**To:** California Climate Action Registry
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**From:** National Alliance of Forest Owners
Oregon Forest Industries Council
Washington Forest Protection Association

**Subject:** CCAR *Revised Forest Project Protocol*, Draft; December 2008

**Date:** January 19, 2009

The undersigned organizations appreciate the opportunity to comment on the California Climate Action Registry's (CCAR) *Revised Forest Project Protocol, Draft*. The members of the undersigned organizations represent more than 100 private owners who collectively provide long-term sustainable management of millions acres of forestlands in California and the rest of the United States.

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**National Alliance of Forest Owners** (www.nafoalliance.org) is a national trade association representing 74 million acres of private timberland in 47 states. Our mission is to protect and enhance economic and environmental values of privately-owned forests.

**Oregon Forest Industries Council** (www.ofic.com) is a trade association representing over 50 large private forest landowners and manufacturing facilities in Oregon State that works to promote a reliable timber supply and a stable business environment while maintaining forest productivity and environmental values. Our members represent roughly 5 million acres of forestland.

**Washington Forest Protection Association** (www.wfpa.org) is a trade association representing private forest landowners in Washington State. Our members are large and small companies, individuals and families who grow, harvest and re-grow trees on more than 4 million acres.

Our organizations appreciate the opportunity to comment on the California Climate Action Registry's (CCAR) *Revised Forest Project Protocol, Draft*. We represent more than 100 private owners who collectively provide long-term sustainable management of over 100 million acres of forestlands in California and the rest of the United States. Their operations represent approximately 25% of privately owned forestlands and about 12% of all forestlands in the nation.

We believe that sustainably managed forests and harvested wood products should be a recognized component of any climate change initiative. Privately owned forests, and the products derived from them, are a significant portion of the California economy, and the nation's as a whole. More importantly, they provide many climate-change related benefits that we believe should be fully recognized and incorporated into any forest project protocol.

Sustainably managed forests maintain their stocks of carbon sequestered from the atmosphere by the natural process of photosynthesis. Even when trees are harvested, many wood products have very long lives, further extending the sequestration of carbon dioxide in wood harvested from managed forests. Most of the energy used to produce forest products is derived from GHG-neutral wood residuals. In the production of pulp and paper products, this often includes the generation of electrical power from greenhouse gas-neutral co-generation units, one of the most efficient forms of energy production. This energy, and the forest products themselves, when used in lieu of alternative building materials that have higher embedded GHG emissions, avoid millions of tons of GHG emissions annually. Sustainably managed forests provide a source of renewable biomass that can be used to create a growing range of GHG neutral energy and transportation fuels through the application of new technologies that are currently under development and commercialization. Finally, regulatory regimes can be developed to allow offset credits from responsibly managed forests and harvested wood products to be generated and traded, providing a flexible, cost-effective way for regulators and industry to achieve net greenhouse gas reductions.

We recognize the particular importance of this draft protocol, in that it is being developed for consideration by the California Air Resources Board (CARB) as part of their obligation to carry out the requirements of CA AB32. It is also a likely model for consideration by the Western Climate Initiative and its Member states, (Canadian) Provinces, and by U.S. federal legislators who will be seeking to address the same purposes and concerns identified in this draft document. For these reasons, we applaud the changes being proposed to move away from the exclusive use of easements, and the inclusion of carbon stock reserves and insurance instruments as the means to address the important element of offset permanence and reversal risk. These changes, and the others we recommend below, will encourage private landowners to engage in the development of high quality forest carbon offset projects.

We are also cognizant of the fact that much of the impetus for preparing this revised draft evolved from concerns that the initial Forest Project Protocol, which has been adopted by CARB, did not adequately consider the ways in which managed forests differ from protected and multi-purpose forests. These differences have, with few exceptions, effectively discouraged the managed forest sector from participating in the Registry's forest project programs over the past several years. This result has been to the detriment of stakeholders interested in addressing climate change who could benefit from forest-based GHG reduction projects, and forest owners who seek to enhance the economic viability of maintaining their lands as forests for the long term. Thus, we hope our comments and observations will assist the Registry in making changes that will improve this situation, encourage greater participation by the forest landowning community in California's climate change programs, and enhance the Registry's protocol as a viable national and international model.

Finally, we recognize that certain of the comments below may not be appropriate for consideration in California, given certain regionally-centric requirements of the State's Forest Practices Act. We have nonetheless gone ahead and included all our concerns so that legislators and other stakeholders in other states, the US Congress, and in Canada, may have the benefit of our views as they work towards developing a forest project protocol that can be applicable at the national and international level. Key among these are:

- Recognizing that all wood products harvested from all sustainably managed forests are additional.
- Making the landowner, and not the land, liable for the permanence of an offset.
- Providing a broader array of options to landowners to both address reversal risks and to opt out of the program at an early date while ensuring that the 100-year principle of an offset's life is fully honored.
- Providing a set of alternative methods that can be used to establish a project's baseline.
- Improving the language pertaining to the natural forest management requirement, such that the rules will more accurately reflect what is possible under natural and managed forest regimes.
- Recognizing that forest practice act rules and the use of well established best management practices, when coupled with 3$^{rd}$ party certification of forest lands to recognized sustainable management standards such as SFI, FSC, CSA-SFM are sufficient to evidence and prevent internal leakage on non-project lands.

As called for by the California Climate Action Registry (CCAR) requirements for submitting comments, the balance of this document presents our views with reference to the specific section

of the draft Protocol as required. As a preface to this detailed response, and as a means for enhancing the context and understanding of our views as investors, managers and owners of managed forest lands for whom the decision to engage in a carbon forest project will of necessity be a business driven decision, we believe the following principles should be kept in mind:

- SUSTAINABLY MANAGED FORESTS ARE WORKING ASSETS. As such, they are managed to annually generate additional growth that is usually harvested and converted into a mix of wood and paper products, bio-fuel, and feed-stocks for woody plant-derived bio-fuels such as cellulosic ethanol and bio-diesel, that have both commercial, climate and energy security-related benefits to society. The economic viability of a sustainable working forest is predicated on all harvest yields being additional to the initial investment in the land. A simple analogy is that of a bank savings account, where its owner starts with a principal balance – synonymous with the forest carbon baseline – and realizes "additional" interest on that principle beginning with the first year in which the account is opened. Note that all the interest is considered additional, not just the interest that is "greater than the average interest rates on savings accounts in general." Similar to the harvest of the annual, additional increment of growth in a sustainably managed forest, the interest on the savings account can be withdrawn each year – harvested, so to speak – and used for beneficial purposes, while the principal is maintained at a constant value.

