

Amplifying the gaps between climate science and forest policy: The Write2Know Project and participatory dissent

THE POLITICS OF SCIENTIFIC EVIDENCE

I stumbled on a story about the fraught politics of scientific evidence in Canada while conducting research into the ways that scientists talk about forest ecologies. This research felt pressing at a time when the effects of climate change are making Canada's forests increasingly vulnerable to attack by insects such as the eastern spruce budworm and the mountain pine beetle, and to more [frequent and devastating fires](#). As an anthropologist, I wanted to understand how ecologists understand relationships among species, and how they build on or resist conventional scientific models of ecosystem dynamics to manage forest health.

From a close reading of the scientific literature, I found that there are all kinds of constraints on what ecologists can and cannot say; a whole range of permissible and impermissible ways of thinking and talking about forest ecology. Researchers are careful about what they say, and actively police one another to ensure that their explanations stay close to conventional scripts. The ecological models they rely on are grounded in an economic logic that subjects ecosystems to calculations of energy expenditures and resource use. Studies of forest nutrient cycling, for example, are concerned with nutrient sources and sinks, and the calculation of energy inputs and outputs. The behaviours of plants and insects in forest ecologies are modelled on a militarized economy in which plants are envisioned as conducting a kind of "chemical warfare" to resist insect pests, and their airborne signals are treated like botanical versions of Morse code (Hustak

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and Myers 2012). I wanted to understand how these pervasive metaphors shape what can and can't be known about forest ecologies today.

SCIENTIFIC COMMUNICATIONS BUREAUCRACY

Collecting information from the Canadian Forest Service website, I realized that my framing of the constraints on ecological discourse was too narrow. Discourse is not just what is said: it includes the conditions of possibility

for what can and what cannot be said. It turns out that the constraints on ecological discourse in Canada are not just shaped by the scientific community. What federal scientists can say and know is being dictated directly by their bosses. Far less subtle than the forces that shape scientific debates in research networks, what these scientists can and cannot say about their research to the Canadian public is being controlled by government and industry interests.

A massive scientific communications bureaucracy regularly intercepts journalists' requests for interviews with federal scientists working on "sensitive" issues like climate change, oil sands pollution, or the impacts of industry on biodiversity. Some requests are sent all the way up to the Office of the Privy Council, which reports directly to the prime minister. Scientists are being told



Logging in Canadian forests. Photo by Ruth Hartnup, Creative Commons License.

what they can and cannot share about their publicly funded research. This is an obstruction of their right to communicate freely, and the public's right to know about the health and safety of their bodies, communities, and environments.

This issue was first made public in 2011, when reports began circulating about the government's attempt to muzzle a federal fisheries scientist whose research was shedding light on the failure of wild salmon stocks (Monro 2011). In response, organizations like Evidence for Democracy and Our Right to Know began to challenge the government's cancellation of environmental research programs, the firing of scientists, the closure of libraries and archives, and the cancellation of the long-form census. Numerous reports showed that federal scientists' findings were being suppressed in the interests of pro-industry government policies, and that these policies were removing the impediments to industrial development and resource extraction by lifting requirements for environmental assessment and monitoring programs (Chung 2013; Linnit 2015; McSorely 2013).

INDUSTRY-FRIENDLY POLICY AGENDA

What I discovered, looking closer at the issue, is that government policies were also directing the research agendas of federal scientists and selectively appropriating scientific models that would benefit an industry-friendly policy agenda. The first clue was a public relations video hosted on the Natural Resources Canada website, under the category of Forest Resources (2013). The video features an interview with senior Forest Service scientist Dr. Werner Kurz, who specializes in the impacts of natural disturbances, forest management, and changing land use on forest carbon budgets. The video, set to ambient, orchestral music, moves between Kurz speaking to the camera, majestic views over old-growth forest landscapes, and scenes featuring the technological prowess of the timber

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industry. Kurz's narrative conveys to a lay public how climate science is shaping government forestry policies:

Canada owns about 10% of the world's forests. [W]e have a stewardship responsibility to understand how these forests contribute to the global carbon cycle in the exchange of greenhouse gases with the atmosphere. The research that we are doing ... is aimed at quantifying the contribution of Canada's forests to the global carbon cycle. One of the differences between managed and natural forests is that in the natural forest carbon is taken up from the atmosphere by trees and recycled back into the atmosphere through decomposition and forest fires. In the managed forest, we take the wood and the carbon to meet society's needs. A managed landscape tends to store somewhat less carbon than a natural forest landscape, but because it's generally younger forests, that landscape takes up much more carbon from the atmosphere.

