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## **Pipeline Construction and Operation**

### **Position**

Alberta Wilderness Association (AWA) believes pipelines pose significant risks to human and environmental health. Pipelines must be built to the highest possible standards of safety. Pipelines must be routed to avoid impacts to environmentally significant areas including regionally designated areas, protected areas, critical wildlife habitat, intact fragments of grasslands and parklands natural landscapes, and AWA areas of concern, as depicted on our Wild Alberta map. The use of best management practices to minimize disturbance is essential and corridor access must be monitored and controlled through locked gates. Effective monitoring and harsh penalties for noncompliance or environmental damage is imperative.

AWA believes the public needs more evidence that Alberta's older pipelines are safe, that important ecosystems are preserved through appropriate route planning and best management practices (BMPs) and that approvals are being given with public and ecological health and best interests in mind.

### **Points of Emphasis**

Central to the advocacy work of AWA is the protection and preservation of intact, representative ecosystems across Alberta.

Alberta is criss-crossed by more than 400,000 kilometres of pipeline, of which 85% are oil and gas pipelines.

A pipeline corridor (or right-of-way) is the area cleared to accommodate pipe diameter, and construction, maintenance and regulation activities. These corridors generate a significant developmental footprint upon the landscape. Typical corridors are between 15 and 18 metres in width, while larger pipelines may require corridors up to 45 metres wide.

Pipeline systems play a vital role in delivering the energy demanded by North Americans—due to their sheer number and distance covered as well as the considerable environmental and human health risks, pipelines must be better planned, managed and regulated.

Potential environmental impacts associated with pipeline construction and operations include the following:

- Land and water contamination from oil and gas, or saltwater releases (spills)
- Loss and fragmentation of wild habitat
- Loss and fragmentation of natural vegetation and rare species- prairie, mountain, forest, wetland, parkland
- Loss of soils through mixing or erosion
- Soil compaction
- Reduced land capability and productivity in agricultural, prairie and forested areas
- Increase in weeds and invasive plant species
- Greater access for public and off-road vehicles to natural areas
- Increased exposure of wildlife to humans



- Stream sedimentation
- Impairment of fish habitat

Pipelines must be routed to avoid environmentally significant areas (ESAs) as much as possible. Where a pipeline route does unavoidably intersect ESAs or important wildlife habitats, adequate mitigation measures must be developed and agreed to through public consultation at the time of project approval, before the damage occurs.

Though some best management practices (BMPs) have been developed to address concerns, the environmental impact resulting from pipeline construction and operation remains substantial.

The cascade of ecosystem effects resulting from habitat fragmentation are of particular concern, as habitat loss and fragmentation can be attributed to the rapid decline of our most sensitive species.

Specific requirements must be attached to all development approvals (whether in wilderness or not) with the ultimate goal of an overall reduction of linear disturbance density throughout the province.

All approvals must be subject to a “no new net surface disturbance” rule, and there must be provisions in place to regulate access along industry roads. Similarly, pipeline rights-of-way and associated surface disturbances must be minimized and controlled.

Operators should use and/or share existing rights-of-way for pipelines and infrastructure wherever possible.

Wherever possible, pipeline infrastructure should be buried underground.

Roads not in regular use for more than two months should be deactivated, and reclamation of roads should take place within one year of last use.

Wherever feasible, horizontal directional drilling methods should be used to cross watercourses under all fish bearing streams and environmentally significant areas. Measures must be implemented to ensure minimal damage is inflicted upon both drilling and target areas throughout the construction process.

Better regulation and enforcement are necessary to ensure pipeline integrity.

- The risk of failure (such as a rupture) in a pipeline increases substantially with pipeline age. More than 40% of Alberta’s pipeline system was built before 1990.
- According to the Energy Resource Conservation Board (an independent, quasi-judicial agency of the Government of Alberta responsible for pipeline regulation), for every 1,000 km of pipeline in Alberta 1.7 failures occur each year, based on 2009 data (ERCB).
- Considering our landscape is fragmented by over 400,000 km of pipeline, this predicts approximately 680 failures per year.
- Though some may be small-scale “releases”, the number of large-scale failures that occur each year indicates the monitoring and regulatory regime of the ERCB is unable to prevent significant releases resulting in extensive damage.





