



FOREST CERTIFICATION PROTOCOL

ENTITIES & PROJECTS

Appendix 1: Forest Certification Protocol: Entities and Projects

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Appendix 1: Forest Certification Protocol: Entities & Projects

Part I: Introduction & Key Certification Concepts

Overview

The Forest Certification Protocol (FCP) is an appendix to the General Certification Protocol. It is designed to provide approved forest certifiers with clear directions for how to execute a standardized review and assessment of the Carbon (C) stocks and GHG emissions associated with a forest entity's biological inventory and forest projects.

The intended audience for this Appendix is approved forest certifiers. However, forest entities may also find it useful to review this Appendix to develop a better understanding of the certification activities associated with forest sector reporting in the California Climate Action Registry (Registry).

Please Note: *Only State and Registry approved forest certifiers (which include the expertise of a Registered Professional Forester) are eligible to certify forest entities and projects. It is important to note that State and Registry approved certifiers under the Registry's General Reporting Protocol are NOT automatically approved to certify forest activities. To become an approved forest sector certifier, a general certifier must successfully complete a forest sector-specific application process. See Part II.*

This Appendix is organized into eight parts as described below:

Part I:	Introduction & Key Certification Concepts
Part II:	Approved Forest Certifiers
Part III:	The Certification Process
Part IV:	Conducting Core Certification Activities: Forest Entities
Part V:	Conducting Core Certification Activities: All Forest Projects
Part VI:	Conducting Core Certification Activities: Specific Forest Projects
Part VII:	Completing the Certification process
Part VIII:	Annexes

Forest Certification Protocol vs. General Certification Protocol

All forest entities must report their biological inventory and non-biological emissions for their entity on an annual basis. The Forest Sector Protocol (FSP) is the Registry's standard for how project developers must report their biological inventory. In addition, the Registry's Forest Project Protocol (FPP) serves as the standard for how a project developer must report its forest project activities. The General Reporting Protocol serves as the standard for how forest (and other) entities must report their non-biological emissions.

This Forest Certification Protocol provides directions for how you (the certifier) should review and certify a forest entity's biological inventory as well as any forest projects they may choose to report. To successfully complete a certification of a forest entity (and its projects), you must use the General Certification Protocol to certify the forest entity's non-biological emissions and this Appendix to certify the biological inventory from their entity and projects. Biological inventory refers to reported biological forest carbon stocks and their associated CO₂ emissions.

Given that forest entities must report and certify both their biological and non-biological GHG inventories, all approved forest sector certifiers must read and be familiar with the following Registry documents at a minimum:

- General Reporting Protocol
- General Certification Protocol
- Forest Sector Protocol
- Forest Project Protocol
- Forest Certification Protocol: Entities & Projects

The Registry's protocols are all available on its website: www.climateregistry.org/protocols and www.climateregistry.org/protocols/industry. If you have difficulty accessing any of the documents, please call 213-891-1444.

Protocol Questions

The Registry's reporting and certification protocols are designed to be compatible with one another. Should you encounter a conflict between any of the documents, or if you have questions about carrying out the steps described herein, please contact the Registry at: 1-877-CO2-CCAR.

Protocol Comments and Continual Program Improvement

The Registry welcomes and encourages Registry members, certifiers, technical assistants and the public to comment on its protocols, program, quality, and usefulness of data at any time. The Registry values all feedback on how to improve and develop its program.

Should you have a comment or suggestion that you would like to formally submit to the Registry for consideration, please complete a Protocol Comment Form, available at www.climateregistry.org/Protocols and submit the comment for consideration. The Registry will post your comments on its website for public review and response.

The Registry may update the FSP, FPP and the FCP occasionally to reflect new scientific findings or policy direction. The Registry will notify all forest entities and approved forest sector certifiers when it updates the documents.

The current versions of all protocols pertaining to forest entities and projects will be available on the Registry's website: www.climateregistry.org/protocols/industry.

Key Certification Concepts

Forest Certification Activities

Certification of a forest entity's biological inventory consists of reviewing and assessing all inventory systems and directly sampling the inventory in years 1 and 5 of the five year forest certification cycle. The goal of certification is to confirm that a forest entity (or project) has:

1. Properly identified the Registry's required carbon pools,
2. Implemented appropriate management systems and inventory methodologies to manage and measure the required carbon pools
3. Carried out its carbon measurement calculations and projections accurately

Standard for Certification

The Registry's standards for forest certification are its Forest Sector and Project Protocols. The FSP and FPP contain the Registry's required GHG and carbon (C) calculations, reporting, and monitoring activities, and are the basis for evaluating whether a forest entity's reported GHG emissions are accurate. You should only apply the standards described in the FSP and this FCP when assessing a participant's Annual GHG Report.

Minimum Quality Standard

For a forest entity's annual entity or project biological inventory to be certifiable, it must be free of material misstatements. A material misstatement must be declared if the reported forest inventory does not appropriately describe the forest area and differs greatly from your own assessment of the inventory, as described in more detail later in the document. In addition to confirming the validity of the reported C stocks and emissions, Table 3 helps you review and assess the adequacy of a biological entity or project inventory in the following nine areas:

1. GHG management systems
2. Stratification methodology
3. Sampling methodology
4. Monitoring methodology
5. Baseline Characterization and Calculation
6. Volume coefficients
7. Sample plots
8. Growth plots
9. Projections

You will conduct a qualitative assessment of the first 6 certifiable elements, and a quantitative assessment of the last 3 certifiable elements to assess the biological inventory of all entities and projects. You must determine that ALL 9 certifiable elements of a biological inventory are appropriate and free of material misstatement for a forest entity's inventory to be certifiable.

To meet the Registry's minimum quality standard, the forest entity's calculations on a randomly chosen subset of plots must be within 15% of your calculation. In addition, actual C measurements must be within 10% of projected estimates, and the overall inventory and management systems must meet the Registry's criteria as well as your professional judgment to be certifiable.

NOTE: *The threshold for material misstatements differs for biological inventories and non-biological emissions. Refer to the General Certification Protocol for a definition of a material misstatement of non-biological emissions.*

Reporting Uncertainty vs. Inherent Uncertainty

Reporting uncertainty is the level of uncertainty associated with a forest entity's chosen C stock sampling, management, and calculation methodologies. *Inherent uncertainty* refers to scientific uncertainty associated with measuring C stocks and GHG emissions.

The Registry is aware that there is inherent uncertainty in quantifying C stocks of forest entities. However, determining scientific accuracy is not the focus of the Registry. Instead, the Registry's certification process is designed to identify and assess reporting uncertainty. Therefore, when assessing if a forest entity's entity or project biological inventory meets the Registry's minimum quality standard, you should only consider quantification differences that result from reporting uncertainty, not inherent uncertainty.

De Minimis Emissions

While the Registry's General Reporting Protocol allows for the exclusion of up to 5% of "de minimis" emissions for non-biological reporters, there is NOT a de minimis threshold for biological inventories associated with forest entities and forest projects.

In the first three years of reporting, forest entities must report 100% of their CO₂ emissions (which result from changes in C stocks) from their entity and projects (the required C pools). From the fourth year on, forest entities must report all of the relevant Kyoto gases (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆).

Part II: Approved Forest Certifiers

Becoming an Approved Forest Certifier

Certification firms must be approved by the State and Registry before they are eligible to conduct any certification activities for Registry participants. The State of California and the Registry will “approve” certifiers that are qualified to review a forest entity and project biological inventories on a regular basis.

A forest certifier is a certification firm that has been approved by the State and the Registry as a “general certifier” that has also demonstrated its ability to assess forest entity and projects’ biological inventories. Consequently, forest entities will only need to hire one certification firm to review both its biological and non-biological emissions.

The State and the Registry will release a Request for Application (RFA) annually to allow interested certifiers to apply to receive forest sector approval. Please check the Registry’s website for additional RFA information: www.climateregistry.org/protocols.

Certification firms interested in becoming approved forest sector certifiers must complete the following steps:

1. Submit an application in response to the State’s annual RFA.
2. Receive notice from the State that your application has been approved.
3. Attend a Registry Forest Sector Certification Training Session (held approximately one month following the State’s notification of acceptance from its RFA)
4. Keep the State and Registry informed of any changes to your firm’s organizational boundaries as well as any addition or deletion of staff to your “approved” team.

For additional information about becoming a State and Registry approved certifier, please refer to Part II of the Registry’s General Certification Protocol.

As with all approved certifiers, your firm’s approved certification status will be effective for 3 years from the time it is issued. After the 3 years has expired, certification firms must re-apply for renewal of their approval status by responding to the California Energy Commission’s Request for Applications (RFA) in the year in which their approval will expire.

Certification Site Visits by California State Agencies

As part of the State of California’s oversight of the Registry’s certification process, appropriate state agencies are required to randomly accompany approved certifiers when you conduct the core certification activities.

Senate Bill 527 (Sher, 2001) directs the California Energy Commission (CEC) to observe certifiers during certification visits, evaluate whether the forest entity has a GHG accounting program consistent with Registry-approved procedures and protocols; and evaluate the reasonableness of the emissions information being reported. The agencies may send an

employee or a contractor to accomplish this responsibility, and must report their findings to the Registry.

Senate Bill 812 (Sher 2002) directs the Registry to coordinate with the Department of Forestry and Fire Protection (CDF) to develop the forest sector, forest project, and forest certification protocols. Consequently, CDF and/or the CEC may accompany a forest certifier as they complete the certification process to ensure consistent and accurate implementation of the relevant forest protocols as well as the reasonableness of a forest entity's reported data.

When requested by the forest entity, the agency will keep confidential the information resulting from its visit. Rules covering state agency confidentiality can be found in the *California Code of Regulations, Title 20, Sect. 2501 et seq.* and *PRC 21160*.

Part III: The Certification Process

Overview

The Registry’s 10 step certification process is explained in detail in its General Certification Protocol (See also Annex 1). In order to certify a forest entity’s biological inventory, you must use the guidance below to complete Step 6 (Conducting Certification Activities) and Step 7 (Certification Documentation). Since forest entities will have both biological and non-biological GHG inventories to certify, you must complete Steps 6 and 7 of the process twice (once to assess the entity’s non-biological inventory, and once to assess their biological inventory).

Forest Certification Cycle

Certification is required in years 1 and 5 of a 5-year forest certification cycle. This certification cycle allows you to conduct two complete certifications within a 5-year period. While forest entities must certify their biological inventory based on this schedule, they may also choose to certify their entity’s biological inventory on a more frequent basis.

Under normal circumstances, certification activities should occur as follows:

Table 1. Forest Certification Cycle

<i>Year</i>	<i>Biological Emissions & C Stocks</i>	<i>Non-Biological Emissions</i>
Year 1	1. Conduct assessment of biological emissions and C stocks as well as a direct sampling exercise. 2. Review Annual Monitoring Report	1. Conduct certification activities to assess non-biological GHG Emission Report.
Years 2 - 4	1. Review Annual Monitoring Report	
Year 5	1. Conduct assessment of biological emissions and C stocks as well as a direct sampling exercise. 2. Review Annual Monitoring Report	
Year 6 (Repeat Year 1)	1. Conduct assessment of biological emissions and C stocks as well as a direct sampling exercise. 2 Review Annual Monitoring Report	
Years 7-9 (Repeat Years 2-4)	1. Review Annual Monitoring Report	
Year 10 (Repeat Year 5)	1. Conduct assessment of biological emissions and C stocks as well as a direct sampling	

	exercise. 2. Review Annual Monitoring Report	
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Forest entities should have collected and entered their GHG data into the Climate Action Registry's Reporting Online Tool (CARROT) and consequently be ready for certification by August 31st of the year following their reporting year. Certification activities should begin thereafter and be completed by December 31st of every year.

