
STAND LEVEL INVENTORY

The Stand Level Inventory (SLI) is a forest inventory developed by the Oregon Department of Forestry (ODF) that serves as the information source on forest conditions for all lands managed by the State Forests Division. The information is used for forest management analysis, assessments, activity planning, and status reporting. Field measured sampling occurs in a carefully selected representative portion of forested inventory stands. These inventory cruise results are used to extrapolate inventory information in a supervised way to stands which do not have field-measured data. This provides site-specific information on trees, snags, down woody debris and understory vegetation in the cruised stands, statistically derived information about all stands for forest modeling purposes, and the ability to aggregate the information to report district and state-wide inventory totals for State Forests and lands managed by the Division under agreement.

The ongoing assessment of inventory quality is dependent upon many factors, but inventory investments remain important for efficient and effective forest management decision-making. The long-term goal for SLI is to maintain between 25% and 50% of all stands with relatively recent field measured cruise information. ODF routinely conducts annual inventory cruising projects in order to maintain those targets. After a hiatus of several years due to budgetary constraints, the Division has now made it a priority to reinvest in SLI data acquisition as a Core Business Function. During the period from July 2017 through June 2018, 240 SLI stands were field sampled on the Astoria, Forest Grove, North Cascade, Southwest Oregon, Tillamook, West Oregon, and Western Lane districts. Additionally, the State Forests 2019 fiscal budget includes funding to continue new inventory cruise data collection for 250 additional stands.

New SLI cruise data acquisition is only one part of the process required for maintaining a current, reliable forest inventory database. Actively managed forests are always changing due to a variety of factors including new harvest operations, natural disturbances, reforestation efforts, and tree growth. Regular inventory database updates are necessary in order to keep up with these changes. At this time, those updates are being completed on an annual cycle. This year, all district updates have been completed, with all forest stand data grown forward through June 2018. For most districts, the database has been updated to account for all operations completed through December 2017. For Klamath-Lake, the database has been updated to account for all operations completed through July 2009.

Due to the dynamic nature of ecological systems and the inherent challenges associated with sampling extensive natural resources, all inventory information, including volume, is an estimate. Annual forest inventory database updates provide snapshots in the form of inventory reports that represent our best estimates of the current forest conditions at a given point in time. Because ODF is constantly working to adjust and improve our inventory system, these annual reports should not be viewed as a monitoring system to report on year-to-year trends. Instead, the changes resulting from the annual update process reflect our change in understanding of the forest as much as actual changes across the landscape. The result is a comprehensive, up-to-date forest inventory that serves as an essential tool for the purposes of stand-level management, landscape-scale planning, and district-wide reporting.

STAND LEVEL INVENTORY DETAILS FOR ALL LAND OWNERSHIP CATEGORIES

Statewide, as of the end of June 2018, there are 12,779 SLI stands, 6,415 of which (50%) have field-based measurements. Inventory data for non-measured stands is extrapolated from the measured stands. Stands are delineated along differences in general timber characteristics – boundaries are drawn to group together areas with similar tree species, size and stocking. SLI boundaries often coincide with administrative boundaries, but individual stands may include more than one land ownership category such as Board of Forestry Lands (BOFL), Common School Fund Lands (CSFL) lands, and Other lands managed by the Division under agreement. The table below shows the total number of SLI stands and acres by ODF District, the number and percentage of stands with field-based measurements, as well as the number of stands (* having one or more acre) of BOFL, CSFL and Other landowner class lands.

District	All Lands with SLI				BOFL		CSFL		Other Lands	
	Total SLI Acres	Total Stands	Measured Stands	Measured Stands %	Acres	Stands*	Acres	Stands*	Acres	Stands*
Astoria	136,827	1,943	1,259	64%	134,822	1924	2,005	68	0	0
Coos	10,985	307	204	66%	8,889	248	2,086	57	9	1
Forest Grove	115,002	1,362	895	65%	114,375	1351	611	23	16	2
Klamath-Lake	106,028	626	423	67%	99,185	547	6,843	81	0	0
North Cascade	47,466	797	436	54%	46,586	782	879	30	0	0
Southwest	16,793	325	185	56%	9,350	194	7,443	129	0	0
Tillamook	250,514	6,044	2,268	37%	245,416	5959	5,050	188	48	7
West Oregon	36,727	977	482	49%	29,797	844	6,818	274	112	9
Western Lane	25,257	398	263	66%	24,324	384	932	13	0	0
Totals	745,599	12,779	6,415	50%	712,744	12,233	32,667	863	185	19

CSFL and Other landowner class lands, even though fewer in number and acreage in the SLI, benefit significantly with respect to the quality of inventory information by “participating” in the broader inventory effort done for all lands. Potential for the best application of field-measured stand data to the non-field-measured stands is enhanced by the availability of more numerous field-measured stands from the entire dataset – without incurring the additional expense of measuring them (field-measurement costs are shared on a total acres percentage basis by district).

