Nutrient Management Project Protocol (NMPP)

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Workgroup Meeting # 4

October 25, 2011

11 – 1 pm PDT

Agenda

- Timeline Update
- Aggregation in the RCPP
- Credit Stacking Subcommittee Update
- Science Advisory Committee Outcomes
- Update on Background Research
- New Idea for Development of Quantification Approaches
- Next steps

NMPP Development Progress

Methodology Synthesis Paper	May 6, 2011
Workgroup Meeting 1 (conference call)	May 18, 2011
Workgroup Meeting 2 (conference call)	June 27, 2011
Background Paper Completed	July 18, 2011
Draft protocol to workgroup	July 27, 2011
Workgroup Meeting 3 (Los Angeles)	August 1, 2011
Science Advisory Committee Meeting (Los Angeles)	September 7, 2011
WG Meetings 4 (conference call)	October 25, 2011
Second Phase of Background Research	Completed ~ end of October
WG meetings 5+	TBD
Science Advisory Committee (conference calls)	TBD
Revised protocol & start of 30-day public comment period	April 2012
Public workshop	April 2012
Protocol adoption by Reserve Board	June 27 2012

Subcommittees

Credit Stacking Subcommittee	
Meeting 1	July 12
Meeting 2	August 10
Meeting 3	September 22
Meeting 4	early November
Methodology Subcommittee	
Meeting 1	August 15
Meeting 2	October 12
Aggregation Subcommittee	
Meeting 1	August 17
Meeting 2 *(will be reviewing RCPP aggregation rules)*	Scheduling in process: early November

Aggregation

- Significant progress made on aggregation methodology in draft Rice Cultivation Project Protocol (RCPP)
  - Out for public comment
  - Informed by NMPP Aggregation Subcommittee
- Aggregation in Rice will be the basis for aggregation in NMPP (unless major concerns raised)
- We asked the NMPP Aggregation Sub-Committee to meet to discuss aggregation rules in the RCPP

Terminology

- Aggregator (same role as “Project Developer”)
  - A corporation or other legally constituted entity, city, county, state agency, agricultural producer, individual, or combination thereof
  - Must have an account on the Reserve (replaces Project Developer Account)
  - Official agents to the Reserve on behalf of participants in a project aggregate
  - Ultimately responsible for submitting all required forms and complying the protocol.
  - Manages the flow of monitoring and verification reports to the Reserve and may engage in other project development activities such as developing monitoring plans, modeling emission reductions, managing data collection and retention etc..
  - Has authority to develop their own internal monitoring, reporting, and other participation requirements for individual fields as they deem necessary.
  - Has discretion to exclude individual fields enrolled in their aggregate from participating in verification activities for any given reporting period (can be no CRTs claimed by those fields in the aggregate total)

Terminology

- Project Participant
  - Agricultural producer who elects to enroll fields in a project aggregate
  - Must be responsible for making management decisions for crop production on the fields they are enrolling in the project
  - Are **not** required to hold an account on the Reserve

Terminology

- Project Aggregate
  - Minimum of 5 fields (specific to RCPP, related to minimum uncertainty levels)
  - No upper limit on the total number of fields or acres enrolled in a project aggregate
  - Limits on size of a single field in relation to total combined acreage in the aggregate

Aggregate Size (acres)	Max Percent of a Single Field
Up to 1000	33%
1001-5000	25%
5001-10000	15%
10001 +	7.5%

  - Three categories (important for verification activities)
    - Small aggregate: 10 fields or less
    - Large single-participant aggregate: >10 fields, all from a single Project Participant
    - Large multi-participant aggregate: > 10 fields, from multiple Project Participants

Mechanics of Aggregation

- Each field has unique start date
- Fields may join aggregate at any time provided they meet requirements of most current protocol version at entry
  - Eligibility Criteria applied at the 'field' level
- Each field is eligible for 5 continuous cultivation cycles ("crediting period")
- Possibility for multiple crediting period, but we would have to ensure that any new performance standards are met
- Fields cannot change aggregates, except
  - When re-enrolling in subsequent eligibility period (if this is an option)
  - In special circumstances, such as when an aggregator goes out of business, or when a field's management control changes and the new manager has fields enrolled in another aggregate
- No crediting period limit on an aggregate

