

## STAND LEVEL INVENTORY

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The Stand Level Inventory (SLI) is a forest inventory developed by the Oregon Department of Forestry (ODF) to serve as the information source on forest conditions for all lands managed by ODF's 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 inventory stands. These inventory cruise results are used to extrapolate inventory information in a supervised manner to estimate stands which do not have inventory cruise data. This methodology provides: site-specific information on trees, snags, downed-woody debris, and understory vegetation in forested stands; statistics on forested all stands for modeling purposes; and the ability to aggregate information to report district and state-wide inventory totals for State Forests, hereinafter Division, and lands managed by the Division under agreement.

Inventory assessments are important in making efficient and effective forest management decisions. The goal of SLI is to maintain a sampling design where 25% to 50% of all stands possess recent field measured inventory information. ODF routinely conducts annual inventory assessment projects to maintain this sampling design. To accelerate the completion of the LiDAR-based inventory, SLI was updated for the 2024 reporting period using a linear interpolation of the five-year growth projections calculated during the previous SLI update (2023) with depletions (e.g., timber removals) calculated using spatial overlays of timber sale polygon and SLI stand polygon boundaries.

Beginning in FY 2021 the Division initiated a transition to a LiDAR based inventory system coupled with a densified grid of federal Forest Inventory and Analysis (FIA) program data. This inventory system is labeled: Enhanced Forest Inventory, or EFI. EFI is part of a strategic investment to provide more statically robust data across all lands managed by the Division and forms the basis for planning, monitoring, analysis, and reporting related to forest management. Individual stand surveys, or SLI methodologies) will continue to be part of the Division's inventory system and used for more localized planning efforts and specific monitoring questions.

Actively managed forests are constantly changing due to various factors such as harvest operations, natural disturbances, reforestation efforts, and tree growth. To ensure accountability for these changes, regular updates to the inventory database are essential. Inventory updates are conducted annually. This year, all district updates have been completed, with forest stand data grown forward through June 2023. For most districts, the database now reflects all operations completed through December 2022.

Given the dynamic nature of ecological systems and the inherent challenges of sampling extensive natural resources, all inventory information, including volume, is subject to uncertainty. Annual updates of the forest inventory database produce reports that represent our best estimates of current forest conditions at specific points in time. As ODF continually works to refine and enhance our inventory system, these annual reports should not be interpreted as a monitoring system for year-to-years trends. Instead, the changes observed during the annual update process reflect both out evolving understanding of the forest environment and changes occurring across landscapes. This results in a comprehensive, up-to-date forest inventory that serves as a crucial tool for 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 2023, there are 12,396 SLI stands, 6,212 of which (50%) have field-based measurements. Note, these values are the same as those reported for the 2022 SLI annual report as no spatial edits to stand boundaries were performed in 2023 to allow inventory staff to focus on developing the remotely-sensed Enhanced Forest Inventory. Inventory data for non-measured stands are imputed 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/Unit	All Lands with SLI				BOFL		CSFL		Other Lands	
	Total SLI Acres	Total Stands	Measured Stands	Measured Stands %	Acres	Stands*	Acres	Stands*	Acres	Stands*
Astoria	136,855	1,957	1,287	65%	134,835	1940	2,005	69	16	1
Coos**	10,985	301	200	66%	8,889	243	2,086	57	10	1
Forest Grove	115,007	1,382	879	63%	114,380	1371	611	22	16	2
Klamath-Lake	105,825	578	502	86%	98,981	501	6,843	81	0	0
North Cascade	47,473	831	175	21%	46,586	810	879	36	8	1
Southwest Oregon**	16,793	327	184	56%	9,350	199	7,443	127	0	0
Tillamook	250,582	5,683	2,210	38%	245,483	5603	5,050	184	49	8
Veneta**	25,256	405	269	66%	24,324	391	932	13	0	0
West Oregon	36,587	932	506	54%	29,813	814	6,748	262	26	8
<b>Totals</b>	<b>745,363</b>	<b>12,396</b>	<b>6,212</b>	<b>50%</b>	<b>712,641</b>	<b>11,872</b>	<b>32,597</b>	<b>851</b>	<b>125</b>	<b>21</b>

\*\*These are units within the Western Lane District

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).

