Pew

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Comments on Oregon's Draft Land-Based Net Carbon Inventory – Wetland & Blue Carbon Recommendations *(Submitted via email)*

Dear Ms. Ruther:

On behalf of The Pew Charitable Trusts (Pew), thank you for the opportunity to comment on Oregon's Draft Land-Based Net Carbon Inventory (Inventory). We commend the Oregon Department of Energy (ODOE) and the Oregon Climate Action Commission (OCAC) for developing a comprehensive, first-generation inventory that elevates wetlands (coastal, inland, and aquaculture) as a core part of the land sector. This work lays a strong foundation for tracking greenhouse gas (GHG) emissions and removals and for guiding nature-based climate solutions and adaptation strategies that benefit communities and ecosystems across Oregon.

Pew's U.S. Conservation program advances commonsense solutions that address the impacts of a changing environment on nature and communities, in collaboration with policy makers, Tribes, and stakeholders. Our interest in the Inventory is to support the accurate accounting, protection, and restoration of Oregon's vital wetland ecosystems to mitigate the impacts of climate change on people and nature. Accordingly, our comments focus on the application of the wetlands carbon inventory for nature-based climate mitigation, as well as how insights from the inventory can support resilience efforts within Oregon, as described in Executive Order 25-26.

Wetlands are among Oregon's most important carbon reservoirs, with wetland soils storing the most carbon per acre statewide. The Inventory's data show that tidal wetland emissions have been declining, reflecting Oregon's successful efforts to protect these "blue carbon" habitats and invest in restoration. In contrast, freshwater wetlands and drained organic soils (areas where wetlands have been converted to other land uses, such agriculture or development) remain sources of GHG, particularly methane and carbon dioxide. These findings underscore the value of using Inventory data to prioritize wetland restoration and adjust land-use practices, where feasible, to help Oregon maintain carbon stocks and reduce future emissions.

1.1 Roadmap for Inventory Improvement Recommendations

Wetland Mapping and Data Quality

Pew strongly supports the Inventory Roadmap's commitment to move beyond national datasets and to develop a spatially explicit Tier 3–ready, state-led wetland mapping framework.

Integrating advanced tools such as the Wetland Intrinsic Potential (WIP) tool, statewide salinity maps, and The Nature Conservancy's restored land maps will enable Oregon to better identify, classify, and track priority wetland habitats, including high-carbon forested wetlands that are often missed by older mapping methods.

For example, the WIP tool combines elevation, satellite, hydrology, and vegetation data to identify key freshwater wetlands, including those hidden beneath dense canopies. Similarly, Massachusetts serves as a strong example, showing how updating statewide wetland maps and applying standardized metrics with modern imagery, machine learning, and field verification can improve accuracy and establish a reliable baseline.

Pew also encourages the state to incorporate coastal habitats, such as eelgrass, mudflats, and kelp, into future mapping and carbon accounting efforts where relevant datasets exist. Recent assessments show these habitats, including unvegetated mudflats and submerged aquatic vegetation, contribute meaningfully to long-term carbon sequestration. For example, regional studies estimate that seagrass meadows in Oregon store about 27.5 tonnes of carbon per acre in their sediments to a depth of one meter and accumulate new carbon at a rate of roughly 0.11 metric tonnes carbon per acre each year. Including these habitats will help Oregon's climate strategies reflect the full scope of blue carbon and strengthen efforts to track, protect, and restore these vital ecosystems. Together, these advanced mapping resources can help ensure that wetland protection and restoration efforts are targeted and effective.

Additionally, we support inclusion of a peatland sub-section within the inland wetlands category that explicitly accounts for rare high-carbon fens and bogs. This will ensure the carbon released and captured by these high-carbon ecosystems are measured accurately. We recommend using the WIP tool to reveal hidden peatlands, including forested or degraded sites, and incorporating the new PeatRestore National Condition Map to improve peatland identification, assessment, and restoration planning statewide.

Methane and Drained Soil Accounting

Pew recommends that Oregon refine methane accounting by incorporating specific wetland characteristics—such as impounded vs. reconnected, water level, and temperature conditions—to reduce uncertainty and highlight the climate benefits of restoring tidal flow, especially in impounded wetlands that have been artificially freshened and emit more methane than their saline counterparts. Additionally, we suggest using Mean Higher High Water (MHHW) as a geospatial metric within the inventory to further refine methane emission estimates, facilitating more precise, location-based analysis of wetland methane dynamics.

Pew also urges the state to track drainage status and soil oxidation depth in former wetlands now classified as cropland or developed land, and to quantify the GHG reductions achieved through hydrologic restoration. This will improve estimates of emissions from drained soils and quantify the avoided emissions from rewetting projects.

To support these improvements, Oregon should leverage the Pacific Northwest Regional Blue Carbon Calculator, which is calibrated for Oregon and estimates GHG gains and losses from land-use change. This tool enables modeling over a 1–100 year range for specific land

management actions, helping inform policy choices and track progress toward nature-based climate goals.

1.2 Institutional Arrangements: Incorporating Input from Tribal Nations and Local Governments

Pew encourages Oregon to adopt a collaborative, co-development approach with Tribal Nations and local governments, aligned with the OCAC/ODOE draft Tribal Engagement Strategy, to ensure Indigenous knowledge is meaningfully incorporated into inventory improvements and implementation.

To sustain Tier upgrades and routine updates to the Inventory, Pew recommends clarifying roles and data flows among land-managing agencies, as outlined in the Inventory's Institutional Arrangements section. This will help ensure that wetland data collection, analysis, and reporting are consistent and transparent across agencies. We also urge the state to build long-term capacity with the Inventory Program through innovative partnerships (e.g., universities) to incorporate new science, improved methods, and emerging datasets as they become available.