Annual Monitoring Reports

In addition to the certification activities above, you will review a forest entity's Annual Monitoring Report every year. This Annual Monitoring Report serves as an attestation of the entity (and project) activities between certification years. While you will not "certify" the report, per se, you must complete a cursory check of the reported information to ensure the entity has not overlooked an event that would significantly impact the status of the forest inventory.

Optional Reporting

The Annual GHG Emission Reports that a forest entity submits to the Registry may contain information in addition to and beyond the required information. All non-required GHG data is optional, and does not require certification. This could include, for instance, information about a company's environmental policies and goals, etc. Optional information will be clearly distinguished from required (and certified) information in the CARROT.

Optional forest carbon pools include:

- Wood products
- Herbaceous understory
- Litter and duff
- Soil

Part IV: Conducting Core Certification Activities: Forest Entities

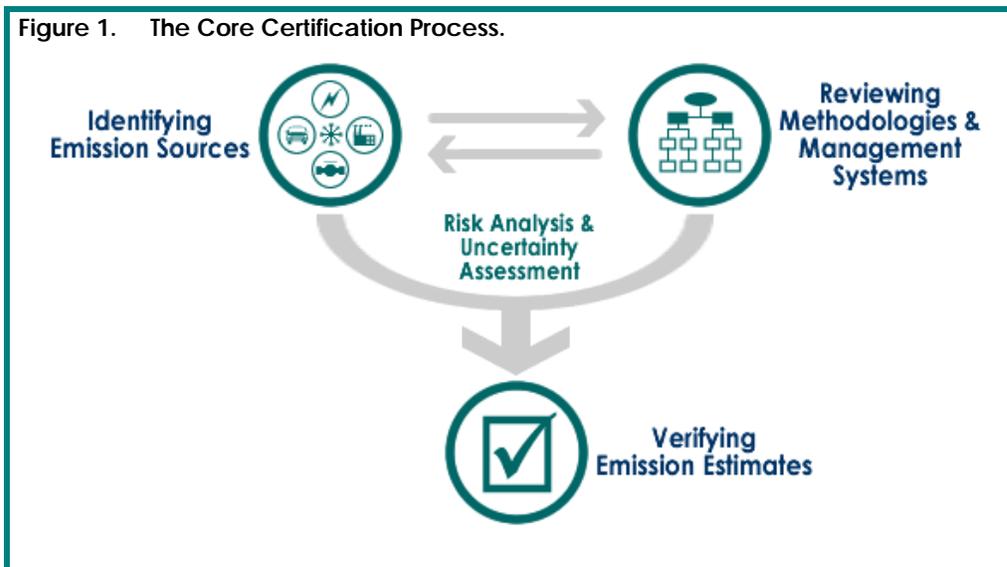
Overview

The goal of certifying biological inventories is to assess and confirm a forest entity's reported annual C stocks and related CO₂ emissions for their entity.

The core certification activities for assessing biological inventories consist of the following three steps:

- Step 1: Identify emission sources (required carbon pools)
- Step 2: Review forest management systems and inventory methodologies
- Step 3: Verify emission estimates (verify C stocks and related CO₂ emissions)

The core certification activities are a risk assessment and data sampling effort aimed at ensuring complete entity-wide reporting meets the required level of accuracy. The complete core certification process is illustrated in Figure 1 below.



To confirm that forest entity C stocks have been reported accurately, you will want to review, at a minimum, the documents listed in Table 2 as part of your certification activities.

Table 2. Documents to be Reviewed (at a minimum) During the Certification of a Biological Inventory	
Activity	Documents
Identifying Possible Emission Sources	
Emission Source/Carbon Pool Inventory	Map of forest entity that includes: Entity boundaries Acreage Latitude/longitude Existing land cover & land use Topography Forest vegetation Site classes Wildlife Habitat Relationship (WHR) classes Entity/project summaries
Understanding Management Systems and Methodologies	
Responsibilities for Implementing GHG/Forest Management Plan	Organization Chart, GHG/Forest Management Plan
Training	Training and/or policy Manual, Procedures Manual
Methodologies	All Protocols and/or calculation methodologies used (in addition to the Registry's General Reporting Protocol) Timber harvest plan/Option A plan Explanation of stratified sampling plan Documentation of any customized sampling or calculation methodology Documentation of baseline assumptions and calculations/projections, if appropriate
Verifying Emission Estimates	
Direct sampling (years 1 and 5 of certification cycle)	Forest entity's direct sampling results for sample plots
Activity Shifting Leakage	Growth model projections, additional inventory sample plot data, California's Fire and Resource Assessment Program data
Annual Monitoring Report	Annual monitoring report and supporting documentation
Model assessment	Description of growth/projection models and predictions from models Description of other models used and output from models

In order for a biological inventory to be certifiable, it must be free of material misstatements. Consequently, you must confirm that a forest entity has:

1. A complete, accurate, and appropriate biological inventory
2. Used appropriate inventory methodologies to obtain inventory estimates for its forest land, and
3. Sampled and calculated its carbon stocks on a randomly selected subset of plots within the Registry's accuracy requirements
 - The forest entity's (and forest project's) total sample plot measurements must not differ by more than 15% of certifier's measurements
 - The forest entity's projected (modeled) C stock must be within 10% of its reported carbon volumes.

Table 3: Certifiable Elements of a Biological Inventory

A. Certifiable Element	B. Purpose of Element	C. Potential Sources of Error	D. Effect on Estimate	E. REQUIRED Macro Level of Certification	F. POSSIBLE Detailed Level of Certification
1. GHG Management Systems	Ensure comprehensive system to track GHG	GHG plan elements not aligned or linked	May not collect all GHG information, or use information effectively	Overview of GHG management systems	Flow design map that shows flow of GHG data within mgmt systems
2. Stratification Methodology	Improves sampling efficiency.	Vegetation 'loosely' stratified	Wide variation in actual vegetation characteristics to strata volume estimates making it difficult to perform comparison	Review of stratification criteria. Review of update process for vegetation change.	Field visits to compare mapped vegetation with actual stands, particularly in the higher volume stands.
		Vegetation not updated for harvest events	Could significantly overestimate or underestimate volume	Comparison of aerial photos with mapped vegetation.	
3. Sampling Methodology	Ensures consistency with process	Deviation from sampling methodology reduces credibility of data.	Duplication of measurements could be impossible.	Comparison of data attributes in inventory databases	Review sampling process with field staff
4. Monitoring Methodology	Ensures that deviations will be identified	Not implementing monitoring plan on a regular and timely basis	Could overlook deviation from inventory methodologies	Review monitoring plan and confirm its implementation	Accompany entity on monitoring visit
5. Baseline Characterization & Calculation	Confirm appropriateness and accuracy of baseline	Incorrect baseline characterization	May over or underestimate projected carbon stocks	Review baseline characterization assumptions	Confirm baseline carbon quantification
6. Volume Coefficients	Derive estimates of volume for each measured entity.	Volume coefficients incorrect for species sampled.	Effect not likely too large.	None	Review of volume coefficients in inventory programs
		Incorrect use of coefficients	Effect could be quite large.		
7. Sample Plots	Derive volume estimates for each vegetation stratum.	Diameter measurements outside of error tolerance.	Effect dependent on scope of error. A systematic error could lead to a large effect on estimate.	Field comparison of strata volume estimates to actual conditions. Field check can review stratification as well as associated volume estimates.	Plot visits to check for accuracy of measurements.
		Height/Length measurements outside of error tolerance			
		Bias in location of plots	Unknown effect , difficult to measure		
Crown ratios not measured accurately		Projection of growth impacted			
8. Grown Plots		Growth model projections overestimating or underestimating growth of plots	Effect dependent on scope of error. Error is minimized due to 10-year reliance on projected data.	Comparison can efficiently assess whether inventory is within bounds.	
9. Projections	Project carbon stocks, growth, and harvest activity into the future under forecasted management activities	Inaccurate stratification and map location of projection elements	Difficulty to rectify variations in actual yield to projected yield	Review of actual harvest events to projected harvest events	Check and confirm the projection calculations

		Inaccurate representation of site class	Growth estimate doesn't reflect actual field growth.	Review methodology for determining site class	Field validate site class estimates by sampling site trees.
		Growth is inaccurately projected	Projections either exceed or do not meet actual inventory	Determine if growth model used is appropriate and approved by Registry.	Review coding of growth model.

To begin the certification activities, you must complete the Macro level inventory assessment (Column E above). Based on this macro level assessment, you must develop a more detailed inventory assessment (suggestions in Column F above) to ensure that the reported biological inventory meets the Registry's minimum quality standards. The design of this detailed review will depend in large part on your professional judgment and assessment of potential for material error or departure from the Forest Protocols. You must then carry out the detailed certification activities you deem appropriate to confirm the accuracy and certifiability of the biological inventory.

The three key steps of the certification activities to assess a forest entity's C stocks and emissions are described below. The steps are also summarized in customized Certification Logs (Annexes 2-5) based on the type of biological inventory you are certifying (Forest Entity, Conservation-based forest management projects, reforestation projects, conservation projects). The Registry recommends that you take the Certification Logs along with you as you conduct the certification activities, as they will help to ensure that you collect and review the data you need to accurately assess a biological inventory.

Step 1: Identifying Potential Emission Sources/Carbon Pools—Forest Entity

The first step in conducting the certification activities is to identify potential GHG emission sources. This requires you to review a forest entity's geographic, organizational and operational boundaries to assess if the Registry's required carbon pools have been correctly identified and included in the biological inventory.

To identify emission sources (required forest carbon pools), use Table 2 and the Forest Entity Certification Log (Annex 2) to complete the following tasks:

1. Review the description of the forest entity.
 - a. Confirm the entity's forest composition (e.g. age, structure, species, size) and distribution are accurately depicted.
 - b. Review its stratification methodology and confirm the required pools are identified
2. Review the forest entity's reported biological inventory in CARROT
 - a. Have harvests/removals been reported during the reporting year (or since the last certification)?
3. Confirm the forest entity's reporting responsibility to the Registry

- a. Does the entity own at least 100 acres of commercial and/or non-commercial trees?
 - b. Has the entity aggregated its GHG data by equity share or management control?
 - c. If aggregated by equity share, confirm equity ownership and ensure other equity owners have also agreed to report by equity share.
 - d. If aggregated by management control, confirm all equity owners, and ensure that the inventory is not being double counted.
4. Review and confirm the geographic boundaries of the reporting entity—Review the map of the entity.
 - a. Note: At this point, biological inventories in the state of California can only be certified. Biological inventories within the US, but outside of the state of California may be reported in the optional (not Registry-certified) section of CARROT.
 5. Review and confirm the organizational boundaries of the reporting entity.
 - a. Review property records, etc.
 6. Assess if any structural changes have occurred within the entity (after the initial certification/registration)
 - a. Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc.
 7. Review any reported natural significant disturbances
 - a. Confirm that a natural significant disturbance either did or did not occur by reviewing state data (California Department of Forestry & Fire Protection’s “Fire and Resource Assessment Program (FRAP) (<http://frap.cdf.ca.gov/>). The program’s 5 year change detection database and 10 year fire history database will provide reference information).
 8. Check state records for notices of tree removals/harvest and physically inspect the forest area for any visible removals (through cruises and aerial surveys)
 - a. Refer to the FRAP databases referenced in G. above.
 - b. Review Board of Equalization records

Once you have identified and reviewed all emission sources/required carbon pools, please proceed to Step 2 to review the calculation methods used and the management systems employed.

Step 2: Reviewing Methodologies and Management Systems—Forest Entity

After you have confirmed the scope and comprehensiveness of the forest entity’s biological inventory you must review the forest inventory models, sampling methodologies and techniques, calculation methodologies, growth projection models, and GHG management systems used to report their GHG activity to the Registry.

