



CLIMATE
ACTION
RESERVE

**SUMMARY OF COMMENTS & RESPONSES
DRAFT FOREST PROJECT PROTOCOL VERSION 4.0**

Four sets of comments were received during the public comment period for the Climate Action Reserve (Reserve) draft Forest Project Protocol Version 4.0. Staff from the Reserve provides responses to the comments below. The Public Comment period for the draft protocol was April 5, 2017 to May 19, 2017.

The comment letters can be viewed on Reserve's website at <http://www.climateactionreserve.org/how/protocols/forest/>.

COMMENTS RECEIVED BY:

1. California State Parks
2. The Conservation Fund
3. Pacific Forest Trust
4. New Forests

General Comments

1. A key element that I believe is missing from the update is addressing the matter of updating the Common Practice Indicator for each assessment area, based on current FIA data. Currently all versions of the Protocol are silent on this issue, which already lead to an unforeseen, surprising update by ARB for use in the Compliance Protocol. This is critical baseline data point. Landowners and project developers need a regular, transparent and predictable updating procedure. I hope that CAR can incorporate this in the pending update or an addendum issued shortly thereafter. This will have many benefits for users of the CAR FPP, but could also provide guidance for ARB consideration. While it may be as simple as setting a five-year update schedule; I think it would be best to review the FIA data management system and consider if there may be a more nuanced approach to institute to avoid the data jumping around from period to period due to market forces as we saw in the recent update instituted by ARB. **(Pacific Forest Trust)**

RESPONSE: We agree that such a change would improve the transparency of the program. We have addressed this by establishing a schedule, presented in Section 6.2.1 of the protocol.

2. **Update of the Assessment Area Data File.** Including standing dead stocks in the common practice statistic is useful; however, it would be beneficial to project developers to have the standing live and standing dead values available separately in the Assessment Area Data file. The separation of pools would allow for more accurate initial analysis of a potential project. **(The Conservation Fund)**

RESPONSE: We feel that separating the pools in the Assessment Area Data file will increase risk of miscalculating the baseline for private IFM projects. For assessing project feasibility, the Common Practice values can be adjusted by a conservative amount to account for the inclusion of standing dead.

3.9.1 Sustainable Harvesting Practices

3. Changing the definition of harvesting to actual harvesting rather than planning is a significant improvement. For example, a new parcel of forestland may be purchased that has an existing harvesting permit, but the new landowner may not intend to act on the plan. This change will fix this situation. **(New Forests)**

RESPONSE: We thank you for your comment in support of this revision.

3.9.2 Natural Forest Management

4. The following link does not work on Assessment Area page (<http://svinetfc4.fs.fed.us/research/section/index.html>) to confirm Supersection/Assessment Area. **(California State Parks)**

RESPONSE: The link was removed from the protocol.

5. Table 3.2, under “Structural Elements” requirements, there are two options. One is to monitor dead wood throughout the Project Area; the second option is to monitor dead

wood on harvested areas. The Cuyamaca Rancho State Park (CRSP) Reforestation Project does not fall into either of these options. Suggest an Option III for projects with no commercial harvest activities and where standing and lying dead wood is not cut or moved except for required safety purposes and/or reasonable fuels management. Natural Forest Management in these cases is assumed for the Project Area. Therefore, there is no need to monitor dead wood (standing or lying). The proposed Option III would address this scenario. **(California State Parks)**

RESPONSE: Our intent was to prioritize the monitoring of structural elements on harvested stands, and believe an “Option III” for projects with no harvesting would be appropriate. This has been addressed in the protocol.

6. Table 3.2, under “Structural Elements” there is a paragraph under Option I, that states “If dead material does not exist at the quantities identified in the Assessment Area data file, dead trees shall be recruited as described below for Option II.” There do not appear to be any dead material requirements, per this referral, listed in the Assessment Area Data File. (The link to this file is:
<http://www.climateactionreserve.org/how/protocols/forest/assessment-area-data/>)
(California State Parks)

RESPONSE: This will be addressed in the Assessment Area data file.

