Restore America's Estuaries' Blue Ribbon Panel

Wetlands GHG Offsets Protocol – Outline

February 17, 2010

Summary

The following provides an overview of issues to be addressed in order to develop a greenhouse gas (GHG) offsets protocol following the Climate Action Reserve (CAR) process. CAR has a standard procedure for determining additionality and GHG emission baseline for each category of projects. The following provides a brief background on what this entails:

The additionality test is the process for determining whether a project produces GHG emission reductions beyond those that would have occurred in the business-as-usual scenario. Only projects that are truly additional should be used to offset someone else's emissions; otherwise total GHG emissions will increase. Traditional offsets programs such as the Kyoto Protocol's Clean Development Mechanism (CDM) use a bottom-up approach whereby additionality is assessed on a project-by-project basis. This tends to slow down the approval process and opens the door for subjective assessments of additionality. Instead, CAR uses a top-down approach whereby it standardizes the additionality test up front by prescribing a performance standard that projects must perform better than in order to get credit. The performance standard could be in the form of a technology or efficiency standard or could be based on a common practice assessment to determine what is business-as-usual versus better-than-average practice in a given sector. Only activities that are deemed to be better-than-average would get credit.

The performance standard would normally be the same for all projects in the same region or country. In the case of wetlands projects, the performance standard would most likely be based on an assessment of what's common practice in terms of restoring and managing wetlands or avoiding wetlands loss. For example, if we determine that common practice in all, or some, regions of the U.S. is *not* to restore lost wetland areas to their former natural state but rather allow them to continue to deteriorate or be converted to agricultural or other uses then all wetlands restoration activities in that same area could be deemed better-than-average and therefore additional. Alternatively, it's possible that the performance standard could be defined according to the "state" of the wetlands under consideration. For example, according to the CAR Forestry Project Protocol,[1] reforestation projects can get credit if they take place on land that has had less than 10 percent tree canopy cover for at least 10 years. Perhaps there is a similar wetlands "vegetation" threshold that can be applied to determine whether wetlands restoration projects should be eligible. However, such analyses require good datasets on regional and national wetlands practices and management.

[1] Forest Project Protocol, Version 3.1
www.climateactionreserve.org/how/protocols/adopted/forest/development/

The GHG emission baseline represents carbon sequestration and GHG emissions that would have occurred if the GHG offsets project did not take place. The estimated emissions from this baseline can then be compared with the estimated emissions and sequestration from the project in order to derive potential GHG reductions from the project. To the extent possible, CAR also standardizes this process. The CAR Forest Project Protocol provides a good starting point for how this could be done for wetlands, and illustrates the complexity involved with estimating sequestration and emissions from such projects.

CAR Protocol Development: CAR develops protocols for project types that 1) result in direct GHG emission reductions and/or sequestration (versus for example indirect emission reductions achieved through reduced energy consumption in buildings, 2) are expected *not* to be governed by a future compliance program, 3) have a good potential for reducing/sequestering emissions, and 4) lend themselves well to development of a standardized protocol. CAR will be looking for input from the Panel on what types of wetlands projects have a significant potential for reductions at the national or regional level, the cost of various wetland project types, and the ease with which the additionality test can be standardized.

Outline of Issues to be Considered

1) Introduction
    a. Background on wetlands, carbon sequestration in soils and biomass, methane (CH_4) and nitrous oxides (N_2O) flux, and climate change

2) Wetlands project definitions and requirements
    a. Define a wetlands project
        i. Activities designed to increase removals of GHGs from the atmosphere or reduce or prevent emissions of GHGs to the atmosphere through increasing and/or conserving wetlands carbon stocks (adapted from CAR Forest Protocol)
        ii. We will need to define the universe of possible wetlands categories, considering distinguishing characteristics such as sequestration and GHG flux potential.
            1. e.g., freshwater, tidal marsh, mangrove
        iii. There are several categories of wetlands projects that could be considered, and we may want to recommend that CAR initially focus on those with the highest and immediate potential for reductions.
            1. Initial suggestions for categories with high reduction potential include managed freshwater tidal marsh (mfwtm) and salt marsh.
    b. Define project types
        i. Beyond defining the potential wetlands categories to focus on, there will also be a need to determine which project types are

relevant, including which ones would have the most significant and immediate potential for reductions. This categorization into project types will be necessary because additionality and baseline scenarios are likely to differ across each type of project activity. Likely categories that mirror the CAR forestry protocol include:

1. Wetlands creation
2. Wetlands restoration
3. Improved wetlands management
4. Avoided wetlands conversion
    - There may be less opportunities for this latter option because of the many existing federal, state and local regulations already prohibiting conversion of existing wetlands to other uses. However, one option for the Panel to consider is the avoidance of wetlands being converted from a vegetative to an un-vegetative state, which is currently occurring at a large scale in the Mississippi Delta. There could be a large potential for sequestration if this conversion trend were reversed. Potentially it could also fall under "wetlands restoration".

c. Define ownership
    i. The CAR protocol requires that there is a clear delineation regarding ownership of the claimed GHG offsets. The Panel can provide recommendations on how to treat ownership issues particular to wetlands projects, such as;
        1. Land side versus water side ownership

3) Eligibility rules and other requirements for determining whether a project can qualify for offsets credits
    a. Additionality
        i. Regulatory test
            1. CAR requires that projects cannot be required by existing laws and regulations because such projects would not be additional to business-as-usual. The Panel can help this process by outlining the types of regulations that are relevant for wetlands projects and that may make some projects non-additional.
            2. Is it possible to model a legal requirements baseline (similar to improved forest management projects)?
        ii. Performance test
            1. Following the CAR approach, projects must exceed common practice. Are there data sets that we can use to show that wetlands restoration and management is not common practice? This is where CAR has the strongest emphasis on standardized approaches. The program is based on the concept of developing standardized

approaches to determining common practice and thus testing for additionality.

b. Is there a difference for public versus private lands?
c. Project location
d. Project start date
    i. CAR has a firm start date policy which means that projects cannot start more than 24 months prior to the date of adoption of the protocol. However, the Panel can provide recommendations regarding what specific activity would constitute "start" of a project. This would likely differ for each project type (restoration, management, avoided wetlands loss, etc.)
e. Crediting period
    i. CAR usually makes an internal decision regarding the crediting period. For most projects CAR's crediting period is 10 years, but for forestry projects it is 100 years.
    ii. The Panel can assist by providing input on the normal life time and sequestration curve of a wetlands project, as well as quantifying risk over time that events may occur to reverse sequestration/reductions that have already been credited.
f. Natural wetlands management practices
    i. The CAR forestry protocols includes an eligibility criterion that projects must be using natural management practices that rely on native species only.
    ii. Is such a requirement necessary for wetlands projects? If so, can we define site/region specific practices for wetlands projects to ensure use of native species?

4) Identifying the area of the project to be assessed
    a. This normally refers to the project's geographic boundary which is typically defined by the activities involved in the project.
        i. Wetlands projects are unique as they can migrate over time. Can we provide recommendations for how to address this in the protocol?
        ii. How do we account for the potential expansion of wetland with sea level rise?

5) Defining a wetland project's GHG assessment boundary
    a. The GHG assessment boundary refers to the specific GHGs that are part of the project. CAR requires that all relevant GHG sources, sinks, and removals must be evaluated and considered for inclusion in the boundary. This would include CO_2, CH_4, and N_2O for wetlands, including emissions from fuel used for transporting sediments to the site of the restoration project.
    b. For each project type (restoration, creation, management and avoided conversion) we will need to list relevant and significant sources of GHG flux. CAR typically distinguishes these according to whether they are:

i. Primary sources (i.e., those that occur as a primary effect of project activities such as change in carbon stock and methane emissions)
ii. Secondary sources (i.e., those that occur as a secondary effect of the project such as shifting of agricultural production causing drainage of land elsewhere)
    1. The approach will differ depending on wetlands category and project type, and could include modeling, so we would need to develop methods for estimating/modeling secondary effects (sometimes also referred to as leakage). The CAR forestry protocol uses modeled estimates.