- INVESTMENTS IN MANAGED FOREST CARBON PROJECTS REQUIRE FLEXIBILITY. A forest derived GHG offset, to be fully fungible and of value in a carbon market, must meet the defined requirements of "permanence." However, a forest owner must have mechanisms to manage and honor this obligation that are in harmony with the need to adapt to changing circumstances and maximize value, a business investment obligation recognized and stipulated in the draft document in Section 6.2.1.1 on page 14. Further, it is also reasonable to assume that annual yields of wood and annual market prices for both wood and carbon offset credits will all vary on a continuous basis. In this context, the protocol must allow the landowner the flexibility to determine the optimal mix of merchantable harvest and additional carbon storage that is appropriate each year.

- BUSINESSES MUST HAVE REALISTIC LONG TERM RISK MANAGEMENT STRATEGIES. The 100-year permanence requirement for an offset is reasonable and appropriate from a climate change perspective. However, the rather narrow approach for meeting this obligation set out in the Registry's draft protocol will have the continued, perverse effect of discouraging private managed forest landowners from engaging in carbon offset projects. The uncertainty of biological growth rates coupled with the uncertainty of product and carbon market prices that can and will occur over a century increases the financial risks associated with entering into a forest carbon offset project. Business

owners and investors will continue to be reluctant to invest in carbon projects that have a minimum 100-year obligation, or longer as is the case under the proposed protocol,[1] in the absence of mechanisms to manage the multiple ecological and market risks on a shorter time frame, while preserving the 100-year permanence convention. Greater participation in carbon projects can be realized if there are legally permissible methods to use common, market based options to meet the long-term liability that is created with the registration of a forest-derived offset. These options must include at a minimum, the ability to replace the offsets with emissions allowances and the right to exit the carbon project earlier while ensuring that long term offset (permanence) obligations for any offsets that have been registered and sold will still be met. Ensuring the landowner access to these and other options to effectively "replace" any outstanding (less than 100 years-old) offsets, will encourage participation, create opportunities to enhance the economic viability of maintaining land in forest use, and significantly reduce the long term financial investment risk associated with forest-derived carbon offsets.

The balance of this document presents our specific comments on the identified sections of the draft protocol and or recommendations to improve them in ways that address areas that are specifically germane to managed forests:

**Section 2.1.2 Improved Forest Management –** By limiting forest offset project eligibility to those projects that meet the draft's definition of *improved forest management,"* the overwhelming majority of sustainably managed forests become inherently ineligible. We believe that this approach is not in keeping with CARB's request that the CCAR develop and propose changes that would address the initial protocol's deficiencies regarding managed forests.

The draft Protocol limits eligibility to *improved forest management* regimes, as defined by this Section, and by the definition of *Improved Forest Management* in Section 10, Glossary of Terms (page 34), to "Changes in forest management to increase or maintain overall forest carbon stocks." When coupled with the draft's additionality requirement that these increases – or "GHG reductions" – "…must be above and beyond any reductions that would have occurred under "business as usual," (Section 3.1 Additionality, page 4), it virtually precludes all managed forest activities, as these are

[1] The draft protocol requires that each offset registered with the Reserve be maintained for one hundred years. Thus, each year during the 100-year project period, new offsets that are registered will establish a new 100-year period, thus extending the total time obligation of the landowner. An offset registered in the final, 100th year, will create an obligation for the next hundred years.

routinely and generally designed to maintain and sustainably generate increasing volumes of harvestable wood.

**Recommendation:** We suggest the language be changed to make explicit that the intent is to allow all sustainably managed forests to be an eligible forest carbon offset project type. We further suggest that the preamble and discussion of this aspect of the protocol make transparent the point that by adopting this position, CCAR does not intend to endorse or oppose the use of all such offsets to meet emissions reductions in any Cap-and-Trade GHG emissions reduction program. Further, the preamble should point out that the eligibility of, and extent to which forest carbon offsets can be used to meet covered emissions reduction obligations by sectors covered under a Cap-and-Trade program are the province of the specific program rules.

**Section 3.1 Additionality** – The draft's language defining this term is inconsistent with the methods for establishing a project baseline and leads to confusion in the detail and intent of the protocol. In section 3.1, forest project additionality is "determined by reference to a discrete, forward-looking quantitative baseline estimate of business-as-usual carbon stocks on lands affected by the project activity. However, in section 6.2.1.1, the baseline modeling procedure requires maximizing timber revenue within all legal constraints, which is consistent with a regulatory baseline language. Not all forests are managed to maximize timber revenue in the same way and in the same time frame, and in these cases the "business-as-usual" scenario is NOT the same as the regulatory baseline.

We applaud the effort to acknowledge good carbon behavior of forests and believe that an atmospheric change in CO2 levels can be achieved by giving credit for continued sequestration. However, we suggest the definition in Section 3.1 be changed to transparently reflect what actually will be credited as additional carbon in this protocol.

Furthermore, the baseline is modeled in such a way that conservation forests are able to get "business-as-usual" credit but working forests cannot. As noted above, a managed forest is designed to generate additional carbon containing volume each year. In this context, it is a sink, a phenomenon recognized by numerous other national and international scientific and GHG protocols and in the introduction sections to this draft document. A managed forest is also operated, by design, to maximize value, which is consistent with the draft's own expectations in this area (Section 6.2.1.1; page 14). Thus, the requirement to exclude from the definition of eligible GHG reductions those reductions that result from business as usual, essentially means that most if not all changes that improve productivity to maximize value in a managed forest will not qualify

as an eligible reduction, as such actions can too easily be argued as being part of the baseline. Thus, short of stopping or significantly reducing harvest levels, a practice that conflicts both with the fiduciary obligations of the managed forest's owners and the draft's own requirement in Section 6.2.1.1 to maximize commercial value, the rules as drafted would exclude the overwhelming majority of managed forest activities of a commercial nature. This would appear to be in stark conflict with the intent to update this protocol to better reflect that nature of managed forests and their climate benefits.

