The Confederation Bridge

The **Confederation Bridge** (French: *Pont de la Confédération*) is a box girder bridge carrying the Trans-Canada Highway across the Abegweit Passage of the Northumberland Strait, linking the province of Prince Edward Island with the mainland province of New Brunswick. Opened May 31, 1997, the 12.9-kilometre (8.0 mi) bridge is Canada's longest bridge and the world's longest bridge over ice-covered water.

History

- The Confederation Bridge is a multi-span cable-stayed bridge that links Prince Edward Island to the mainland of Canada. It is the longest bridge in Canada and the second longest bridge in the world over ice-covered water.
- The bridge was built to replace the ferry service between Prince Edward Island and the mainland, which was often disrupted by bad weather.
- Construction on the bridge began in 1993 and was completed in 1997. It cost CA$1.3 billion to build.

Construction

- The bridge is made of concrete and steel. The concrete piers are hollow shafts that were built layer by layer. The steel deck was constructed in sections and then lifted into place.
- The bridge has 127 stay cables, each of which is made of 37,000 strands of wire. The cables are anchored to the pylons and the deck.

- The bridge was built using a variety of techniques, including traditional construction methods and innovative new technologies. For example, a special type of concrete was used to resist the corrosive effects of the seawater.

Design

- The Confederation Bridge is a graceful and elegant structure. The pylons are slender and tapered, and the cables are thin and delicate. The bridge blends in with the natural landscape, and it does not dominate the surrounding area.
- The design of the bridge was inspired by the surrounding mountains and the waves of the sea. The pylons are shaped like mountain peaks, and the cables resemble waves.
- The Confederation Bridge is a marvel of engineering and design. It is a symbol of modern Canada and a testament to the ingenuity of its builders.

Here are some additional details about the Confederation Bridge:

- The bridge is designed to withstand winds up to 177 kilometers per hour (110 miles per hour) and ice floes up to 10 meters (33 feet) thick.
- The bridge has a two-hinged stiffening girder system, which allows the entire structure to flex and sway in response to wind and ice forces.
- The bridge expands up to 1.5 meters (5 feet) a day because of heating. This expansion is accommodated by the use of expansion joints in the bridge deck.
- The Confederation Bridge is a major tourist attraction in Prince Edward Island. It is also an important transportation link, providing a year-round connection between the island and the mainland.