

Ausable Bayfield Conservation Authority

Presentation to South Huron Council
Draft Shoreline Management Plan Update
January 21, 2019



Presentation Outline

- brief history of SMP / updates / process
- development Guidelines
 - Existing guidelines
 - Process to update guidelines
 - Shoreline hazards
 - Mapping
 - Draft guideline examples
- questions



History

- first SMP released 1994
- updated SMP 2000
 - 1997 PPS
- provincial technical guidelines
- Conservation Authorities Act amended
 - new local regulation 2006
- started update process 2015
 - update recession rate
 - technical guidelines
 - change in use



LAKESHORE DEVELOPMENT GUIDELINES, CONTINUED

SECTION 3.3.7 - Lakeshore Development Guidelines Summary

| Development Activity | Lakeshore Area 1 ♦ | | | Lakeshore Area 2 ♦ | |
|---|---|-------|--|--|-------------------------------------|
| Existing Developed Lots | Dune | Flood | Bluff | Dune | Bluff |
| Repairs/maintenance | ✓ | ✓ | ✓ | ✓ | ✓ |
| Interior alterations | ✓ | ✓ | ✓ | ✓ | ✓ |
| Minor additions * | x | x | Conditional ¹ | ✓ provided no encroachment into Lakeshore Area 1 | ✓ |
| Major additions * | x | x | x | landward of foredune | design is movable |
| Unattached garages | x | x | x | landward of foredune | design is movable |
| Rebuilding of dwelling destroyed by forces other than flooding & erosion | ✓ if same size and utilizes maximum lot depth (most landward location) | | | ✓ dune - if design minimizes dune impact | ✓ bluff - if structure is movable * |
| Rebuilding of dwelling destroyed by flooding and/or erosion | x | x | x | x | x |
| Relocation of dwelling away from shoreline | Optional, on the part of the owner; however: recommended | | | Owner should consider this as a future option, depending on severity of the hazard | |
| Minor Structures * | x | x | Conditional ² | Conditional ³ | Conditional ² |
| Swimming pools | x | x | x | Conditional ³ | ✓ Provided drainage is addressed |
| New septic systems | x | x | x | Conditional ⁴ | Conditional ⁴ |
| Decks (existing) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Repair and maintenance | x | x | No closer than 3m to top of bank and not connected to dwelling | If landward of the foredune (see Figure 17) | ✓ |
| Decks (new) | x | x | | | |
| Existing Vacant Lots (infilling) | | | | | |
| New dwellings | x | x | x | Conditional ⁵ | Conditional ⁵ |
| Septic systems | x | x | x | Conditional ⁴ | Conditional ⁴ |
| New Development | | | | | |
| Creation of New Lot(s) (i.e. severances, subdivisions) | x | x | x | x | x |
| Technical Severance | ✓ | ✓ | ✓ | ✓ | ✓ |
| Lot Consolidation | ✓ | ✓ | ✓ | ✓ | ✓ |
| Land use designation/zone changes | Support changes to planning documents to Hazard, Natural Environment or Open Space designations | | | Support changes to planning documents to a lakeshore overlay (subscript "L") designation | |
| Do not support proposed zoning, land use designation or official plan changes which further intensify land use, i.e. seasonal residential to multi-unit dwelling. | | | | | |

LEGEND

✓ allowed

x not allowed

♦ on a site-specific basis/study, where calculated erosion rates are low (less than 0.3 m/yr); these boundaries may be adjusted

* refer to Glossary (Appendix A) for full definition

- a minor addition is equal to less than 30% of total existing foundation area
 - a major addition is equal to or greater than 30% of total existing foundation area
 - a minor structure is a portable building (storage shed, gazebo) with no utilities and maximum size 14 sq. m.

DOES NOT INCLUDE SHORE PROTECTION DEVICES.

- a technical severance is a boundary adjustment where no new lot is created

* movable design considerations are only necessary where long-term erosion rate calculations apply

Conditional¹ - yes, provided calculated erosion rate is less than 0.3 m/yr, slope stability is addressed

Conditional² - yes, provided structure is inland from primary dwelling if calculated erosion rates are greater than 0.3 m/yr

Conditional³ - yes, provided dune restoration is implemented and/or provided no encroachment into Lakeshore Area 1

Conditional⁴ - yes, and it is recommended to be landward of primary dwelling & conforms to setbacks as required under Building Code

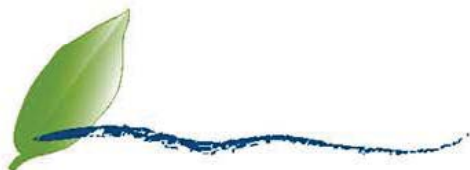
Conditional⁵ - yes, provided that building is movable by design, impact to dunes is minimized, and provided that more than 50% of existing lots/parcels in the residential/cottage area are developed

NOTE: Please refer to text in the previous section (3.3.6) for a complete description. All of the above is subject to appropriate setbacks and maximum lot coverage requirements as listed in municipal zoning by-laws.

