



Using Green Shores® to incentivize hard armour removal/ Nature-based Solutions

DFO Learning Exchange June 20, 2024

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Key Ideas

Green Shores:

- provides many co-benefits
- uses a multi-faceted approach
- is a framework that incentivizes more BMPs into all GS projects





What is Green Shores?

Green Shores is a framework for designing and applying nature-based approaches to shoreline management.

Green Shores helps communities to adapt to climate change.

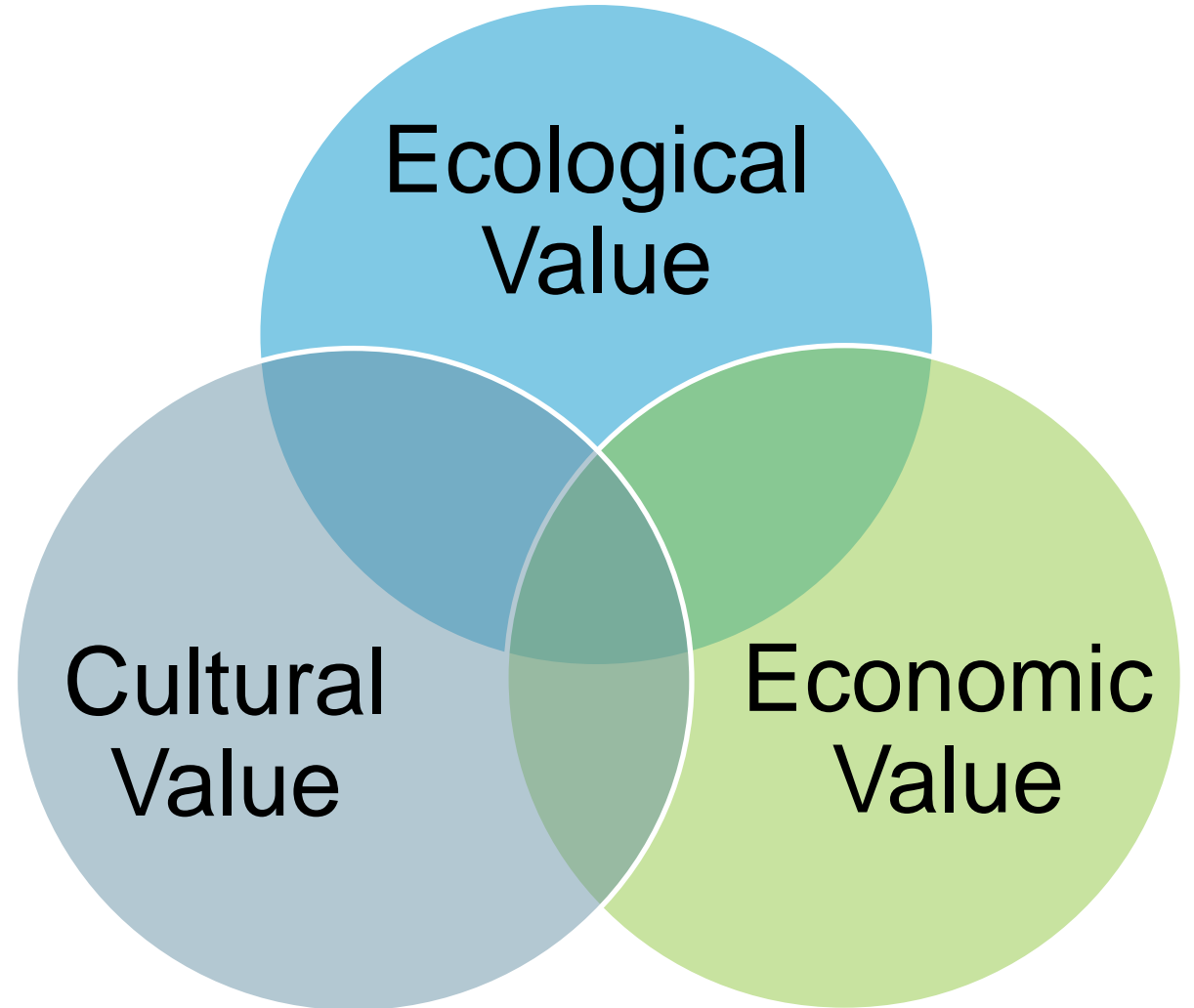
Green Shores protects the ecological and socio-economic values of the shoreline.



