Pelee Coastal Resilience Committee

Meeting #4

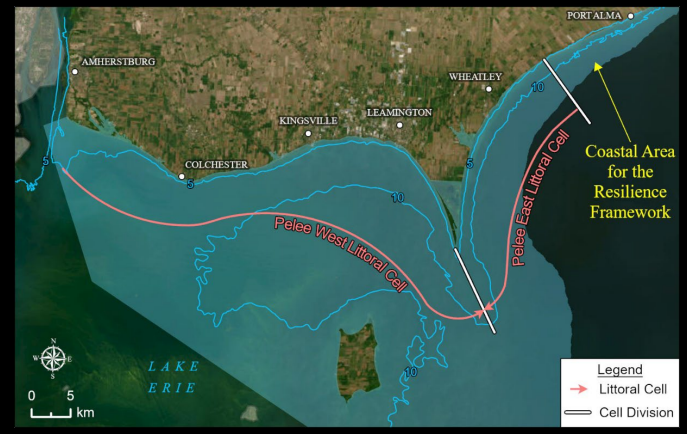
Pete Zuzek, Linda Mortsch, Janice Forsyth, Larry Hildebrand
March 27, 2025

Land Acknowledgement

We acknowledge the land on which the County of Essex is located is the traditional territory of the Three Fires Confederacy of First Nations, comprised of the Ojibway, Odawa and Potawatomie Peoples.

We specifically recognize Caldwell First Nation and other First Nations which have provided significant historical and contemporary contributions to this region.

We also value the contributions of all Original Peoples of Turtle Island, who have been living and working on this land from time immemorial.



I – APPROVE AGENDA AND MEETING GOALS

Draft Agenda

Agenda – Quarterly Meeting #4
Pelee Coastal Resilience Action Plan

Date: March 27, 2025; 10 am to 3 pm
Location: Lakeside Park Pavilion - 315 Queen Street, Kingsville
Meeting Goals: Provide update on key dates and timelines.
Review draft revised adaptation concepts.
Score adaptation concepts using decision-making tool.
Discuss implications and next steps.

1.	**Review/Approve Agenda (20 mins)**
	• Welcome; Land Acknowledgement. • Review and approve meeting goals and agenda.
2.	**Business arising from the minutes and future funding (10 mins)**
	• Opportunities for future funding (all). • Other.
3.	**Year 2 Work Plan (10 mins)**
	• Review key dates. • Upcoming public meetings – role for Committee members.
4.	**Step One: Screen Adaptation Concepts (20 mins)**
	• Provide short overview of adaptation concepts. • Step One: Screen – did all concepts pass step one screening? • Discussion – agree on concepts that move forward to step two.
5.	**Step Two: Rapid Assessment to Score and Rank Adaptation Concepts (60 mins)**
	• Large scorecard grid – members share scores
Lunch (brought in)	
6.	**Step Two (con't) and Three: Final Selection (105 minutes)**
	• Resolve any areas where consensus was not reached. • Review final scores. • Step Three – review results and merit of various adaptations (i.e., transformation).
7.	**Other Business (10 mins)**
	• As required.
8.	**Future Meetings and Adjourn (5mins)**
	• Public meetings – April 14 and 15, 2025: Tentative CFN April 16. • Committee Meeting May 15, 2025, 9 am start to TBD – location tbd. • Meeting adjourned.

II – BUSINESS ARISING FROM THE MINUTES AND FUTURE FUNDING

Funding

- Climate Ready Infrastructure Services
  - Program led by Canadian Urban Institute
  - Small communities (~30k)
  - $30k available

What Kinds of Projects Are Eligible?

Three types of support are appropriate for this initiative:

1. **Climate Resilience**: If your community plans to construct or retrofit housing or infrastructure, CRIS experts can provide scientific guidance to enhance resilience against climate change.
2. **Climate Mitigation**: If your community is building a new community facility, experts from the service can help to ensure it is being designed to be energy efficient, utilize renewable energy sources, or be a low-carbon facility in other ways.
3. **Combination Low-Carbon and Climate Resilience**: Projects may offer opportunities to both address climate-related risks and to use renewable energy and low-carbon materials.

