NATURE-BASED
Climate Solutions Summit

Sommet des solutions
NATURE POUR LE CLIMAT

February 5-6, 2020

Wetlands Breakout Session

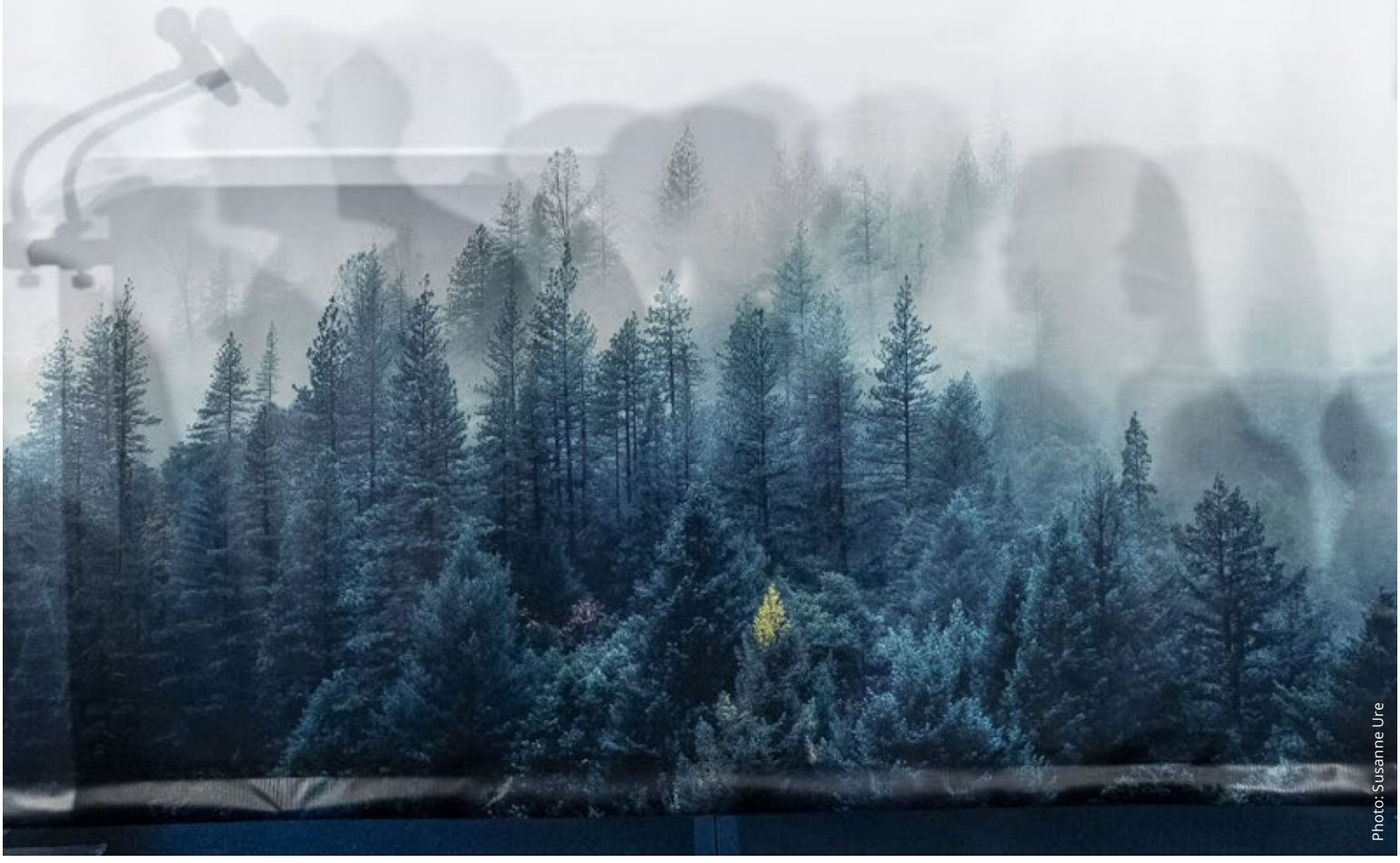

Photo: Susanne Ure

Wetlands Breakout Session

Session Moderator:
• Jim Brennan (Director of Government Relations, Ducks Unlimited Canada)

Speakers:
• Dr. David Browne (Director of Conservation, Canadian Wildlife Federation)
• Dr. Pascal Badiou (Research Scientist, Institute for Wetlands and Waterfowl Research, Ducks Unlimited Canada)
• Dr. Scott J. Davidson (Postdoctoral Fellow, University of Waterloo)

Introduction and Brief Presentations – Context Setting

Jim Brennan

- Welcome and introduction – this session explores potential opportunities and approaches to advance climate change action and biodiversity conservation in Canada's wetland landscapes.
- Building on the concurrent morning sessions, we focus on the potential roles of carbon offsets, natural infrastructure, protected areas, nature-based adaptation and restoration as tools to support wetland conservation in Canada.