7. The table under 2. Forest Structure has criteria that appear too general for all the forest ecotypes found in the United States. We suggest that it is sufficient to follow local BMPs, laws and regulations. **(New Forests)**

RESPONSE: We believe that a general reference to local BMPs, laws, and regulations would not meet the intent of this section of the FPP. Projects are already required to meet regulatory compliance requirements as a standard programmatic requirement, and referring to existing laws and regulations would not ensure adherence to natural forest management requirements established during the original drafting of the FPP.

4 Identifying the Project Area

8. **Identifying the Project Area.** The inclusion of the Landfire database as an option to define Assessment Areas is unbiased and useful. The application of this database will allow project developers to spend less time defining Assessment Areas when considering a potential project. The use of this database will also remove ambiguity from the verification, reducing verification time and cost.

However, we do suggest additional clarity surrounding language in section 4.0. In the first paragraph, the sentence “After the second site visit verification, the project boundary may no longer be amended” is confused by the later guidance in section 4.3 “Modifying the Project Area” which discusses removal of a portion of the Project Area. **(The Conservation Fund)**

RESPONSE: The language regarding the amendment of the project area has been revised for consistency.

9. We suggest the following edits (added language underlined) for clarification in the last two lines of the third paragraph of this section. “...The Project Area can be contiguous or

separated into tracts or distinct polygons. Additionally, the most recent Assessor's Parcel Numbers (APN) associated with the project area must be submitted to the Reserve.”
(California State Parks)

RESPONSE: We have adopted the suggested edits.

4.1 Project Configuration and Acreage

10. What is the purpose of this section? Why does the project area need to be representative of the Forest Owner's general forest management? Certification systems and management plans often stratify an ownership into intensive and extensive management, including identified high value conservation areas. Carbon projects should be able to be fit to these land uses within ownerships. This section will have the unintended effect of creating economic incentives for the splitting of properties and subsequent fragmentation of habitat on the landscape. **(New Forests)**

RESPONSE: The purpose of this section was to serve as a replacement for the LMU requirement in previous versions of the protocol. We believe that this section will be less ambiguous, which will improve verification.

4.3 Modifying the Project Area

11. The addition of the ability to remove a portion of the project area is useful. The ability to add, up to a percentage (say 20%) of the original project area, area to a project would be beneficial to landowners, the program and the landscape. To encourage a simple process, this would be for IFM and reforestation projects only, and would only allow growth credits. **(New Forests)**

RESPONSE: We believe this will require careful consideration, and will consider it for a future update to the FPP.

5.1 GHG Assessment Boundary - Reforestation Projects

12. Standing dead carbon (carbon in all portions of dead, standing trees) – Reference to measurement requirements for Natural Forest Management Criteria (“Minimum volume thresholds are stated to meet Natural Forest Management criteria.”) needs to be clarified in Section 3.9.2. **(California State Parks)**

RESPONSE: This has been clarified in the protocol and Assessment Area data file per the above responses to comments 4 and 5.

13. Lying dead wood carbon – References to measurement requirements for Natural Forest Management Criteria (“...lying dead wood will be accounted for through the Natural Forest Management criteria,” and “Minimum volume thresholds are stated to meet Natural Forest Management criteria.”) need to be clarified in Section 3.9.2. **(California State Parks)**

RESPONSE: This has been clarified in the protocol and Assessment Area data file per the above responses to comments 4 and 5.

6.1.1 Estimating Baseline Onsite Carbon Stocks

14. Subparagraph 1 under Deferral for Carbon Stocks Not Affected by Site Preparation describes treatment of standing dead carbon stocks which are now excluded from GHG Assessment Boundary for Reforestation Projects. **(California State Parks)**

RESPONSE: This has been addressed in the protocol for consistency with the GHG Assessment Boundary.

6.1.5 Quantifying Secondary Effects

15. The second paragraph states that “Mobile combustion emissions must be added to Secondary Effect emissions (SEy in Equation 6.1) in the first year of a project.” Shouldn’t this deduction apply to the site preparation period which may be more than one year? **(California State Parks)**

RESPONSE: We have clarified that this is to be assessed based on the project’s first reporting period, which may be more than one year.

