

Aggregation in the Climate Action Reserve

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Aggregation Objectives

Limited Aggregation



Integrated Aggregation

- Risk Pooling
 - Non-performance, reversal risk, carbon price, opportunity costs, etc.
- Economies of Scale
 - Management & legal costs
 - Measurement costs and/or uncertainty deductions
 - Verification costs
- Streamlined Requirements
 - Additionality and/or baseline determinations
 - Leakage estimates
 - Permanence requirements

Project Based



Sectoral



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Active & Passive Elements

- Active
 - Agent (“aggregator”) acts on behalf of projects to pool risk, reduce transaction costs
- Passive
 - Program designs rules to progressively lessen burdens on individual projects the more projects are enrolled
 - Within aggregates; or
 - Across whole program



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Forest Protocol Aggregation

- Project Aggregate = multiple projects owned/managed by one or more forest owners
 - All project types can participate in aggregates
 - No upper limit on number of participating projects
 - Each forest owner may cumulatively enroll up to 5,000 acres in aggregate(s)
 - No single project may comprise more than 50% of total combined acreage in an aggregate
 - Projects may choose to enter and leave aggregates at will



Quantification Benefits

- With more projects, fewer sample plots are needed per project to achieve the same level of (overall) confidence in carbon stock estimates

Number of Participating Projects in the Aggregate	Target Sampling Error* (TSE)
2	7%
3	8%
4	9%
5	10%
6	11%
7	12%
8	13%
9	14%
10	15%
11	16%
12	17%
13	18%
14	19%
15+	20%

