

CARB responses to questions from ProPublica on California's Forest Offset Protocol

Why is CARB posting these questions and responses?

On February 16, 2021, the California Air Resources Board received a list of questions and statements from the media outlet, ProPublica. (See below) These relate to an (at the time) unpublished study by CarbonPlan regarding California's forest carbon offset program that formed the basis of [this story](#), published April 29, 2021. Over the next two months, ProPublica presented multiple additional sets of questions, some of which related to this study. CARB was not presented with the actual unpublished study itself until April 6, 2021, almost two months after receiving the original questions based on that study.

The thrust of the ProPublica questions boils down to the assertion in the CarbonPlan analysis that the CARB-approved [Compliance Offset Protocol for U.S. Forest Projects](#) (U.S. Forest Protocol) was developed in a way that allows offset project operators to “cherry pick” sections of their forests that generate the largest number of credits, and present them as representative of the entire forest.

According to the CarbonPlan report, based on the study authors' own alternative method for defining common practice (one of the metrics utilized in the U.S. Forest Protocol), this results in over-crediting of certain projects because the study authors determine these to be non-additional.

CARB does not agree and notes that the methodologies in the CARB-approved U.S. Forest Protocol were developed through a full public, regulatory process. Projects are required to utilize the CARB-approved methodology. Credits issued to projects that meet the U.S. Forest Protocol requirements represent real, quantifiable, permanent, verifiable, enforceable, and additional reductions.

In the interest of transparency, and since many of our responses were not included in the article, CARB is publishing our responses to the multiple questions we received from ProPublica. CARB responses and comments are shown in [blue](#) text.

A note about California's U.S. Forest Protocol:

Companies with a compliance obligation under the state's Cap-and-Trade Program may purchase CARB-issued carbon offset credits and use a limited number of these offsets for cap-and-trade compliance. These companies (covered entities) have been able to use offset credits to cover up to 8 percent of their emissions from 2013-2020. The Legislature, through Assembly Bill 398, modified this percentage to decrease to 4 percent for emissions from 2021-2025 and 6 percent for emissions from 2026-2030.

Offset project operators can use proceeds from offset credit sales for a variety of purposes, including, for example, [regaining ancestral tribal lands](#).

Offset projects that qualify under the U.S. Forest Protocol can generate credits through activities such as improving forest management beyond what is legally required and beyond a conservative business-as-usual scenario (“common practice”). These improved forest management practices promote forest growth in a project so the project sequesters, or stores, more carbon than would otherwise be the case. Credits are generated based on this additional carbon storage. Additionally, offset credits are issued only after CARB and an independent third-party verification demonstrates that the project has been managed in a manner allowing for increased carbon sequestration relative to other forests in the region. The rigorous methodology for objectively determining ‘additionality’ and its implementation in the Protocol [was upheld by the courts](#).

The U.S. Forest Protocol is based on the best information and science available at the time of its adoption. As that science and associated technology are updated, the Protocol is updated as well. CARB has [updated](#) the U.S. Forest Protocol twice times since the original version was adopted in 2011.

Q&A with ProPublica:

I. **Email from reporter Lisa Song on scope of story, received February 16, 2021**

I’m collaborating with James Temple at MIT Technology Review on a story about California’s compliance carbon offsets system (focusing on forestry projects), and whether projects are preserving as much carbon stock or preventing as much emissions as hoped. We have a series of complicated, often technical questions for CARB, on these issues:

--the history of how CARB’s forest protocol was developed, and how much of the work relied on the expertise of the Climate Action Reserve

-- how supersections and assessment areas were created—both concepts are fundamental to calculating Common Practice values, which are crucial to determining the number of credits issued to IFM projects

--why and how CARB allowed projects to be located in Alaska, starting in 2015.

--how CARB defines additionality

II. First questions from ProPublica, received February 22, 2021 (CARB responses sent on March 3, 2021)

Lisa,

From your note (first questions), it sounds as though you will be providing us with more data and information at a later point.[*] As you can understand, CARB cannot pre-address questions that involve additional data and work that we haven't been provided with yet, especially as we are unaware of which researchers you are working with and what their level of understanding/experience is on the California program. So, we are not able to comment further on your framing of the issues you are looking to assess.

As with all of our regulatory programs, CARB follows the required legal process for incorporating public input. This includes initial public workshops, where scientists, academics, industry representatives, environmental justice representatives, and other experts are open to participate and encouraged to review and provide input; drafts that are released for public comment to all interested stakeholders; and formal rulemaking drafts that are also released for public notice and comment. As part of all of these steps, CARB staff incorporates comments, makes changes as appropriate, and then submits the final documentation to our Board for consideration. This regulatory record serves as the basis of our program design and approval, and provides the official record for each step of the process. We of course welcome input from researchers and an honest assessment of our public process will recognize a great diversity of participation.

In addition, as you are no doubt aware, as a regulatory agency, CARB welcomes input and information from stakeholders and periodically reviews our programs to determine if we will make updates. In fact, CARB has updated the US Forest Protocol twice since initial adoption based on the best information available at that time; in reviewing the records for each of these updates, you can see the information that CARB considered, how the updates were made, and which stakeholders supported or opposed which changes. And, you can see which elements of the Climate Action Reserve protocol were adapted and incorporated by CARB as part of our initial consideration of the US Forest Protocol. If you are working with researchers who would like to submit specific information to us, we welcome that.

With respect to your specific detailed questions, please see the responses in line with your questions below.

Here's our first list of questions. Like we said, it's pretty technical, so we'll start with the general summary of the story:

We are trying to do an honest assessment of whether IFM projects are preserving as much carbon stock or preventing as much emissions as hoped. We're talking to researchers studying these issues, land owners and project developers. The main issue we're concerned with is baselines and common practice: common practice is incredibly important because it sets the minimum baseline levels, and the lower the baseline, the

more credits, and money, a project stands to gain. Most of the projects chose a baseline that is equal to, or very closer to, their CP value.

We're talking to researchers who have done an analysis of California's IFM offsets to date, and identified what they believe is a sort of land arbitrage practice (they analyzed 66 IFM projects--all of those that provided enough detail in their project documents to enable this analysis). They're saying that project developers and landowners are strategically choosing project locations where — due to quirks of geography (supersections) and/or local trends in tree species (assessment areas) — they have far higher carbon stock than the average of the area. As a result, there are many millions of inflated credits that have been issued, that don't represent true carbon savings. For instance, this is particularly notable for the projects (at least 6) lined up on the western edge of the Southern Cascades Supersection in California. The forests in these project areas aren't very different from the forests nearby, just across the boundary in the Northern California Coast Supersection.

However, the common practice for the Southern Cascades supersertion is much lower than the CP for the Northern California Coast supersection (because the Southern Cascades includes many square miles of less carbon-rich tree species). Statistically, the researchers are showing that the clustering of projects in this location means project developers are taking advantage of these quirks in supersections and assessment areas. The researchers have calculated what they deem to be more reasonable baselines/common practice figures, based on more localized FIA data, and compared them to the actual credits issued, to calculate the number of over-inflated credits.

