POLICY BRIEF

PAYMENT FOR ECOSYSTEM SERVICES

Incentives to support environmental quality & farming in Vermont

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THE ISSUE

Environmental quality is an ongoing concern in the Lake Champlain Basin. Vermont farmers are in a unique position to manage land in a way that maintains and improves environmental quality. A payment for ecosystem services (PES) program for Vermont would both support the economic viability of Vermont farms and incentivize farmers to improve water quality and soil health. However, conceptual and practical implementation challenges remain.

KEY POLICY CONSIDERATIONS

An effective PES program for Vermont would:

1. Support economic viability for farmers with a voluntary, equitable program that provides flexibility for farmers to adopt strategies that fit their farm systems.
2. Incentivize innovative and sustainable agricultural land management that provides multiple ecosystem services.
3. Make measurable contributions on farmland to meet state environmental goals.
4. Enhance community support and public trust for agriculture.
5. Compensate farmers for measurable performance rather than changes in practice.

A PES program for water quality, for example, would compensate farmers for measurable reductions in phosphorus (P) accumulation and runoff. A PES program could also support farmers to provide multiple beneficial ecosystem services, such as carbon storage and flood mitigation.

This Policy Brief summarizes a Gund Institute Issue Paper "***Payment for Ecosystem Services for Vermont***," which was developed from a 2019 graduate course. The course was led by Gund Fellows to conduct research on key issues and engage relevant stakeholders.

POLICY RECOMMENDATIONS

(1) Support a stakeholder-driven process for PES program design and implementation.

The idea of a PES program for Vermont has received support from environmental organizations, farmer watershed groups, and policymakers. The extent to which a PES program aligns with stakeholder goals will influence key elements, such as sources of funding and whether farmers participle. Supporting relevant voices at the table will contribute to the long-term success of a program that achieves common goals.

(2) Measure ecosystem service performance provided by participating farms.

A PES program can be more effective if it rewards measured improvements in environmental performance rather than the adoption of specific practices. Measuring performance allows farmers to choose how to manage land, and it can capture short- and long-term outcomes on farms.

Many farmers and Extension staff are familiar with existing tools and models for measuring phosphorus and carbon. For phosphorus reduction as an aspect of water quality, a PES program could sum a participant's farm gate P balance

and aggregate field P loss risk relative to a baseline. For carbon sequestration, A PES program could measure direct carbon emissions associated with farm activities and stocks of soil organic carbon in fields.

(3) Pay for enhancing ecosystem services.

It can be costly for farmers to change how they manage land. A PES program could complement existing cost-shares, grants, and incentives by targeting increases in specific ecosystem services relative to a baseline. Payments to farms for phosphorus reduction can vary based on farm size (to account for differences in mitigation costs) and priority watersheds (to support achieving TMDL reduction goals).

A Gund Institute Issue Paper reviewed published reports on payments for phosphorus reduction and found a price range of $10 – $100 per pound P. The Issue Paper also estimated program costs for Vermont across different prices and load reductions. For example, a PES with a price of $25 per pound P designed to capture 10% of the TMDL phosphorus load reduction in five priority watersheds would cost an estimated $650,000 per year (not including program administration costs).

(4) Develop a publicly funded PES program that best fits the Vermont context.

A publicly funded PES program could administer funds on behalf of the public through an existing, well-respected, and trusted organization. For phosphorus reduction, state funds for achieving the TMDL could potentially fund payments. A publicly funded approach could account for differences among watersheds and regulations throughout the Lake Champlain Basin. Sources of viable funding would need to be identified for each service targeted in a PES program.

CONCLUSION

PES provides an opportunity to improve environmental quality and support farmers. Obstacles remain for designing and implementing an effective program. Careful consideration must be given to:

- Identifying measurable ecosystem services and sources of program funding;
- Selecting performance baselines for payments that fairly reward different farms;
- Deciding if payments will be ongoing like the Current Use Program, temporary to assist transition in farm management, or some other arrangement; and
- Understanding farmers' goals, needs, and perspectives to inform the design of a program that farmers would be willing to participate in.

Gund Institute research continues to explore these issues and can be an ongoing resource for the decision-making process.

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