There is no technical or science-based rationale with respect to carbon stock accounting and quantification methodologies that justifies exclusion any of a managed forest's additional annual growth over baseline.[2] The draft's language is further biased to preclude managed forests from participation by the fact that the language would *allow additional growth not harvested* to be eligible as a GHG reduction, since it would depart from maximizing timber harvest and *disallow that same volume if it were harvested*, as harvesting is considered part of the baseline. On its face, this conflicts with the value maximization requirement set forth in Section 6.2.1.1. It would require managed forest owners to limit if not stop carrying out their approved harvest plans, all of which must conform to the State's forest practices act's requirements, in order to qualify as an eligible forest carbon offset project. Yet, there is no real difference from a climate change perspective between harvested and un-harvested additional annual growth over baseline.[3]

**Recommendation**: It is suggested that the description of additionality of GHG reductions eligible to be registered in the Reserve be modified to include a definition for managed forests that allows all additional volume (GHG reductions) over baseline, whether harvested on not, to qualify as additional, with the number of reductions (CRTs)

[2] The extent to which "offsets" should be allowed to be used "as" or "in addition to" allowances authorized by a Cap and Trade program is a separate and appropriate issue for policy makers to address. The role of a procedural and technical protocol, such as this one, should focus on ensuring that there are standard, transparent and real measures in place for quantifying and managing the generation of offsets from biological resources and the liability for the permanence of the offset for the long term.

[3] It is recognized that the protocol does make a distinction that harvested wood products decay over time, and thus the quantity of additional carbon such products represent is appropriately discounted. But this is not an argument that the carbon is not additional. It simply shows that more wood product offsets would be needed to equal a non-harvested carbon increment. However, this need is consistent with forest value maximization requirements. It is also "conservative" by design and thus consistent with GHG accounting protocols and quantification methodologies.

attributed to harvested wood to be computed pursuant to the other provisions for quantifying harvested wood product offsets in this draft document.[4]

**3.3 Project Implementation Agreement** – The language in this section requires that the contract documents be recorded with the county in which the project occurs, much the way a lien is recorded against property when the property owner has failed to perform as required. By requiring this before such an event occurs, the requirement appears to be a de facto attempt to create the equivalent of an easement against the property before the project begins.

If the concern is about the permanence of the forest, the requirement for an easement, overtly or implied, adds little to address this risk. To be effective in a market-based program, the liability for the permanence of any offset credits (CRTs) – and/or replacement of CRTs lost from reversals or overharvesting – should be with the landowner, and not the land. This leaves the land, and its asset value, as a basis for further financial remedy if all else fails.

The draft protocol establishes a number of other viable and likely potential approaches for managing the permanence and performance risks, such as buffer requirements and insurance. These provisions, when coupled with the contractual enforceability of the project agreement, should prove to be as effective in ensuring the performance of the landowner as they are in virtually all other forms of commerce in California and the nation.

It is recognized and important that landowners, private or public, engaging in a policy-driven asset market program, should be subject to a fairly high degree of transparency with respect to their representations regarding the development, qualification and registration of offsets from forestland projects. The Reserve's structure, and the information its posts for public access for parties that are accepted into the Registry, makes such information available to the public, thereby addressing this need. For private landowners, given that a project implementation agreement is essentially a business plan, these obligations for disclosure should be carried out by the Reserve with appropriate measures to protect any legitimate business proprietary information in such documents. This will ensure that competitors do not have ready access to confidential business information and that the Reserve activities to make Registry information public does not

[4] Harvested wood products in use and in landfills are subject to discount according to various formulas and methodologies that account for its decay over the long term, thereby ensuring that from a "permanence" perspective, the 100-year convention is followed.

unintentionally put it in a position that enables others to violate anti-trust laws. Finally, the existence of forest practice acts in California and many other states prescribe numerous publicly noticed planning and permitting requirements to govern the use, and any changes in the use of forestlands. These collectively add to the visibility of forestland management, and thus make the requirement to record the carbon offset project agreement redundant and unnecessary.

**Recommendation:** It is suggested that this section be modified to remove the requirement that the project implementation plan be recorded with the host county, and that steps be taken to ensure that proprietary business information can be protected, thereby removing these barriers and risks to private landowners who wish to participate in the program.

**Section 3.5 Use of Native Species and Natural Forest Management Practices –** This provision sets forth requirements that further discriminate against managed forest operations, and in most instances will keep them from qualifying as an eligible offset project. The provision states, in pertinent part: "All forest projects must promote and maintain native species and utilize natural forest management…" and goes to state in **Subsection 3.5.1 Promotion and Maintenance of Native Species:**

> **"**Forest projects, *irrespective of type*, shall incorporate natural forest management … defined as management practices that promote and maintain native forests comprised of multiple ages and mixed native species at multiple scales from the harvest unit (less than 40 acres) up to the watershed spatial scale…"
>
> [*Emphasis added*.]

The requirement that forest projects, *"irrespective of type" [emphasis added]* conform to a standard requiring natural forest management practices… from the harvest unit (less than 40 acres)…" is far too narrow and restrictive. This definition implies that all landscape scales require "multiple ages and mixed native species." Under natural conditions, this requirement could not be met for many managed forest types at the smaller spatial scales. Achieving mixed age classes across an entire management unit would require "uneven-age management", which is a practice that is not suitable to most commercially managed tree species and has no climate relevance. At the 40-acre scale, multiple age classes would be maintained in a managed forest if the trees retained to meet various ecological objectives (e.g. buffers, wildlife trees) are considered sufficient to represent an "age class". At larger scales, however, the objective of multiple ages and

mixed species will be met on commercial forests practicing sustainable forest management. The imposition of this requirement, as noted in the text of Section 3.5, for reasons other than climate change purposes, is unnecessary, in that any forest project will have to conform to the state's Forest Practices Act. There is no reason to duplicate these obligations in this climate change program. It would be sufficient to simply state that all projects must conform to all environmental laws of the host state or to have the project developer show that project lands are certified to a third party sustainable forest management standard (e.g. SFI, FSC, CSA, ATFS) in lieu of using the evaluation criteria outlined in table 3.1.