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**STAND LEVEL INVENTORY TIMBER VOLUME ESTIMATE FOR BOFL LANDS**


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The table below shows the SLI-based estimate of merchantable net board foot volume by species for BOFL lands as of June 30, 2024. Note: estimates of net merchantable volume have been linearly interpolated from five-year projections performed during the previous SLI update with depletions calculated by intersecting sale polygons with stand polygons rather than a manual update. Area information is represented as the net of total area, deducting road prisms. Other non-forested acres are not removed. Volume estimates do not reflect the effect of low, or non-stocked acres, outside of road prisms.

Timber Inventory Estimate for State Forests Board of Forestry Lands, June 30, 2023											
District	Net Acres	Total Net Scribner Board Foot Volumes (MBF)									MBF/Acre
		Douglas fir	Cedar	True Fir	Hemlock	Pine	Spruce	Alder	Other	Total	
Astoria	129,926	2,191,218	20,476	50,548	781264	326	124,702	373002	49331	3,590,867	27.6
Coos**	8,687	300,348	5,714	61	19133	8	1,732	41487	17333	385,816	44.4
Forest Grove	111,438	3,203,234	18,829	71,629	191019	285	135	209785	57922	3,752,838	33.7
Klamath-Lake	98,981	14,337	4,733	47,186	0	478529	0	0	5015	549,800	5.6
North Cascade	45,268	937,304	23,869	26,233	121167	523	0	23116	27847	1,160,059	25.6
Southwest Oregon**	9,111	178,134	3,822	7,147	1478	5232	0	577	31540	227,930	25.0
Tillamook	241,094	3,271,093	32,585	41,585	906470	105	233,318	1508204	70895	6,064,255	25.2
Western Lane	23,789	779,412	5,537	316	86212	0	0	69618	82977	1,024,072	43.0
West Oregon	28,773	924,078	2,393	281	20755	162	1,853	67787	24212	1,041,521	36.2
<b>Totals</b>	<b>697,067</b>	<b>11,799,158</b>	<b>117,958</b>	<b>244,986</b>	<b>2,127,498</b>	<b>485,170</b>	<b>361,740</b>	<b>2,293,576</b>	<b>367,072</b>	<b>17,797,158</b>	<b>25.5</b>

\*\*These are units within Western Lane District

SLI data is updated annually, typically prior to the end of June. The SLI annual report reflects operational activities including regeneration harvests, thinning, and reforestation on all districts between January 1 2023 , and December 31, 2023.

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**STAND LEVEL INVENTORY TIMBER VOLUME ESTIMATE FOR CSFL LANDS**


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The table below shows the SLI-based estimate of merchantable net board foot volume by species for CSFL lands as of June 30, 2024. Note: estimates of net merchantable volume have been linearly interpolated from five-year projections performed during the previous SLI update with depletions calculated by intersecting sale polygons with stand polygons rather than a manual update. Area information is represented as the net of total area, deducting road prisms. Other non-forested acres are not removed. Volume estimates do not reflect the effect of low, or non-stocked acres, outside of road prisms.

Timber Inventory Estimate for State Forests Common School Fund Lands, June 30, 2023											
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	32,413	312	557	10,280	6	4,260	4,465	500	52,793	27.3
Forest Grove	597	14,192	3	18	1,074	0	0	1,337	277	16,901	28.3
Klamath-Lake	6,843	28	1,318	10,995	0	38,240	0	0	2,388	52,969	7.7
North Cascade	857	22,183	84	23	953	0	0	928	1,459	25,630	29.9
Tillamook	4,965	85,208	1,499	1,641	43,726	11	13,548	17,585	999	164,217	33.1
Western Lane	916	18,248	392	1,111	2,900	0	0	853	1,968	25,472	27.8
West Oregon	6,559	223,634	819	0	10,681	3	2,031	18,767	8,950	264,885	40.4
<b>Totals</b>	<b>22,670</b>	<b>395,906</b>	<b>4,427</b>	<b>14,345</b>	<b>69,614</b>	<b>38,260</b>	<b>19,839</b>	<b>43,935</b>	<b>16,541</b>	<b>602,867</b>	<b>26.6</b>

\*\*These units are within the Western Lane District

SLI data is updated annually, typically just prior to the end of June. The SLI annual report reflects operational activities including regeneration harvests, thinning, and reforestation on all districts between January 1, 2023 and December 31, 2023.