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“Massive Over-Crediting” of California’s forest offsets? 4 Alarm Fire or False Alarm?

Pacific Forest Trust responds to ProPublica article¹ and CarbonPlan paper² that dispute crediting of avoided emissions from carbon rich forests under CARB Compliance Offset Protocol for U.S. Forests

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A brief introduction: Pacific Forest Trust has been advocating for the recognition of the climate benefits of forest conservation and stewardship since 1993. Our team was instrumental in California’s embrace of forests as part of its landmark climate regulatory program, including writing the legislation that led to the first voluntary forest offset protocol adopted by the Climate Action Reserve. I served on the stakeholder working group that crafted the basis for California Air Resources Board (CARB) Compliance Offset Forest Protocol for U.S. Forests (CCOPF)³, as well as on the recent Compliance Offsets Task Force established by the state Legislature.

Offsets in the News: This statement is written primarily in response to the ProPublica article published on April 29, but also addresses some issues raised in the recent splash of media coverage on the proliferating use of offsets by corporations and others seeking to reduce their carbon emissions. It is interesting to note that since major corporations such as Amazon and Microsoft have made public commitments to invest considerable sums of money in becoming carbon neutral there has emerged an array of new forest carbon accounting methodologies, very few of which have been subjected to much scrutiny. The private development of these voluntary methodologies is in stark contrast to the extensive public process, expert consultation and stakeholder involvement that underpin California’s forest offset system. However, even with relatively wide adoption of the CCOPF, it still is not well understood, so I hope this response provides some background that is helpful in light of inaccuracies in the recent media.

ProPublica and CarbonPlan: I was interviewed by James Templeton of the MIT Technology Review who joined ProPublica’s Lisa Song in writing the recent article reviewing a CarbonPlan paper that alleges massive “over-crediting” by California’s forest offset system. I advised Mr. Templeton of the inaccuracies and flaws in the unpublished, non-peer reviewed CarbonPlan analysis, however most of my comments were not published nor reflected in article. This response presents and elaborates on my comments to James and Lisa Song, his co-author.⁴

¹ <https://www.propublica.org/article/the-climate-solution-actually-adding-millions-of-tons-of-co2-into-the-atmosphere>

² “Systematic over-crediting in California’s forest carbon offsets program” (2021-0324), Badgley et al.

³ <https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf>

⁴ Please also see CARB’s reply posted at: <https://ww2.arb.ca.gov/sites/default/files/2021-04/nc-carb-response-to-propublica-forest-questions.pdf>

Here are my comments in reference to both the ProPublica and CarbonPlan articles:

- ProPublica’s article takes the CarbonPlan article at face value and advocates on behalf of its allegations without fully investigating several key but shaky assumptions.
- Although serving as catchy click-bait to boost readership, the “massive over-crediting” alleged by CarbonPlan is exaggerated and based on postulations that do not stand up to scrutiny.
- The editorial bias of the CarbonPlan paper speaks for itself and demonstrates it is an advocacy piece, not science. For example, the authors state in the Abstract that their results “demonstrate that [CCOPF’s] climate-equivalence claims fall far short on the basis of directly observable evidence.” Well, no. In spite of the sweeping generalization, what they actually dispute is the use of one statistical measure that contributes to calculation of the Common Practice baseline, which is only one component involved in the quantification of forest-based emissions reductions credited by the Protocol. They then propose a highly theoretical “fix” that appears to have worse statistical problems than CARB’s.
- What is Common Practice anyway? Sadly, while focusing on the Common Practice baseline, neither article actually explains what it is meant to represent. But it is central to their allegations of over-crediting. Let’s take a minute to look at this core concept and how baselines are determined in the CCOPF:
 - First, we need to look at a fundamental concept in offsets: how to quantify the tons of carbon emissions reductions that are additional to a baseline that represents “business as usual”, i.e., what would reasonably be assumed to occur in the absence of the offset project. The business-as-usual baseline used for all CARB CCOPF forest projects captures not only anticipated forest growth over the 100-year project period, but also reductions to forest carbon stocks from management that is economically optimal, physically feasible, and legally permissible. In the real world, harvesting that is economically optimal and legally permissible has actually led to the degradation of carbon stocks on most commercial forestlands over time⁵. The risk of emissions due to increased timber harvest is real as landowners’ decisions are based on market fluctuations, changing financial needs or changes in ownership. That’s why carbon rich forests are rare on the American landscape (more below).
 - Further, in creating the baseline for forests that are carbon rich, CARB requires another step in order to safeguard against over-crediting of avoided depletion when using the standard project baseline. Common Practice is a metric that averages carbon stocks in a common region across ownerships, forest types, stand ages, differing forest conditions and properties that have been managed under varying regimes so as to characterize the aggregate result of the natural, regulatory and market-driven flux of forest carbon stocks. The Common Practice metric is derived from U.S. Forest Service Forest Inventory and Analysis Program (FIA) plots, which is the only consistent national database available.