To do so, you must complete at least the following tasks:

1. Review any existing forest management, reforestation, or conservation plans of the entity.
 - a. Do management plans look reasonable, given the composition of the species and known growth potential?
2. Review and confirm the entity's baseline methodology (if reporting a baseline).
 - a. Is the baseline characterized appropriately?
 - b. If a model has been used to determine the baseline activity, is the model appropriate?
 - c. If no baseline is determined, review timber harvest plan and check actual C stocks against planned activities.
3. Review and confirm any baseline adjustments (if applicable).
 - a. Have regulations changed?
 - b. Has the entity's composition or size changed?
4. Review and assess the forest entity's sampling strategy
 - a. Does the chosen sampling methodology meet the required criteria set forth in the FSP?
 - b. Does the stratification reflect the forest diversity?
 - c. Are the sampling intervals appropriate?
 - d. Are all the sampling plots permanently monumented?
 - e. Are there permanently monumented sampling plot centers for at least 10% of the sample plots, or 100 plots? (whichever is greater)
 - f. Have all of the plots been sampled within the past 10 years?
5. Review and assess the forest entity's calculation methodologies
 - a. If the forest entity used calculation methodologies other than those specified in the FSP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable?
6. Review and assess the forest entity's growth projection models
 - a. Do the models meet the Registry's criteria as outlined in Part VI, Section G?
 - b. Refer to CDF approved models, and assess appropriate use of approved models.
7. Review and assess the forest entity's monitoring plan
 - a. Does the forest entity have an appropriate monitoring plan?
 - b. Does the monitoring plan ensure that 100% of the sample plots will be directly sampled by the forest entity at least every 10 years?
 - c. Has the forest entity assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry?
 - d. Is this person qualified to oversee the monitoring plan?
 - e. Has the forest entity adequately considered leakage in its monitoring plan?
8. Review and assess the forest entity's overall GHG management systems.
 - a. Do the systems capture enough of the GHG characteristics to be meaningful?
 - b. Is GHG data documented appropriately?

After you understand a forest entity's quantification methodologies and management systems, proceed to Step 3 below to verify the reported emission information.

Step 3: Verifying Emission Estimates

The final step in completing the core certification activities is to verify the emission estimates. To do so, you will re-calculate a subset of the forest entity's sample plots and compare your calculated results with the forest entity's calculated results from the same sample plots to determine if the biological inventory is free of material misstatements.

This step is principally a risk assessment exercise, in which you must weigh the relative complexity of the scope and diversity of the forest entity's biological inventory, the appropriateness of a forest entity's calculation and management systems, and the risk of calculation or reporting error to determine the best risk-based strategy to identify a representative sample of stratified site classes to sample and re-calculate. You must compare your C stock measurements to the forest entity's measurements for the same sample plots.

The Registry does not intend for you to recalculate all of the sample plots, but rather to estimate a change in carbon stocks from a representative sample of the forest entity's sample plots. A representative sample, as described on page 18, is 5% or up to 20 plots, whichever is less. Once you collect this data, you will compare it with the forest entity's data to determine two things: 1) if the forest entity's sampling, measurement, and calculation activities were correct, and 2) if the forest entity's projected carbon stocks resulting from the forest entity activities are reasonable.

While this process cannot guarantee that the forest entity's total reported C stocks are accurate, your representative sub-sampling of plots should flag any significant measurement and calculation problems. Over time, you should choose different plots to sample.

To finish Step 3, you must complete the following tasks (additional guidance is provided after the list of tasks):

1. Create a risk-based strategy to sub-sample the forest entity's sample plots.
2. Carry out the strategy developed above to take direct samples from a representative sample of plots within the entity.
 - a. Your sampling should include all of the required carbon pools, as well as a diverse mix of the tree species and climatic and soil variability.
3. Recalculate the amount of carbon in each plot sampled using the same calculation methodologies (assuming they are certifiable) as the forest entity, and assess the forest entity's data collection.
 - a. See detailed guidance below.
4. Compare your estimated carbon stock and GHG emissions to those of the forest entity to determine if any material misstatements exist.
 - a. See detailed guidance below.

5. Compare the forest entity's C stock results from direct sampling with their growth model projections and assess the accuracy of the projection.
 - a. If the growth model projections differ by +/- 10%, the forest entity must recalibrate the growth model to more accurately reflect the change in C stocks in the future.
 - b. Compare your calculated C stocks from direct sampling the forest entity's original (or recalibrated, if necessary) growth model and assess if the current projections seem reasonable.
6. Determine the change in C stocks since the last certification (applies only after the first certification has been completed)
 - a. Is the change in C stocks reported correctly?
7. Review all annual monitoring reports (after the initial certification)

Additional Guidance for Direct Sampling:

To confirm forest entity/project emissions, you must:

Collect Direct Samples

1. Identify a representative sub-sample of entity/project sample plots from which to collect data based on physical visit to project area and forest entity's inventory data (stratification of species, etc.).
 - a. Representative sub-sample should include all required carbon pools among various vegetation strata.
 - b. The Registry requires that at a minimum you visit 5% of the total sample plots, or up to 20 plots, whichever is less, to collect direct measurements. However, the Registry expects you to determine the appropriate number of samples to take to ensure the reporting accuracy and precision based on the size of the entity and the variability of the forest area.

2. You must collect the following data from the sample plots:
 - a. Number of trees in the plot
 - b. Species of tree
 - c. Diameter at breast height for each tree
 - d. Height of each tree if measured
 - e. Number of dead or downed trees
 - f. Average diameter of dead or downed trees

3. Calculate carbon stocks within the required carbon pools from your sample plots using the same calculation methodology as the forest entity and record your findings for each plot in column C of Table 4.

Table 4. Sample Plot Calculation Assessment Matrix¹

Sample Plot Number (or Master Sampling Form):

Location:

Date Sampled:

A	B	C	D	E	F	G	H
Sample Inspection Item	Tolerance	Certifier's Findings (Total Possible Correct Answers)	Cruiser's Findings	Number of Cruiser's Incorrect Answers	Error Weight	Total Error (E*F)	Percent Correct $(1 - (G/C)) * 100$
In/Out Trees	None				5		
Species Type	None				5		
DBH	+/- 10%				1		
Height	+/- 10%				1		

¹ An adaptation of the matrix contained in the USDA Forest Services' Timber Cruising Handbook, page 234.

Dead/Downed Wood In/Out	None				3		
Length of Dead/Downed Wood	+/- 10%				1		
Average Diameter of Dead/Downed Wood	+/- 10%				1		
Implementation of Methodology on Unit Sampled	None				25		
Total Percent Correct (Sum of H/8 (Total number of items checked))	N/A	N/A	N/A	N/A	N/A	N/A	

Assess Sampling and Calculation Accuracy

1. Create a Master Sampling Form to compare your aggregated sampling totals with those of the forest entity/project, as indicated above.
 - a. Aggregate your results from your sample plots and enter the totals into column C in Table 3.
 - b. Enter the forest entity's aggregated data totals for the same sample plots in column D in Table 3.
 - c. Determine the difference between column C and D and enter the number of incorrect answers in Column E.
 - d. Multiply Column E by Column F and enter into Column G.
 - e. Calculate percent correct by using the formula in Column H.
 - f. Sum the total percent correct.
 - i. If the total percent correct is greater than 85%, then the measurement does not contain any material misstatements, and is certifiable.
 - ii. If the total percent correct is less than 85%, then the measurement may contain material misstatements. You must do the following:
 1. Document your findings in the Certification Report to the forest entity.
 2. Allow the forest entity to resample all the sample plots and revise/improve their sampling data.
 3. If the forest entity believes his/her sampling is correct, you can increase the number of plots in your sample and recalculate the total accuracy using Table 3 in Annex X again. (The total percent correct must be greater than 85% to be certifiable)

4. If after increasing the number of plots in your sample, the total percent correct is still less than 85%, then the forest entity must either accept the determination of material misstatement or conduct a new comprehensive sampling of the project/entity area.
2. Assess if the project developer followed the forest entity's stated sampling methodology and techniques.
 - a. By reviewing the project developer's records, did they sample the correct number and location of sample plots per the entity/project's sampling plan?
3. Validate the field work by conducting a check cruise that includes:
 - a. Accuracy of tree measurements and species identification.
 - b. Accuracy and lack of bias in sample selection.
 - c. Area determination measurements for fixed plots.
 - d. Determination of in and out trees on variable radius plots.
4. Assess the project developer's data recording for legibility and accuracy, including timber measurement and area-determination data.
5. Review the care/calibration and use of sampling tools.
6. Review the reported change in C stocks.
 - a. Given the other forest and business activity during the reporting year, assess if the reported change in C stocks is reasonable.

Assess Accuracy of Projected Entity Activities

1. If a forest entity's projected carbon stocks from its entity/project activities differ from their direct sampling results by +/- 10%, you must confirm that they have adjusted their forest entity/project's growth projection model in the current year to reflect the overstatement/understatement of emission reductions/changes in C stocks in past years, and to reflect the likely change in carbon stocks from the entity/project activity over time.
2. Review annual monitoring reports since the last direct sampling to ensure the projected emissions/change in carbon stocks are reasonable

Complete Certification Activities

If you are only certifying a forest entity's inventory, please skip the next section and proceed directly to Part VII: Completing Certification Activities.

Part V: Core Certification Activities: Forest Projects

Overview of Forest Project Certification

A forest entity that wishes to certify a forest project must also report and certify its entity-wide biological inventory as well as its non-biological emissions.

A FOREST ENTITY MUST REPORT ITS BIOLOGICAL C STOCKS AND EMISSIONS TO BE ELIGIBLE TO REPORT CERTIFIED FOREST PROJECTS.

The Registry currently recognizes three types of forest projects²:

Type 1: Conservation-based forest management projects

Type 2: Reforestation projects

Type 3: Conservation projects

Forest entities may wish to report and certify such forest project activity in addition to their entity level biological inventory to generate certified GHG reductions to demonstrate their environmental actions and/or to sell such GHG reductions to another party in the evolving GHG market.

Project-level reporting of GHG reductions requires a higher level of certification scrutiny than entity-wide biological inventories do, as discrete forest projects have a higher probability of being used as a basis for emission trading and offsets. This increased level of certainty is necessary to ensure potential emission traders/brokers/buyers, etc. that the GHG reductions are both “real” and “additional” as defined by the Registry.

Certifying forest projects requires you to:

- Confirm the forest entity has met the Registry’s reporting criteria
- Assess projected and actual annual Carbon (C) stocks and CO₂ emissions within the project
- Assess the appropriateness of the project baseline characterization and corresponding carbon baseline
- Confirm that the project activity is being implemented as planned
- Compare emission/stock calculations and emission reductions with those of the forest entity

To document your review/assessment of each of the certification steps for each project, you must complete the Certification Activities Log (Annex 3, 4, and 5) for each forest project you certify.

Conducting Core Certification Activities: All Forest Projects

² While only three forest projects are currently eligible for reporting, the Registry may consider additional types of forest projects in the future.

The certification activities necessary to certify forest projects are similar to those outlined in Part IV: Core Certification Activities: Forest Entities above. However, forest project certification includes an assessment of the project baseline and project activity in addition to the calculation of emission reductions.

The steps for forest project certification are:

- Step 1: Review and Confirm Project Eligibility
- Step 2: Identify Potential Emission Sources
- Step 3: Review and Assess Project Baseline
- Step 4: Review and Assess Project Activity & Management systems
- Step 5: Confirm Project Emissions & Reduction Calculations

The guidance below first addresses the certification tasks that are common to all forest projects. Additional required certification activities for each type forest project follows the common guidance. Please make sure that you refer to the specific forest project certification requirements in addition to the common guidance.

The Registry recommends that you take the appropriate Forest Project Certification Logs (Annex 3, 4, or 5) along with you to conduct the forest project certification activities, as it will help to ensure that you collect and review the data you need to assess a forest project.

