Appendix D – Datasets Reviewed for Inventory

The table below catalogues the state and federal datasets considered for use in the Inventory, some key information about them, whether they were ultimately used, and why.

Number ID	Dataset/Data of Interest within Dataset	Source Oregon Agency	Description	Spatially explicit (yes/no)	Used or Not Used	Reason Used/Not Used
1	Tree species viability scores	ODF	Suitability of local climate to various tree species in future years using climate change models	Yes	Not Used	Data currently does not contain information on stocks or accumulation of carbon in trees. Potential for future use if periodic measurements of growth are conducted.
2	Various simulated vegetation change layers based on climate projections	ODF	Various simulated vegetation change layers based on climate projections	Yes	Not Used	Data does not align with the inventory analysis, which requires ex-post data. Not suitable for direct use in Inventory, however, could be used to validate other datasets.
3	Vegetation Type (forest)	ODF	Modeled forest vegetation characteristics, densities, size classes	Yes	Not Used	Data currently does not have a temporal component. Potential for future use if regularly updated and aligned with forest group types.

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4	Vegetation Type (arid/woodland)	ODF	Modelled vegetation	Yes	Not Used	Data currently does not have a temporal component. Potential for future use if regularly updated and aligned with forest group types.
5	reGAP Landcover	ODF	Mapping of general landcover classes	Yes	Not Used	Data currently does not have a temporal component. Potential for future use if regularly updated and aligned with IPCC categories.
6	Oregon Wetlands Database	DSL	Wetland mapping	Yes	Not Used	Data currently does not have a temporal component. Potential for future use if regularly updated and aligned to relevant wetland classes.
7	ODFW Spatial Data System	ODFW	Post Fire restoration and fire risk assessment data		Not Used	Data does not have data types relevant for the Inventory.

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8	Oregon Watershed Restoration Inventory	OWEB	Data submitted by restoration practitioners to report completed restoration projects to inform the comprehensive data repository, the Oregon Watershed Restoration Inventory (OWRI). Some restoration projects implemented have a mandatory reporting requirement due to being funded by OWEB grants, or other state grant funding. Data may include project costs, dates, participants and funding, location, goals, species to benefit, project results, and treatments and metrics.	Yes	Not Used	Data is not in a format that enables analysis of land area undergoing changes and categorization of changes aligned with inventory land transitions; provides only partial snapshot of land management activities. Potential for future use if provided in spreadsheet form indicating area of land impacted and sortable by management activities.
9	DSL Statewide Wetland Inventory	DSL	Comprised of Local Wetland Inventories, NWI and NRCS Map Units classified as greater than 50% hydric soils.	Yes	Not Used	The data currently does not have a temporal component. Potential for future use in coastal wetlands areas if information incorporated into CMECS. Potential for use in inland wetlands areas if data can be aligned/reconciled with NLCD through time.

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10	DSL Compensatory Wetland Mitigation	DSL	Mapped compensatory wetland mitigation areas	Yes	Not Used	Data currently is not in a format that enables analysis of land area impacted. Potential for future use in coastal wetlands areas if information incorporated into CMECS.

Potential for use in inland wetlands areas if data can be aligned/reconciled with NLCD through time. |
| 11 | Hydric Soils Mapping | DSL | Hydric soils map | Yes | Not Used | Potential for use in defining drained organic soils or misclassified wetland. |
| 12 | ODF Historic Fires | ODF | Perimeters for fires >10 acres on ODF-protected lands | Yes | Used | Data used to help calculate Biomass Burning estimates on Forest and Grasslands. |
| 13 | Statewide canopy height & forest mask (PENDING) | ODF | Pending project to model forest canopy height from digital aerial photogrammetry | Yes | Not Used | The project is not yet complete.

The forest mask is critical for more accurate reporting between Forest and Grassland categories. |

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14	FERNS Notifications	ODF	FERNS is ODF's electronic notification system for landowner activities on private forestland (e.g., application of herbicide)	Yes	Used	Fertilizer application notices contain fertilizer type and acreage, which can be used to estimate N content and amount given some assumptions about the application rate, this information needs to be requested from ODF staff by inventory compiler.
15	Reforestation Activities (State Forests)	ODF	ODF's internal dataset tracking spraying, thinning, and planting on State Forests	Yes	Not Used	Data currently is not in a format that enables analysis of management changes; lacks associated carbon density information. Potential for future use if additional data on carbon density were collected and aligned to derive inventory emission parameters.

