

SHORELINES & SHORE LANDS

Planning for Coastal Resilience in Prince Edward County

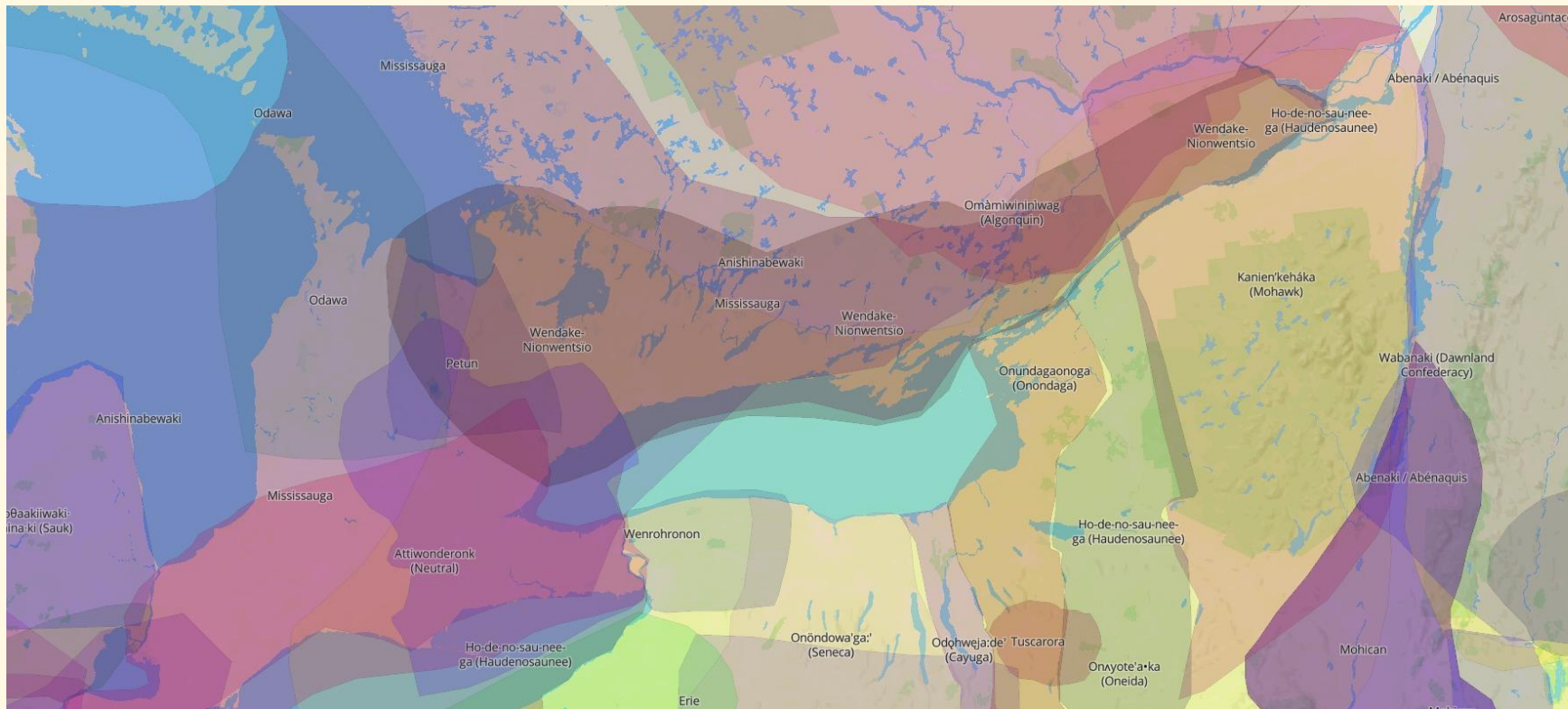
Final Presentation | November 30, 2021

Marienka Bishop-Kovac | Victoria Blake | Julie Fader
Sarah Giacomantonio | Scott Kruse | Erika Leclerc | Joseph Peace



Photo Source: Bishop-Kovac (2021a), Peace (2021)

LAND ACKNOWLEDGMENT



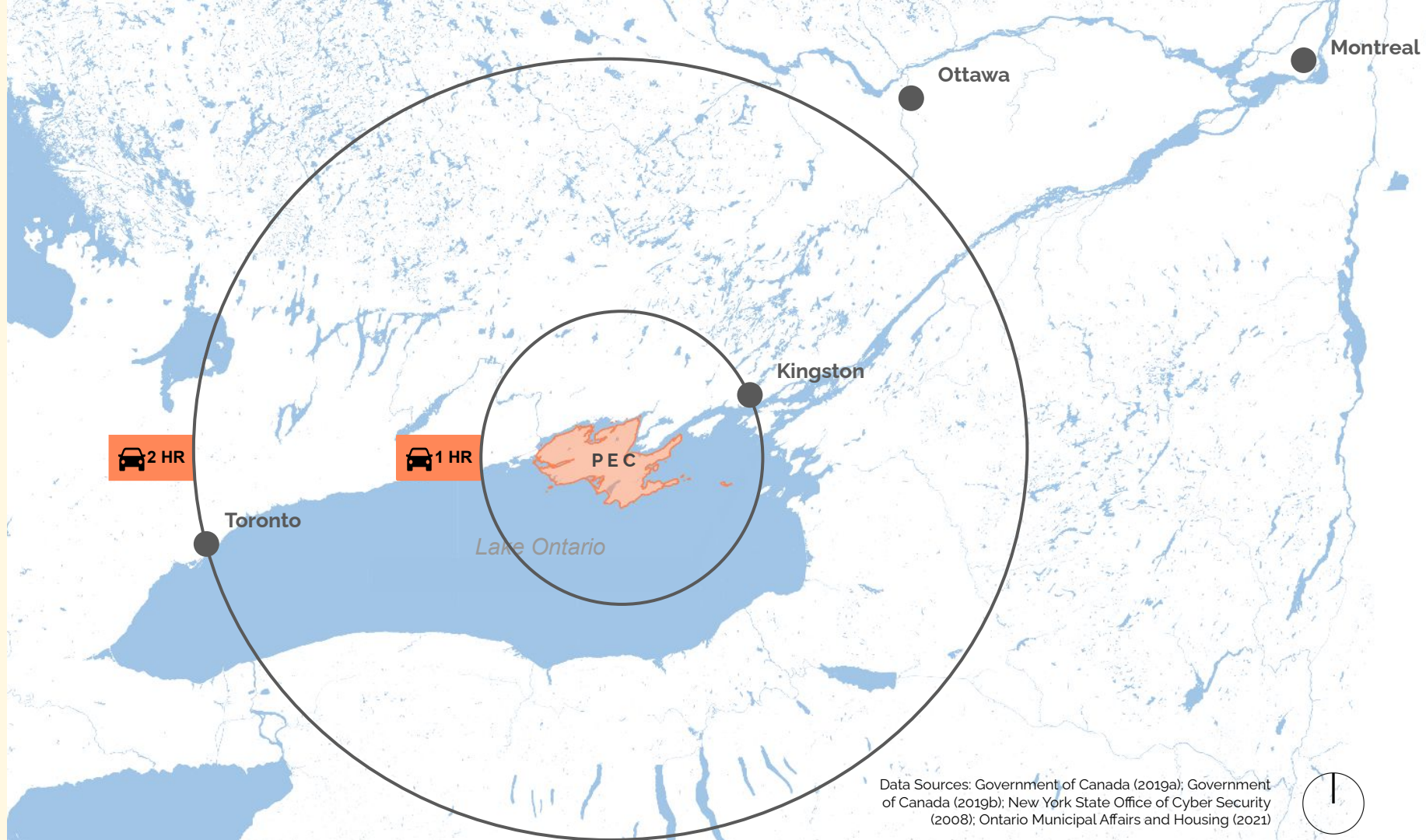
Source: Native Land Digital (2021)



OUR FOCUS TODAY

- 1. CONTEXT***
- 2. PROBLEM DEFINITION***
- 3. ADDRESSING THE PROBLEM***
- 4. LAND USE PLANNING OPPORTUNITIES***
- 5. NEXT STEPS***





Data Sources: Government of Canada (2019a); Government of Canada (2019b); New York State Office of Cyber Security (2008); Ontario Municipal Affairs and Housing (2021)



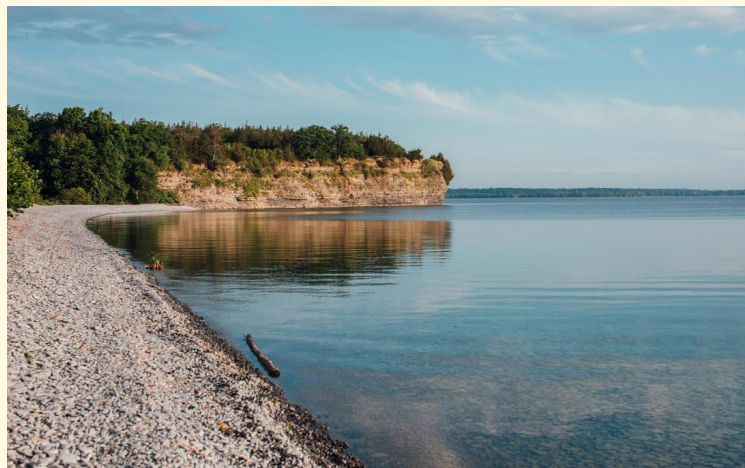
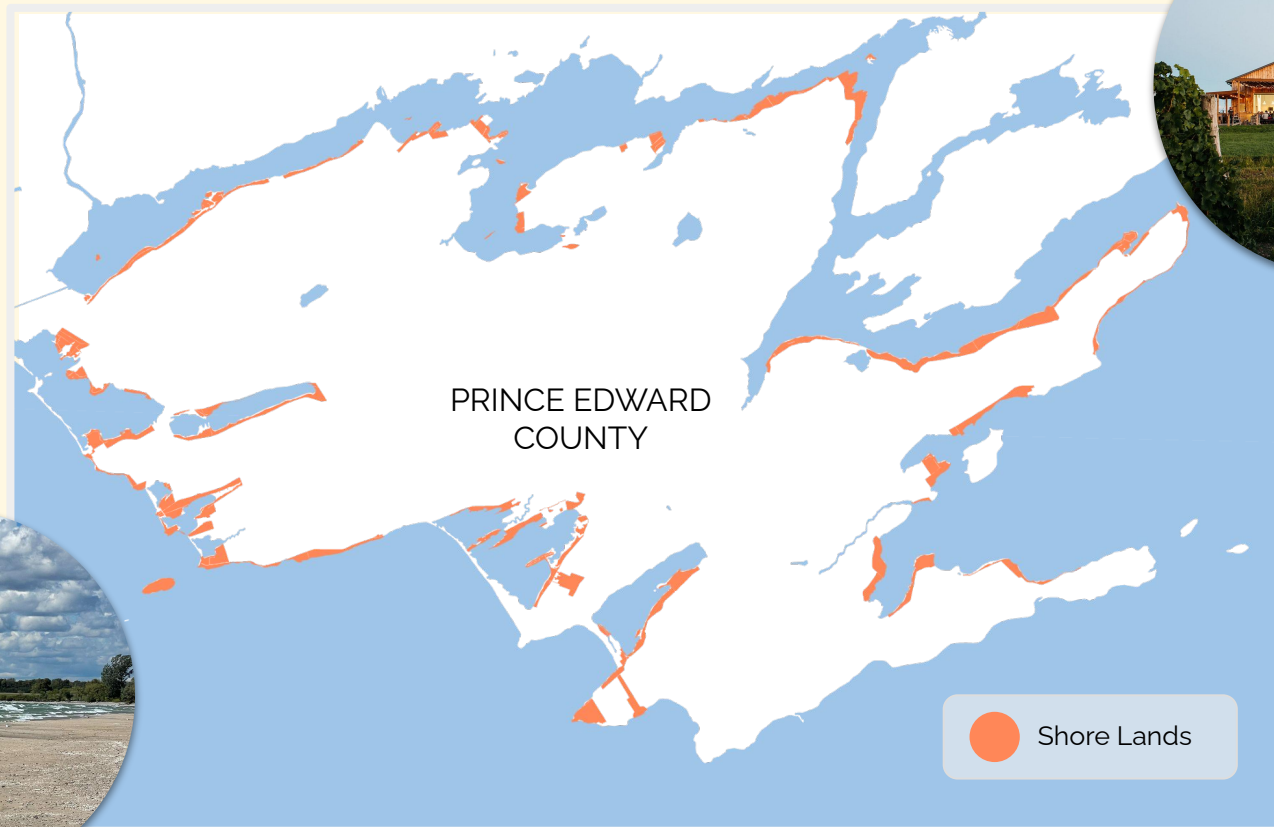


Photo Sources: Top: Wright. (2015.); Bottom: Eardley (2019)

Photo Sources: Top: Quinte Conservation (2021c); Bottom: VisitPEC.ca (n.d.)

SHORE LANDS

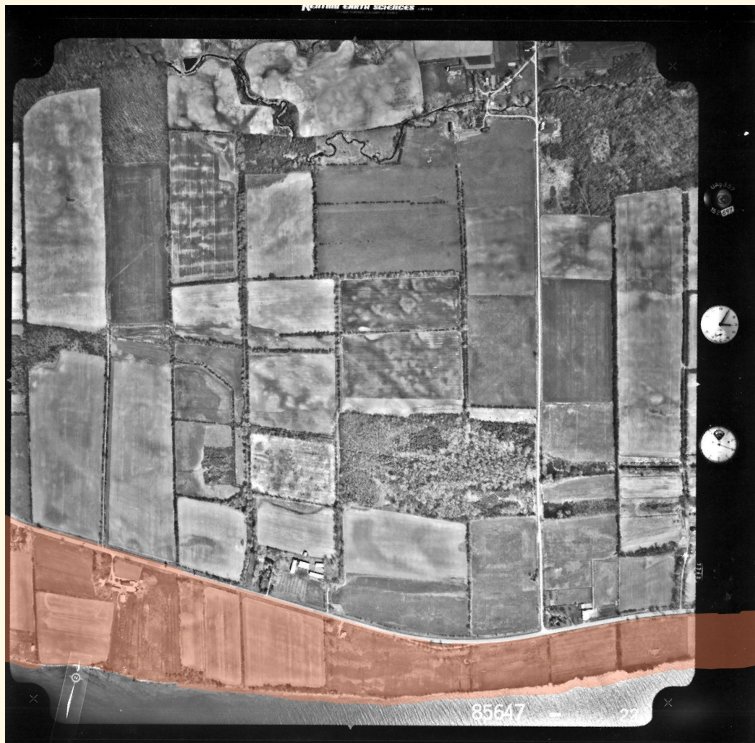


Data Sources: Government of Canada (2019a); Prince Edward County (2021i)

Photo Sources: Left: Giacomantonio (2021); Right: Lam (2017)



EVOLUTION OF SHORE LANDS



Shore Lands

1978



Development
within the
Shore Lands

Photo Sources: Left: Quinte Conservation (1978); Right: Land Information Ontario (2018)

2018

DEFINING THE PROBLEM

Photo Source: Leclerc (2021a)