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Lakeshore Development Guidelines

- Provides direction with regard to development proposals within lakeshore hazard areas
- Used for planning and for regulations



Create Draft Development Guidelines

Form a committee of CA staff and municipal planning staff to review the information from the summer meetings and make recommendations on development policies that need to be updated to account for changes to development pressures since the original SMP was developed.



Planning Group Composition

- planning staff representing:
 - Central Huron, Bluewater, South Huron and Lambton Shores, Counties of Lambton and Huron
 - Maitland Valley Conservation Authority
 - Ausable Bayfield Conservation Authority
- identified challenges
 - moveable
 - landuse along the shore has changed substantially i.e. recreational vs. full time etc.
 - the 2000 SMP update primarily to address the amended 1997 Provincial Policy Statement
 - release of provincial shoreline technical Guidelines (2001)
- group discussed each of the categories in the existing development chart
- expanded discussions to include redevelopment and shore protection and septic



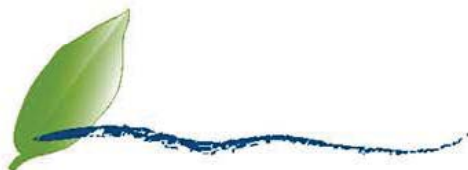
Flooding Hazard Limit

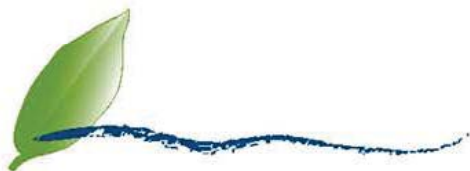
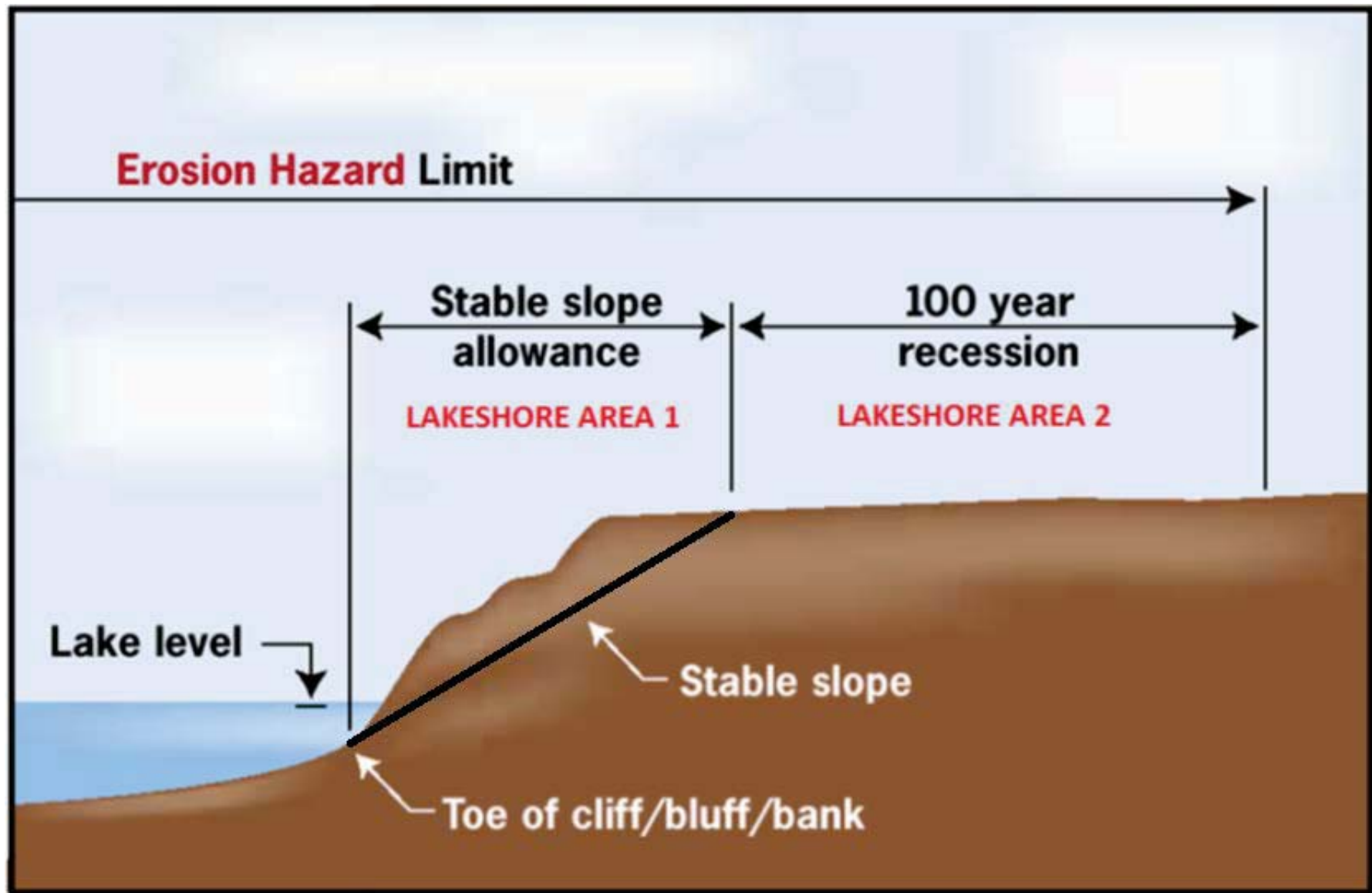
**15 m for the
Great Lakes**

