Landscape Visualizations of Climate Change Best Management Practices (CCBMPs) SURVEY

Vermont Agricultural Resilience in a Changing Climate Initiative

For more information contact:
Dr. Stephanie Hurley, Stephanie.Hurley@uvm.edu
Holly Greenleaf, Holly.Greenleaf@uvm.edu

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Unless otherwise instructed, please circle the *single answer* that is the best fit.

1) Which best describes you?
   a. Farmer
   b. Homesteader
   c. Agricultural service provider
   d. Outreach/Extension/Agency Professional
   e. Research/Faculty/Staff
   f. Student
   g. Other:_____

2) If you circled *a* or *b* above, please check all that apply in the following:
   ☐ Landowner
   ☐ Rent/lease land
   Farm Type:
   ☐ Dairy
   ☐ Livestock
   ☐ Vegetable
   ☐ Orchard
   ☐ Berry
   ☐ Other:_____

3) Where are you from?
   a. Champlain Valley/Basin
   b. Vermont (outside of the Champlain Valley/Basin)
   c. Other states in New England/New York
   d. Canada
   e. Other: _____

4) How knowledgeable do you feel about climate change as it pertains to farming?
   a. No knowledge
   b. A little knowledge
   c. Some knowledge
   d. Very knowledgeable
   e. Not sure

5) How important do you think it is for Vermont farms to adapt to climate change (things like flood prevention, adjusting to changes in growing seasons, and planning for more rain and/or more drought at different times of year)?
    a. Not important
    b. Somewhat important
    c. Important
    d. Very important
    e. Not sure

6) How interested are you in integrating climate change adaptation practices into your own farm?
    a. Not interested
    b. Little interest
    c. Some interest
    d. Very interested
    e. Not a farmer

For the following questions, please view the set of four large posters on display at the booth where you received your survey. Each poster depicts an Existing Condition and a Photo-simulation of a Proposed Condition in which a BMP (best management practice) is implemented.

After viewing Poster #1, please read the following statement about the proposed condition (photo-simulation) and then answer questions 7-9:

Vegetated riparian buffers, typically 25-50 feet wide, can be used to control erosion of stream banks. This riparian buffer is composed of a mix of native species that will help the riverbank resist erosion and scouring due to high waters or overbank flooding. It can also provide wildlife habitat along the river, and help shade and cool the river for aquatic wildlife. Also shown in this image are live stakes – typically willow or dogwood species – planted along the banks. Live stakes will grow so that their roots spread, helping to reduce erosion on the stream banks during water level fluctuations.

7) Riparian buffers are a useful practice to help with climate change adaptation.
    a. Strongly disagree
    b. Disagree
    c. Neither agree nor disagree
    d. Agree
    e. Strongly agree

8) This photo-simulation clarifies my understanding of what this best management practice consists of.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

9) Please use this table to rate the following potential Limiting Factors based on their capacity to limit the implementation of **riparian buffers**. Then, please answer the related questions at the bottom of the table. (Check the column on the right side that most accurately describes your response for each factor):

Is this a Limiting Factor?	YES	Somewhat	NO
Cost of installation			
Cost of maintenance			
Time and labor required for installation			
Time and labor required for maintenance			
Aesthetic concerns			
Additional technical assistance required			
Additional information needed to make decision			
Do I believe the BMP would work?			
Is this BMP relevant to me/my work?			
Other Factors or Comments:			

After viewing Poster #2, please read the following statement about the proposed condition and then answer questions 10-12:

Drainage tile alleviates flooding in this field and redirects excess water through a below-surface pipe to a constructed wetland. The constructed wetland uses soils and plants to filter and treat runoff water (removing excess nutrients, sediments, and other pollutants) and improves wildlife habitat on the farm.

