

SEA2CITY DESIGN CHALLENGE: TRANSFORMATION, RESILIENCE, AND DECOLONIZATION IN VANCOUVER'S FALSE CREEK

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Sea Level Rise and Coastal Flooding in Vancouver

Vancouver is a coastal community, defined by its proximity to the Salish Sea. Like other coastal areas, Vancouver must prepare for a future with at least two metres of sea level rise, which the UN Intergovernmental Panel on Climate Change considers unavoidable.

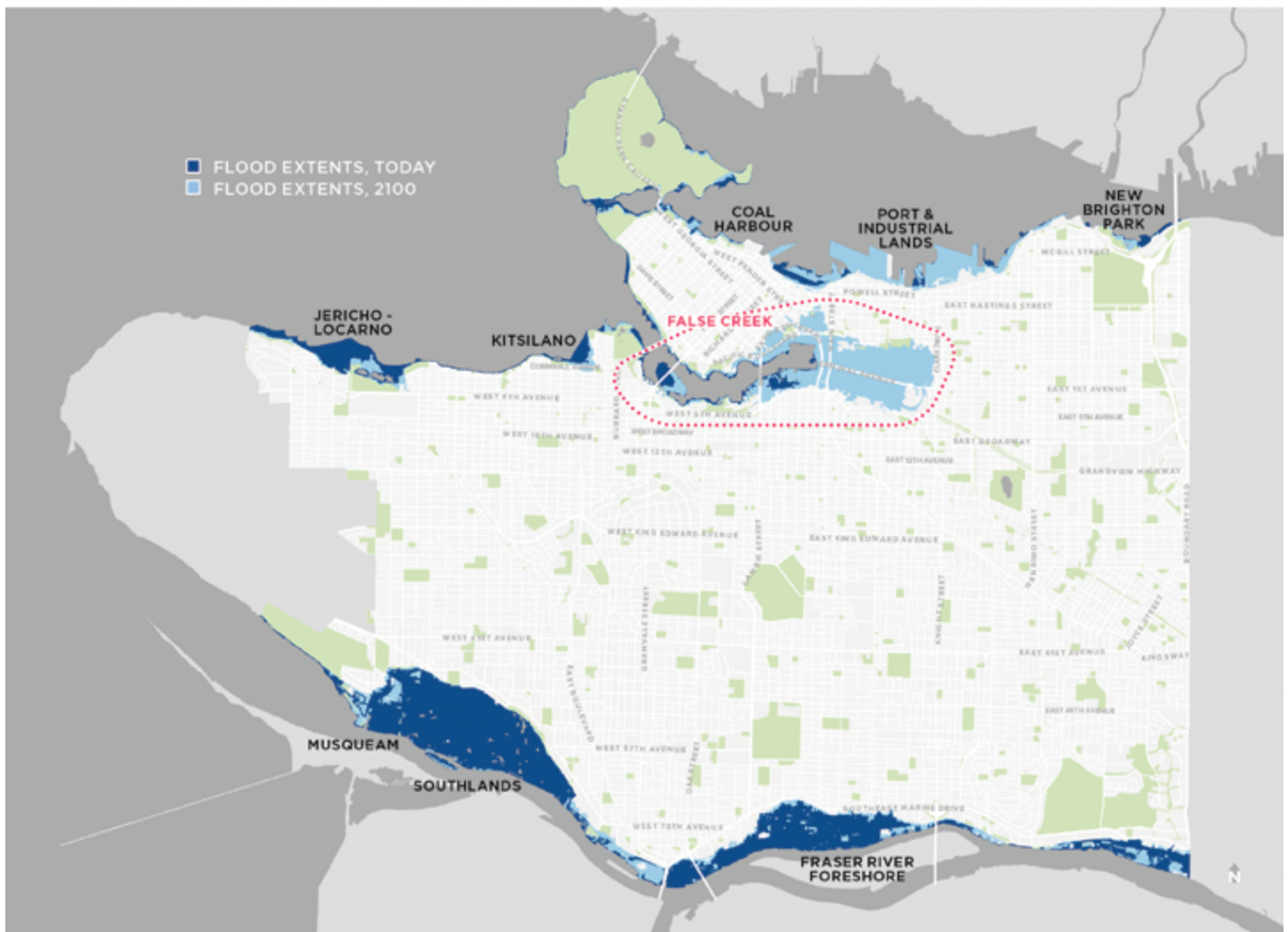
The Challenge of Coastal Adaptation

The Sea2City Design Challenge (Sea2City) was an innovative 12-month collaborative planning and design competition rethinking the future of the False Creek shoreline to adapt to rising sea levels while accommodating urban development and fostering ecological revitalization. This was the first time in Canada that a competition model was used to conduct a planning and adaptation project.

Sea2City asked two multidisciplinary teams to reimagine five sites in Vancouver's False Creek floodplain, a highly urbanized area in the heart of the city that is home to over 38,000 people, dozens of community facilities, and critical infrastructure. The project generated a positive and bold future vision, dramatic but achievable site concepts, and shorter-term pilot projects designed to test new ideas, build the City's collective coastal adaptation understanding, increase public awareness, and support the next steps of the City's adaptation journey.

Guided by community values, Indigenous knowledge, and design principles from earlier engagement, Sea2City provided a learning and capacity-building opportunity to:





- Increase public awareness of sea level rise and coastal flooding.
- Explore and develop a coastal adaptation approach that centres reconciliation with Host Nations.
- Examine options for sea level rise of at least two metres.
- Inform the next phase of Vancouver's Coastal Adaptation Plan.

Decolonizing the Shoreline

Sea2City was grounded in a commitment to decolonization. Host Nation representatives, knowledge holders, cultural advisors, and artists held key roles in the design teams and within the larger project. Their stories, advice, and input guided the development of a powerful and positive vision for False Creek and helped shift the language and approach to coastal adaptation. Reframing the coastal adaptation approach was one of the most significant outcomes of Sea2City. “Our existing adaptation approach is a very colonial approach to our relationship with water,” says Angela Danyluk, senior sustainability specialist at the City and project

