

## **Flood Resilience Recommendation**

*Developed by Agriculture & Ecosystems, Supported by Rural Resilience & Adaptation*

A consistent theme across the Agriculture & Ecosystems and Rural Resilience & Adaptation subcommittees is the need to increase our investments in flood resilience, and realize the myriad co-benefits those investments will yield. Flood resilience, which is achieved through the restoration and reforestation of floodplains, wetlands, and river corridors, right-sizing culverts to reduce infrastructure vulnerability, removing dams, incentivizing water storage through expansion of easements, among other efforts, is a critical climate strategy for Vermont. Leveraging ARPA funds to support flood resilience would have lasting, positive impacts for Vermont and Vermonters, and would meet the ARPA eligibility criteria as follows:

- Funding would be used for implementable projects that support both built and natural infrastructure, and could be allocated by the 2024 deadline.
- Low-income Vermonters are more likely to live in flood hazard areas (e.g. 12% of mobile homes in mobile home parks are located in floodplains versus 4% of single family homes).
- Given Vermont’s historic settlement patterns, many of our villages and downtown centers – our towns’ economic hubs – are located in or near flood hazard areas.

Strategic investments should be directed by using existing tools, like DEC’s [Functioning Floodplain Initiative](#) and AOT’s [Transportation Resilience Planning Tool \(TRPT\)](#) and culvert upgrade inventory.

**Recommended ARPA investment: \$40-50 million**

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## **Urban Tree Planting Recommendation**

*Developed by Agriculture & Ecosystems*

Expand funding for urban tree planting efforts. This funding can be allocated by end of 2024, supports downtown economic development, and increases air quality and reduces urban heat island effect in urban environments, which may disproportionately impact low-income Vermonters.

**Recommended ARPA investment: \$1.5 million**

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## **Farm & Forest Economies Recommendation**

*Developed by Agriculture & Ecosystems*

We recommend that the State of Vermont significantly increase funding to support the economic and ecological viability of small farm and forest landowners and businesses, and to increase options for small farm and forest landowners to remain successful in a globally competitive market for food and fiber products through investments in innovation. Supporting the economic health of these landowners is a direct investment in keeping Vermont's lands working – in so doing, this investment will not only advance our climate mitigation and adaptation goals but will also advance rural prosperity and create local jobs. Further, the past two years have demonstrated the fragility of our food system and providing support for the development of the infrastructure to support the Vermont food system would increase food security to low-income Vermonters and increase the economic stability of agricultural producers in the State. Two existing programs that are proven to be successful and which are called out in the Subcommittee's recommendation could be strengthened in the following manner:

- (1) Increasing the Working Lands Enterprise Fund to \$20 million and authorizing the use of these funds to support infrastructure investments as necessary to take advantage of new markets, meat slaughter and processing, value-added dairy processing, and distribution and storage capacity utilizing sustainable production practices;
- (2) Increasing the Vermont Housing and Conservation Board's Farm and Forest Viability Program to \$10-15 million. Through these dramatic increases in our investment in Vermont's farmers and our forest landowners and businesses, we can ensure the long-term viability of these vital components of our state's ecology and economy; and
- (3) Increasing funding for food access infrastructure and to programs that dually support low-income Vermonters access to healthy local food and farm viability, including: the Local Foods Purchasing Incentives, Vermonters Feeding Vermonters, the Northeast Organic Farmers Association's (NOFA) Farm Share/Crop Cash program, Farm to School and Early Childhood grants, and grants for food-hubs and gleaning organizations to increase storage and distribution and for farmers markets to increase utilization of EBT machines (either obligated to existing grant programs or administered through a Local Food Access Funding Program) \$7.5 million.

Each of these recommendations support the natural and working lands economy – which supports not only low-income Vermonters, but visitors to the state – and should be considered support for existing, low-risk implementable programs that support critical infrastructure to be allocated by the end of 2024.

**Recommended ARPA investment: \$37.5-42.5 million**



**MEMORANDUM**

**TO:** Vermont Climate Council  
**FROM:** Vermont Climate Council Agriculture & Ecosystems Subcommittee  
**DATE:** December 17, 2021  
**SUBJECT:** Agricultural Mitigation Funding Proposal Associated with the Initial VT CAP

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Sections of the CAP considered in this proposal:  
Section 11.4: Agricultural Pathways for Mitigation

**Summary of Recommendations:**

**Total Funding Request: \$9,560,000 to be obligated by the close of Calendar Year 2024**

	SFY 23	CY 24	Total Appropriation
<b>Grand Total (\$ Million USD)</b>	3.90	5.66	<b>9.56</b>

**1. Agricultural GHG mitigation implementation**

- a. Summary: Initial funding for agricultural mitigation strategies and actions outlined in the Initial Vermont Climate Action Plan (CAP) found in Section 11.4.
- b. Proposal: Leverage existing State of Vermont programs which provide a climate mitigation benefit by expanding funding for these programs.
- c. Funding: \$9.56 million for obligation by close of Calendar Year 2024.

**Detail of Recommendations**

**Recommendation 1: Agricultural GHG mitigation implementation**

Incentivize the adoption of new and emerging climate smart farming practices to meet state agricultural GHG mitigation goals.

