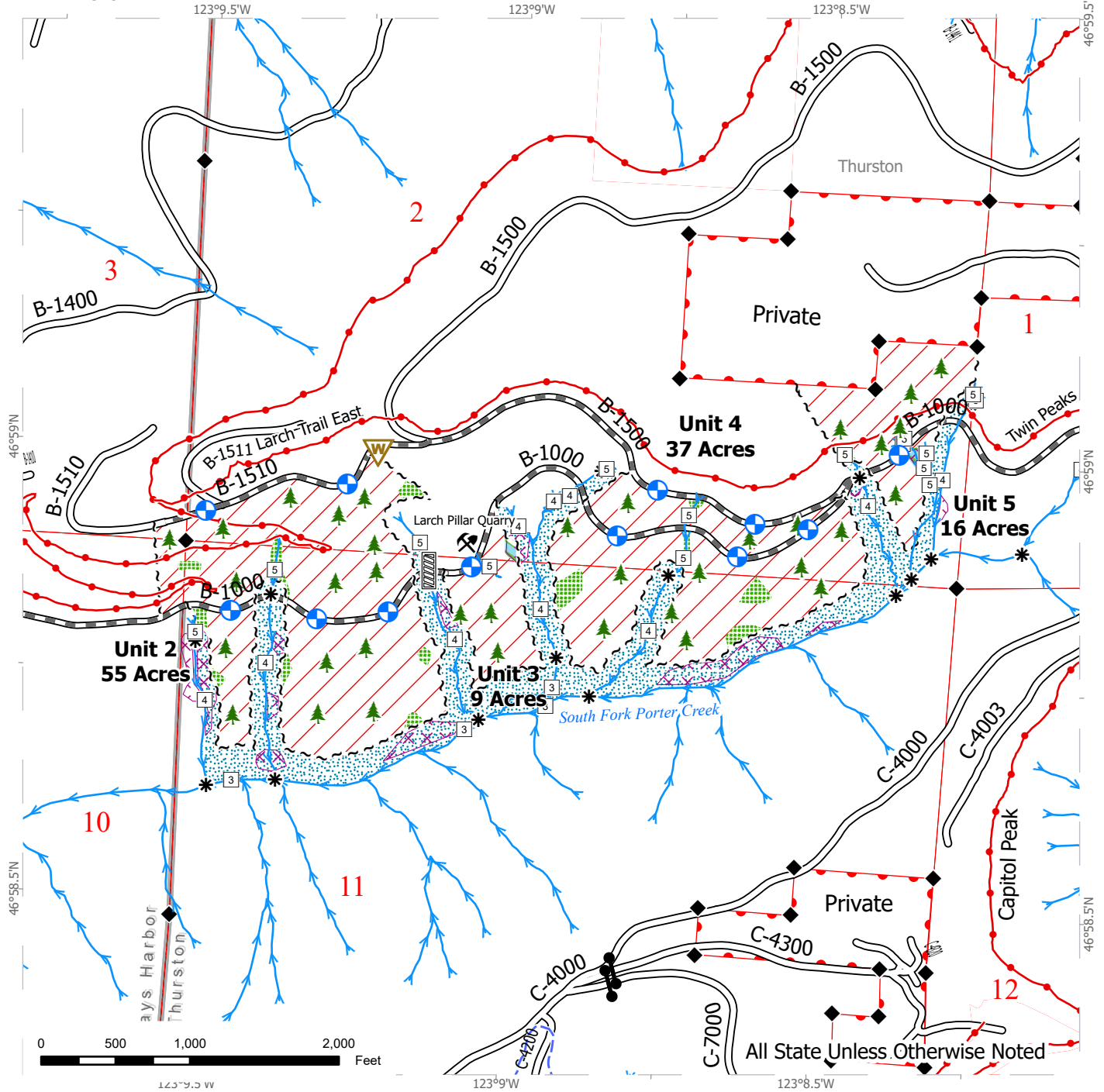


	Sale Area		Existing Roads		Survey Monument
	Sale Boundary Tags		Required Pre-Haul Maintenance		Public Land Survey Townships
	Leave Tree Area		Required Reconstruction		Public Land Survey Sections
	Forested Wetland		Streams		DNR Property Line
	Riparian Mgt Zone		Stream Type		Gates
			Stream Break		
			Motorized Trail		