Note: we will provide CARB with precise results and more details about the methodology behind this analysis in time. And we will give CARB plenty of time to respond to that. In the meantime, we have run the general findings and methodology past independent forestry experts, who say the general approach is sound (we will also provide them with the more detailed findings/methodology in time).

A concern raised by the researchers is that these projects are significantly overstating the actual carbon preservation that will occur on these properties, particularly since many of them are on forest land owned by Native American tribes (or Alaska Native Corporations) & conservation nonprofits, which have more carbon on their land than average because preservation is already part of their mission, cultural practice and/or management plan. In other words, there is questionable additionality on top of the land arbitrage concerns — even though they've produced tens of millions of upfront credits.

The main concern isn't that anyone is breaking the rules — it's that the rules are written in a way that allows for, if not encourages, these practices.

Please let us know if you have any comments on this general issue. We also have more specific questions below, and we will provide additional, more detailed questions as we continue reporting. This will be an ongoing conversation. As always, it would be much

easier to discuss these issues over the phone, and we're available for a call whenever you are.

More specific questions (CARB responses in blue)

Q1 The definitions for how supersections and assessment areas were created came from the Climate Action Reserve, which used them for its voluntary forestry protocol. When CARB adopted its 2011 forestry protocol, did the agency make any significant changes from CAR's definition of supersections and assessment areas?

--if so, what are those differences?

--if not, why not?

--What steps did CARB take to get independent scientists--people without ties to the carbon offsets industry--to evaluate CAR's supersections and assessment areas, and to vet how common practice is defined?

No significant changes were made from the Climate Action Reserve's definition of supersections and assessment areas. Use of FIA data is a science-based, robust approach using data collected by the US Forest Service across the entire country. It was the best, most consistent countrywide dataset available. Establishing assessment areas allowed for greater assurance that projects would not be credited for carbon in a forest that was not at least at a 'common practice' level within the region.

Each version of the US Forest Compliance Offset Protocol went through our robust public regulatory review process, which includes an environmental review through the California Environmental Quality Act, a robust public review including public workshops, public comment review periods, Board hearings, and finally, Board approval. Additionally, several workgroups that consisted of stakeholders representing forest industry, public lands, non-governmental organizations, government agencies, and academia informed the development of the early protocol versions.

Q2 Foresters say that when you put geographic boundaries onto maps, and map decisions based on the "average" of what happens in a region, you are, by definition, creating opportunities for cherry picking or arbitrage. When the supersections were created, geographic data was aggregated from more granular data (ecosections), and when the assessment areas were created, data on FIA forest types were aggregated into less granular data on forest communities. This gets to the heart of the cherry-picking concerns—that local variations in geography/species can be used to game the system, and provide some amount of credits that aren't additional. How does CARB mitigate for that?

One reason ecosections were combined was to improve reliability of common practice estimates, or as stated in the Protocol, to “increase the statistical reliability of the common practice estimates derived for each assessment area” (page 108, 2014 protocol). However, ecosections were not combined into supersections if the aggregation changed average carbon stocks of any assessment area by more than 10 percent (page 109, 2014 protocol). Stratifying assessment areas at a larger scale (more granular, smaller geographic area, more details) can be done but there would be fewer FIA plots and thus less precision. As for aggregation of FIA forest types into less granular assessment areas, it is based on common environmental, economic, and regulatory attributes.

The 2015 protocol has a feature to address what you characterize as “cherry picking.” The protocol requires calculation of a weighted average carbon stock value for all of the forest owner’s lands within the same assessment area where the project is located, including the project area itself. This area is referred to as the logical management unit. If a forest owner only includes high carbon stocked area while excluding lower stocked area, the minimum baseline will be higher than common practice. In other words, selecting only a forest owner’s high carbon lands can result in less credits. If lower stocked areas are being included while excluding higher stocked area, the minimum baseline is simply common practice. See equation 5.5 and related equations 5.7 and 5.8 for more detail.

Q2 Supersections denote geographic areas, while “assessment areas” refer to particular forest communities based on tree species mixes (there is, of course, overlap between how certain species are linked to certain geographic regions). However, [this Alaska overview map](#) on CARB’s website uses the term “assessment area” to denote 3 separate geographic regions (shown in purple, green and orange), and uses the term “supersection” to refer to the combination of these 3 geographic regions. Was this a typo on the Alaska map, or are the terms “supersection” and “assessment area” defined differently for Alaska?

Supersections and assessment areas are consistently defined for all eligible areas under the Forest Protocol, they are based on ecoregions and are established through evaluating data availability, statistical viability, and similarities in vegetation characteristics and forest product market factors.

For Alaska, the assessment areas were spatially defined in coordination with FIA using the ecoregions defined in “Ecoregions and Subregions of Alaska: EcoMap Version 2.0.” This ecoregion map was developed by the U.S. Forest Service. For the contiguous U.S., assessment areas are not spatially defined; however, they are still defined by the forest communities within ecoregions developed by the U.S. Forest Service.

Q4 According to one prominent FIA/forestry expert, there is no existing FIA data for the Copper River Basin in Alaska. The Copper River Basin is part of the eastern-most

purple section in the above map (part of the “Alaska Range Transition,” above the label “Valdez”). Can you confirm whether FIA data exists for the Copper River Basin? If there was no local data there, how did CARB calculate common practice values for that part of the Alaska Range Transition?

When CARB began to consider inclusion of Alaska in the 2014-2015 rulemaking, as noted in the above response, CARB coordinated closely with U.S. Forest Service-FIA. The Alaska Range Transition assessment area represents the geographical regions in the Alaska Range Transition for Cook Inlet and Copper River Basin, which are subregions of the same province (a province is an ecological unit). This assessment area indicates very low carbon stock in the general region. When assessment areas are calculated, plots from subregions representing that area are combined and a final value is provided to CARB by FIA. Two units identified as Copper River Basin and Cook Inlet were provided to CARB by FIA based on the data FIA had available at the time, with one common practice estimated, along with species represented in the larger unit.

The criteria for all assessment areas are the same. They are based on a combination of forest types and composition, timber markets, and total plots (to establish a statistically valid common practice estimate that is reflective of the activities and growth/harvest in the region). Common practice values are benchmarks by which business-as-usual is reflected by using biomass estimates derived from FIA data. That data, pooled together, reflects the growth, harvest, and timber demand of that region for the data years. When we added Alaska, the assessment areas followed the geographical boundaries available from FIA at that time based on their forest units.

Q5 There are some offsets projects where the baseline harvest plans significantly exceed earlier forest management plans filed by the land owner (filed to the BIA, for example). Why did CARB decide (or adopt an earlier decision from CAR) that earlier documents of that sort shouldn't be considered in determining the plausibility of those harvest scenarios, and the potential for non-additionality?