**100 Year
Flood level**

**NORMAL WATER
LEVEL**

**Flood allowance for
wave uprush and other
water related hazards***








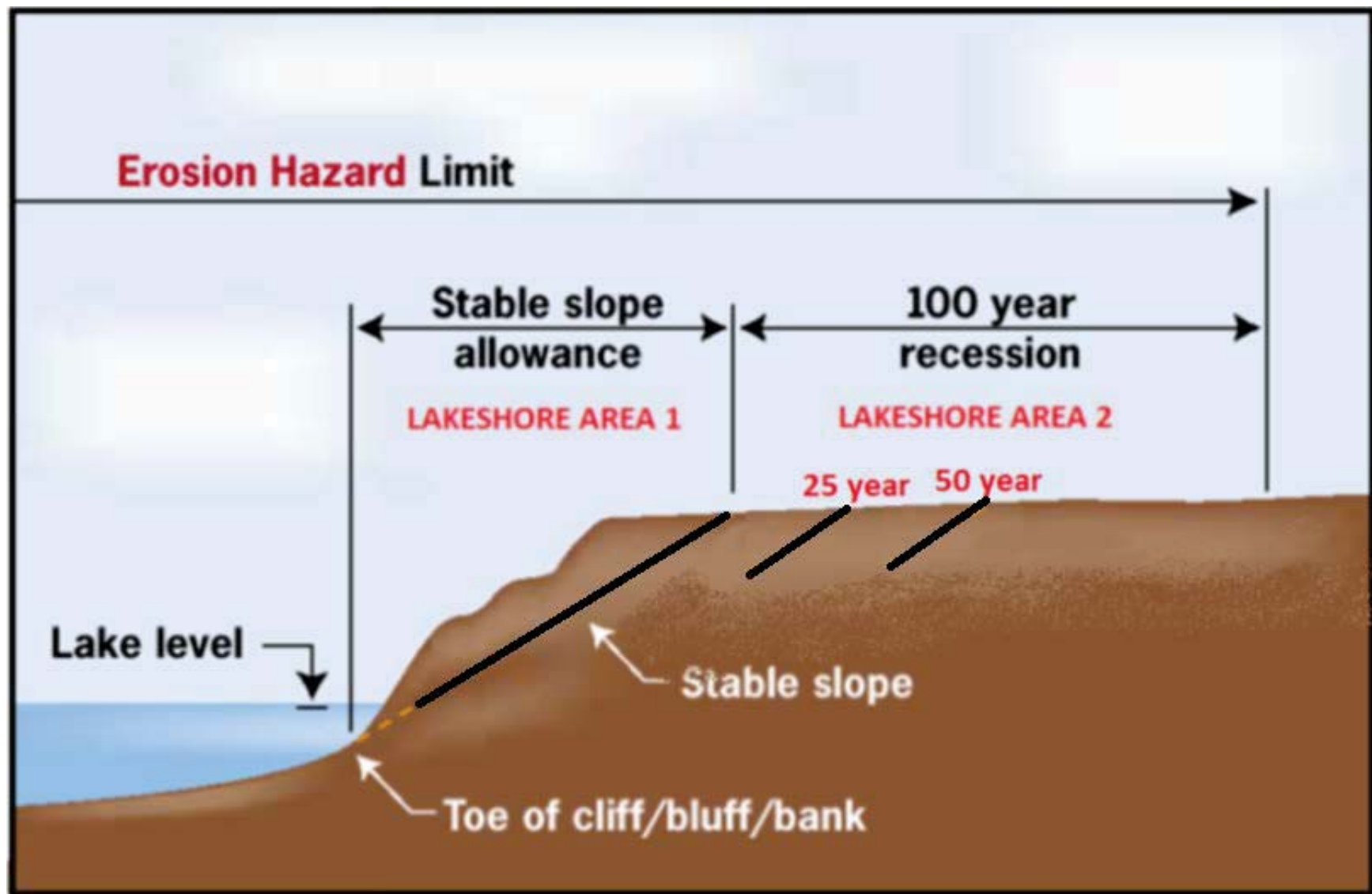


Provincial Technical Guidelines

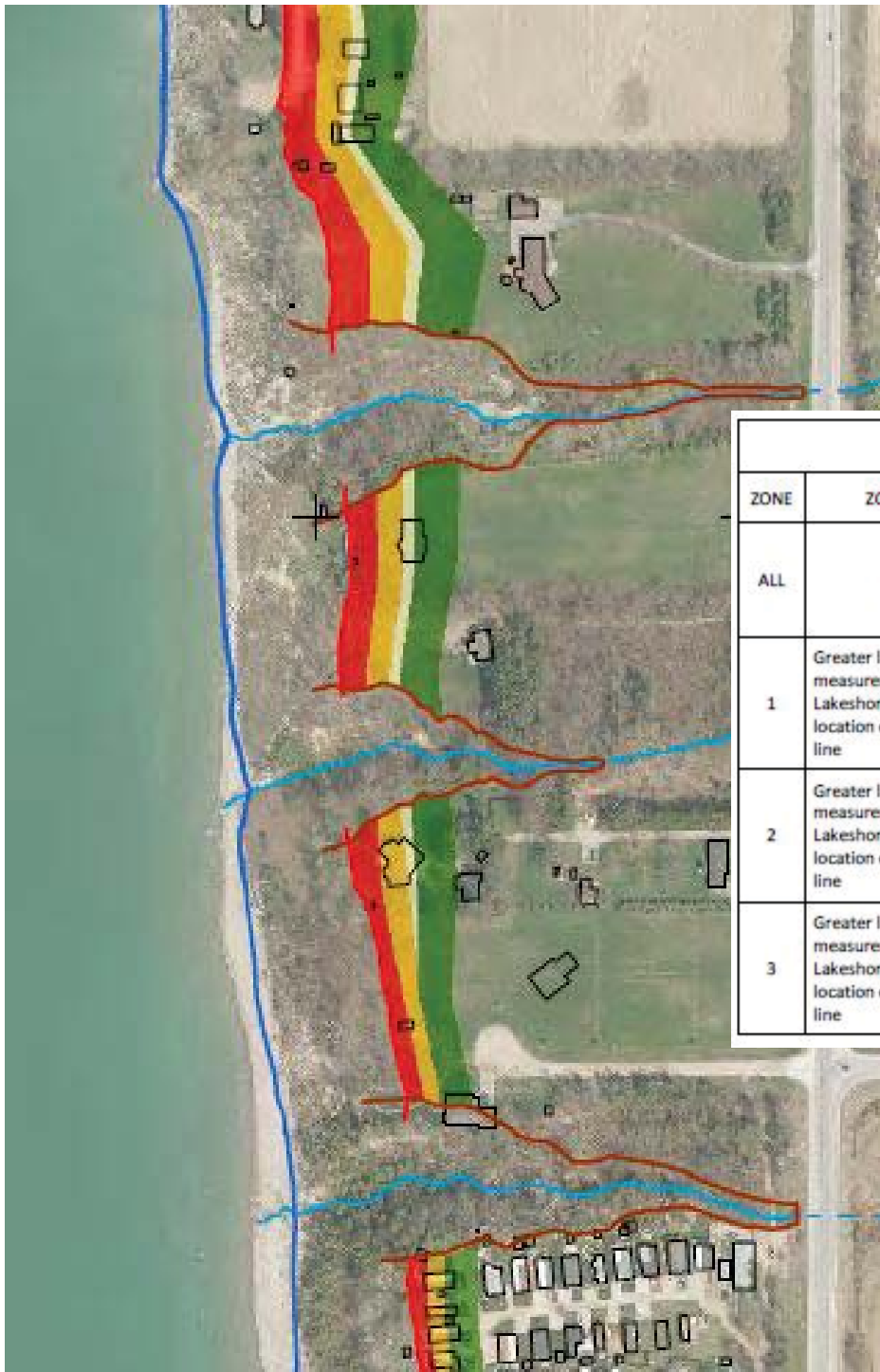
- Consolidated and released 2001
- natural hazard areas pose risk to health and safety therefore they are of provincial interest
- provincial direction for implementation of natural hazard policies
- Used for planning and for regulations