By comparing the Common Practice baseline of a project with the standard, business-as-usual baseline, CCOPF prevents a developer from getting credit for avoiding depletion below the average of the carbon stocks of your neighbors’ forests.

⁵ If you think just because a forest is well stocked with older trees it will stay that way, I urge you to read up on the tragedy of the Pacific Lumber Co.

Unlike CarbonPlan’s proposed alternative method, Common Practice isn’t just about comparing inventory data from plots with similar forest types. Scale is important. And so is statistical robustness.

- CarbonPlan’s proposal: The authors assert that a few geographic reference areas (“Super Sections” comprising aggregated FIA data plots) used by CARB for Common Practice baseline metrics lose ecological coherence, covering too large a geography in CARB’s effort to achieve statistical accuracy. CarbonPlan’s proposed solution to the problem is instead to use a poorly defined smaller set of “select” FIA plots that they say are more “ecologically robust” and provide a better reference for the forest types within an offset project area. However, the CarbonPlan version does not address the critical matter of the statistical validity of using the handful of FIA plots that they propose. The smaller the sample size, the more material the error there is (it could be, for instance, +/- 100%). And there is greater opportunity to cherry-pick your plots, too – something you’d think they would be more sensitive to given their allegations. This critical matter is glossed over in both articles.
 - Having painted a picture of intentional and rampant gaming of the CCOPF by participants, their solution creates more likelihood of erroneous crediting, not less. Their alternative common practice baseline is completely unvetted, yet their custom plot selection is the basis of their entire claim of systematic over-crediting of 30 million mt/CO₂e in offsets by CARB.
 - Even if one agrees with CarbonPlan’s assessment of the problem, then the solution to poor data is more data. An immediate fix would be to require the use of the USGS LandFire map to supplement the FIA SuperSections in areas of low data, while CARB works with the USFS to invest in some additional plots where needed. You hardly need to throw out the whole system as the authors suggest. (But of course, this solution may be too boring for folks wanting to make sweeping accusations.)
- Determining additionality for forest offset projects is complex: Calculations in the CCOPF are far more nuanced than the articles describe. Simply comparing carbon stocks on a project site against some similar forest plots in the FIA data as CarbonPlan prescribes tells one nothing about additionality as compared to the surrounding forest landscape or business-as-usual. Additionality is not simply a snap-shot in time of a forest’s carbon. The CCOPF requires carbon stocks to be maintained for the long term. In the opinion of most forest carbon experts, protecting those few forests with above average stocks and assuring those high stocks remain is one of the most strategic things we can do to make a difference today.
- Additionality cannot be separated from “permanence”: Neither articles’ authors appear to understand the relationship of additionality to permanence, or the necessarily long timeframe for accounting of GHG reductions by forests. The California protocol requires that the credited carbon offset be maintained and measured for 100 years, since the CO₂ produced by the emitter – which is being offset by the carbon credit -- lasts in the atmosphere at least that long. Only the Climate Action Reserve’s voluntary protocol also sets a 100 year requirement, whereas others require a 30 or 40 year commitment -- and at least one new scheme offers payment for deferring logging for only 1 year! Absent a 100 year commitment to sustain the offset, any single year’s gains can be lost in the next year due to business-as-usual forest management resulting in no net climate benefit at all. Worse yet, if a short-term offset is acquired by an emitter in the hope of neutralizing the release of a ton of CO₂, this actually harms the atmosphere at this critical time.

