



CLIMATE
ACTION
RESERVE

Guidance on Early Action and Compliance Protocols

To: **ALL PROJECT DEVELOPERS AND VERIFICATION BODIES**
Date: **MAY 13, 2013**
Re: **FOREST PROJECT GUIDANCE: TREE HEIGHT ESTIMATION**

The Reserve is issuing this memo based on verbal guidance we received from the California Air Resources Board (ARB) on Friday, May 10, 2013 regarding forest projects reporting under both the early action and compliance offset programs. ARB will be issuing this policy in writing soon, but until that time, the following guidance may be used by project developers/Offset Project Operators (OPOs) and verifiers wishing to proceed with either early action or compliance forest projects.

ARB has developed a policy of allowing the estimation of tree heights from a subset of inventory measurements, as outlined below. This determination is consistent with guidance the Reserve has been giving to forest projects reporting under our Forest Project Protocols. Therefore, it should not result in significant changes to the work that project developers and verifiers have undertaken to date.

Height estimation is allowed so long as the following conditions are met:

1. Height estimation must be based on project-level sampling. Regression estimators from growth and yield models or other programs that use non-project data to estimate heights may not be used. In addition, if a model is used to estimate project carbon stocks, and the model accepts height data as an input, then project-specific height data must be used as an input (either as measured directly in the field or derived from a subset of inventory data measured in the field).
2. The method used to estimate tree heights must result in an overall inventory that is:
 - a. Capable of quantifying carbon stocks for required carbon pools to a high degree of accuracy, as determined by the verification body during verification.
 - b. Designed such that a qualified forester would be able to accurately repeat the measurements.
 - c. Reviewed by a verification body who agrees that the sampling methodology and measurement standards are statistically sound.
3. Verifiers must directly measure the heights of all trees within selected verification sample plots as part of verifying a project's inventory. Verifiers cannot use regression estimators or estimate heights in place of field measurements. This will be specified in a separate verification guidance document that is expected to be released by ARB soon. This guidance document will likely be similar to the [Reserve's Supplemental Verification Methodology – Sequential Sampling dated July 3, 2012](#).

In addition, ARB will be preparing an analysis that may result in future guidance for project developers and OPOs regarding the methodologies that may be used to estimate tree heights.