David Browne

- Wetlands have been discussed throughout the conference because they provide valuable ecological services for mitigating (i.e., keeping carbon in the ground) and adapting to climate change and also because the scale and rate of wetland loss in Canada is unprecedented.
- In settled areas, up to 70% of wetlands have been destroyed or degraded, and we continue to lose ~29,000 acres every year.
- This session focuses on operational procedures and challenges to advancing climate action through wetland restoration and avoided conversion. We need to consider where and how wetlands can be used to support biodiversity and climate mitigation and the tools that we can leverage to advance wetland conservation.
- The valuable ecological services and many co-benefits that healthy wetlands provide for people and nature, (e.g., flood and drought mitigation, water quality and filtration, protection from sea-level rise, carbon storage and sequestration, species at risk habitat) are generally well understood. These services are significant and demand attention.
- These ecological services will be an important component of the billion-dollar nature fund.

Pascal Badiou

- DUC is undertaking research looking at the climate impacts of restored and conserved freshwater mineral soil wetlands.
- Research suggests avoided conversion of wetlands generally provides better outcomes for carbon

emission reductions and are more cost-effective than restoration. Restoration was found to be about 150% more expensive than avoided conversation.

- Wetland conversion and restoration are not currently part of the National Inventory Reporting for Canada's greenhouse gas emissions, which limits accountability. We need to pursue pathways to bring wetland-related emissions into the National Inventory Reporting.

Scott J. Davidson

- Canada's peatlands continue to face many threats, including linear disturbances, infrastructure, resource and peat extraction, mining, wildfire, and permafrost thaw.
- Peatlands store twice as much carbon as all of the world's forests. When peatlands are degraded, they can become massive sources of carbon.
- Avoided disturbance and restoring peatlands are the two best two ways of managing peatlands for climate change.
- Although peatland restoration can take a decade or more to return to being carbon sinks, it is important to restore what we have lost. Unrestored, disturbed peatlands are a huge carbon source in Canada.
- Restoration must be strategic, for example by reducing peat exposure during restoration and by restoring peatlands immediately post-extraction to enable the system to become a sink more quickly. If we must disturb them, we need to keep peatlands wet.

Discussion Groups

The session split into four discussion groups, each guided by one of the following four questions. Summaries of each discussion are included below.

1. **Carbon Offsets: How can wetland conservation & restoration be integrated into carbon pricing or carbon offset systems?**

   There was general agreement that offsets may be a viable tool for advancing wetland conservation and restoration in Canada; however, there are many barriers to integrating wetland conservation and restoration into carbon offset systems. These include:

   - Data and baseline information – (a) Canada lacks a comprehensive wetland inventory, and thus we lack baseline information upon which to build an offset protocol for wetlands (b) Wetlands are not incorporated into Canada's National Inventory Reporting.
     - Possible pathways to addressing these gaps: developing a compliance protocol for offsets that allows for determining the baseline for a project area; have wetland conservation in the voluntary carbon market until a baseline is established; clearly articulate why a completed wetland inventory is necessary to unlock carbon offsetting as a wetland conservation tool (i.e., cost is significant, but it shouldn't be a barrier).
     - Key question: Would the federal government move forward with establishing a protocol for offsets for emissions that are not captured in the national inventory reporting? Is it possible to create an effective wetland offset protocol without a baseline for wetlands and incorporating wetlands in the National Inventory Reporting?

- Carbon quantification – the science isn't quite there yet with the carbon quantification in peatlands and mineral wetland landscapes. This makes it challenging to demonstrate the emissions reductions and creates uncertainties. Recommendation - the funding for this science needs to be prioritized to inform the development of effective and meaningful offset protocols for avoided wetland conversion.

- Additionality and permanence – science tells us that the largest near-term benefit for emissions reductions from wetlands is in avoiding disturbance. However, this creates challenges with ensuring and proving additionality and permanence in developing an offset protocol. For example, in areas like PEI where salt marshes are restored but ice cover destroys the restoration effort, how do offsets deal with this?

- Definitions – need to clearly define what constitutes a wetland in the context of offsets (i.e., does it include coastal marshes and seagrass and associated blue carbon? where do lakes fit into this?).

- Consideration of co-benefits – wetland restoration and conservation provide many different values and types of benefits beyond carbon that need to be carefully considered when pursuing offset systems. The carbon value shouldn't come at an expense to biodiversity value, for example.

