

Minnesota Department of Natural Resources

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Office of the Commissioner

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20 February 2009

Mr. John Nickerson
California Climate Action Registry
523 W. Sixth Street
Los Angeles, CA 90014

Dear Mr. Nickerson,

The Minnesota Department of Natural Resources (MN DNR) appreciates the opportunity to comment on California's "Revised Forest Project Protocol" released in December 2008. MN DNR manages 4.9 million acres of forestlands for multiple benefits including recreation, wildlife, biodiversity, and forest products. These forests support approximately 168,500 jobs, contribute \$11.6 billion to Minnesota's economy, and provide essential benefits Minnesotans care deeply about. MN DNR recognizes the importance of forests and forest management for carbon sequestration and the increasing opportunities to enter carbon markets as a means to encourage greenhouse gas emission reductions while providing many additional co-benefits. As part of the state's goals to reduce carbon emissions, the Minnesota Climate Change Advisory Group recommends forest activities a priority mitigation strategy. MN DNR understands the importance of developing credible and efficient forest project protocols, and appreciates the hard work that has gone into the California protocol revision. However, MN DNR has several concerns with this revision:

- In general, the protocol's clarity and readability needs to be improved. More discussion explaining the purpose of protocol requirements is needed, along with specific examples illustrating how various requirements would be implemented.
- The protocol appears quite restrictive, bringing significant barriers to participation. A 100-year agreement may be too restrictive for many landowners, unless it is clearer what options a landowner maintains to respond to changing market and environmental conditions. The definitions of "natural forest management" are very limiting and overall the protocol appears costly to implement.

Unless these concerns are addressed, the protocol's costs and restrictiveness would likely limit our participation at this time, especially considering the current state of the economy.

MN DNR concerns are detailed below, according to protocol section numbers:



3.3 Project implementation agreement

MN DNR has a number of concerns with this section. First, it is unclear whether public land managers need to enter into this agreement. The section states that public land managers are "exempt from the need to record the agreement." Does this mean that public land managers need to enter into the agreement with the registry, but it is not necessary to record the agreement with the county where the project resides? If so it should be more clear up-front that both public and private landowners must enter into the agreement.

MN DNR believes that a 100-year agreement may be a barrier to broad participation by both public and private landowners. In order to evaluate whether MN DNR would consider entering such an agreement, more detail is needed (e.g., an example contract that spells out rights and remedies for the landowner, not just for the Reserve). What are the conditions under which the agreement could be broken? In sections 7.2.2-8.1, it appears that projects can be terminated, but it is unclear if projects can be terminated only because a "significant" natural disturbance occurs, or if there are some cases where a project can be terminated because of other reasons at the discretion of the landowner. If the agreement is broken, what are the obligations of the landowner? Does the agreement require compliance with any future revisions of the protocol, or only compliance with the version of the protocol in place when the agreement is made? In general, MN DNR would be hesitant to enter a 100-year agreement, and would favor more flexible mechanisms that ensure system-wide permanence of emissions reductions.

3.4 Project Location.

MN DNR applauds the expansion of project eligibility to include both public and private lands throughout the United States, and fully supports the inclusion of federal lands.

3.5 Use of Native Species and Natural Forest Management Practices

This section needs substantial clarification and appears overly restrictive. The definitions and requirements for "natural forest management" and "native forest" are quite narrow and potentially could severely limit the types of projects that could be considered under the protocol. Natural forest management is defined as "forest management practices that promote and maintain native forests" and the definition of native forest is "...[forests] occurring naturally in an area, as neither a direct nor indirect consequence of human activity. . ." It is unclear what this means and on the surface it appears that natural forest management precludes any human intervention, including forest restoration that has the specific goal of restoring native forest. Furthermore, will it be possible to maintain all native forest types in the face of climate change? MN DNR suggests using a broader definition of native forest that recognizes potential changes brought by climate change, ideally focusing on characteristics present (e.g., measurable components of complexity, structure, diversity).

The structural and compositional component of the natural forest management definition is also problematic (requiring "multiple ages and mixed native species at multiple scales from the harvest unit [less than 40 acres] up to the watershed spatial scale [third or fourth order watershed level] approximately 10,000 acres in size). This definition precludes some native forest types in Minnesota (e.g., jack pine forests following natural or prescribed fire will typically remain largely single age, single species stands for many years). Furthermore, it appears to preclude

most even-aged silviculture—is this the intention? MN DNR tested the worksheet on p. 6-7 with several hypothetical projects (extended rotation aspen and pine projects, and an increased stocking project). All seemed to pass the native species/natural forest management test. This suggests that the above definitions are more restrictive than the worksheet criteria. At a minimum, the definitions of natural forest management and native forests should be consistent with the worksheet criteria.