**Growth and
Development**

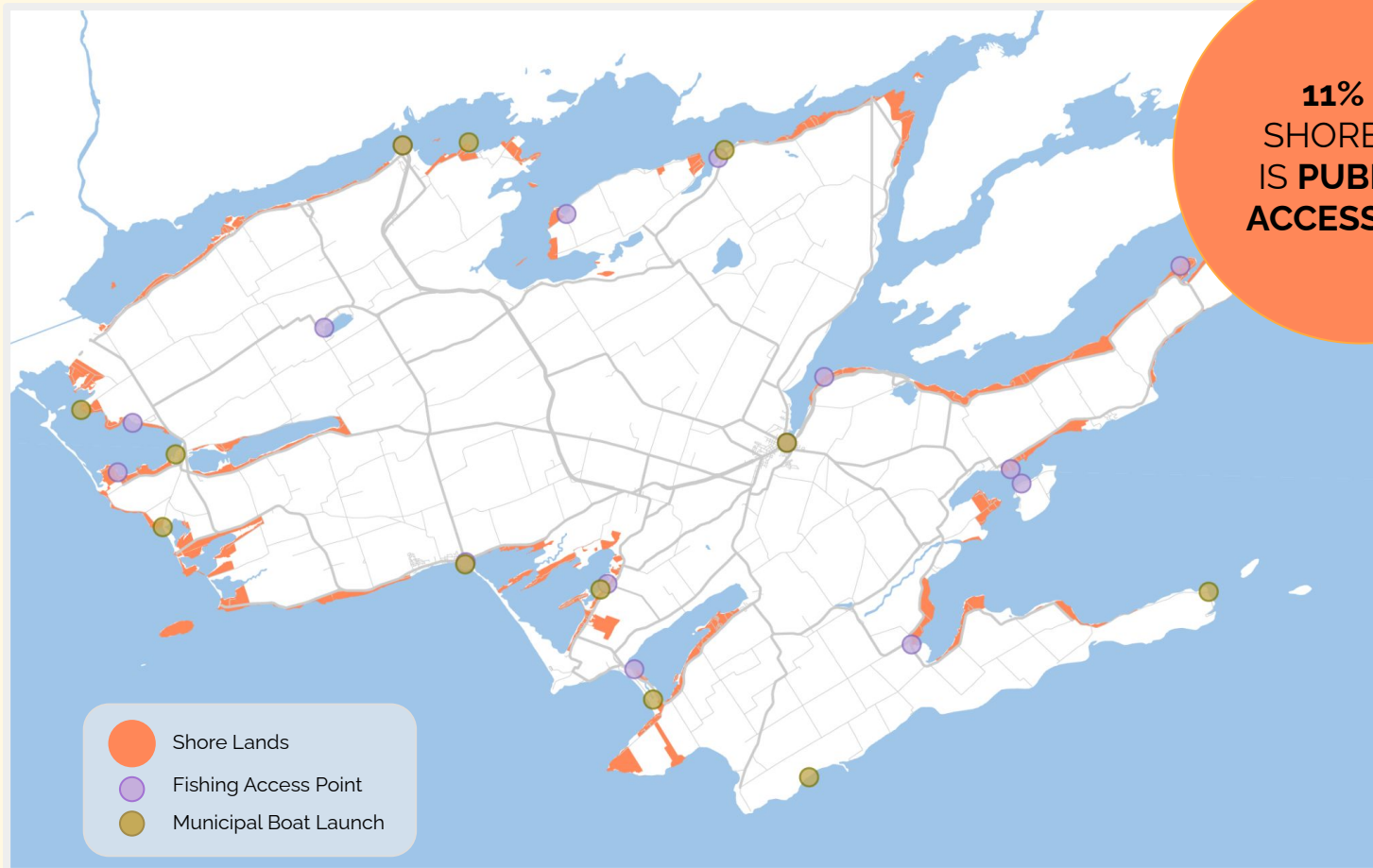
**Traditional
seasonal
tourism**

**Access to
Water**

**Rural
Character**

**Climate
change
impacts**

**Protecting
Natural
Assets**



**11% OF
SHORELINE
IS PUBLICLY
ACCESSIBLE ¹**

Data Sources: Government of Canada (2019a); Land Information Ontario (2021); Ontario Ministry of Natural Resources and Forestry (2021); Prince Edward County (2021e); Prince Edward County (2021i)





Photo Source: Bishop-Kovac (2021b)



Photo Source: Vaughan (n.d.)

RECORD HIGH WATER LEVELS



Photo Source: McKibbon (2019)



Photo Source: Durkin (n. d.)



INCREASINGLY SEVERE DROUGHT



Photo Source: Quinte Conservation (2021b)

\$17.5 Million

**IN CROP INSURANCE CLAIMS DUE
TO 2016 DROUGHT EVENT²**

Half of the Region's

**POPULATION RELY ON PRIVATE
WELLS FOR WATER SUPPLY (2021)³**

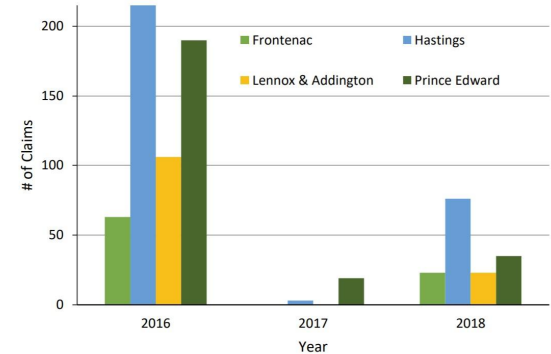
LEVEL 1 LOW WATER

**QUINTE CONSERVATION
WATERSHED IN JUNE 2021⁴**

Experts predict drought for 2021, discuss water and climate change

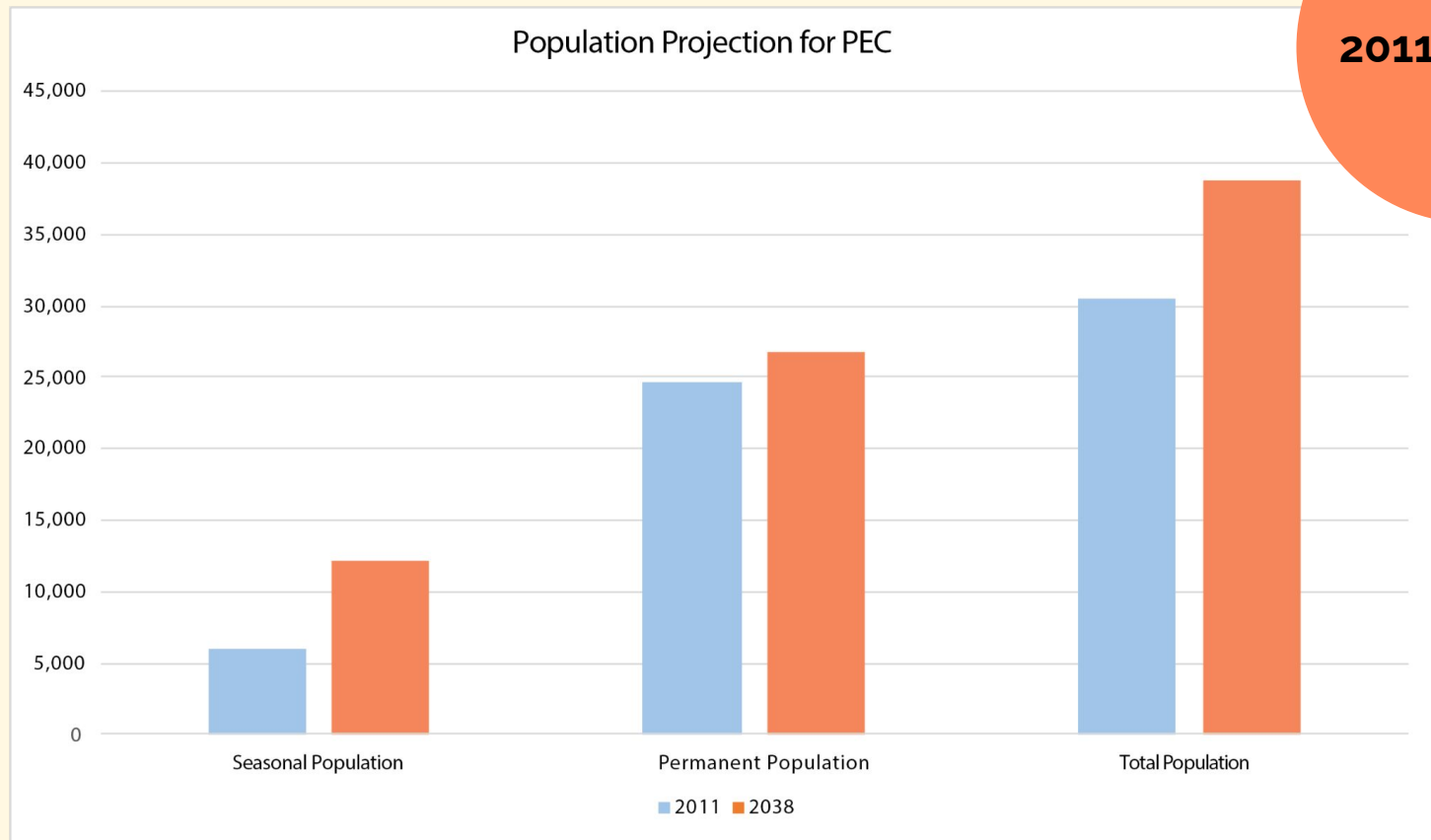
Administrator | May 04, 2021 | Comments 1

Figure 8: Crop Insurance Claims 2016-2018 (Agricorp)



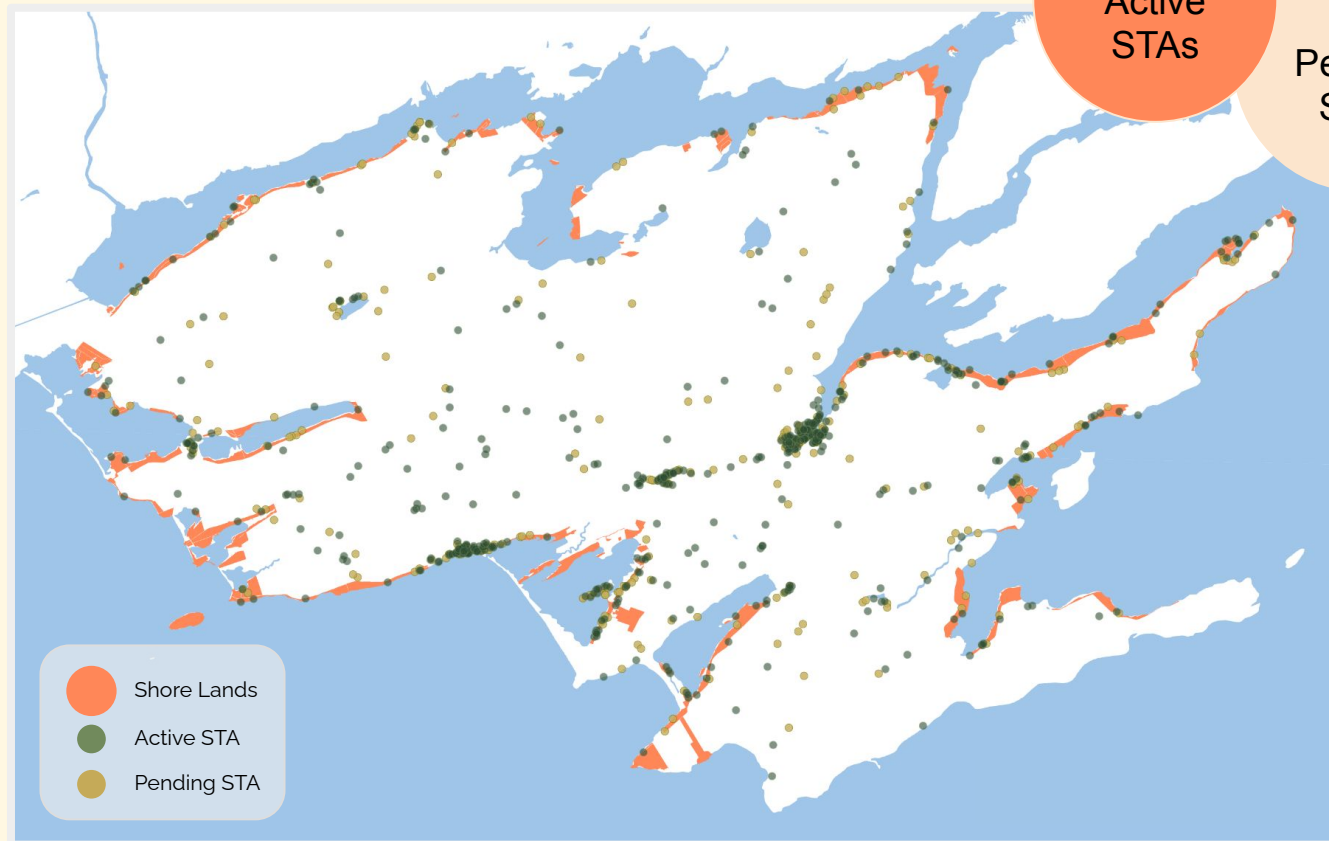
Low Water Condition
Level 1

GROWTH



2011 to 2038

SHORT-TERM ACCOMMODATIONS (STA)



514
Active
STAs

303
Pending
STAs

Data Sources: Government of Canada (2019a); Prince Edward
County (2021d); Prince Edward County (2021i)



Low water condition issued for Prince Edward County and region

Administrator | Jun 08, 2021 | Comments 4

Tourism in Ontario's Prince Edward County is booming. If only staff could afford to live there



Average price of home in rural Ontario community tops \$820K, 1-bedroom rental for \$1,464 a month

Cottage | Prince Edward County

Prince Edward County Real Estate: Disconnected From Reality

By Treat Hull

The Great Reboot

Red-hot and rural: Canadian towns grapple with big-city-like real estate boom

Experts predict drought for 2021, discuss water and climate change

Administrator | May 04, 2021 | Comments 1



Photo Sources: Top: Davidson (2021); Bottom: Pepin (2019a)

Photo Sources: Top: Pepin (2019b); Bottom: Avrextravel.com (n.d.)

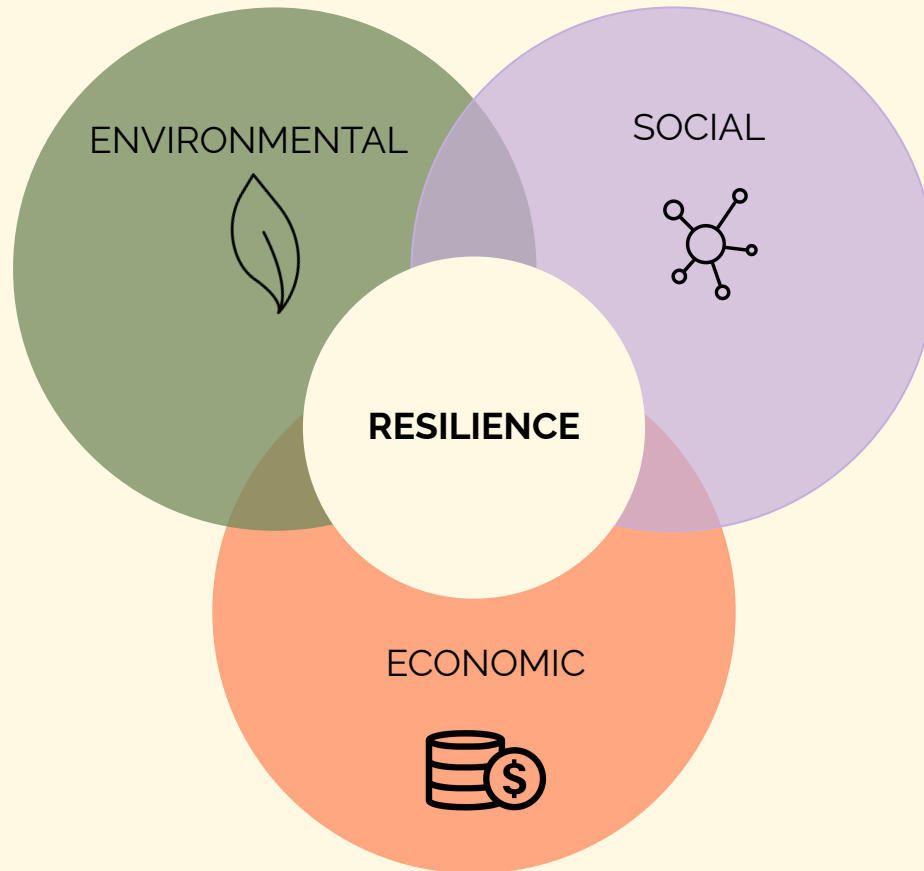
ADDRESSING THE PROBLEM

Photo Source: Bishop-Kovac (2021c)

***Resilience refers to the ability of a system
to absorb and respond to change...***

- Holling, 1973⁵; Lister, 2016⁶; Lister, 2018⁷

THREE PILLARS





The Shore Lands are uniquely situated to promote resilient communities.