| Great Lakes – St. Lawrence River System and Large Inland Lakes | | |
|---|---|---|
| Technical Guides for flooding, erosion and dynamic beaches in support of Natural Hazards Policies 3.1 of the Provincial Policy Statement (1997) of the Planning Act | | |
| Ontario | | |
| TABLE OF CONTENTS CLICK ON THE TITLE – Adobe Acrobat will jump to the chapter | | |
|  | ! • WELCOME FROM THE DEPUTY MINISTER • DISCLAIMER ABOUT THIS CD | F HAZARDOUS SITES TECHNICAL GUIDE |
|  | ! • UNDERSTANDING NATURAL HAZARDS <i>An introductory guide for public health and safety policies 3.1, provincial policy statement</i> | G TECHNICAL GUIDE FOR LARGE INLAND LAKES PARTS 1–2 INTRODUCTION; PHYSICAL FEATURES AND PROCESSES PART 3 RECOMMENDED SHORELINE CLASSIFICATION SCHEME to determine shoreline reaches PART 4 FLOODING HAZARD PART 5 EROSION HAZARD PART 6 DYNAMIC BEACH HAZARD PART 7 STAKING THE HAZARDOUS LANDS LIMIT PART 8 ADDRESSING THE HAZARDS PART 9 ENVIRONMENTALLY SOUND HAZARD MANAGEMENT PART 10 REFERENCES AND BIBLIOGRAPHY |
|  | A BEACH AND DUNE MANAGEMENT GUIDE | |
|  | B BEDROCK GEOLOGY MAP OF ONTARIO | H DOS SOFTWARE PROGRAM USER GUIDE <i>For Version 1.1 Wave Uprush and Overtopping software find "SPLASH.exe" located on CD in Lakes subdirectory (Macintosh version not available)</i> |
|  | C CROSS-SHORE PROFILE CHANGE MODELS GREAT LAKES – ST. LAWRENCE RIVER | I STABLE SLOPES – GEOTECHNICAL PRINCIPLES |
| | D QUATERNARY GEOLOGY OF ONTARIO MAP SOUTHERN SHEET | J WAVE UPRUSH AND OVERTOPPING <i>Methodologies and Applications</i> |
| | E TECHNICAL GUIDE FOR GREAT LAKES – ST. LAWRENCE RIVER SYSTEM PART 1 PHYSICAL FEATURES AND PROCESSES PART 2 RECOMMENDED SHORELINE CLASSIFICATION SCHEME PART 3 FLOODING HAZARD PART 4 EROSION HAZARD PART 5 DYNAMIC BEACH HAZARD PART 6 MAPPING AND STAKING HAZARDOUS LANDS PART 7 ADDRESSING THE HAZARDS PART 8 ENVIRONMENTALLY SOUND HAZARD MANAGEMENT | K WHO TO CONTACT |
| | | WEB SITE LINKS • ONTARIO MINISTRY of NATURAL RESOURCES • WATERSHED SCIENCE CENTRE • RELATED WATERSHED WEB SITES |

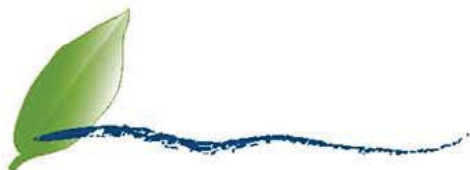
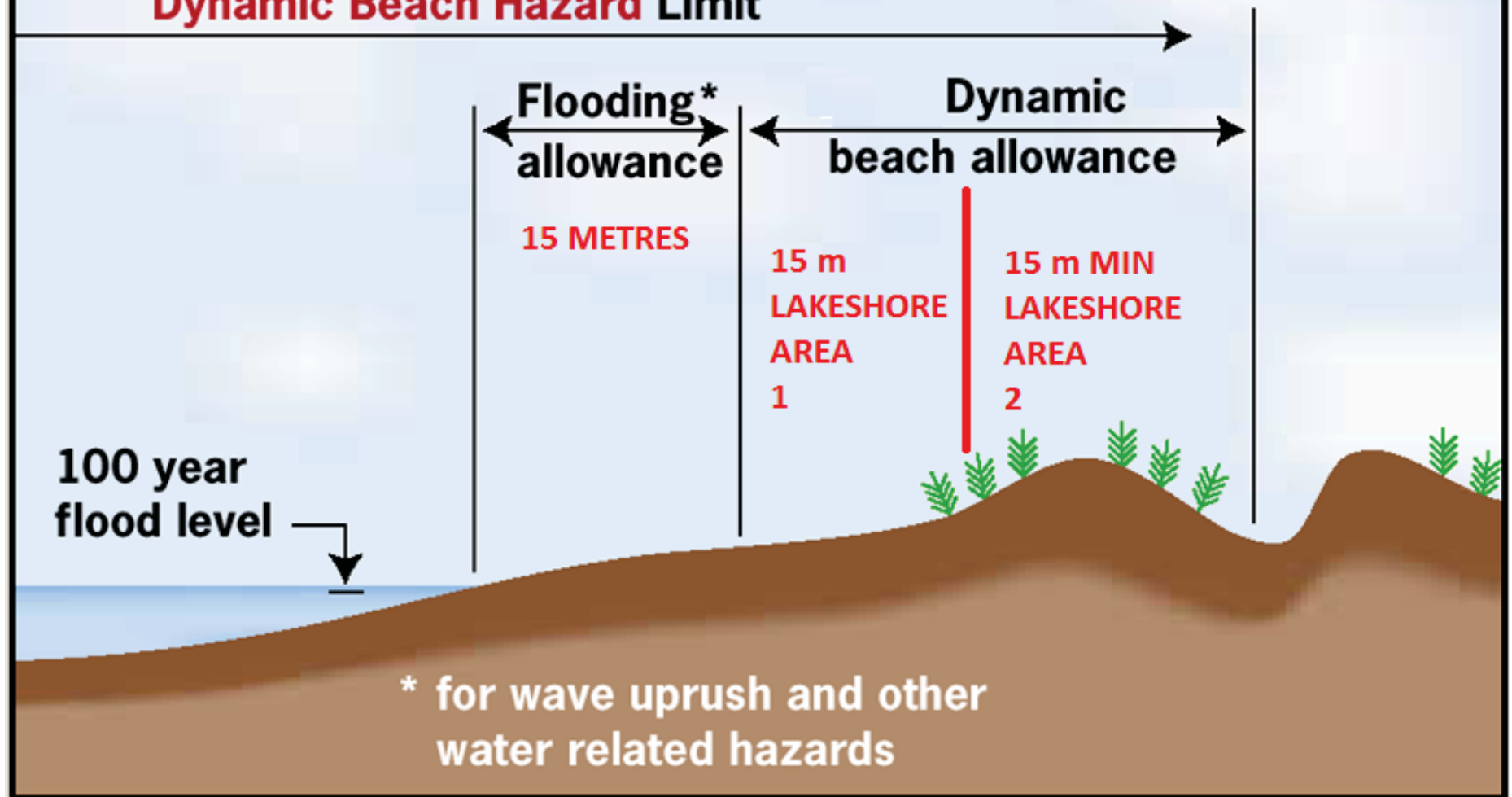