While proponents of short term credits argue that more landowners will participate, the unfortunate result is that dollars invested in these projects are simply subsidies for business-as-usual management, with very damaging results for our climate future.

In sum, the ProPublica article and CarbonPlan paper are simply wrong. The authors raise an inaccurate and unsubstantiated specter of fraudulent calculations and abuse of the atmosphere by nefarious offset project developers. They also show a fundamental misunderstanding of the reasoning behind the decisions on which the California’s Forest Protocols are based. Finally, their proposed solution only worsens the statistical basis for quantifying emissions reductions, when there are simple solutions that would correct data errors for the Common Practice metric where needed.

The CCOPF is designed so that its accounting of GHG reductions from forests is conservative across both time and space to assure that the background “noise” of natural and management-derived flux in the carbon cycle of forests is accounted for in crediting. There is no massive over-crediting, and the alarm of the recent press is a false one.

Background:

Forests and Climate

Forests are critical to stable climate and a livable planet. Greenhouse gas (GHG) emissions can stop today and we will still have damaging levels of GHG in atmosphere for hundreds if not thousands of years. As the IPCC has emphasized, land based climate solutions are essential to solving the climate crisis. Forest loss and degradation of carbon stocks from poor forest management is a leading emissions source, second only to transportation. While tropical forest loss represents a global emergency, the US has a huge forest carbon deficit from the clearing and settlement of the country by European immigrants and the loss continues. We have to act now, urgently, to conserve highly productive U.S. forests and manage them to greatly enhance their carbon stores.

California’s Compliance Offset Protocol for Forests

The state of California is the world leader in recognizing the indispensable role forests must play in solving the climate crisis. Alone among offset methodologies, it was created through a two year multi-stakeholder process with extensive public and expert review. It uses the best available scientific data, rigorous ground-based forest carbon inventories, conservative quantification and independent 3rd party verification. The CCOPF has methods for crediting from improved forest management, avoided conversion and reforestation. It incorporates many discounts and safeguards so that the final offset credits issued are much less than the initial quantification. Further, credits for the additional tons of CO₂ being removed from the atmosphere must be maintained for 100 years, a truly long-term commitment that makes a real difference for the atmosphere at this crucial time. As of the end of 2020, 120 projects in 26 states were registered with CARB and 168.7 million offset credits issued from 5 million acres of forests. While there is always room for improvement⁶ based on lessons learned in the first decade of implementation, the CCOPF is by far the most rigorous of any system to measure and monitor forest carbon for lasting gains.

⁶ See the CARB Compliance Offset Protocol Task Force Report recommendations:
<https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocol-task-force>

Let Established and Carbon Rich Forests Grow Longer

We must act now to stop the loss of forests with above average carbon stocks. It is important to recognize that protecting carbon rich forests for their climate benefits is not just about old growth. There are tens of millions of acres of established “middle aged” forests that, if allowed to grow beyond the economically optimal age for harvest, would make a huge and immediate contribution to climate solutions during the critical next 20 years – much, much more quickly than tree planting. California’s compliance offsets are a means to incentivize these changes in management, “buying time” from the sale of offsets to conserve such forests in the face of economic pressures and to underwrite the cost of accruing more carbon for the next 100 years, while sustainably providing wood products.

The Use of Offsets for Climate Action

Pacific Forest Trust endorses the very limited use of offsets as a compliance mechanism in regulatory systems that contain a declining cap on GHG emissions. Offsets should be used only when direct emissions reductions cannot otherwise be achieved. We strongly endorse the California standard for forest offsets due to its rigor, conservative accounting and 100 year commitment.

While useful for gaining emissions reductions from unregulated sectors like forests, offsets are not the only way to incentivize the conservation and enhancement of forest carbon stocks. But that’s a topic for another piece.

About Pacific Forest Trust.

Since 1993, the Pacific Forest Trust has been dedicated to conserving and sustaining America’s vital forest landscapes. Working with forest owners, communities, and an array of stakeholders, we advance innovative, incentive-based strategies to safeguard our nation’s diverse forests. Together we are ensuring forests continue to provide people everywhere—from rural communities to urban centers—with a wealth of benefits, including clean water, sustainably harvested wood, green jobs, wildlife habitat, and a livable climate. Learn more at <https://www.pacificforest.org/>