Clear Ownership of CRTs

- Aggregator must have legal ownership of GHG emission reductions that occur at each field
- Unambiguous ownership of GHG rights can be tricky, given the multiple parties involved (Aggregators, tenant farmers, land owners)
- Aggregator must sign “Aggregator Attestation of Title” attesting they have legal claim to GHG reductions from all fields in the aggregate (similar to other Reserve projects)
  - Aggregator ensures appropriate contracts in place with Project Participants and land owners to transfer GHG rights to the Aggregator
- Aggregator must also inform land owner with a “Letter of Notification of the Intent to Implement a GHG Mitigation Project”
- Verifier reviews contracts and notification to land owner as part of verification

Verification of Aggregates

- Field Monitoring Reports required from all fields each verification/reporting period – submitted to aggregator.
- Verification activities occur on a **random sample** of fields
  - Some fields selected to receive site visits
  - Some fields selected for desk audits of field monitoring reports
  - The rest do not undergo verification activities for that reporting period
- Different sampling designs for each category:
  - Small aggregates somewhat more intensively sampled
  - Both types of large aggregates, sample size is non-linear (larger aggregate, fewer samples proportionally)
  - Large multi-participant aggregates, sampling stratified by participants

- Questions or thoughts about the aggregation rules in RCPP?
- Any concerns with using similar approach in NMPP?

Credit Stacking Subcommittee Objectives

- To provide options and make recommendations to the Reserve and the NMPP workgroup on policies to address:
  - credit stacking: establishing more than one credit type for a single management activity on spatially overlapping areas
  - payment stacking: establishing credits for a single management activity that also receives funding from the government or another third party
- Help inform Reserve's overarching policies on stacking

Addl. Terminology

- **Vertical stacking**: when a project receives multiple payments simultaneously for a single management activity on spatially overlapping areas

- **Temporal stacking**: when a project receives multiple payments for a single management activity on spatially overlapping areas, but the payments are separated in time

Progress to Date

- Identified potential stacking opportunities:
  - Credit stacking with water quality trading programs
  - Payment stacking with USDA NRCS EQIP and CSP
- Focus on payment stacking until eligible BMPs and focus regions are finalized
  - USDA NRCS allows the sale of environmental credits from enrolled lands
  - Try to assess whether BMP implementation is “demand constrained” or “supply constrained”
- Recommendation to not allow temporal stacking

Stacking Policy in Draft Rice Protocol

- EQIP payment available for residue baling in CA
- No credit stacking opportunities identified
- Proposed to allow *vertical payment stacking* if PD simultaneously pursues EQIP funding and project registration
- "Simultaneous" = EQIP application first submitted within 12 months of project submittal to Reserve for same cultivation cycle
  - Only two farmers have received funding for baling
  - Temporal stacking or any other kind of stacking are not eligible

- Questions/comments about credit stacking?

Science Advisory Committee

- Committee of scientist with recognized expertise and research track record in agricultural nitrogen management met at the Reserve on Sept 7, 2010 to discuss the NMPP
- Three main questions guided the meeting discussion:

1. What is the “scientific validity” of providing GHG mitigation credits for various nitrogen management activities?
2. Which greenhouse gas (GHG) sources, sinks and reservoirs (SSRs) must be quantified to accurately and conservatively assess the net effect of a change in nutrient management practice on GHG emissions?
3. What is a scientifically valid, economically practical, and ultimately verifiable approach to quantifying GHG reductions from nitrogen management offset projects (considering specifically four existing approaches established in other similar offset protocols or GHG accounting tools)?

SAC Outcomes

- "Nitrogen" is more accurate than "Nutrient" management
- Narrowed list of practices (next slide)
- Some refinement of GHG boundary
  - Soil C is not necessary to include in GHG boundary
  - Indirect N2O emissions are important to quantify (IPCC Tier 1 is best available)
- Direction on quantification approach
  - Concerns about only using Tier 3 (DNDC) for direct N2O emissions
  - Encouraged development of Tier 2 and Tier 3 only where well-developed
- Need an objective "data standard" to evaluate methods (has also come up in WG and MSC discussions)
- Important to consider accuracy of emission reductions, not just absolute emissions estimates
- Protocol should be flexible to incorporate best available methods
- May be opportunity to coordinate with USDA process