Step 1: Review and Confirm Project Eligibility (All Forest Projects)

The first step in the certification activities for forest projects is to confirm the reported project's eligibility. This is necessary because the Registry has only developed standardized reporting and certification guidance for a few select GHG reduction projects. Only those projects identified by the Registry may be registered as "GHG reduction projects."

The Registry does not restrict forest entities from conducting other GHG reduction activities outside of the three Registry-approved forest projects. However, the Registry does not certify GHG reductions from other forest project activities at this time. Forest entities should thus report other GHG reduction activities in the optional text boxes provided in the CARROT forms.

To determine a project's eligibility, complete the following tasks:

1. If a forest entity opted to use the Registry's "pre-screening" process, review the Project Pre-screening Worksheet and any of the Registry's comments.
 - a. If the forest entity did not utilize the Registry's pre-screening process, then carefully review the project summary to ensure all of the criteria in 1 and 2 above have been met.
2. Review the forest entity's project summary to acquire an overview of the project, its scope and goals. The Project Summary must include the following components:
 - a. Written description of the land pressures and climate regime of the project area
 - b. Map of the project area that includes:
 - i. Project boundaries

- ii. Acreage
 - iii. Latitude/longitude or public land survey
 - iv. Existing land cover and land use
 - v. Topography
 - vi. Forest vegetation
 - vii. Site classes
 - viii. Wildlife Habitat Relationship (WHR) classes
3. Confirm that the forest project is one of the three approved project types (conservation-based forest management, reforestation, or conservation).
 4. Confirm that the project is:
 - a. Located in its entirety in the State of California
 - b. Using native California species (as identified in the CA Department of Fish and Game’s “A Guide to Wildlife Habitats of California”
 - c. Initiated in year 1990 or later
 5. Confirm that the project area is secured with a perpetual conservation easement that:
 - a. Has been recorded
 - b. Includes in its recitals a statement of intent that the easement is perpetual and conforms with Section 42823 of the California Public Health and Safety Code and
 - c. Includes terms that support the project activity
 6. Determine if project is eligible for Registry certification
 - a. If the project is eligible, proceed to Step 2.
 - b. If you discover that not all of the eligibility criteria have been met, you must contact the project developer/forest entity immediately to discuss the eligibility criteria that you feel is not met by the project.

NOTE: You CANNOT provide consulting services or make design recommendations to the project developer/forest entity, as this would violate the Registry’s Conflict of Interest code. However, you should describe where/why the project does not meet the registration criteria.

Step 2: Identify Potential Emission Sources/Carbon Pools (All Forest Projects)

The first step in the certification activities is to identify potential GHG emission sources. This requires you to review a forest project’s geographic, organizational and operational boundaries to assess if the Registry’s required carbon pools have been correctly identified and included in the forest project.

To identify potential emission sources (required forest carbon pools), use Table 2 and the appropriate Certification Log as a guide to complete the following tasks:

1. Review the forest project summary.

- a. Confirm the project's forest composition (age, structure, species, size) and distribution are accurately depicted.
 - b. Review the stratification methodology and confirm the required pools are identified
2. Review the forest project's C stocks and emissions in CARROT.
 - a. Have harvests/removals been reported during the reporting year (or since the last certification)?
3. Reconfirm the forest entity's reporting responsibility to the Registry (this should already be confirmed in the forest entity inventory)
 - a. Does the entity own at least 100 acres of commercial and/or non-commercial trees?
 - b. Has the entity aggregated its GHG data by equity share or management control?
 - c. If aggregated by equity share, confirm equity ownership and ensure other equity owners have also agreed to report by equity share.
 - d. If aggregated by management control, confirm all equity owners, and ensure that the inventory is not being double counted.
4. Review and confirm the geographic boundaries of the forest project.
 - a. Note: At this point, only forest projects in the state of California can be reported and certified.
5. Assess if any structural changes have occurred within the forest entity that might impact the project area (after the initial certification/registration)
 - a. Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc.
6. Review any reported natural significant disturbances in the project area
 - a. Confirm that a natural significant disturbance either did or did not occur by reviewing state data (California Department of Forestry & Fire Protection's "Fire and Resource Assessment Program (FRAP) (<http://frap.cdf.ca.gov/>). The program's five-year change detection database and 10 year fire history database will provide reference information).
7. Check available and relevant data sources to assess tree removals/harvest and physically inspect the project/entity area for any visible removals. This can be achieved through:
 - a. Cruise/aerial surveys
 - b. A review of FRAP databases, referenced in G. above.
 - c. A Review of Board of Equalization records

Once you have identified and reviewed all emission sources/required carbon pools, please proceed to Step 3 to review the calculation methods used and the management systems employed.

Step 3: Review and Assess Forest Project Baseline (All Forest Projects)

After you have identified all of the emission sources within a forest project, you must carefully review the forest project baseline to ensure that it is appropriate for the forest project and reflects the appropriate reference case scenario as required by the Registry.

A forest project baseline characterization is the long-term projection of management practices (or absence thereof) that would have occurred within a project's physical boundaries in the absence of the project. The Registry provides specific criteria for characterizing the project baseline for each project type. Reviewing and confirming a forest project baseline characterization is critical to the certification process because it serves as the benchmark for determining carbon stock changes and any resulting GHG reductions from the project activity.

While most forest projects will likely initially set forest project baselines in the current reporting year, forest entities are able to report projects that were implemented in past years (back to 1990) as long as they can meet all of the project eligibility criteria and reporting requirements. To report a forest project with a historical baseline initiation date, forest entities will need to report and seek certification for each year of the project from the forest project baseline year up to the present. For example, if a forest entity reported a forest project in 2004 that was initiated with a project baseline in 2002, they need to report and certify the forest project for 3 years: 2002, 2003, and 2004.

While the project baseline criteria are different for each of the forest project types (see specific project criteria), many of the actions you need to take are the same. Such common tasks are listed below:

1. Review the summary of applicable land use laws that the forest entity provides to you (refer to Annex A of FPP) and confirm that they are complete, and are identified and incorporated into the project baseline.
2. Discuss with the forest entity how the project baseline was selected and characterized, and assess if the chosen project baseline characterization is accurate/appropriate given the specific forest project baseline criteria, relevant land use laws, and public (and historical) knowledge of the forest project area and its activities.
3. After reviewing the forest entity's baseline characterization methodology, confirm that all of the required forest carbon pools are included in the forest project carbon baseline.
4. Confirm that the project activity is additional, that is, the activity practices exceed those outlined in the baseline characterization.
5. Review the inventory/projection model that the project developer used to forecast the carbon stocks over time to quantify the forest project carbon baseline (pursuant to baseline characterization) and confirm the results meet the Registry's requirements for accuracy and precision.

- a. If the forest project baseline meets the Registry’s criteria (as described below for each forest project), then proceed to Step 4 below.
- b. If the forest project baseline does not meet the Registry criteria, then you must write an assessment describing why the forest project baseline is insufficient for Registry participation and meet with the forest entity to discuss.

NOTE--Adjusting forest project baseline characterization:

Once you confirm a forest project’s baseline characterization, it will likely remain the baseline for the duration of the project. A forest entity is not required to adjust their project baseline qualitative characterization – it may choose to do so. In the case where the project boundaries change, a new project for that additional area must be initiated. In the case where a significant natural disturbance occurs within the project boundary, and carbon stocks decrease, a forest entity must report the resulting change in carbon stocks. If this change in carbon stocks is substantial (fire destroyed 90% of project area), then the forest entity may choose to cancel project reporting, which is permitted by the Registry.

Step 4: Review & Assess Forest Project Activities & Management Systems (All Forest Projects)

After you review and confirm the project developer’s selected forest project baseline characterization is appropriate for the project, you must review the project activities and management systems and do the following:

1. Review and assess the sampling strategy for the forest project
 - a. Does the chosen sampling methodology meet the required criteria set forth in the FPP?
 - b. Does the stratification reflect the forest diversity?
 - c. Have all of the plots been sampled within the past 10 years?
 - d. Are the sampling plot centers permanently monumented?
2. Review and assess the calculation methodologies used in the forest project
 - a. If the project developer used calculation methodologies other than those specified in the FPP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable?
3. Review and assess the forest project’s growth projection models
 - a. Do the models meet the Registry’s criteria as outlined in Part VI Section G?
 - b. Refer to CDF approved models referenced in the FPP, and assess appropriate use of approved models.
4. Review and assess the monitoring plan for the forest project
 - a. Does the forest project have an appropriate monitoring plan?

- b. Does the monitoring plan ensure that the project developer will directly sample 100% of the sample plots at least every 10 years?
 - c. Has the project developer assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry?
 - d. Is this person qualified to oversee the monitoring plan?
5. Review and assess the GHG management systems related to the forest project.
 - a. Do the systems capture enough of the GHG characteristics to be meaningful?
 - b. Is GHG data documented appropriately?
 6. Confirm that the project developer is implementing the project activity as it is described in the project summary.
 7. Confirm that the project developer has considered and described possible activity-shifting leakage resulting from the project activity and any planned mitigation action.
 - a. Refer to the description of possible leakage in the Initial Leakage Assessment (See Annex A of FPP).
 8. Confirm that the project developer has identified the types of non-biological emissions that result from the project in their non-biological inventory. These emissions do not need to be quantified, just identified. For example, “As a result of a forest project, 5 trucks will be used, hauling equipment will be used, and the lumber mill that is owned by the forest entity will also operate to process the harvested timber.”

Step 5: Confirm Project Emission & Reduction Calculations (All Forest Projects)

Once you have confirmed a project’s eligibility, forest project baseline, and forest project activities, you must conduct an (ex-post) sub-sampling exercise within the project area to confirm the project developer’s estimated and sampled C stocks and resulting GHG emissions or reductions.

To complete this step, please refer to the guidance for Verifying Emission Estimates above (Part III, Step 3). All of the calculations are the same for forest projects as they are for forest entities. However, you will also need to confirm two additional components of a forest project—the accuracy of the reported GHG reduction, and an assessment of possible activity shifting leakage. Consequently, in addition to completing Table 4 for the forest project, you will need to do the following:

- Recalculate the reported GHG reductions.
- a. Check the math on the reduction calculation.
 - b. Does the reduction seem reasonable given the forest activity and growth environment?

Complete Table 5: Leakage Assessment Worksheet to assess possible leakage, and its impact on the project

- a. Does the reported leakage seem reasonable?
- b. Is there likely other leakage that is not reported?
- c. Is market leakage likely to significantly impact the project?

Table 5 contains key elements to consider prior to assessing the impact of activity shifting leakage. This worksheet only needs to be completed if there is a negative deviation between actual carbon stocks and projected carbon stocks (entity baseline) to ensure that all other possible causes of the deviation are eliminated. If any of the possible causes of the disparity between projected carbon and actual carbon are found to be associated with the disparity, the project developer must engage in some form of corrective action to reduce the likelihood of the problem occurring in the future.

Negative deviations between actual inventory measurements and projected inventory estimates may or may not represent leakage. To assess leakage, you must determine that negative deviations in actual measurements from projected estimates are not caused by the following valid reasons for deviations:

- Inaccurate growth models
- Inventory updates
- Natural Disturbances

Inaccurate Growth Assumptions

Projections of carbon stocks are based on growth models. Actual carbon removals may be tracking with carbon removal projections and, simultaneously, actual carbon stocks decline below the projected carbon stocks if growth estimates used in the projection of the entity baseline are overestimated. Overestimates of growth may be due to an overstatement of site quality, a need to calibrate the model to local conditions, or to an inappropriate application of the growth model. Overestimated growth projections should be suspected if, within the same time period, the project submitter did not exceed the projections of carbon removal (harvest) while estimates of carbon stocks decline below entity projections.

