TransCanada's Eastern Mainline Project
Environment

Committed Stewards of the Land

TransCanada's commitment to the land we build on is a priority – and has been for 60 years. Our ability to stay in business is, in part, dependent on our record of land and environmental stewardship. In short, if we don't respect and protect the land we cross as much as the landowners who grant us the easements do, we would be putting our reputation and business at great risk – a risk we simply can't afford to take.

Over the course of our 60-year history, TransCanada has successfully restored hundreds of thousands of acres of land in many different eco-regions, following tens of thousands of miles of pipeline construction throughout North America.

TransCanada has successfully constructed pipelines and restored affected lands in arid grasslands, in mountainous regions, in sandy soils, in muskeg, in wetlands and in rich crop lands. Our commitment to the protection of the land does not end with successful restoration after construction. After the land is restored, TransCanada's operating staff assumes responsibility, working with landowners along the right-of-way to ensure the pipeline and use of the land do not adversely impact each other – a process that continues throughout the life of the pipeline. This is just one of the functions fulfilled by our operating staff along the pipeline corridor and by staff at TransCanada's offices across the country.

Reclamation Procedures

Once the project has been constructed, TransCanada will work to reclaim the land to ensure equivalent land capability is achieved and biological diversity is maintained.

TransCanada will maintain a right-of-way easement for the lifespan of the pipeline, and will work with landowners to address any issues that might arise due to its activities.

- Planning for reclamation of the pipeline right-of-way takes into consideration the results of soils, vegetation, wildlife and fisheries surveys, as well as information on current land use.
- Vegetation inventories provide information on the vegetation communities crossed by the pipeline and provide the basis for reclamation seed mixes.
- Current land use (native range, improved pasture, hay land, cultivation, and others) information is gathered to aid in determining construction and reclamation procedures to be implemented on a particular parcel of land.
- Soil survey information is used to determine appropriate soil handling techniques to conserve topsoil and prevent soil horizon mixing.
- Wildlife and fisheries surveys are used to identify areas where specific reclamation measures, such as specialized stream bank restoration measures are required to re-establish fish and wildlife habitat.

Aquifers, Rivers and Lakes

The Eastern Mainline Project team understands the important role all aquifers, rivers and lakes play in maintaining sensitive and vital ecosystems in Ontario. Aquifers are important sources of drinking water, and rivers and lakes provide habitats for fish and wildlife, including species at risk. Rivers and lakes also provide valuable recreation opportunities such as boating and fishing for local communities to enjoy.

TransCanada will use the information from our open houses, meetings with landowners, regulatory agencies and Aboriginal communities, along with environmental studies to understand the potential impacts the Project may have. Appropriate mitigation strategies will be put in place.

Aquifers, rivers and lakes will be protected during construction

The Eastern Mainline Project has carefully considered and will continue to study these important bodies of water during project routing and design. Wherever possible, crossings of these features are avoided or located so that any possible disturbances are minimized. Project planning will include environmental desktop and field studies, as well as consultation with the public, other stakeholders, and regulatory agencies at the provincial and federal levels to gather site specific information to include as part of the Environmental and Socio-Economic Assessment.

Design, construction and method of crossing will be based on industry proven construction techniques, information gathered from studies and stakeholders, input from engagement activities and regulatory compliance requirements. Additional protective design features, such as heavy walled pipe and burying the pipe deep in the ground are applied at watercourse crossings. Mitigations measures to be implemented during construction, such as effective sediment and erosion control mechanisms, measures to protect fish and fish habitat, and reclamation plans aimed at re-establishing biological diversity and habitat will be developed and included in the Environmental and Socio-Economic Assessment and Environmental Protection Plan.

The Eastern Mainline Project will conduct post-construction monitoring to confirm the effectiveness of the mitigation and respond to any areas that require additional mitigation work.

Wildlife Protection

The Eastern Mainline Project recognizes the value of wildlife and wildlife habitat. In order to understand all of the potential interactions between wildlife and the construction and operation of the project, the Eastern Mainline Project will review and interpret information gathered during environmental studies, as well as through consultation with regulatory agencies, Aboriginal communities, and other stakeholders. This information will be used to thoroughly evaluate potential effects and develop appropriate mitigation strategies to avoid or minimize impact on wildlife and its habitats.

The Eastern Mainline Project is committed to the protection of wildlife species and habitats during the construction of the project.

Project planning will include environmental desktop and field studies, as well as engagement activities, to gather site specific and regional data that will be incorporated into the Environmental and Socio-Economic Assessment (ESA). This information will also be considered during route selection and design of the pipeline, and will inform the development of mitigation strategies to be used during construction. Mitigation may include measures such as avoidance of sensitive areas and life-cycle stages, conducting pre-construction surveys, having wildlife monitors on site during construction, and employing short-term and long-term reclamation strategies.

The Eastern Mainline Project is committed to developing effective mitigation strategies and other protective measures that comply with federally and provincially published recovery strategies (i.e. Species at Risk Act (SARA) listed and provincially listed species).

Mitigation strategies that will be implemented during construction will be included within the Environmental and Socio-Economic Assessment (ESA) and Environmental Protection Plan (EPP). These plans will contain monitoring, mitigation and response plans. Post-construction monitoring will be conducted to confirm the effectiveness of mitigation strategies, reclamation and habitat restoration activities.

Wildlife species will be protected during operation of the project

Due to the low-impact nature of most operation and maintenance activities, the risk of impacts to wildlife species during operation of the project is extremely low and in most cases non-existent. Prior to operations work that requires any ground disturbance along the route, review of project data, and employing TransCanada's technical Operations Procedures (TOP's) will ensure that effects to wildlife and habitat are avoided.

Vegetation management and protection of wildlife species

To manage vegetation growth while at the same time ensuring the protection of wildlife and wildlife habitat during operations, chemical and mechanical control measures may be used within certain areas such as provincial or federal crown lands. Vegetation control occurs on the right-of way in these areas to ensure the pipeline is easily visible to prevent accidental third-party damage, while at the same time allowing regrowth of vegetation on right-of-way edges, conducive to providing wildlife habitat.

Route Selection and Water Crossing Pipeline

Route Selection Considerations

Project routing is a complex evaluation of potentially conflicting land uses. The major factors which influence the pipeline route consist of the following: current land use, environmental resources, existing corridors, engineering and constructability challenges, operational influences, responsible development of project footprint and economics.

Stakeholders, landowners and Aboriginal communities will be engaged, ensuring valuable information gathered can be incorporated into our planning and routing options.

Existing linear disturbances and existing corridors are preferentially followed where possible to minimize environmental and social effects.

Environmental studies which may influence the project route will consist of the following field studies:

- Fisheries and hydrology
- Vegetation and wetlands
- Wildlife and wildlife habitat
- Species at Risk
- Air quality and noise
- Traditional land use
- Archaeology and heritage resources

Water Crossing Considerations

Design and construction methods for watercourse crossings are based on:

- Industry proven engineering and construction techniques
- Information gathered from engineering and environmental studies
- Input from engagement activities
- Regulatory compliance requirements

Typical Industry watercourse crossing methods consist of the following

- Trenchless: does not involve in-stream work. Horizontal directional drilling is a common trenchless method
- Isolated crossing: uses either a flume or dam and pump system
- Open cut: generally used when the watercourse is dry or frozen tothe bottom, has limited fisheries value, or as a contingency crossing method for large river crossings.

TransCanada
In business to deliver