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16	ODF Fuels Treatments	ODF	Project in progress to compile data on landscape resiliency treatments (including prescribed fire) into a single source	Yes	Not Used	Data collection driven by funded projects rather than capturing land practices consistently over time. Potential for future use if state creates method to track all activities rather than funded activities through time and specific parameters aligned to Inventory were included.
17	ODF prescribed fire treatments	ODF	Point data for burn events, including broadcast, pile, landing, and other burn types	No	Used	Data used to help calculate Biomass Burning estimates on Forest and Grasslands.
18	Oregon Statewide Habitat Map (2018)	ODFW	Comprehensive statewide habitat raster compiled from multiple sources in 2018 (see detailed metadata PDF). Maps 77 different habitat types	Yes	Not Used	Data currently is not updated frequently or consistently. Potential for future use if land classifications are aligned with Inventory classifications (if that level of detail is feasible.)

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19	Strategy habitats extent (Aspen Woodlands, Coastal Dunes, Estuary, Flowing Water and Riparian, Grasslands, Late Successional Mixed Conifer Forests, Natural Lakes, Oak Woodlands, Ponderosa Pine Woodlands, Sagebrush Habitats, Wetlands)	ODFW and SageCon Partnership	Extent of the strategy habitats	Yes	Not Used.	Data currently does not have a temporal component and does not provide quantitative data on carbon content.
20	Oregon Tonnage Reports	ODA	Fertilizer, ag amendments and lime tonnage sold or distributed in Oregon	No	Not Used.	Data currently is not disaggregated by any attributes related to application distribution. Can be used to check magnitude of national data, and as a proxy for when national data is not available. Could be used more directly if disaggregation by use or

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						location can be added to reports.
21	Wildfire perimeters	ODFW and SageCon Partnership	Provides wildfire perimeter information	Yes	Used.	Retrieved same data from national dataset rather than state dataset.
22	BLM prescribed burns	ODFW and SageCon Partnership	Provides prescribed burn perimeter information	Yes	Used.	Retrieved same data from national dataset rather than state dataset.
23	Rangeland Vegetation Conditions	ODFW and SageCon Partnership	Provides rangeland estimates of aboveground biomass	Yes	Not Used.	Data currently is not in a format that enables analysis required to align with methodological parameters. Potentially applicable in estimating biomass C density and for disaggregating by degraded, nominally managed, and improved pastures in soil flux calculations if aligned to methodological parameters.

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24	Kelp habitat extent	ODFW	Kelp habitat extent (area) over time	Yes	Not Used.	Data currently does not have a temporal component. Potential for future use if regularly updated.
25	Seagrass habitat extent	West Coast PMEP	Seagrass habitat extent (area) over time	Yes	Not Used.	Data currently does not have a temporal component. Potential for future use if regularly updated.
26	Seagrass habitat extent	ODFW	Seagrass habitat extent (area) over time	Yes	Not Used.	Data currently does not have a temporal component and has limited spatial coverage.

Potential for future use if regularly updated. |
| 27 | Coastal wetland extent | West Coast PMEP | Polygon of coastal wetland tidal extent | Yes | Used. | Critical data source for clipping C-CAP. |
| 28 | Coastal wetland extent | OCMP (DLCD) | Polygon of coastal wetland tidal extent | Yes | Not Used. | Current dataset does not include the Columbia River estuary. |

Number ID	Dataset/Data of Interest within Dataset	Source Oregon Agency	Description	Spatially explicit (yes/no)	Used or Not Used	Reason Used/Not Used
29	Tree inventory	ODF	Point data of trees for 55 communities, species, DBH, and maybe canopy cover derivations in some of the places	Yes	Not Used.	Data currently does not have any quantitative carbon parameters. Potential for future use if additional analysis was conducted to derive carbon stocks for urban trees and the dataset was regularly updated.
30	Biotic Components - Coastal	OCMP (DLCD)	The Biotic Component (BC) of the Coastal and Marine Ecological Classification Standard (CMECS) for estuaries of the West Coast of the contiguous United States	Yes	Not Used.	Potential for future use if CMECS classes are aligned/assigned to NLCD and C-CAP land classes.
31	Area of ditches	DSL	Wetland Delineation Reports and maps for jurisdictional ditches (created in part or whole in 'waters of the state' or "created from uplands and contain food and game fish and have free and open connections')	Yes	Not Used.	Potential for future use if data becomes available in GIS format and ditch width/depth is characterized (would also need to be harmonized with other datasets on ditches).