Conventional models of carbon cycling describe forests as carbon sinks that can absorb carbon from the atmosphere.¹ By reducing atmospheric carbon, they appear to offset sources of carbon from industry and elsewhere. But forests are not just carbon sinks; they are also potential sources of atmospheric carbon, especially as they become prone to frequent forest fires. In this video, Kurz explains how young, managed forests absorb more carbon from the atmosphere than old-growth forests, envisioning a future Canada that

can mitigate climate change by bringing all old-growth forests under forest management.

Climate researchers are currently trying to figure out how to model the contribution of forests to global carbon budgets, but Kurz's claim short-circuits that debate. While climate change is undeniable, climate models and modelling techniques are only as good as the data that is put into them (Edwards 2010). There is an intensive debate as to what data should be used to best calculate forest carbon budgets. Researchers are learning that available models are inadequate, and that intensive forest management may actually increase the release of carbon from logged forests (Buchholz et al. 2014; McKechnie et al. 2014). Researchers have not yet achieved a consensus on how or whether to include forest carbon stocks in global atmospheric carbon budgets. Debates over the reliability of the data and the models make it highly problematic for governments to base their forest policy solely on these models. Indeed, a managed forest policy based only on carbon cycling contradicts well-established scientific evidence on the role of old-growth forests in maintaining biodiversity, plant and animal habitat, water and nutrient cycling, and soil stability.

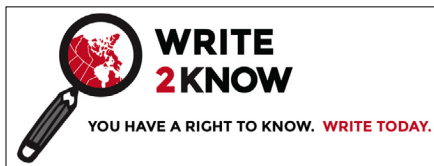
QUESTIONING THE GAPS BETWEEN EVIDENCE AND POLICY

I wanted to talk to Kurz about the gaps between scientific evidence and forest policy. I wanted to ask him: How do your findings account for debates in the climate modelling literature around best practices for the inclusion of forests in global carbon budgets? Are there gaps in your models and data that might cast doubt on a policy that promotes managed forests over old-growth forests? Do you feel that the full range of research is being considered in Canada's forestry policy? Is the government using these climate models and carbon budgets to promote increased resource extraction and industry-friendly policies? I knew that my attempts to

The Write2Know Project, page 20

contact Kurz directly would be deflected. So I co-created a campaign that enables members of the public to pose these very questions to Kurz.

Co-organized with Dr. Max Liboiron, and with support from the Politics of Evidence Working group, the Write2Know Project (<http://write2know.ca>) was launched in March 2015 to draw public attention to government obstructions to our right to know. Write2Know offers a platform for people to pose



questions to federal scientists on matters of public and environmental health and safety. Write2Know Week (March 23–27, 2015) mobilized hundreds of people across Canada and around the world to send over 3,000 letters to federal scientists and ministers. Each of the letters addresses serious gaps between research and government policy. In addition to a letter to Kurz on the misuse of evidence to promote resource extraction from Canadian forests, the letters grapple with oil sands pollution, the impacts of marine plastics, the cancellation of Aboriginal health programs, the destruction of archives, contamination in the Far North, and more. This campaign explicitly foregrounds ongoing colonial regimes that propagate environmental racism and keep Aboriginal communities disproportionately vulnerable to cuts to environmental monitoring and social research.

Our first Write2Know Week featured eight pre-drafted questions and letters. Federal scientists received one copy of the letter at the start of the campaign, and each quarter they receive an update listing the hundreds of people who have signed that letter. Federal ministers and ministry critics in opposition parties receive an email each time someone signs a letter. Though we have yet to receive a reply from Kurz and the min-

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isters who oversee his work, we have received supportive responses from critics of government ministries. We are making these issues heard by the very people who can change the debate in Parliament.

A SCIENTIFICALLY LITERATE PUBLIC

Rather than securing a division between expert scientists and a lay public, or a public dependent on scientists as the sole arbiters of truth, the letters demonstrate a scientifically literate public wanting to help shape the direction of inquiry. The campaign is thus not merely a call for access to the facts of positivist science, but for a more inclusive and collaborative form of inquiry responsive to the needs of communities and the toxic ecologies of “late industrialism” (Fortun 2012). As a robust platform for participatory democracy and a new kind of “civic technoscience” (Wiley et al. 2014), Write2Know will continue to connect communities and educators with Science and Technology Studies researchers and grapple with issues where science and technology intersect with social and environmental justice. 🍁

NOTES

1. See NASA video, “A Year in the Life of the Earth’s CO₂,” which animates in time-lapse the annual fluctuations of atmospheric carbon. Seasonal changes in the northern hemisphere shift the balance of carbon in the atmosphere. Summer months in the north correspond to increased uptake of CO₂ by actively growing forests. See <http://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=11719> (accessed July 24, 2015).

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Vancouver's Downtown Eastside continued from page 14

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The CSN-REC facilitates communication among Canadianists and holds an annual meeting to discuss issues of mutual concern and new developments in Canadian Studies.

<http://www.csn-rec.ca>

