Joint Meeting Between the New York and Vermont Citizens Advisory Committees on Lake Champlain's Future

November 8th, 2021
5:00 – 7:00 pm

DRAFT MEETING SUMMARY

New York Citizens Advisory Committee (NYCAC)

Committee Members Present: Vic Putman (Chair), Jackie Bowen, James Dawson, Ricky Laurin, Tom Metz, Hannah Neilly, Charlotte Staats, Fred Woodward
Committee Members Absent: Steve Kramer, Jane Gregware, Walt Lender, Bill Wellman

Vermont Citizens Advisory Committee (VTCAC)

Committee Members Present: Mark Naud (Chair), Denise Smith (Vice-chair), Eric Clifford, Bob Fischer, Lori Fisher, Hilary Solomon, Jeff Wennberg, Sen. Randy Brock, Rep. Carole Ode
Committee Members Absent: Senator Chris Bray, Rep. Kari Dolan, Wayne Elliott

Quebec Citizens Advisory Committee (QCCAC/OBVBM)

Andrej Barwicz, Francis Mailloux, Eric Beaudoin

LCBP Staff: Katie Darr, Colleen Hickey, Elizabeth Lee, Erin Vennie-Vollrath (NYSDEC), Sarah Coleman, Lauren Jenness, Laura Hollowell, Cynthia Norman, Eric Howe, Meg Modley, Myra Lawyer

Speakers: Dr. Alissa White, Brian Steinmuller

Public Guests: Tom Berry (Leahy's Office), Karina Dailey, Kent Henderson, Crea Lintilhac

5:00 – 5:25 pm

1. **Welcome and Introductions** – Mark Naud

Mark Naud welcomed attendees to the first joint meeting of the Citizens Advisory Committees. Members and attendees introduced themselves.

2. **Public Comments**

Tom Berry provided an update on the Infrastructure Bill which passed on Friday, November 5th. The legislation includes an additional $40 million across 5 years for the Lake Champlain Basin Program through the EPA in addition to annual appropriations. Annual appropriations are yet to be determined for FY22, FY21 appropriations for LCBP are $15 million. The bill includes substantial increases in EPA revolving funds for clean water and drinking water; $11.7 billion for each program over the next 7 years with 49% required to go out as municipal grants.

3. **ACTION ITEM:** Review and vote on Draft September 13th & October 18th VTCAC Meeting Summary & Draft October 25th NYCAC Meeting Summary – Mark Naud, Vic Putman

The review and approval of the meeting summaries will take place at the next CAC meetings.

5:25 – 6:25 pm

4. **Soil Health and Climate Presentation** – Dr. Alissa White

Dr. Alissa White, a Postdoctoral Fellow with the University of Vermont's Gund Institute, discussed the connection between healthy soils, water quality, and climate impacts and provided an overview of agroecology principles. Her presentation is included with the meeting materials, highlights and questions are included below.

The NRCS defines soil health as the "continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans." The ecosystem functions supported by healthy soils include water storage and filtration, carbon capture and storage, biological function and diversity, and productive capacity. There is a misconception that enhancing soil health always leads to water quality benefits. The two are related, but not always correlated. Water quality is impacted by static landscape characteristics and dynamic soil health characteristics. Investing in soil health to support water quality in the Lake Champlain Basin is not a silver bullet, though there are co-benefits associated with soil health and water quality. Management processes that enhance water quality and have soil benefits include crop rotation, cover cropping, reduction of tillage, mulching, nutrient management, and pest management to reduce the use of chemicals. Water quality best management practices can enhance soil health, climate mitigation, and climate resilience. Co-benefits of water quality best management processes include increased soil aggregation and reduced erosion; increased water holding capacity and drought resilience; increased organic carbon and carbon storage and sequestration; and improved infiltration and porosity and reduced storm surges. More research needs to be done to verify the outcomes for water quality best management practices, identify and reduce tradeoffs, understand and include unseen pathways, and reduce the use of pesticides.

Agroecology is a movement that applies scientific approaches to optimize the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems. Transformation frameworks outline different stages of agroecosystems and help farmers transition to more sustainable systems by meeting them where they are. Agroecology emphasizes the co-creation and sharing of knowledge and sees local and ancestral knowledge as a way to deal with the agricultural future of climate change. It incorporates the contributions of both scientists and farmers to support change and resilience.

Dr. White shared the preliminary results of a survey distributed to farmers and technical service providers that aimed to increase understanding of what enhances and limits their abilities to support soil health on Vermont farms. Broadly, financial incentives, knowledge and education, technical assistance, and community support and collaboration enhance respondents' abilities to support soil health. Funding, farmer capacity, data, policy concerns, and lack of connection between different stakeholders hinder respondents' abilities to support soil health. Dr. White also shared an overview of the State of Soil Health in Vermont project which aims to offer baseline insights to soil health in the state and provide farmers with information about soil health that is specific to their farm. Currently, the study is in Phase 2. Vermont's soils have higher organic matter content than the national average, which is expected given the clay soils and wet climate.