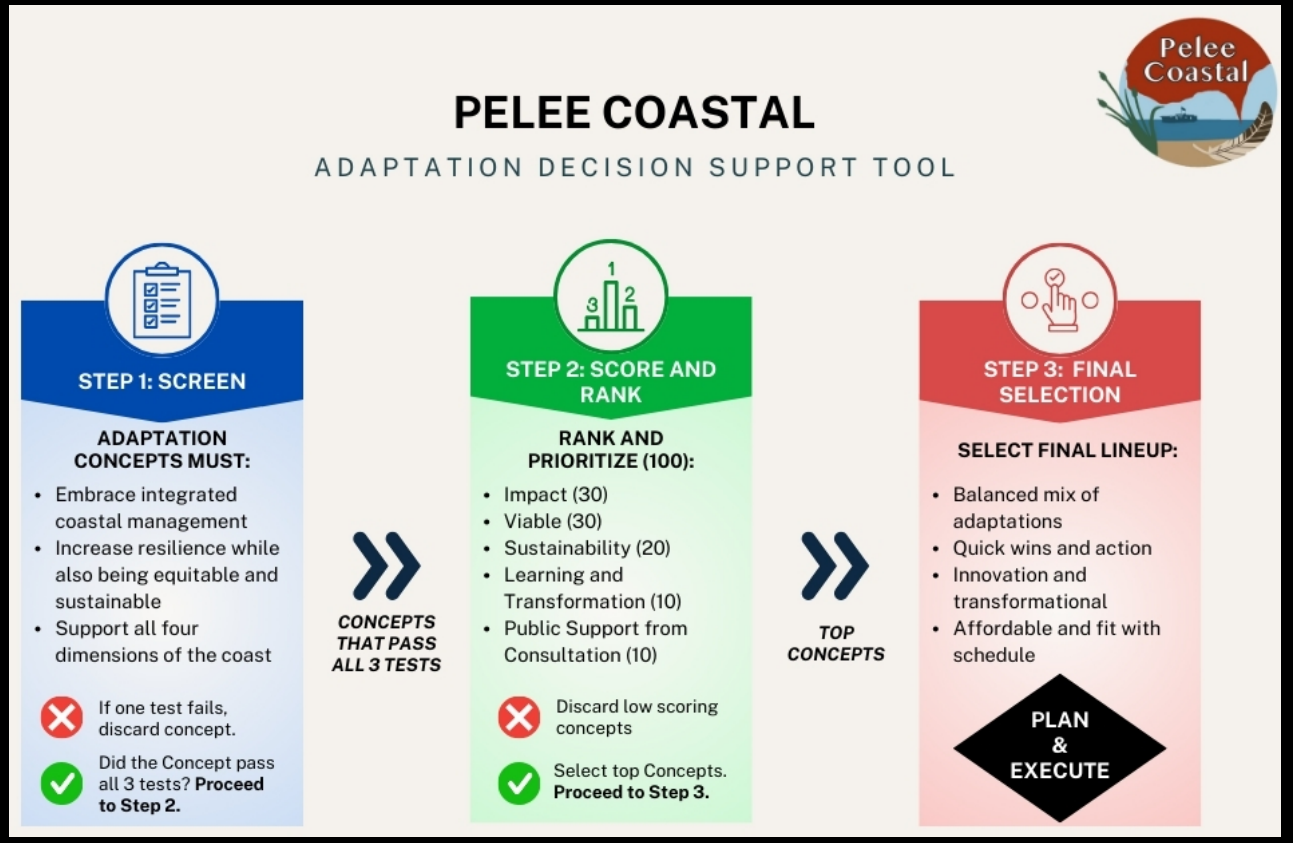
Qualified Asset Classes

1. Water
2. Stormwater Management
3. Bridges & Major Culverts
4. Solid Waste
5. Roads, Sidewalks, and Active Transportation
6. Transit
7. Fleets
8. Fire & Emergency
9. Heavy Equipment
10. Buildings & Facilities
11. Affordable Housing
12. Parks & Trails
13. Green Infrastructure & Nature-Based Solutions

