
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 2016 through June 2017, 310 SLI stands were field sampled on the Astoria, Forest Grove, Klamath-Lake, North Cascade, Southwest Oregon, Tillamook, West Oregon, and Western Lane districts. Additionally, the State Forests 2018 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 2017. For most districts, the database has been updated to account for all operations completed through December 2016. 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 2017, there are 14,756 SLI stands, 7,534 of which (51%) 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 County Forest Trust Lands (CFTL), 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 CFTL, CSFL and Other landowner class lands.

District	All Lands with SLI				CFTL		CSFL		Other Lands	
	Total SLI Acres	Total Stands	Measured Stands	Measured Stands %	Acres	Stands*	Acres	Stands*	Acres	Stands*
Astoria	136,827	1,899	1,238	65%	134,822	1881	2,005	68	0	0
Forest Grove	115,000	1,349	851	63%	114,373	1339	611	22	16	2
Tillamook	250,515	6,150	2,214	36%	245,455	6063	5,050	193	10	5
West Oregon	36,727	980	463	47%	29,797	847	6,818	275	110	8
North Cascade	47,462	797	409	51%	46,586	782	876	30	0	0
Western Lane	25,257	396	251	63%	24,324	382	932	13	0	0
Southwest	16,793	320	177	55%	9,350	190	7,443	129	0	0
Coos	93,527	2,106	1,468	69%	8,888	283	84,630	1953	9	1
Klamath-Lake	106,028	759	463	61%	99,185	680	6,843	81	0	0
Totals	828,136	14,756	7,534	51%	712,780	12,447	115,208	2,764	145	16

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 CFTL LANDS

The table below shows the SLI-based estimate of merchantable net board foot volume by species for CFTL lands as of June 30, 2017. 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 County Forest Trust Lands, June 30, 2017											
District	Net Acres	Total Net Scribner Board Foot Volumes (MBF)									MBF/Acre
		Douglas fir	Cedar	True Fir	Hemlock	Pine	Spruce	Alder	Other	Total	
Astoria	130,026	2,190,475	20,155	48,262	751,047	256	115,417	409,596	55,929	3,591,137	27.6
Coos	8,685	196,170	3,864	31	13,270	0	564	34,761	9,314	261,075	30.1
Forest Grove	111,088	2,884,478	17,457	53,144	155,354	144	2,025	213,588	50,350	3,376,540	30.4
Klamath-Lake	97,923	15,357	5,178	53,076	0	433,097	0	0	1,043	511,914	5.2
North Cascade	45,202	1,086,481	17,148	38,601	123,078	185	0	25,966	32,208	1,323,667	29.3
Southwest	9,084	154,435	3,523	6,741	1,188	4,362	0	633	10,956	205,294	22.6
Tillamook	241,217	3,031,271	27,545	34,371	801,380	97	210,254	1,451,704	66,684	5,623,306	23.3
Western Lane	23,792	705,008	4,429	269	73,785	0	0	71,132	74,702	929,323	39.1
West Oregon	28,771	740,784	2,160	322	14,016	120	361	69,999	22,703	850,465	29.6
Totals	695,787	11,004,457	101,458	234,817	1,933,118	438,260	328,622	2,277,378	323,889	16,672,720	24.0

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, 2017. 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, 2017											
District	Net Acres	Total Net Scribner Board Foot Volumes (MBF)									MBF/Acre
		Douglas fir	Cedar	True Fir	Hemlock	Pine	Spruce	Alder	Other	Total	
Astoria	1,934	24,024	266	377	9,059	4	3,537	4,581	447	42,296	21.9
Coos	82,610	2,243,812	15,265	647	77,027	270	16,300	152,616	56,606	2,582,939	31.3
Forest Grove	593	12,940	22	58	183	0	0	1,248	275	14,724	24.8
Klamath-Lake	6,807	63	1,313	9,436	0	36,843	0	0	120	49,666	7.3
North Cascade	853	26,220	90	19	811	0	0	965	1,957	30,063	35.2
Southwest	7,307	88,514	2,191	4,477	83	11,587	0	107	8,258	127,031	17.4
Tillamook	4,969	72,353	1,274	1,531	40,387	3	12,546	15,693	999	144,787	29.1
Western Lane	906	21,147	403	1,000	2,819	0	0	846	1,969	28,183	31.1
West Oregon	6,626	185,092	763	5	9,906	6	2,048	18,106	7,937	223,863	33.8
Totals	112,606	2,674,164	21,586	17,551	140,275	48,712	34,432	194,162	78,568	3,243,552	28.8

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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