Inventory Updates

The forestry protocols allow the use of plot data from sampling activities to be used if the sampling activity was performed within the last ten years. Sampling activities are likely to be an ongoing activity for most forest project developers. Sampling activities may take place to replace retired plot data or to increase the confidence in the inventory estimate. Adding plots may alter the original inventory estimate used in creating the entity baseline, even after adjusting the original estimate for growth. The degree of change will depend on the level of confidence that existed in the original inventory estimate. Additional plot data will have less of an effect with an inventory that has a high level of confidence than one that has a low level of confidence.

Natural Disturbances

Fires, disease, and pests are examples of agents that reduce forest carbon stocks and are often beyond control of humans to control. While not the result of activity shifting carbon removal,

the occurrence of such agents on an entity may play a role in reducing actual carbon stocks below predicted carbon stocks.

The comparisons of actual inventory to projected inventory should be made at cycles synchronized with output years from the model (i.e. 5 years). Annual variations from inventory or harvest projections may be the result of market fluctuations, leading to above or below average harvests, and do not constitute a reasonable case for leakage.

Table 5. Leakage Assessment Worksheet

Element	Possible Cause	Reviewed and not considered to be a rationale for disparity between carbon stock projections and actual carbon stocks. Initialize and Date	Reviewed and found to be a likely cause for some or all of the disparity between carbon stock projections and actual carbon stocks. Apply an estimated effect of the cause on the disparity as a percentage
Growth Projections Overestimated	Inaccurate site class designation		
	Model not appropriate for site		
	Growth model not calibrated correctly		
Inventory Updates	Additional plots indicate that the previous estimate of actual carbon stocks was overestimated.		
Natural Disturbances	Fire, wind, disease, etc. have reduced actual carbon stocks.		

If you have determined that none of the elements above influence the disparity between carbon stock projections and actual carbon stocks, or that the percentage assigned to the element does not add up to 100%, an assumption of activity shifting leakage will arise and the leakage will be treated as an emission.

Part VI: Conducting Core Certification Activities—Specific Forest Projects

1. Certifying Conservation-based Forest Management Projects

Conservation-based forest management projects are projects that intend to create additional C stocks in a forest area through modifications of harvest and regeneration practices. Conservation-based forest management projects only track changes in biological C stocks and CO₂ emissions.

The specific certification activities in this section are required for conservation-based forest management projects in addition to the general certification tasks listed above.

Step 1: Review and confirm project eligibility—Conservation-based Forest Management

A conservation-based forest management project must use natural forest management practices.

Step 2: Identify Potential Emission Sources—Conservation-based Forest Management

No specific directions are needed for conservation-based forest management projects. Please refer to the general guidance above.

Step 3: Review/Assess Project Baseline— Conservation-based Forest Management

For conservation-based forest management projects, the forest project baseline must be the C stocks that would result if the project developer was managing its forestland pursuant to the California Forest Practices Act and applicable county level forest management laws and harvesting to the limit permitted by these laws and related regulations. Thus, a successful conservation-based forest management project will produce C stocks that are additional to those that would have resulted to meet all forest management regulations at the time the project is registered in the Registry.

Step 4: Review/Assess Project Activities & Management systems— Conservation-based Forest Management

To review conservation-based forest management projects, you must:

1. Confirm that at least the project activities are exceeding what is required by law (e.g. retaining more basal area than required by law; wider stream buffers etc.).

Step 5: Confirm Project Emission & Reduction Calculations— Conservation-based Forest Management

No certification tasks are specific to conservation-based forest management projects.

2. Certifying Reforestation Projects

Reforestation projects aim to restore native forests to lands that were once forested, but have been out of forest cover for at least 10 years. To certify the increase in C stocks/emission reductions in reforestation projects, proceed through the following 5 steps:

Step 1: Review and confirm project eligibility—Reforestation

In addition to the general guidance above certain records must be checked to validate the reforestation occurred in a workman like manner.

1. Confirm:
 - a. Seed zone source for seedlings
 - b. Seedling transportation and storage records
 - c. Planting instructions and training provided to the labor force planting the trees
 - d. Date of planting
 - e. Any actions used as follow-up for planting.

Step 2: Identify Potential Emission Sources--Reforestation

No specific directions are needed for reforestation projects. Please refer to the general guidance above.

Step 3: Review/Assess Project Baseline--Reforestation

For reforestation projects, the forest project baseline must be the quantity of C stocks that would result from the existing use of the land, which would include the natural growth of the existing vegetation on the land, if applicable.

To qualify as a reforestation project, there can be no land use statutes or regulations that require reforestation of the project area at the time the baseline is initiated.

To assess the appropriateness of a forest project baseline for reforestation projects, you must do the following:

1. Review the forest entity's statement/documentation/attestation that no statutes/regulations requiring reforestation of the project area exist.
 - a. Confirm by reviewing existing local land use zoning laws.
2. Review existing practices in project area and any state and county records to confirm project area has been out of forest cover for at least ten years prior to project initiation
 - a. Review CDF's FRAP change detection database.
 - b. Other references include Wildlife Habitat Relationship database and the Natural Resource Conservation Service's landowner assistance programs.
3. Confirm that the forest entity has accurately characterized the forest project baseline and the estimate of the carbon stock that would have resulted if the project was not introduced.

Step 4: Review/Assess Forest Project Activities & Management Systems--Reforestation

To review and assess reforestation activities, you must:

1. Confirm that reforestation of native species is actually planned (and being implemented).
2. Check whether there is an intended harvest—at this point the Registry does not permit combined forest projects, so reforestation projects cannot include harvest at this time.

Step 5: Confirm Project Emission & Reduction Calculations--Reforestation

There are no reforestation-specific calculations to make. Please refer to the general guidance above.

3. Certifying Conservation Projects

Conservation projects aim to protect forestland from conversion to other uses (development, agriculture, etc.). To certify the emission reductions/increased C storage in conservation projects, proceed through the following 4 steps:

Step 1: Review and Confirm Project Eligibility--Conservation

No additional conservation-specific criteria are necessary. Please refer to the general guidance above.

Step 2: Identify Potential Emission Sources--Conservation

No specific directions are needed for conservation projects. Please refer to the general guidance above.

Step 3: Review/Assess Project Baseline--Conservation

The Registry subdivides conservation projects into two types:

- Projects based on immediate site-specific threats
- Projects based on state & county land use trends

Threat-specific projects are defined by a known and imminent threat of conversion (within 5 years of project initiation data), for example, a developer offering a sum for X acres to be cleared for a housing development. Conservation projects based on trends are those wherein forest lands are protected from conversions in areas that have been identified by the state and county through land use conversion trends, as subject to conversion over time.

For either type of conservation project, the project baseline must reflect the C stocks that would result if the project area continued to remain as forestland (i.e. includes normal projected growth

and decline of the project area), and was compliant with existing mandatory, state and county land use laws.

To certify conservation projects, you must:

1. Review contract/purchase offer documentation for site specific immediate threat conservation projects and assess if the threat is indeed imminent and confirm that the area of forestland would be lost if the development ensued; or
2. If the project is dependent on county and state land use trends, review and confirm the most recent state and county local land use data to determine the rate of land use change for ongoing conservation projects.
 - a. For ongoing conservation projects, if the county's rate of land use change where the forest project is located is 2% per year, then the conservation project should assume that the conserved carbon stocks will be 2% for the next 50 years (until 100% of the area has been conserved).

Step 4: Review/Assess Project Activities & Management Systems-- Conservation

There are no conservation-specific certification activities to perform. Please refer to the general certification tasks above.

Step 5: Confirm Project Emission & Reduction Calculations-- Conservation

There are no conservation specific certification activities to perform. Please refer to the general certification tasks above.

Part VII. Completing the Certification Process

After completing the core project certification activities for a forest entity (and related forest projects), you are ready to complete the certification process. The process to complete the certification activities is described in the General Certification Protocol. The only modification to the process for certifying biological inventories is that in addition to preparing a Certification Log and Certification Opinion for a forest entity's non-biological emissions, you must ALSO prepare a Certification Log and Certification Opinion for their biological inventory as well as for each specific forest project.

Therefore, upon completion of the certification activities for a forest entity, you must prepare the following documentation:

For a year in which you certify a forest entity's biological inventory:

- Certification Report (This report should include a summary of both non-biological and biological processes, outcomes, and successes and weaknesses.)
- Certification Log – Non biological emissions
- Certification Log – Biological inventory
- Certification Opinion – Non biological emissions
- Certification Opinion – Biological inventory

If you also certify the forest entity's forest project(s), you must complete the following:

- Project Certification Report – this summary will be available to the public
- Certification Log – for the specific project type
- Certification Opinion – for the specific project type

Finalizing Certification

The Registry will consider both the Certification Opinion and the information contained in the Certification Activities Log in its final review of GHG data before accepting a forest entity or forest project's data into the Registry. Once a forest entity has submitted certified Annual Emission Reports for its entity (and any projects), and the reports have been reviewed and accepted by the Registry, the reporting and certification process is complete for the reporting year.

Part VIII: Annexes

ANNEX 1. Overview of the California Climate Action Registry's Certification Process

- 1. Participant selects Certifier:** Participants contacts one or more CEC/Registry-approved certifiers to discuss certification activities. Participants select an organization to certify its GHG emissions and begin to negotiate contract terms.
- 2. Certifier Submits Case-Specific Conflict of Interest (COI) Evaluation Form:** After a participant chooses a certifier, the Certifier must submit a Conflict of Interest Evaluation Form to the CEC to establish that the likelihood of a COI between parties is low.
- 3. CEC Sends Notification of COI Evaluation to Certifier:** The CEC reviews the COI Evaluation Form to determine the level of risk associated with the proposed participant/certifier relationship, and notifies the certifier of its assessment.
- 4. Certifier & Participant Finalize Contract:** Once the CEC has determined that a COI between a Participant and Certifier is not likely, certifiers may finalize their contracts with Registry participants.
- 5. Certifier Submits Certification Notification Form to CEC & Registry:** Certifier must complete and submit a Certification Notification Form to the CEC and Registry at least 10 business days prior to beginning certification activities.
- 6. Certifier Conducts Certification Activities:** Certifier follows the guidance in the Certification Protocol to evaluate a participant's Annual GHG Emission Report.
- 7. Certifier Prepares Certification Report and Certification Opinion for Participant:** Certifier prepares a detailed summary (Certification Report) of the certification activities for the participant. Certifier also prepares a general Certification Opinion for participant's review.
- 8. Certifier & Participant Discuss Certification Report and Opinion:** Certifier meets with participant to discuss Certification Report and Opinion.
- 9. Certifier Completes Certification Form via CARROT:** Once authorized by a participant, a Certifier completes the Certification Form via CARROT. Participant submits certified Annual GHG Emission Report to the Registry and mail original Certification Opinion to the Registry.
- 10. Registry Completes Reporting Process:** Registry reviews the Certification Opinion and evaluates the participant's Emission Report. Once accepted by the Registry, a participant's aggregated entity-level emissions become available to the public via CARROT.

SUBSEQUENT CERTIFICATION: Even in multi-year certification contracts, Certifiers must repeat steps 1-10 for each year that it certifies GHG emissions for submission to the Registry.

