April 11, 2015

California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95814

Via electronic submission to:
http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm

RE: ARB Guidance on the Recently Adopted Forest Project Compliance Offset Protocol

Dear ARB,

Thank you for holding the July 27 workshop to solicit input on issues requiring guidance or clarification in the recently adopted Forest Project Compliance Offset Protocol. Below we provide some additional thoughts, and we look forward to providing feedback on the draft guidance documents.

Common Practice

We appreciate the time you spent to further explain the basis for the current Common Practice values and we recognize that these have been adopted by the Board and cannot be changed through guidance. However, going forward, as ARB considers when and how to update the regional common practice baseline, we urge an approach that moderates the volatility inherent in stocking of commercial timberland to control for dramatic short-term changes in the baseline. While we understand that there are some limitations and challenges with the datasets available, an approach that utilized (for example) a rolling average of 10 years of data would smooth out some of the annual variability caused by market fluctuations, and would provide a better representation of regional trends. We would like to make a proposal for such an alternative and engage in a discussion with you to find a mutually agreeable methodology for future use.

Logical Management Unit
The current definition should be clarified to reflect that management goals are a relevant attribute for further defining an LMU's boundaries. Long-term forest management goals are in wide use as part of the planning timeframes typical of forests. Even forest stands that may appear to be similar in characteristics in one time period will change over time based on forest practices to achieve the management goals. For instance, a pine forest can be dominating a natural hardwood site, but with time and care the site can be returned to a hardwood dominated ecosystem; a riparian buffer may have certain species composition and age class distribution today, but can be managed for different qualities over time to better accomplish habitat goals. In other words, the biological characteristics are often a function of management goals. The current definition lacks clarity in this regard

Solution: Guidance should clarify that *Logical Management Units can be defined by unique management goals, in addition to the "biological, geographical, and/or geological attributes" mentioned in the protocol.*

Vegetation Classes for Stratification
Table 5.2 in Section 5.2.1(d)(3)(4) regarding Vegetation Classes for Stratification also requires clarification. The stratified vegetation-type analysis is not possible to execute using the table (appended to the end of this letter). The Carbon Rating column of the table, which is supposed to list average CO2e/acre, appears to list *carbon*/acre values instead, which are less than a third of the weight of the CO2e values that should be present. Additionally, even if the CO2e values are corrected (as they should be), the table would still not provide appropriate values for highly stocked stands. For instance, for many redwood and Douglas-fir stands in the Pacific Northwest the average CO2e/acre can be well over 250 tonnes CO2/acre, whereas the table's maximum carbon rating of 175 mt CO2e/acre (assuming the table units are converted to CO2e/acre) is much too low to accommodate this high CO2e/acre forest type.

Solution: Multiply the values in the Carbon Rating column by 3.664 so it will correctly represent CO2e/acre and add additional rows to the table for forest types with larger trees than those in the final row of the current table.

Even Age Management
Section 3.1(a)(4)(B) - Harvest buffer requirements (p. 21) – Given the current protocol language, "Even-aged harvest units shall be separated by an area that is at least as large as the area being harvested or 20 acres," there is ambiguity around the use of the area between harvests as a metric for determining buffer size. The CA Forest Practices Rules include the added detail that even-aged units "shall be separated by *a logical logging unit* that is at least as large as the area being harvested or 20 acres…" Using the term *logging unit* instead of area adds a necessary dimensional component to calculate the area between harvests.

Solution: Provide guidance that the size of the area between harvests can be interpreted as the size of a logical *logging unit* between harvests, which is consistent with the FPRs that are the basis for this section. Additionally, providing guidance only requiring that a simple 300ft. linear-distance based buffer be maintained between harvests, would be a straightforward alternative to an area calculation.

Additional Areas Requiring Clarification

In addition to the major issues that were discussed at the workshop, there are a number of other provisions that would benefit from clarification through guidance now:

1. Section 1.2(a) Definitions
    - (16) "Clearcutting" (p. 3) - "removal of a stand in one harvest" needs clarification (See Climate Action Reserve 15-day comment letter, items: 1, 3, and 4, appended to the end of this letter for detail).
    - (20) "Countable Tree" (p. 4) - "healthy" needs to be further defined, perhaps as “a tree not facing an imminent threat of mortality”.
2. Table 3.1 - Native Species criteria (p. 16) - Clarification regarding inconsistent measurement metrics: This section requires at least 95% of carbon in standing live stocks to be in native species, but assessment is to be conducted using stems per acre for reforestation and basal area per acre for improved forest management and avoided conversion projects.
3. Section 5.2.1(d)(3) - Inventory data for LMU (p. 59) - Need clarification regarding inventory standards for LMU lands. Presumably the standards required for the project inventory are not applicable, but there are no standards provided. Only states that "sufficient inventory data" is required to quantify WCS using Equation 5.7 rather than using vegetation-type analysis. See also the concerns with table 5.2, discussed above.
4. Section 5.2.1(e)(2)(B)(3) - Demonstration of Financial Viability (pp. 64-65) - Clarify that only one of the options demonstrating comparable species composition is required.
5. Section 8.1.1(e)(4) - Selection of verification plots (pp. 100-101) - Language is confusing.
6. Section 8.1.1(e)(5) - Selection of verification plots (p. 101) - Language is confusing in its current context and its linkage to Section 8.1.1(d) is unclear.
7. C to CO2 conversion factor for Equation C.8 on p. 127 and Equation C.17 on p. 134 - Clarification regarding inconsistency of conversion factor stated in this equations (3.664) compared to conversion factor stated in other sections of the protocol (3.667)

