

Westcoast Energy Limited Partnership (Westcoast), an Enbridge Inc. affiliate, is pursuing the Sunrise Expansion Program, a proposed expansion of the southern part of its natural gas pipeline system in British Columbia. This expansion includes the installation of new pipeline loops, which are segments of a pipe generally placed parallel and connected to the existing pipeline system.

Construction of the pipeline loop will require digging a trench for placement of the buried pipeline. In the Fraser Valley, groundwater can fill the trench rapidly due to the high groundwater table, which means the water underground is found very close to the surface. To keep the work area dry, water management may be required through dewatering, a process of pumping water out of the trench.

Therefore, Westcoast has applied to the British Columbia Ministry of Environment and Parks for approval under section 15 of *Environmental Management Act* to allow for short-term release of treated trench water into local watercourses. Trench dewatering is tentatively scheduled to begin April 2027. The approval will be valid for up to 15 months.

A Technical Assessment Report has been prepared to support the application for approval (Tracking #447386). This includes a project description, description of environmental setting, discussion of mitigation and management during release of water, an effects assessment, and monitoring plans.

The Agassiz Loop is an approximately 13.4 kilometre pipeline segment to be installed from northeast of Seabird Island to south of Agassiz, between Compressor Station (CS) 8B and CS-9. During construction of the loop, groundwater expected to flow into the trench will be dewatered and released to surface watercourses at proposed discharge locations (PDLs).

Existing Conditions and Water Quality Results

To support construction planning and the Technical Assessment Report, Westcoast monitored groundwater and surface water quality and quantities to understand surface water flow and quality for each PDL. Results showed elevated nutrients and metals in groundwater, consistent with expected local concentration ranges for this area of the province.

Groundwater quality data were also compared to provincial surface water quality guidelines for freshwater aquatic life (guidelines), which are relevant for discharge of groundwater into the PDL watercourses (receiving environments). The science-based guidelines set limits for elements in water – such as iron, nitrates and mercury – to protect freshwater aquatic life. The guidelines include long-term values for prolonged exposure, and short-term values for brief or infrequent exposure. Values above long-term or short-term guidelines do not necessarily indicate negative effects are expected. Instead, they serve as screening tools to help identify conditions that may warrant further evaluation.

The Agassiz Loop has four PDLs, three of which are located on the Fraser River with the fourth location on Hicks Creek. Surface water monitoring results indicate that these watercourses have existing values above guidelines for multiple elements, including copper, iron, mercury, and zinc.

Groundwater Management and Mitigation

During pipeline construction, groundwater will be pumped from the trench through various dewatering methods, including the well point system. This is an effective way to lower the groundwater level at construction sites by using a series of small wells installed around the trench, called well points. These well points are connected to a header pipe to pump the groundwater out and keep its levels down before it can seep into the trench.

The collected groundwater will be treated prior to discharge to meet guidelines or existing conditions (for elements that are above guidelines in surface water); these values are the ‘proposed discharge limits’ requested in the application for approval. Treatment methods may include one or more of sediment removal, clarification, filtration, and aeration/oxidation, depending on the groundwater quality.

Treated groundwater will be released to the PDLs through temporary piping. Proposed discharge rates are PDL-specific and were developed so that discharge is unlikely to have a negative effect on aquatic animals and their habitat. Westcoast is currently considering two approaches for controlling the release of water into the receiving environments: 1) an instream floating discharge structure; or 2) the use of a perforated pipe placed at the top of a bank. Both approaches are focused on reducing the potential for erosion and disturbance of the watercourse bed and banks.

Summary of Proposed Discharge Limits and Monitoring Program

Table 1 provides a summary of the proposed discharge limits by watercourse. Table 1 also provides an overview of the discharge and receiving environment monitoring programs to be implemented when Westcoast is actively discharging. The discharge and receiving environment monitoring programs were developed in consideration of baseline information, discharge mitigation and management, and the effects assessment.

Table 1 Proposed Discharge Limits by Watercourse and Related Monitoring Programs

Parameter	Proposed Discharge Limit for End-of-Pipe		Monitoring Programs		
	Fraser River	Hicks Creek	Method	Frequency	Location(s)
Maximum discharge rate in cubic metres per second (m ³ /s)	0.284 m ³ /s	May 1 to August 31: 0.050 m ³ /s September 1 to April 30: 0.013 m ³ /s	Inline monitoring	Continuous (e.g., 15-minute intervals)	End-of-pipe
Total suspended solids	25 milligrams per litre or background values, whichever is greater		Grab sample	Weekly	End-of-pipe Upstream and downstream*
pH	6.5–8.5		Field-measured	Daily	End-of-pipe Upstream and downstream*

Parameter	Proposed Discharge Limit for End-of-Pipe		Monitoring Programs		
	Fraser River	Hicks Creek	Method	Frequency	Location(s)
Dissolved oxygen	Greater than or equal to 8 milligrams per litre		Field-measured	Daily	End-of-pipe Upstream and downstream*
Rainbow trout 96-hour acute toxicity test	Greater than 80% survival		Grab Sample	Following the establishment of new water treatment units/processes and prior to initial discharge of water to the receiving environment	End-of-pipe
Total and dissolved metals, anions, and nutrients**	Short-term guidelines or background values, whichever is greater	Long-term guidelines or background values, whichever is greater	Grab Sample	Weekly	End-of-pipe Upstream and downstream*
Temperature	No limit proposed; hourly rate of change not to exceed 1 degree/hour in the receiving environment		Field-measured	Daily	End-of-pipe
				Continuous (e.g., 15-minute interval)	Upstream and downstream*
Turbidity	No limit proposed; this is for general monitoring		Field-measured	Daily	End-of-pipe Upstream and downstream*
Conductivity	No limit proposed; this is for general monitoring		Field-measured	Daily	End-of-pipe Upstream and downstream*
Visible sheen	No limit proposed; this is for general monitoring		Visual and Olfactory Assessment	Daily	End-of-pipe Upstream and downstream*

Note:

* Proposed to be approximately 50 metres upstream and 100 metres downstream of each PDL;

** Short-term water quality guidelines are proposed for the Fraser River to reflect the anticipated mixing in the receiving environment, while long-term guidelines are proposed for Hicks Creek where mixing is more limited.

Summary of the Effects Assessment

Fish and amphibians were the key focus of the effects assessment because they would be directly exposed to changes in water quality. Humans were also assessed given the potential for consumption of fish and the use of water from around the PDLs for crops and livestock. With the implementation of Westcoast's comprehensive mitigation measures, including water treatment, and monitoring during construction, the temporary discharge of groundwater to surface water is expected to be safe and not anticipated to result in adverse effects to the environment, including humans, fish, and amphibians.