

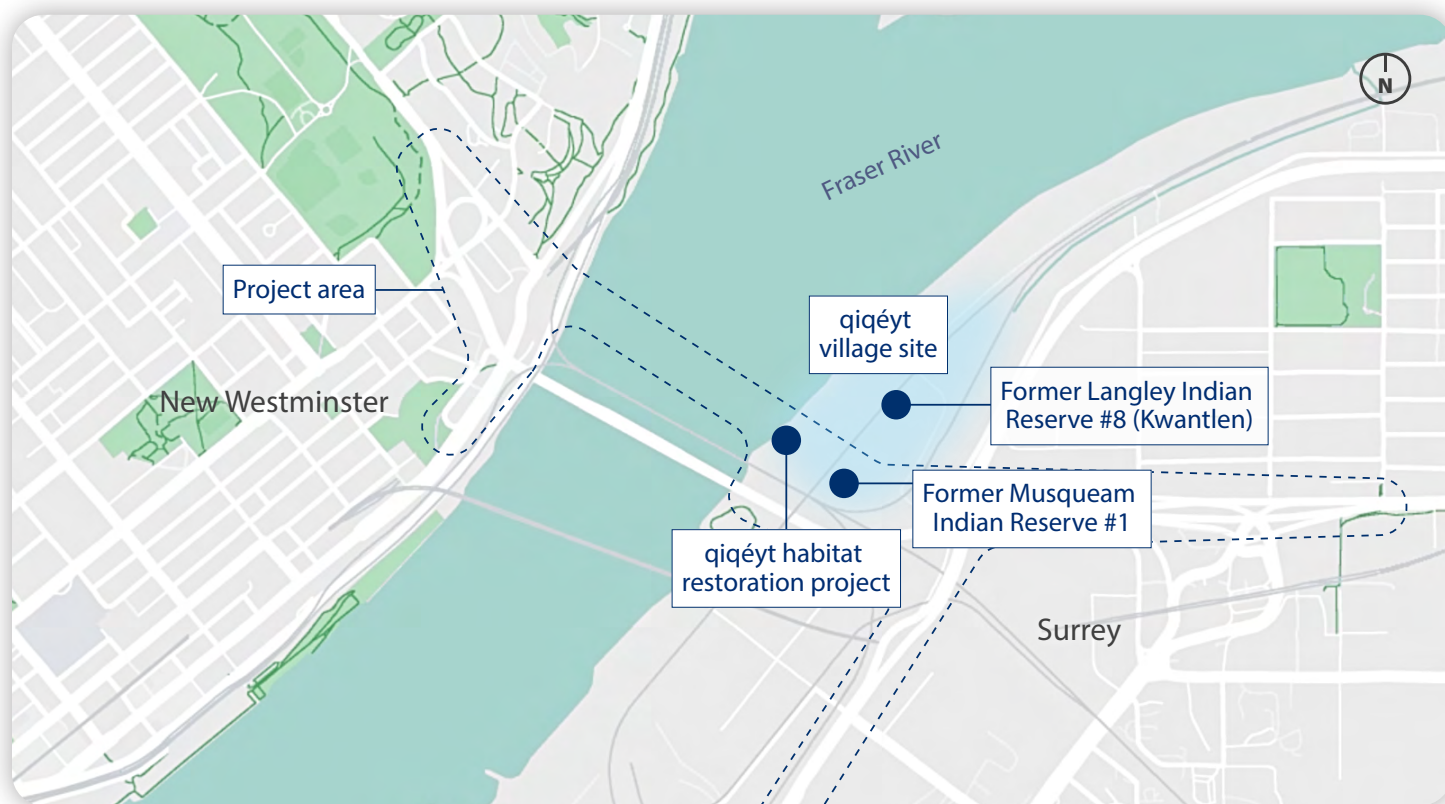


Pattullo Bridge Replacement Project

Exploring First Nations Participation

The Fraser River and its shorelines have been actively used by First Nations since time immemorial for fishing, harvesting and other important activities.

