

Registry Update

Aggregation & Verification



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Reserve Agriculture Protocols



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- Rice Cultivation Project Protocol
 - Version 1.1 (June 2013)
- Nitrogen Management Project Protocol
 - Version 1.1 (January 2013)
- Livestock Project Protocol
 - Version 4.0 (January 2013) – *voluntary market only*
 - ARB Compliance Protocol for Livestock Projects (based on CAR v3.0)
 - ARB Early Action Protocols – CAR v1.0 through v3.0

Reserve Agriculture Protocols

- Mexico Livestock
 - Version 2.0 (September 2010)
- Organic Waste Digestion
 - Version 2.0 (June 2011)
 - Version 2.1 out soon
- Organic Waste Composting
 - Version 1.1 (July 2013)



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Agriculture Protocols: Next Steps

- Currently scoping to determine whether to move forward with NMPP protocol expansion (results by end of 2013):
 - Case study with CO corn data being used to assess the minimum data standard.
 - Internal evaluation of the USDA N₂O Methodology
 - Developing the Data Standard in Appendix D of NMPP into a stand alone document and data submittal process
 - Reconvening the Reserve's Science Advisory Committee
- Seeking funding to develop Grasslands Soil Carbon Project Protocol



Aggregation & Verification: Reserve Approaches

- Aggregation
 - Goals: cost reduction and risk/uncertainty distribution
 - Introduced through Forest, refined through Rice and then Nitrogen Management
- Verification
 - Introduced for entity GHG inventories, refined through offsets program
 - Goals: risk reduction and offset quality assurance
 - Unfortunately expensive. Changes to reduce costs must be weighed against negative impacts on risk or offset quality



Verification of Aggregates: Rice & Nitrogen Management

	RICE	NITROGEN
Small aggregates	Up to 10 fields	Up to 20 fields
	2 SV/field/CP, 20% ann.	1 SV/field/CP, 20% ann.
Large single-participant aggregate	>10 fields managed by a single grower	>20 fields managed by a single grower
	SV = $\sqrt{\text{Fields}}$ (annually)	SV = $\sqrt{\text{Fields}}$ (annually)
Large multi-participant aggregate	>10 fields managed by more than one grower	>20 fields managed by more than one grower
	minsV = $\sqrt{\text{Fields}}$ (sample first PPs, then subset of their fields)	SV = 5% min (up to 15%); highly risk-based.
Sampling	Random	Combination of Random and Risk-Based (informed by CSNT)



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Aggregation & Verification: Forest Protocol

- Every project must undergo a site-visit upon joining the aggregate.
- Individual projects must meet all requirements of the protocol, including annual monitoring report
- 90% Confidence level for aggregate (not projects)
- Targeted sampling error on a sliding scale:
 - 7% for 2 projects
 - Up to 20% for 15 or more projects
- Site Visits: 50% within 6 years; 100% within 12
- Desk Audit: annually $\sqrt{\text{# of Projects in Agg}}$

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