**Recommendation:** We suggest that, at the minimum, the language be changed to make explicit that the intent is to achieve multiple ages and species across a landscape. We also suggest that language be added to recognize the acceptability of forest-derived offsets from other states and jurisdictions whose forest practice acts and/or best management practices allow a broader definition of *improved forest management.* As noted above, these changes would allow more ready application of this protocol in other jurisdictions, and ensure that California's program is in harmony with other forthcoming state initiatives while not having to diminish its own forest management objectives and goals.

**Section 3.5.2 Promotion of On-Site Forest Carbon.** The second paragraph of this subsection states: "Reductions shall not be registered where a decrease in the standing live pool cannot be attributed to one of the following conditions:" The use of double-negative syntax is unnecessarily confusing. It undermines the clarity of the intent of this paragraph.

**Recommendation:** Restate the text to state, "Reductions can be registered when a decrease is attributable to one of the following conditions:"

**Section 5.1 Accounting for Significant Secondary Effects (Leakage).** The provisions of this section call for project entities to address the potential for leakage that would undermine (decrease) the actual benefits of the project. As a general proposition, this concept is both appropriate, and a well-established project requirement in jurisdictions that do not have GHG regulatory frameworks in place and/or where the project will be "outside of the Cap." In practice, however, the requirement can be better addressed by differentiating between "internal" leakage that could occur within areas under ownership

or control of the project entity (owner) and leakage that is "external" to areas owned or controlled by the project entity, the latter often being referred to as "market" leakage.

With respect to internal leakage, most if not all states have enacted forest practice acts and/or have prescriptions for the application of well developed and commonly applied best management practices (BMPs) for sustainable forest management. Many of these BMPs are often required to comply with regulations under other rules, such as state clean water laws. Given this framework, it is unlikely if not impossible that a forest entity could manipulate its operations to displace the deferred harvests in a project area of any material size onto non-project lands, and still be able to comply with these rules. Further, it is also unlikely that a landowner who attempted such changes would be able to obtain certification to sustainable management standards under any of the nationally recognized sustainable management standards, such as SFI, FSC, Canada's CSA, and the EU region's PEFC. A more reasonable alternative for addressing internal leakage would be to require that all project entities that own/control other forest lands in the project's host state, or within a reasonable distance from the project area, provide 3rd Party Certification of their non-project lands to one of these recognized standards as a requirement to participate in this voluntary forest carbon offset program. This approach, as recognized under the U.S. DOE's 1605(b) GHG Inventory[5] rules reflects findings at the federal level that any year-to-year variation in the volumes (and concomitant carbon stocks) on such lands is effectively de minimis in nature. This coupled with the obligation to meet the host state's forestry rules and/or BMP requirements should be more than sufficient to avoid against internal leakage for projects in the US and Canada.

With respect to external, or "market" leakage, within the U.S., the breadth and scale of the market, particularly with respect to the multiplicity of sources of product in the US and Canada, it is unlikely a single project will affect supply in any material way at levels that cold be readily discerned without undertaking a multi-year, complex and costly study. Nor would it make sense for any project, publicly or privately owned, to have to evaluate its own effect and that of all other pending projects. This would be costly and redundant as multiple entities all attempted to study each other. A better solution would be to require the state (or the Reserve in this instance) to carry out biennial market leakage studies at a state or multi-state regional level, and to develop data that can be used to calibrate a market leakage discount factor based on the findings over time. The costs of the study can be incorporated into the fees that will be charged by the Reserve to cover its overall operating costs.

[5] See the U.S. Energy Information Agency, US Department of Energy - www.eia.doe.gov/oiaf/1605/Forms.html

Furthermore, we feel that the assumptions given in the current market leakage test are arbitrarily complex and inconsistent. The leakage assessment test is intended to account for both a shift in harvest activities and a shift to substituted products, but the worksheet does not properly account for a potential shift to substituted products in the same way it accounts for harvest leakage. According to the worksheet, there is no circumstance where reducing harvest would encourage a shift away from wood to other substitute materials (Assumption #2, Demand of wood products is inelastic to supply). This assumption has a degree of validity in that there are many other market influences (most importantly housing demand); however, there *is* a consumer choice of building products and the market share for each product is elastic though inertia is slow to change. Increasing rotation age can be temporarily significant and at a large scale would thoroughly disrupt a local wood basket. Harvesting would either be shifted elsewhere (hence to be consistent one would need to assign a 2% discount until the culmination of mean annual increment is reached) or market share of wood products may diminish, resulting in a substitution to more energy and GHG intensive materials.

In addition, assigning a 2% discount for taking lands out of production means that the set-aside area would need to grow more than 2%/yr to have any net carbon accrual. This assumes that the activity is shifted to a land that is managed in exactly the same way and assumes that all harvest is completely replaced. We feel that several additional factors go into a landowner's decision to harvest besides the actions of their neighbors, whether or not the neighbor is a carbon offset project participant. The decision to harvest is dependent on landowner inventory, local market conditions, cash flow demands, and forest health, among others. Data from the reduction in harvest on National Forests in Washington and Oregon in the early 1990s show that harvest was not completely replaced by other regional landowners.

**Recommendation:** Revise the draft text to differentiate between internal and external market leakage, and require that project entities that have non-project forest lands to annually submit 3rd Party Certifications to recognized national sustainable forest management standards of their non-project lands annually, to address internal leakage concerns. The draft document should also be modified to inform project entities that the Reserve will undertake a biennial study to monitor the extent to which projects are creating external leakage, the results of which will be used to adjust, as required, a market leakage discount factor, to which their annual offsets will be subject during the project crediting period.

**Section 6.2 Improved Forest Management Projects.** As noted above, sustainably managed forest projects must meet state forest practice act requirements (or established best management practices where such laws do not exist), comply with other applicable environmental laws, such as clean water rules, and where privately owned for commercial purposes, pursue approaches that maximize value, consistent with the requirements of this draft document (Section 6.2.1.1; page 14). As such, the term "Improved Forest Management" is a misnomer, and should be re-titled "Sustainably Managed Forest Projects." This would also bring this section, and its subsections, into alignment and harmony with the concerns and recommendations made concerning Section 3.1 Additionality, above, and with the comments concerning the estimation of the baseline, that follow below.

