# Washington Department of Fish and Wildlife (Harriet Morgan)

The Washington Department of Fish and Wildlife appreciates the Department of Ecology's leadership in developing a rigorous forest carbon offset protocol as part of the state's cap-and-invest program. The program reflects important improvements over existing models, particularly California's, including efforts to reduce gaming of baseline assumptions and strengthen long-term accountability. As Washington continues to refine its approach, we offer two key areas for further consideration to ensure credits reflect real, additional, and durable climate benefits. First, we raise concerns about the protocol's assumed leakage rate for Improved Forest Management (IFM) projects, which may significantly underestimate displaced emissions and lead to systematic over-crediting. Second, we encourage Ecology to revisit how baseline scenarios are established, as current methodologies still risk awarding credits for business-as-usual outcomes. We offer the following comments in support of the state's ongoing commitment to environmental integrity.

Concerns About Leakage Assumptions in IFM Offset Projects:

Washington's forest carbon offset protocol currently assumes a 40% market leakage deduction for IFM projects. While this is more conservative than California's 20% assumption, recent research suggests 40% may still underestimate the true extent of leakage from reduced timber harvesting. Leakage occurs when harvest reductions in one area are offset by increased harvest elsewhere, displacing rather than eliminating emissions. If leakage is underestimated, offset credits may be awarded for emissions reductions that do not actually occur—undermining the program's climate objectives.

Published literature suggests the leakage rate from reduced timber harvesting in the United States is at least 80% (Gan & McCarl 2007; Wear & Murray 2004). A conservative approach to addressing uncertainty in the true leakage rate would apply a leakage rate of at least 80%. We recognize that such a high deduction could strongly disincentivize participation and may not be a viable technical fix. Given that reality, Ecology may wish to consider whether a 60% rate would strike a more appropriate balance between program feasibility and environmental integrity. When credits are issued early in a project's lifetime, the effects of underestimating leakage are compounded—leading to a substantial overstatement of climate benefits. Haya (2019) finds that in some scenarios, less than 50% of issued credits represent actual net emissions reductions when higher leakage rates are accounted for.

WDFW is also concerned about the method used to quantify emissions reductions. The protocol currently allows projects to receive credits based on projected carbon benefits expected to occur over a 100-year period. This approach assumes long-term stability in forest conditions, climate, markets, and management practices—introducing a high degree of uncertainty. Haya (2019) shows that when credits are limited to emissions reductions already achieved rather than anticipated, the share of issued credits that reflect actual reductions drops significantly. We encourage Ecology to consider the implications of crediting based on projections and explore mechanisms that ensure credits reflect realized climate benefits.

We also wish to flag a potential technical inconsistency in Equation 6.1 of the protocol. The equation includes a multiplier of 0.80 applied to harvested wood product carbon

benefits, reflecting a 20% leakage deduction. However, elsewhere in the protocol, the assumed leakage rate is 40%. If 40% is intended, the multiplier should be 0.60. This may be a typographical error or a remnant from an earlier draft modeled on California's protocol.

Concerns About IFM Baseline Assumptions:
WDFW is also concerned that forest offset protocols, particularly those modeled after California's, continue to award credits that do not reflect real, additional climate benefits. Washington's rulemaking takes important steps to improve upon California's approach, including placing limits on how far below a project's initial carbon stock the baseline can be set. However, the continued use of regional "common practice" averages still creates strong incentives for adverse project selection. Landowners with forests that naturally store more carbon than the regional average are more likely to enroll, earning credits without making meaningful changes to forest management.

Recent research supports these concerns. Badgley et al. (2021) found that California's forest offset program likely over-issued credits because projects were located in forests that naturally exceeded regional averages due to ecological characteristics, not improved stewardship which resulted in systematic over-crediting of 30 million tCO$_2$e, or ~30% of the credits analyzed. Coffield et al. (2022), using dynamic vegetation modeling, showed that credited forests would likely have continued storing carbon under business-as-usual conditions. Stapp et al. (2023) found no statistically significant difference in carbon accumulation between credited and uncredited forests, suggesting that credited projects did not produce measurable climate gains. Together, these studies point to a fundamental issue: baseline assumptions are too low, leading to the widespread issuance of non-additional credits.

To strengthen the integrity of forest offsets, we recommend the Washington Department of Ecology consider refining its baseline methodology. Improvements could include the use of species-specific or forest-type-specific baselines, incorporation of statistical uncertainty into credit calculations, and narrowing of geographic averaging zones to reflect ecologically meaningful boundaries. Where data are limited or risks of adverse selection are high, discount factors may help reduce the risk of over-crediting. Still, these technical changes may not be enough. It remains difficult to verify counterfactual scenarios or ensure that credited outcomes are truly additional. Washington should also explore whether alternative models, such as direct investment or contributions-based approaches, could provide more reliable and equitable climate benefits.

We would be happy to discuss any of these comments in greater detail. Thank you for your consideration.

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