The Pattullo Bridge Replacement Project site overlaps with the boundaries of two former Reserves. Former Musqueam Indian Reserve #1 and Kwantlen Indian Reserve #8 were located in qiqéyt until the 1950's. qiqéyt was an important village site for First Nations within the Pattullo Bridge Replacement Project area in present day Surrey. The bridge has its footprint in this important area.



Since the Project is located in an area of great past, present and future significance to First Nations, their priorities are guiding important activities on the Project. One of the Project's requirements is to provide an opportunity for First Nations to review and provide input on Project management plans, permits and activities. Working together, the Project team and First Nations can ensure the prioritization and protection of environmental, archaeological and cultural values as the Project is constructed.

Fish and Fish Habitat Offsetting

The Project is developing new fish habitats to balance losses created by the two new in-river bridge piers. The new habitats will benefit important species, including five species of salmon (sockeye, coho, chum, chinook, and pink), white sturgeon and eulachon.

The Project worked with First Nations to select fish habitat offsetting sites. The first site – the qiqéyt Foreshore Habitat Restoration Project, located slightly upstream of the new bridge on the Surrey side – has been selected. First Nations are collaborating with the Project team to design the new fish habitat and to plan a second site.



Photograph from May 24, 1866, 'Mosqueen' Camp on the occasion of Queen Victoria's birthday in New Westminster; Image PN1420 courtesy of the Royal BC Museum.



Rendering of the future qiqéyt Foreshore Habitat Restoration Project.



Planting

Native riparian (riverbank) and marsh plant species will be a key feature of the qiqéyt Foreshore Habitat Restoration Project. Final plant selection will be guided by First Nation priorities, knowledge and input. Examples of some plants that may be included in the qiqéyt Foreshore Habitat Restoration Project planting plan are:

Wapato

Wapato produces starchy edible tubers.



Wapato plant.

Salmonberry

Salmonberries are one of the earliest berries to ripen. The young sprouts are edible and the berries are a variety of colours.



Salmonberry plant.

Fish Studies in the Fraser River

Before construction started, First Nations and the Province conducted studies to learn more about two key fish species in the river: eulachon and white sturgeon. These fish species have cultural significance to First Nations, so conserving them is a priority.

Key Species: Eulachon

Eulachon are a small fish that migrate up the Fraser River to spawn. They are also known as “candlefish” because they can be burned like candles when dried due to their high fat content. They are a species of critical cultural importance and are a food source for white sturgeon, another key species.



“Eulachon was such an important species for us that there was a month, *təm wiwətən*, which translates to ‘time of the eulachon’ and denotes the month/moon when the eulachon return.”

— *Musqueam Indian Band*



Eulachon.





Settlement in New Westminster, with eulachon drying in the foreground, ~1866-1870.
Image I-66560 courtesy of the Royal BC Museum.

Eulachon Study

The Project and First Nations undertook the Lower Fraser Eulachon Spawning and Staging Study in 2020. This study used Traditional Knowledge and science to figure out how eulachon might be impacted by bridge construction and demolition. The study and fieldwork activities were undertaken in collaboration with First Nations.

Mats were placed at selected locations on the bottom of the Fraser River for 24 hours. Then, they were pulled up and warm water was used to remove eulachon eggs from the mats and change their colour from opaque to white, making them easier to find.

The results of this study are being used to inform bridge construction and demolition planning and well as fish habitat offsetting construction.



“Nobody has done this in the Fraser before, it was a very interesting combination of First Nations technical skills and knowledge about where the fish are and working with the western scientists.”

— Craig Orr, Environmental Advisor,
Kwkwetlem First Nation





Juvenile white sturgeon.

Key Species: White Sturgeon

Fraser River white sturgeon are highly valued to First Nations. Their populations have declined because of climate change and recreational fishing (among other reasons), so First Nations have not harvested white sturgeon since the early 1990s.

Sonar Survey

In response to input from First Nations, a survey was completed before construction started. The survey used sonar technology, which sends sounds into the water and measures the “echo” as the sound bounces back to find objects in the water (just like how bats find bugs while hunting!). Through the study, 300 sturgeon were detected, ranging from 1.2 m to 1.7 m in length.

The results of this study are being used to inform bridge construction and demolition planning and will also be used when designing the fish habitat offsetting sites.



Example of the sonar device, which is lowered into the water below the research boat.

