

High level recommendations

- **Utilize Bundles!** Bundled practices have the most impact on biodiversity, soil health, water quality, and inevitably, climate change. We could be incentivizing farms using Climate Smart Agriculture funding to be bundling their practices to achieve the most meaningful climate change outcomes. Consider encouraging/requiring CSAF farms to use bundles similar to CSP Bundles and Supplemental Activities found here: <https://www.nrcs.usda.gov/csp-enhancements-and-bundles>
- **Utilize Planning!** We could consider requiring CSAF applications to include [Conservation Planning Activities \(CPAs\)](#) and/or completing Comprehensive Conservation Plans to maximize the potential of their farm over time.

Anaerobic Digesters

- **Issues:** Large scale anaerobic digesters are not practical in most Vermont contexts. Only the largest dairy farms produce enough manure to provide consistent inputs needed to keep the system active, and in most cases manure must be shipped in from multiple farms, increasing diesel fuel use in transport.
- **Opportunity:** We need to increase and diversify tools for on-farm composting and energy production. Smaller scale digesters that are suited for individual farms work with the individual capacity of the farm and can be fed less without failing.
- **Alternative:** Build compressed natural gas generators that accept wood chips, smaller digesters in a batch system, not continuous feeding, use IBC totes as recycled design.
- **Suggestion:** Look at NRCS digester standards to adjust scale for Vermont, if needed, create practice standard for small digesters.

Cover Crops

- **Issues:** The timing of cover crop contracts is not reflective of diversified agriculture and agroforestry systems, especially in beginning transitional years where farms are trying to build up the soil. In some cases, a farmer would need to submit their application over a year in advance of planting. This is especially burdensome for beginning farmers.
- **Opportunity:** If we are trying to promote diversified farms the timing of financial incentives must work for them.
- **Alternative:** Aim to have cover crop contracts ready for late spring planting.
- **Suggestion:** Look at the timing of cover crop contracts in diversified and agroforestry systems and adjust contract period to reflect actual need. Implement ACT NOW for ease and speed of access.

Riparian Forest Buffer

- **Issues:**
 - Unmaintained buffer plantings have a high failure percentage.
 - Broad use of herbicides and pesticides is speeding climate change impacts and biodiversity loss. Using pesticides and herbicides in conservation efforts such as forested riparian buffers and invasive species control is counter to the mission of protecting water quality and soil health.
 - A recently released study by USDA and Texas Tech University found disturbingly high levels of PFAS in the most commonly used pesticides. [://peer.org/substantial-pfas-contamination-found-in-pesticides/](https://peer.org/substantial-pfas-contamination-found-in-pesticides/)
 - Planting trees strictly for “conservation” that are not also food producing is a missed opportunity for food security and resiliency.
- **Opportunity:** Riparian Forest Buffers could be multi-functional and toxin free, mass producing species such as improved silver maple, bur oak, pecan, elderberry, red mulberry, yellowbud, and shellbark, would provide a safety net of local oil and flour production potential.
- **Alternative:** Invite biodiversity by planting multifunctional buffers and investing in maintenance.
- **Suggestions:**
 - Fund maintenance of riparian forest buffers, such as mowing and flash grazing, 5-6’ tree tubes and cardboard weed mats.
 - When designing riparian forest buffers, plan for a minimum of 10% food producing species, not only for wildlife habitat but also for food security.
 - Reduce and eliminate use of herbicides and pesticides. Incentivise mechanical maintenance methods by paying for mowing and maintenance costs per tree/acre.

Invasive Species Control

- **Issues:**
 - See herbicide/pesticide comments above
 - Many invasives spread when disturbed. Spraying and chopping plants that thrive on disturbance will never fix the problem.
 - Invasives on riverbanks such as Japanese Knotweed are opportunistic, not evil. These plants are responding to ecological devastation.
- **Opportunity:** Physical controls could be promoted to reduce reliance on chemical controls. Invasive/noxious plants could be reanalyzed for their food and fodder potential. We should take into account outsourcing destruction, reducing externalized feeds and the embodied energy of practices.

- **Alternatives:**

- Disturb and destroy less. Plant and maintain trees, using shadecover to phase out invasives over time as the canopy closes.
- Flash graze invasives. Browsing edges of fields can build resilience for the farm by producing additional fodder and balanced nutrients in times of drought when hay is expensive and pasture is low.
- Explore food and fodder potential of invasive plants.
 - Knotweed
 - Makes lemon juice substitute when juiced
 - Shoots can be sold as red asparagus
 - Medicinal: contains high levels of resveratrol, a treatment for Lymes Disease
 - Autumn Olive
 - Early successional carbon sequestering crop
 - Nitrogen fixing
 - Highly nutritious medicinal berries, incredibly high amounts of lycopene
 - Honeysuckle and Buckthorn can provide critical missing nutrients for ruminants.
- **Suggestions:**
 - Fund mowing, rhizome barriers, chipping, and mass harvest of plants like knotweed, not poison.
 - Create invasive management plans in phases, with the end goal of shading out and physically managing unwanted species.
 - Include flash grazing of invasives in grazing plans for invasive control, nutritional content, and drought resiliency.
 - Allow temporary grazing of riparian buffers. Identify policy barriers to grazing in riparian zones.

Multistrata Agroforestry and Silvopasture

- These systems may be the most effective climate solution for our region. Include these practices on the FY24 CSAF priority list.