Frequently Asked Questions

1. How will this methodology be used?

   It is envisioned that Project Proponents in the Sacramento-San Joaquin Delta, the San Francisco Estuary and on the coast of California will use the methodology to financially benefit from reducing greenhouse gas (GHG) emissions by accessing carbon markets through conversion of land to wetlands and rice. We also envision that Project Proponents will follow the ten steps listed in the Framework Module (see p. 20).

2. Does the methodology provide guidance for wetland construction, rice cultivation or implementation of methods for quantifying GHG emissions reductions?

   This methodology does not attempt to provide guidance or applicability criteria for wetland construction, restoration or rice cultivation or project-specific implementation of guidelines and methodologies presented here. These activities require the expertise of designated experts such as but not restricted to certified wetland scientists, agronomists, hydrologists and civil and environmental engineers. The methodology assumes the Project Proponent has or engages the necessary expertise and requires that the activities implemented under this methodology comply with all applicable regulations.

3. What is the basic structure of the methodology?

   The methodology is presented in a modular form. There is an overarching framework module that provides background, the overall structure of the methodology, interconnectedness of project and baseline conditions and the general procedure for assessment of the project net greenhouse gas benefit. Methods and baseline and project scenario modules provide direction for quantifying baseline and project GHG emissions and removals and determining the net GHG emission reduction benefit.

4. What are the sources of GHG emissions that will be reduced as the result of implementation of this methodology?

   A key area for potential application of the methodology is the Sacramento-San Joaquin Delta where oxidation of organic soils currently releases an estimated median of about 7 tons of CO2 per acre per year. Managed non-tidal wetlands and rice on these soils have been shown to mitigate these GHG emissions and result in a net reduction in GHG emissions and carbon sequestration.

5. What are the primary benefits of converting agricultural land to wetlands in the Delta?

   Where there are organic soils in the Delta, there is subsidence due to oxidation of organic matter which has resulted in island surface elevations up to 25 feet below sea level. Subsidence has

increased the vulnerability of Delta islands to flooding due to levee failure. Creating managed wetlands on subsided islands stops and reverses the effects of land subsidence and can reduce vulnerability over the long term.

6. What is leakage?

   Leakage is an increase in in GHG emissions outside the project boundaries that occurs because of the GHG project action. For example, if wetlands displace agricultural crops from the Delta to other places, this may result in a net increase in GHG emissions. This is defined as market-effects leakage and is transmitted through market forces; a supply reduction can result in an upward pressure on price that may incentivize increased production and shifts in cropping patterns elsewhere. Project The American Carbon Registry requires Project Proponents to assess, account for, and mitigate for leakage above de-minimis levels of 3%.

7. How is leakage treated in this methodology?

   For the activities included in this methodology, the only market-effects leakage would result from replacement of crops currently grown in the Delta by wetlands and rice. All other project scenarios need no further leakage analysis because market forces that may cause GHG leakage only operate where lands are currently in agriculture. As part of this methodology development, a leakage analysis was conducted for replacement of traditional crops in the Delta with wetlands and rice. First an economic analysis was conducted to determine how crop acreages statewide would be affected by Delta land conversion during the next 30 years. Next, the estimated the change in the greenhouse-gas warming potential was estimated as the result of varying crop-area changes. The report describing the results is included as a supplementary document in the methodology. We concluded that for managed wetlands and rice projects implemented on Delta agricultural lands that include less than 35,000 acres of crop land or 10,000 acres of pasture, no leakage deduction is required. Additional leakage analysis is required when wetlands and rice acreage in the Sacramento-San Joaquin Delta exceeds these acreages or within 5 to 10 years into the future as economic forces change.

8. What about leakage effects in other areas besides the Delta?

   It can be reasonably assumed that market forces will only operate where lands are currently in agriculture. Also, the methodology states that: "Project Proponent muse insure and verify that the project activity will not result in a reduction of wetland restoration activities, GHG removals or increase wetland loss outside of the project boundary." Moreover, the methodology does not permit activities that diminish the ecological value of project or non-project lands. Also, the planting of non-native species is prohibited.

9. How can a Project Proponent quantify GHG emissions reductions and receive payment for these emissions reductions?

   The Methods Module explains and provides references for estimating baseline emissions and quantifying emissions reductions for project scenarios and the Framework Module explains how to

calculate Emission Reduction Tons (ERTs) that can be traded in the voluntary carbon market. The ERTs require verification by the third party and certification by the American Carbon Registry before they can be traded.