III – YEAR 2 WORK PLAN

Event	Focus	Timeline
Committee Meeting #4	Committee applies decision support tool to characterize adaptations	Today
Public Workshop #2 (in-person)	-Present updated list of adaptations -Refine adaptation concepts in a roundtable format with attendees -ask attendees for level of support	April 14 & 15, 2025
Caldwell Meeting	-Presentation on the project and Q/A -Meal with attendees	April 16, 2025
Committee Meeting #5	-Committee selects final adaptations -Essex Council Chamber	May 15, 2025 (9 am to 1 pm)
Committee Meeting #6	-Update on Adaptation Planning	September 2025 (TBD)

IV – STEP 1: SCREEN ADAPTATION CONCEPTS



DRAFT ADAPTATION CONCEPT **B**

Screening Assessment of Municipal Infrastructure and Natural Capital

Pelee Coastal
www.peleecoastal.ca

Description:

- Leverage the recently updated erosion and flood hazard mapping to identify infrastructure at risk, including water plants, sewage treatment plants, police/fire/ambulance stations, hospitals, etc. At risk natural assets, such as beaches, coastal wetlands, and woodlots, would also be identified. Emergency access on roads during the 100-year flood would also be assessed.

Rationale:

- The value of buildings and contents vulnerable to the 100-year flood is $838 million (when climate change is not considered).
- The land, buildings, and contents vulnerable to erosion in the next 100-years is $1 billion (when climate change is considered).
- The most vulnerable communities, infrastructure, and natural capital would be documented. Year 3 could focus on concept development to reduce risks.

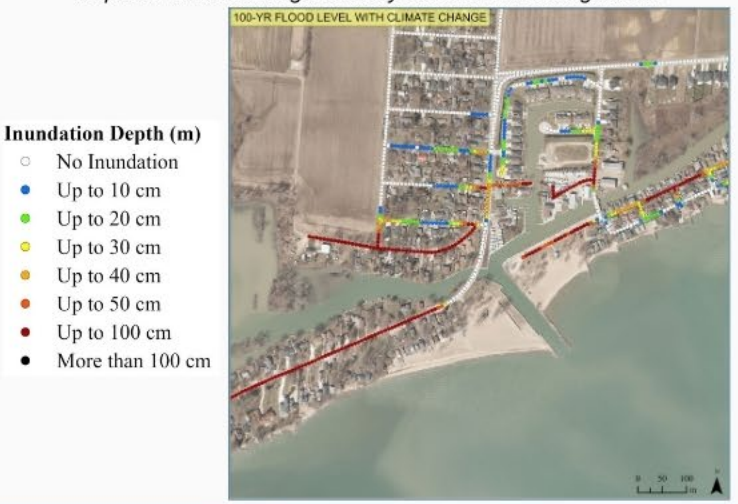
Who Would be Involved?

- Towns, Municipalities, County, emergency responders, landowners, stakeholders, and other interested parties.

Maps and Photos:

High lake levels flood roads and buildings

Depth of road flooding for 100-year Climate Change flood



Yr2 Activities & Outcomes:

- **PLANNING INVESTIGATION**
- **TECHNICAL ANALYSIS**
- SUPPORTS COASTAL STEWARDSHIP
- CONCEPT DEVELOPMENT
- ACTION / IMPLEMENTATION

Timeline:

Area of Influence:

- Pelee East and Pelee West littoral cells.

Year 2 Costs:

Draft Concept Version: v20250210

DRAFT ADAPTATION CONCEPT **C**

Publish Fact Sheets on Best Practice to Increase Coastal Resilience

Pelee Coastal
www.peleecoastal.ca

Description:

- Develop guidance and fact sheets in consultation with skakeholders and landowners on best practice for protecting natural coastlines, locating new development away from coastal hazards, nature-based restoration, slope stabilization, floodproofing, reducing erosion rates, and design considerations for shoreline hardening.