(left) Map: Areas of Vancouver that are vulnerable to flooding in a major storm today (dark blue) and in 2100 with one metre of sea level rise (light blue)

Sea2City's 2100+ vision (above) for a more naturalized, resilient, dynamic shoreline for the future of False Creek (credit: Mithun)

lead. “It places people at the top of the value hierarchy and doesn’t respect the water,” she adds.

The vision and new approach to coastal adaptation guided the teams in developing their designs and near-term pilot projects. The focus was to produce concepts in which Musqueam, Squamish, and Tsleil-Waututh people can see themselves, their values, their knowledge, and their culture represented. “It’s extremely moving and humbling seeing this work. There are sparks of joy seeing what we’ve talked about in the drawings,” says Charlene Aleck, a Sea2City knowledge keeper from Tsleil-Waututh Nation.

Sea2City Design Process

Two multidisciplinary planning and design teams were selected after a globally circulated request for proposals attracted submissions from Canadian and international firms. “We all stepped into this not knowing where it necessarily would go,” says Derek Lee, principal at Vancouver-based PWL Partnership and Sea2City design team lead. “We’re learning as much as we’re applying our professional expertise,” he adds. “I don’t think this could have been done without the enthusiasm of everybody, and the belief that this is leading to something much bigger.”

Sea2City was co-designed by a core planning team and followed an adaptive management approach. The design process involved three rounds of “Collaboratoriums,” where design teams, City staff, technical experts, Host Nation representatives, and youth collaborated. Additionally, there were decolonization workshops, Host Nations’ perspectives learning sessions, and public outreach events, along with a one-day inter-team design charrette for an undeveloped, City-owned site on False Creek. Over 1,200 people attended the public events, and the media covered Sea2City in local and national outlets. Sea2City also featured an arts component to showcase preliminary concepts and inform about sea level rise and coastal adaption.