The baseline for forest offset projects must meet additionality requirements; it must include all legal constraints, be financially feasible, and it must meet a performance standard evaluation. Part of the performance standard evaluation is comparison against common practice. Requirements that are legally required, such as forest regulations or requirements in a conservation easement, are required to be incorporated in the baseline and are certain. Common practice is used as a backstop to help address additionality. In sum, the protocol's approach to additionality incorporates project-specific (legal and financial constraints) and standardized (common practice) requirements. This approach has been upheld by the courts. In 2012, CARB was challenged in a lawsuit contending the design of the offset protocols did not conform to statutory and regulatory requirements, particularly related to additionality. The trial court and the appellate court each found CARB's design and implementation met AB 32.

III. Additional questions from ProPublica, received March 5, 2021 (CARB responses sent on March 11, 2021)

Lisa,

As an initial matter, you can understand that we do not agree with what you have interpreted and defined as a “cherry-picking phenomenon.” We’ll wait to see your overall analysis to determine whether we are able to comment further on that. Our responses to your specific questions are provided in-line with your questions below.

Thanks for the response. Here is our second set of questions:

First, to clarify something in our original email: I understand your point about logical management units. However, when I used the term “cherry-picking,” I was referring to an adverse selection issue that operates on wider scales, one that doesn’t involve the equations pertaining to LMUs. I apologize for not being more clear.

When I mentioned “cherry-picking,” I was referring to this phenomenon: the potential to game supersection-wide common practice numbers by choosing to develop projects where forests have higher-than-average carbon stock. This is occurring at a wide scale: for instance, the cluster of projects grouped at the western edge of the Southern Cascades Supersection (on a landscape scale, the part of the supersection with the lushest, most carbon-rich forests), vs very few projects near the eastern edge of the supersection, where forests, as a whole, are dominated by less carbon-rich species. This is entirely different from the smaller-scale decisions of which specific parcels within a landowner’s property, that the property owner chooses to enroll in a project.

The vast majority of the projects studied in the analysis we’re writing about had modeled baselines that were equal to, or within a few percent, of common practice. These baseline numbers are taken directly from OPDRs that report post-LMU calculations (if the projects made any in the first place). Like I said, we will provide more details of the overall analysis when it’s available, but I wanted to clear this up.

New questions on baselines

When landowners file baseline calculations of how much they would have logged in the absence of offsets, they are not required to follow the parameters of any prior/recent logging (land management) plans they may have filed with regulators like CalFIRE or the Bureau of Indian Affairs. For instance, if a landowner stated in their project documents that they planned to harvest 1 million board feet per year in their baseline scenario, but a few years earlier, they’d filed a report to CalFIRE predicting a harvest of half a million board foot per year, that landowner would not be required to cite or be bound by the 500,000 board foot number in their project document. (Any conservation or applicable logging restriction laws would still apply, of course).

--first, we want to confirm that this is correct.

No. There is a difference between voluntary, non-binding long-term forest management plans and logging/harvesting plans (THPs). The latter is a legal constraint under the Compliance Offset Protocol (COP), while the former is not. Thus, logging/harvesting plans, like THPs, that are in effect at project commencement do have to be included in the baseline as required under Section 6.2.1.2 of the COP. If a long-term forest management plan were not voluntary and could not be rescinded, it would have to be included in the baseline as a legal constraint.

--second, when did CARB consider whether landowners should be required to follow or be limited by the harvesting plans (forest management plans) they'd previously submitted, in their baseline harvesting scenarios?

CARB considered baseline scenario design criteria throughout the adoption process. The topic of baseline constraints in the context of the CalFire forest management regulatory system was discussed during the development of the CAR Forest Project Protocol V3.2 in 2010 prior to CARB's compliance offset program. Our understanding is that based on stakeholder feedback and conversations, CAR determined that the contents of the management plans that are submitted to CalFire to show Maximum Sustained Production of High Quality Wood Products (as required in the CA Forest Practice Rules) are not considered legal constraints because they can be easily modified and rescinded. CARB evaluated the CAR Forest Project Protocol (FPP) V3.2 against the requirements of AB 32 and determined the protocol satisfied AB 32. As the COP is applicable to the contiguous U.S., CARB considered the wide variety of management plan types that could be encountered and determined the requirements of the FPP were sufficient to meet AB 32. The FPP V3.2 was the basis of the COP U.S. Forest Projects adopted by CARB.

--when did it make the determination that landowners shouldn't be bound by those earlier plans?

The first U.S. Forest Projects protocol was approved by the Board and adopted on October 20, 2011, after going through an open public process.

--why did CARB make that decision? And did it raise concerns about additionality?

CARB determined that the requirements adopted in the 2011 COP were best suited to ensuring offset projects meet AB 32 requirements, including additionality. Note, again, that courts have upheld the COP as satisfying the additionality requirement (Our Children's Earth Foundation v. State Air Resources Board (1st Dist. 2015) 234 Cal.App.4th 870). Additionally, CARB did not want to incentivize entities to heavily harvest their lands (or modify their management plans to reflect such intent) prior to joining the Compliance Offset Program in order to establish a favorable baseline. This would go against the

intent of the Compliance Offset Program. For more detailed explanations of CARB's adoption of the COP, please see the rulemaking record, including the Initial Statement of Reasons and Final Statement of Reasons.

During a Jan 2015 webinar hosted by the Climate Action Reserve, project developer Brian Shillinglaw told the audience that Tribal logging plans filed with the government "should not be considered a binding constraint on baseline modeling, as Tribes have broad discretion to change the content of such plans," [according to](#) this document (see bottom of page 2). Later, during a [September 2015](#) workshop, Shillinglaw said that CARB had once considered requiring landowners to base their baseline scenarios off of their previously filed harvesting plans. However, Shillinglaw said such a move would be "irrational," and that he pushed back on CARB's potential decision on a call to CARB officials (along with Nathan Voegeli and others). Did their input affect CARB's ultimate decision on this matter? If so, what made his argument persuasive?

All stakeholder input was considered in CARB's ultimate decision. Please see the rulemaking record, particularly the Final Statement of Reasons, for details on comments received and CARB's responses.

New Mexico project CAR1183

On October 14, 2014, during a American Carbon Registry [webinar](#), [Barbara Bamberger](#) of CARB pointed out an error in the common practice numbers used in New Mexico, which were in the process of being updated. "[In] some assessment areas there were significant changes from the original data. This may be due to the fact that no data existed for some years in the original span from years 2000 to 2006," she said. "For example, in New Mexico data wasn't collected until the end of that period."

At the time, the protocol that was in place had a single assessment area (pinyon-juniper woodland) within that supersection (Central New Mexico), even though the supersection had plenty of other, more carbon-rich species as well, including Douglas firs and ponderosa pine. The common practice for the assessment area was listed as zero-- which seems scientifically impossible. A year later, on October 15, 2015, paperwork was filed for CAR1183 (the landowner is the Mescalero Apache Tribe). At the time, the common practice was zero, and the project chose 20 tons/acre as its baseline. 37.1% of the project area consisted of Douglas fir.

If this project had been filed 16 days later (Nov 1, 2015), the project would have received far fewer credits, as it would have had to use the new common practice numbers. Part of the project would have fallen into the new "Central New Mexico Mixed Conifer" assessment area, which has a much higher common practice of 42.77.