**Recommendation**: Re-title Section 6.2 as "Sustainably Managed Forest Projects," and make necessary conforming changes to this term throughout the document.

**Section 6.2.1.1 [Estimating On-Site Baseline Carbon Stocks] Private Forest Lands** – there are several elements of this subsection that should be expanded or modified to better reflect the nature of privately owned, managed forest lands, and to ensure that projects undertaken on such lands can be developed in a reasonable fashion, while still ensuring that all offsets are real, additional, and verifiable. These are:

**Reference basis for baselines:** Stands of managed forestlands at any given moment in time will vary with respect to several variables. Key among these are the rotation regime (time between planting and harvest) to which an owner may be managing the land, the level of historical harvesting, the market price for harvested wood from year to year, and the time since the most recent harvest. This last is perhaps more significant for small ownerships that may only harvest large portions of their holdings every few years rather that steady-state increments every year. Thus, a single "one-size-fits-all" framework for establishing baselines will actually distort the extent to which the estimate will under- or over-state the volume of carbon on the land at project initiation. This stems from the fact that in reality, private, managed forestlands in any state will have a wide distribution of growth and re-growth stages at any given time due to differences in business and management plans, the intensiveness of applied managed practices, and market conditions. A more viable approach would be to allow for project developers to be able to select from a set of baseline calculation options where it can be shown that the selection is cost effective, and that the sequestered carbon represented by any increase from the chosen baseline method is subject to the permanence requirements of the program. These should include the following:

- ***Standing Volume at Project Initiation:*** For large scale owners who annually harvest a portion of their land wherein the volume harvested is equal to the annual increment of additional incremental growth across their entire holdings, the baseline project area volume should be equal to the average volume/per acre based on their entire land base, times the number of acres in the project. This approach will essentially ensure that the selection of the land area to be in the project will not be advantaged by any recent harvest. It would also allow the landowner to capture any gain from lands that have higher than average stocking levels, so as not to penalize the landowner for managing some portions of his/her land conservatively. Note that any gain in this area through the sale of offset credits would preclude the landowner from harvesting that volume increment under the Reserve's (and most carbon registry's) inventory requirements. Thus, the carbon offset credit revenue necessarily comes at the cost of foregoing harvested wood revenue.

- **Average stocks within the project's assessment area:** This approach, which is the FIA-based approach set out in Section 6.2.1.1 of the draft document, could be used by both large and small landowners. It is similar to the prior approach, except that that average volume levels are computed from data taken from the USFS FIA data. The same balancing factors would be realized to avoid penalizing or rewarding a landowner simply because of how they have managed their land over time.

  In anticipation of potential use of this protocol at the regional and national level, the continued inclusion of this approach should be accompanied by clarifying statements, perhaps in a preamble or explanatory note specific to this element, addressing two main points. First, any other region will need to look closely to determine whether FIA plots are statistically valid for the ecosystem in question and whether or not state regulations could be modified to achieve a reasonable baseline. Second, CCAR, (and CARB, if it adopts this protocol), should point out in a transparent fashion, that it is agreeing that business as usual activity can and is included as fully eligible when it is beyond a regulatory baseline such as the FIA mean.

- **Base Year Approach**: Under this approach, the baseline would be estimated by measuring the volume (carbon) on the land at the time the project is initiated. For "reforestation" projects, the baseline calculation is straightforward, and at the point the forest volume becomes commercially viable, offsets would have to

come from the harvested wood product category, not the lands, as the volume of carbon on the land would no longer be increasing. For lands already under rotation, this approach would only be economically viable for lands that are well below the culmination of mean annual increment. Projects that are close to the CMAI would risk becoming sources in the near term. Projects that are at any other point in their growth rotation would have to sacrifice harvests and harvest revenue in order to register offsets and sell them. Acres that have just been harvested, if included in the project, would effectively be taken out of rotation if the increases in carbon on those acres are registered with the Reserve as the land is re-generated. I.e., when those acres are at commercial maturity, they could not be harvested without replacing all the carbon stocks (CRTs) that have been registered over the entire growing period, as the harvest would otherwise represent a reversal under the Reserve's inventory accounting rules. (See the discussion below on Section 7, Permanence for more on this point.) Landowners who do not want to encumber their future harvest potential with permanence restrictions would be limited to harvested wood product offsets, with the parallel obligation to ensure their baseline volumes are maintained.

By putting their lands into a forest offset project, landowners will have to choose between forgoing future harvests for near term carbon offset value, or forgoing near term carbon offset sales revenue to realize future merchantable timber and pulpwood revenue. Thus, in all cases except where only harvested wood product credits are registered, this option for establishing a baseline would require a major departure from "BAU."

**Regulatory Additionality**: As called for in this section, increases in carbon stocks on sustainably managed forest lands that are set aside to comply with regulatory requirements or best management practices should not be included in a baseline calculation. However, where the set aside results in a reduction and/or restriction in the land owner's ability to harvest biomass from the set-aside lands; and the set-aside provides environmental benefits that also occur or manifest themselves beyond the boundaries of the landowner's lands, and the landowner is not eligible for and/or has not obtained any financial payment for complying with the regulation, the landowner should have the option of including such lands in the baseline. Under this exception, the landowner would be able to register gains in the carbon stocks of such lands, and would also become liable for reversals of carbon stocks on the set aside lands.

**Harvested Wood Products:** The draft document includes the quantity of wood products in the baseline year, and under the methodologies for computing additionality for

harvested wood products (Section 6.4), deducts that quantity from future annual harvest volumes to determine the basis for the harvested wood GHG reduction contribution. As noted above, the economic viability of a sustainable working forest is predicated on all harvest yields being additional to the initial investment in the land. Excluding this same volume of wood from being additional if harvested, while not excluding it if it is not harvested, demonstrates a bias that not only arbitrarily disadvantages working forests, but fails to account for the avoided GHG emissions that are realized through the use of wood products, both in homebuilding[6] and in the generation of GHG neutral energy.

**Physical and Financial Limitations**: The new financial additionality element in this draft seems to be designed to prevent gaming of the system, but intrudes into an area that should be outside the scope of a carbon management regime. AB 32 does not appear to grant authority to CCAR or to CARB for that matter, with respect to engaging in financial investor decisions. Yet, the draft language would essentially place the Reserve, a non-financial agency or authority, in the role of determining what is an acceptable return on investment or potential for profitability for privately owned and managed forestlands. Also, there is no provision to ensure that even if this is allowed to occur, that the individuals making such judgments will be qualified timber investment financial analysts.

