

Caribou Count: Images, Infrastructure and Contested Indicators

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I call Shawn Haskell over Skype and record our conversation on my phone. Summer 2020, the Netherlands are in lockdown. During the 1990s Haskell worked on caribou crossing behaviour in the vicinity of one of the largest pipelines in the world: the Trans-Alaskan Pipeline System, TAPS for short. “If you want a real understanding of how those animals interact with the oil field just go watch,” says Haskell, who now works for a non-profit land conservation organization in New England. He sends me a number of photographs of caribou cows grazing close to the industrial structure with their calves. “There’s really been no measurable impact to anything,” he points out, referring to the pictures that show a healthy heard unimpressed by the large obstacle on their migratory route (Haskell 2020).

In recent years, conservation biologists and social science and humanities scholars working on the environment have called for new, interdisciplinary approaches to nature protection that stress the sociocultural aspect of conservation work and the material interconnectedness of environmental technologies, infrastructures and nonhuman life (Mascia et al. 2003; Barua 2021). Within the environmental humanities, especially, scholars have long pointed to the need to reconsider preservationist approaches to conservation that forbid any kind of human activity in protected areas (Cronon 1995; Marris 2011). Yet while images such as Haskell’s put individual caribou and their ability to adapt to human-made infrastructures centre stage, they have become contested indicators of successful impact mitigation that are easily shared and hard to argue against.

After the discovery of oil at Prudhoe Bay in the late 1960s, commercial plans for the pipeline caused much debate between proponents and opponents of Arctic oilfield development. This led to the introduction of impact assessment reports, first in the United States and then elsewhere, as discussed by the environmental historian Peter Coates (1991). In the early stages of the debate, a significant focus was placed on the migratory caribou in the area of the larger TAPS structure. These huge herds of annually migrating caribou, which travel up to 650 kilometres between their summer and winter ranges, are a dominant species in the Alaskan ecosystem. The caribou are also closely linked to local Indigenous traditions of living with the land and its animals – lifeways that were increasingly challenged by the market-based approach of the Alaska Native Claims Settlement Act of 1971 that transferred federally controlled land to native-owned economic development corporations (Anderson 2007). Since the completion

Caribou under the Trans-Alaska Pipeline.

Photo: Tim Craig, Bureau of Land Management Alaska, 2004, CC 2.0.



of the pipeline in 1977, then, caribou have become key indicators of the health of the ecosystem. They remain caught up in professional disagreements between two camps of wildlife biologists on how to measure the ecological impact of the big extractivist infrastructure (Schleper 2022).

The archives of the Royal Geographical Society contain a draft statement from the World Wildlife Fund, the International Union for Conservation of Nature and Natural Resources, and the International Biological Program (Nicholson 1971). This statement, drafted by leading figures from these three organizations, did not condemn the pipeline. Instead, in the utilitarian spirit of post-Second World War conservation, the TAPS was presented as an opportunity to prove the possibility of combining ecologically grounded conservation and industrial infrastructural development. According to the statement, the companies involved in construction had sufficiently fulfilled the environmental mitigation requirements by mounting and burying sections of the pipeline, allowing large mammals – such as caribou, moose or elk – to pass above or underneath.

TAPS and Dalton Highway.
Photo: Bureau of Land Management Alaska, 2021.
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In fact, from the 1970s onwards, the TAPS became a key site for behavioural researchers and wildlife professionals interested in understanding the compatibility of conservation and development. In 1971, researchers at the University of Alaska, Fairbanks, conducted some initial experiments with simulated pipelines, using snow fences and oil barrels, to understand how migratory mammals, especially caribou, would be affected by the pipeline (Child 1973). After the construction of a haul road to Prudhoe Bay in 1974, regular observations began. In particular, researchers at the university, the Alaska Department for

Research on the effects of the pipeline continued into the 1990s. In 1991, the North Slope Borough, the ADFG, the US Fish and Wildlife Service, and the Alaska Oil and Gas Association, which included oil companies involved in the TAPS project, such as Alyeska, BP, Exxon and Conoco, established a steering committee on caribou. They hired LGL to report on the effectiveness of the different types of infrastructure used to mitigate the environmental impact of the TAPS, such as overpasses and underpasses. Counting and capturing on camera caribou crossing the pipeline, LGL researchers even suggested that during the summer months, some of these animals actively sought out the infrastructure (Truett et al. 1994). Gravelled areas and shady places under elevated sections of the pipeline seemed to offer some relief from flies and mosquitoes. Published in 2002, the renewed environmental impact statement for the TAPS drew heavily on this research by LGL, emphasizing the learning abilities of caribou, and presenting overpasses and underpasses as successful mitigation measures (Argonne National Laboratory 2002).

Photographs showing big-eyed calves and their surprisingly gregarious mothers next to pipes and pumps are indeed compelling. As the caribou do not seem to mind the structure, these images provide powerful indicators of the wellbeing of the future of the herd. Yet the focus on direct observation and overall population numbers of caribou as general indicators for the environmental impact of drilling has made it easy for industrialists to argue for more oil development in the Arctic. Up to today, oil companies and Republican politicians are trying to expand Arctic drilling in Alaska to areas considered crucial for wildlife, for instance in the Arctic National Wildlife Reserve, east of Prudhoe Bay (White 2021).

In fact, the focus on caribou counts has made research into the broader, diverse ecological effects of the TAPS more difficult. In an email conversation of June 2020, Don Russell, an ecologist who investigated the impact of the pipeline infrastructure on trophic cycles between different organisms within the Arctic ecosystem recounted the difficulties of arguing against images such as those by Haskell: “I remember one of the industry biologist consultants saying: ‘So what if feeding declines by five percent, show me the bodies.’ In other words, [we had to demonstrate] that these documented effects have an impact at the population level.”

Therefore, this is not only a political discussion, or not simply one about whether oil drilling should be allowed in perhaps more pristine Arctic environments. When looking through the large body of reports on the compatibility of the pipeline and caribou health on the one hand, and those pointing to the multiple effects of extraction infrastructure, roads and potentially spills on Alaskan ecosystems on the other, we can see that authors from both camps are diverse in their political inclinations. They have worked variously for consultancies, government and state institutions, and the university, while the industry has been funding most of the biological research in the area. Instead, this is a discussion about scientific indicators and the proper ways to measure impact. Overall, the emphasis on caribou behaviour, observed crossings and population counts has made it more difficult to examine and argue for the cumulative impact of the pipeline. The neglecting of these cumulative impacts – including the various ecological, sociological and cultural effects of the pipeline, adjacent roads, development work, increased noise levels and a stronger human presence in the area – on biodiversity loss, permafrost degradation, air and water quality, and the disturbance

of traditional resource-use practices by the Iñupiat, is increasingly recognized (Nuttall 2010; Sakakibara and Ahtuanguaruk 2021).

The case of the TAPS and the presence of Alaskan caribou as sole indicators of its impacts has wider significance. Recent social science literature on conservation in modified environments has called for a sharper focus on animal behaviour and an understanding of animals as active agents in the conservation process, able to learn and adapt to changes in their environment (Lorimer 2015). Yet critical voices have called for closer attention to the different ways in which scholars in the life sciences have attributed agency to their research subjects (Krause and Robinson 2017; Rees 2017; Cassidy 2019). The history of the TAPS, then, demonstrates that a focus on highly visible and adaptable animals may inhibit the understanding of the cumulative effects of industrial infrastructure development, including various interrelated ecological and social impacts on people and environments.

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