My questions are:

--why did CARB approve a project that took advantage of those errors (and updates in CP figures) in a way that could dramatically overstate the actual carbon emissions

reductions/carbon stock preservation it achieved — when it clearly knew these figures were erroneous (and had stated so publicly)?

The referenced presentation states that CARB was in the process of proposing updated common practice values for a new version of the COP to, in part, reflect new data in New Mexico being available, not that there was an error in the figures used in the previous COP. Proposed rules or regulations are not binding, nor a guarantee of what will become law—or when. That CARB was in the process of developing a new COP with common practice values inclusive of data that did not exist at the time of previous COP promulgation by no means renders the previous COP and its values invalid or erroneous; indeed, the previous COPs remained the most current regulatory requirements on the books for forest offset projects. The project met all of the requirements of the Regulation and the most recent COP then in effect.

-- did this project really reflect the carbon stock preservation purported, or was the project taking advantage of a lack of data that CARB was in the process of fixing?

The project established a baseline and an onsite inventory that adhered to the requirements in the most recent COP in effect at the time. Therefore, the total net GHG emissions reductions calculated by the project are accurate.

--In 2001, a report from a BIA forester stated that the Mescalero Apache Tribe was harvesting about 2,240 board feet per acre per year across 7,500 acres -- which a conservative estimate from a forestry researcher we talked to, found was about half of what the project's baseline harvest scenario included. And that was before they had shut down their timber mills. So are the project baselines in that project an accurate reflection of what would have happened on that land in the absence of the offsets project?

The COP requires that all legal and financial constraints be incorporated into the baseline. The verifier for this project confirmed that all applicable legal and financial constraints had been incorporated into the baseline. Financial feasibility is evidenced through two options: a financial analysis of the baseline harvest regime, or demonstration that activities similar to the baseline have taken place within the Project's Assessment Area within the past 15 years. The project chose the latter option and provided sufficient documentation that met the COP requirements. As discussed in an earlier response, legally binding commitments such as logging/harvesting plans in effect at project commencement are considered legal constraints and were incorporated into the baseline, where applicable. Non-binding commitments, such as some forest management plans, are not considered legal constraints and were not included in the baseline.

--a 2015 sustainability report from New Forests (the company whose project developer developed this project) stated that the tribe intended to use proceeds from the offset project to reopen its forests products mill. They've since discussed using such a mill to process lumber from nearby national forests. So, wouldn't using funds from an offset

project to process more timber in the area undercut the goals of an offsets project and underscore a leakage problem?

The harvesting of timber from the project area does not undercut the goals of an offset program. Under an Improved Forest Management project, the project is encouraged to implement actions that increase carbon sequestration on the forest, which can include harvesting. Thinning can improve forest productivity and result in increased carbon sequestration over time. Fuels reduction by removing smaller trees can increase fire resilience and reduce the risk of reversal.

In addition, the COP accounts for leakage of harvesting to external land in the calculation of QRy. Based on the available science at the time of the protocol development, a 20% leakage factor was selected and included in the COP calculation of secondary effects. There is an additional 80% market response factor that is applied to carbon stored in harvested wood products to reflect changes in wood production.

--Given these questions about additionality, leakage and erroneous common practice numbers, does CARB remain confident that this project met its own standards, which require every ton of offsets in its program to be “real, permanent, quantifiable, verifiable, enforceable, and additional”?

Yes, the Mescalero project was verified to meet all requirements in the COP, and therefore provide the benefits that the COP is designed to achieve.

Thanks again for your time, and as always, we’d be happy to talk through any of this on the phone. Our deadline for these answers is 3pm PST next Thursday, March 11.

IV. Additional questions from ProPublica, received April 6, 2021 (CARB responses sent on April 20, 2021)

For this full article, there seems to be a fundamental misunderstanding of how additionality is defined and assessed in California’s program. We conduct an objective review of both the legal constraints and a conservative business as usual assessment to define if action is additional. This objective, performance-based standard is very different from the approach other programs have taken (and been criticized for) where a subjective test is applied on either a financial basis or on a landowner by landowner basis to determine their motivations behind doing an offset project. It would be unrealistic and impractical to develop a program that required the implementing body to essentially read the mind of each project developer.

This difference of opinion and approach was at the heart of litigation that California was subjected to – in which some of the study authors you refer to were involved – back in 2012. California’s approach was upheld under California law by the trial and appellate courts (and a hearing with the California Supreme Court was declined) because of its

objectivity and rigor. So, your questions regarding specific intent or motivations behind a project developer's reasons for doing a carbon project are not germane to the additionality assessment – the protocol models the legal requirements and the conservative business as usual assessment into a project's baseline.

We will also note that while we hope your article will reflect how our program works in law and practice, given the tone of your questions and comments, it would appear that our last set of responses have not been fully taken into account.

Finally, please find below our responses to the specific additional questions you have presented. Any non-response to any statement does not indicate agreement with or confirmation of its accuracy.

*Our story will focus on the paper's main findings, and cite several examples of IFM projects in California's system. We are sharing the study with you while it's under scientific embargo to provide you with a full and fair opportunity to respond. Please do so by **April 16, 2021** and please do not share this study before it publishes. If this study or responses to it appear publicly before then, in part or full, we may move forward with publication at that time.

Here are key points from our story that are relevant to CARB. The list also includes some specific questions. Please let me know if any of this is inaccurate:

1. As a summary of the study's findings: common practice values play an important role in determining the credits issued to each project, and thus, the profitability of projects. CARB's approach to calculating these numbers has allowed landowners and/or project developers to game the system in ways that vastly inflate estimates of greenhouse gas reductions.

No question presented. We disagree with your statement that landowners or project developers are gaming the system or that there are inflated estimates of GHG reductions. See our initial statement above on how additionality is determined in our program based on legal requirements and conservative business-as-usual assessment

2. Our story is focused on IFM projects. As of September 2020 (when the study authors began their analysis), there have been 74 such projects, generating more than 130 million credits, worth \$1.8 billion at recent market prices. [We do not address Early Action projects in this story. We're only examining formal compliance projects established under the 2011, 2014 or 2015 protocols].

No question presented.

3. Every IFM project can earn credits year after year as the forest pulls CO₂ from the air. But almost all the projects got most of their credits this way: because they started with initial standing carbon that was higher than their common practice, they get

an initial payout (a one-time issuance of credits, during the first reporting period) for these credits. These landowners are essentially asserting that without the anticipated offset payments, they would have increased logging on their project land.

As we have described before, the Protocol requires an assessment of actual legal constraints as well as a conservative business-as-usual case based on common practice data. This approach ensures an objective review of all projects, as well as longer term protection and carbon benefits than would have otherwise occurred.

4. **A followup question on these initial payouts:** why are these credit issuances handed out in one lump sum all at once, instead of spreading it out over the lifetime of the project (100 years), or spreading it out in some other way (say, over 10 years)?