ANNEX 2. Biological Entity Inventory Certification Activities Log

Preparing for Certification	Date Achieved
Bid on a Certification Contract	
Request determination of COI from CEC	
Negotiate Contract with Registry Forest entity	
Notify CEC and Registry of Planned Certification Activities	
Conduct Kick-off Meeting With Forest entity	
Plan Certification Activities Based on Forest entity Characteristics	
Core Biological Certification Activities	Task Completed
Identify Potential Emission Sources/Carbon Pools	
Review the description of the forest entity: <ul style="list-style-type: none"> - Confirm the entity's forest composition (age, structure, species, size) and distribution are accurately depicted - Review its stratification methodology and confirm the required pools are identified 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review the forest entity's reported biological inventory in CARROT: <ul style="list-style-type: none"> - Have harvests/removals been reported during the reporting year (or since the last certification)? 	<input type="checkbox"/> <input type="checkbox"/>
Confirm the entity's reporting responsibility to the Registry: <ul style="list-style-type: none"> - Does the entity own at least 100 acres of commercial and/or non-commercial trees? - Has the entity aggregated its GHG data by equity share or management control? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review and confirm the geographic boundaries of the reporting entity—Review the map of the entity	<input type="checkbox"/>
Review and confirm the organizational boundaries of the reporting entity: <ul style="list-style-type: none"> - Review property records, etc. 	<input type="checkbox"/>
Assess if any structural changes have occurred within the entity (after the initial certification/registration): <ul style="list-style-type: none"> - Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc. 	<input type="checkbox"/>
Review any reported natural significant disturbances: <ul style="list-style-type: none"> - Confirm that a natural significant disturbance either did or did not occur by reviewing state data (California Department of Forestry & Fire Protection's "Fire and Resource Assessment Program (FRAP) 	<input type="checkbox"/>
Check state records for notices of tree removals/harvest and physically inspect the forest area for any visible removals (through cruises and aerial surveys) : <ul style="list-style-type: none"> - Refer to the FRAP databases referenced in protocol. - Review Board of Equalization records 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review Methodologies and Management Systems	Task Completed
Review any existing forest management, reforestation, or conservation plans of the entity: <ul style="list-style-type: none"> - Do management plans look reasonable, given the composition of the species and known growth potential? 	<input type="checkbox"/>
Review and confirm the entity's baseline methodology (if reporting a baseline): <ul style="list-style-type: none"> - Is the baseline characterized appropriately? - If a model has been used to determine the baseline activity, is the model appropriate? - If no baseline is determined, review timber harvest plan and check actual C stocks against planned activities. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Review and confirm any baseline adjustments (if applicable):		
- Have regulations changed?	<input type="checkbox"/>	
- Has the entity's composition or size changed?	<input type="checkbox"/>	
Review and assess the forest entity's sampling strategy:		
- Does the chosen sampling methodology meet the required criteria set forth in the FSP?	<input type="checkbox"/>	
- Are there an appropriate number of sample plots given the level of confidence reported?	<input type="checkbox"/>	
- Does the stratification reflect the forest diversity?	<input type="checkbox"/>	
- Are the sampling intervals appropriate?	<input type="checkbox"/>	
- Are the sampling plot centers permanently monumented?	<input type="checkbox"/>	
- If a forest entity utilizes a rolling inventory sampling methodology, ensure that all of the sample plots are sampled within 5 years.	<input type="checkbox"/>	
Review and assess the forest entity's calculation methodologies:		
- If the forest entity used calculation methodologies other than those specified in the FSP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable?	<input type="checkbox"/>	
Review and assess the forest entity's growth projection models:		
- Have the models peer reviewed and certifiable? Do they meet the Registry's criteria?	<input type="checkbox"/>	
- Are the models complete and comprehensive such that they will likely provide accurate future growth predictions?	<input type="checkbox"/>	
- Refer to CDF approved models, and assess appropriate use of approved models.	<input type="checkbox"/>	
		Task Completed
Review and assess the forest entity's monitoring plan:		
- Does the forest entity have an appropriate monitoring plan?	<input type="checkbox"/>	
- Does the monitoring plan ensure that 100% of the sample plots will be directly sampled at least every 5 years?	<input type="checkbox"/>	
- Has the forest entity assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry?	<input type="checkbox"/>	
- Is this person qualified to oversee the monitoring plan?	<input type="checkbox"/>	
- Has the forest entity adequately considered leakage in its monitoring plan?	<input type="checkbox"/>	
Review and assess the forest entity's overall GHG management systems:		
- Do the systems capture enough of the GHG characteristics to be meaningful?	<input type="checkbox"/>	
- Is GHG data documented appropriately?	<input type="checkbox"/>	
		Task Completed
Verify Emission Estimates		
Create a risk-based strategy to sub-sample the forest entity's sample plots.	<input type="checkbox"/>	
Carry out the strategy developed above to take direct samples from a representative sample of plots within the entity.	<input type="checkbox"/>	
Recalculate the amount of carbon in each plot sampled using the same calculation methodologies (assuming they are certifiable) as the forest entity, and assess the forest entity's data collection.	<input type="checkbox"/>	
Identify a representative sub-sample of entity/project sample plots from which to collect data based on physical visit to project area and forest entity's inventory data (stratification of species, etc.).	<input type="checkbox"/>	
You must collect the following data from the sample plots:		
- Number of trees in the plot	<input type="checkbox"/>	
- Number of each different species of tree	<input type="checkbox"/>	
- Diameter at breast height for each tree	<input type="checkbox"/>	
- Height of each tree	<input type="checkbox"/>	

<ul style="list-style-type: none"> - Number of dead or downed trees - Average diameter of dead or downed trees 	<input type="checkbox"/> <input type="checkbox"/>
Calculate carbon stocks within the required carbon pools from your sample plots using the same calculation methodology as the forest entity and record your findings for each plot in column C of Table 4.	<input type="checkbox"/>
Compare your estimated carbon stock and GHG emissions to those of the forest entity to determine if any material misstatements exist (See detailed guidance below)	<input type="checkbox"/>
<p>Create a Master Sampling Form to compare your aggregated sampling totals with those of the forest entity/project.</p> <ul style="list-style-type: none"> - Is the total percent correct is greater than 85? 	<input type="checkbox"/> <input type="checkbox"/>
<p>Assess if the cruiser followed the forest entity's stated sampling methodology and techniques.</p> <ul style="list-style-type: none"> - By reviewing the cruiser's records, did they sample the correct number and location of sample plots per the entity/project's sampling plan? 	<input type="checkbox"/> <input type="checkbox"/>
<p>Validate the field work by conducting a check cruise that includes:</p> <ul style="list-style-type: none"> - Accuracy of tree measurements and species identification. - Accuracy and lack of bias in sample selection. - Area determination measurements for fixed plots. - Determination of in and out trees on variable radius plots. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Assess the cruiser's data recording for legibility and accuracy, including timber measurement and area-determination data.	<input type="checkbox"/>
Review the care/calibration and use of sampling tools.	<input type="checkbox"/>
<p>Review the reported change in C stocks.</p> <ul style="list-style-type: none"> - Given the other forest and business activity during the reporting year, assess if the reported change in C stocks is reasonable. 	<input type="checkbox"/>
<p>Compare the forest entity's C stock results from direct sampling with their growth model projections and assess the accuracy of the projection.</p> <ul style="list-style-type: none"> - If the growth model projections differ by +/- 10%, the forest entity must recalibrate the growth model to more accurately reflect the change in C stocks in the future. - Compare your calculated C stocks from direct sampling the forest entity's original (or recalibrated, if necessary) growth model and assess if the current projections seem reasonable. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
If a forest entity's projected carbon stocks from its entity/project activities differ from their direct sampling results by +/- 10%, you must confirm that they have adjusted their forest entity/project's growth projection model in the current year to reflect the overstatement/understatement of emission reductions/changes in C stocks in past years, and to reflect the likely change in carbon stocks from the entity/project activity over time.	<input type="checkbox"/>
Review annual monitoring reports since the last direct sampling to ensure the projected emissions/change in carbon stocks are reasonable.	<input type="checkbox"/>
<p>Determine the change in C stocks since the last certification (applies only after the first certification has been completed)</p> <ul style="list-style-type: none"> - Is the change in C stocks reported correctly? 	<input type="checkbox"/> <input type="checkbox"/>
Review all annual monitoring reports (after the initial certification)	<input type="checkbox"/>

Completing the Certification Process	Date Achieved
Prepare a Detailed Certification Report (including biological and non biological emissions) & present to forest entity	
Complete the Biological Emission Inventory Certification Activities Log & present to forest entity	
Complete the Non-biological Emission Inventory Certification Activities Log & present to forest entity	
Prepare a Certification Opinion for the entity's biological emissions & present to forest entity	
Prepare a Certification Opinion for the entity's non-biological emissions & present to forest entity	
Conduct Exit Meeting with forest entity to discuss Certification Report, Opinion, and Logs	
Submit Authorized Certification Opinions and Certification Activities Checklists to the Registry	
Provide Certification Records to Client for Retention	

ANNEX 3. Certification Activities Log: Conservation-based Forest Management Project