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32	Area of ditches	DSL	Local Wetland Inventories and reports	Yes	Not Used.	Potential for future use if data becomes available in GIS format and ditch width/depth is characterized (would also need to be harmonized with other datasets on ditches).
33	Timber harvest	ODF	Annual amount of timber harvested	No	Used.	Used to estimate harvested wood product carbon pool.
34	Canopy	Metro Data Resource Center	Presence of canopy and tree high information: Developed using LiDAR and imagery collected in the summer of 2019. Canopy was detected using a combination of normalized difference vegetation index (NDVI) from the imagery and feature heights from LiDAR. Geometric post-processing was used to clean up errors and noise (i.e., electrical lines above green vegetation).	Yes	Not Used.	Potential for future use if further analyzed to derive parameters aligned with the methodology for Inventory.

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35	LANDFIRE	(Multiagency – USDA Forest Service, Department of Interior, US Geological Survey)	LANDFIRE provides 30-meter spatial data on existing vegetation, fuels, and fire regimes across the United States. Its core vegetation products describe vegetation type, canopy cover, and height, and are widely used for ecological analysis, fire management, and land-cover stratification.	Yes	Not Used.	Although the dataset provides detailed information on vegetation classes over time, carbon fluxes for each class cannot be resolved due to lack of associated emission parameters. Furthermore, update frequency is less regular than other available land use/cover datasets and it does not provide data as far back as the 1990s. This dataset also does not provide consistent vegetation classification schema over time, complicating the use of consistent inventory methods. Will be used to supplement NLCD data as applicable.
36	LEMMA GNN	Oregon State University & USDA FS Pacific NW Research station	LEMMA produces maps of forest composition, structure, biomass, and carbon by combining ground plot data (such as FIA) with satellite imagery using Gradient Nearest Neighbor (GNN) modeling.	Yes	Not Used.	While the LEMMA GNN datasets provide landscape-scale information across the western United States, they do not offer temporal coverage needed for the inventory. They also focus on forest ecosystems while the inventory requires data on

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						spatial extent and characteristics of all land cover types within the state boundaries. Applicability of this dataset should be explored in deriving/validating forest type specific parameters, however lack of regular updates is a limitation
37	Rangelands Analysis Platform	USDA Agricultural Research Service, input from OSU data	The Rangeland Analysis Platform (RAP) is a satellite- and ground-data–driven tool that provides long-term monitoring of vegetation dynamics across U.S. rangelands. Its data products include percent cover of annual and perennial herbaceous vegetation, shrubs, trees, bare ground, and litter (1984–present), as well as annual and 16-day estimates of aboveground biomass and long-term vegetation trend analyses.	Yes	Used	Used to derive biomass carbon densities for shrub/scrub and perennial vegetation land classes

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38	Amount N in biosolid produced and land applied	DEQ	Annual reports on amount of biosolid material produced by wastewater treatment facilities in the state, the concentration of nitrogen, and land application from 2018 to 2024	No	Not Used.	Nitrous oxide emissions due to fertilizer applied on Developed Land were excluded from inventory to avoid double counting emissions reported by DEQ Sector based inventory (Fertilization of Landscaped Areas category). If reallocated to the Land Based Inventory, further data harmonization would be required as preliminary review DEQ biosolid data suggests the biosolids are applied on agricultural lands. Agricultural soil management emissions are also reported by DEQ Sector based inventory.

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39	Landfilled biogenic waste quantity and composition	DEQ	Datasets on quantity of landfilled waste in the state of Oregon including waste composition to identify biogenic waste from 1992 to 2022	No	Not Used.	Accounting for biogenic carbon stored in landfills was considered but not included in the inventory because it is not consistent with the IPCC guidelines. Further data harmonization is needed to utilize DEQ data to validate estimates of carbon removed by the HWP carbon pool in solid waste disposal sites (SWDS).
40	National Land Cover Database (NLCD)	USGS	The NLCD provides nationally consistent annual land cover maps of the United States at 30-meter resolution, derived primarily from Landsat imagery. It classifies the landscape into a standardized set of land-cover categories covering the period 1985 to 2024	Yes	Used	Provides a consistent time series of land use and land use change data with classifications that can be readily mapped to IPCC land categories