2. **Natural Infrastructure and the Co-benefits of Restoration: How can wetland conservation & restoration be advanced through investments in natural infrastructure that helps Canada adapt to climate change?**

   Participants agreed that new research and pilot projects on the use of wetlands as natural infrastructure to mitigate climate impacts are helping to make the link between wetlands and climate adaptation clearer. However, barriers remain that limit the degree to which we can leverage natural infrastructure investments to advance wetland conservation and restoration in a way that helps Canada adapt to climate change. The barriers and associated recommendations discussed include:

   - Building the economic case – there is still more work to do to demonstrate the financial case for wetlands as an effective and efficient form of natural infrastructure to mitigate climate risk. Most relevant public investments are directed at carbon and flooding – this is where we need to focus on building the case.

   - Co-benefits – capturing and valuing the co-benefits that come with using wetlands as natural infrastructure can complicate the economic case, but it is important that we find a way to clearly document and articulate these co-benefits.

   - Perception of wetlands as infrastructure assets – wetlands are often not viewed as assets through a provincial and municipal lens, and thus funding is not prioritized for wetland conservation, restoration, or maintenance and stewardship. We need to facilitate a shift in thinking, where wetland conservation and restoration are viewed as a form of infrastructure and a cost-effective means to climate resilience and adaptation. Wetland functions and benefits need to be internalized within municipal operational budgets and decision-making.

- Weak policies to protect wetlands – existing provincial wetland policies are too weak to protect and maintain remaining intact wetlands that provide infrastructure services. We need to move from policy to regulation for wetland protection and harmonize wetland regulations across all jurisdictions in Canada. This will require completing the Canadian Wetland Inventory to know the baseline for wetlands in Canada, increasing resources for enforcement, and ongoing monitoring for compliance.

3. **Protected Areas: What should the relative role be of public, private and OECM lands as a part of our overall climate and biodiversity strategies?**

   Public protected areas, privately protected areas and OECM lands are an important conservation tools to protect and conserve wetlands (including coastal wetlands), particularly in terms of carbon mitigation through avoided conversion of wetlands. However, there are a number of considerations that need to be addressed:

   - We need better rules (i.e., policies, regulations, requirements) to avoid disturbance and restore what has been lost or degraded. We need to look at wetlands policies across the country that maintain the base of habitat and set the stage for net gains.
   - Indigenous people must be central in decision-making on different tools of land protection and securement.
   - Policies must ensure that if there are trade-offs it is wetland for equivalent wetland in terms of size, geography and function.
   - We need to consider all of the values of wetlands when thinking about priority areas for protection – even when they are not near human settlement or infrastructure.
   - There is an economic advantage to privately protected land vs. just any land for public use.
   - Different ways of knowing - need to have respect for the different ways of knowing and their contribution to wetland conservation.
   - Education is important, including: understanding between Indigenous and non-Indigenous people; with general public; changing viewpoint of wetlands' value; wetland relationships; need to include Indigenous perspectives and science perspectives in education; that people occupy wetlands; changing the dialogue about wetlands.

4. **Adaptation and Restoration: How can wetland conservation & restoration play a role in the broader ecosystem recovery needed to address the wildlife and biodiversity impacts of climate change?**

   There are many gaps/barriers to advancing wetland conservation and restoration as a means to support broader ecosystem recovery in the context of climate change and biodiversity loss:

   - Weak legislative protections for wetlands
   - Lack of public knowledge of the importance and function of wetlands (wetlands are less in the public consciousness than forests)
   - High rate of loss of temporary or ephemeral wetlands

- Lack of progress on the national wetland inventory
- Difficult to document and quantify co-benefits of wetland restoration. Which types of wetland restoration have the greatest co-benefits?
- Wetland losses in Canada continue to outpace restoration
- Quantifying the carbon flux in wetlands is challenging due to varied geographies and wetland types.
- Downscaled climate scenarios for wetland loss and possible restoration priorities

Other considerations regarding wetland conservation and restoration:

- The motivation for wetland restoration cannot be just carbon in the ground. Wetland restoration needs to maintain a focus on the dual challenges of sequestering carbon and addressing biodiversity loss.
- Restoration needs to be strategic and in high value areas. The highest value for wetland restoration is often on private land from a biodiversity perspective.

Some of the best examples of where wetland conservation and restoration play a role in the broader ecosystem recovery needed to address the wildlife and biodiversity impacts of climate change is on agricultural lands. The North American Waterfowl Management Plan is an effective model for this. Other examples include the DUC wetlands in Prince Edward County – Point Petre Provincial Wildlife Area and the US Coastal wetland resilience program, which has restored many Great Lakes wetlands in Michigan.