Concerns about the economic capability of a managed forest project entity to be able to carry out its obligations under the project agreement should be addressed under the requirements that set forth expectations for meeting the permanence obligations for offsets that are registered over time. (See the discussion about Section 7. Permanence, below.) The inability of a project entity to generate a future flow of offsets should be immaterial. If the offsets are not created, nothing can be registered and sold as a credit in the Cap-and-Trade carbon market.

The physical feasibility requirements should provide a sufficiently reasonable basis to address the practical feasibility of the proposed project, and should thus be the basis for ensuring that proposed practices are reasonable. This is also an evaluation that should be well within the expertise of a professional forester.

**Recommendations:** The daft document should be modified to (a) allow for the use of different options for determining the baseline of a managed forest project; (b) allow for the inclusion of set-asides when there are uncompensated external benefits; ( c) enable all

[6] See *Environmental performance improvement in residential construction: The impact of products, biofuels, and processes,* at www.corrim.org/reports

wood products from sustainably managed forests to be considered as additional; and (d) delete the financial limitations requirements in this section, but retain the physical feasibility element to ensure that proposed practices are reasonable.

**6.2.2. Secondary effects: This provision states:**

> *"Commercial forest management projects that constitute more than 10% and less than 90% of the entity's area are required to submit inventory estimates for the entity and harvest data as part of the project annual report. This data will be held in a confidential location where only the verifier can access the data.* ***A harvest volume increase of 0.5% within the entity outside the project area over a 10-year running average relative to the entity's inventory will serve as an indication that onsite activity-shifting leakage could be occurring****. Harvest volumes that exceed this figure are calculated as onsite activity-shifting leakage unless the project developer can explain and justify (and the verifier verify) the following conditions led to the calculation of the increase:"*
>
> *[Emphasis added.]*

The requirement to have a landowner submit inventory estimates for all other lands the entity owns that are not in the project is unnecessary, and simply adds a reporting cost to landowner operations, and a data management cost to the government. The requirement fails to recognize that forestland owners are already obligated to comply with sustainable forest management practice laws and rules and/or well-established best management practices.

This "carbon-neutral" concept of sustainably managed lands is recognized in the U.S. Department of Energy's 1605(b) GHG inventory rules. Further, many landowners, especially large landowners, third party certify their operations to nationally recognized sustainable forest management (SFM) standards such as SFI, FSC and the Canadian CSA standard for sustainable forest management. Collectively, the combination of compliance with state forest practice act rules, and certification to 3rd Party SFM standards should preclude the ability of any project participant from being able to materially manipulate harvest rates without the risk of disclosure.

The benchmark of using a harvest volume increase of 0.5% within the entity outside the project area as in indicator of likely internal leakage is also too restrictive. It fails to allow for situations wherein landowners may have been increasing volumes above their standard rotation baseline on their non-project land as a business strategy, seeing to take that increased volume of larger, higher grade wood to market in the future. There are

also likely to be instances where past market conditions have led landowners to simply under harvest for a period of years, and current market conditions favor bringing that deferred incremental volume to market. Such activities do not reflect leakage. And, again, in most states, and for most forest owners, the need/obligation to comply with forest practices act sustainability requirements and/or the practice of most private forest owners to 3rd party certify to sustainable forest management standards (SFI, CFA, FSC, PEFC, etc.), are two external structures that essentially preclude significant harvest shifting that would qualify as material leakage.

**Recommendation:** This internal leakage monitoring approach should be eliminated, and replaced with a requirement that project entities have their entity-wide lands subject to annual 3rd Party certification to recognized sustainable management standards. This alternative approach, in conjunction with the need to comply with state forest practice rules and/or BMP requirements, should be sufficient to ensure that non-project lands are not overharvested to compensate for volumes taken out of harvest by the project's requirements.

To complement this change, a supplemental assessment of statewide and/or multi-state regional harvest volumes to assess market leakage could be developed by the state on a biennial basis. The assessment could include:

- Consideration of long term changes in an entity's harvest rates above and below the mean FIA values for the region,
- Adjustments for changes in inventory methods and accuracy,
- Force majeure events having a statistically significant effect on standing volumes, and
- Land use changes outside of the project area but within the affected region that added and removed forest volume.

This type of biennial assessment should be carried out as part of a state's due diligence governance process for a forest-based offsets program. This would be particularly appropriate, in that such a program, as that described by the CCAR draft, would likely include publicly as well as privately owned forest lands.

**Section 6.4: Quantifying Total Net GHG Reductions –** This provision, on Page 24, step 5, requires that, in determining the quantity of wood products that can be included in the annual inventory as "additional", that the project entity must: *"Add the difference*

*between actual and baseline carbon in wood products produced in the current year that will remain sequestered for at least 100 years"*

This language, left unchanged, would preclude most, if not all harvested wood products (HWP) – in use and land-filled – from existing commercial forests from being an eligible source of offsets. As noted previously, this provision fails to acknowledge the nature of privately owned managed forests, and the climate benefits that are derived from wood harvested from such lands. For sustainably managed forests, by definition, the renewable supply of annually harvested material is always additional. Thus, adherence to the BAU concept for defining harvested wood products, as defined by this calculation, reflects a policy that devalues the benefits of managed forests to both society and private and public landowners. It simply fails to acknowledge the contribution this type of commercial activity makes towards reducing climate change impacts, in contrast to virtually all other type of commercial activity with the exception of non-fossil fuel-based alternative energy enterprises. (Even some of these have adverse environmental impacts.) Public policy should be encouraging the opposite outcome.

Emissions from project sinks that have reversals must be counted, even if they happen naturally. So too should all stock increases, be they left on the stump, or harvested into long-lived wood products. (There are well-established methods to quantify these values, and adequate statistical tools to adjust the values to achieve a desired level of certainty of the results.) Stated alternatively, all BAU wood products from sustainably managed lands are fundamentally additional; i.e., the annual increment if not harvested, would be additional, and the annual increment harvested (and adjusted for the 100-year model for products in use and products in landfills) is also additional. It is the same wood, in one case left on the stump, and on the other, removed from the stump. Considering that the current protocol will credit some BAU carbon for high value forests with on-site (un-harvested) standing volume (carbon stocks), it is only fair to also recognize some potential BAU but nevertheless physically additional carbon in wood products.