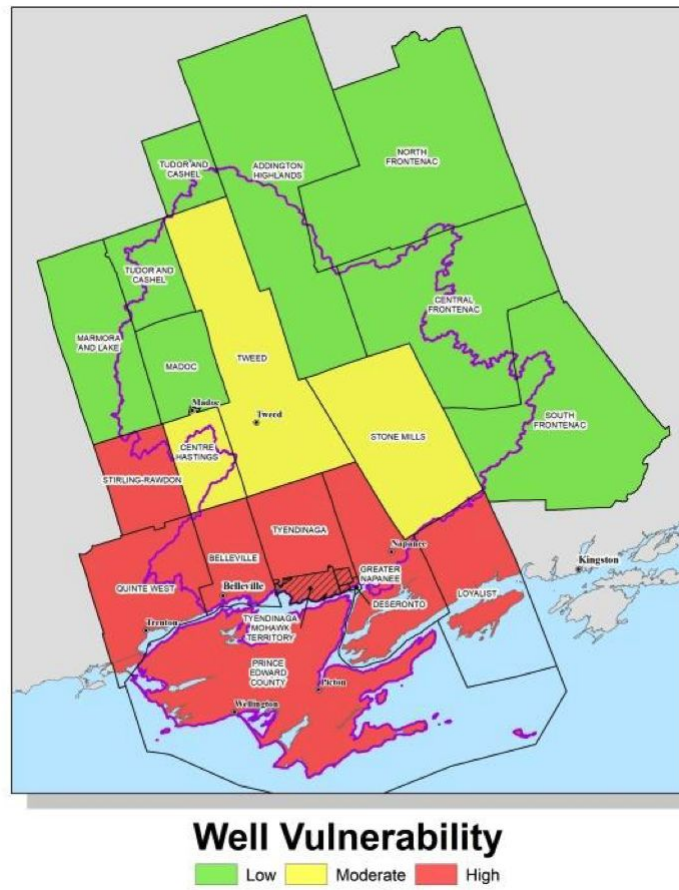
Photo Source: Wagar (2019)



Photo Source: Durkin (n. d.)



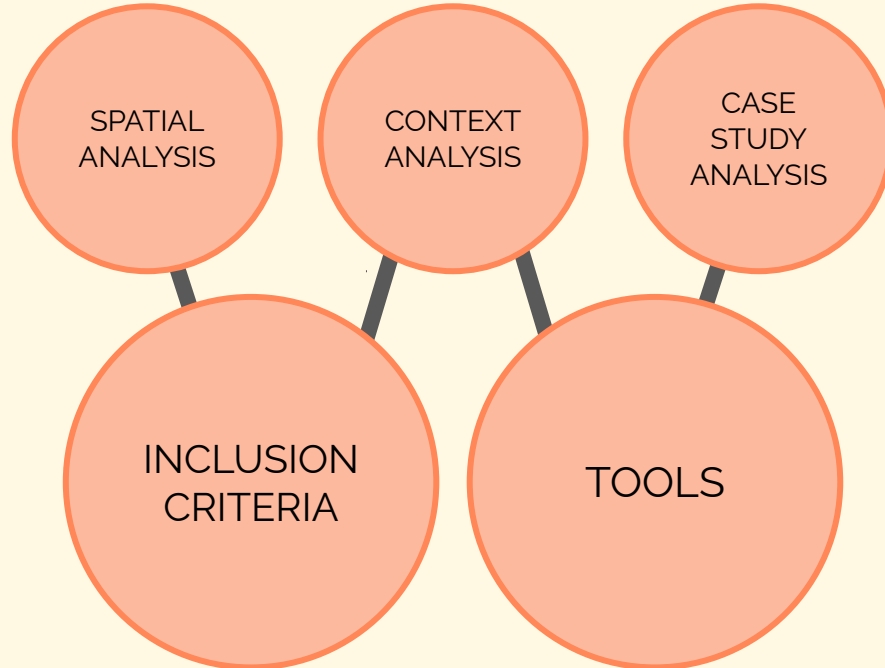
Photo Source: Quinte Conservation (2021b)



Source: Quinte Conservation (2021a)

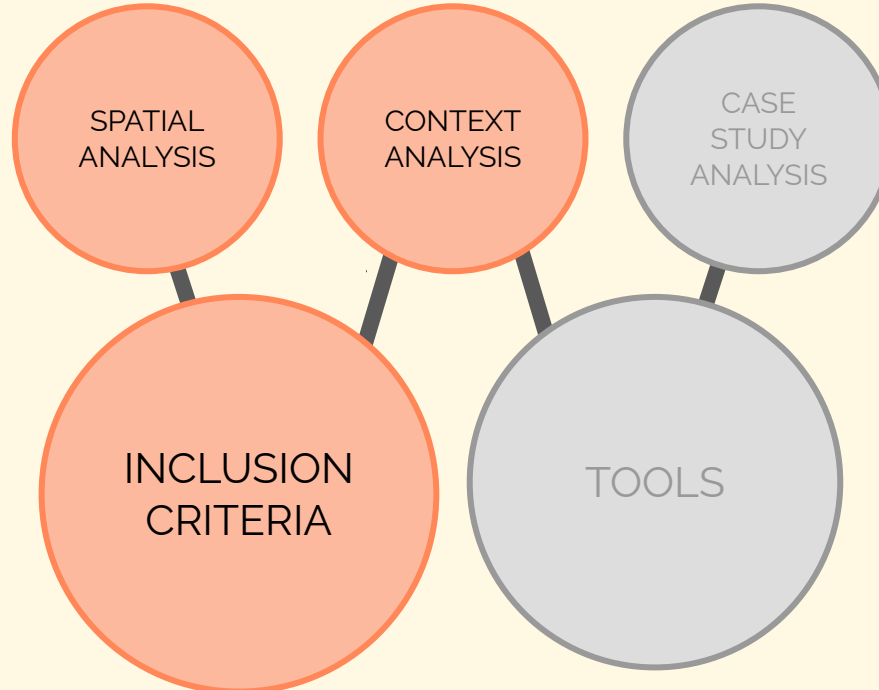
Which lands should be included in the Shore Lands designation?

How can we ensure sustainable, resilient, and quality development within the Shore Lands?



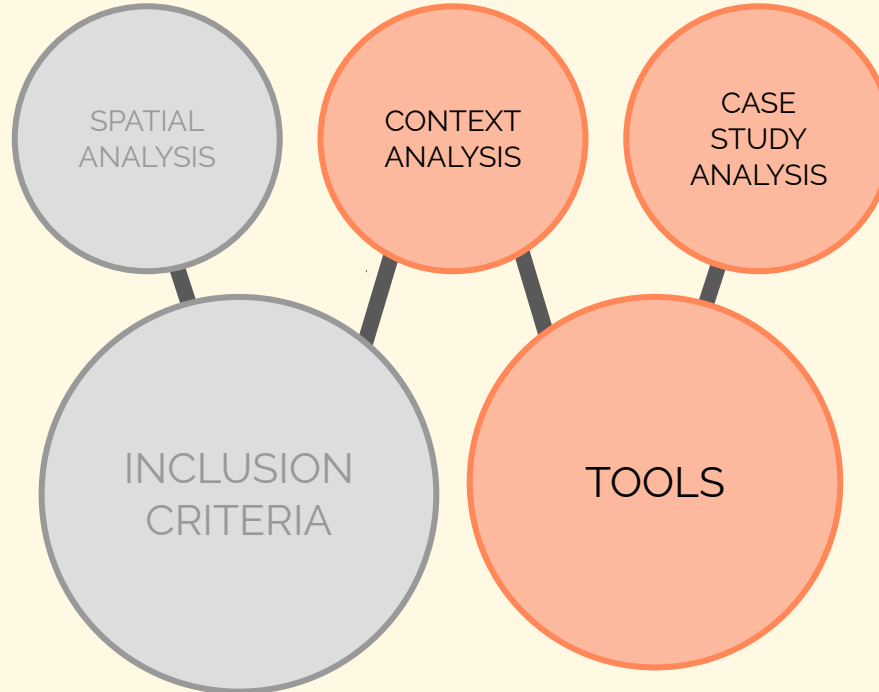
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How can we ensure sustainable, resilient, and quality development within the Shore Lands?



CASE STUDY SITES



Data Sources: Statistics Canada (2021); US Census Bureau (2021)




A wide-angle photograph of a sandy beach. The foreground is filled with numerous tire tracks in the sand. In the middle ground, a dense line of green trees runs along the shoreline. Beyond the trees is a calm body of water. The sky is blue with scattered white clouds. The text 'INCLUSION CRITERIA' is overlaid on the top left in a bold, italicized font.

INCLUSION

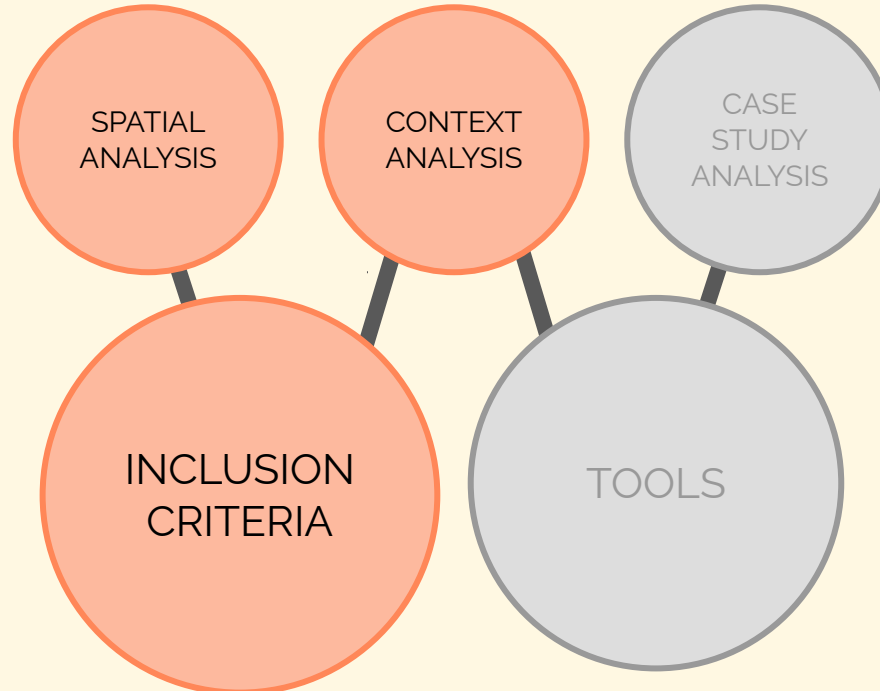
CRITERIA

Photo Source: Bishop-Kovac (2021e)



Which lands should be included in the Shore Lands designation?

How can we ensure sustainable, resilient, and quality development within the Shore Lands?





PROXIMITY TO A **TOURISM CORRIDOR**

LEVEL OF OVERLAP WITH
SIGNIFICANT ENVIRONMENTAL AREAS



RISK OF **EROSION**

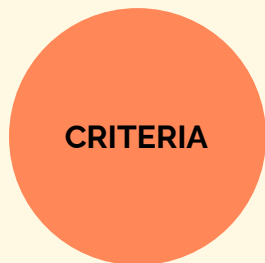
POTENTIAL FOR **WATER ACCESS**



LEVEL OF SERVICE BY **MUNICIPAL
INFRASTRUCTURE**

DEGREE OF **AQUIFER
VULNERABILITY**

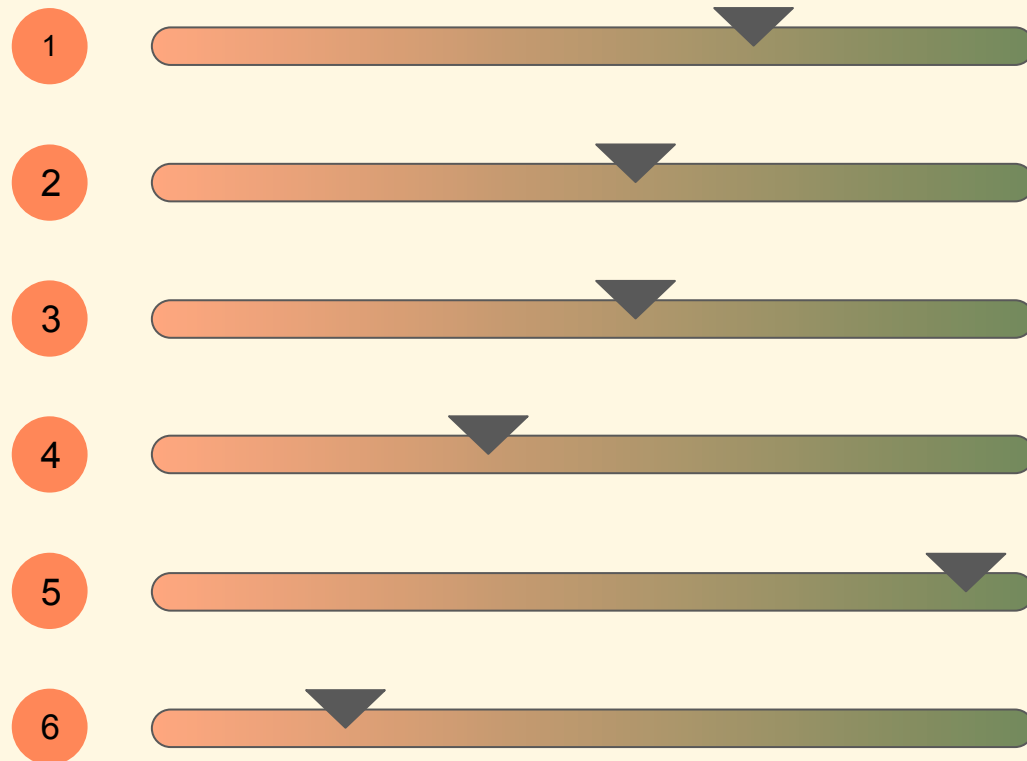




CRITERIA

***WEAK
RATIONALE***

***STRONG
RATIONALE***



PROXIMITY TO A **TOURISM CORRIDOR**

LEVEL OF OVERLAP WITH
SIGNIFICANT ENVIRONMENTAL AREAS

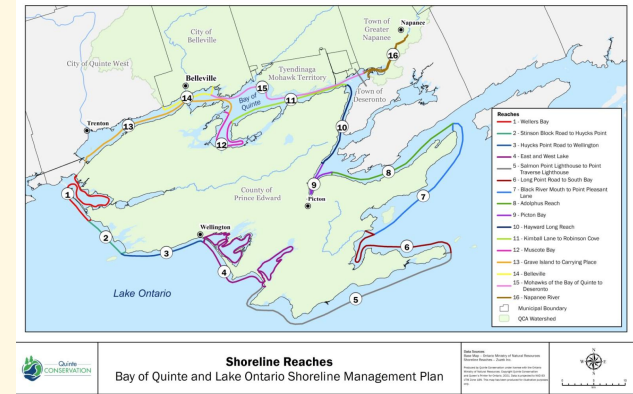
RISK OF **EROSION**

POTENTIAL FOR **WATER ACCESS**

LEVEL OF SERVICE BY **MUNICIPAL
INFRASTRUCTURE**

DEGREE OF **AQUIFER
VULNERABILITY**

Photo Source: Google Maps (2021)

