



March 25, 2016

Roundtable Action Items: Notes and Summaries

Thank you all for an informative and inspirational symposium. Below are links to resources that we are able to share at this point.

The afternoon roundtables allowed ten small groups to convene on specific issues around pollinator health and protection. Each group was tasked with creating a list of action items that scientists, policy makers, landowners or any individual could take to address the challenges facing Vermont's pollinators. Their work is summarized below.

Producing with pollinators in mind

Facilitator: [John Hayden](#), *The Farm Between*

Protection will advance by affecting behavior change. Target audiences may include the Agency of Ag, farmers, NRCS, and land managers.

Use a Carrot & Stick approach:

Carrot: Use education to let farmers know about economic incentives (veg, fruit) of stewarding pollinators, also rewarding farmers who don't currently benefit from the pollinator habitat they provide (similar to a carbon tax, getting paid for this service to society).

Stick: Based on fines for not protecting pollinator habitat. Or, create obstacles for homeowners to buy over-the-counter pesticides. Restrict pesticide use to only licensed pesticide applicators.

Other tactics include:

- Consider consumer education and marketing campaigns that raise awareness about pollinator health
- Consider a state-supported designation of a "bee-friendly farm".
- Integrate pollinator forage into solar fields.
- Promote education on pollinators with youth. Teach that bugs are fascinating, not scary! Target audiences already addressing ecological education, e.g. 4-H, FFA, Four Winds
- Top down approach: Utilize both federal and state government to bring agency leaders together to discuss pollinator health. Create a new filter on projects and programs that asks how pollinators can benefit from projects.

- Bottom up approach: It's happening – with everyone here at the symposium! But we would still benefit from increased research on farmers' attitudes and farm stewardship attitudes. No more surveys, though – farmers need to be paid for their input.
- Affect behavioral change to convince landowners that dandelions, bugs, etc. are beautiful. Will need to go along with restricting use to pesticides. Suggest restricting systemic pesticides.

Question about restrictions to homeowners: What will homeowners do if they can't use pesticides? We may need a cultural change, for example, dandelions & white clovers can be perceived as beautiful, lawns are not just grass.

Landscape design for protecting our pollinators & the role of home gardeners

Facilitator: [Jane Sorensen](#), University of Vermont

This roundtable group was large, so it broke into two subgroups.

Group 1: Focused on pollinator habitat in private land and methods to provide education to landowners and to producers of plants for pollinator habitat.

Consumers need to know that plants are pre-treated or not – need a label.

Increase homeowner education:

- Provide landowners with a tangible goal. Could be monitoring for specific insects, e.g. a certain butterfly. Gives landowners a new lens with which to engage.
- Examine the emotional needs of the landscapers, balancing the order that people like vs. the disorder that nature needs. Offer garden tours of “disorderly” landscapes.
- Provide education on leaving natives that are already there.
- Work with towns for demo sites – in median strips, in public landscapes like around town hall.
- Redefine what “vegetation” is in stormwater regulations.

Group 2: Focused on providing education and information to producers to provide customers with materials for pollinator habitat.

Increase demand for pollinator-friendly plants and landscaping by educating consumers and producers. Lots of existing partners already and organizations doing are already doing great work. Master gardeners, green works, VT hardy plant club, American horticultural association, birds & botany, etc. Use all of these organizations to ensure that they are reaching their audience in the correct way. Using all different types of ways- meetings, media, social media, etc. Making sure they are including pollinator habitat enhancement on all of their outlets. Webinars- invite to a larger audience.

Opportunities to educate to increase demand and knowledge include:

- master gardener talks
- garden tours
- state permit with pollinator gardens
- towns that have town gardens

- use effective branding and good pictures to help sell native products; create a sticker to signify a “great pollinator plant” sold in stores.

Vermont flower show- part of this dedicated to pollinator habitat. Home show- moving back to the landscape component.

Producers need to know what they are talking about, and it is important to correctly educate consumers. For example, many producers are selling cultivars, not true natives. What plants should they be growing? Where? When? Each perennial has a specific need.

Encouraging producers to have a demonstration garden within their own facilities.

Plants for Pollinators- make sure that staff is informed.

Access to seed: Presently, it is hard to find true native seeds and impossible to get local ecotype seeds. There is a wild seed project in Maine- statewide volunteers collecting the seeds, true native, wild collected seeds. We need a wild seed project in every state, and Vermont should start one.

Managing habitat for pollinators

Facilitator: [Jarrod Fowler](#), The Xerces Society for Invertebrate Conservation

We recommend more research and education about pollinators. Examine these important questions: What are pollinators? Who benefits from them? What food, nests and shelters are conserved?