6) Quantifying net GHG reductions and removals
    a. To the extent possible, CAR uses standardized baseline and project quantification procedures in their protocols. However, similar to the CAR Forest Project Protocol, site-specific data can be used to inform baselines and will almost certainly be necessary for estimating project emissions. For each project type (restoration, creation, management and avoided conversion) we will need to consider options for quantifying:
        i. Baseline GHG flux
            1. Inventory of current carbon stock
            2. Forecast (likely modeled) projections of flux over 30-100 years
        ii. Project GHG flux
        iii. Inclusion of effects of nitrate pollution from adjacent agricultural land?
        iv. GHG emissions from energy used as part of project
        v. Other?
    b. We can probably draw on some of the baseline methods from the Forest Protocol.
        i. For example, avoided conversion projects may have a similar type of baseline but here it would be good to get input from the agricultural industry and others.
        ii. For improved wetlands management projects, can we develop a look up table that shows common practices at different wetlands categories/regions?

7) Ensuring the permanence of credited GHG reductions and removals
    a. Definition of a reversal, which would occur if the carbon stored as a result of the project is released back to the atmosphere, for example, due to fire, insects, hurricanes, or sea level rise. In the CAR Forest Project Protocol, the permanence requirement is met if the carbon is stored for at least 100 years. Could a similar requirement be applied to wetlands projects?
    b. CAR distinguishes between the following types of reversals:
        i. Avoidable
            1. CAR defines this in terms of “intentional” and “unintentional” reversals and has different policy

mechanisms to address each situation. We can help by defining the possible types of avoidable reversals that could occur during the life of the wetlands project, quantify their impact, and suggest how they may be mitigated.

2. How should the project developer be held liable for any such reversals? The CAR Forestry Protocol requires that project developers sign a contractual agreement with CAR that ensures they pay back all credits (or Climate Reserve Tonnes – CRTs) issued to date if they terminate the project before 100 yrs or pay back all intentional reversals during the project. Also, if carbon stocks fall below the baseline during the project, it could be terminated. Ultimately CAR will define an approach for any future wetlands protocols, but the Panel could provide recommendations for how to hold developers liable.

ii. Unavoidable

1. Could include sea level rise, disease, extreme weather events, or…
2. Are there methods for accounting for/predicting the risk and effects of such reversals?
3. CAR could develop a credit buffer to address such reversals. The Panel could explore the key question here, which is how to develop a methodology to assess risk and assign an amount of credits (CRTs) to contribute to the buffer pool based on this risk.

8) Project monitoring (this refers to internal monitoring by the project developer to demonstrate that the claimed reductions have really taken place)
    a. The Panel can assist here by suggesting standardized monitoring procedures for each project type/category; i.e., what are the monitoring points, frequency, equipment, models, and procedures that should be used for each project category?

9) Verification that the claimed reductions did in fact take place. This involves verification by a third party entity (i.e., an organization that is independent of the project developer) that the reported reduction activities did occur and that the GHG emission benefits were accounted for correctly. CAR provides a list of pre-approved verifiers that a project developer can contract with to obtain the verification statement. The verifier looks at monitored data and conducts at least one site visit to complete this process.
    a. CAR has a standard verification process that applies to all protocols. However, the Panel could discuss verification as it relates to what needs to be monitored for wetlands projects and how feasible it makes certain verification steps.

10) Consideration of Project Impacts under California's Environmental Quality Act

a. The California Air Resources Board may eventually adopt all CAR's voluntary GHG offsets protocols for use under California's mandated cap-and-trade program. In that case, all the projects would be subject to California's Environmental Quality Act (CEQA). The Panel could assist CAR to prepare for this by identifying impacts that could surface for the assessment of wetlands projects, and ways to address/avoid these.

11) Appendices
    a. These would normally describe the models, quantification methods, data sets, inventory methods, or emission factors used in the protocol.
    b. Following are examples drawn from the CAR Forestry Protocol
        i. Developing an inventory of wetland project carbon stock
        ii. Modeling carbon stock/GHG flux
        iii. Determination of a wetland project's reversal risk rating
        iv. Common practice assessment areas