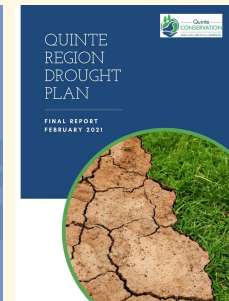
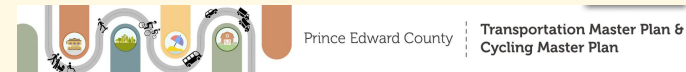


Parks and Recreation Master Plan in the works for PEC

Belleville, ON, Canada / Quinte News

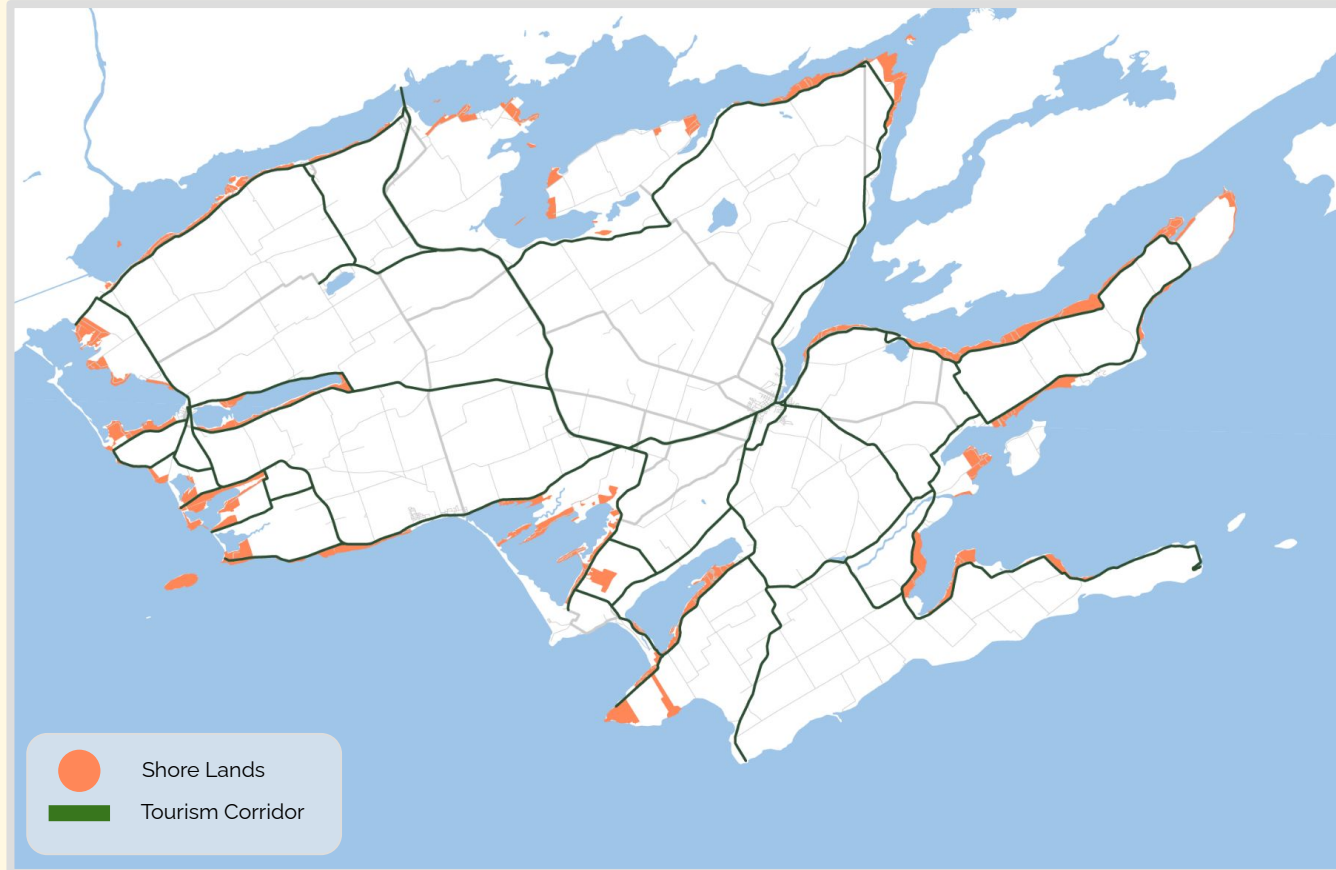
Alana Cameron

Oct 14, 2021 | 3:42 PM



Sources: Quinte Conservation (2021d); Cameron (2021); Prince Edward County. (n.d.); County of Prince Edward (2021); Quinte Conservation. (2021a).

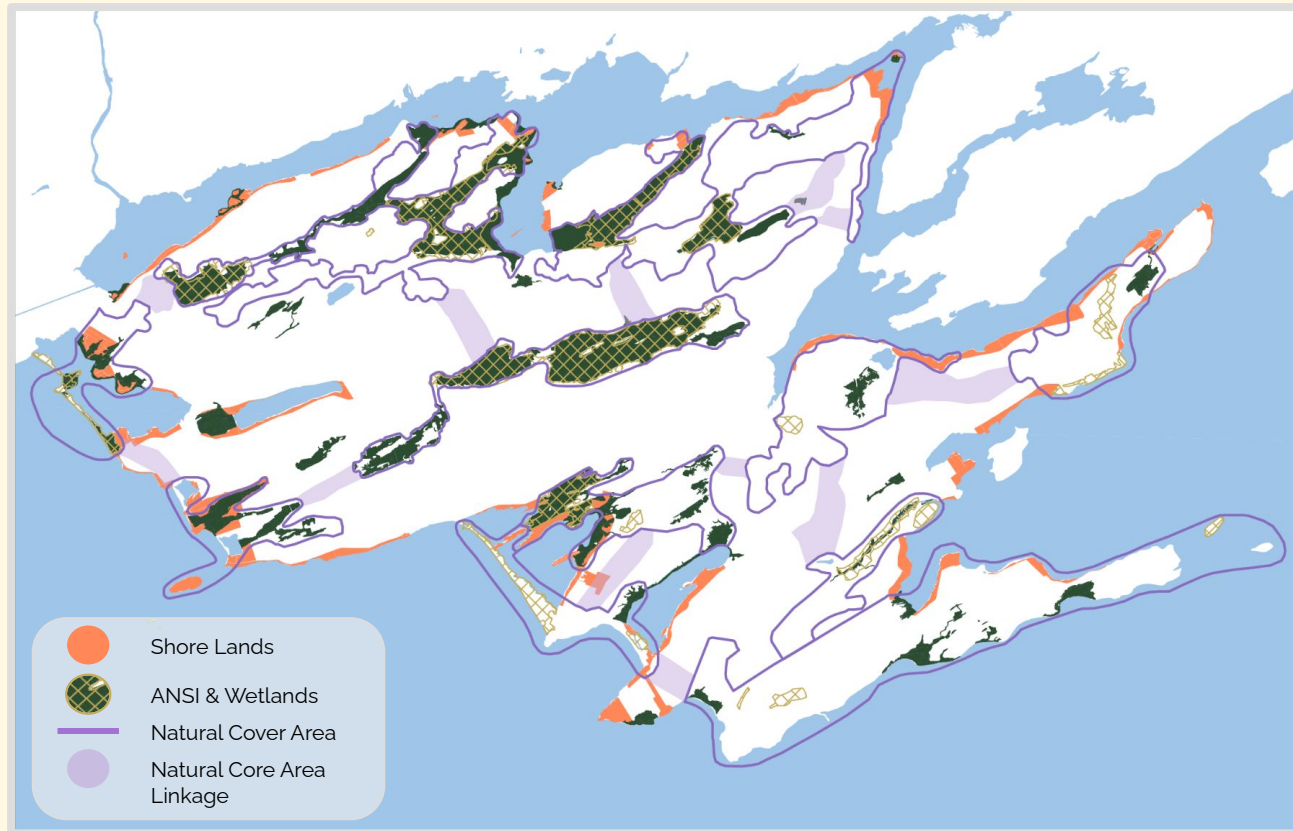
CRITERION 1: PROXIMITY TO A TOURISM CORRIDOR



Data Sources: Government of Canada (2019a); Ontario Ministry of Natural Resources and Forestry (2021); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l)



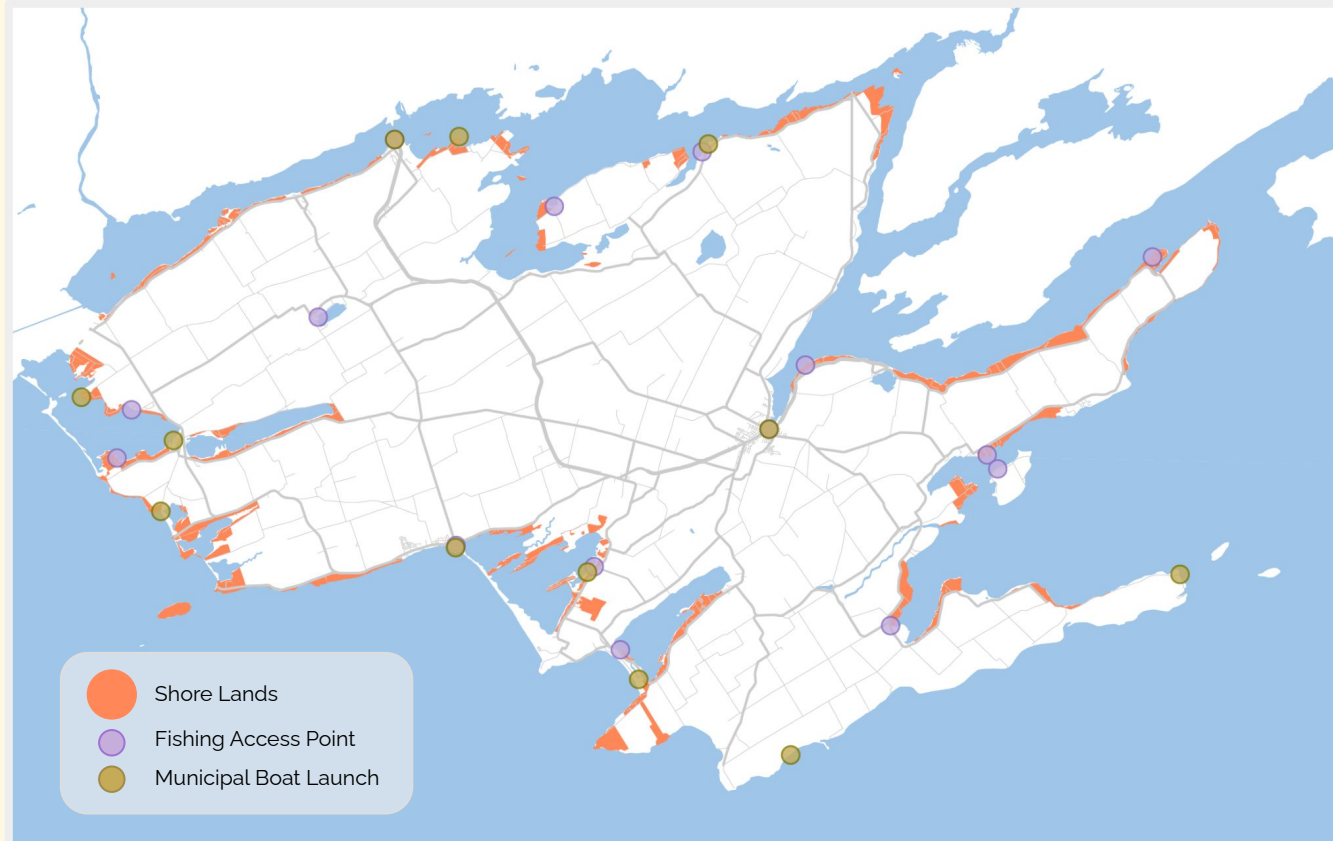
CRITERION 2: LEVEL OF OVERLAP WITH SIGNIFICANT/POTENTIALLY SIGNIFICANT ENVIRONMENTAL AREAS



Data Sources: Government of Canada (2019a); Prince Edward County (2021b); Prince Edward County (2021f); Prince Edward County (2021g); Prince Edward County (2021i); Prince Edward County (2021o)



CRITERION 3: POTENTIAL FOR WATER ACCESS



Data Sources: Government of Canada (2019a); Land Information Ontario (2021); Ontario Ministry of Natural Resources and Forestry (2021); Prince Edward County (2021e); Prince Edward County (2021i)