Core Forest Project Certification Activities—Forest Management	Task Completed
Review & confirm project eligibility If a forest entity opted to use the Registry’s “pre-screening” process, review the Project Pre-screening Worksheet and any of the Registry’s comments. <ul style="list-style-type: none"> - If the forest entity did not utilize the Registry’s pre-screening process, then carefully review the project summary to ensure all of the criteria in 1 and 2 above have been met. 	<input type="checkbox"/> <input type="checkbox"/>
Review the forest entity’s project summary to acquire an overview of the project, its scope and goals. The Project Summary must include the following components: <ul style="list-style-type: none"> - Written description of the land pressures and climate regime of the project area - Map of the project area that includes: <ul style="list-style-type: none"> o Project boundaries o Acreage o Latitude/longitude or public land survey o Existing land cover and land use o Topography o Forest vegetation o Site classes o Wildlife Habitat Relationship (WHR) classes 	<input type="checkbox"/> <input type="checkbox"/>
Confirm that the forest project is one of the three approved project types (conservation-based forest management, reforestation, or conservation).	<input type="checkbox"/>
Confirm that the project is: <ul style="list-style-type: none"> - Located in its entirety in the State of California - Secured with a permanent conservation easement - Using native California species (as identified in the CA Department of Fish and Game’s “A Guide to Wildlife Habitats of California” - Initiated in year 1990 or later 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Determine if project is eligible for Registry certification <ul style="list-style-type: none"> - If you discover that not all of the eligibility criteria have been met, you must contact the project developer/forest entity immediately to discuss the eligibility criteria that you feel is not met by the project. 	<input type="checkbox"/>
A conservation-based forest management project must use natural forest management practices	<input type="checkbox"/>
Identify Potential Emission Sources/Carbon Pools	
Review the forest project summary. <ul style="list-style-type: none"> - Confirm the project’s forest composition (age, structure, species, size) and distribution are accurately depicted. - Review the stratification methodology and confirm the required pools are identified 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review the forest project’s C stocks and emissions in CARROT. <ul style="list-style-type: none"> - Have harvests/removals been reported during the reporting year (or since the last certification)? 	<input type="checkbox"/> <input type="checkbox"/>
Reconfirm the forest entity’s reporting responsibility to the Registry (this should already be confirmed in the forest entity inventory) <ul style="list-style-type: none"> - Does the entity own at least 100 acres of commercial and/or non-commercial trees? - Has the entity aggregated its GHG data by equity share or management control? - If aggregated by equity share, confirm equity ownership and ensure 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<ul style="list-style-type: none"> - other equity owners have also agreed to report by equity share. If aggregated by management control, confirm all equity owners, and ensure that the inventory is not being double counted. 	<input type="checkbox"/>
<p>Review and confirm the geographic boundaries of the forest project:</p> <ul style="list-style-type: none"> - Confirm that the project area is within the forest entity. 	<input type="checkbox"/>
<p>Assess if any structural changes have occurred within the forest entity that might impact the project area (after the initial certification/registration)</p> <ul style="list-style-type: none"> - Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc. 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review any reported natural significant disturbances in the project area</p> <ul style="list-style-type: none"> - Confirm that a natural significant disturbance either did or did not occur by reviewing state data 	<input type="checkbox"/> <input type="checkbox"/>
<p>Check state records for notices of tree removals/harvest and physically inspect the project area for any visible removals (through cruises and aerial surveys)</p> <ul style="list-style-type: none"> - Refer to the FRAP databases - Review Board of Equalization records 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review and Assess Forest Project Baseline	
<p>Review the summary of applicable land use laws that the forest entity provides to you (refer to Annex A of FPP) and confirm that they are complete, and are identified and incorporated into the project baseline.</p>	<input type="checkbox"/>
<p>Discuss with the forest entity how the project baseline was selected and characterized, and assess if the chosen project baseline characterization is accurate/appropriate given the specific forest project baseline criteria, relevant land use laws, and public (and historical) knowledge of the forest project area and its activities.</p>	<input type="checkbox"/>
<p>After reviewing the project developer's baseline characterization methodology, confirm that all of the required forest carbon pools are included in the forest project carbon baseline.</p>	<input type="checkbox"/>
<p>Confirm that the project activity is additional, that is, the activity practices exceed those outlined in the baseline characterization.</p>	<input type="checkbox"/>
<p>Review the inventory/projection model that the project developer used to forecast the carbon stocks over time to quantify the forest project carbon baseline (pursuant to baseline characterization) and confirm the results meet the Registry's requirements for accuracy and precision.</p>	<input type="checkbox"/>
<p>For conservation-based forest management projects, the forest project baseline must be the C stocks that would result if the project developer was managing its forestland pursuant to the California Forest Practices Act and applicable county level forest management laws and harvesting to the limit permitted by these laws and related regulations. Thus, a successful conservation-based forest management project will produce C stocks that are additional to those that would have resulted to meet all forest management regulations at the time the project is registered in the Registry.</p>	<input type="checkbox"/>
Review and Assess Forest Project Activity & Management Systems	
<p>Review and assess the sampling strategy for the forest project:</p> <ul style="list-style-type: none"> - Does the chosen sampling methodology meet the required criteria set forth in the FPP? - Are there an appropriate number of sample plots given the level of confidence reported? - Does the stratification reflect the forest diversity? - Are the sampling intervals appropriate? - Are the sampling plot centers permanently monumented? - If a forest project utilizes a rolling inventory sampling methodology, ensure that all of the sample plots are sampled within 5 years. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Review and assess the calculation methodologies used in the forest project	<input type="checkbox"/>
<ul style="list-style-type: none"> - If the project developer used calculation methodologies other than those specified in the FPP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable? 	<input type="checkbox"/>
Review and assess the forest project's growth projection models	<input type="checkbox"/>
<ul style="list-style-type: none"> - Have the models peer reviewed and certifiable? Do they meet the Registry's criteria? - Are the models complete and comprehensive such that they will likely provide accurate future growth predictions? - Refer to CDF approved models referenced in the FPP, and assess appropriate use of approved models 	<input type="checkbox"/>
Review and assess the monitoring plan for the forest project	<input type="checkbox"/>
<ul style="list-style-type: none"> - Does the forest project have an appropriate monitoring plan? - Does the monitoring plan ensure that 100% of the sample plots will be directly sampled at least every 5 years? - Has the project developer assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry? - Is this person qualified to oversee the monitoring plan? 	<input type="checkbox"/>
Review and assess the GHG management systems related to the forest project.	<input type="checkbox"/>
<ul style="list-style-type: none"> - Do the systems capture enough of the GHG characteristics to be meaningful? - Is GHG data documented appropriately? 	<input type="checkbox"/>
Confirm that the project developer is implementing the project activity as it is described in the project summary.	<input type="checkbox"/>
Confirm that the project developer has considered and described possible activity-shifting leakage resulting from the project activity and any planned mitigation action.	<input type="checkbox"/>
<ul style="list-style-type: none"> - Refer to the description of possible leakage in the Initial Leakage Assessment (See Annex A of FPP). 	<input type="checkbox"/>
Confirm that the project developer has identified the types of non-biological emissions that result from the project in their non-biological inventory. These emissions do not need to be quantified, just identified. For example, "As a result of a forest project, 5 trucks will be used, hauling equipment will be used, and the lumber mill that is owned by the forest entity will also operate to process the harvested timber."	<input type="checkbox"/>
Confirm that at least the project activities are exceeding what is required by law (e.g. retaining more basal area than required by law; wider stream buffers etc.).	<input type="checkbox"/>
Confirm Project Emission & Reduction Calculations	
Recalculate the reported GHG reductions.	<input type="checkbox"/>
<ul style="list-style-type: none"> - Check the math on the reduction calculation. - Does the reduction seem reasonable given the forest activity and growth environment? 	<input type="checkbox"/>
Complete Table 5: Leakage Assessment Worksheet to assess possible leakage, and its impact on the project	<input type="checkbox"/>
<ul style="list-style-type: none"> - Does the reported leakage seem reasonable? - Is there likely other leakage that is not reported? - Is market leakage likely to significantly impact the project? 	<input type="checkbox"/>
Completing the Certification Process	Date Achieved

Prepare a Detailed Certification Report (including biological and non biological emissions) & present to forest entity	
Complete the Biological Emission Inventory Certification Activities Log for Conservation-based forest management projects & present to forest entity	
Prepare a Certification Opinion for the conservation-based forest management project & present to forest entity	
Conduct Exit Meeting with forest entity to discuss Certification Report, Opinion, and Logs	
Submit Authorized Certification Opinion and Certification Activities Checklists to the Registry	
Provide Records to Client for Retention	

ANNEX 4. Certification Activities Log: Reforestation Project

Core Forest Project Certification Activities—Forest Management	
Review & confirm project eligibility	Task Completed
<p>If a forest entity opted to use the Registry's "pre-screening" process, review the Project Pre-screening Worksheet and any of the Registry's comments.</p> <ul style="list-style-type: none"> - If the forest entity did not utilize the Registry's pre-screening process, then carefully review the project summary to ensure all of the criteria in 1 and 2 above have been met. 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review the forest entity's project summary to acquire an overview of the project, its scope and goals. The Project Summary must include the following components:</p> <ul style="list-style-type: none"> - Written description of the land pressures and climate regime of the project area - Map of the project area that includes: <ul style="list-style-type: none"> o Project boundaries o Acreage o Latitude/longitude or public land survey o Existing land cover and land use o Topography o Forest vegetation o Site classes o Wildlife Habitat Relationship (WHR) classes 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the forest project is one of the three approved project types (conservation-based forest management, reforestation, or conservation).</p>	<input type="checkbox"/>
<p>Confirm that the project is:</p> <ul style="list-style-type: none"> - Located in its entirety in the State of California - Secured with a permanent conservation easement - Using native California species (as identified in the CA Department of Fish and Game's "A Guide to Wildlife Habitats of California") - Initiated in year 1990 or later 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Determine if project is eligible for Registry certification</p> <ul style="list-style-type: none"> - If you discover that not all of the eligibility criteria have been met, you must contact the project developer/forest entity immediately to discuss the eligibility criteria that you feel is not met by the project. 	<input type="checkbox"/>
<p>Confirm:</p> <ul style="list-style-type: none"> - Seed zone source for seedlings - Seedling transportation and storage records - Planting instructions and training provided to the labor force planting the trees - Date of planting - Any actions used as follow-up for planting. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Identify Potential Emission Sources/Carbon Pools	
<p>Review the forest project summary.</p> <ul style="list-style-type: none"> - Confirm the project's forest composition (age, structure, species, size) and distribution are accurately depicted. - Review the stratification methodology and confirm the required pools are identified 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review the forest project's C stocks and emissions in CARROT.</p> <ul style="list-style-type: none"> - Have harvests/removals been reported during the reporting year (or since the last certification)? 	<input type="checkbox"/> <input type="checkbox"/>
<p>Reconfirm the project developer's reporting responsibility to the Registry (this should already be confirmed in the forest entity inventory)</p> <ul style="list-style-type: none"> - Does the entity own at least 100 acres of commercial and/or non-commercial trees? 	<input type="checkbox"/> <input type="checkbox"/>

<ul style="list-style-type: none"> - Has the entity aggregated its GHG data by equity share or management control? - If aggregated by equity share, confirm equity ownership and ensure other equity owners have also agreed to report by equity share. - If aggregated by management control, confirm all equity owners, and ensure that the inventory is not being double counted. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and confirm the geographic boundaries of the forest project:</p> <ul style="list-style-type: none"> - Confirm that the project area is within the forest entity. 	<input type="checkbox"/>
<p>Assess if any structural changes have occurred within the forest entity that might impact the project area (after the initial certification/registration)</p> <ul style="list-style-type: none"> - Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc. 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review any reported natural significant disturbances in the project area</p> <ul style="list-style-type: none"> - Confirm that a natural significant disturbance either did or did not occur by reviewing state data 	<input type="checkbox"/> <input type="checkbox"/>
<p>Check state records for notices of tree removals/harvest and physically inspect the project area for any visible removals (through cruises and aerial surveys)</p> <ul style="list-style-type: none"> - Refer to the FRAP databases - Review Board of Equalization records 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review and Assess Forest Project Baseline	
<p>Review the summary of applicable land use laws that the forest entity provides to you (refer to Annex A of FPP) and confirm that they are complete, and are identified and incorporated into the project baseline.</p>	<input type="checkbox"/>
<p>Discuss with the project developer how the project baseline was selected and characterized, and assess if the chosen project baseline characterization is accurate/appropriate given the specific forest project baseline criteria, relevant land use laws, and public (and historical) knowledge of the forest project area and its activities.</p>	<input type="checkbox"/>
<p>After reviewing the project developer's baseline characterization methodology, confirm that all of the required forest carbon pools are included in the forest project carbon baseline.</p>	<input type="checkbox"/>
<p>Confirm that the project activity is additional, that is, the activity practices exceed those outlined in the baseline characterization.</p>	<input type="checkbox"/>
<p>Review the inventory/projection model that the project developer used to forecast the carbon stocks over time to quantify the forest project carbon baseline (pursuant to baseline characterization) and confirm the results meet the Registry's requirements for accuracy and precision.</p>	<input type="checkbox"/>
<p>Review the forest entity's statement/documentation/attestation that no statutes/regulations requiring reforestation of the project area exist.</p> <ul style="list-style-type: none"> - Confirm by reviewing existing local land use zoning laws. 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review existing practices in project area and any state and county records to confirm project area has been out of forest cover for at least ten years prior to project initiation</p> <ul style="list-style-type: none"> - Review CDF's FRAP change detection database. - Other references include: DFG's WHR data base and landowner assistance programs (NRCS) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the forest entity has accurately characterized the forest project baseline and the estimate of the carbon stock that would have resulted if the project was not introduced.</p>	<input type="checkbox"/>
Review and Assess Forest Project Activity & Management Systems	