Employ conservation practices on landscape to farm-scale scales in both aquatic and terrestrial habitats.

Recognize that pollinator habitat enhancement can be performed throughout the year, short and long term.

Why are we doing this for whom. Enhanced technical assistance for nonprofits, agencies. More trainings on how to assess habitat for pollinators in Vermont landscapes. Examples for people to observe in different scales and processes.

Examine the health of ecosystems- pollinators are just one iconic species that we are paying attention to, but they are part of broader ecosystems that include spiders, snails, birds, etc. There are many win-win scenarios.

Ultimately, practice research, education, and outreach. Then repeat and adapt.

Importance of pollinators to our native plants

Facilitator: [Jenny Ramstetter](#), Marlboro College

What are the threats to native plants and what are the threats to pollinators? Many are the same. Generally, we should stop doing those things that are harming both.

Recommendation to distinguish between garden type settings and natural and restoration type settings. Decided that battling non-natives in gardens is a battle that won't be won soon. Don't use plants that are rare in the state, as most of these were collected out-of-state and we would be spreading species not endemic to VT.

This group was mostly concerned with natural areas and restoration.

Key points-

1. Create demand for native plants (of local provenance). Prove this to the nurseries.
2. Motivate growers to increase native seed supply. Work with schools to create and utilize native pollinator gardens
3. Partner with organizations that steward land to promote use of native plants. Use pollinator habitat as requirement for acquisition.
4. Make information readily available to public, including a list of pollinator-friendly plants and activities. Bob Popp (Vermont Fish & Wildlife) and Elizabeth Spinney (Vermont Forests, Parks and Recreation) will make this list.
5. Need for research and education. Investigate cultivars, if they are not beneficial to pollinators. Address unanswered questions.

Economics of pollination- should we be paying for ecosystem services and how would that work?

Facilitator: [Charlie Nicholson](#), Ph.D., The Gund Institute, UVM

Speaker: Kim Royar, Vermont Fish & Wildlife

There are challenges to paying for ecosystem services. Some of the challenges relate to markets, and markets don't account for ecosystem services. There is an ecological cost of pesticide production and application that isn't included in the cost.

Legislative or regulatory responses to ecosystem services is not adequate

Public disconnect between habitat loss and loss of pollinators- people won't want to pay or cannot pay.

Strategies: some education, stick strategy, carrot strategy.

Education: developing effective education for getting the message out. Attention grabbing messages- labeling. Not necessarily labeling on pesticides, more general labeling that lets the consumer know whether the product is ecosystem positive or negative. Help people make good or better choices.

Stick- consultant in the group working to put in low growing pollinator habitat inside the solar fence, scrub shrub habitat outside the fence, paid for by solar companies.

Habitat mitigation fee- goes into a pot that farmers can use to enhance their land for pollinators.

We are already paying now but we want the payment to reflect our values.

The State of Vermont Pollinator Protection Committee

Facilitator: [Representative Carolyn Partridge](#), D-Windham

Speaker: Maddie Monty, Policy Advisor to NOFA VT

Bills to watch:

- H 539: Pollinator protection committee bill, currently moving through the legislature.
- H 861 - proposing to give the state authority to regulated treated articles, treated power poles, telephone poles, treated seeds

Action items

- Call for public education.
- Measurable benchmarks and impacts
- Review sources for landowner incentives and education (EQIP, current use), other farm bill programs
- How will the committee address homeowner use? Particular neonicotinoids. Having un-licensed pesticide applicators are using them, they are not getting clear instructions.
- Much more monitoring is needed (wild and managed populations).
- Require that pesticide applications be reported to beekeepers
- Promote schoolyards and municipal spaces and potential pollinator habitats.
- Require pollinator-friendly planting under solar sites.
- Get TSP to develop their ability to create NRCS pollinator plans
- As Jarrod Fowler mentioned, only one person is now licensed to write NRCS pollinator plans for landowners. There needs to be more education that other technical service providers can go through those modules can become certified.

Vermont's threatened and endangered bumble bees

Facilitator: [Mark Ferguson](#), Vermont Fish & Wildlife

What do we do with this list of threatened bees? First steps are in the rule itself. The Secretary of ANR can develop BMPs for bee protection. Guidance as to what steps they can take to help these bumble bee species.

What prevents the loss of bees on a site? There is no permit required or regulatory action taken unless a landowner is notified that there is a bee on their property.