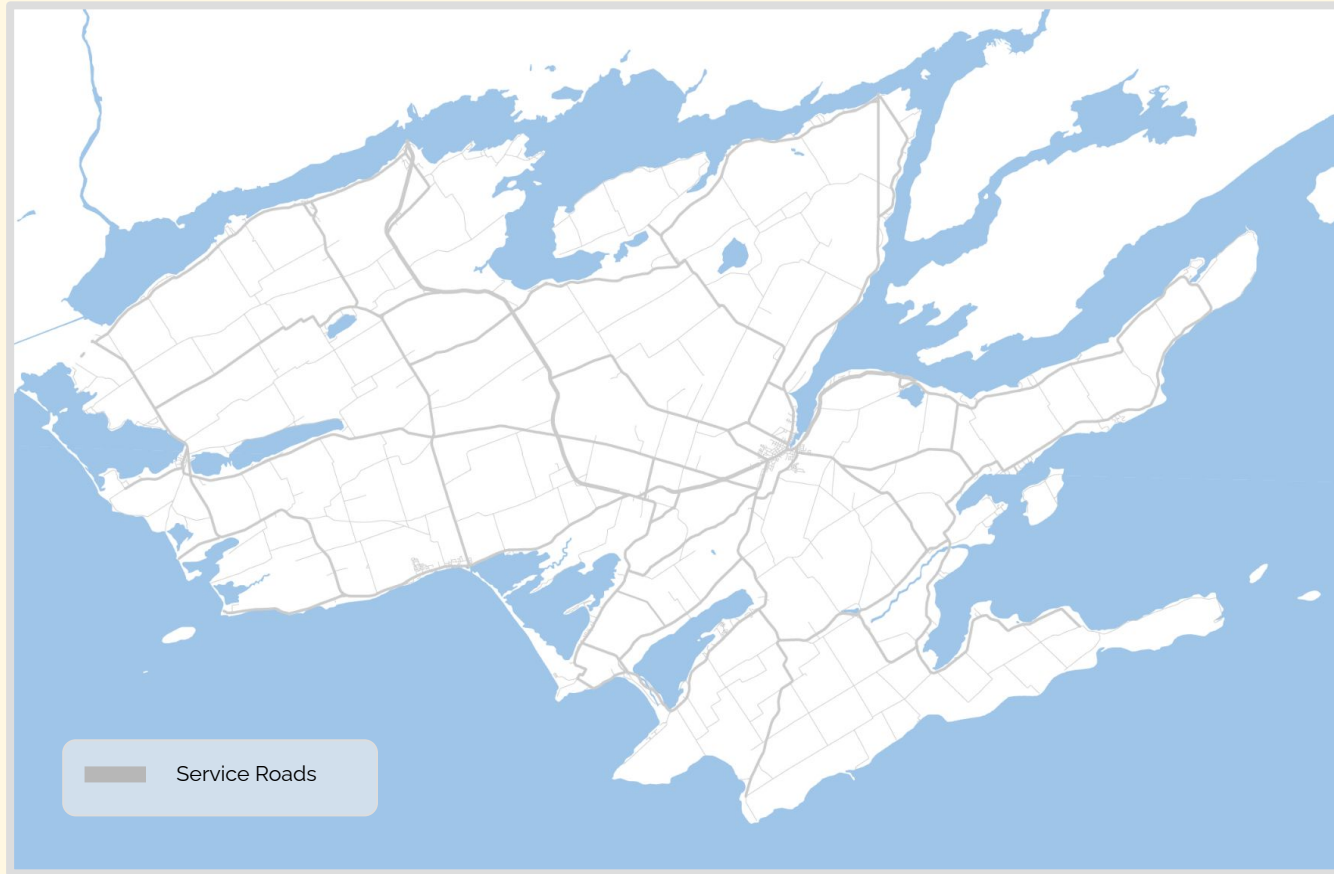
CRITERION 4: RISK OF EROSION



Photo Source: County Live (2019)



CRITERION 5: LEVEL OF SERVICE BY MUNICIPAL INFRASTRUCTURE



Data Sources: Government of Canada (2019a); Ontario Ministry of Natural Resources and Forestry (2021)



CRITERION 6: DEGREE OF AQUIFER VULNERABILITY

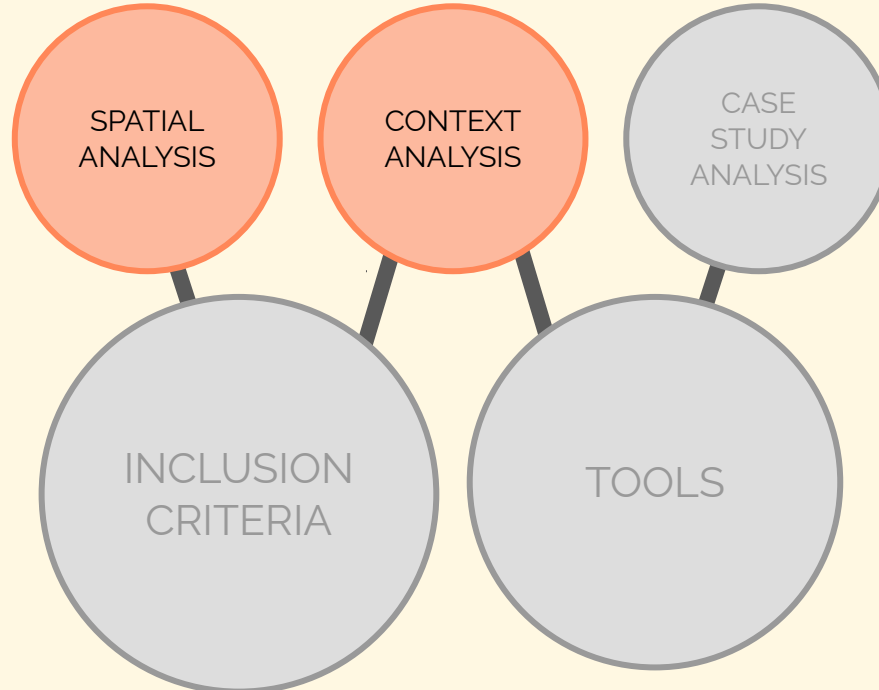


Data Sources: Esri et al (2020); Prince Edward County (2021); Prince Edward County (2021); Prince Edward County (2020); Ontario Municipal Affairs and Housing (2021)



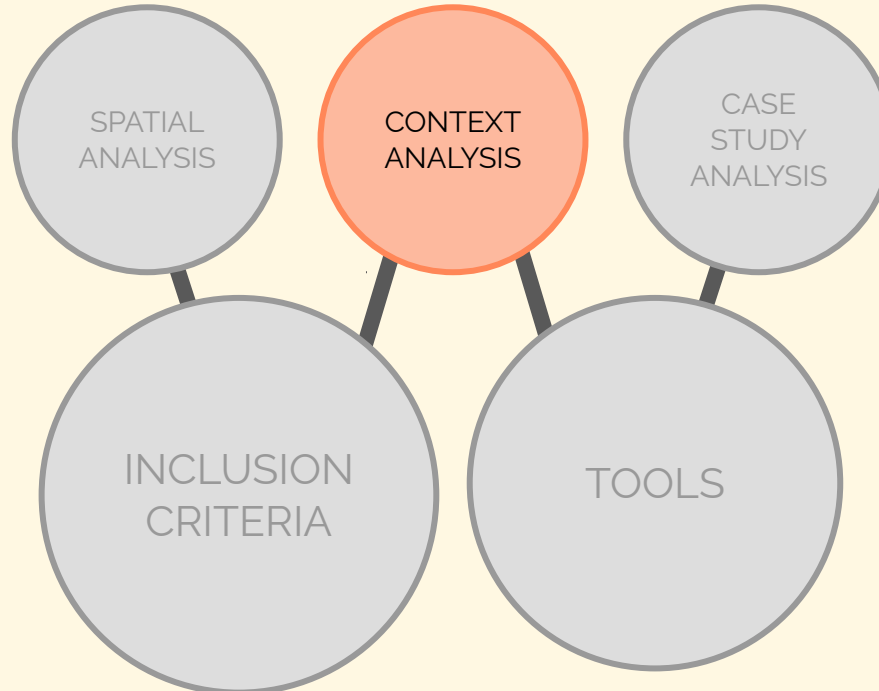
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How can we ensure sustainable, resilient, and quality development within the Shore Lands?



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**Growth and
Development**

**Traditional
seasonal
tourism**


**Access to
Water**

**Rural
Character**

**Climate
change
impacts**

**Protecting
Natural
Assets**

Photo Source: Wagar (2019)




*Shore Lands shall "Include those public and private lands that abut or are islands in the lakes in or adjacent to the County, which are either **developed or potentially available for development**, and which are **not constrained by significant natural features** and their ecological functions, or **constrained by poor access** or **proximity to incompatible uses**."*⁸

- PEC Official Plan, 2021



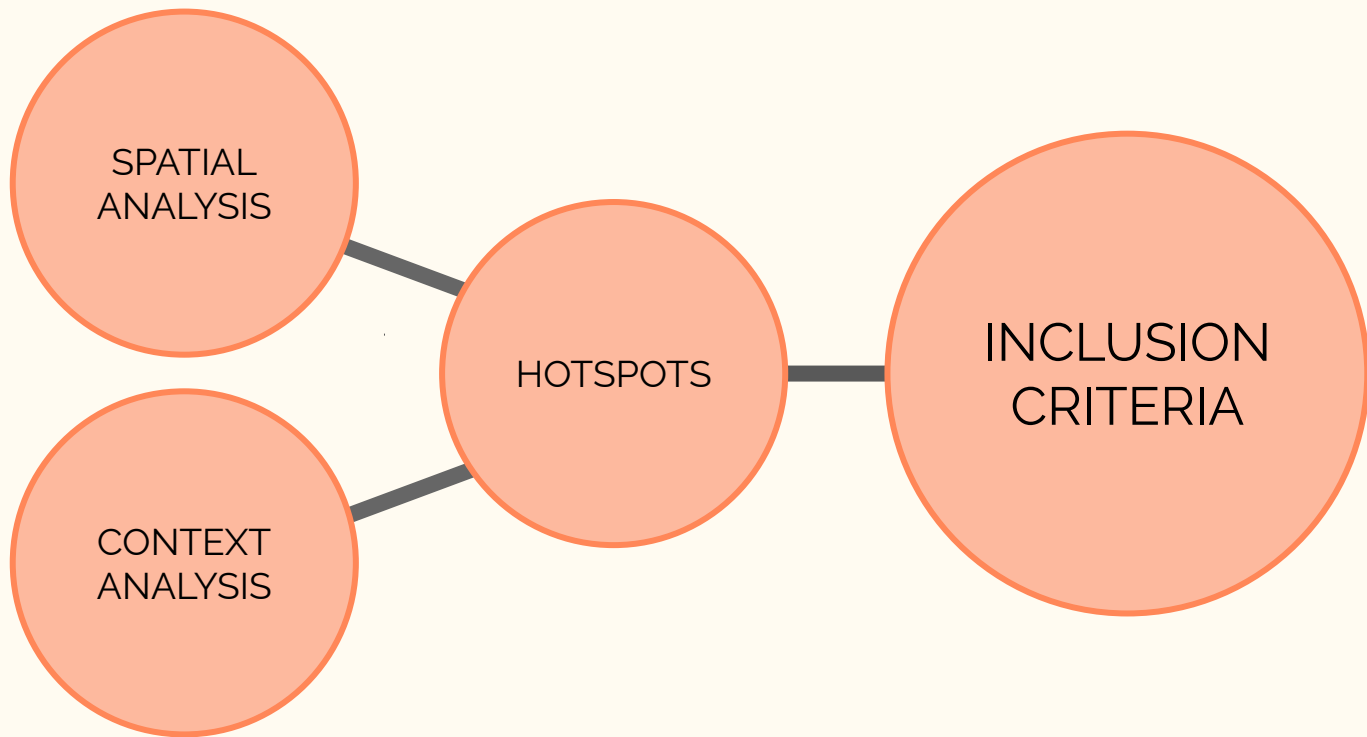
Shore Lands are areas where
development is desirable along the rural
waterfront.

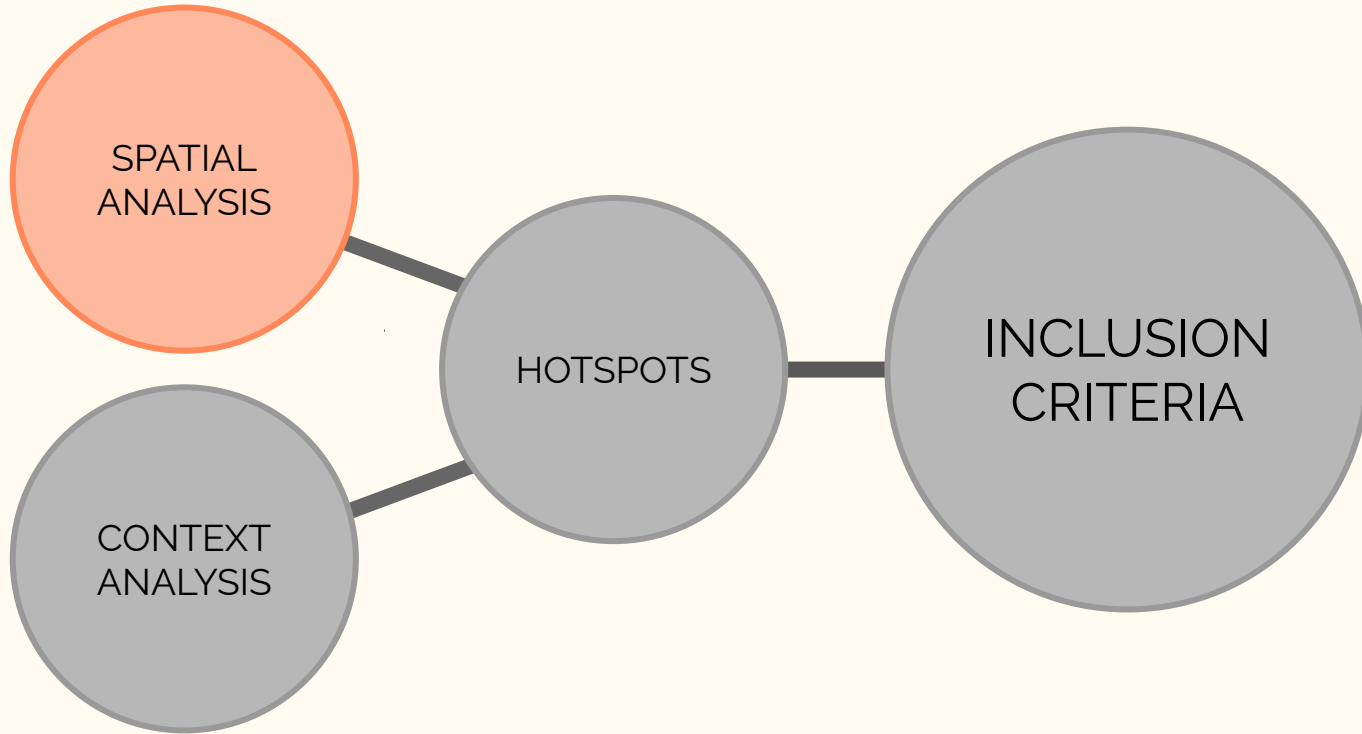


 Shore Lands

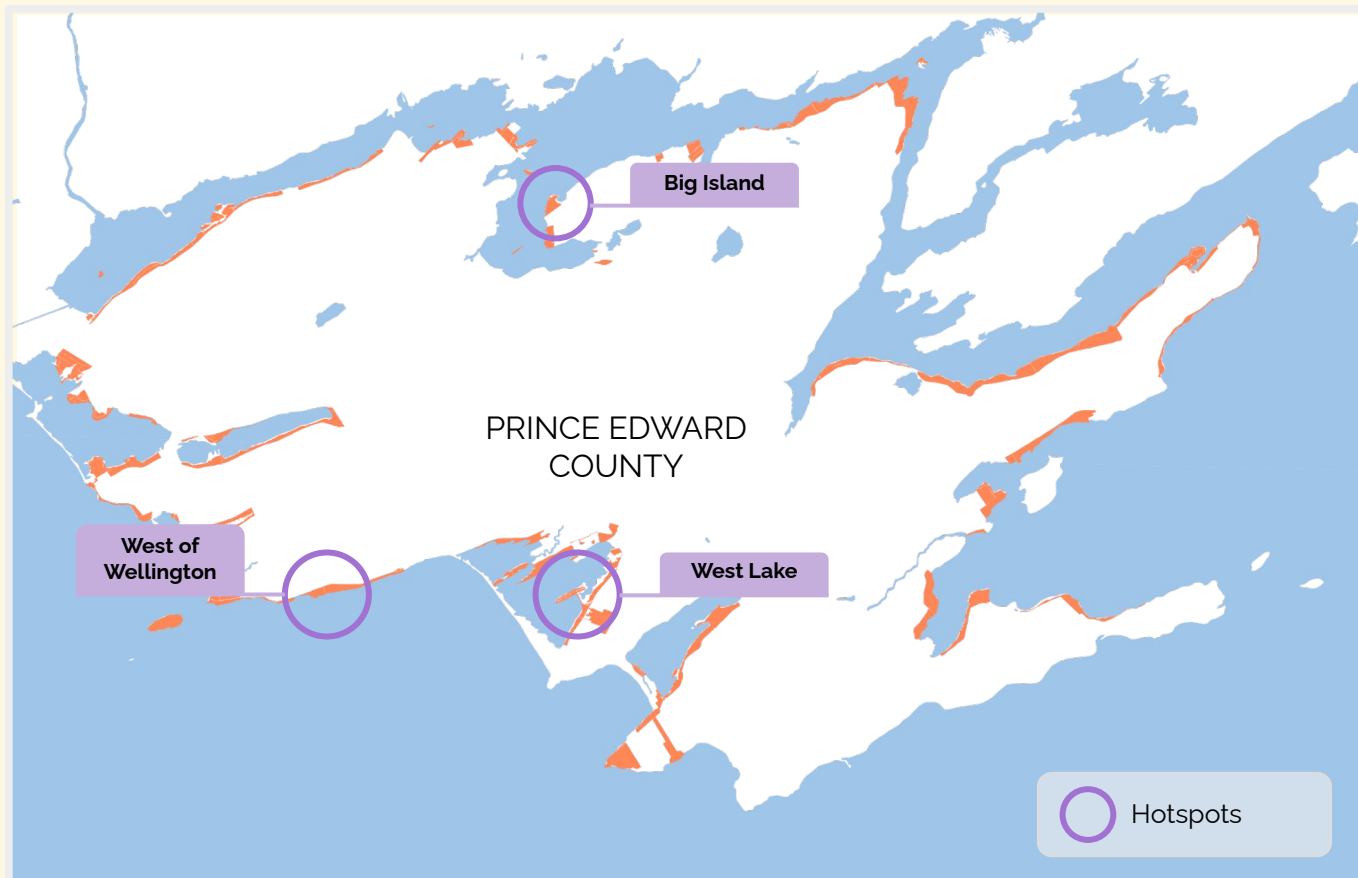


Data Sources: Government of Canada (2019a); Prince Edward County (2021i)
Photo Sources: Left: Giacomantonio (2021); Right: Lam (2017)