10) Drainage tiles paired with constructed wetlands are useful practices to help with climate change adaptation.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

11) This photo-simulation clarifies my understanding of what this best management practice consists of.
    a. Strongly disagree
    b. Disagree
    c. Neither agree nor disagree
    d. Agree
    e. Strongly agree

12) Please use this table to rate the following potential Limiting Factors based on their capacity to limit the implementation of **drainage tile with constructed wetlands**. Then, please answer the related questions at the bottom of the table. (Check the column on the right side that most accurately describes your response for each factor):

Is this a Limiting Factor?	YES	Somewhat	NO
Cost of installation			
Cost of maintenance			
Time and labor required for installation			
Time and labor required for maintenance			
Aesthetic concerns			
Additional technical assistance required			
Additional information needed to make decision			
Do I believe the BMP would work?			
Is this BMP relevant to me/my work?			
Other Factors or Comments:			

After viewing Poster #3, please read the following statement about the proposed condition (photo-simulation) then answer questions 13-15:

Retention ponds collect and store stormwater and agricultural runoff for subsequent release, slowing runoff velocities and reducing erosion problems downstream. Retention ponds typically have a permanent pool of water edged by natural pond vegetation; they filter nutrients and sediments to improve water quality and also provide wildlife habitat.

13) Retention ponds are a useful practice to help with climate change adaptation.
    a. Strongly disagree
    b. Disagree
    c. Neither agree nor disagree
    d. Agree
    e. Strongly agree

14) This photo-simulation clarifies my understanding of what this best management practice consists of.
    a. Strongly disagree
    b. Disagree
    c. Neither agree nor disagree
    d. Agree
    e. Strongly agree

15) Please use this table to rate the following potential Limiting Factors based on their capacity to limit the implementation of **retention ponds**. Then, please answer the related questions at the bottom of the table. (Check the column on the right side that most accurately describes your response for each factor):

Is this a Limiting Factor?	YES	Somewhat	NO
Cost of installation			
Cost of maintenance			
Time and labor required for installation			
Time and labor required for maintenance			
Aesthetic concerns			
Additional technical assistance required			
Additional information needed to make decision			
Do I believe the BMP would work?			
Is this BMP relevant to me/my work?			
Other Factors or Comments:			

After viewing Poster #4, please read the following statement about the proposed condition (photo-simulation) and then answer questions 16-18:

Silvopasture refers to the cohabitation of pasture animals and harvestable trees. Silvopasture can improve soil health, increase water infiltration, reduce erosion, regulate microclimates, reduce weeds and pests, enhance tree growth, provide windbreaks, reduce animal stress, and diversify production (i.e. timber, fruit, nuts). The trees are planted in rows to maintain pasture and space for machinery. Movable fencing is shown in the forefront of the image; it is used for rotational grazing where livestock are moved across fields to spread out impacts and improve soil fertility, plant health and rainfall infiltration.

16) Silvopasture is a useful practice to help with climate change adaptation.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

17) This photo-simulation clarifies my understanding of what this best management practice consists of.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

18) Please use this table to rate the following potential Limiting Factors based on their capacity to limit the implementation of **silvopasture**. Then, please answer the related questions at the bottom of the table. (Check the column on the right side that most accurately describes your response for each factor):

Is this a Limiting Factor?	YES	Somewhat	NO
Cost of installation			
Cost of maintenance			
Time and labor required for installation			
Time and labor required for maintenance			
Aesthetic concerns			
Additional technical assistance required			
Additional information needed to make decision			
Do I believe the BMP would work?			
Is this BMP relevant to me/my work?			
Other Factors or Comments:			

Final questions:

19) Overall, do these photo-simulations help you to envision what agricultural adaptations to climate change might look like in Vermont?
   a. No
   b. A little bit
   c. Somewhat
   d. Yes
   e. Not sure

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20) Are you more likely to consider implementing/recommending these climate change best management practices after seeing these photo-simulations?
   a. No, not at all
   b. Not likely
   c. Maybe
   d. Very likely
   e. Definitely
   f. Not a farmer/not relevant to my work

21) Compare how useful seeing a photo-simulation is versus reading the information
   <u>Circle one of the following</u>:

   a. Seeing a photo-simulation image is more useful
   b. Seeing the image and reading the information are equally useful
   c. Reading information is more useful

22) Thinking about your overall preference, please check which statement you agree with most for each poster:

	I prefer the existing condition	I like the existing and proposed condition equally	I prefer the proposed condition
Poster #1: Riparian buffer			
Poster #2: Drainage tile and constructed wetland			
Poster #3: Retention pond			
Poster #4: Silvopasture			

23) Please add any additional comments about the photo-simulations, survey process, climate change BMPs, etc. here:

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THANK YOU!!!

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The UNIVERSITY *of* VERMONT

department of PLANT & SOIL SCIENCE