This question presupposes another type of crediting mechanism, that doesn't reflect what we have adopted. ARBOC's must meet the regulatory requirements of being real, additional, quantifiable, verifiable, enforceable, and permanent. Under the Board-approved protocol, those emissions reductions were determined to have occurred at the end of the initial reporting period, and are therefore eligible for crediting. The project is issued credits for carbon stocks above the baseline (e.g., performance based payments above the baseline), which obligates the project to maintain that carbon through monitoring, reporting, and verifying (MRV) over the long-run. This protocol design provides a strong incentive for project participation, and the funds help pay for the costs of developing and verifying the project, as well as future MRV costs and improvements to the project (i.e. wildfire risk reduction, property maintenance, etc).

This approach takes into account legal constraints and mandates as part of assessing additionality, ensures that forests are protected long-term, and recognizes the long-term commitment these projects take. If the credits were to be spread out over time, the project would not be obligated to maintain those emissions reductions until credits are actually issued; and if credits are not issued, projects could reduce carbon stocks prior to crediting.

5. Of the 74 IFM projects, 72 of them received initial payouts of credits. CarbonPlan was able to analyze 65 of the 72.

No question presented.

6. The most conspicuous example of cherry picking occurs within a cluster of projects near Northern California, on the boundary of the Southern Cascades and Northern California Coast supersections. Where the supersections meet, the forest on either side of the boundary are very similar, dominated by Douglas firs and redwoods. However, the protocol states that projects just east of the boundary can earn far more credits than those located just west of the boundary, simply because the Southern

Cascades supersection (and its comparable assessment areas) has a lower regional average—one that takes into account the carbon levels of Ponderosa pines and other less carbon-rich species on the eastern end of the supersection. About 10 projects are lined up along that boundary, overwhelmingly falling into the Southern Cascades supersection.

No question presented. We already provided a response in our last round on how the protocol works and how this is not cherry picking. As a reminder, the supersections were established using ecosections developed by the USFS. Additional details on supersection formation can be found in Appendix F of the 2011 and 2014 COPs. Natural systems do not follow strict boundaries, and borders are often a shifting mosaic transition zone where it is nearly impossible to delineate an exact boundary.

7. For instance: if you had a 10,000-acre forest of coastal redwoods and Douglas firs with carbon levels of 210 tons per acre, it would earn 50,000 credits in the Northern California Coast supersection (given the 205 tons/acre common practice for the “high” class within the Northern California Coast Redwoods Douglas-fir Mixed Conifer assessment area), versus 880,000 credits if it were just over the border in the Southern Cascades supersection (given the 122 tons/acre common practice for the “high” class within the Southern Cascades Mixed Conifer assessment area). Here’s my math: $10,000 \times 210 - 10,000 \times 205 = 50,000$. And $10,000 \times 210 - 10,000 \times 122 = 880,000$.

No question presented. The common practice values reflect the data from that assessment area, and are representative of the forest types found in that assessment area. Beyond that, this statement presents a hypothetical and we have no further comment.

8. General context: from now through 2025, businesses in CA can only buy offsets to cover up to 4% of their carbon emissions; from 2026 - 2030, that ceiling rises to 6%.

No question presented.

9. Cap and trade is responsible for slashing the state’s carbon footprint by 236 million tons of CO₂ between 2021-2030 (the state’s annual emissions are around 425 million tons). Barbara Haya, who leads the Berkeley Carbon Trading Project at the University of California-Berkeley, has calculated that up to half of those cuts (the 236 number) could come from offsets. (Note: this same fact [appeared in my](#) 2019 story on cap and trade).

See our previous responses. While you included this same statement in your earlier article, we will repeat that our assessment toward our targets is from our statewide GHG inventory. The reductions coming from all of California’s climate programs – including from Cap-and-Trade – are tracked via actual GHG data reflected in our inventory. Offset credits – and the additional reductions represented by these projects – are not subtracted out of the inventory.

A key concern: when an offsets program works perfectly within a cap-and-trade program, the best it can achieve is carbon neutrality, as every ton of emissions removed or prevented allows another party to emit one more ton than they otherwise would have been allowed. So whenever we have an offset credit that isn't real, additional, permanent, etc, then.

No question presented. See previous response on #9 above for how California tracks progress toward its GHG targets. Offsets, by the design and definition in our protocols, are additional. The assertions to the contrary misconstrue how additionality is defined and how California's broader climate portfolio and achievement toward its targets are met.

10. Net emissions go up. Therefore, the study suggests that California's forestry offsets system is adding tens of millions of tons of CO2 emissions.

No question presented.

11. The study authors say they're not accusing any landowners or developers of breaking the rules. Rather, the problem is that 'cherry picking' is allowed under the protocol, and even encouraged by the large initial payouts of credits.

No question presented. See our previous responses on this assertion. The protocols were developed based on the best data available at the time. Incentivizing long-term action requires clear additionality and quantification requirements; and projects that meet our requirements are issued credits. Thus far, the program has resulted in significant climate and forest protection benefits.

12. CarbonPlan found that more accurate carbon accounting would eliminate 20% to 38% of the credits issued for these projects. The researchers relied on the same FIA data as the offsets program, which calculates hundreds of common practice values (what we colloquially refer to as "regional averages") depending on a forest's location and tree species. But CarbonPlan juxtaposed the particular mix of trees within projects to more representative forests nearby, creating more precise carbon averages for the purposes of the comparison. (Their analysis also found some projects that got fewer credits than they deserved, but the effect was overwhelmed by the many more projects that were over-credited).

No question presented. But, we do take issue with the term "more accurate." This statement appears to be saying that these researchers are developing their own methodology based on their own views of how additionality should be defined. We won't comment further on a process that wasn't part of our protocol design.

13. For context, a former offsets project developer had this to say about the study's findings: CARB should have anticipated the perverse incentives that would enable cherry picking. He said: When people write offset rules, they always ignore how there

are many people who will try to game the rules--and since the system is set up to incentivize people to find project areas that are high density/high carbon, that's what people will end up doing.

No question presented. We take issue with this statement. Our rules take into account data available at the time of adoption, as well as performance standards that include applicable legal requirements and a conservative business-as-usual scenario. See above responses on regarding how credits are issued.

14. One project we plan to highlight is CAR993, the Yurok CKGG project, which was the first official project in California's program (under the 2011 protocol). A [2014 promotional](#) video from CARB highlights the project, and shows footage of verifiers measuring trees and doing other meticulous survey work. The video quotes James Erler, a forester for the tribe, and project developer Brian Shillinglaw. It's listed in CarbonPlan's study as an example of cherry picking. The project received about 700,000 credits in its first year (during its first reporting period. The 700,000 does not include any credits placed into the buffer pool).

—Notably, the boundary between the Southern Cascades and Northern California Coast supersections runs through the middle of the Yurok reservation, and 98% of the project forest falls within the Southern Cascades, where common practice is much lower. If the tribe had shifted its project entirely to the Northern California Coast, the credits it earned in its first year, all things otherwise equal, would have declined by more than 70%, eliminating nearly \$7 million worth of credits. We also note that Erler acknowledged how the boundary affects the credits that can be earned, according to [this video](#) (starting at 16:01).