HOTSPOT REGIONS




Data Sources: Government of Canada (2019a); Prince Edward County (2021)



WEST LAKE



 Shore Lands

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



WEST LAKE



- Shore Lands
- Provincial Parks

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



WEST LAKE



- Shore Lands
- Provincial Parks
- Active STA
- Pending STA

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



WEST LAKE



- Shore Lands
- Provincial Parks
- Active STA
- Pending STA
- Prime Agriculture

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



WEST LAKE

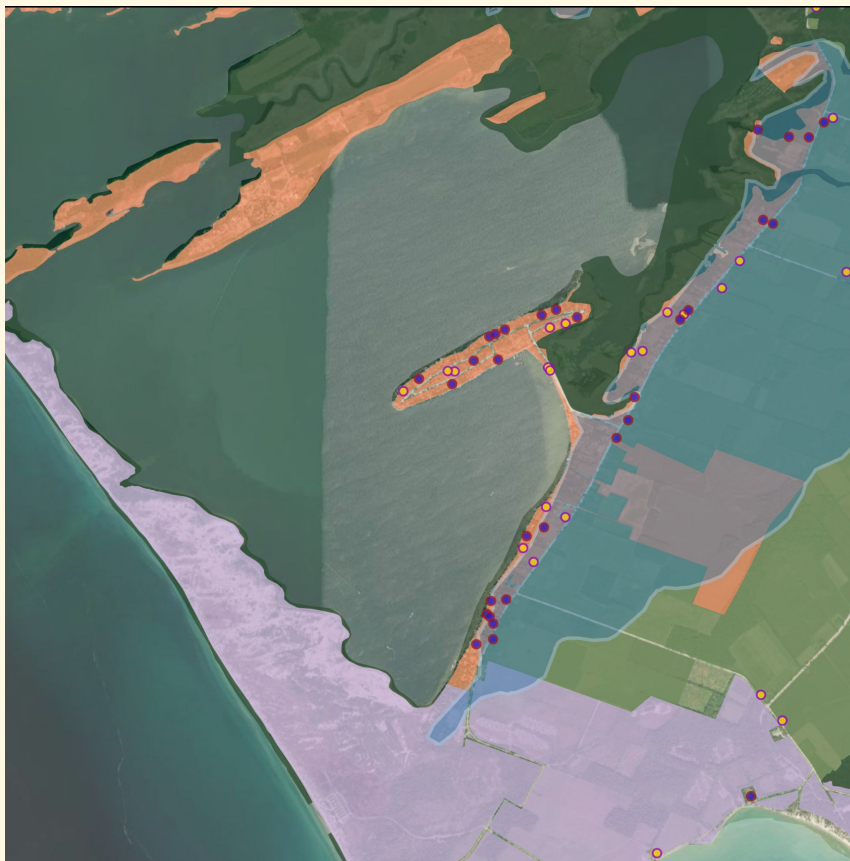


- Shore Lands
- Provincial Parks
- Active STA
- Pending STA
- Prime Agriculture
- Environmental Protection

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



WEST LAKE



- Shore Lands
- Provincial Parks
- Active STA
- Pending STA
- Prime Agriculture
- Environmental Protection
- Ground Water Recharge Area

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021d); Prince Edward County (2021h); Prince Edward County (2021i); Prince Edward County (2021j)



BIG ISLAND



 Shore Lands

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021i); Prince Edward County (2020); Ontario Ministry of Natural Resources and Forestry (2021)



BIG ISLAND



- Shore Lands
- Environmental Protection

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021i); Prince Edward County (2020); Ontario Ministry of Natural Resources and Forestry (2021)



BIG ISLAND



- Shore Lands
- Environmental Protection
- Prime Agriculture

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021i); Prince Edward County (2020); Ontario Ministry of Natural Resources and Forestry (2021)



BIG ISLAND



- Shore Lands
- Environmental Protection
- Prime Agriculture
- High Water Line 2019

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021i); Prince Edward County (2020); Ontario Ministry of Natural Resources and Forestry (2021)



BIG ISLAND



- Shore Lands
- Environmental Protection
- Prime Agriculture
- High Water Line 2019
- Road Network

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021c); Prince Edward County (2021i); Prince Edward County (2020); Ontario Ministry of Natural Resources and Forestry (2021)



WEST OF WELLINGTON



 Shore Lands

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l); Prince Edward County (2021m); Prince Edward County (2021n)



WEST OF WELLINGTON



Shore Lands

Urban Centre

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l); Prince Edward County (2021m); Prince Edward County (2021n)



WEST OF WELLINGTON



- Shore Lands
- Urban Centre
- Prime Agriculture

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l); Prince Edward County (2021m); Prince Edward County (2021n)



WEST OF WELLINGTON



- Shore Lands
- Urban Centre
- Prime Agriculture
- Tourism Corridor

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l); Prince Edward County (2021m); Prince Edward County (2021n)



WEST OF WELLINGTON

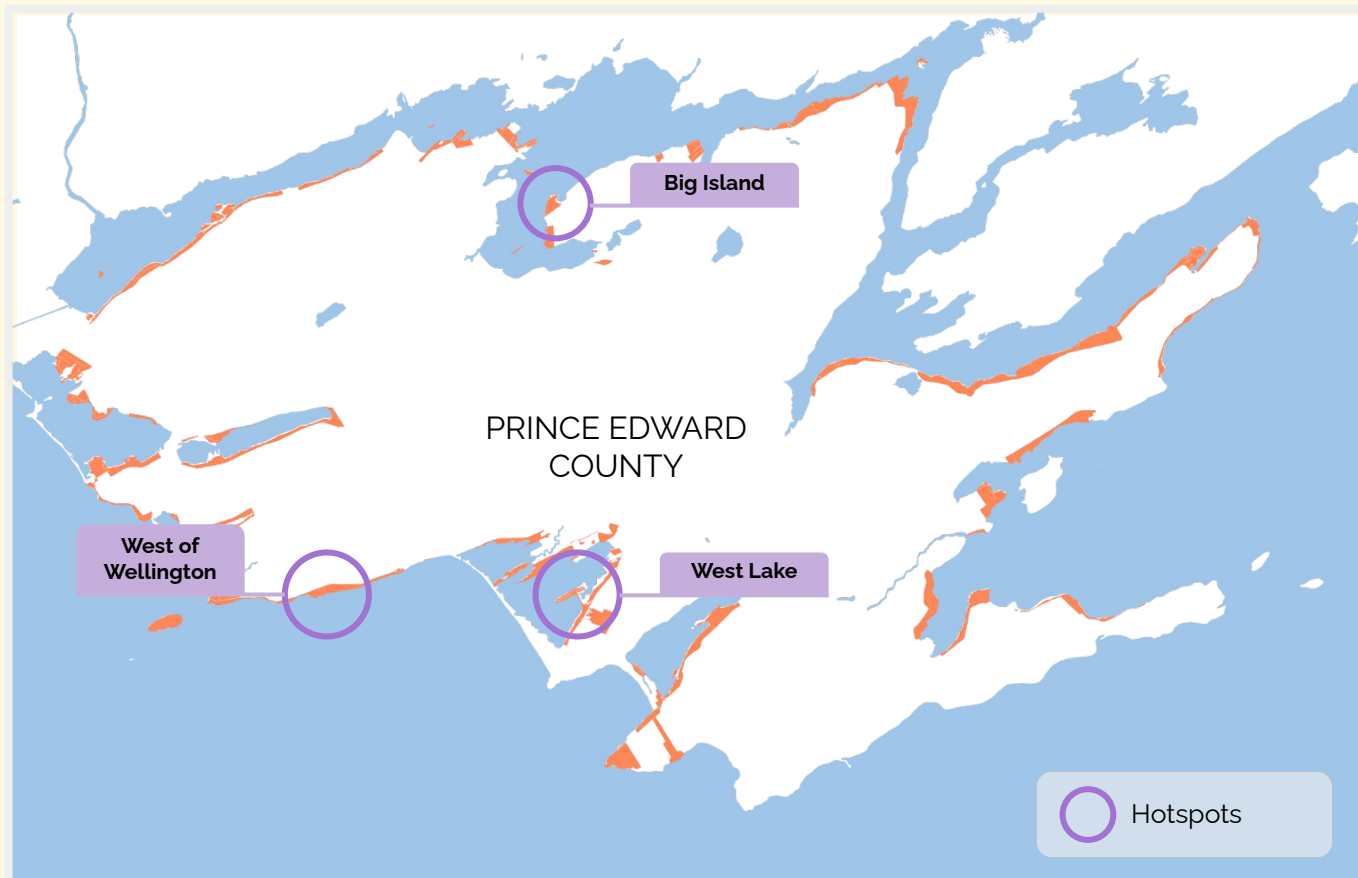


- Shore Lands
- Urban Centre
- Prime Agriculture
- Tourism Corridor
- Water Service Area

Data Sources: Land Information Ontario (2018); Prince Edward County (2021a); Prince Edward County (2021i); Prince Edward County (2021k); Prince Edward County (2021l); Prince Edward County (2021m); Prince Edward County (2021n)



HOTSPOT REGIONS



Data Sources: Government of Canada (2019a); Prince Edward County (2021)



TOOLS

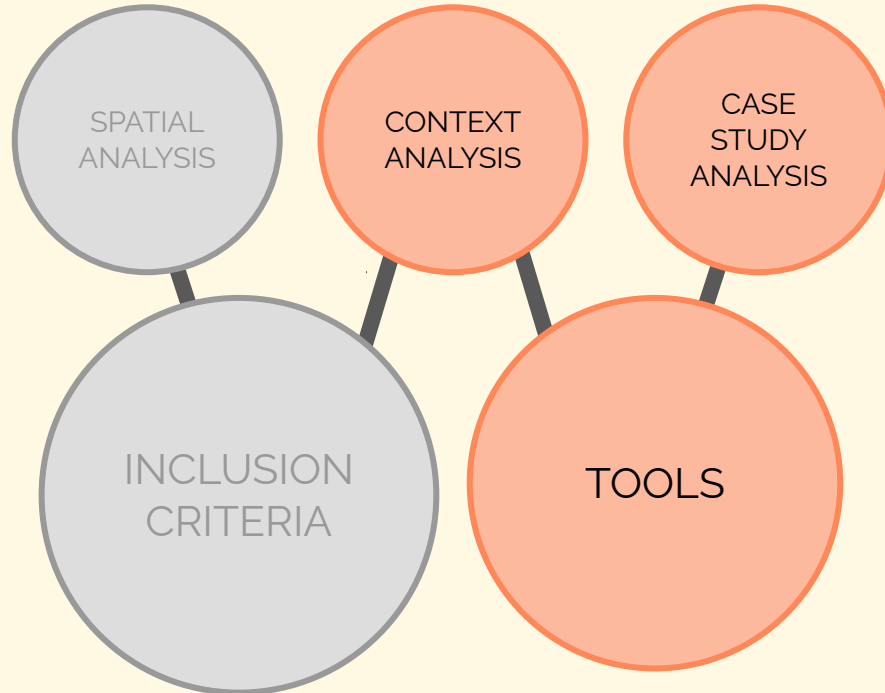


Photo Source: Bishop-Kovac (2021e)



Which lands should be included in the Shore Lands designation?

How can we ensure sustainable, resilient, and quality development within the Shore Lands?