**Recommendation:** As noted previously in this document, the annual growth increment of volume (and carbon stocks) on forest land, whether harvested or left on the stump, should be considered additional so long as (a) the land is sustainably managed and (b) that standing forest carbon stock volumes at the beginning of the year are not below the project's established baseline.

**Section 7: Ensuring Permanence of Credited Emissions Reductions –** The draft document states:

> *"The Reserve requires that credited GHG reductions be effectively permanent. For projects that sequester $CO_2$, this requirement is met by ensuring that credited GHG reductions remain sequestered for at least 100 years. The Reserve strongly encourages forest project developers to take steps to mitigate the risk that credited GHG reductions will be "reversed," i.e. emitted back to the atmosphere. Furthermore, the Reserve requires project developers to demonstrate that they have insured against reversals, based on a project-specific risk evaluation. Insurance can take the form of contributing Climate Reserve Tons to a buffer pool administered by the Reserve, or it can take the form of an approved insurance contract with a third-party insurance provider."*

This provision is an improvement over prior drafts, as it moves away from the single reliance of placing a conservation easement on the land, a requirement that actually did little or nothing to ensure that reversals would necessarily be remedied. It begins to provide landowners with a broader array of options for managing the long term risks associated with reversals that could affect carbon stock inventories, a position the industry has sought to achieve for some time. However, it remains unnecessarily narrow.

The provision does not allow for the use of bi-lateral contracts or carbon market positions for forward delivery contracts or options which would allow a landowner to purchase emission allowances and/or other offsets at a known cost for future use in the event of a loss from a reversal. Also, the wording of this section is not clear as to whether a project developer/owner, even if insurance is in place, still has to make a Carbon Reserve Ton (CRT) contribution to the state carbon forest offset buffer pool.

The language of this section could be improved by including language that clearly expands the array of alternative mechanisms that can be used by a landowner to ensure the permanence of offsets that are registered whether there is a reversal or an early termination of the project for any reason. Including these options in the protocol will also signal the financial and insurance markets that it will be worth their while to develop the instruments needed to make these options available. The options should include, but not be limited to:

- Insurance from a state authorized firm;
- Contracts evidencing participation in like kind (forest offset), third party insurance pools;
- Self insurance through the setting aside of a portion of qualified offsets;

- Forward contracts[7] for the purchase of, or the right (options) to purchase offset allowances or emissions allowances held in a qualified GHG allowance or offset registry account of a third party.
- A performance bond, similar to those used in major construction contracts.

**Recommendation:** Expand the terms of this provision to clarify the options that should be available to address the permanence risk management needs of project entities. Re-enforce the concept that permanence is a liability of the project entity, the landowner, not the land.

**Section 7.1 Definition of a Reversal –** The draft document states:

> *"Project owners must demonstrate, through annual reporting, that any increase in carbon stocks relative to baseline levels is maintained over time. If the difference between project and baseline carbon stocks decreases from one year to the next, the Reserve will consider this to be a reversal in credited reductions."*

This text is confusing, and suggests that any reduction in total volume and carbon stocks over time, even if the balance in the project account remains over baseline, would be considered a reversal. As written, it would seem to preclude a landowner from "withdrawing" unsold-credits/offsets from his/her Reserve account, and freeing up wood volumes for harvest and sale. So long as a landowner does not reduce carbon volumes below the sum of the baseline and any sold offsets, withdrawing unsold offsets would, and should not be a "reversal." Rather, it would just lower the landowner's balance in the "additionality" account. Actually, sold offsets would transfer out of the landowner's account, and be in the buyers account in a recognized registry. So the balance in a landowner's registry account will always be the unsold offsets that are in excess of the baseline levels on the land, unless the account is overdrawn by an intentional withdrawal transaction or a true reversal that exceeds the balance. This change would allow landowners to have more flexibility in addressing the uncertainty of future market values for both carbon and wood, and allow for some risk management and value optimization over time.

This flexibility provided by allowing landowners to withdraw unsold offsets should encourage private landowners to participate in the program. It would essentially remove

[7] Actual purchase or sale of a specific quantity of a commodity or other financial instrument at a price specified now, with delivery and settlement at a future specified date.

the risk that in any given year, a project landowner would have to completely forgo wood market opportunities to improve financial results, so long as the landowner has a balance of "surplus" unsold offsets in his/her Reserve account for such use. It would effectively allow project owners to openly and intentionally manage their lands for value by managing their respective inventories of both sellable offsets and timber. It would allow them to adjust these inventories as needed. This also assumes that by entering into a project agreement, the landowner is not obligating him/herself to having to put all additional carbon values from the project into the Reserve or sell them in the carbon market. (I.e., a project agreement should not require unilaterally that minimum carbon offsets be delivered each year, per se. That should be a negotiable item.)

It would be up to a landowner to develop value-optimizing strategies to capture the best mix of value from timber and carbon markets, and still ensure that there are no unresolved reversals. By allowing unsold offsets to be withdrawn (or used as one's own reserve pool to cover reversals), the landowner will have significantly greater financial flexibility than would otherwise be the case.

A fundamental premise of this approach is that under a project, annual offsets claimed by the landowner, even when registered with the CCAR Reserve, are still assets of the landowner, until the offset is sold. Thus, the landowner should have the right to withdraw those offsets from the Reserve, so long as the withdrawal does not "over draw" the landowner's account: i.e., the withdrawal can not cause the total number of offsets to be negative (under the baseline amount).

**Recommendation:** The language in this provision should be further clarified and expanded to provide more flexibility to the project entity (land owner) in the use of registered offsets that have not been sold to a third party.

**Section 7.2.3: Other Insurance Options for Reversals –** The text of this provision states:

*"It is the Reserve's expectation that other options to insure against reversals will develop for projects in the future. These options or mechanisms could include direct insurance. These other options could be used to directly reduce the calculated reserves required for a project."*

This section seems to imply that the reserve pool is to be a "starter" device, and that as other options develop, that they will be useable. However, no indication is provided as to how such alternatives, such as options and futures contracts for reduction allowances or

the use of other offsets or emission reduction allowances to meet permanence obligations, will be approved for use. This leaves the project owner/developer with uncertainty as to the timing and/or ability to develop and use these financial risk management instruments. The language also fails to send a signal to the financial and insurance communities of the need for, and acceptability of these types of market instruments.