Bees are found distant from where they are nesting. Just because a bee is found on a flower, doesn't mean they are nesting nearby. It is challenging to find the nest sites themselves. Bees die off, then a new queen goes to new places and needs to find a new nest site. Year by year, the proximity to each nest site is unknown. But if there is a nest site at a location, it is probably good habitat. We (state? non-profits?) can try to work with landowner to try to protect habitat.

Listing pollinators as threatened or endangered really helps people understand that pollinators are being lost. How do we find nests and how do we monitor species? We don't know yet...

Developing a program to monitor the trends and status of pollinators

Facilitator: [Kent McFarland](#), Vermont Center for Ecostudies

What pollinators might be monitored? Butterflies are beautiful and less challenging to ID than other pollinators.

Bees and flies, killing and collecting them to identify becomes trickier.

Butterflies are the easiest to identify. Existing baseline data that can be compared to new data. We have a five-year butterfly atlas. eButterfly, which is like eBird, is ready for use now. Data management is a big expensive nut to crack, but there is already a way to do so.

Range of options:

One end-member: Ad hoc? Go anywhere and collect any info.

Other end-member: An expert walks the same transect every week, monitor in systematic manner with formal protocols.

Aim for the middle: Promote survey of butterflies in every town forest. Encourage people to focus on a certain type of plant. This allows us to see phenology changes across the state, e.g. during a month of aster, or goldenrod, or Queen Anne's lace. Or do a snapshot of the same place. Or pick one time to monitor butterflies, but that would only reflect a certain flight pattern.

Choose a protocol that's adequately loose to allow for wide participation but really does cover the whole season.

Interested parties could be nature photographers, land owners, schools, master gardeners, Audubon's, master naturalist programs. We need experts willing to do outreach and to teach people to use eButterfly. We also need funding for managing data, recruiting volunteers, keeping everyone motivated, etc.

Assets already in place: eButterfly, VT Lepis ListServ, Outreach programs.

Beekeeping 101: The challenges of keeping honeybees

Facilitator: [Mike Willard](#), Vermont Beekeepers Association

Outreach should be around supporting pollinator habitat. Looking at the property and land use, what is happening around the state?

Change the common mindset on landscaping and pollinators

- Town areas: Change management techniques to identify areas that do not need to be mowed as much, e.g. soccer fields, greenways along roads and interstates. Start with the statehouse to make a statement (as happened at the White House with beekeeping).

- Build a strong awareness campaign like the post WWII Victory Gardens campaign. Promote at the state level and get municipalities and developers on board.
- Engage and educate schoolchildren. This also serves to educate parents that might not have access to that information otherwise. Kids will learn new ways to view our landscape.
- Create partnerships with farming organizations, the Department of Transportation, golf courses, homeowners' associations, land managers, realtors, landscape architects, and forestry professionals. Work with municipalities to include listing in towns of which species are pollinator-friendly.
- List of approved tree species for use in urban areas. Currently, there is no method for identifying which species are pollinator friendly.

Alternative pollinators for agriculture

Facilitator: [Leif Richardson](#), The Gund Institute, UVM

There is great potential for managing additional species other than native bees, particularly twig-nesting bees. We can cultivate them ourselves -- it is labor intensive, but the bees can be ultimately released into appropriate habitat.

Pitfalls to cultivating bees:

- We could inadvertently introduce more diseases.
- Non-native twig-nesting bees may nest in the nest blocks, leading to unintended propagation non-native species.
- We need to provide pollen to bees, but bee pollen harvested from far-away sources contains viruses that can attack local bees.

Action items:

- More regulatory work - stop disease transmission coming in with bees from out of state. There is currently no oversight about disease.
- Promote local efforts to raise native bees and create a sustainable local bee culture.
- Investigate best practices and have farmers try them out. Are they cost effective? Should we adopt them?
- Consider habitat for managed bees – they need crops and other plants. Ensure that farm sites have other habitat available.
- Address non-native bee issues – if they are great pollinators, should we propagate them?

Question: Should we grow plants from outside our climate zone to provide bees with forage when weather is un-seasonal?

Many non-native plants that are great for pollinator habitat but still have other problems.

Conclusion

Secretary Deb Markowitz, Agency of Natural Resources

Pollinators as just one part of a complex ecosystem.

There's more that we need to learn, about the chemicals that we are using in agriculture and on home gardens. We also need to learn more about pollinator species.

Currently, we are all spending a lot of time thinking about chemicals - how many of these chemicals are in our daily lives?

How can we have thriving farms & thriving pollinators?

We have heard about lots of tools today that promote pollinator health. We know enough to make some changes that will benefit our pollinators. We have a path forward.

We also have opportunity to use these ideas within the Legislature Pollinator Protection Committee to keep moving this conversation forward.