REFINE DESIGN POLICIES FOR SHORE LANDS

PARKLAND DEDICATION REQUIREMENTS

NATURAL HERITAGE FEATURES AND LINKAGES

ADEQUATE HOUSING

TOURISM USES AND FORM

SHORT-TERM ACCOMMODATIONS

*DISCOURAGING HARD BUFFERS
FOR SHORELINE PROTECTION*

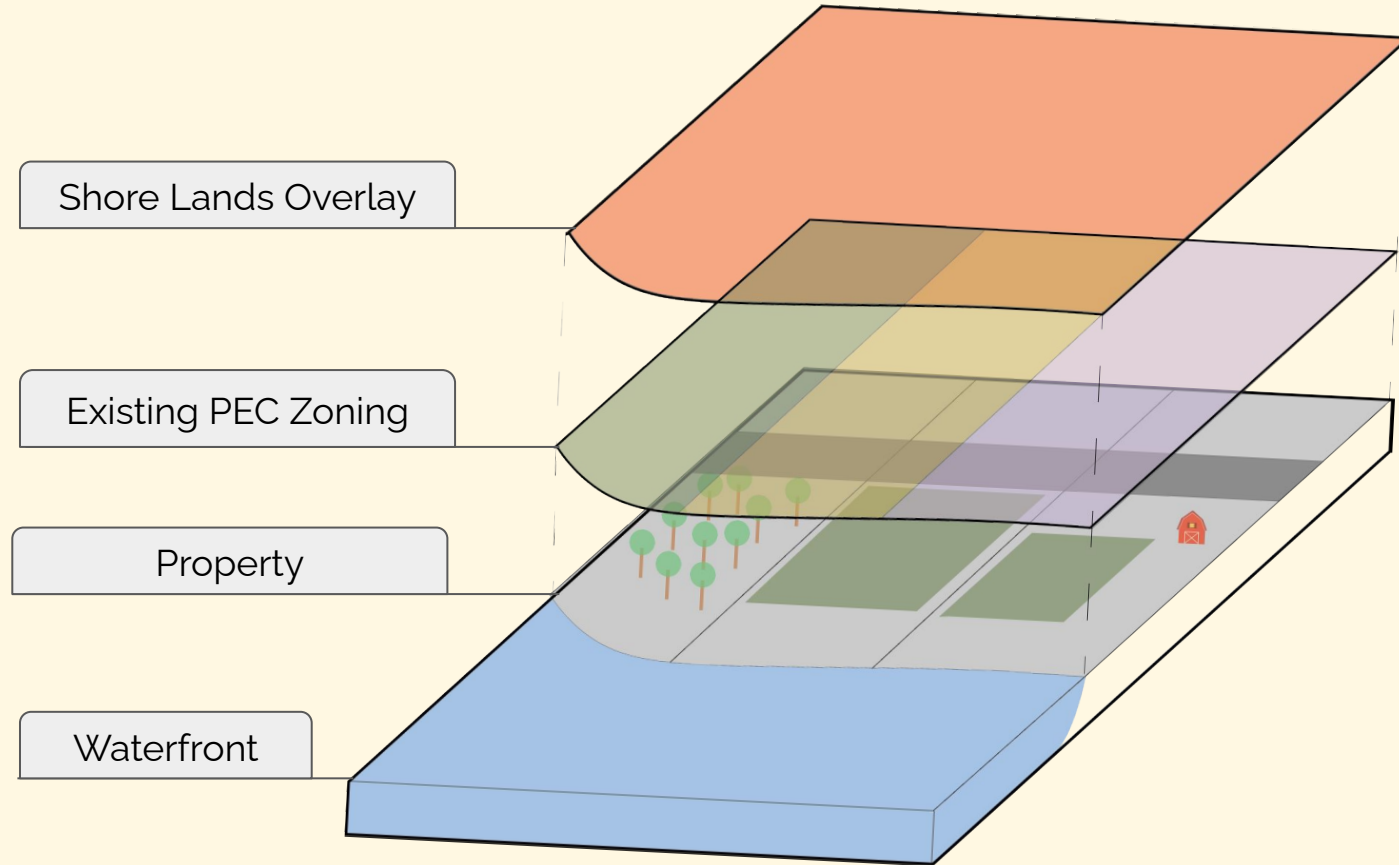
A scenic photograph of a sandy beach with a large dune in the foreground, leading down to a calm lake. Trees are scattered along the shoreline, and the sky is clear and blue.

TOOLS FOR ENFORCEMENT

- SHORE LANDS OVERLAY ZONING**

- COMMUNITY PLANNING PERMIT SYSTEM**

SHORE LANDS OVERLAY ZONING



COMMUNITY PLANNING PERMIT SYSTEM

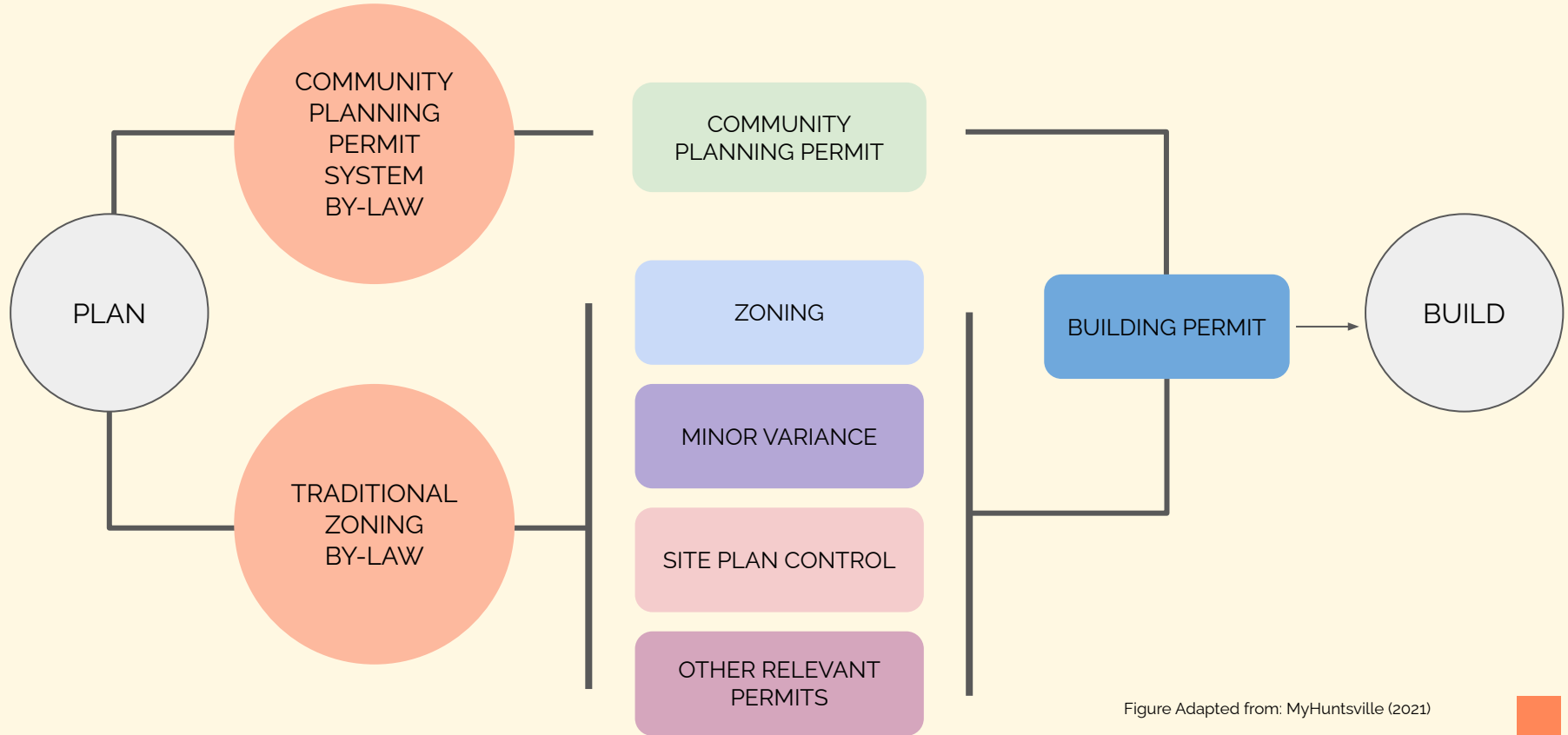
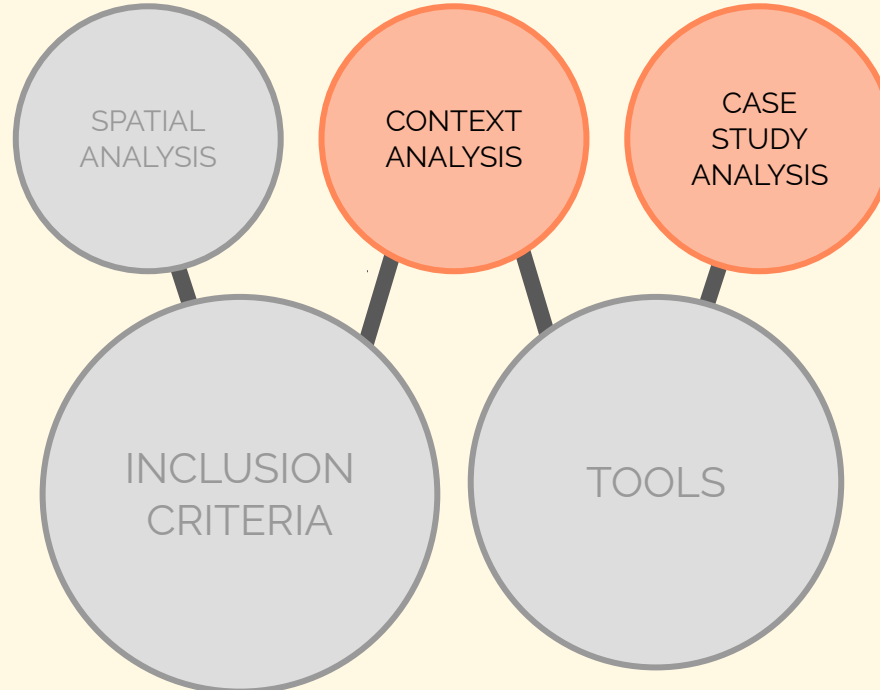


Figure Adapted from: MyHuntsville (2021)

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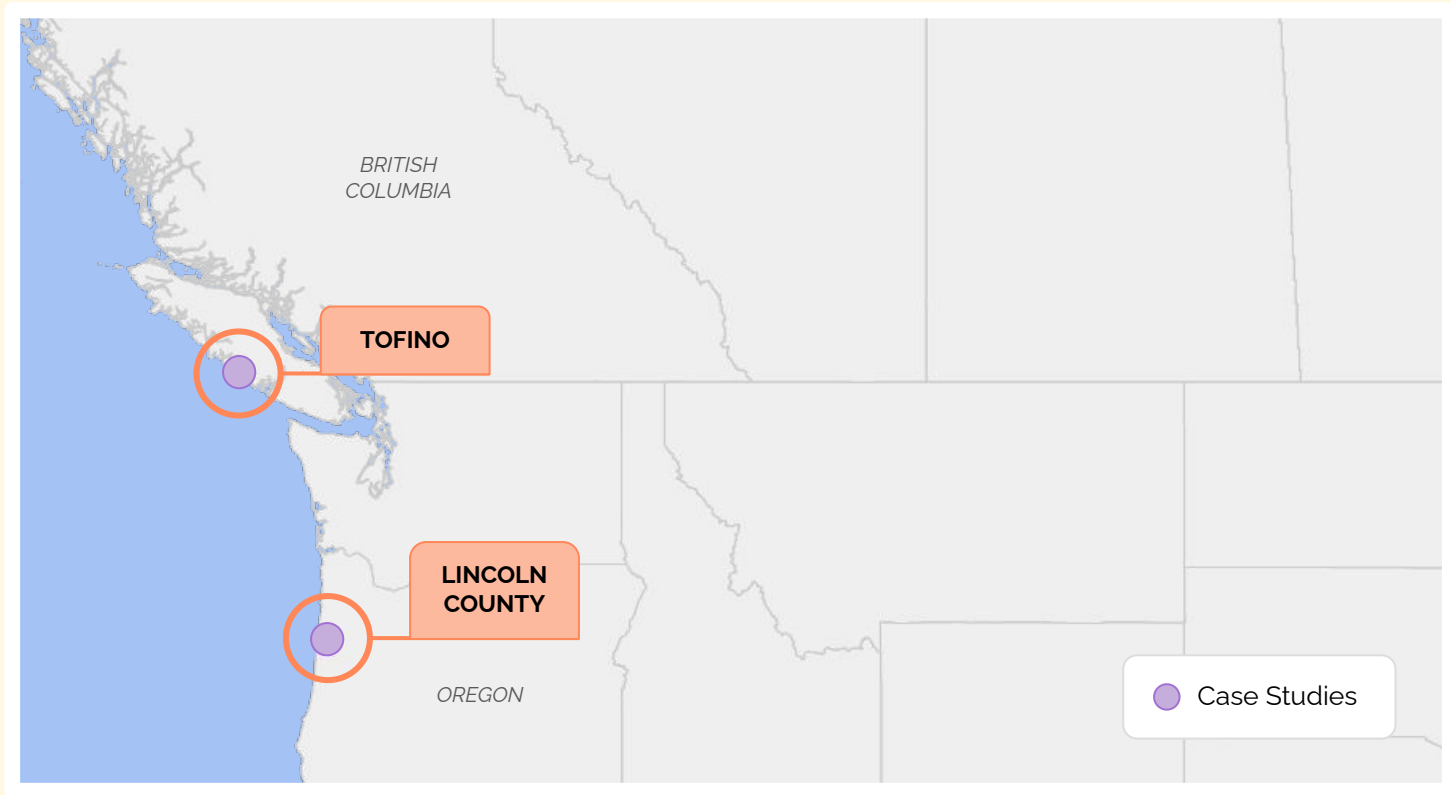
CASE STUDY SITES



Data Sources: Statistics Canada (2021); US Census Bureau (2021)



CASE STUDY SITES



Data Sources: Statistics Canada (2021); US Census Bureau (2021)



An aerial photograph of Tofino, British Columbia, showing a coastal town with a marina, buildings, and a forested hillside in the background. The town is situated along the water's edge, with a large marina area in the foreground containing several boats and docks. Behind the marina, there are various buildings, including a large multi-story hotel or resort. The background is dominated by a steep, forested hillside.

CASE STUDY: TOFINO, BRITISH COLUMBIA

- ***TOFINO IS A POPULAR ECOTOURISM DESTINATION ON VANCOUVER ISLAND***
- ***DEVELOPMENT PERMIT AREAS (DPAs) ⁹***
 - ***CONTEXT-SPECIFIC GUIDANCE ON SEVERAL DIFFERENT THEMES***
 - ***ENFORCEABLE LEGISLATIVE TOOL***

CASE STUDY: TOFINO, BRITISH COLUMBIA

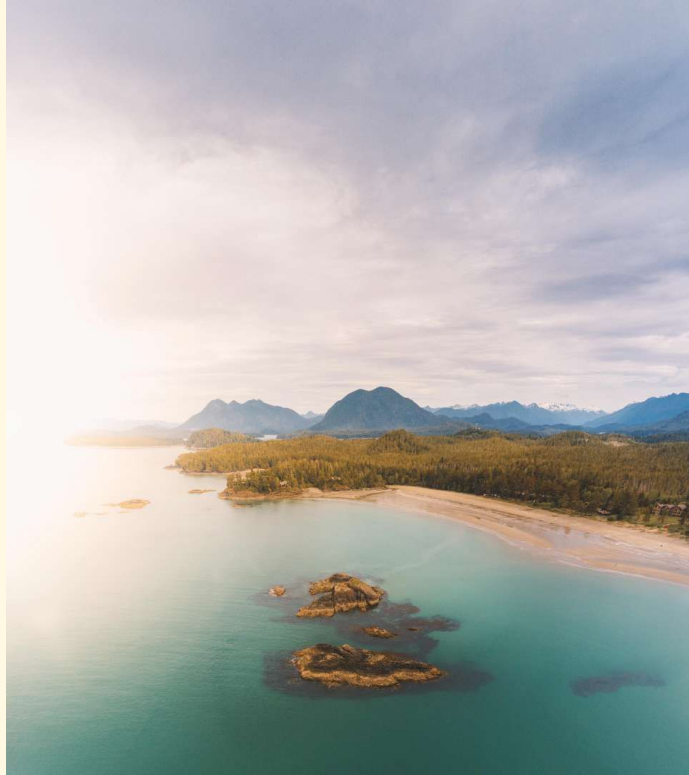


Photo Source: Crystal Cove Mackenzie Beach (n. d.)