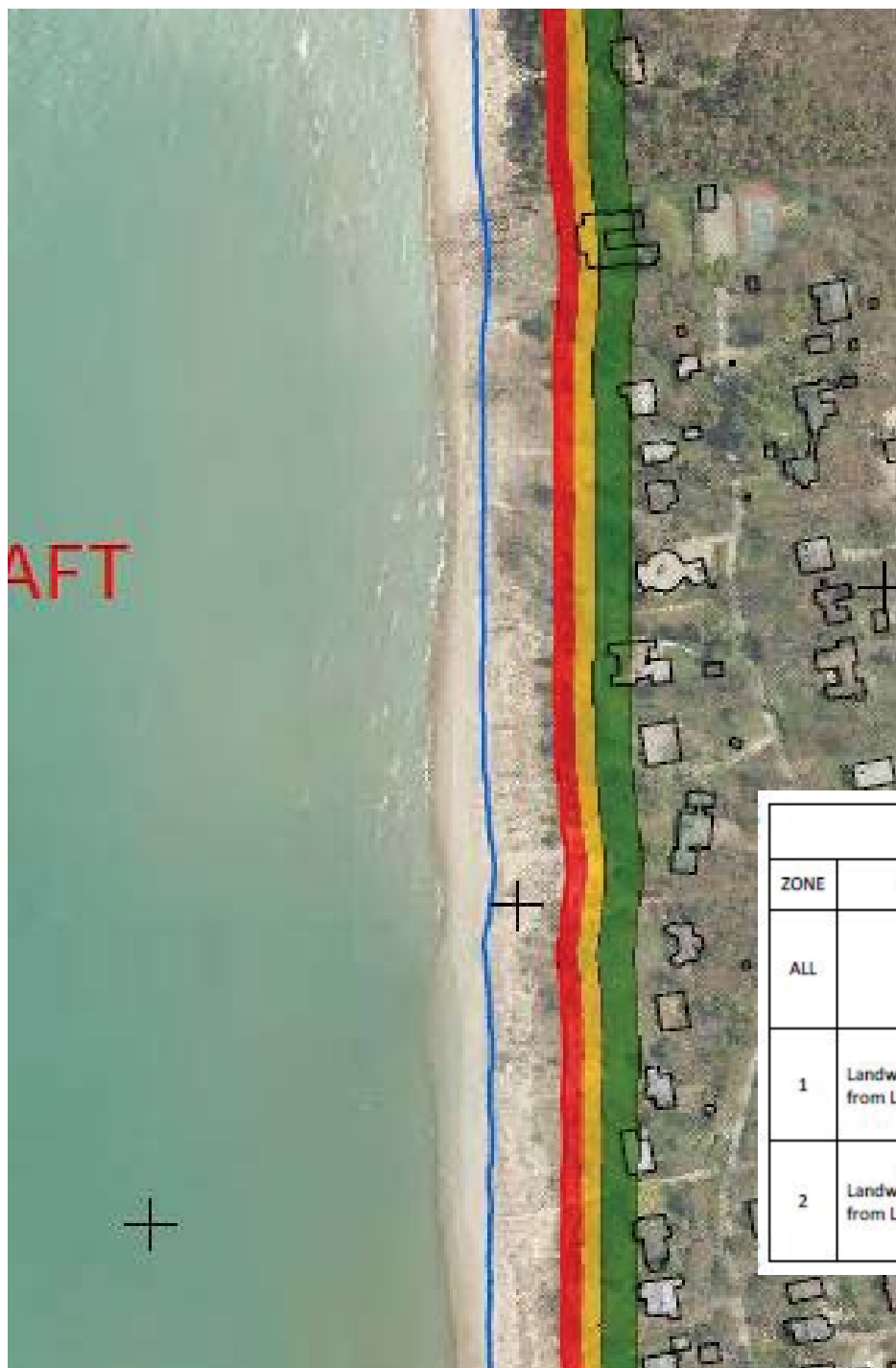
Example of draft mapping





| COHESIVE BLUFF AREAS | | | |
|--|--|---|--|
| GENERALLY NORTH OF AND INCLUDING MAPLE GROVE SUBDIVISION | | | |
| ZONE | ZONE DEFINITION | MAP COLOUR | PERMITTED ACTIVITIES |
| ALL | ALL ZONES | NOT SHOWN | Repairs and maintenance, interior alterations where no increase in habitable area, like for like rebuilding of existing dwelling destroyed by other than flood and erosion, repair and maintenance of existing decks, repair and maintenance of existing septic systems, 'technical' severance, lot consolidation, non-habitable accessory structure less than 10 sq. m. |
| 1 | Greater landward measurement of 7.5 m from Lakeshore Area 1 or the location of the 25 year erosion line |  | Minor Additions, swimming pool, new septic systems provided landward of dwelling |
| 2 | Greater landward measurement of 15.0 m from Lakeshore Area 1 or the location of the 50 year erosion line |  | Minor Additions, swimming pool, new septic systems provided landward of dwelling Major additions, non-habitable accessory structures greater than 10 sq. m., habitable accessory structures (i.e. bunkie) |
| 3 | Greater landward measurement of 15.0 m from Lakeshore Area 1 or the location of the 60 year erosion line |  | Minor Additions, swimming pool, new septic systems provided landward of dwelling Major additions, non-habitable accessory structures greater than 10 sq. m., habitable accessory structures (i.e. bunkie) Lot re-development, new dwellings on existing vacant lots |

Dynamic Beach Hazard Limit





Example of draft mapping

| DYNAMIC BEACH AREAS GENERALLY SOUTH OF MAPLE GROVE SUBDIVISION | | | |
|---|---|---|--|
| ZONE | ZONE DEFINITION | MAP COLOUR | PERMITTED ACTIVITIES |