STAND LEVEL INVENTORY TIMBER VOLUME ESTIMATE FOR BOFL LANDS

The table below shows the SLI-based estimate of merchantable net board foot volume by species for BOFL lands as of June 30, 2018. The acres information is net of area in roads – other non-forested acres are not removed, but the volume estimate does reflect the effect of low or non-stocked acres outside of roads.

Timber Inventory Estimate for State Forests Board of Forestry Lands, June 30, 2018											
District	Net Acres	Total Net Scribner Board Foot Volumes (MBF)									MBF/Acre
		Douglas fir	Cedar	True Fir	Hemlock	Pine	Spruce	Alder	Other	Total	
Astoria	129,913	2,110,511	19,042	46,774	742,741	267	115,844	389,941	52,141	3,478,234	26.8
Coos	8,687	198,591	3,891	33	14,277	0	591	34,824	9,284	265,086	30.5
Forest Grove	111,078	2,974,654	17,835	55,516	174,959	106	106	212,937	53,244	3,489,914	31.4
Klamath-Lake	97,923	14,908	5,269	54,058	0	448,940	0	0	1,048	528,501	5.4
North Cascade	45,197	1,104,535	16,673	37,090	123,053	133	0	29,330	29,731	1,342,893	29.7
Southwest	9,084	154,601	3,586	7,054	1,235	4,693	0	613	10,292	203,515	22.4
Tillamook	241,205	3,104,357	28,813	35,641	832,566	100	216,417	1,453,633	68,907	5,741,303	23.8
West Oregon	28,768	769,842	1,693	296	15,097	110	375	67,535	22,526	877,520	30.5
Western Lane	23,792	725,883	4,808	282	75,643	0	0	71,751	76,809	955,634	40.2
Totals	695,648	11,157,882	101,610	236,744	1,979,570	454,351	333,333	2,260,565	323,982	16,882,599	24.3

SLI data is updated annually, typically just prior to the end of June each year – in time for using the updated data for this report. For Astoria, Coos, Forest Grove, North Cascade, Southwest Oregon, Tillamook, Western Lane, and West Oregon, this year's updates have been completed and the information included in this report is up-to-date.

For Klamath-Lake, staffing and workload limitations this year combined to impact completion of the updates. Klamath-Lake's most recent update was completed in July 2009. That data was grown forward for this report using the inventory growth model. No operations updates have been included since July 2009.

STAND LEVEL INVENTORY TIMBER VOLUME ESTIMATE FOR CSFL LANDS

The table below shows the SLI-based estimate of merchantable net board foot volume by species for CSFL lands as of June 30, 2018. The acres information is net of area in roads – other non-forested acres are not removed, but the volume estimate does reflect the effect of low or non-stocked acres outside of roads.

Timber Inventory Estimate for State Forests Common School Fund Lands, June 30, 2018											
District	Net Acres	Total Net Scribner Board Foot Volumes (MBF)									MBF/Acre
		Douglas fir	Cedar	True Fir	Hemlock	Pine	Spruce	Alder	Other	Total	
Astoria	1,933	26,049	273	376	9,363	4	3,654	4,699	437	44,872	23.2
Coos	2,058	26,838	341	259	2,890	329	10,822	495	3,087	45,527	22.1
Forest Grove	592	13,593	21	63	231	0	0	1,297	293	15,498	26.2
Klamath-Lake	6,807	61	1,317	9,064	0	34,295	0	0	122	46,825	6.9
North Cascade	857	27,820	58	18	730	0	0	1,066	2,029	31,740	37.0
Southwest	7,307	90,872	2,504	5,641	86	15,119	0	107	8,353	134,752	18.4
Tillamook	4,969	74,115	1,317	1,560	41,468	3	12,691	15,895	984	148,033	29.8
West Oregon	6,624	195,502	687	5	9,923	7	2,090	18,426	8,374	235,016	35.5
Western Lane	906	22,436	371	946	2,726	0	0	861	1,910	29,250	32.3
Totals	32,054	477,286	6,889	17,933	67,418	49,758	29,257	42,846	25,589	731,513	22.8

SLI data is updated annually, typically just prior to the end of June each year – in time for using the updated data for this report. For Astoria, Coos, Forest Grove, North Cascade, Southwest Oregon, Tillamook, Western Lane, and West Oregon, this year's updates have been completed and the information included in this report is up-to-date.

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