--Credits from the project were sold to a variety of companies including Calpine, PG&E and Shell (according to CARB's offset credit issuances database).

No question presented. See our previous response regarding the use of the term cherry picking.

15. The story includes context on how IFM projects create co-benefits that go beyond climate, whether it's forest preservation, biodiversity, cultural programs for tribes, etc.

—we also quote authors of the CarbonPlan study, who say there's a desperate need for conservation funding, but if funding is tied to offsets with questionable environmental integrity, then the flaws in the credits' carbon math should be acknowledged, and it would be better to fund conservation directly in its own right.

No question presented. This is an incredibly biased statement, reflecting what appears to be the same ongoing opposition to the use of offsets (and to how CARB determines additionality) some of the study authors have espoused for many years (including during the 2012 litigation). The long-term protection of carbon derived from our protocol has resulted in not only climate benefits, but

many other co-benefits – including conservation benefits.

16. We explain that CARB's drive to use carbon credits to reduce CO2 began in the early 2000s. While establishing its forestry protocol, CARB relied on experts who'd created voluntary offset programs. One of those organizations was the Climate Action Reserve, a non-profit that's worked closely with CARB over the years.

No question presented.

17. The non-profit led an effort to calculate common practice starting in 2008, and incorporated the numbers into its voluntary offset rules. In 2011, when CARB approved its own compliance IFM protocol, it largely adopted the same rules and adopted the exact same common practice numbers.

No question presented.

18. To calculate common practice, the Climate Action Reserve took the Forest Service FIA data, and grouped data from different tree species (tree types) into assessment areas, and combined data from various geographic zones (ecosections) into larger areas called supersections. This simplification allowed them to create a set of common baselines that estimated the amount of carbon stored in typical forests. Olaf Kuegler, a Forest Service statistician, provided technical advice on the FIA data but did not play a role in deciding how to create specific supersections and assessment areas.

No question presented. Additional information on the formation of supersections can be found in Appendix F of the 2011 and 2014 COP.

19. Experts state that the use of these broad averages opened the door to cherry picking, as the aggregation blurs our eyes to real differences on the ground.

No question presented. CARB's approach – as well as our use of the best information available at the time the protocols were adopted – is detailed in our rulemaking documentation.

20. I want to ask again about the New Mexico project we emailed about last time (CAR1183). Are you sure CARB doesn't want to add to its response? I have since spoken with Kuegler, who said that Barbara Bamberger told him about the error in the Central New Mexico common practice figure sometime between Jan - Jun 2014. That error came from the fact that there was no usable FIA data for the supersection in New Mexico at the time the 2011 protocol was created. This means that by Oct 2014, when Bamberger spoke at that meeting, CARB knew for sure that the 2011 CP figure was incorrect. Yet CARB allowed CAR1183 to go ahead, according to the rules at the time-- rules that CARB knew contained a key mistake.

-- We plan to refer to this as an error or erroneous or a mistake in the piece, as we see no other reasonable way to describe a calculation that found a region

dotted with junipers, pines, Douglas firs and other trees contained an average of zero standing carbon per acre.

-- the story explains that credits from this project were sold to PG&E, Chevron and California Resources Corporation (according to CARB's offset credit issuances database).

We continue to take issue with your defining a potential regulatory update based on updated information as an indication of an error. As we stated in our previous responses, that CARB was in the process of developing a new COP with common practice values inclusive of data that did not exist at the time of previous COP promulgation by no means renders the previous COP and its values invalid or erroneous; indeed, the previous COPs remained the most current regulatory requirements on the books for forest offset projects. The project met all of the requirements of the Regulation and the most recent COP then in effect. On your last point, covered entities can use valid offset credits for a limited portion of their compliance obligation (e.g., to surrender against emissions that have occurred). However, our offset issuance table does not indicate which entities surrendered offsets for compliance; that data is available from our Compliance Reports.

21. On concerns of conflicts of interest: CARB takes input from all stakeholders on issues related to forest offset protocols. However, it's clear that most of the stakeholders who have time/expertise to comment are project developers, landowners, and others who work with or benefit directly from offsets. That includes the Climate Action Reserve.

No question presented. This statement appears to be suggesting somehow that the open, legal rulemaking process that all California state agencies must utilize is somehow creating conflicts of interest. As we have explained numerous times, CARB – like all California state agencies – must undergo an open public process where anyone can participate. We have followed that legal structure and process in all of our regulatory actions. The stakeholder engagement process was open to everyone and CARB reviewed all comments received.

22. We explain that the Reserve is one of 3 nonprofits with approval from CARB to help review prospective projects. When a landowner wants to launch an IFM project under CARB's protocol, they eventually send their paperwork to one of those 3 nonprofits. If the project clears the Reserve's review and a subsequent audit by CARB, the Reserve [charges \\$0.19](#) for every credit issued. The non-profit also charges every project operator \$500 for their account and a \$500 annual maintenance fee. The more ARBOCs a project gets, the more money the Reserve stands to gain from that project. This, too, feeds into experts' concerns about conflicts of interest, given the Reserve's prominent role (past and present) in shaping CARB's protocol.

No question presented. CARB has determined the technical requirements that must be met to be approved as a CARB-approved OPR; CARB does not dictate the fees charged by the OPRs. CARB developed objective criteria against which

to assess OPRs prior to approving them to provide offset registry services, and the presence of multiple CARB-approved OPRs provides project developers with a choice of which to select from.

23. The story includes a discussion on how offsets affect environmental justice concerns.

No question presented. See [here](#) for information on environmental justice claims.

24. A representative of the Pacific Forest Trust defends CARB’s program, explaining that CARB did the best it could using the limited FIA data available at the time, and that CARB has improved the forestry protocol since then.

No question presented.

25. On additionality: we may run a separate sidebar or story on additionality. This would cite Figure 2 from CarbonPlan’s study, which shows how nearly 90% of the 65 projects analyzed by CarbonPlan cited baseline logging plans that fell within 5% of common practice. Common practice values were created in part as a way to create standardized criteria to help judge additionality in a more objective way. This 90% finding shows that almost all IFM projects say they would have logged down to a level that converges on common practice, which is very unlikely. (We have quotes from an expert saying they could have intended to log below common practice, before bringing their baselines up to common practice).

No question presented. Common practice values serve as a conservative backstop, i.e. in many projects, the business as usual scenario could be lower, but are set to common practice to be conservative. The statement “This 90% finding shows that almost all IFM projects say they would have logged down to a level that converges on common practice, which is very unlikely” is not supported by any facts. See our initial statement above on the ongoing misunderstanding of additionality as defined by our program.

26. We cite one Bluesource project where the project documents state that the developer used software to model logging levels in a way that “equaled” common practice. Bluesource explains this is standard practice for the industry, and that even if a landowner didn’t intend to log aggressively today, they very well could change their mind over the next 100 years.

No question presented.