Rationale:

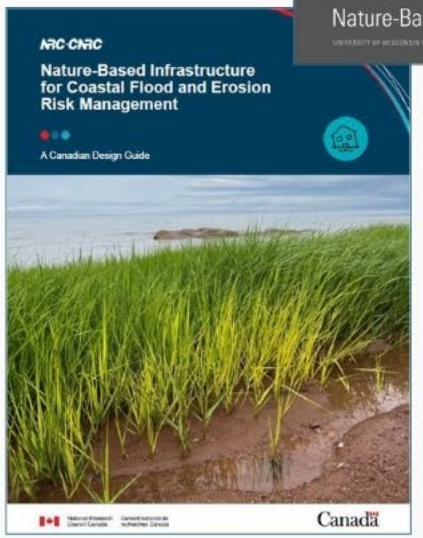
- There were requests for guidance at the Fall Workshops on successful examples of mitigating coastal hazards, implementing nature-based solutions, and other innovations.
- Manuals and guidance document exist, but would benefit from customization with local data and examples.
- The material could be developed and delivered in Year 2, representing early progress on building coastal resilience.

Who Would be Involved?

- The Consulting Team would lead the development of the materials with support from the Committee and feedback from all interested parties.

Maps and Photos:

Example of existing guidance documents that may have relevant examples for the two littoral cells



Yr2 Activities & Outcomes:

- PLANNING INVESTIGATION
- TECHNICAL ANALYSIS
- **SUPPORTS COASTAL STEWARDSHIP**
- CONCEPT DEVELOPMENT
- ACTION / IMPLEMENTATION

Timeline:

Area of Influence:

- Pelee East and Pelee West littoral cells.

Year 2 Costs:

Draft Concept Version: v20250210

DRAFT ADAPTATION CONCEPT **D**

Develop In-situ and Greenhouse Nurseries to Grow Native Dune Plants for Restoration

Pelee Coastal
www.peleecoastal.ca

Description:

- Select suitable coastal locations for in-situ nurseries to propagate native grasses and shrubs for beach and barrier beach restoration. Native seeds would also be grown in greenhouses in a controlled environment.

Rationale:

- There are no commercial sources for native beachgrass, which is the superior dune builder for restoration projects in the Great Lakes.
- Existing commercial sources are distributing non-native beachgrass, which is invasive to the Great Lakes.
- Native grasses, shrubs, and trees are needed for nature-based restoration projects.

Who Would be Involved?

- Interested land managers with suitable beach properties, greenhouses, and interested stakeholders.

Maps and Photos:

Example in-situ nursery after planting and three growing seasons later

Yr2 Activities & Outcomes:

- PLANNING INVESTIGATION
- TECHNICAL ANALYSIS
- ✓ **SUPPORTS COASTAL STEWARDSHIP**
- CONCEPT DEVELOPMENT
- ✓ **ACTION / IMPLEMENTATION**

Timeline:

Area of Influence:

- Pelee East and Pelee West littoral cells.

Year 2 Costs:

Draft Concept Version: v20250210

DRAFT ADAPTATION CONCEPT **E**

Evaluate Opportunities for Nature-based Restoration and Connectivity Projects

www.peleecoastal.ca

Description:

- Identify locations where nature-based restoration in the coastal area could increase resilience to natural hazards, de-risk coastal communities, and improve habitat connectivity.

Rationale:

- Nature is resilient to natural hazards, so restoring habitat will increase coastal resilience in the two littoral cells.
- Existing coastal habitat is fragmented and connectivity is poor.
- Explore components of a community-approved approach to change land use over time and adjust taxation policies. These topics and others could be explored with landowners and land managers.

Who Would be Involved?

- Local planning authorities, conservation authorities, landowners, First Nations, and any other interested parties.

Maps and Photos:

Barrier Beach Ecosystem at Point Pelee National Park

Barrier beaches protect sensitive wetlands from lake wave energy and potential erosion.

Yr2 Activities & Outcomes:

- **PLANNING INVESTIGATION**
- TECHNICAL ANALYSIS
- SUPPORTS COASTAL STEWARDSHIP
- CONCEPT DEVELOPMENT
- ACTION / IMPLEMENTATION

Timeline:

Area of Influence:

- Pelee East and Pelee West littoral cells.