6.2.1 Estimating Baseline Onsite Carbon Stocks – Private Lands

16. We agree with the simplification of eliminating WCS and LMU, as it does not serve a purpose for carbon accounting and, as mentioned above, can create a perverse incentive for subdivision and landscape fragmentation. **(New Forests)**

RESPONSE: We would like to note that we don’t understand the rationale that the LMU incentivized landscape fragmentation. However, we felt the concept was ambiguous, and have replaced it with the addition in of section 4.1 of the FPP.

6.2.1 Step 4 – Modeling Financial Constraints

17. It is helpful to specify the discount rate and NPV value; these do appear appropriate. Providing the tool will be helpful to project developers. **(New Forests)**

RESPONSE: We thank you for your comment.

6.2.1 Step 5 – Generate a Standardized Unadjusted Baseline

18. We do not quite follow the steps and objectives of this section, possibly because our experience is primarily with the compliance protocol that does not include this section. An example might be useful along with a statement of purpose. **(New Forests)**

RESPONSE: This section is consistent with FPP V3.3, but recognize that it is different than the methodology in FPP V3.2 and the Compliance Offset Program that project developers are accustomed to. We will consider providing an example in the Quantification Guidance document in the future.

6.2.4 Determining Actual Onsite Carbon Stocks

19. We suggest that the project proponent be allowed to design a plan for updating disturbance (harvest or natural) that coincides with onsite verifications. This would be most cost effective as that is often when inventories are refreshed. **(New Forests)**

RESPONSE: The purpose of this change was to address sequential sampling issues when a recently disturbed plot is selected by the verification team. We will add clarifying language to this section of the protocol.

6.2.6 Modifying the Project Area

20. This appears to be an improvement in the consideration of secondary effects, which considers the cumulative actual harvest by the project. The inclusion of all species appears appropriate to the purpose. Many IFM projects use the carbon market to increase stocking and move closer the culmination of mean annual increment (CMAI), which produces the maximum wood products in the long-run. Unfortunately, secondary effects are applied during this period when carbon credits are claimed and then no credits once the improved inventory level is reached. Would there be a feasible way to recognize this by creating a secondary effects pool whereby the “lost” credits could be recouped by later project harvesting? **(New Forests)**

RESPONSE: It has always been the intent of the protocol for secondary effects to be evaluated on a long-term basis, and as such, it is possible to “recoup” prior losses if harvesting levels increase. Section 6.2.6 states: “When actual onsite harvested carbon during a reporting period is greater than the baseline amount, net GHG reductions are increased. This allows for deductions for prior negative Secondary Effects to be recouped. However, once actual cumulative harvest amounts exceed baseline cumulative harvest amounts, Secondary Effects are zero – under no circumstances shall the net balance of the Secondary Effects over the course of a project be positive.” We will review the calculation workbook provided by the Reserve to ensure this is being carried out as intended.

7.3.1 Unavoidable Reversals

21. We appreciate the additional detail to reporting unavoidable reversals. **(New Forests)**

RESPONSE: We thank you for your comment.

8.1 Project Documentation

22. The requirement for KMLs and the creation of a public map of projects is useful for the monitoring of the system and research on carbon project effects. **(New Forests)**

RESPONSE: We thank you for your comment.

8.3.2 Verification Cycle

23. We suggest that if a project has not generated credits in 5 years or more, that the onsite verification be aligned with the minimum plot age of 12 years. To ensure the integrity of project carbon stocks a desk verification that includes review of publicly available remote

sensing imagery (NAIP for example) should be required every 6 years. This will reduce long-term costs while ensuring program credibility. **(New Forests)**

RESPONSE: A change of this nature would be a significant departure from the current requirements, which are designed to monitor the project area for reversals during the 100-year permanence period. We will consider implementing cost-saving measures to the verification requirements during the 100-year permanence period in a future update to the FPP.

9.3.5.1 Additionality – Suitability Threshold

24. Updated stopping rules for sequential sampling. The suggested stopping rules for diameter and height measurements will allow verifiers efficiently sample diameter breast height measurements, tree height measurements, and determine conformance by using statistical analysis. We suggest additional clarity surrounding the structure and tolerance of the DBH and height sequential sampling tests. **(The Conservation Fund)**

RESPONSE: We will be providing specific guidance for the modifications to the Sequential Sampling Calculation Tool to clarify the nuances of applying the verification approach to diameters and heights.