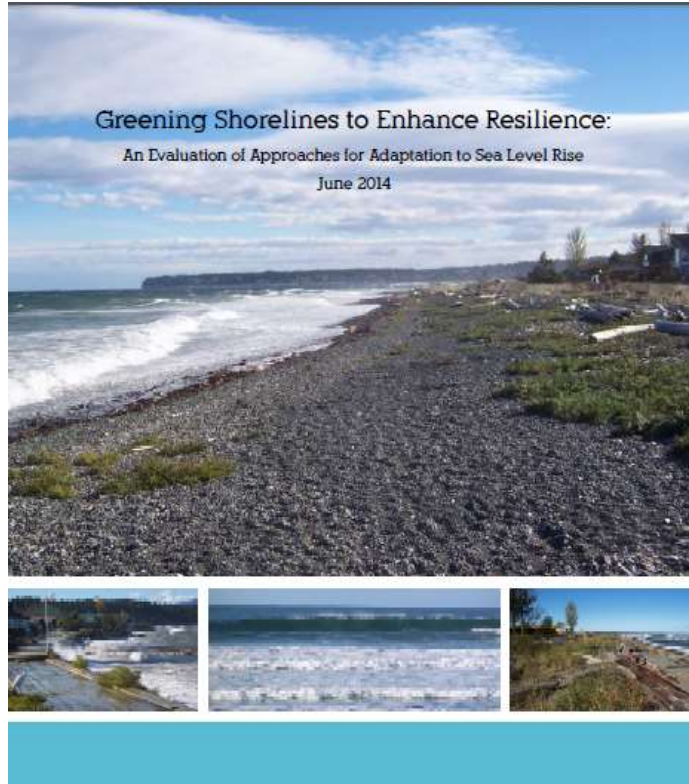


Green Shores Value

Green Shores projects have a \$7:1 net benefit-to-cost ratio!