Year 2 Costs:

Draft Concept Version: v20250210

DRAFT ADAPTATION CONCEPT F+G

Investigate the Benefits of Habitat Shoals at the Tip of PPNP and Beach Nourishment from the Shoal

Pelee Coastal
www.peleecoastal.ca

Description:

- Technical studies to investigate the benefits of constructing large shore-perpendicular habitat shoals at the tip of Point Pelee National Park. The shoals would be designed to enhance nearshore fish habitat and trap sand on the east and west side of the tip at the park. The benefits of nourishing the beaches with sand from the Southeast Shoal would also be investigated.

Rationale:

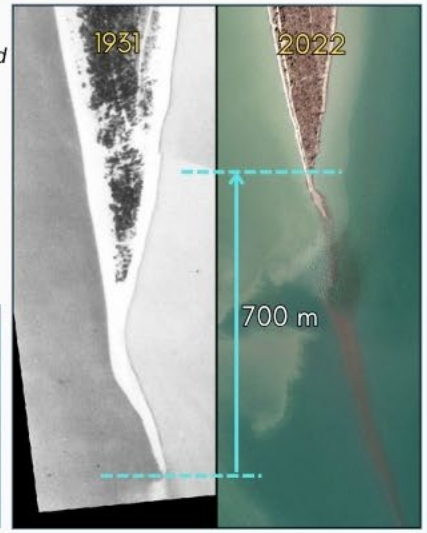
- The shoals would trap sand that otherwise would be lost to deep water in the Southeast Shoal with a nature-based solution.
- The height of the shoals would permit some sand to pass and maintain a sandy tip feature for park visitors.
- The trapped sand north of the shoals would increase beach width and reduce the rate of habitat loss.
- Beach nourishment with sand from the Southeast Shoal would increase the resilience of the park beaches and support beach building at the new rock shoals.

Who Would be Involved?

- Parks Canada and PPNP staff, public and stakeholders, First Nations, and regulatory agencies that have authority for modifications to the lake bottom (e.g., MNRF, DFO and TC).

Maps and Photos:

Tip of Point Pelee National Park Eroded 700 m since 1931



Example of rock shoals at the tip of a sand spit

Southeast Shoal extent south of Point Pelee National Park

Yr2 Activities & Outcomes:

- PLANNING INVESTIGATION
- ✓ TECHNICAL ANALYSIS
- SUPPORTS COASTAL STEWARDSHIP
- ✓ CONCEPT DEVELOPMENT
- ACTION / IMPLEMENTATION

Timeline:

Area of Influence:

- The coastal area of Point Pelee National Park.

Year 2 Costs:

Draft Concept Version: v20250312

DRAFT ADAPTATION CONCEPT H+I

Examine Options to Bypass Sediment at Harbours and Optimize Placement of Dredged Material

Pelee Coastal
www.peleecoastal.ca

Description:

- Document harbour construction history, change in the size of adjacent beaches, and existing management approaches to sedimentation and dredging.
- Investigate alternatives to bypass sediment at harbours with computer modelling and document regulatory agency requirements.
- Investigate placement protocols for dredged sediment and potential alternative locations

Rationale:

- The harbours have trapped large volumes of sand in their adjacent beaches. Prior to the harbours, the sand moved along the coast naturally.
- The resilience of beaches and in particular barrier beach ecosystems is very low due to limited natural sediment delivery along the coast.

Who Would be Involved?

- Harbour and marina owners and managers, plus regulatory agencies that review dredging and sediment placement permits.