* TSE applied to each project's carbon inventory



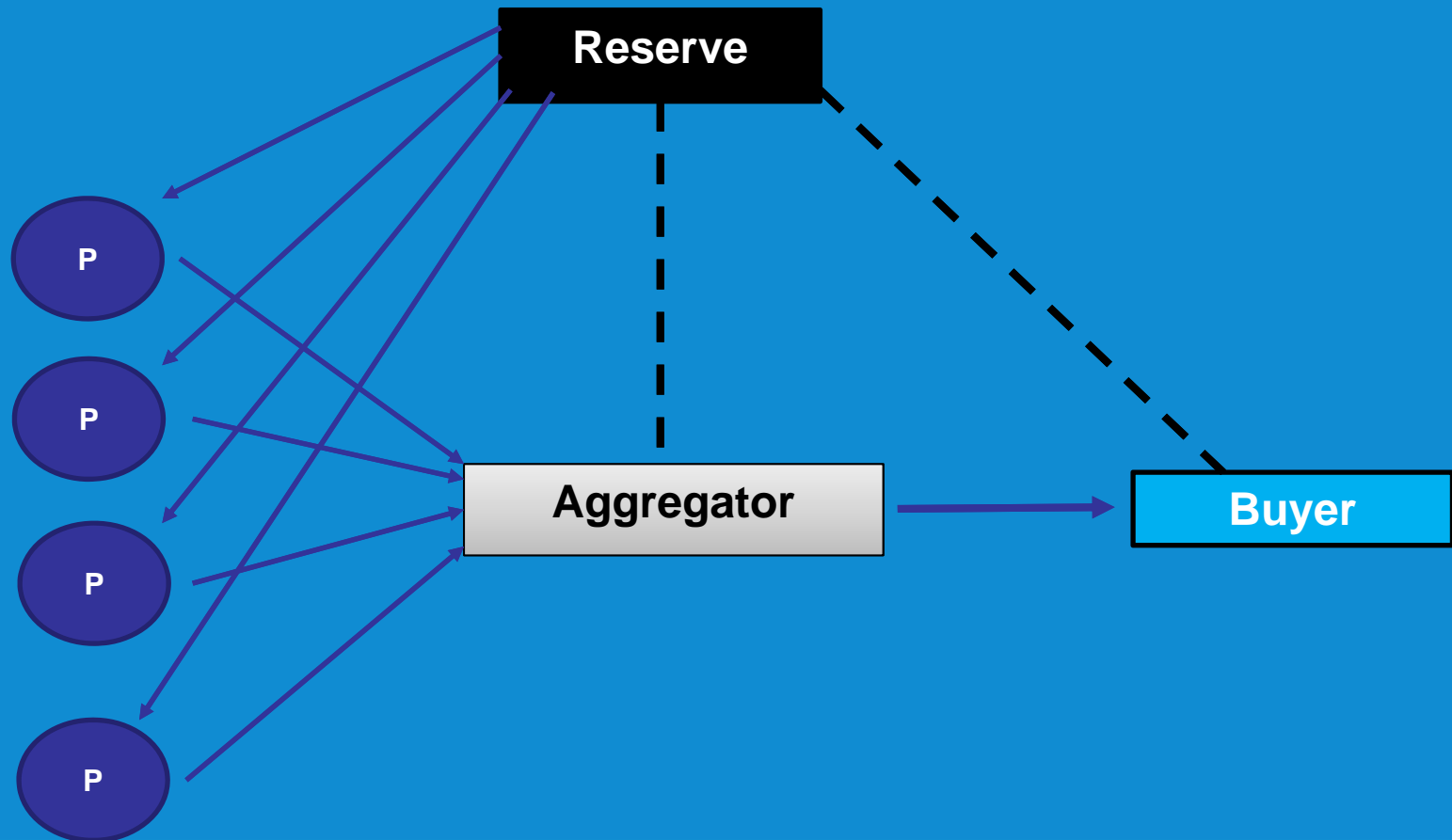
CRT Issuance & Ownership

- Projects must register individually and each forest owner must:
 - Separately sign PIA contract & attestation of title
 - Maintain an administrative account
- CRTs are issued to forest owners, but may only be transferred to third parties by the aggregator
- Aggregators may assist landowners in preparing documentation, but ultimate responsibility for meeting protocol requirements lies with landowners

CRT Issuance & Transfer



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Verification of Aggregates

- Aggregators must select verifiers and coordinate verification schedules
- All projects must have site visits at least once every 12 years
- Between site visits, forest owners must submit annual monitoring reports for each project
- Verifiers must annually audit a sample of monitoring reports
- Successful verification results in crediting of all projects in aggregate



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Forest Aggregation Summary

- Benefits
 - Some shared administrative costs (document management)
 - Reduced inventory costs (fewer sample plots) and/or smaller deductions for uncertainty with greater enrollment
 - Reduced verification costs proportional to size of aggregates
- Limitations
 - All other protocol requirements must be met by each project, including permanence requirements