Finally, Pew supports efforts to share the Inventory's advances broadly, both within Oregon and with external partners, to highlight the importance of wetland and blue carbon accounting and foster continued learning across the region.

2. Nature-based Climate Mitigation Targets

The Inventory provides Oregon with a baseline that can now be used to improve management of natural and working lands for climate mitigation. Toward this end, Pew encourages the state to adopt land category-specific activity-based targets, including protection and restoration targets for wetlands. Activity-based targets (e.g., number of acres restored or annual acres of tidal reconnection) provide clear, measurable goals that drive accountability, guide policy and investment decisions, and enable tracking of progress toward reducing GHG emissions and building climate resilience.

Examples from other states that have established forward-looking goals and employed standardized metrics for natural and working lands (wetlands) include:

- **California**: California released its Natural and Working Lands Climate Smart Strategy in 2022, followed by Nature-based Solutions (NBS) targets in 2024. The Strategy outlines major initiatives while the NBS targets include specific actions and associated acreage amounts that provide a basis for the state to model, analyze and measure climate action on its lands. For wetlands, the state established targets to protect, restore and build resilience on more than 233,000 acres of wetlands.

- **New Jersey**: In 2024, New Jersey released its Natural and Working Lands (NWLs) Strategy that includes conservation, restoration and management targets across NWLs for 2030 and 2050, covering over 25,000 acres of wetlands.

- **Maine**: In 2024, Maine released its updated "Maine Won't Wait" sector-wide climate plan, which includes a goal for the NWL sector to increase the total acreage of conserved natural and working lands in the state to 30 percent by 2030.

- *North Carolina:* Former Governor Roy Cooper issued Executive Order 305 in 2024 for the state's natural and working lands, including ambitious conservation and restoration targets for one million acres of forests and wetlands. This Executive Order remains in effect with the new administration under Governor Stein.

3. Resilience Planning

In addition to comments specific to the Inventory, we offer recommendations on how the Inventory can be leveraged for state resilience efforts, as described in Executive Order 25-26 and other existing state and local initiatives. By documenting the significant carbon losses from 1990 to the present, the Inventory shows that climate change is impacting the state's natural and working lands. Accordingly, we encourage the state to explicitly connect its nature-based climate mitigation work with its resilience efforts, as detailed below.

- *EO 25-26 Section I.1 - Key Resilience Attributes*: Landscape Categories in the Inventory, especially wetlands in estuaries and inland floodplains, are proven anchors of community and ecological resilience, offering durable benefits such as increased carbon sequestration, reduced flood and fire risk, improved water quality, and enhanced biodiversity. The Oregon Watershed Enhancement Board (OWEB) and Oregon Department of Fish and Wildlife – the agencies directed to "define key resilience attributes" per EO 25-26 – should consider carbon sequestration and storage capacity as it works to determine "key resilience attribute for land and waters" per the executive order.

- *EO 25-26 Section I.3 - Conserve Natural Lands and Waters to Act as Resilience Anchors:* Given their outsized ability to sequester and storing carbon while providing multiple resilience benefits, agencies should prioritize tidal wetlands when implementing the specific directive to "protect, conserve, connect or restore ten percent of lands and waters in Oregon within ten years as compared to baseline conditions established for 2025." As Oregon adapts to sea-level rise, healthy tidal swamps and estuaries will become increasingly critical for protecting coastal communities by absorbing floodwaters and buffering storm impacts.

- *EO 25-26 Section I.5 - Plan for a Resilient Oregon (PRO):* Wetland projects should also be featured in Oregon's Plan for a Resilient Oregon, with community-level indicators that track flood risk reduction, heat refugia, and cultural benefits alongside climate metrics informed by the Inventory.

- *Coastal Resilience: Estuary and Coastal Shorelands Management (Statewide Planning Goals 16 and 17):* on the Oregon coast, cities and counties control the bulk of Estuary Management Planning updates that help coastal residents effectively plan for a resilient future and help determine the fate of coastal carbon sinks like tidal wetlands that are highlighted by the Inventory. These municipalities should be better resourced to inventory estuary resources as part of updating their Estuary Management Plans, Comprehensive Plans, and associated zoning maps and ordinances, as this is required by Oregon Statewide Planning Goal 16 and guidelines. Similarly, Oregon's Department of Land Conservation and Development, the agency in charge of acknowledging or

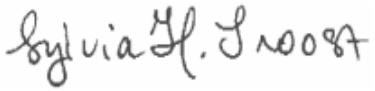
appealing Estuary Management Plans, and its associated Land Conservation and Development Commission, should ensure it has the rules and resources to accelerate coastal wetland conservation as it is a determining factor in smart economic development and community safety on the coast.

- *Estuarine Resilience Action Plans*: ODOE/OCAC should review DLCD / Oregon Coastal Management Program county-based Estuarine Resilience Action Plans (ERAPs)– see ERAPs for Coos, Tillamook, Lane, and Lincoln Counties – that articulate projects identified by coastal residents. These projects could be matched with the existing and future iterations of the Inventory to prioritize actions that cover multiple forms of resilience.

Conclusion

The Inventory underscores the importance of safeguarding and restoring wetlands as a powerful strategy for protecting carbon stocks, reducing emissions, and building resilience. Pew commends Oregon's leadership and commitment to measuring its natural and working lands and elevating their role in addressing climate mitigation. We look forward to working with the state to advance healthy, resilient ecosystems that support Oregon's climate goals and provide lasting benefits for its residents, local economies, and ecosystems. Please do not hesitate to reach out to me or Jazmin Dagostino, zdagostino@pewtrusts.org, if we can provide additional information.

Sincerely,



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The Pew Charitable Trusts