

*The following information is a thought experiment, not an actual program proposal endorsed or supported by VAAFM*

#### **Draft Approach 4: In-Field Observation with Modeling Assessment and Payment**

This approach to evaluating, quantifying, and paying on ecosystem services provided by an agricultural operation relies on in-field observation and evaluation completed by a trained and qualified planner using USDA NRCS conservation standards and evaluation criteria. This approach takes multiple in-field observations and evaluates the environmental outcomes based on national thresholds for the respective evaluations. Both pasture and cropland can be evaluated through this program approach. Farms are paid “best” rate of \$29.89/acre if 90% of fields surpass the threshold, or paid “good” rate of \$20.68/ac if 75% of fields surpass threshold. ‘Best’ or ‘good’ stewardship payments are based off sum of potential payments for all ecosystem services estimated in UVM’s Technical Assessment #5.

#### **Pros:**

- Observed in-field and edge-of-field conditions inform field-specific assessment against national thresholds.
- Based on observations that are related to the intended outcomes – “you can see the results”

#### **Cons:**

- High data need
- Significant staffing costs for in-field measurement and observation. Requires trained staff to evaluate to national QA/QC standards.
- Non-additional: does not pay for improvements
- Poor weather can affect observed results significantly.

#### **Possible Program Details/Considerations:**

**Ecosystem Service Valued:** Soil Management; Water Quality; Pesticide Management; Water Quantity; Air Quality; Habitat Health

**Output:** Performance – in-field and edge-of-field observations and farmer planned management are evaluated against national thresholds using a modeling user interface

**Quantification:** In-field observations are conducted and recording in the appropriate planning template. Results are entered into the Resource Stewardship Evaluation Tool (RSET), which evaluates all observed data. Evaluations include:

- a. Field Boundary delineation
- b. Inventory of cropland and management
- c. Crop rotation planning
- d. Conservation Practices & Management techniques applied
- e. Pasture condition score
- f. Nutrient Management planning
- g. IPM Questions
- h. WINPST
- i. Irrigation evaluation
- j. Habitat
  - i. Terrestrial
  - ii. Aquatic

Summary Land Use Evaluations Available [here](#).

#### **‘Whole Farm’ Consideration:**

- a. All crop and pasture. Decisions will need to be made regarding how much cropland and pasture needs to be evaluated to be considered a ‘complete’ evaluation of a farm. Evaluating each field is resource intensive.

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**Modeling costs:**

- a. RSET is maintained by USDA NRCS and does not necessarily require modifications.

**Who Pays?**

- a. PES Program Pays for:
  - a. TA services, including on-farm evaluation as well as input into model
  - b. Ecosystem Service payments to farmers who achieve beyond threshold results

**Who Verifies?**

- a. Trained TA Provider required to observe field and resource concern conditions and to enter data into RSET
- b. \*cannot be farm, because assessments need to be verified consistently across farms for fairness\*

**How often Evaluate?**

- a. Annual evaluation and payment possible.

**Payment**

- a. Payment for 'good' or 'best' achievement under UVM Task #5 report for Carbon storage, flood-runoff mitigation, erosion reduction, and phosphorus retention.
- b. Funding source: \$1,000,000 PES GF appropriation

**Baseline**

- a. No baseline – is a performance program proposal.
- b. Eligible for payment each year there is achievement of thresholds

**Threshold**

- a. Per-field threshold exists in RSET, may not be calibrated to Vermont farms. Pay at a whole farm rate: use "best" rate of \$29.89/acre if 90% of fields surpass the threshold, pay "good" rate of \$20.68/ac if 75% of fields surpass threshold.

**Farm Eligibility**

- a. Major commodity crop types and pasture would be eligible at this time
- b. All RAP farm sizes
- c. Farm must be in good standing with VAAFM

**Farm Ranking**

- a. First come first served based on application deadlines set by program

**Pilot Specifics**

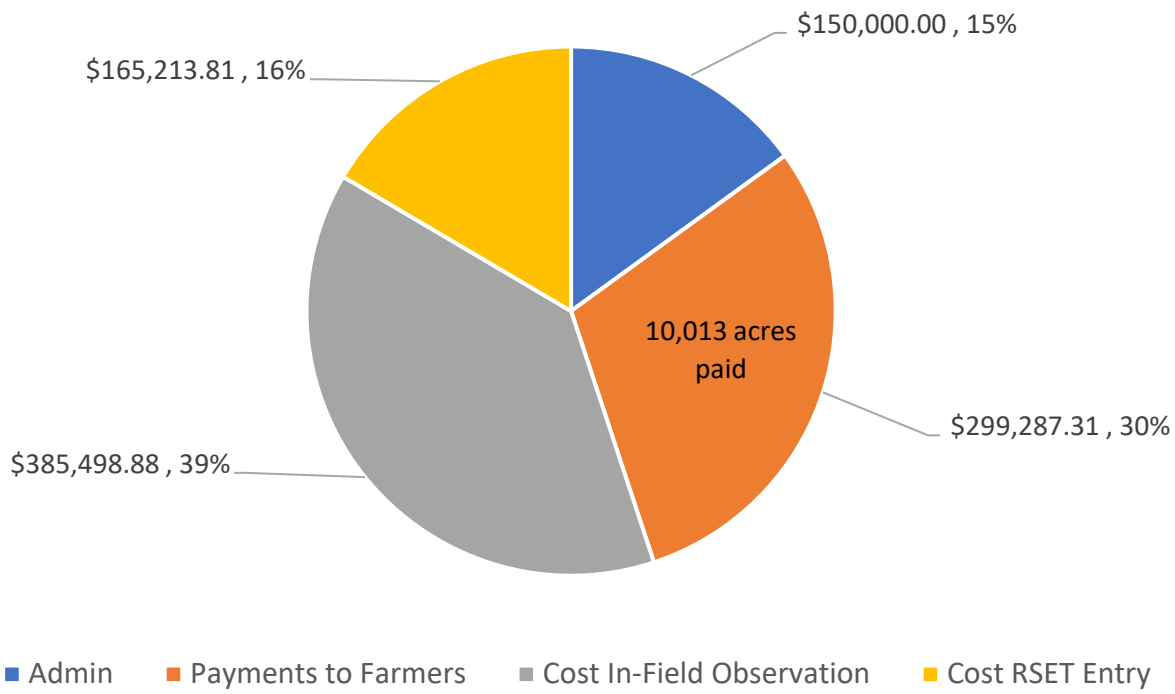
- a. 1 Year of assessment and payment for qualifying farms.

**Payment Scenarios:**

Two payment scenarios are considered for this pilot thought experiment. These payment rates are based on data reported in the PES WG Task 5: Valuation of Ecosystem Services report. A fixed cost of 15% is considered for administration costs between program payment rates – this will need to be revisited as complexity is introduced into a program and cost to administer is fully considered. Payment rate of \$29.89 / ac and \$20.68 / ac are utilized by the report to provide a possible range of achievement a farmer could hope to meet through comprehensive full-farm soil health management. These payment rates reflect all four estimated payment areas (carbon storage, flood-runoff mitigation, erosion reduction, and phosphorus retention) that could be achieved with good agronomic management and are assumed to be achieved by farms that meet the threshold of the RSET program. Data regarding in-field observation as well as cost to analyze and enter the data in RSET has been based on VESP pilot program data.

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### In-Field Observation & RSET - "Best" Payment Scenario @ \$29.89 / ac.



### In-Field Observation & RSET - "Good" Payment Scenario @ \$20.68 / ac.