Based in Science: Nature-based solutions

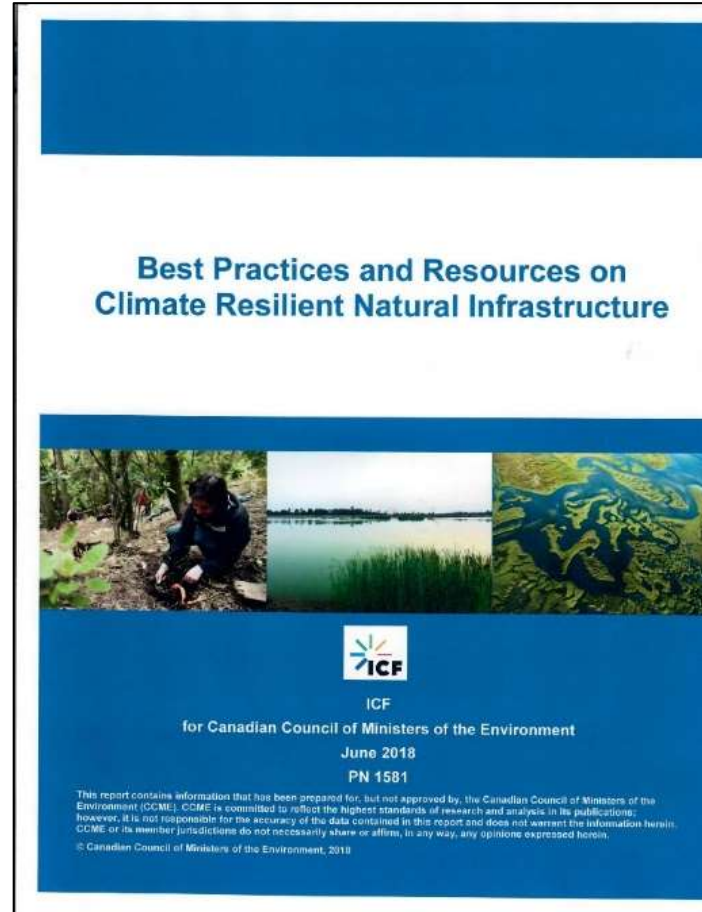


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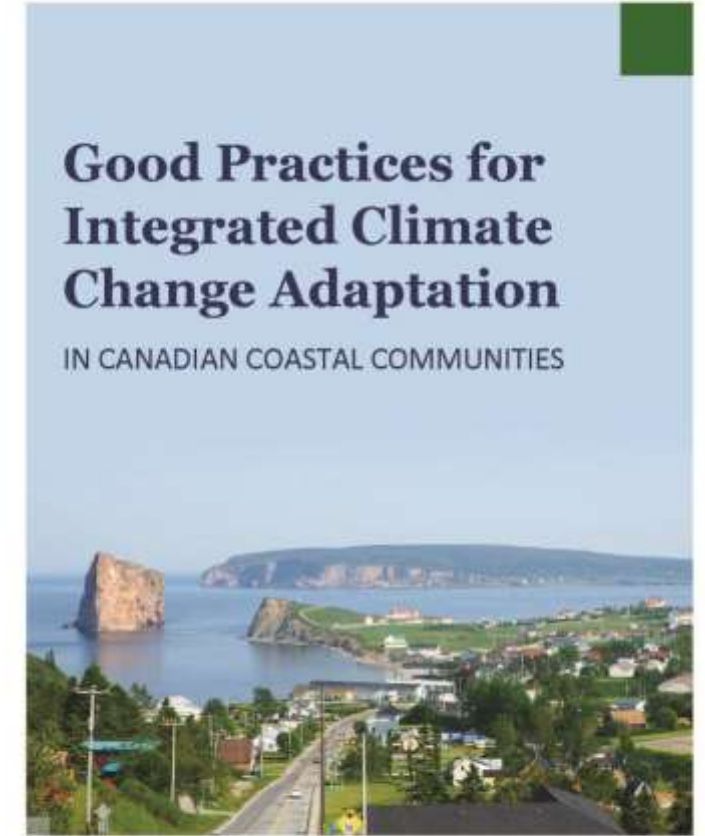
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2023

Benefits of Green Shores

Green Shores for Homes

Protect your property *and* help the environment.



Hard Armouring Approach:

- Restored physical processes
- Enhanced habitat
- Reduced pollutants
- Reduced cumulative impacts

GREEN SHORES FOR HOMES

- Restored physical processes
- Enhanced habitat
- Reduced pollutants
- Reduced cumulative impacts

Limited beach access

Changes to beach and habitat

Scouring and Erosion

Better beach access

Property Protection:
Added sand, gravel, and vegetation helps absorb wave energy, reducing flooding and erosion while providing habitat.

Ecological Health: Restored or enhanced habitat for fish and wildlife.

Less Expensive to Install: Research* has demonstrated that the Green Shores approach can cost only 30-70% as much as a hard armouring approach.

\$\$\$ ← → \$

Trained professionals can help with design

Green Shores Guiding Principles

- ❖ Preserve or restore physical processes
- ❖ Maintain or enhance habitat function and diversity
- ❖ Prevent or reduce pollutants from entering the aquatic environment
- ❖ Avoid or reduce cumulative impacts



Credits and Ratings Guides

- ❖ **Credits and Ratings Guides** were created as tools to develop properties in a “shore friendly” way.
- ❖ Both are built on a format similar to Built Green™ and LEED® using a **credits and ratings system** framework.

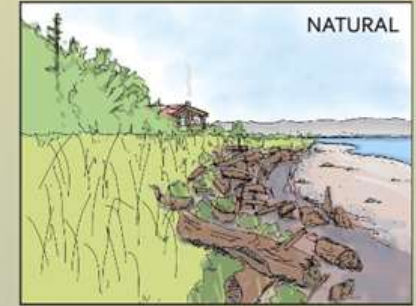


Shore Protection Design

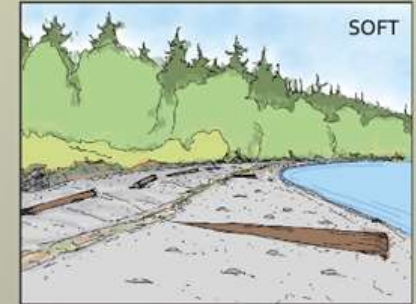
The Soft to Hard Hierarchy of Preferences



Natural shorelines are limited to areas where sediment processes, vegetation and wildlife are not impacted by structures or human activity. Natural shorelines are increasingly rare and valuable, especially natural soft or sediment shorelines.