| ALL | ALL ZONES | NOT SHOWN | Repairs and maintenance, interior alterations where no increase in habitable area, like for like rebuilding of existing dwelling destroyed by other than flood and erosion, repair and maintenance of existing decks, repair and maintenance of existing septic systems, 'technical' severance, lot consolidation, non-habitable accessory structure less than 10 sq. m. |
| 1 | Landward setback of 7.5 m. from Lakeshore Area 1 |  | Major additions, minor additions, swimming pool, non-habitable accessory structures greater than 10 sq. m. |
| 2 | Landward setback of 15.0 m. from Lakeshore Area 1 |  | Major additions, minor additions, swimming pool, non-habitable accessory structures greater than 10 sq. m. Habitable accessory structures, lot re-development where insufficient room landward of Lakeshore Area 2, new dwellings on existing vacant lots where insufficient room landward of Lakeshore Area 2 |

Proposed Development Guidelines

| Development Activity | Lakeshore Area 1 | | | Lakeshore Area 2 | |
|--|------------------|-------|-------|------------------|-------|
| | Dune | Flood | Bluff | Dune | Bluff |
| Repairs / maintenance | Yes | Yes | Yes | Yes | Yes |
| Interior Alteration – where no change in use or increase in living space or occupancy - an increase in living space is considered an addition | Yes | Yes | Yes | Yes | Yes |



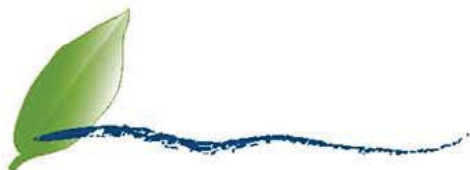
Proposed Development Guidelines

| Development Activity | Lakeshore Area 1 | | | Lakeshore Area 2 | |
|--|--|-------|-------|---|--|
| | Dune | Flood | Bluff | Dune | Bluff |
| Rebuilding of dwelling destroyed by other than flooding and / or erosion – where no change in use or increase in living space or occupancy | Yes – replacement structure shall be no larger than existing and it is moved as far landward as possible | | | Yes – if design minimizes impact to dune - replacement structure shall be moved as far landward as possible | Yes - replacement structure shall be moved as far landward as possible |
| Rebuilding of dwelling destroyed by flooding and / or erosion | No | No | No | No | No |