Furthermore, several components of the worksheet need clarification. First, what specifically does “native to the project area” mean? For example, do you have to know that white pine was once present on the exact project *site* if you seek to restore it on the site, or is it sufficient to know that white pine was generally native to the region in similar soil types? The former would often be impossible to verify, and the latter makes more sense.

“Endemic species” is not in the glossary. On pages 5-6, it appears to be synonymous with “native species” – is this the intent? Conservation biologists typically define endemic species as those unique to a restricted geographic area. For example, only 5 plant and animal species are considered endemic to Minnesota. Does the protocol requirement to “Manage the distribution of habitat/age classes and structural elements to support functional habitat for endemic plant and wildlife species” only apply to these 5 species, or all “native” species in Minnesota? This should be clarified.

In the first row of Table 3.1, why is there overlap in the percentage range between the 0 and 1 scores for native species composition? Percentages between 76-79% could give either a score of 0 or 1; the range for each score should be mutually exclusive.

In row 2 of Table 3.1, the percentage factors are confusing (% of commercial species over background [unmanaged]). Does this mean relative abundance of native commercial species? Our best guess of the intended measure is the percent difference between the intended relative abundance of a commercial species over an estimate of natural relative abundance of that species in a particular ecological community. Thus, if the “background” abundance is 60%, and the managed (or target) abundance is 95%, then the % change is $(95-60)/60 = 58.3\%$ change. What score would this result yield? The only options appear to be 0, 25, or 75. MN DNR assumes these should be expressed as inequalities (>75%, 25-75%, or 0-25%) so any calculated value can be scored. However, MN DNR has serious reservations about such a scoring system, because in many cases the estimates of “background levels” are either unknown or controversial. The percentages also change dramatically with succession, complicating this criterion further. A simpler approach to assessing the species composition/distribution criterion is desirable, and if one cannot be designed, MN DNR recommends dropping this criterion.

The reference to snags >16” DBH is not appropriate some communities (e.g., unproductive lowland conifers, where no trees reach that diameter).

In general, the worksheet could be an effective approach to determine project eligibility if the issues discussed above could be resolved. MN DNR also suggests testing the worksheet with a range of projects from around the US. Such testing could help determine if it allows the intended range of practices and projects. MN DNR would not support the worksheet criteria if they are

so restrictive that they preclude the most promising, forestry-based options for increased carbon sequestration in Minnesota. A table listing forestry practices/silviculture options expected to qualify would help.

3.5.2 Promotion of On-site Forest Carbon Stocks

This section is confusing. It seems to imply that no harvesting is allowed, unless it is part of an explicit plan to balance structural age classes. What does balanced mean? Does this mean a regulated forest under area-control? In some cases, an unbalanced age-class distribution is justified. In fact, natural age-class distributions are often far from that of a perfectly regulated forest (e.g., a negative exponential, or “reverse J” distribution).

4.0 Identifying a Forest Project’s Geographic Boundary

It is unclear what an “assessment area” is, and the difference between the project area, the assessment area, and project GHG assessment boundary is confusing. When will the reserve provide maps that define the assessment boundaries, or at least describe examples and the method for determining the boundaries? What is the purpose of the assessment area boundary? Explaining this might help reinforce what it is, and how it is distinct from the project area. An example map showing how these areas nest within each other would be helpful.

6.0 Quantifying GHG Emission Reductions and Removal Enhancements

This section is confusing in several respects. First, the type of baseline required is not clear, especially in section 6.2.1.1 on p. 13. At first glance, it appears that average FIA values from the assessment area are used to determine the baseline. But this makes little sense, because the FIA values do not produce a “forward-looking, quantitative baseline estimate of business-as-usual carbon stocks on lands affected by the project activity” as described in section 3.1, p. 4. Apparently, the FIA values are used to make adjustments to baseline projections, depending on the average volume (or stocking level? See below) within the assessment area. MN DNR suggests that the first paragraph in section 6.2.1.1 restate that the baseline projection is a business-as-usual-projection, and that graphs illustrate examples of baseline projections and adjustments based on assessment area stocking levels. It would also help here to reinforce the distinction between the project area and assessment area (i.e., that in general the assessment area will be much larger than the project area). However, this raises another question—the actual or typical scale of the assessment areas is not specified in the protocol. This scale is important because it needs to be large enough to encompass enough FIA points to achieve reasonable precision in FIA estimates. Sampling intensity of FIA points varies by region, so this also needs to be considered in determining the size of the assessment area (or at least the size of the FIA sample region—are there circumstances when this could or should be different from the assessment area?).