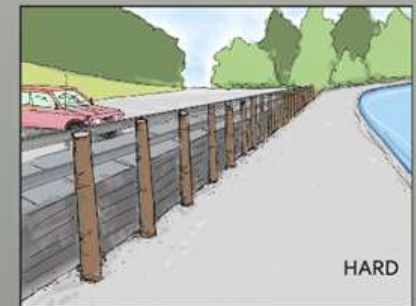
Soft shoreline treatments emulate natural beach form and sediment processes through nourishment and/or nature-based design. Soft shoreline treatments effectively maintain aesthetic, recreational and ecological values.



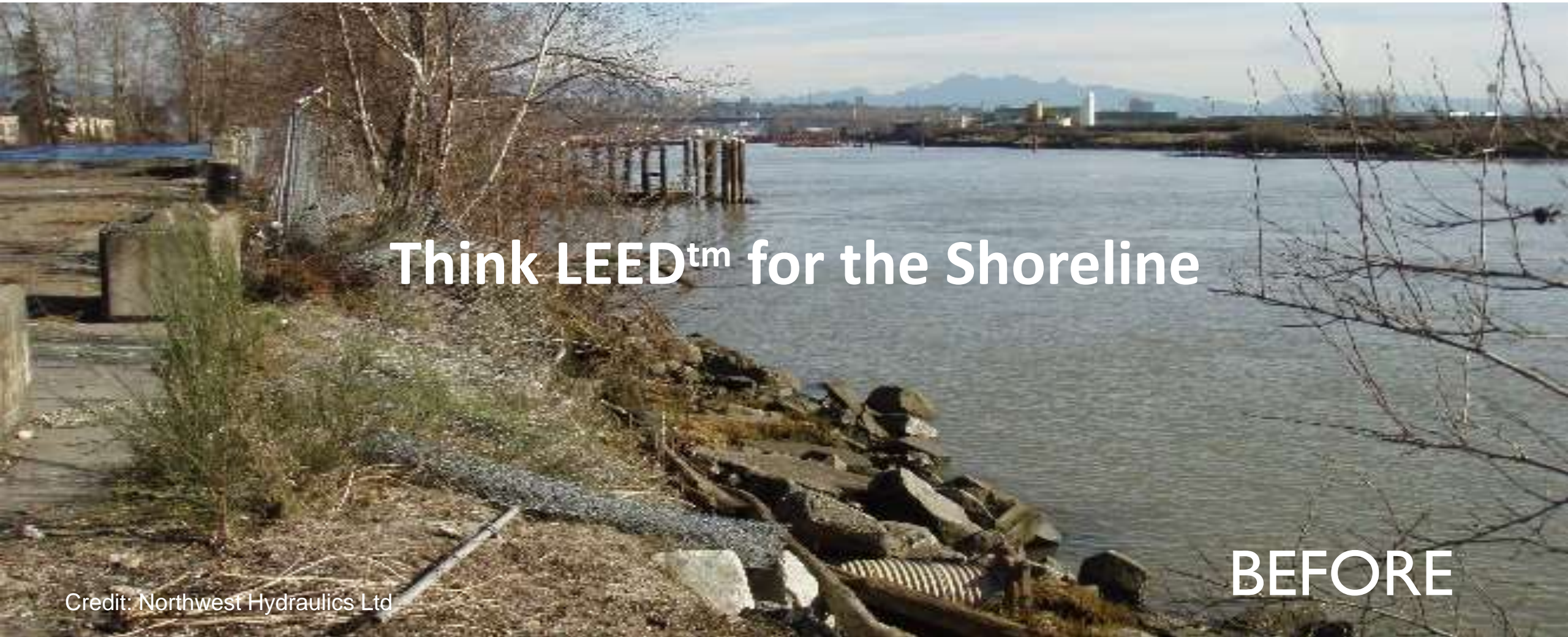
Hybrid shoreline treatments utilize hard protection measures such as rock, gravels, or wood while at the same time integrating softer elements. In some cases, hard shoreline protection elements can be buried to retain a more natural beach form and beach processes.



Hardened shorelines employ walls or other built elements to protect shorelines from erosion. Most hardened shorelines have a net negative impact on shoreline ecology, and can also dramatically change the aesthetic character and recreational access to a beach.