8 Equation 5.10 (p. 71) - Clarify whether it is correct as written. Proposed language changes sum range from {n=1 to y} to {n-1 to y}, which may just be a typo with '-' inadvertently replacing '='

We appreciate the opportunity to provide comments to ARB on these issues, and look forward to reviewing and discussing draft guidance when it is available. Many thanks.

Very truly yours,

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Appendices:

Table 5.2. Vegetation Classes for Stratification

Forest Vegetation Description	Average Diameter (Breast Height)	Average Canopy Cover	Carbon Rating (metric tons CO_2e/acre)
Brush	0"	NA	0
Regeneration	3"	NA	0.5
Pole-sized trees	6" - 12"	< 33%	2
Pole-sized trees	6" - 12"	33% - 66%	4
Pole-sized trees	6" - 12"	>66%	6
Small Sawlogs	12" - 20"	< 33%	4
Small Sawlogs	12" - 20"	33% - 66%	8
Small Sawlogs	12" - 20"	>66%	12
Large Sawlogs	20" - 36"	< 33%	8
Large Sawlogs	20" - 36"	33% - 66%	16
Large Sawlogs	20" - 36"	>66%	24
Very Large Trees	>36"	< 33%	16
Very Large Trees	>36"	33% - 66%	32
Very Large Trees	>36"	>66%	48

Referenced Items form CAR's 15-day comment Letter

#	Section	Comment
1	Definition of 'Clearcutting' Page 3	The current definition refers to the "removal of a stand in one harvest". We recommend amending the language to the "removal of all or most of the trees in a stand in one harvest. It is considered an even-aged regeneration harvest if it is below the retention level cited in the (new – see Comment 3) definition of Even-aged Regeneration Harvest". This will add clarity to the definition and ensure that the focus of verification is on even-aged regeneration harvests. It is not the intent of the even-aged management limitations to restrict even-aged harvests that are stocked, according to the definitions provided in the updated language in Section 3.1(a)(4)(D), following harvest. Additionally, the requirement that clearcuts be 'irregularly shaped and variable in size to mimic natural patterns and features found in landscapes' should be removed or phrased as a recommendation since it is subjective and will result in verification challenges. Additional verification costs will sharply reduce project participation.

3	Definition of 'Even-Aged Management' Page 4	The Reserve recommends removing the definition and replacing the definition with 'Even-Aged Regeneration Harvest or Management' (below). The limitations in the protocol regarding even-aged management are intended to address even-aged regeneration harvests only, not even-aged harvests where the post-harvest stands meet stocking standards immediately upon completion of harvest. Establishing thresholds for even-aged management are a good step to clearly identify what constitutes an even-aged regeneration harvest. There are two problems. First, the definition of all even-aged management is linked to the threshold (it should only be even-aged regeneration) and second, the threshold is based on stocking standards from the California Forest Practice Rules (FPRs). We recommend de-linking the definition of even-aged management from the stocking standards and linking them to the most conservative retention allowed for an even-aged regeneration harvest (see the definition below in Comment 3). Any harvest would be identified as an even-aged regeneration harvest if it falls below this threshold. The effect of the current definition would assert more stringent limitations on California forest landowners than the current FPRs do as variable retention and rehabilitation silviculture would be limited to 40 acres. Retention levels for variable retention and rehabilitation are often below 50 square feet. In addition, we recommend removing the following sentence: "By convention, the spread of ages does not differ by more than 20 percent of the intended rotation". This sentence is not clear and will raise the costs of verification. The term 'Even-Aged Management' is replaced with 'Even-Aged Regeneration Harvest or Management' in subsequent recommendations (Comment #4).

4	Add new definition of 'Even-Aged Regeneration Harvest or Management' Replaces Even-Aged Management Page 4	We recommend the following definition for 'Even-aged regeneration harvest or management': The harvest step associated with Even-Aged Management that is intended to regenerate the stand with a new cohort of young seedlings, either naturally or artificially through tree planting. Clearcuts, seed tree, and shelterwood seed steps are examples of even-aged regeneration harvests. Any harvest that retains 30 square feet of basal area or less is considered an "Even-Aged Regeneration Harvest". The rationale for this definition is that 30 (Sites 1-3 and 24 on sites 4-5) square feet of basal area is equal to the minimum retention levels in a California definition of Shelterwood Seed Step, the even-aged regeneration step that retains the highest amount of trees.