It would also help to state the purpose of the adjustments/constraints on the baseline calculations. Is it to prevent purposeful underestimates in the baseline, which would overestimate the difference between the baseline and the project volumes (thus overestimating carbon sequestration)?

How the FIA means are calculated is also unclear (p. 12, section 6.2.1.1, paragraph 2). Are the “applicable means” estimates of volume per acre across all age classes? If this is the case then it

is unclear how harvesting activity can be allowed if “the modeled baseline activity cannot deplete stocks below the landscape average established by the Reserve” (point 2, top of page 14). It would make a lot more sense if the applicable mean was calculated by *age-class*. Otherwise, it would appear that these constraints would severely limit the amount of harvesting that could take place (stand replacing harvests, or even heavy partial harvests would not be possible). Is this the intention? MN DNR would find limited use for the protocol if it allowed only selective harvesting. This would drastically restrict the number of applicable projects.

Further, MN DNR does not understand how to calculate the values required in point three (top of p. 14). Here the protocol states that “for forests with below-average stocks, the average stocks for the baseline activity cannot fall below the initial stocks.” How are the average stocks for the baseline activity calculated? Average per acre stock across the entire project area across the entire project time period? Or stratified by age class? And it isn’t clear what the “initial stock” value is. Is it the estimated initial stock at the project site, or initial average assessment area stock? Substantial clarification is needed here. Also, the “additional constraints” section on p. 15 seems redundant with the constraints at the top of p. 14. The two sections should be combined.

6.2.1.2 Public Lands Improved Forest Management Baseline

Projecting baselines based on historical trends brings some real challenges. The most difficult case occurs when there has been an abrupt change in policy in the recent past (e.g., a severe reduction in harvesting because of a lawsuit). The protocol should give more guidance about how to handle this situation. The protocol states that “In the event that such statutes, regulations, policies, budgets, and plans have changed to materially affect the project carbon over the past 10 years, the policies outcomes that lead to the most conservative baseline carbon estimates should be used.” What does “conservative” mean in this case? It would help to define conservative, and explain the purpose of using a conservative estimate (to avoid underestimating the baseline, which would produce offsets that are not “real”?).

Another reason why Section 6 is hard to follow may be because the discussion of secondary effects (leakage) breaks up the coherence and flow of the discussion of primary effects (baseline estimation). MN DNR suggests consolidating the different baseline estimation sections for the different project types (sections 6.1.1, 6.2.1.1, 6.2.1.2, 6.3.1, 6.3.1.2) into a single section, and do the same for leakage, following the baseline section. Baselines and leakage are both complex topics; it would be helpful to separate them.

As a final comment on Section 6, it will be important to allow full review of the “Required Modeling Procedures” when they are drafted.

7.2. Insuring Against Reversals

Providing examples would greatly help explain both the flow of Climate Reserve Tonnes (CRTs) and dollars at project initiation, and following reversal.

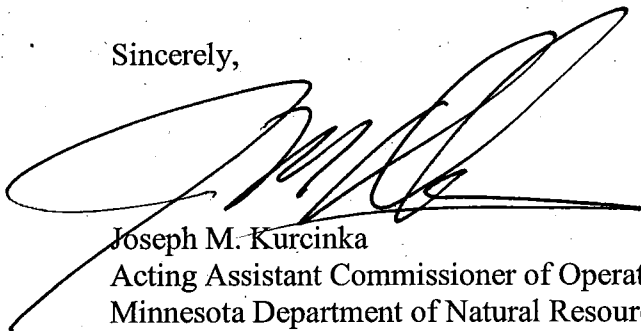
Is there any provision or plan for what would happen if the entire system-wide buffer pool was depleted? This is unlikely, but conceivable if a period of prolonged drought and severe fires occurred in an area where projects were concentrated.

Conclusions

In conclusion, MN DNR appreciates the hard work involved in producing this revision and the protocol that preceded it. Developing a credible and operationally efficient offset protocol for forest projects is a complex and important task. Minnesota DNR comments are intended to assist in building a revised protocol that strikes the right balance between these two goals of credibility and operational efficiency. MN DNR believes that meeting both goals is necessary to ensure broad participation.

Please keep us informed of future changes and opportunity to comment on this protocol. If you have any questions about our comments, contact please contact Dr. Jim Manolis (jim.manolis@dnr.state.mn.us) or Dr. Clarence Turner (clarence.turner@dnr.state.mn.us), MN DNR resource scientists and co-chairs of MN DNR's Carbon Metrics Team. Thank you.

Sincerely,



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Acting Assistant Commissioner of Operations
Minnesota Department of Natural Resources

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