Sea2City generated dramatic, but realistic, long-term concepts for False Creek, supported by shorter-term pilot projects. Teams also developed planning documents that demonstrate the planning work required for Vancouver to move the longer-term vision forward. Public-facing illustrated “adaptation pathways” visually



CONVENTIONAL APPROACH



Sea2City’s shift in the language of adaptation

showcase and outline steps and decision points that lead to the future vision. A second document provides more granular information about critical decision paths, planning steps, sequencing, and decision points linked to observed sea level rise and the realization of the final vision, including complex issues like retrofitting existing housing to make it more resilient, the gradual transfer of density away from the current shoreline to more resilient areas outside of the floodplain, and additional planning and technical assessment work.

Outcomes Beyond Design

A key Sea2City recommendation is for Vancouver to change the language of coastal planning. Current conventional language speaks to three approaches to flood management:

- **PROTECT:** resisting water through dikes and other built features.
- **ACCOMMODATE:** letting occasional flood water come in depending on risk tolerances.
- **MOVE/AVOID:** moving development out of the floodplain.

Rethinking our relationship with the shoreline, a new approach was developed with Host Nation knowledge holders and

cultural advisors. The approaches are not mutually exclusive and can be interwoven throughout False Creek.

- **ACKNOWLEDGE:** spaces are retrofitted or relocated over time to improve their resilience and better care for and steward natural systems.
- **HOST:** a dynamic place where water, nature, and culture are welcomed and stewarded. Human uses are flexible, adaptable, and leave a light touch. Infrastructure works with nature to enhance resilience.
- **RESTORE:** a revitalized and rehabilitated shoreline that restores natural functions, features, and ecosystems and includes improved flood protection for upland communities.

The more resilient, layered approach incorporates components of acknowledge, host, and restore in each application, with certain elements being emphasized depending on the site or phase of work. “Language changes our design thinking,” says Sea2City design team lead Derek Lee.

The Sea2City team developed a set of coastal adaptation commitments that they recommend the City of Vancouver adopt to reinforce the new approach and help guide future work.

Coastal adaptation in the City of Vancouver:

- *Is grounded in respect for the waters, land, and each other.*
- *Meaningfully involves Host Nations in planning and implementation and ensures that Host Nation knowledge holders continue to provide guidance and leadership.*
- *Embraces living with water and builds kinship with the dynamic conditions of water and land and the species and ecosystems that call them home.*
- *Is coordinated across and within departments and agencies at the City of Vancouver in recognition of the cross-cutting challenges posed by sea level rise.*
- *Is informed by and enriched through partnerships with academic institutions, utility and asset operators, and the private sector.*
- *Recognizes that human systems can fail*

and that working with nature is often the best long-term approach.

Collaboration Supports Transformation

The sea level rise challenge does not lend itself to quick and easy implementation. Sea2City outcomes are not intended as design-builds but are meant to catalyze new ways of thinking. Sea2City envisions a more naturalized shoreline that accommodates higher waters, provides connections to the water, and creates diverse habitats. The process demonstrated how coastal cities can learn, collaborate, and innovate together with Indigenous partners and community collaborators to address sea level rise.

The City of Vancouver approved \$20 million in climate adaptation spending during the 2022 municipal election. Some funds will support Sea2City implementation work, including further development of the pilot concepts.

Other initiatives include a review of undeveloped City-owned False Creek land and a Granville Island adaptation program that will be guided by the Sea2City approach and commitments.

“[Sea2City] is trying to push the boundary of what people are willing to think about for the future,” says Jeannie Lee, a senior engineer with the City of Vancouver. “The future not as is today, but something different... a good different future.”

For more information please visit www.vancouver.ca/sea2city or contact Angela Danyluk, Senior Environmental Specialist at the City of Vancouver, angela.danyluk@vancouver.ca

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Re-imagining what Olympic Village could look like with 2-metres of sea level rise (credit: Mithun)