Principles at Work: Green Shores for Shoreline Development



Think LEED™ for the Shoreline

BEFORE

Credit: Northwest Hydraulics Ltd



Principles at Work: Riverbend Business Park



Credit: Northwest Hydraulics Ltd

AFTER



Principles at Work: Esquimalt Gorge Park



Principles at Work: Esquimalt Gorge Park



Credit: LEES + Associates

Connect. Understand. Act.

Principles at Work: Dyke Road Park



Existing Structures

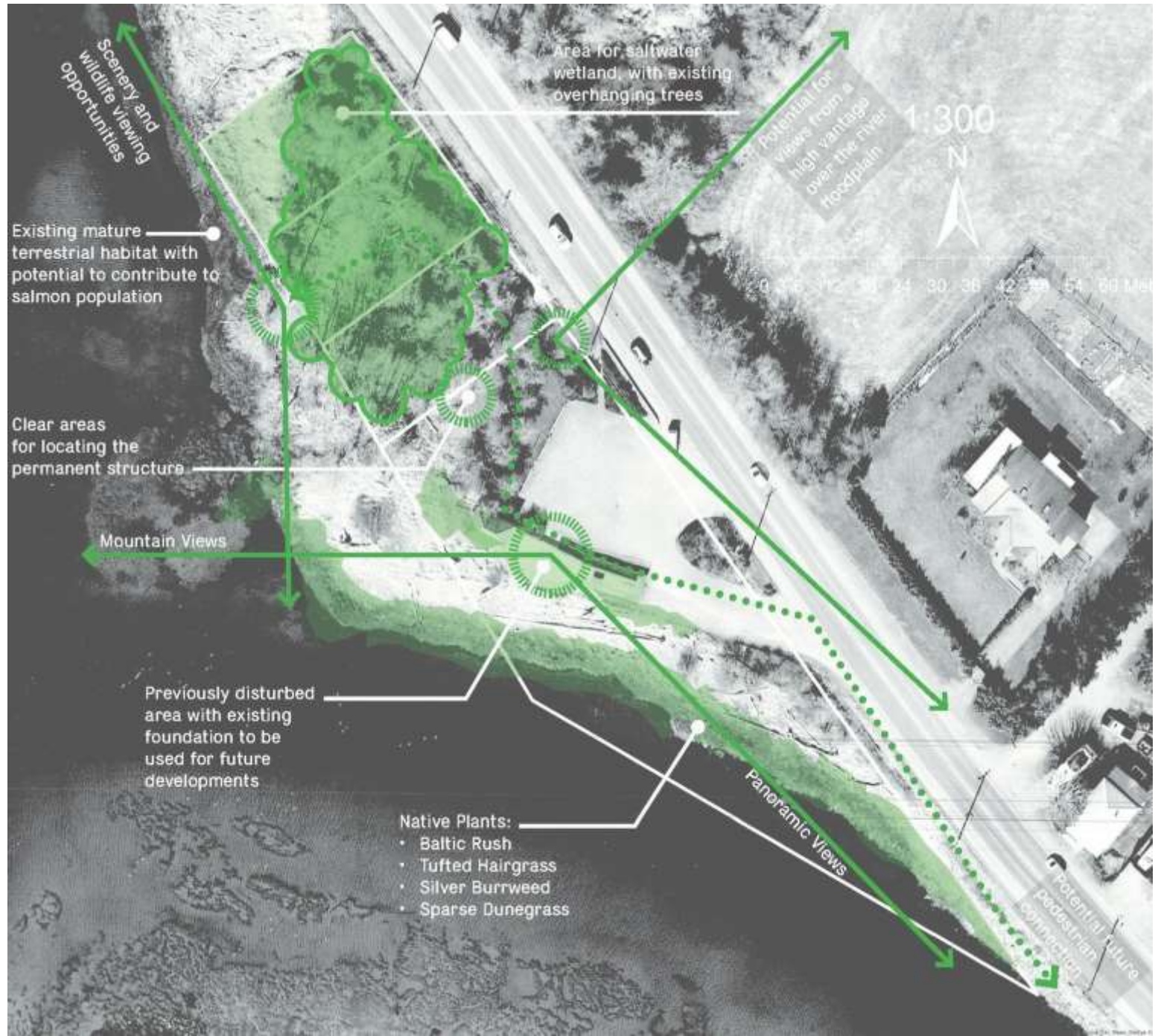


Geese Herbivory



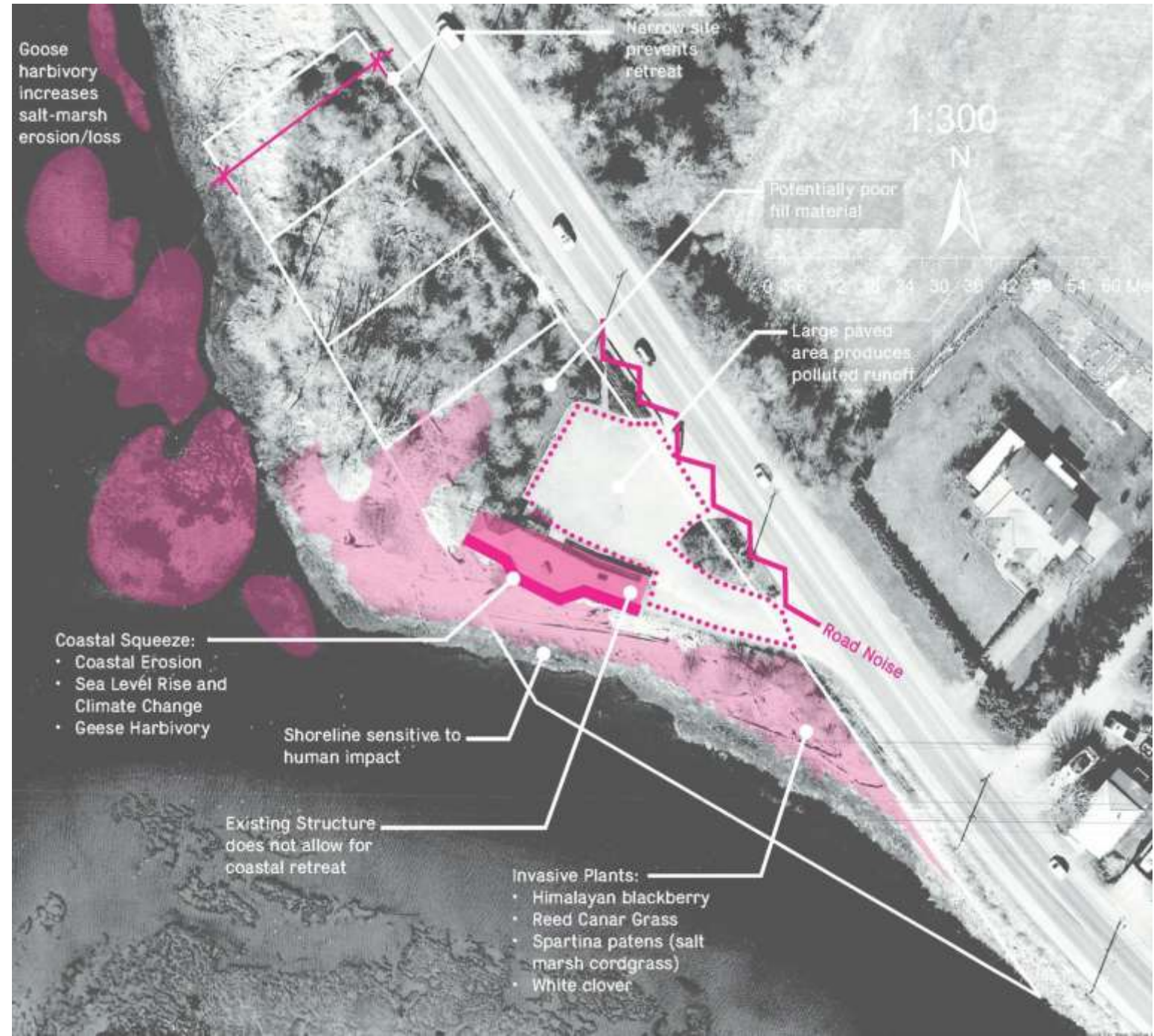
Coastal Squeeze

Opportunities



Credit: Hapa Collaborative

Constraints



Credit: Hapa Collaborative



- 1 SALT MARSH
- 2 BOARDWALK
- 3 RIPARIAN ISLAND
- 4 RAIN GARDEN
- 5 LOOKOUT
- 6 PARKING
- 7 PICNIC PLATFORM

1a

2

1b

3

4

6

5

HP

4

7

COMOX ROAD

LOW TIDE

Credit: Hapa Collaborative

Principles at Work: Green Shores for Homes

“ *Becoming involved, reading and learning about the benefits of Green Shores through this project has been enlightening....and fun. Thank you to the Green Shores team for sharing your knowledge and passion for the program. We look forward to enjoying the garden maturing and evolving with the hope of it being an inspiration for neighbouring waterfront owners. Best of all the birds love it!* ”