<p>Review and assess the sampling strategy for the forest project:</p> <ul style="list-style-type: none"> - Does the chosen sampling methodology meet the required criteria set forth in the FPP? - Are there an appropriate number of sample plots given the level of confidence reported? - Does the stratification reflect the forest diversity? - Are the sampling intervals appropriate? - Are the sampling plot centers permanently monumented? - If a forest project utilizes a rolling inventory sampling methodology, ensure that all of the sample plots are sampled within 5 years. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the calculation methodologies used in the forest project</p> <ul style="list-style-type: none"> - If the project developer used calculation methodologies other than those specified in the FPP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable? 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the forest project's growth projection models</p> <ul style="list-style-type: none"> - Have the models peer reviewed and certifiable? Do they meet the Registry's criteria? - Are the models complete and comprehensive such that they will likely provide accurate future growth predictions? - Refer to CDF approved models referenced in the FPP, and assess appropriate use of approved models 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the monitoring plan for the forest project</p> <ul style="list-style-type: none"> - Does the forest project have an appropriate monitoring plan? - Does the monitoring plan ensure that 100% of the sample plots will be directly sampled at least every 5 years? - Has the project developer assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry? - Is this person qualified to oversee the monitoring plan? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the GHG management systems related to the forest project.</p> <ul style="list-style-type: none"> - Do the systems capture enough of the GHG characteristics to be meaningful? - Is GHG data documented appropriately? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the project developer is implementing the project activity as it is described in the project summary.</p>	<input type="checkbox"/>
<p>Confirm that the project developer has considered and described possible activity-shifting leakage resulting from the project activity and any planned mitigation action.</p> <ul style="list-style-type: none"> - Refer to the description of possible leakage in the Initial Leakage Assessment (See Annex A of FPP). 	<input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the project developer has identified the types of non-biological emissions that result from the project in their non-biological inventory. These emissions do not need to be quantified, just identified. For example, "As a result of a forest project, 5 trucks will be used, hauling equipment will be used, and the lumber mill that is owned by the forest entity will also operate to process the harvested timber."</p>	<input type="checkbox"/>
<p>Confirm that reforestation of native species is actually planned (and being implemented).</p>	<input type="checkbox"/>
<p>Check whether there is an intended harvest—at this point the Registry does not permit combined forest projects, so reforestation projects cannot include harvest at this time.</p>	<input type="checkbox"/>
Confirm Project Emission & Reduction Calculations	
<p>Recalculate the reported GHG reductions.</p> <ul style="list-style-type: none"> - Check the math on the reduction calculation. - Does the reduction seem reasonable given the forest activity and 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

growth environment?	
Complete Table 5: Leakage Assessment Worksheet to assess possible leakage, and its impact on the project <ul style="list-style-type: none"> - Does the reported leakage seem reasonable? - Is there likely other leakage that is not reported? - Is market leakage likely to significantly impact the project? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Completing the Certification Process	Date Achieved
Prepare a Detailed Certification Report (including biological and non biological emissions) & present to forest entity	
Complete the Biological Emission Inventory Certification Activities Log for Conservation-based forest management projects & present to forest entity	
Prepare a Certification Opinion for the conservation-based forest management project & present to forest entity	
Conduct Exit Meeting with forest entity to discuss Certification Report, Opinion, and Logs	
Submit Authorized Certification Opinion and Certification Activities Checklists to the Registry	
Provide Records to Client for Retention	

ANNEX 5. Certification Activities Log: Conservation Project

Core Forest Project Certification Activities—Forest Management	
Review & confirm project eligibility	Task Completed
<p>If a forest entity opted to use the Registry's "pre-screening" process, review the Project Pre-screening Worksheet and any of the Registry's comments.</p> <ul style="list-style-type: none"> - If the forest entity did not utilize the Registry's pre-screening process, then carefully review the project summary to ensure all of the criteria in 1 and 2 above have been met. 	<input type="checkbox"/> <input type="checkbox"/>
<p>Review the forest entity's project summary to acquire an overview of the project, its scope and goals. The Project Summary must include the following components:</p> <ul style="list-style-type: none"> - Written description of the land pressures and climate regime of the project area - Map of the project area that includes: <ul style="list-style-type: none"> o Project boundaries o Acreage o Latitude/longitude or public land survey o Existing land cover and land use o Topography o Forest vegetation o Site classes o Wildlife Habitat Relationship (WHR) classes 	<input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the forest project is one of the three approved project types (conservation-based forest management, reforestation, or conservation).</p>	<input type="checkbox"/>
<p>Confirm that the project is:</p> <ul style="list-style-type: none"> - Located in its entirety in the State of California - Secured with a permanent conservation easement - Using native California species (as identified in the CA Department of Fish and Game's "A Guide to Wildlife Habitats of California") - Initiated in year 1990 or later 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Determine if project is eligible for Registry certification</p> <ul style="list-style-type: none"> - If you discover that not all of the eligibility criteria have been met, you must contact the project developer/forest entity immediately to discuss the eligibility criteria that you feel is not met by the project. 	<input type="checkbox"/>
Identify Potential Emission Sources	
<p>Review the forest project summary.</p> <ul style="list-style-type: none"> - Confirm the project's forest composition (age, structure, species, size) and distribution are accurately depicted. - Review the stratification methodology and confirm the required pools are identified 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review the forest project's C stocks and emissions in CARROT.</p> <ul style="list-style-type: none"> - Have harvests/removals been reported during the reporting year (or since the last certification)? 	<input type="checkbox"/> <input type="checkbox"/>
<p>Reconfirm the project developer's reporting responsibility to the Registry (this should already be confirmed in the forest entity inventory)</p> <ul style="list-style-type: none"> - Does the entity own at least 100 acres of commercial and/or non-commercial trees? - Has the entity aggregated its GHG data by equity share or management control? - If aggregated by equity share, confirm equity ownership and ensure other equity owners have also agreed to report by equity share. - If aggregated by management control, confirm all equity owners, and ensure that the inventory is not being double counted. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Review and confirm the geographic boundaries of the forest project: - Confirm that the project area is within the forest entity.	<input type="checkbox"/>
Assess if any structural changes have occurred within the forest entity that might impact the project area (after the initial certification/registration) - Consider the implications of acquisitions, mergers, divestitures, outsourcing, etc.	<input type="checkbox"/> <input type="checkbox"/>
Review any reported natural significant disturbances in the project area - Confirm that a natural significant disturbance either did or did not occur by reviewing state data	<input type="checkbox"/> <input type="checkbox"/>
Check state records for notices of tree removals/harvest and physically inspect the project area for any visible removals (through cruises and aerial surveys) - Refer to the FRAP databases - Review Board of Equalization records	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review and Assess Forest Project Baseline	
Review the summary of applicable land use laws that the forest entity provides to you (refer to Annex A of FPP) and confirm that they are complete, and are identified and incorporated into the project baseline.	<input type="checkbox"/>
Discuss with the project developer how the project baseline was selected and characterized, and assess if the chosen project baseline characterization is accurate/appropriate given the specific forest project baseline criteria, relevant land use laws, and public (and historical) knowledge of the forest project area and its activities.	<input type="checkbox"/>
After reviewing the project developer's baseline characterization methodology, confirm that all of the required forest carbon pools are included in the forest project carbon baseline.	<input type="checkbox"/>
Confirm that the project activity is additional, that is, the activity practices exceed those outlined in the baseline characterization.	<input type="checkbox"/>
Review the inventory/projection model that the project developer used to forecast the carbon stocks over time to quantify the forest project carbon baseline (pursuant to baseline characterization) and confirm the results meet the Registry's requirements for accuracy and precision.	<input type="checkbox"/>
Review contract/purchase offer documentation for site specific immediate threat conservation projects and assess if the threat is indeed imminent and confirm that the area of forestland would be lost if the development ensued; or	<input type="checkbox"/>
If the project is dependent on county and state land use trends, review and confirm the most recent state and county local land use data to determine the rate of land use change for ongoing conservation projects.	<input type="checkbox"/>
Review and Assess Forest Project Activity & Management Systems	
Review and assess the sampling strategy for the forest project: - Does the chosen sampling methodology meet the required criteria set forth in the FPP? - Are there an appropriate number of sample plots given the level of confidence reported? - Does the stratification reflect the forest diversity? - Are the sampling intervals appropriate? - Are the sampling plot centers permanently monumented? - If a forest project utilizes a rolling inventory sampling methodology, ensure that all of the sample plots are sampled within 5 years.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Review and assess the calculation methodologies used in the forest project - If the project developer used calculation methodologies other than those specified in the FPP, do the customized methodologies result in more accurate GHG information, and are the methods certifiable?	<input type="checkbox"/> <input type="checkbox"/>

<p>Review and assess the forest project's growth projection models</p> <ul style="list-style-type: none"> - Have the models peer reviewed and certifiable? Do they meet the Registry's criteria? - Are the models complete and comprehensive such that they will likely provide accurate future growth predictions? - Refer to CDF approved models referenced in the FPP, and assess appropriate use of approved models 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the monitoring plan for the forest project</p> <ul style="list-style-type: none"> - Does the forest project have an appropriate monitoring plan? - Does the monitoring plan ensure that 100% of the sample plots will be directly sampled at least every 5 years? - Has the project developer assigned someone with the responsibility to oversee direct sampling and annual monitoring report submission to the Registry? - Is this person qualified to oversee the monitoring plan? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Review and assess the GHG management systems related to the forest project.</p> <ul style="list-style-type: none"> - Do the systems capture enough of the GHG characteristics to be meaningful? - Is GHG data documented appropriately? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the project developer is implementing the project activity as it is described in the project summary.</p>	<input type="checkbox"/>
<p>Confirm that the project developer has considered and described possible activity-shifting leakage resulting from the project activity and any planned mitigation action.</p> <ul style="list-style-type: none"> - Refer to the description of possible leakage in the Initial Leakage Assessment (See Annex A of FPP). 	<input type="checkbox"/> <input type="checkbox"/>
<p>Confirm that the project developer has identified the types of non-biological emissions that result from the project in their non-biological inventory. These emissions do not need to be quantified, just identified. For example, "As a result of a forest project, 5 trucks will be used, hauling equipment will be used, and the lumber mill that is owned by the forest entity will also operate to process the harvested timber."</p>	<input type="checkbox"/>
Confirm Project Emission & Reduction Calculations	
<p>Recalculate the reported GHG reductions.</p> <ul style="list-style-type: none"> - Check the math on the reduction calculation. - Does the reduction seem reasonable given the forest activity and growth environment? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>Complete Table 5: Leakage Assessment Worksheet to assess possible leakage, and its impact on the project</p> <ul style="list-style-type: none"> - Does the reported leakage seem reasonable? - Is there likely other leakage that is not reported? - Is market leakage likely to significantly impact the project? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Completing the Certification Process	
<p>Prepare a Detailed Certification Report (including biological and non biological emissions) & present to forest entity</p>	Date Achieved
<p>Complete the Biological Emission Inventory Certification Activities Log for Conservation-based forest management projects & present to forest entity</p>	
<p>Prepare a Certification Opinion for the conservation-based forest management project & present to forest entity</p>	
<p>Conduct Exit Meeting with forest entity to discuss Certification Report, Opinion, and Logs</p>	
<p>Submit Authorized Certification Opinion and Certification Activities Checklists to the Registry</p>	
<p>Provide Records to Client for Retention</p>	

ANNEX 6. Certification Opinion for a Forest Entity

Annex 6

California Climate Action Registry

Certification Opinion: Forest Entity

Name of Certifier _____

This is to attest that _____'s biological inventory in California has been reviewed for the period covering _____ to _____, and has been certified according to the California Climate Action Registry's Forest Certification Protocol against the standards set forth in the Registry's Forest Sector Protocol.

Certification Opinion

_____ Certified without Qualification

_____ Unable to Certify

Baseline

_____ Year, if specified

Attestation

Lead Certifier

Date

Senior Internal Reviewer

Date

Authorization

I _____ authorize the above named certifier to submit an electronic version of this Certification Opinion to the California Climate Action Registry via CARROT.

Forest entity Name

Date

Annex 7. Certification Opinion for Forest Projects

California Climate Action Registry Certification Opinion: Forest Projects

Name of Certifier _____

This is to attest that _____ 's forest project in California has been reviewed for the period covering _____ to _____, and has been certified according to the California Climate Action Registry's Forest Certification Protocol against the standards set forth in the Registry's Forest Project Protocol.

Certification Opinion

_____ Certified without Qualification

_____ Unable to Certify

Baseline

_____ Year, if specified

Project Type

_____ Reforestation

_____ Conservation-based forest management

_____ Conservation

Attestation

Lead Certifier

Date

Senior Internal Reviewer

Date

Authorization

I _____ authorize the above named certifier to submit an electronic version of this Certification Opinion to the California Climate Action Registry via CARROT

Project Developer

Date