25. Thank you for the suggested improvements to sequential sampling. It appears that a tree level diameter and height test are added to the plot-level CO₂ test to improve efficiency. We are not sure how this increases efficiency as it adds work for the verifiers and tests attributes that are already subsumed in the CO₂ test. **(New Forests)**

RESPONSE: The idea for improving efficiency in verification efforts is that the DBH and height tests may end before the overall sequential sampling effort has ended, thereby reducing the number of measurements required overall.

9.3.5.2 Inventory Estimates

26. A standard inventory methodology should be useful to smaller projects and consulting foresters that do occasional carbon projects. **(New Forests)**

RESPONSE: Our hope is that the standardized inventory methodology will increase participation from the entities you've identified.

9.3.5.3 Measurement Specifics for Verifiers

27. Thank you for clarification on the handling of ingrowth and tree expansion factors. **(New Forests)**

RESPONSE: We thank you for your comment.

9.3.5.4 Verifying a Stratified Inventory

28. The statistical method of sequential sampling does not include the concept of plots passing in a row to pass, this was a criteria added to a previous version of the protocol to theoretically increase rigor. The changes suggested do improve the application of sequential sampling from previous versions of the protocol. If rigor of the test is at issue

it may be more appropriate to increase the percent of deviation allowed and remove entirely the non-statistical passing plots in a row criteria. This could be tested against collected data from past projects. **(New Forests)**

RESPONSE: We believe the intent of the comment was to suggest a decreased tolerance percentage between the verifier and project developer measurements. This suggestion will need to be reviewed and tested. We will consider this for review during a future FPP update. For this update, we did review actual sequential sampling results from a variety of projects (stratified and unstratified, as well as projects with monumented and unmonumented plots). Our tests demonstrated that once a project passed sequential sampling on a given plot, it rarely returned to an inconclusive result. We used this to inform our latest update. We will continue to monitor the results of sequential sampling in project verifications as we consider future protocol updates.

Appendix A

29. A.2 Management Risk/Management Risk II – Conversion of Project Area to Alternative Land Uses - Need to understand what is required beyond the recorded PIA as a Qualified Deed Restriction for public lands. Suggest language be added to first row of Table A.5 "...or on public lands." **(California State Parks)**

RESPONSE: This is consistent with the intent of this risk category, and we have adopted the suggested language.

30. A.2 Management Risk/Management Risk III – Over-Harvesting – Need to understand what is required beyond the recorded PIA as a Qualified Deed Restriction for public lands. Suggest language be added to first row of Table A.6 "...or on public lands." **(California State Parks)**

RESPONSE: This is consistent with the intent of this risk category, and we have adopted the suggested language.

Quantification Guidance

1 Reporting Requirements for Forest Carbon Pools

31. Table 1.1 – Under the Reforestation column of this table, and the row for Standing Dead Trees, it states first: "Required for adherence to Natural Forest Management criteria and for project reporting"; and then secondly: "Any trees removed as part of site preparation must be quantified." We need to understand how this reconciles with how we are supposed to measure Standing Dead Wood for Natural Forest Management Criteria on PP.22-23 (redline) of the draft FPP V4.0; and the exclusion of Standing Dead Carbon on P. 31 (redline) of the draft FPP V4.0. Also, we need to understand how "removed" is defined – what if standing dead wood is felled but not removed from Project Area? **(California State Parks)**

RESPONSE: Our concern with standing dead wood on Reforestation projects should only pertain to the primary effect of the project. In other words, standing dead wood that was present at project commencement need not be accounted for, but as standing live wood from the planted trees becomes standing dead wood over time, it should be monitored for the Natural Forest Management criteria. We have clarified this in the

Quantification Guidance.