Qualicum Beach - residential



~ 1970's Qualicum Beach



~ 2020's Qualicum Beach

Qualicum Beach - residential



2023 drone imagery of Higson Crescent project

Credit: Northwest Hydraulics Ltd



Why Bother???

Walking the Talk.....





Training Delivered in Collaboration with Post-Secondary Insts.



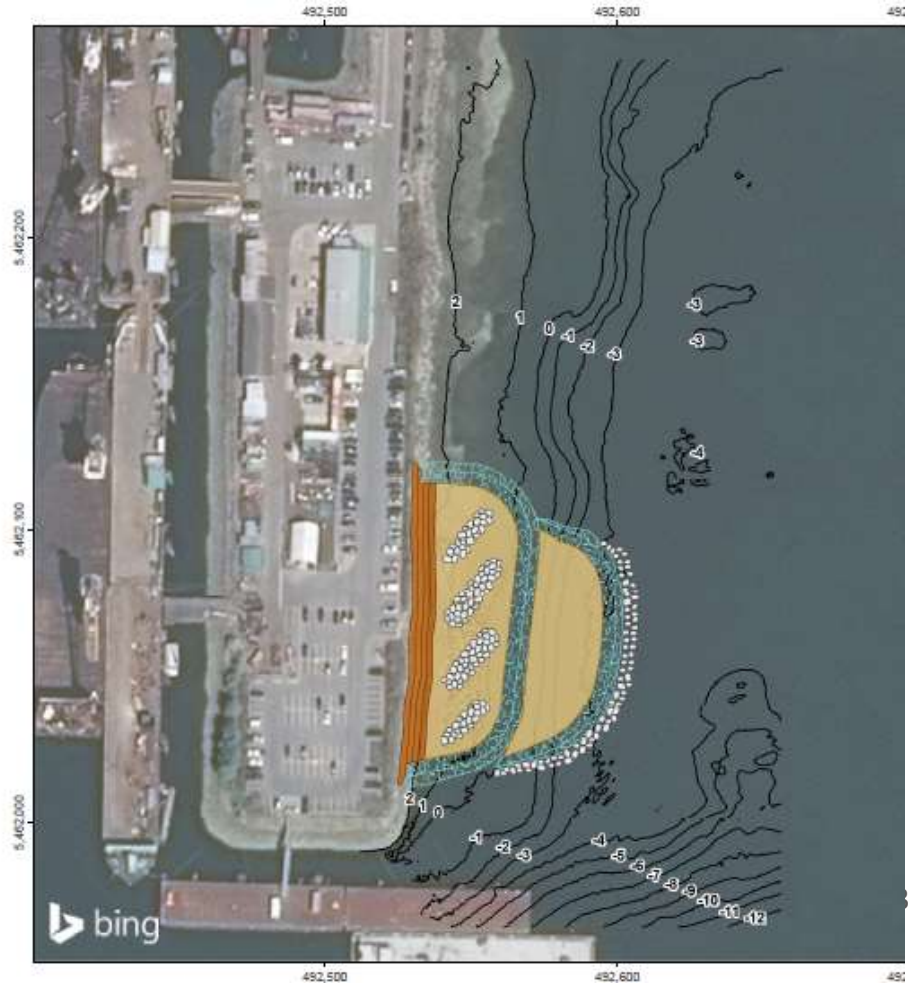
Level 1: Introduction to Green Shores



Level 2: Application of Green Shores Credits and Ratings Systems



Level 3: Proficiency in Green Shores (Approved Professional)



GSSD enrolled project – Seaspan, North Vancouver



Green Shores Local Government Working Group





Key Ideas

Green Shores:

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- a multi-faceted approach NbS implementation
- is a framework that incentivizes more BMPs into all GS projects



Thank You... And don't forget to:
Get in touch!

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