Maps and Photos:

Land-based mechanical dredging at Wheatley

Wheatley dredged sediment placed on the beach at the Hillman Marsh

Yr2 Activities & Outcomes:

- PLANNING INVESTIGATION
- ✓ **TECHNICAL ANALYSIS**
- SUPPORTS COASTAL STEWARDSHIP
- ✓ **CONCEPT DEVELOPMENT**
- ACTION / IMPLEMENTATION

Timeline:

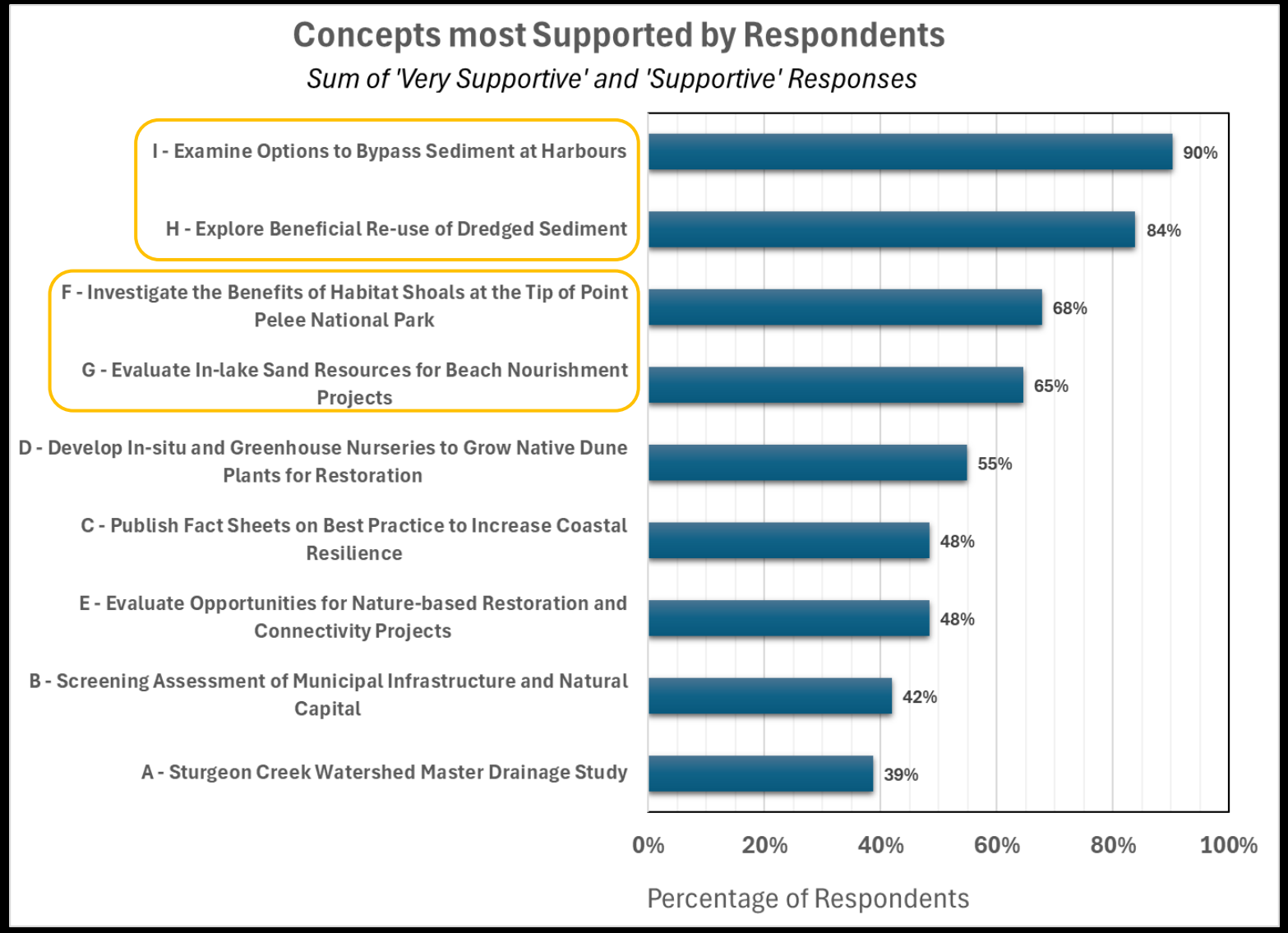
Area of Influence:

- Pelee East and Pelee West littoral cells.