- Lori asked about the demographics of the farmers that were surveyed. Dr. White shared that in the first survey focused on farmers investing in soil health for climate adaptation, 194 farmers across the Northeast, primarily vegetable and dairy producers, were surveyed. The other survey which asked about the limiting and enabling factors to support soil health was part of a multistakeholder study, not limited to farmers. That survey received 145 responses and the respondents tended to be stewards.
- Mark asked for more information about the unseen pathways associated with water quality best management practices. Dr. White shared that she and Joshua Faulkner conducted a paired watershed study that looked at how two different management practices impacted the supply of ecosystem

services on cornfields (included with the meeting materials). Unseen nutrient pathways are the least understood but have large implications for the impact of a practice on ecosystem services. Not only do phosphorus and nitrogen runoff at the surface, but they also runoff at the subsurface after filtration. Subsurface nutrient runoff accounted for most of the hydrologic phosphorus export in this study. Soil carbon changes were also studied. When N_2O emissions were included, most of the fields were found to be a net contributor of greenhouse gases, outweighing the benefits of carbon sequestration. This study only looked at four fields, but it highlights the emerging need to research these unseen pathways and tradeoffs.

- Mark asked about the mechanical techniques for releasing spring crops. Dr. White explained that mechanical roller crimping instead of herbicides to release spring crops makes sense, though more research is needed. She added that research needs to focus on pesticides, not just herbicides as integrated pest management is important for invertebrate health. The use of herbicides in no-till and cover crop systems may result in gains in soil health, as more organic matter is retained, but we do not understand the tradeoffs as well because we do not measure herbicide in runoff.
- Jim asked how forested lands compare to agricultural lands. Dr. White clarified that she has not done specific research in forests. She noted that in forested lands, sequestration rates are high in the beginning as vegetation grows, but as forests get older there are not as many gains. Research from the Midwest is emerging that shows forested riparian zones uptake phosphorus for a period of time and then eventually become phosphorus sources. This is all contextually dependent and requires further research, it is not as simple as saying "forest good, field bad."

6:30 – 6:55 pm

5. **New York State Climate Council Update** – Brian Steinmuller

Brian Steinmuller, Assistant Director of the NYS Soil and Water Conservation Committee, presented a summary of agriculture and soil-related climate mitigation strategies previously shared with the New York State Climate Action Council. His presentation is included with the meeting materials, highlights and questions are included below.

The Climate Leadership and Community Protection Act was passed in July 2019 and seeks to accomplish ambitious reduction targets, mandating at least an 85% reduction in emissions below 1990 levels by 2050. The two major themes of the Agriculture and Forestry Advisory Panel's recommendations are agricultural emissions reductions and carbon sequestration in forests and on farms. Strategies for agricultural emission reduction include nutrient management, alternative manure management via innovative methods, and precision feed forage and herd management. Strategies for carbon sequestration in forests and on farms include avoided conversion of forest and farmland to maintain and enhance the state's carbon stocks, forest carbon mitigation, adoption of soil health management practices, agroforestry, improved forest management practices, forest carbon market, reforestation/afforestation, urban forestry planting and maintenance, and the development of a climate-focused bioeconomy. The strategies and recommendations take into account the benefits and impacts on disadvantaged communities. Strategies to increase research, planning, technical services, and financial assistance will place emphasis on access to technical assistance and funding programs to historically underserved and disadvantaged communities.

The slides include additional information about the Climate Resilient Farming Program, which Brian offered to come back and speak to the Committee about.

- Jeff shared that he had worked on the Center for Climate Strategies in 2009-2010 and was glad to see the basics from the interim report adopted and carried forward.
- Jackie asked for clarification on the role of young versus old forests in carbon sequestration. She also asked how seeing the accelerated development of more rural lands, like the Adirondack Park, has influenced the panel's recommendations. Brian clarified that his technical and policy background is more on the agricultural side than forestry. The Forestry subgroup had discussions and recommendations that include mixed-age forests for sequestration benefits. The Bioeconomy subgroup has discussed recommendations for mass timber design that promote the sustainable harvest and managed feedstock of timber into infrastructure. Dr. White added that in older forests, the amount of carbon sequestered increases, but the rate of sequestration declines over time.

6:55 – 7:00 pm

6. Meeting Wrap-Up Discussion

The next VTCAC meeting is on December 13th from 5:00 - 7:00 pm. Katie will be in touch with the NYCAC to determine a December meeting date that does not conflict with the holidays. Upcoming agenda items will include opportunities to provide feedback on the LCBP's 2022 version of Opportunities for Action and the International Joint Commission's Lake Champlain-Richelieu River Study recommendations.