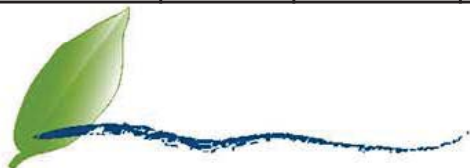
Proposed Development Guidelines

| Development Activity | Lakeshore Area 1 | | | Lakeshore Area 2 | |
|---|------------------|-------|-------|---|--|
| | Dune | Flood | Bluff | Dune | Bluff |
| Minor Additions (less than 30%) * Multiple additions permitted up to a maximum of 30% of the initial building size. Beyond 30% is considered a major addition. | No | No | No | Yes - Provided addition is no closer to the lake than the existing structure and has a minimum landward setback of 7.5m from Lakeshore Area 1 | Yes - Provided addition is no closer to the lake than the existing structure and has a minimum landward setback equal to the greater of: 1) The 25 year erosion line as measured from Lakeshore Area 1 2) 7.5m setback from Lakeshore Area 1 |
| Major Additions (greater than 30% but less than 100% - greater than 100% shall be considered lot re-development) Multiple additions permitted up to a maximum of 100% of the initial building size. Beyond 100% is considered lot re-development | No | No | No | Yes – landward of the foredune Provided addition is no closer to the lake than the existing structure and has a minimum landward setback of 7.5m from Lakeshore Area 1 | Yes –Provided addition is no closer to the lake than the existing structure and has a landward setback equal to the greater of: 1) The 50 year erosion line as measured from Lakeshore Area 1 2) 15m landward setback from Lakeshore Area 1 |



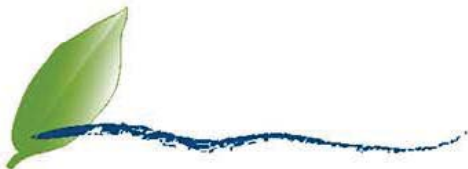
Proposed Development Guidelines

| Development Activity | Lakeshore Area 1 | | | Lakeshore Area 2 | |
|---|------------------|-------|-------|--|---|
| | Dune | Flood | Bluff | Dune | Bluff |
| Lot redevelopment – i.e. existing structures removed and replaced | No | No | No | <p>Yes Provided proposed development has regard to the size and location of the available developable area and has a minimum landward setback equal to the greater of:</p> <p>1)The lakeward limit of the existing structure</p> <p>2)The landward limit of Lakeshore Area 2 - where insufficient room outside of Lakeshore Area 2 exists, encroachment into Lakeshore Area 2 is permitted, but the development must be as landward as possible and in no instance shall development be less than 15 m to Lakeshore Area 1</p> | <p>Yes Provided proposed development has regard to the size and location of the available developable area and has a minimum landward setback equal to the greater of:</p> <p>1)The lakeward limit of the existing structure</p> <p>2)The landward limit of Lakeshore Area 2 - where insufficient room outside of Lakeshore Area 2 exists, encroachment into Lakeshore Area 2 is permitted, but the development must be as landward as possible and in no instance shall development be less than 15m to Lakeshore Area 1</p> <p>3)The 60 year erosion line as measured from Lakeshore Area 1</p> |



Draft Development Guidelines – Shore Protection

| | Dynamic Beach Area | Bluff Areas |
|---------------------------|---|---|
| Shore Protection - new | <p>Permitted to protect primary building Must be landward of the location of the 100 year lake level plus 15m wave uprush allowance</p> <p>Protection works for non-essential structures and features, including but not limited to accessory structures (e.g., gazebos, sheds, bunkies, decks, stairs etc.), lawns and/or other landscaping features are not permitted.</p> <p>Application shall include mandatory review / design by qualified Coastal Engineer which shows no negative impacts from the proposed protection works.</p> | <p>Permitted Must be landward of the greater of the following:</p> <ol style="list-style-type: none"> 1) the location of the 100 year lake level or 2) a line connecting the toe of the bluff and /or existing shore protection of the two abutting properties on either side of the subject property or 3) the toe of existing bluff <p>Application shall include mandatory review / design by qualified Coastal Engineer which shows no negative impacts from the proposed protection works.</p> |



| Draft Development Guidelines – Shore Protection | | |
|---|--|---|
| | Dynamic Beach Area | Bluff Areas |
| Shore Protection - replacement | <p>Permitted to protect primary building.</p> <p>Must be landward of the greater of the following:</p> <ol style="list-style-type: none"> 1) the location of the 100 year lake level plus 15m wave uprush allowance 2) the existing shore protection being replaced <p>Protection works for non-essential structures and features, including but not limited to accessory structures (e.g., gazebos, sheds, bunkies, decks, stairs etc.), lawns and/or other landscaping features are not permitted.</p> <p>All previous shore protection must be removed from the site and disposed of</p> <p>Review / design by qualified Coastal Engineer which shows no negative impacts from the proposed protection works may be required.</p> | <p>Permitted</p> <p>Must be landward of the greater of the following:</p> <ol style="list-style-type: none"> 1) the existing shore protection being replaced 2) the location of the 100 year lake level 3) a line drawn between the toe of the bluff and /or existing shore protection of the two abutting properties on either side of the subject property 4) the toe of the existing bluff <p>All previous shore protection must be removed from the site and disposed of</p> <p>Review / design by qualified Coastal Engineer which shows no negative impacts from the proposed protection works may be required.</p> |
| Groynes | Not permitted | Not permitted |