27. We cite a former offsets project developer who states that this line of reasoning is unreasonable. If additionality was based on what someone *might* do decades from now, then every single project would be deemed additional—or not additional.

No question presented. See our initial statement above on how additionality is determined in our program based on legal requirements and conservative business-as-usual assessment.

28. Another project we will highlight is the Mass Audubon project (ACR284). The project documents say the baseline would involve lowering the project's carbon levels by 56%, a startling claim by a conservation group, especially since the documents also state the land was protected long before it began generating credits: "A majority of the project area has been conserved and designated as high conservation value forest for many years with deliberate management focused on long-term natural resource conservation values."

--when we asked a Mass Audubon representative whether its cited baseline (which ended up being within 0.15 tons/acre above common practice) was realistic, he said their project developer, Finite Carbon, was just following "the recipe" [meaning the protocol] created by CARB.

No question presented. The Massachusetts Audubon Society project was verified and reviewed for conformance with the COP, including the modeling of the multiple baseline legal constraints that are applicable in the project area.

29. Mass Audubon's [website says](#) they got 600,000+ credits from the initial payout (attributable to the gap between the initial carbon stock and common practice). Philipps 66 purchased 500,000 of those credits. Another 80,000 were bought by Shell and Southern California Gas Company, according to the latest data from CARB.

No question presented.

30. Even landowners who were doing significant logging in the past appear to be stepping up their harvesting plans when they apply for offsets. The Mescalero Apache project (CAR1183) submitted a logging plan that would have removed about twice as much timber as it had in the recent past, based on a 2001 [presentation](#) from a forester with the Bureau of Indian Affairs, who worked with the reservation. (That comparison was estimated by a co-author of the CarbonPlan study, and verified by a consultant at Carbon-Direct). In fact, the tribe's logging was likely less than what it was doing in 2001 by the time it applied for the offset credits, as it had shuttered a timber mill in 2012, and its project documents state that "commercial harvesting has been light" since the mill closed.

No question presented. As we responded in our last round of questions, harvesting is allowed under the COP and is required to be accounted for in the monitoring and reporting of the project. Timber markets fluctuate and influence harvesting decisions. BIA has informed CARB of what constitutes legal constraints for Tribes. See 2016 letter from our webpage provided to us by the Dept. the Interior. <https://ww3.arb.ca.gov/cc/capandtrade/offsets/nifrma.pdf>.

31. We cite this [2016 study](#), which found that many of the early participants in California’s program are conservation nonprofits and Native American tribes, which frequently have more mature forests than typical private forest owners. The paper concluded that California’s offsets program may act as a “subsidy” for these groups, but was “unlikely” to change how people managed their forests (in other words, there were concerns about additionality).

No question presented.

32. Erin Kelly, the 2016 study’s lead author, said the program overwhelmingly attracts forest owners with highly preserved forests because the initial payout can be used to pay off the consulting fees associated with developing projects. On the other hand, forest owners with less carbon on their land than average are less likely to participate because they’ll only earn credits incrementally.

No question presented. Our webpage provides documentation on the nearly 150 forest projects throughout the country that have been issued ARBOCs to date.

33. One consultant, who helped shape the 2011 CARB protocol, said this trend was “frustrating” but not a flaw. He blamed the trend on the rising costs of project development. He said that ten years ago, project verifiers might charge \$10,000 to \$80,000 per project, but today, with verifiers consolidated into a few, professionalized firms, those costs are easily ten times that amount, thus driving people toward projects with bigger upfront payments.

No question presented.

34. In summary: given the above 9 points on additionality, does CARB have a response on concerns about how the CARB IFM protocol approaches additionality? Does CARB believe that all of the credits it’s issued for IFM projects are fully additional?

See our initial statement above about how we define additionality. Our response to your question is that we have developed an objective method for determining additionality based on a legal requirements test and a conservative business-as-usual scenario based on the best data available at the time we adopted the protocols. This approach has been upheld in court (*Our Children’s Earth Foundation v. State Air Resources Board* (1st Dist. 2015) 234 Cal.App.4th 870 (petition for review by California Supreme Court denied June 10, 2015)). Per our program requirements and legal operation, all of our issued credits meet the AB 32 requirements for being real, quantifiable, permanent, verifiable, enforceable, and additional. As we have also stated numerous times, we take into account new data and methods when we update the protocols, and we fully stand behind our program and the climate and other benefits resulting from it.

35. At this point, we have some provisional quotes in the story from your prior emails on this subject. We identify you as “David Clegern, a spokesman for the Air Resources Board.” **We will update these quotes if you provide new comments after reading the study.** Until then, here’s how you are quoted:

- a. We “do not agree with what you have interpreted and defined as a ‘cherry-picking phenomenon,’”
- b. Each version of the offsets protocol “went through our robust public regulatory review process,” with input from the forestry industry, academia, government agencies and nonprofits.
- c. Clegern disagreed with the characterization of the New Mexico calculations as “erroneous,” and insisted the project “met all of the requirements” in place at the time.

While it is helpful for us to see how others are interpreting the program requirements, and to see new science that will surely inform future updates to the protocol, the underlying premise of the story is a continuation of the alternate definitions of additionality that some of the study authors brought forward unsuccessfully in litigation years ago. Our process takes into account legal requirements, is informed by the best data available at the time of adoption, and is updated based on newer information once we adopt amendments. The protocol in place when a project lists is what they use – important for certainty and planning – and we stand behind the protocol and the projects.

V. Additional questions from ProPublica, received April 13, 2021 (CARB responses sent on April 20, 2021)

I wanted to remind you that our deadline for a response is this Friday, April 16. We truly want to reflect CARB’s point of view in the story, and if CARB has any questions or concerns about the study’s methodology or conclusions, we absolutely want to hear and understand them.

Also, I’d like to add two follow-up questions:

--in my April 6 email, we mentioned the Mass Audubon IFM project (ACR284), which has a baseline very close to common practice. That baseline would involve logging enough of the project forest to reduce its carbon levels by roughly 60% — a startling declaration from a conservation group. Did CARB scrutinize this particular baseline plan to check whether it was realistic? If so, what made CARB believe that this type of aggressive logging was plausible for a conservation group, and therefore approve the project?

--> CARB reviews all projects equally for conformance with the COP requirements, which clearly delineate what factors must be accounted for in the baseline. Verification and CARB review includes scrutinizing the baseline to ensure all legal and financial constraints, as required under the COP, have been incorporated into the baseline. The Massachusetts Audubon Society project was verified and reviewed for conformance with

the COP, including the modeling of the multiple baseline legal constraints that are applicable in project area.

--a related question: has CARB ever rejected a project application because it deemed the baseline scenario was too exaggerated or not believable? If so, how many times has it happened since the 2011 version of the protocol was adopted?

These two questions are related to earlier points I raised about ACR284, so perhaps they will naturally be addressed in your pending answers. But I wanted to make sure to ask them specifically. Again, my deadline is April 16, and we'd be glad to talk by phone.