- Description/rationale: Many farmers are interested in climate smart farming practices, and in using these practices are mitigating agricultural emissions of GHG, building resilience on their farms against extreme climate change related weather vents. Vermont should enhance existing programs that incentivize climate smart farming practices.
- Funding request: \$9.56 million for obligation by close of Calendar Year 2024

Whereas the 2016 EPA Overview of Clean Water State Revolving Fund Eligibilities includes the following Agricultural Best Management Practices as eligible practices on both cropland and Animal Feeding Operations (AFO), ARPA dollars can be argued to be eligible to be spent on the following project categories: Manure injection equipment; Manure spreaders; Water efficient irrigation equipment; Conservation tillage equipment; Windbreaks; Sediment control basins; Terraces; Diversions; Buffer and filter strips; Rip-rapping; Streambank stabilization; Chemical use reduction (e.g., chemical spray equipment and chemical storage containment structures); and Livestock/milk house waste management systems; Manure containment structures; Vessel composters; Manure

injection equipment; Well sealing and water diversions to avoid feedlots; Fencing/alternative water supply for animals to keep them out of water bodies. ARPA dollars have been recommended for appropriation to AAFM for these programs through the Clean Water Board budget development process.

The implementation of the above named BMPs is facilitated in the State of Vermont through clean water programs administered by the Vermont Agency of Agriculture, Food & Markets (AAFM). Where the CAP in Section 11.4 has provided a framework for how existing agricultural conservation programs that have a climate co-benefits can be quantified for GHG mitigation services, funding the following programs at the recommended levels will provide GHG mitigation services to the State of Vermont which – once fully quantified – will provide high impact, cost-effectiveness, leverage existing state, federal, and farmer efforts, as well as provide an approach towards GHG mitigation which is equitable<sup>1</sup> for the agricultural sector.

The following agricultural mitigation strategies and actions can leverage existing State of Vermont agricultural programs identified in the Climate Action Plan:

- a) Implement agronomic practices that reduce tillage and increase vegetative cover, e.g. no-till, cover crop.
- b) Expand Capital Equipment Assistance Program (CEAP) program to extend beyond water quality and incorporate climate change criteria.
- c) Implement grazing practices that increase vegetative cover and forage quality, e.g. rotational grazing.
- d) Implement agroforestry and silvopasture practices that integrate woody vegetation in agricultural production.
- e) Implement edge-of-field practices that increase herbaceous and woody vegetation, e.g. riparian forest buffer (e.g. CREP).
- f) Implement natural resource restoration practices that support climate mitigation and resilience, including river corridor easements, wetland restoration, and afforestation practices with consideration to agricultural land loss.
- g) Implement Nutrient Management and Amendments (e.g., biochar, compost) on cropland and grazing land.
- h) Implement methane capture and energy generation on farms, e.g., anaerobic digesters and covers.
- i) Research and implement into improved manure management and storage.
- j) Research and develop a climate feed management program, including both feed amendments (e.g., seaweed, biochar) and feed quality (e.g., forage quality) to reduce

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<sup>1</sup> Excerpt: “Storing the carbon dioxide from negative emission technologies (NETs) [e.g. terrestrial carbon removal and sequestration – i.e. cover crop] has the same impact on the atmosphere and climate as simultaneously preventing an equal amount of carbon dioxide from being emitted. Recent analyses found that deploying NETs may be less expensive and less disruptive than reducing some emissions, such as a substantial portion of agricultural and land-use emissions and some transportation emissions.” National Academies of Sciences, Engineering, and Medicine 2019. Negative Emissions Technologies and Reliable Sequestration: A Research Agenda. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25259>.

enteric methane emissions; while considering downstream impacts, sustainability and equity.

Proposed budget for ARPA-Timeline CAP implementation for agricultural GHG mitigation efforts:

<b><u>Budget to Enhance Existing State Programs for Ag GHG Mitigation</u></b>		Millions of USD		
<b><u>AAFM Program</u></b>	<b>Recommendation Reference Number: CAP Section 11.4, Strategy 1, Action (a) - (j)</b>	<b>SFY 23</b>	<b>CY 24</b>	<b>Total Appropriation for SFY 23</b>
<b>FAP<sup>2</sup></b>	a. Agronomic	1	1	<b>2</b>
	c. Grazing Management			
<b>CEAP<sup>3</sup></b>	b. CEAP (capital eligible)	1	1	<b>2</b>
<b>PSFW<sup>4</sup></b>	c. Grazing Implementation (capital eligible)	0.5	0.5	<b>1</b>
<b>BMP<sup>5</sup></b>	e. CREP <sup>6</sup> (capital eligible)	0.25	1	<b>1.25</b>
	h. Methane Capture (capital eligible)			
<b>Ag-CWIP<sup>7</sup></b>	d. Agroforestry	1	2	<b>3</b>
	f. AEM <sup>8</sup> (some options for capital)			
	g. Nutrient Management Plan implementation			
	i. Pilot Manure management			
	j. Pilot Climate feed management			
<b>Staff Support</b>	Administration: to administer and implement funding at AAFM - 1 FTE	0.15	0.16	<b>0.31</b>
	<b>Total</b>	<b>3.90</b>	<b>5.66</b>	<b>9.56</b>

<sup>2</sup> Farm Agronomic Practices (FAP) Program [6 V.S.A. § 4832]

<sup>3</sup> Capital Equipment Assistance Program (CEAP) [6 V.S.A. § 4828]

<sup>4</sup> Pasture and Surface Water Fencing Program (PSWF) [6 V.S.A. § 4821]

<sup>5</sup> Best Management Practices (BMP) Program [6 V.S.A. § 4821]

<sup>6</sup> Conservation Reserve Enhancement Program (CREP) [6 V.S.A. § 4829]

<sup>7</sup> Agriculture-Clean Water Initiative Program (Ag-CWIP) [6 V.S.A. § 4811(8)]

<sup>8</sup> Agriculture Environmental Management (AEM) Program [6 V.S.A. § 4830]