32. Table 1.1 – Under the Reforestation column of this table, and the row for Lying Dead Wood, it states: “Required for adherence to Natural Forest Management.” We need to understand how this reconciles with how we are supposed to measure Lying Dead Wood for Natural Forest Management Criteria on PP.22-23 (redline) of the draft FPP V4.0. **(California State Parks)**

RESPONSE: We have clarified this in the protocol in response to comments 4 and 5.

2.1 Inventory Methodologies

33. The use of a default standard inventory methodology linked to quantification tools should aid in program participation. **(New Forests)**

RESPONSE: We thank you for your comment.

2.2.2 Updating for Disturbances (Including Harvest)

34. Please see comment above for section 6.2.4.3 of the protocol. **(New Forests)**

RESPONSE: We thank you for your comment.

2.3 Requirements for Estimating Carbon in Standing Live and Dead Trees

35. This section starts off by stating : “It is required that both standing live and standing dead trees be sampled.” Again, we need to understand how this reconciles with how we are supposed to measure Standing Dead Wood for Natural Forest Management Criteria on PP.22-23 (redline) of the draft FPP V4.0; and the exclusion of Standing Dead Carbon on P. 31 (redline) of the draft FPP V4.0. **(California State Parks)**

RESPONSE: We have clarified this in the Quantification Guidance and protocol in response to comments 4, 5, and 32.

2.8 Requirements for Estimating Lying Dead Wood Carbon

36. This section starts off by stating: “All projects must either maintain an inventory of lying dead wood for the project area or monitor harvested areas according to the guidance in this section to ensure the project meets the conditions identified in Section 3.9.2 (Natural Forest Management) of the Forest Project Protocol.” Further, the section states: “Project Operators are required to include the status of lying dead wood with each monitoring report.” Again, we need to understand how this reconciles with how we are supposed to measure Lying Dead Wood for Natural Forest Management Criteria on PP.22-23 (redline) of the draft FPP V4.0; and the exclusion of Lying Dead Wood Carbon on P. 31 (redline) of the draft FPP V4.0. **(California State Parks)**

RESPONSE: We have clarified this in the protocol in response to comments 4 and 5.

2.9 Requirements for Estimating Soil Carbon Emissions

37. Step 7f: Determining Emissions Associated with Management Activities. Suggest a set of options for Table 2.18 under Harvesting Intensity that includes “No Harvest.” It’s not clear how to look up soil carbon loss % for site preparation with no harvest. **(California State Parks)**

RESPONSE: We will consider adding a “no harvest” option for soil carbon impacts of project activities.

2.11 Total Onsite Carbon Stocks and Calculating the Confidence Deduction

38. Table 2.20. Example: Summing All Onsite Carbon Stocks and Calculating the Confidence Deduction – This table states that Standing Dead Trees are “Required” for sampling for “All Project Types.” This is not consistent with the exclusion of Standing Dead Carbon on P. 31 (redline) of the draft FPP V4.0. **(California State Parks)**

RESPONSE: We have revised this for consistency with the protocol.

39. The current method of calculating the standard error on the inventory is appropriate for the initial reporting period for IFM projects where the ICS is above CP. This approach is not always statistically appropriate where the credits are based on stock changes or growth from permanent plots. Equation 9.2 of Shiver and Borders (1996) shows that the standard deviation of the change estimate from permanent plots is a function of the sum of the two errors at each point in time minus the covariance of the two measurements. Once this error is calculated, it should be used to calculate the reduction. However, it is inappropriate to apply the reduction to the total inventory stocks as it applies to the change only.

This has major implications for reducing project costs once credits are no longer being generated and the project is in monitoring mode. There may be a desire to reduce the number of plots and therefore cost. However, under the current methodology this may create an intentional reversal where none has occurred. This happens because the increased error on the inventory may reduce the carbon stocks used in equation 6.1 of the protocol. This is purely an artifact of the equation that does not necessarily reflect actual conditions, but occurs because the error is calculated on the wrong parameter.

Please note that this proposed change is consistent with how the error estimate of growth in FIA plots is calculated.

Please note that this change also applies to temporary plots but the equation is different. **(New Forests)**

RESPONSE: This suggestion will require more in-depth consideration, but we will take it into account for future revisions to our quantification guidance.