Potential Practices

✔✔ SAC Yes

✔ SAC Maybe

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- Reducing amount of N applied ✔✔
- Avoiding losses of supplied N
  - Increasing the number of N applications
  - Switching from fall to spring N application ✔✔
  - Applying N closer to the root system (placement of fertilizer) ✔
  - Using Variable Rate technologies and precision farming
- Reducing the conversion rate of supplied N to N2O
  - Use of nitrification and urease inhibitors ✔✔
  - Changing fertilizer composition (anhydrous ammonia to urea) ✔✔
  - Using slow-release fertilizer ✔
  - Supplying N in organic form through manure, or legume incorporation
- Scavenging residual N
  - Adding N scavenging cover crops ✔
  - Adding deep rooting plants to the rotation

SAC Follow-up

- Have reviewed SAC outcomes with MSC
  - MSC may have further questions for SAC
- Will finalize and post meeting report in early Nov
- Continued SAC involvement in review of protocol elements via email and webinar

- Questions/comments/suggestions about SAC meeting, process, outcomes?

Background Research Update

- Quantification Approaches
  - Developing 2 case studies comparing calculated to measured N2O data using different approaches: CA tomato (conventional vs. integrated system) and NCR corn (fertilizer type)
    - MSC has seen preliminary results and given feedback
    - Will wrap up soon in a short supplemental report to original background paper
    - Purpose: provide examples that make concrete the differences in quantification approaches
  - Prototype criteria and standards for the development of quantification approaches (includes “data standards”)
- Performance Standard Development
  - Been on hold while we focused on quantification methodology
  - Next step is to develop sample PS thresholds for N rate and/or N use efficiency using multiple data sources, for CA and NCR

New Idea:
NMPP Quantification Approaches

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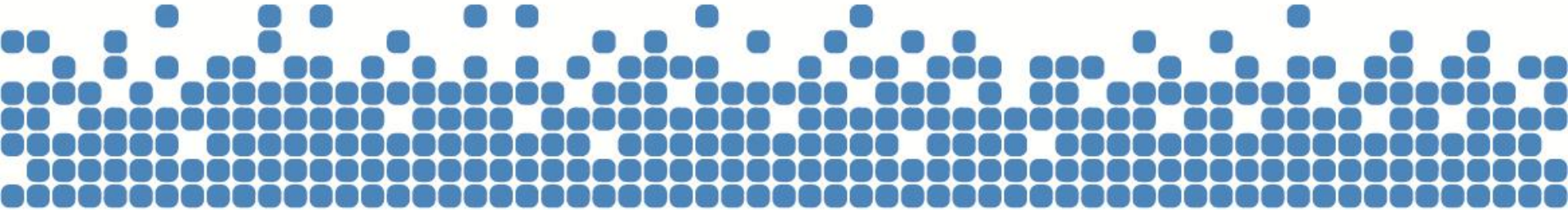
- Quantification approaches (Tier 2 or 3) would be developed for each unique type of management system
- Reserve will develop some approaches to populate NMPP v1.0
- External submissions for new quantification approaches may also be considered by the Reserve for inclusion in NMPP on an ongoing basis after NMPP is adopted
- Provides a way to cover a wide diversity of possible management systems while applying uniform/consistent standards
- Incentive for people to develop existing data into Tier 2 approaches or use data to validate Tier 3 approaches
- Allow for flexibility to incorporate new data as it becomes available, e.g., 2 year CA N2O study specifically designed for helping offset protocols



Prototype criteria and standards for quantification approaches

- Defines required components:
  - A description of the project activity/ies that are covered
  - A set of applicability conditions that must be met to use the quantification approach. (e.g. conditions that are related to geographic characteristics, soil type, cropping system, or any other relevant feature)
  - Equations to calculate N2O emission reductions
  - Approach to calculate uncertainty deductions
  - Parameters that must be monitored
- Provides clear and operational minimum standards for validating quantification approach and for affirming quality of reference data
- MSC has reviewed and will provide comments soon
- Will ask the SAC to review as well

- Questions/comments on this idea for developing quantification approaches
- Detailed questions or comments on the draft prototype? (time permitting)

Next Steps

- Encourage you to submit comments on the RCPP
  - Due November 11, 2011
- NMPP
  - Finalize background research on quantification approaches
  - Refine criteria and standards for quantification approaches
  - Begin internal development of quantification approaches
  - Performance standard research (next High Priority)
- Next WG call in January

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Thank you!