

2013 Wood Design Awards - Project Fact Sheet

Ucluelet Aquarium

Location: **Ucluelet**

| Height | Size | | Completion | Construction Budget |
|----------------|--------------|-------------|-------------|---------------------|
| 1.5 | 5,300 | 492 | 2012-06 | \$1,600,000 |
| <i>Storeys</i> | <i>sq ft</i> | <i>sq M</i> | <i>Date</i> | <i>\$ Cdn</i> |

Project Description:

The Ucluelet Aquarium is a teaching environment, a creation of community effort and imagination, and a waterfront gathering place at the center of town.

This teaching building is conceived and built by local residents, its purpose being the sharing of information about the ocean, and the integrated nature of seas with land and air ecosystems, as well as sustainable building practice. The entire project was initiated by Ucluelet area residents, and sustained through their donations of time, money and materiel. Once the project attained a momentum that was evident to all, the project budget was supplemented by provincial and federal government grants.

Wood was used as the main building material in the building. The Douglas Fir timber frame with Western Red Cedar posts were harvested locally and donated by the local Nuuchah-nulth First Nations Community. The heavy timber frame creates a dynamic space that is reminiscent of the West Coast forests, as well as the required heavy timber fire rating for the building.

A central saltwater pool and smaller aquarium tanks are all interconnected by water channels and valves, which distribute salt water from the inlet and return it through a heat exchange unit. Individually shaped rough cedar planks provide a low tech, low cost system for complete accessibility needed to maintain the seawater pipes and valves in the service trenches. Set flush to the concrete floors, these cedar planks form a rain forest path around the aquarium. Large hatches made of 3' x 8' rough cedar provide service access to the pumps, filters and valves in the mechanical rooms.

All of the stands for individual aquarium tanks were made from recycled Douglas Fir timbers by local high school students. The building is an important extension of the environmental and social life of the town of Ucluelet. The boundary between nature and aquarium is creatively blurred by the use of local wood and the architecture that makes connections, both natural and human.

Architectural elements combine to foster sympathetic understanding of marine environments. These include maritime inspired design motifs throughout the building; local beach grasses and gravel installed on the green roof; the intertidal zone visible and interpreted underneath the building; and inside, the marine displays themselves. Ingenuity in design and displays construction effectively increases, not diminishes, the area of active fish and shore habitat that existed there previously.

With its innovative and community-responsive exhibition philosophy and design, the Ucluelet Aquarium invites nature to reclaim many of its spaces. The iconic shape of the 'pisci-form' roof supports an extensive planted area that will become home to native plants, insects, and even nesting birds. The main exhibit level is a small but biologically productive extension of the Pacific Ocean.

By building the aquarium on a suspended slab, the aquarium preserves the existing shore, which has been turned into intertidal garden pools with water and rock features that are supplemented by seawater recycling from the displays above. The intertidal garden is an extension of the aquarium out into the marine ecosystem.

The marine animals on display here are temporarily 'borrowed' from local seas, displayed for short periods, and then returned to their local habitats. All of the water for aquarium tanks and pool are pumped in and out directly from the sea which is also a geoexchange for heating and cooling the building. A large glazed wall on the east side of the building visually connects the aquarium's interior to the harbour. Opening windows there and on the west wall enable natural ventilation. All of the framing material in the building had CSA certification.

The structural timber frame was locally harvested and donated by the local Iisaak First Nations Community. Recycled wood material was used for timber aquarium stands. Display tanks have been recycled from other public aquariums. The use of local wood as the principal building material makes the building both sustainable and environmentally integrated.

Project Images



Where the Wood Was Used:

| | | |
|----------------------------------|------------------------------------------|---|
| Primary Structural System | Columns, Beams & Braces | y |
| | Floor Structure | |
| | Exterior Walls | y |
| | Foundation | |
| | Shear Walls | y |
| | Bearing Walls | y |
| | Fire Walls | y |
| | Roof Structure (inc. columns and braces) | y |
| | Stairway & Elevator Shafts | y |
| Secondary Structure | Convenience Stairs | |
| | Entrances & Canopies | y |
| | Fire Separations | y |
| | Enclosures for Mechanical Equipment | y |

| | | |
|----------------------|-------------------------------|---|
| Architectural | Partitions (interior) | y |
| | Exterior Curtain Walls | y |
| | Ceilings | y |
| | Exterior Cladding | |
| | Parapets | |
| | Ceiling Bulkheads | |
| | Flooring | y |
| | Doors | |
| | Windows | |
| | Skylights | |
| | Trim, Paneling & Features | y |
| | Millwork | y |
| | Wall and Corner Guards | y |
| | Other Architectural Woodwork | y |
| | Hard Landscaping & Structures | |
| Perimeter Fencing | | |

Building Project Team Members:

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