



Wildlife and Oil and Gas

In Alberta and northeastern British Columbia, the web of oil and gas development has had harmful effects on many wildlife species.

Impacts range from loss of habitat to poisoning to a reduction in herd size and home range. Species in decline because of industrial development in Alberta include caribou, lynx, martin, fisher, wolverine and various bird species.¹

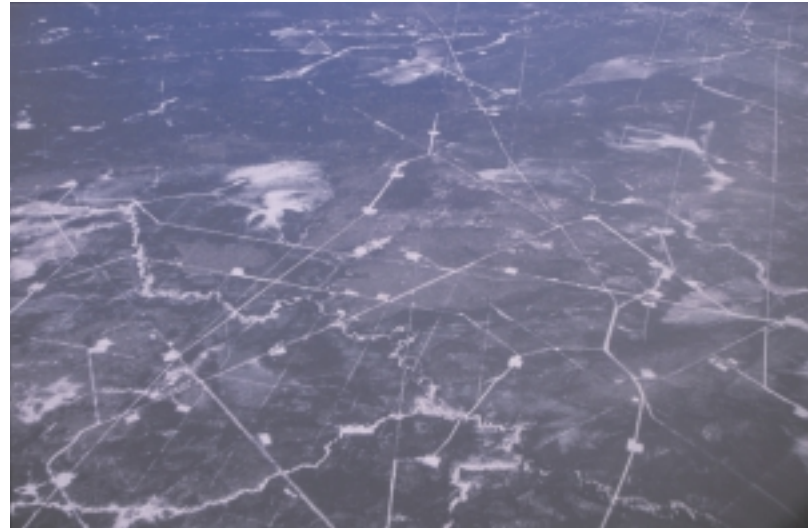
The Web of Development

Building an oil and gas field requires a lot of people and equipment. Large areas of the land must be cleared for drilling well pads, workers camps and related facilities. More roads will be developed to connect the operations. Compressor stations are built at well sites and along pipelines to pump the oil and gas to market.

To install a pipeline, plants and trees are cleared in a wide corridor of 10 to 30 metres. Several roads must be created along the length of the corri-

dor to allow crews to lay in, and later service, the pipeline. This corridor is permanent, although reduced to a narrower width once the pipeline is operating.

This web of development disrupts the way animals use the land for eating and cover, and affects their movement and migration patterns. Studies have shown animals such as caribou avoid cleared corridors, well pads and roads.^{2,3} Proximity to roads also puts them at higher risk of being hunted by wolves.⁴ Animals such as fisher, lynx and marten have decreased significantly in areas with intense industrial activity.⁵ Bird species can also decline after devel-



▲ The web of roads, well pads and related oil and gas facilities put stress on local wildlife populations. CREDIT: WAYNE SAWCHUK

opment,⁶ and some are sensitive to industrial noise. A recent study showed that compressor station noise muted male bird songs resulting in significantly less breeding.⁷

Roads and pipeline corridors allow people easier access to an area. This can lead to increased hunting and poaching. More animals are at risk of being hit by cars and recreation vehicles, and the noise and presence of machines may cause them to avoid the area.

1 The Pembina Institute and the Canadian Parks and Wilderness Society, Edmonton. 2006. *Death by a Thousand Cuts: Impacts of in situ oil sands development on Alberta's boreal forest.* p. 50.

2 Dyer, Simon J., Jack P. O'Neill, Shawn M. Wasel and Stan Boutin. "Avoidance of industrial development by woodland caribou." *Journal of Wildlife Management.* 2001, 65:531-542.

3 James, A.R.C. and A.K. Stuart-Smith. 2000. "Distribution of Caribou and Wolves in relation to linear corridors." *Journal of Wildlife Management* 64(1): 154-159.

4 Dyer, S.J. 2000. *Summary of Master of Science Thesis: Movement and distribution of woodland caribou in response to industrial development in northeastern Alberta* (University of Alberta, 1999).

5 Nielsen, Scott, Erin Bayne, Jim Schieck, J. Herbers, and Stan Boutin, "A new method to estimate species and biodiversity intactness using empirically derived reference conditions." *Biol. Cons.*, in review.

6 Cumming, S., and F. Schmiegelow, in *Alternative Futures: Alberta's Boreal Forest at the Crossroads* by Richard Schneider (2002), p. 74.

7 Habib, L, E.M Bayne and S. Boutin. 2006. "Chronic industrial noise affects pairing success and age structure of ovenbirds." *Seiurus aurocapilla. Journal of Applied Ecology* – in press.

Wildlife and Toxins

If not properly handled, many chemicals used by the oil and gas industry can be toxic to wildlife. The Saulneau and West Moberly First Nations found sick moose in the Del Rio area near Chetwynd, British Columbia.⁸ The moose and deer were visiting well sites and drinking and eating contaminated water and soil. Bears, wolves and coyotes drawn to the site to hunt the deer and moose also drank and ate the contaminated water and soil.

Stressed Out Wildlife

Continued exposure to oil and gas operations on the landscape may cause some animals to experience stress over long periods of time, ultimately affecting the entire population. Stressed animals may not rest, eat properly or pay attention to predators. Caribou have been known to move around more when there is a lot of noise, thereby using up their energy.⁹ Similarly, scientists in Alberta are concerned that long-term stress on grizzly bears may have negative effects on health.¹⁰ These effects include a decreased

ability to fight disease, lower reproductive rates (less cubs born), low birth weights and decreased growth.

Minimizing Impacts

No oil and gas project is without impacts. However, companies can minimize impacts by using the best technology and practices possible. Companies should be required to do the following:

- Not undertake development until monitoring is in place to detect impacts.
- Stay away from important wildlife areas. For example, choose a previously disturbed pipeline route.
- Reduce noise. Compressors stations should be surrounded by noise barriers.
- Clean up toxic areas, monitor them and fence them in to protect wildlife.

Remember development results in unavoidable impacts, even when best practices are used.



Moose, deer and other wildlife can become sick after drinking contaminated water that collects in sump pits and flare pits.

CREDIT: SAULNEAU AND WEST MOBERLY FIRST NATIONS

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8 Wildland Resources, 2004. *Petroleum Contaminants Community Research Project Final Report*. Prepared for Health Canada, Saulneau First Nation and West Moberly First Nation. 67pp.
9 Bradshaw, C.J., S. Boutin and D.M.Hebert. 1997. "Effects of Petroleum Exploration of Woodland Caribou in Northeastern Alberta." *Journal of Wildlife Management*. 61(4):1127-1133
10 Stenhouse, G.B. and K.Graham. (Eds.). *Foothills Model Forest Grizzly Bear Research Program 2005 Annual Report*. 92 pp.