10. Can a Project Proponent aggregate multiple project areas?

    Aggregation is allowed for all project activities. The Project Proponent serving as aggregator for a Program of Activities (PoA) can develop a GHG Project Plan covering the entire PoA as well as the first Cohort of Project Participants. The GHG Project Plan shall define the project boundary and baseline criteria encompassing the initial Cohort of fields, producers or facilities, and should be written broadly enough to encompass new Cohorts anticipated to be added in the future. The GHG Project Plan will specify project boundaries (geographic, temporal, and the GHG assessment boundary), a baseline scenario, and a monitoring/verification plan for the entire PoA, i.e. for the initial and future Cohorts.

11. Why is the project term only 40 years for project term, when radiative forcing calculations for emitted gases are usually estimated for 100 years of time?

    The methodology was written for the voluntary market which currently uses a minimum of 40 years within the American Carbon Registry which currently allows Project Proponents to sell to entities that may want to voluntary purchase offset credits. For the California compliance market in which regulated entities are required to reduce GHG emissions or purchase offset credits, it will likely increase to 100 years.

12. If the measurement period is 40 years, how are the soil carbon stock changes going to be measured throughout the period? In the beginning there will be great changes in both carbon fluxes and soil development. How exactly will total carbon stocks be estimated through time?

    Project proponents are required to report the cumulative carbon stock changes during the reporting period. Certainly during the reporting period, carbon stock changes will vary but the bottom line is the cumulative change.

13. What about collateral water quality effects such as aqueous loads of methyl mercury to adjacent channels?

    The methodology prohibits management activities that will lead to degradation or adversely affect fish populations in Delta channels. Experience with pilot wetlands and rice in the Delta has demonstrated that, with hydrologic management that restricts surface and subsurface drain flow and/or recirculates drainage water, these projects will not result in excess loading to surface water bodies relative to baseline conditions.

14. Can Project Proponents receive credits retroactively for projects that were initiated prior to approval of the methodology?

Projects with a Start Date of January 1, 2000, or later are eligible to receive offsets retroactively, if they can demonstrate that GHG mitigation was an objective from project inception and carbon stock changes can be documented adequately. The project Start Date is defined as the day Project Proponents began activities to increase carbon stocks and/or reduce GHG emissions.

15. What is addiitonality and how does apply to projects developed under this methodology?

    Emission reductions achieved by a Rice Cultivation or Wetland project must be additional in that it must be demonstrated to exceed those likely to occur in a conservative business-as-usual scenario. For this methodology, practice based performance standards for the three project scenarios (managed and tidal wetlands and rice) are utilized in specific geographic areas. Because these activities are not common practice, they are considered additional.

16. Can models be used to estimated GHG emissions reductions?

    Yes. For this methodology, models must be: documented in the peer-reviewed literature; validated in the Project Area or similar sites using peer-reviewed or other quality controlled data; parameterized using peer-reviewed or other quality-controlled data appropriate to each identified strata; able to effectively simulate GHG emissions and removals and carbon stock changes for baseline and project conditions. Use of models shall be conservative in estimating GHG emission reductions.

17. How are Project Proponents required to address risks to the project?

    Wetland and rice projects in the San Joaquin Delta and San Francisco Estuary have the potential for termination or GHG reductions and removals to be reversed when a project is subject to flooding, damage from wild fires, erosion; or intentional reversals or termination, such as landowners choosing to discontinue project activities before the project minimum term has ended. Wetland offsets are inherently at some risk of reversal or termination.

    To assess the risk of reversal or termination, the Project Proponents shall conduct a risk assessment addressing internal, external and natural risks using guidance provided in the most recently ACR approved risk assessment tool. Internal risk factors include project management, financial viability, opportunity costs and project longevity. External risk factors include factors related to land tenure, community engagement and political forces.

    The output of ACR approved risk assessment tool is a total risk rating for the project which equals the percentage of offsets that must be deposited in the ACR buffer pool to mitigate the risk of reversal or termination (unless another ACR approved risk mitigation mechanism is used in lieu of buffer contribution). The Project Proponents shall conduct this risk assessment and propose a corresponding buffer contribution (if applicable). The risk assessment, overall risk rating, and proposed mitigation or buffer contribution shall be included in the GHG Project Plan.

18. There is substantial spatial variability in GHG emissions reductions within wetlands. How will Project Proponents be required to account for this uncertainty?

Project Proponents can divide the project area into strata in which hydrologic, ecologic and management factors that affect variability are relatively constant in space, such that spatial variability in the uncertainty in the mean for estimated carbon stock changes is equal to or less than 10% at the 90% confidence level. If the uncertainty in the mean is greater than 10%, a portion of the project GHG reductions are discounted as per equations in the Uncertainty and Framework modules.

19. Can a Project Proponent claim offset credits when the project is intended to create mitigation habitat for other purposes?

    This is known as stacking and is currently not allowed within the methodology.