**Recommendation:** Language should be added to address what the process will be for recognizing these other permanence (loss) risk management alternatives as they evolve and to clarify the extent to which individual landowners/project developers and third parties may create and propose models for use. Listing a minimum set of acceptable risk management instruments, such as those listed above, would also be desirable, so as to signal the financial and insurance community of the need and value of creating such instruments.

**Section 8.1 Crediting Period and Required Duration of Monitoring Activities –** The language in the draft document states:

> *"The Reserve's forest projects are expected to have a project life duration of 100 years from the project's initiation date. Exceptions to the 100-year project life occur when a significant disturbance occurs,[8] leading to a reversal that reduces the standing live carbon stocks below the baseline of standing live carbon that were initially established for the project. This occurrence allows the project developer to terminate a project.*
>
> *Please note that the 100 year project length and ability to terminate does not eliminate* ***the independent requirement of reductions to be maintained for 100 years,[9] measured from the year in which the reduction is first measured and reported****..."*
>
> [Emphasis added.]

This section reiterates the earlier expectation that the project period is for 100 years. However, when the language in the emphasized text is considered in full, **the real liability period of duration will be up to two hundred years**. Credits sold each year, including those sold in year 100, will have to be protected against reversal for a full 100 years. Further, as noted in the footnote below (from the draft Protocol) the inventory

[8] The natural disturbance shall not be the result of intentional or grossly negligent acts of the forest entity or project developer. [This footnote is from page 28 of the draft protocol.]
[9] In the event of a reversal of reductions, the tons that are stored for the greatest duration are considered as the first tons reversed. [This footnote from page 20 of the draft protocol.]

uses a FIFO (first in, first out) approach for replacing offsets lost to reversals. This penalizes the developer/owner, who then must replace new offsets for the old, which will further extend the duration period. Further, it complicates the tracking of credits, as it would have the de facto effect of having a younger offset covering the 100 year duration period of an older emission. Thus, much of the climate change benefit of the new credit would be wasted. For example, if a 75 year old offset that was sold the year it was created, is suddenly ruled reversed, and a new offset is used to take its place, that new offset would have to be supported for 100 years under the rule, rather than the remaining twenty five years left on the first offset's tenure. This is also an example of why offset contracts should be allowed to be for different durations, and that offsets, if not sold (or reclaimed by the project owner's account when a short term sale expires) should be considered unencumbered and subject to withdrawal.

**Recommendations:** This provision should be revised to allow for a broader set of mechanisms to manage reversals. Further, the provision should allow landowners/project developers to end their project at any time, so long as mechanisms are in place to ensure the permanence (or replacement) of any offsets already registered. This should be accomplished by allowing the project entity to: (a) substitute the use of offsets from other projects or (b) substitute emissions reduction allowances purchased from the "carbon market" to replace all sold offsets that have been registered, and (c) to "withdraw" unsold offsets they have registered. This will ensure the integrity of the offset system, allow for more liquidity in the overall carbon markets, and help to encourage landowners to participate without having to feel that they cannot opt-out for over two centuries.

Landowners who register offsets should also be allowed to sell the offsets in contracts for terms that are less than 100 years. A critical component will be the need for standardized contracts, as occurs in most if not all commodities markets, and the inclusion of a requirement in such contracts that the buyer will have to replace the "credit" when the offset contract expires. In this context, landowners should be allowed to "recover" the offset from his/her inventory at the end of its term, so long as his/her balance does not go below the sum of the applicable baseline plus "sold" offsets, thereby ensuring a positive balance in the account. There will be no adverse climate effect, as the buyer of the original offset will have agreed to the obligation to replace it at the end of the shorter term. (This is comparable to a business that sells short-term notes or bonds to support cash flow or other long term needs. When the bonds expire, they have to be replaced.)

If all offsets are given a serial number (which is contemplated in most if not all cap and trade programs), landowners will be able to manage the long-term maturity of their offset portfolio, again, adding to the ability to limit the two-century exposure without

undermining the integrity of the offset program. And, again, this type of approach would add to the liquidity of the carbon markets and create conditions that would encourage landowners to participate.

**Section 9.1. Reporting Requirements, Forest Carbon Inventory –** The draft document's language in this section states:

> *"All credited reductions for a project are assumed to be reversed if a project developer, or subsequent landowner, chooses not to undergo verification…"*

This citation should be clarified, and preferably modified. It would automatically negate an entire project's offsets for a one-year gap in filing, assuming that nothing is done to remedy the matter. This provision is overly harsh and punitive. It makes the assumption that a records filing gap means that the entire inventory is lost. It would also create unnecessary upheaval and confusion in the Reserve, the buffer pool, and among those who have bought past offsets from this project. (For perspective, even the U.S. IRS does not negate all past taxes paid if a person fails to file a return in a future year.)

**Recommendation:** The language in this section should be modified allowing the Reserve to establish a set of policies, practices and procedures for addressing failures to file an inventory. It should not start with the assumption that the entire inventory has been lost. Further, the Reserve should have its own independent program of random auditing to check on the viability of relying on 3rd party verifiers. The Reserve could also institute a simple annual check system to track filings, and where one is missing, to trigger an inquiry. This inquiry can be used to determine whether the failure to file is one of a paperwork nature, or that it reflects a reversal, and if the latter, whether it is a major or minor reversal. Depending on what is found, steps could then be taken to remedy the matter, including some sort of commensurate penalty for the actual transgression.

Further, there should also be a mechanism that allows a project owner to gain an automatic extension of up to 6 months for filing an inventory. This will allow for shortages of qualified inventory experts and 3rd party certifiers, especially in the early years of the program. Like the federal IRS process, such automatic extensions could come with caveats. In this case, these could take the form of withholding offsets in the project's account from sale until the inventory is submitted and/or a requirement that a bond be posted in the amount equal to the average annual increment of offsets that would be expected, times the current market price of offset allowances.