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### **Keystone XL pipeline**

AWA is concerned with the further destruction of dwindling native grasslands. The lengthy list of sensitive species that rely upon intact grassland habitat that will be impacted by the Keystone XL project has not been adequately considered in the approval process for this pipeline.

TransCanada's Keystone XL pipeline is a 2,673 kilometre crude oil pipeline, which would begin in Hardisty, Alberta, pass southeast through Saskatchewan, and into the United States, eventually connecting the Alberta oilsands to refineries located on the U.S. Gulf Coast.

This project received regulatory approval in Canada from the National Energy Board (NEB) in 2010.

As part of the NEB approval process, the project underwent an environmental assessment by Environment Canada. The key environmental issues identified along the pipeline route included:

- Rare plants and rare ecological communities, including wetlands
- Fish & fish habitat- route would cross several streams and rivers.
- SARA-listed bird species include Sprague's Pipit, Loggerhead Shrike, Long-billed Curlew, Burrowing Owl and Ferruginous Hawk
- SARA-listed mammals include Ord's Kangaroo Rat and Blacktailed Prairie dog

Despite this, and taking into account the implementation of "proposed mitigation measures", the project was deemed unlikely to have "significant adverse environmental effects". AWA has no confidence mitigation measures will prevent further destruction of native grassland or the sensitive species whose survival depends on this habitat.

The lack of integrated international environmental assessment process for trans-boundary projects is missing in the Keystone XL Pipeline process is also of great concern. There is currently no assessment process that considers the effect Keystone XL will have upon species whose habitat transcends international borders.

The Greater sage-grouse is listed as *Endangered* in Canada, and as a candidate species for the U.S. Endangered Species list. This past year, only 13 males were recorded in Alberta, and their habitat has been all but destroyed in southern Alberta due to extensive industrial development. The pipeline and related infrastructure will transect the little remaining sage-grouse habitat in Alberta and Saskatchewan, and further fragment the habitat of endangered sage-grouse in Canada and the United States.



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### **Northern Gateway Pipeline**

AWA supports environmental and First Nations colleagues in British Columbia, as they work to oppose and mitigate the extensive environmental risks posed by Enbridge's Northern Gateway Pipeline.

The proposed Northern Gateway Pipeline will involve a new twin pipeline system running from Bruderheim, Alberta to a marine terminal in Kitimat, British Columbia. One pipeline will carry bitumen from Alberta to be shipped from British Columbia to Asian refineries. The other will import condensate, an acutely toxic liquid used to thin petroleum products for pipeline transport, to Alberta. The proposed project will have the capacity to export 525,000 barrels of petroleum products per year. In order to fill this pipeline, it is projected that oilsands production would have to increase by 30%<sup>i</sup>.

Though the 1,172 kilometres of pipeline manage to avoid AWA's Areas of Concern (as depicted in the Wild Alberta map), it will nonetheless fragment vast areas of habitat and wilderness across Alberta and northern British Columbia.

The Northern Gateway project will cross a half dozen mountain ranges, hundreds of streams and a number of major rivers, including the headwaters of the Fraser River and the Skeena River.

The highly contested project also involves constructing a new marine terminal on the pristine coast of British Columbia, the gateway to the Great Bear Rainforest. As a result, approximately 225 oil tankers would travel to and from this port each year, some with the capacity to carry up to 2 million barrels of oil.

According to Enbridge, the potential wildlife effects of the pipeline would involve reduced wildlife habitat, changes in wildlife movement patterns (particularly along the right-of-way), and increased mortality from potential vehicle collisions or illegal hunting activities. AWA believes the risks posed to wildlife and wilderness areas by the continued fragmentation of our landscapes, as well as the transport of highly dangerous materials through challenging terrain, cannot be mitigated through BMPs. As well, the risks posed to the world-renowned coastal marine ecosystems over which tankers would travel to transport raw bitumen to Asian refineries are extremely high. AWA believes the environmental assessment must also consider the significant environmental impacts associated with increased oilsands production.

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Pembina, 2009. *Opening the Door for Oilsands Expansion: The Hidden Environmental Impacts of the Enbridge Northern Gateway Pipeline*. [www.oilsandswatch.org](http://www.oilsandswatch.org)