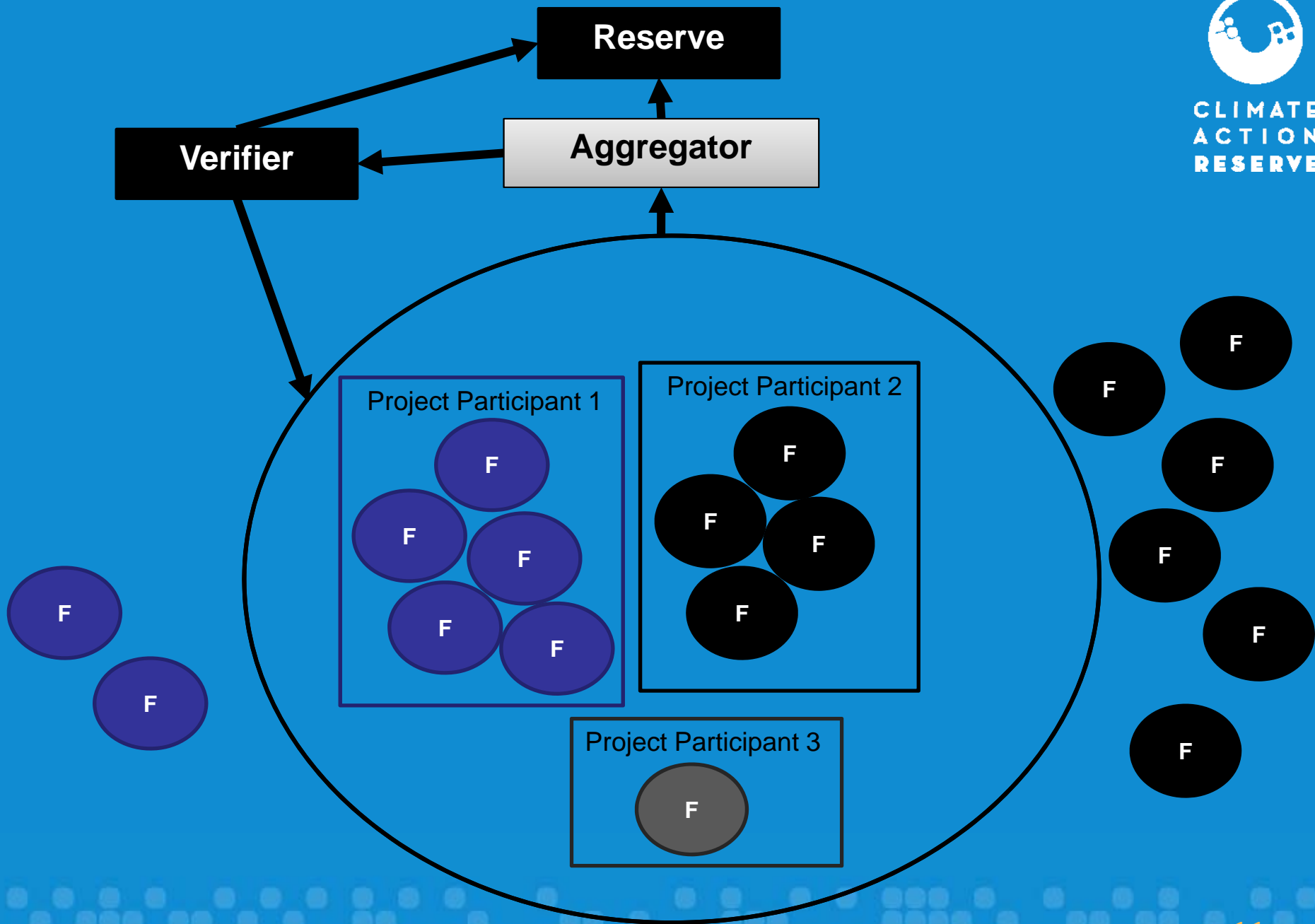


Rice Protocol Aggregation

- Project Aggregate = multiple fields owned/managed by one or more Project Participants
 - Farmers can be their own aggregator
 - Aggregates are unlimited in size
 - Eligibility rules, start dates, & crediting periods associated with individual field, not the aggregate
- Fields have limited opportunity to switch aggregates



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Quantification Benefits

- “Structural uncertainty” deduction is reduced in proportion to the number of fields enrolled *in the entire program*
- Risk of leakage deduction may be reduced in proportion to the number of fields *in an aggregate*



CRT Issuance & Ownership

- CRTs issued by the Reserve to the Aggregator
- Aggregator must attest to the Reserve that they have exclusive claim to the GHG reductions resulting from all fields in the project aggregate
 - Protocol does not dictate the terms for how title is established
 - Allows the aggregator, project participant and land owner (if separate from the project participant) flexibility



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 different size categories:
 - Small aggregates (10 or fewer fields) somewhat more intensively sampled
 - For large aggregates, sample size is non-linear (larger aggregate, fewer samples proportionally)
 - Large multi-participant aggregates, sampling stratified by participants



Rice Aggregation Summary

- Benefits
 - Shared administrative costs (including account maintenance)
 - Smaller deductions for uncertainty with greater enrollment, determined on a *programmatic basis*
 - Reduced risk of leakage deductions
 - Reduced verification costs proportional to size of aggregates
- Limitations
 - Additionality/baselines still determined on field-by-field basis
 - Monitoring reports still required for every field
 - Ownership of GHG reductions must be established by the aggregator contractually with each participant



Aggregation Challenges

- The “Valley of Death”

**Limited
Aggregation
(Project Based)**



**Limited Credit
Volumes**

**Integrated
Aggregation
(Sectoral)**



**Very Large
Credit Volumes**



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Aggregation Challenges

- Is Enforceability the Achilles Heal?
 - Still need legal/contractual mechanisms to ensure ownership of GHG reductions
 - Same goes for compensation for reversals



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