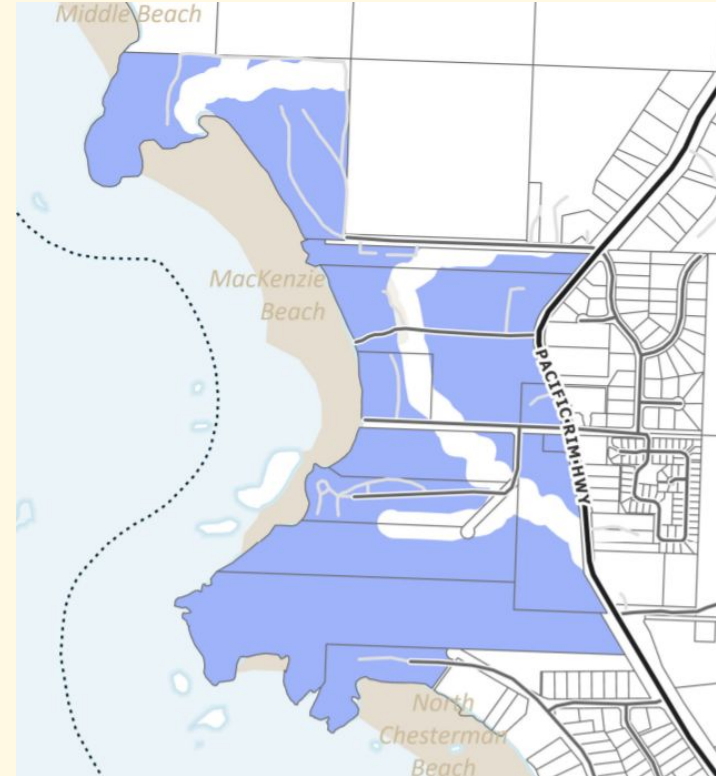
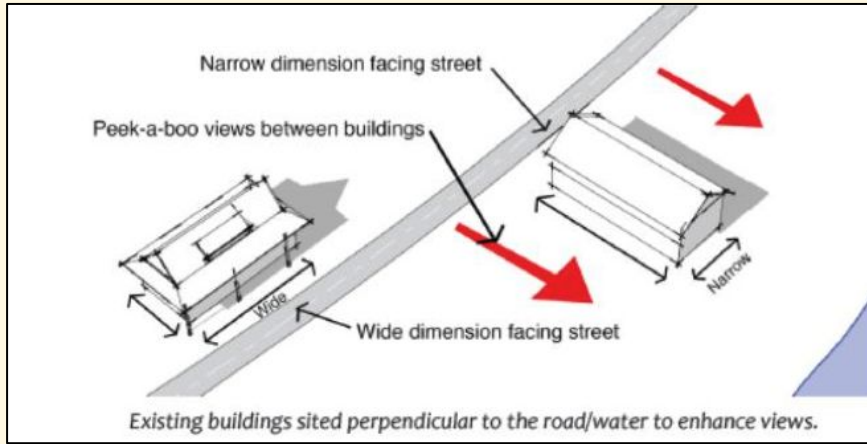
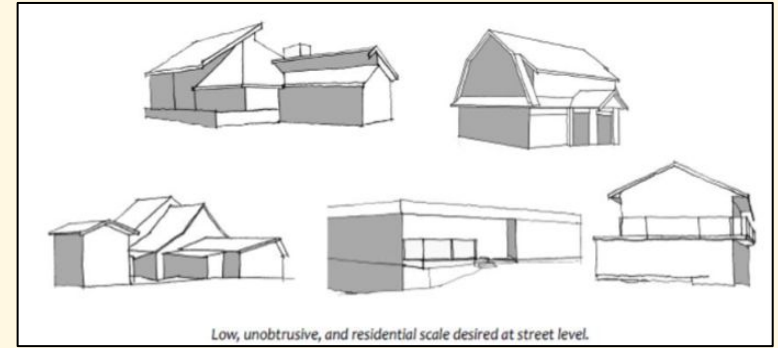
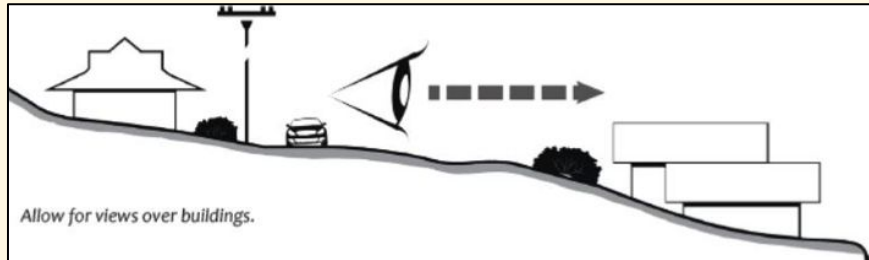


Photo Source: District of Tofino (2021a)

CASE STUDY: TOFINO, BRITISH COLUMBIA



WATERFRONT VIEWS



BUILT FORM AND MASSING

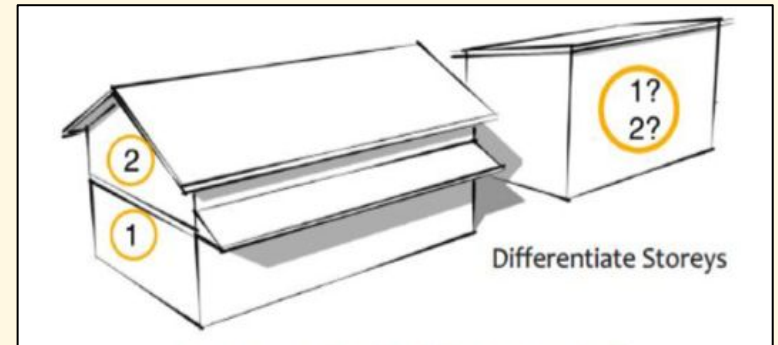


Figure Source: District of Tofino (2021b)

CASE STUDY: LINCOLN COUNTY, OREGON

- **LINCOLN COUNTY IS SITUATED ON THE CENTRAL OREGON COAST**
 - **POPULAR FOR ITS EXTENSIVE PUBLICLY ACCESSIBLE BEACHES**
 - **PROXIMITY TO NATIONAL PROTECTED AREAS**
- **THE COUNTY HAS DEALT WITH**
 - **INCREASING DEVELOPMENT PRESSURE**
 - **OVERTOURISM**
 - **STRESS ON ITS NATURAL FEATURES AND CHARACTER**

CASE STUDY: LINCOLN COUNTY, OREGON

- **COASTAL SHORELANDS (CS) OVERLAY ZONING ¹⁰**
 - **AS A TOOL TO MEET THE STATE-MANDATED BEACH BILL AND STATEWIDE COASTAL SHORELANDS PLANNING GOAL 17**

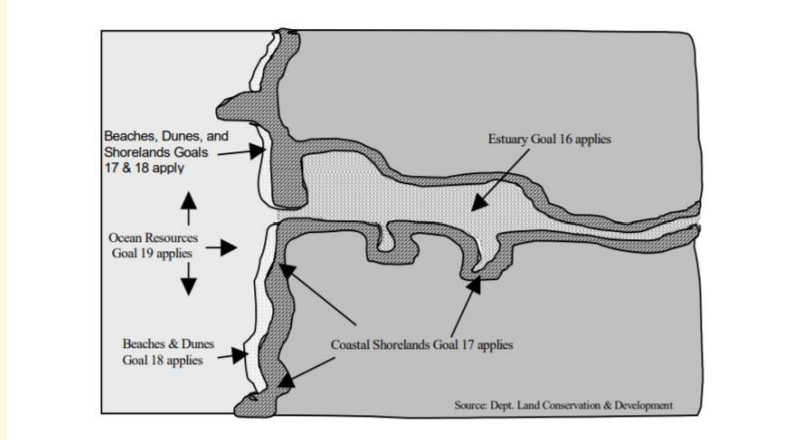


Figure Source: Oregon Land Use Training (n. d.)

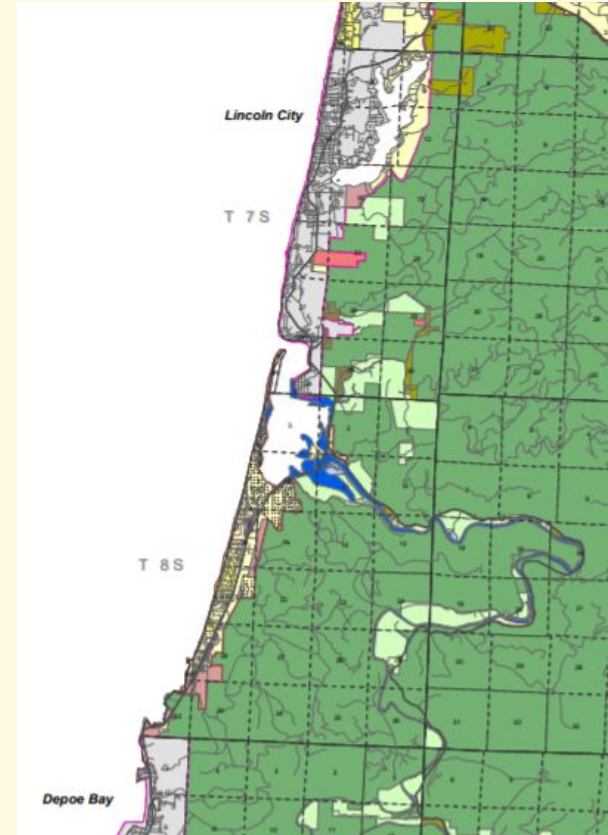


Photo Source: Lincoln County (2005)

CASE STUDY: LINCOLN COUNTY, OREGON

- **COASTAL SHORELANDS (CS) OVERLAY ZONING**
 - CONTEXT SPECIFIC PRE-DEVELOPMENT STANDARDS
 - EXAMPLE: SHORELAND STABILIZATION METHODS - VEGETATED RIP RAP

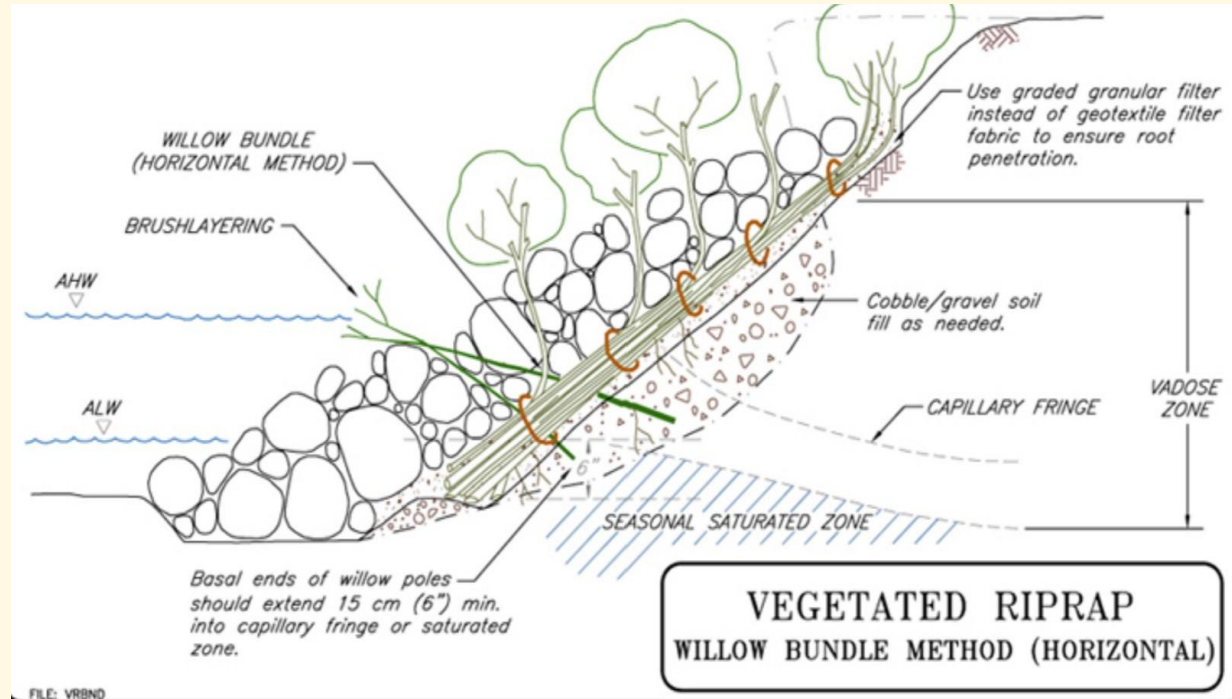


Figure Source: Alberta Environment and Sustainable Resource Development. (n.d.).

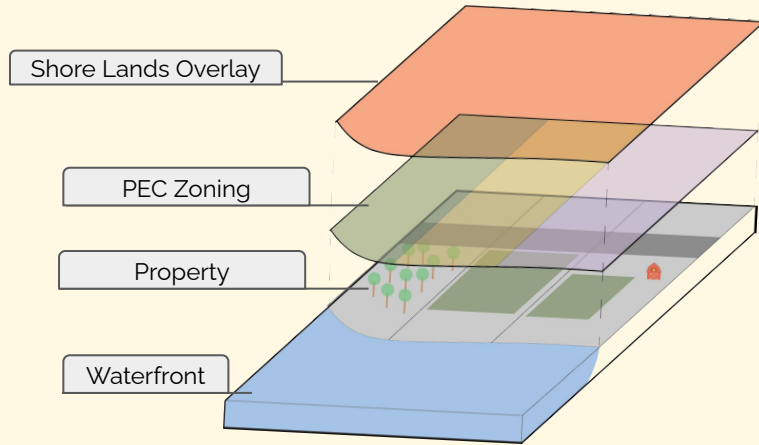
LAND USE PLANNING OPPORTUNITIES



Photo Source: Leclerc (2021b)

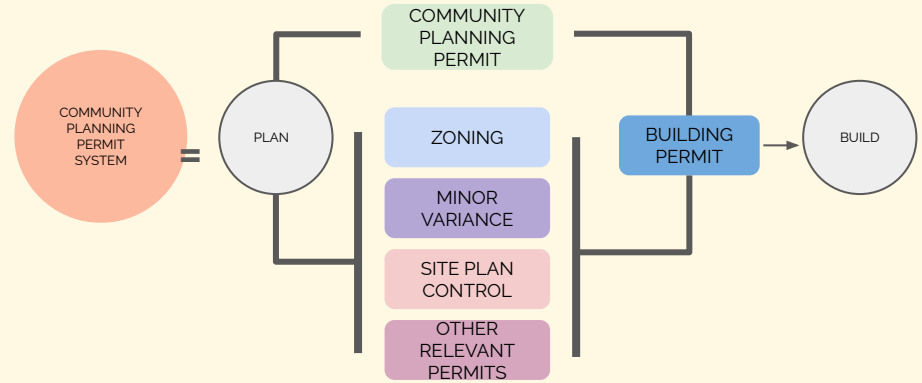
SHORE LANDS OBJECTIVES IN OFFICIAL PLAN ¹¹

- 1. IMPROVED PUBLIC ACCESS**
- 2. BALANCE RECREATION AND PROTECTION**
- 3. PROTECT NATURAL ENVIRONMENT**
- 4. EXPAND AND DIVERSIFY TOURISM OPPORTUNITIES**
- 5. YEAR-ROUND TOURISM**
- 6. ENHANCE OPEN SPACE**
- 7. RECOGNIZE INTERFACE WITH AGRICULTURAL AND RURAL**
- 8. DISCOURAGE TOURISM TO RESIDENTIAL CONVERSION**



ZONING OVERLAY

- **INTEGRATES INTO EXISTING ZONING**



COMMUNITY PLANNING PERMIT SYSTEM

- **ALTERS EXISTING PLANNING PROCESSES**

NEXT STEPS



Photo Source: Leclerc (2021c)



The studio team in Prince Edward County

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6. Nina-Marie E. Lister, "Resilience Beyond Rhetoric in Urban Landscape Planning and Design," in Nature and Cities: The Ecological Imperative in Urban Design and Planning, ed. Frederick R. Steiner, George F. Thompson, and Armando Carbonell, 2016, 303–437.
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