--> During CARB project review, numerous projects have been required to revise and resubmit their baseline modeling and assumptions to be in compliance with the COP requirements. These revisions span from modeling and calculation errors to incorporation of additional legal or financial constraints that CARB deemed to be appropriate.

VI. Additional questions from ProPublica, received April 15, 2021 (CARB responses sent on April 20, 2021)

Thanks for letting us know. That exceeds our deadline, but in the interest of fairness, we will extend our deadline to Tuesday, April 20.

We've also received a response from Mass Audubon, whose project we asked you about (ACR284). We asked Mass Audubon whether their baseline, which would require aggressive logging to get down to the baseline levels described, is realistic—and if not, how that raises concerns about additionality. Here is part of their response to us: (I want to make sure CARB has a chance to respond to it)

- *CARB does not require participants to state how they would have managed lands in the absence of the offsets, nor have we made representations regarding alternative management scenarios in the absence of the carbon offset project we claimed that we would have aggressively logged our forests. Consistent with CARB's protocol, Mass Audubon only attested to forest management being legally, financially, and operationally feasible on the enrolled lands.*
- *Specifically, our project adheres to California Air Resources Board's Compliance Offset Protocol for U.S. Forest Projects, which defines additionality in Section 3.1 as follows:
"ARB and registry offsets credits must be generated by projects that yield surplus greenhouse gas (GHG) emission reductions or removal enhancements that exceed any GHG reductions or removals otherwise required by law or regulation, or any GHG reduction or removal that would otherwise occur in a conservative Business-As-Usual Scenario." [etc.] (version of November 14, 2014, which applies to Mass Audubon's project)*

Does CARB agree with Mass Audubon's interpretation here? Mass Audubon is saying that the baseline scenario described is not equivalent to a declaration of the counterfactual—of how Mass Audubon would have managed its lands in the absence of the offsets project.

--> We are not going to comment on a project developer's response. We'll refer you back to our response (above and sent on numerous occasions) on how the COP assesses the baseline scenario and additionality. The COP requires the baseline to include all applicable and appropriate legal and financial constraints and conservative business-as-usual scenario, and specifies how projects are to do so.

If CARB agrees with the interpretation, then does this mean that CARB considers a project to be additional, even if the landowner never intended to perform the forest management activities described in their baseline scenario?

--> As indicated in our initial statement at the beginning of our response email, landowner intent is not required to be evaluated under the COP, as intent is difficult to establish. The COP requires all legal and financial constraints to be accounted for in the baseline.

VII. Additional questions from ProPublica, received April 20, 2021 (CARB responses sent on April 22, 2021)

Thank you for these responses. I want to follow up with two clarifying questions:

1. It was pointed out to us that the Air Resources Board required the Mescalero Apache project (CAR1183) to use a baseline harvesting scenario above common practice in this instance. In the end, the project used a baseline of 20.4 tons per acre (whereas common practice was set at zero, at that time). Can you please confirm that CARB required the project to use a baseline level above common practice, what level you required -- and why you did that in this instance?
2. Your response said: "This difference of opinion and approach was at the heart of litigation that California was subjected to – in which some of the study authors you refer to were involved – back in 2012."
 - a. Please name the "study authors," plural, who were involved in that lawsuit.
 - b. And please describe each of the authors' involvement, with citations and/or documentation. The word "involved" could mean anything from having their published research cited in a footnote of the lawsuit, to having informal discussions with people involved in the lawsuit, to being paid as an expert witness, to signing on as a plaintiff of the lawsuit. Those are very different scenarios, and we need clarification on what you mean by "involved."

Please note: it's clear that your initial interpretation of what we meant by cherry picking wasn't correct, so we want to ensure we're getting your response to the issues the researchers actually analyzed.

Your overarching response to our questions addressed additionality. But our main story is not about additionality, but rather about the over-crediting calculations in the CarbonPlan study. (While the paper's conclusions overlap with issues of additionality,

those calculations were made assuming that every project followed all the protocol rules regarding common practice and baselines, and that every project forest would have been logged down to the baselines reported in the absence of the offsets program). If CARB has substantive critiques of the methodology of CarbonPlan's paper, please add that to your response to these two questions.

Our last response should have been more precise and solely referenced the involvement of one of the study authors. Based on our recollection, one of the plaintiffs in the 2012 offsets litigation, Citizens Climate Lobby (CCL), brought its claims against CARB based on information and support from a local CCL chapter or CCL members, that included Laurie Williams, Allen Zabel, and Dr. Barbara Haya. Dr. Haya's work was also cited in CCL's opening brief in this litigation as evidence against our protocol methodology. Many of the questions you have sent us, and some of the statements referenced from the study, raise similar questions that ultimately reflect on additionality as were raised in the litigation. At its core, the questions we have been responding to, while seeming to be technical in nature, are really about how we have operationalized additionality in our program and protocols. We've attached the appellate court decision from that case so you have it.

On your last statement below, please note that our responses over these several rounds of communications have been to your specific statements and questions. Some of those related to statements from the study regarding an alternative common practice methodology developed by the study authors, but even those statements ultimately relate to additionality. We were not given sufficient time to fully analyze an unpublished study and are not commenting further on the authors' alternative methodology. As our responses have shown, we have explained how our approved methodology works, how updates to our protocol are undertaken, and stand behind our program. Lack of response on the study you reference does not indicate agreement with or confirmation of its conclusion.

VIII. Additional questions from ProPublica, received April 22, 2021 (CARB responses sent on April 22, 2021)

Thanks for this. We do want to follow up with a clarification, and questions about the additionality issue.

Scientists (and other experts who've helped create offsets programs) consistently say there is an objective definition of additionality: An offsets program must cause carbon savings that wouldn't have happened otherwise. This could be ensured on a project-by-project basis, like the CDM tried to do, or on a protocol basis, which is the approach CARB uses. However, either approach is only successful if the result meets this objective definition of additionality.

So to be clear, saying that projects in California's system meet the standards that CARB developed and that a court said you could do it this way can both be true -- without saying whether any project or the program as a whole is fully additional in a climate and scientific sense. The concern here is that the rules aren't achieving additionality by that standard.

Researchers we've spoken with say that a standards-based approach to assessing offsets can work, but only if the program makes appropriate assumptions about typical practices and does certain things to ensure it's working properly, including routinely evaluating the program to ensure any over-crediting is being balanced out by undercrediting.

In other words, if some non-additional projects are there, but there are other truly additional ones that are under-credited, then it's fine. But that would require CARB to quantify the over- and under-crediting that's happened (as well as it's possible to do), and identify the projects that are under- or over-credited.

Has CARB taken steps to systematically assess whether it's over-crediting and under-crediting (particularly on IFM projects), and by how much, and whether those are in balance? If so, would the Mass Audubon project count among those that were over-credited?

We would say none of this.

The definition for additionality is somewhat defined in AB 32 and further refined and implemented by California's protocol. If the researchers want to define it differently, that's their choice. But, the possibilities of how to define additionality are endless.

We've litigated and won the right to define it as our program does, and implement it as we have. Their study judges California's program by their standard which has no legal basis.

April 29, 2021 ###