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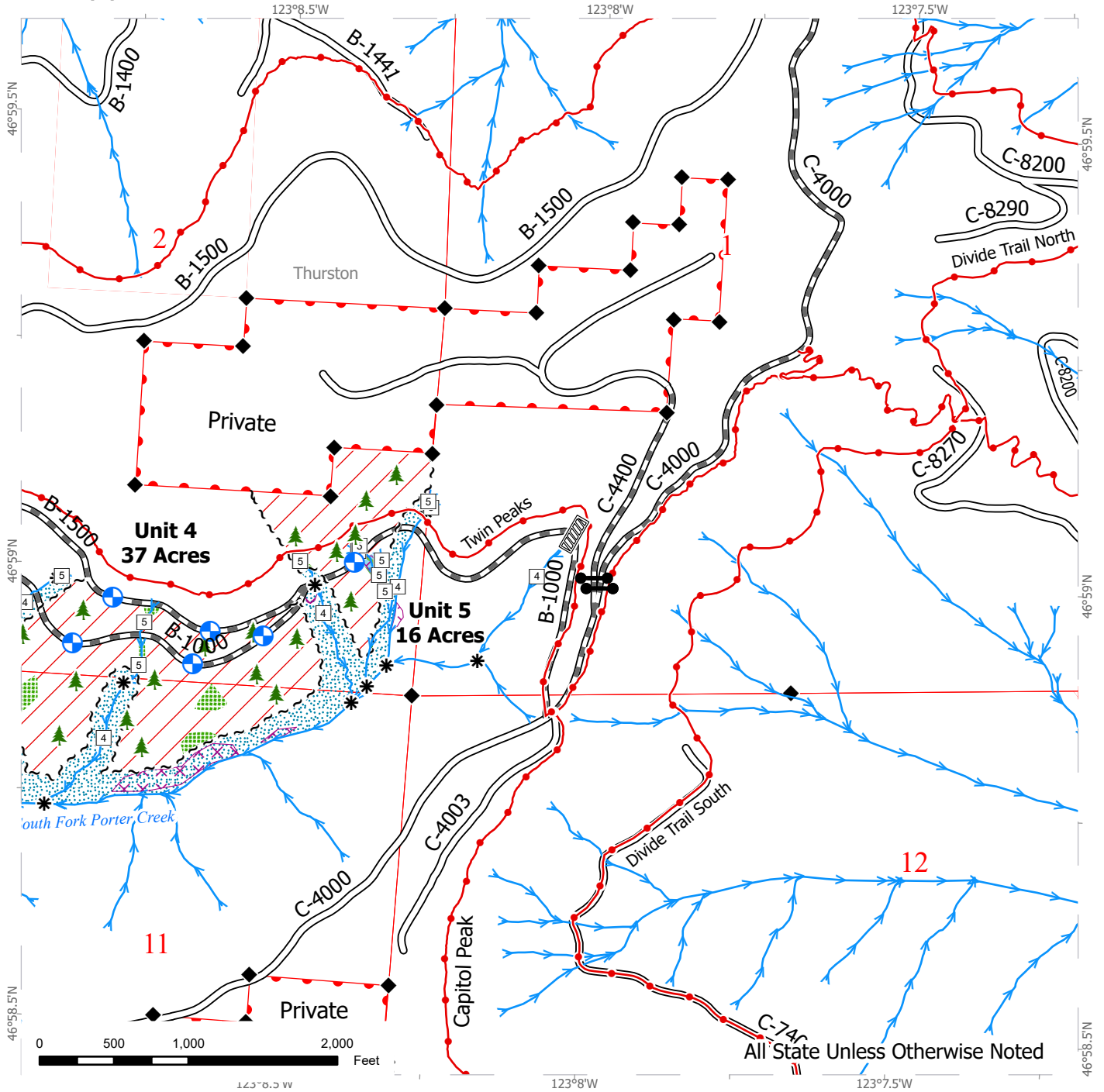




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All State Unless Otherwise Noted