Year 2 Costs:

Draft Concept Version: v20250312

Support by Respondents



V – ASSESSMENT TO SCORE AND RANK ADAPTATION CONCEPTS

Assessment Sheet

PELEE COASTASL ADAPTATION SCORING SHEET								
Criteria	**Maximum Score**	**Scoring Approach**	**B:Screen Mun.**	**C:Fact Sheets**	**D:Nurseries**	**E:Restoration**	**F+G: PPNP**	**H+I: Harbours**
IMPACT								
Potential for resilience improvements in the Social dimension	5	1=poor, 2=fair, 3=good, 4=very good, 5=excellent						
Potential for resilience improvements in the Economic dimension	5	1=poor, 2=fair, 3=good, 4=very good, 5=excellent						
Potential for resilience improvements in the Ecological dimension	5	1=poor, 2=fair, 3=good, 4=very good, 5=excellent						
Potential for resilience improvements in the Physical dimension	5	1=poor, 2=fair, 3=good, 4=very good, 5=excellent						
Negative cosequence if no action (10=very high negative consequence)	10	1=very low consequence, 3=low, 5=moderate consequence, 7=high, 10=very high neg. consequence						
Sub-total for Impact			0	0	0	0	0	0
VIABILITY								
Partners and project landowners are supportive	5	1=very low support, 2=low support, 3=neutral, 4=supportive, 5=very supportive						
Opportunities to build local partnerships and secure additional funding	5	1=very low, 2=low, 3=neutral, 4=high, 5=very high						
Institutional and local capacity to advance adaptation planning	5	1=very low, 2=low, 3=neutral, 4=high, 5=very high						
Ability to secure permits from our legislative and regulatory framework within the project schedule, if required	5	1=very difficult, 2=difficult, 3=neutral, 4=easy, 5=very easy (or not required)						
The adaptation scope can be completed and/or implemented within the project schedule and budget, or significantly advanced to warrant inclusion	5	1=very difficult, 2=difficult, 3=neutral, 4=easy, 5=very easy						
Adaptation is resilient to future climate scenarios and extremes	5	1= very low resilience, 2=low resilience, 3=neutral, 4= high resilience, 5= very high resilience						
Sub-total for Viability			0	0	0	0	0	0
SUSTAINABILITY								
Longevity of the adaptation, design life	5	1=poor, 2=fair, 3=good, 4=very good, 5=excellent						
Near- and far-field negative impacts can be avoided	5	1=not probable, 2=somewhat improbable, 3=neutral, 4=somewhat probable, 5=very probable						
Requirement for maintenance and future planning/funding/actions	5	1=very high, 2=high, 3=neutral, 4=low, 5=very low						
Value for money, delivers benefits for cost	5	1=very poor, 2=poor, 3=neutral, 4=good, 5=very good						
Sub-total for Sustainability			0	0	0	0	0	0
LEARNING AND TRANSFORMATION								
Learning and transferability	5	1=extremely unlikely, 2=unlikely, 3=neutral, 4=likely, 5=extremely likely						
Transformative adaptation concept/approach	5	1=not transformative, 2=slightly, 3=somewhat, 4=very, 5=extremely transformative						
Sub-total for Learning and Transformation			0	0	0	0	0	0
PUBLIC SUPPORT BASED ON CONSULTATION								
Adaptation is supported by public and stakeholders	10	1=strongly oppose, 3=somewhat oppose, 5=neutral, 7=somewhat favour, 10=strongly favour						
Sub-total for Public Support			0	0	0	0	0	0
TOTAL SCORE			**0**	**0**	**0**	**0**	**0**	**0**

VI – CONTINUE WITH ASSESSMENT OF ADAPTATION CONCEPTS

Review and Refine Scoring

- Resolve any outstanding questions
- Review and discuss the results

- Step 3 – discuss final lineup (decision on May 15)
  - Do we have a balanced mix of adaptations?
  - Were any ‘quick wins’ included?
  - Do we have ‘innovative and transformational’ adaptation concepts?
  - Are they affordable and do they fit with the schedule?

VII – OTHER BUSINESS

VIII – FUTURE MEETINGS AND ADJOURN

- Public Workshops – April 14 and 15
- Caldwell First Nation Engagement – April 16
- Committee Meeting #5 – May 15 – 9am to 1pm

- Meeting adjourned