Rice Cultivation Project Protocol
Summary of Changes from Version 1.0 to Version 1.1

In addition to the incorporation of previously issued errata and clarifications, as well as minor editorial changes, the Rice Cultivation Project Protocol Version 1.1 incorporates the following significant changes from Version 1.0.

- Clarified the field boundary definition to more clearly define "homogenous management." In particular, added additional guidance on homogenous fertilizer and residue management, as well as clarified that fields not meeting the criteria for homogenous field boundary must be subdivided into smaller homogenous units but are still eligible. Added requirement that verifiers use professional judgment to determine whether fields meet field definition (Section 2.2.1).

- Added a new section defining the cultivation cycle (Section 2.2.2).

- Clarified that all project developers implementing projects on leased lands must notify the land owner with a Letter of Notification of Intent to Implement a GHG Mitigation Project (Section 2.3).

- Updated the guidance on aggregates, including how a field enters a new aggregate (Section 2.4.2).

- Reduced the depth to which Soil Organic Carbon (SOC) must be measured in order to determine eligibility, from 30 cm to 10 cm (Section 3.1.2).

- Clarified that fields using nitrification inhibitors, urease inhibitors, and controlled release fertilizers are not eligible at this time (Section 3.1.3).

- Clarified that the pre-project baseline for the initial crediting period shall be retained for subsequent crediting periods (Section 3.3).

- Clarified the anaerobic baseline eligibility requirements by providing additional guidance on baseline years where the field was fallowed or not flooded due to drought conditions (Section 3.4).

- Clarified that project aggregators must submit a new Attestation of Voluntary Implementation prior to commencement of verification activities whenever a new field has joined the aggregate (Section 3.5.2).

- Clarified circumstances under which fields that receive (or have previously received) NRCS funding for rice cultivation activities are eligible (Section 3.5.3; Table 3.2).

- Updated language on Regulatory Compliance to reflect the Reserve's Environmental and Social Safeguards Policy adopted on September 27, 2012 (Section 3.6).

- Added a GHG Assessment Boundary diagram (Figure 4.1).

- Implemented a significant reorganization of Section 5. In general, detailed requirements for application of the DNDC model were moved to (and expanded upon) in a newly created Appendix B. The remaining guidance in Section 5 was expanded upon and reordered in chronological order. A new Table 5.1 was introduced, providing a summary of quantification steps (Section 5, Appendix B).

- Added new section on defining the reporting period and clarified that fields in an aggregate must report emission reductions under the corresponding aggregate uniform reporting period, even if dates of the cultivation cycle and reporting period do not completely overlap (Section 5.1).

- Added new section on baseline modeling inputs, clarifying how to set baseline data inputs, for the first and subsequent crediting periods (Section 5.2).

- Added a new section on deriving cultivation cycle emissions from calendar-year modeling results, which clarifies that, because the DNDC model operates on a calendar year, two calendar years must be modeled for each cultivation cycle (Section 5.3).

- Updated guidance on how to extract parameters from the DNDC Monte Carlo results, so as to calculate emissions in the baseline and project scenarios (Section 5.4.1).

- Clarified that the appropriate SOC parameter to extract from the model's Monte Carlo runs for use in Equation 5.2 is the average of SOC values for the last day of the cultivation cycle (Equation 5.2).

- Consolidated the guidance in Sections 5.4 and 5.5 (and Equations 5.2 and 5.3) on modeling baseline and project emissions respectively, into a single section (and single equation) (now Section 5.4.1 and Equation 5.2).

- Divided Version 1.0's Equation 5.4 into two distinct equations to allow for the project developer to calculate the total primary effect emission reductions in a separate step (Equation 5.3), prior to adjusting for uncertainty (Equation 5.4). Equation 5.4 also introduces a new parameter PER_{ud}, so as to distinguish between total primary effect emission reductions adjusted and unadjusted for uncertainty (PER_{ud} and PER_i, respectively).

- Updated guidance on calculating both structural uncertainty of the model and the soil input uncertainty (Section 5.4.3, Appendix B, Step 4.1, and Step 5).

- Clarified that emissions from cultivation equipment need not be quantified if there is no change in the type or hours of cultivation equipment usage due to implementation of the project (Section 5.5.1).

- Provided an optional alternate quantification method for calculating emissions from cultivation equipment (now called "Approach 1," Equation 5.5) and renamed the existing quantification method "Approach 2," Equation 5.6 (Section 5.5.1).

- Clarified that leakage emissions do not need to be quantified if total project area yields did not decrease compared to the average historic rice yield for the same area (Section 5.5.3).

- Provided additional guidance in leakage methodology on how to address fallow years, reordered the leakage methodology steps, and added a new equation to delineate the process to normalize yields for a single-field versus aggregate project (Section 5.5.3; Equation 5.8).

▪ Added a new section and new equation to provide guidance on calculating the change of SOC in the baseline cultivation cycle for the purposes of quantifying leakage emissions (Section 5.5.3.1, Equation 5.10). Also updated the SOC aspects of the original leakage equation (now Equation 5.9 in Section 5.5.3).

▪ Updated Table 6.1 guidance on DNDC input parameters, and to update measurement frequency for numerous parameters. Table 6.1 was also reorganized to better match the DNDC GUI layout and parameters no longer used by DNDC in the protocol were removed. Introduced new Table 6.2 with guidance on field monitoring parameters used in protocol equations.

▪ Clarified that all DNDC output files must be retained for record-keeping purposes (Section 7.3), as well as made available to verifiers (Section 8.1).

▪ Revised Section 7 to clarify different requirements of project submittal versus annual reports and documentation. Added a requirement that all fields in an aggregate must submit an annual Field Report to their aggregator for each cultivation cycle (Section 7.2.3).

▪ Clarified that the List of Enrolled Fields must be updated to include all fields enrolled in an aggregate prior to commencement of the conflict of interest review (Section 8.1).

▪ Updated summary verification items tables in Section 8 to reflect changes made elsewhere in the protocol.

▪ Created a new Appendix B, which serves as a step-by-step guide to modeling RCPP emissions using DNDC. This new Appendix B is in addition to what was previously included as Appendix B in Version 1.0, the "RCPP Quantification Guide," which is now included as Appendix C in Version 1.1.