Living Shorelines Intact project Site Criteria

In selecting a Living Shorelines public demonstration site to be located within 10 km of in the urban settlement zone of the HRM, these site criteria are meant to guide site selection. Criteria are divided into these categories:

1) Ecological and Physical Site Features
2) Outreach
3) Logistics
4) Research opportunities
5) Climate Change Adaptation Demonstration

Ecological and Physical Site Features

Site characteristics determining the type and scale of living shoreline treatment

Evidence of erosion- Is the site actively eroding?

Rate of erosion- How quickly is erosion happening?

Fetch- How exposed to wind and wave energy is the site?

Wave energy-What degree of wave energy does the site experience?

Shoreline Orientation-What direction does the shoreline face and what angle do waves hit?

Bank slope- How steep is the bank?

Bank height- How high is the bank?

Nearshore water depth- How quickly does the bottom drop off?

Substrate type- How erodible is the substrate?

Width/size of property

Other site considerations influencing design

Shoreline type- How would the shoreline of the site be classified?

Presence of protective vegetation- Is there eelgrass, marsh grass or a vegetated upland buffer present on the site?

Shading- How much shade does the site receive?

Hard structures- Is the site already armoured?

Built infrastructure- What infrastructure is on or near the site?

Neighbouring properties- Who owns the neighbouring properties, what infrastructure is on them, and are they armoured?

Wildlife habitat potential- Could techniques needed to manage erosion on the site also create wildlife habitat?

Hydrology- What is the tidal regime and freshwater drainage of the site?

Outreach

Accessibility – is the site easily accessible to the public for education/training purposes?

Issues highlighted- In choosing this site, what issues can be raised for public discussion?

Audience- In choosing this site, who will be interested in learning from it?

Local partnerships- What groups are already involved in the site who might partner in site implementation and future management?

Potential for stormwater integration- Given that surface stormwater flows can exacerbate erosion on properties from above, does this site offer the ability to demonstrate how stormwater is managed to reduce erosion?

Potential for interpretation- What opportunities does the site provide for signs, tours and partnerships?

Trying new techniques- Does the site provide a chance to use a new technique that would be broadly applicable to a certain shoreline type or demographic?

Site ownership and permitting- Who is involved in approvals process?

Accessibility- Are we able to access the site in order to conduct the work necessary to do the project correctly and safe to access for people of a variety of abilities?

Logistic

Fit to timeline- Is the site manageable to complete in one year?

Fit to budget- Will the site plan implementation fit small budget for actual restoration work/materials?

Presence of armour- Is the site already armoured? If yes, it may be too expensive to remove it on our budget, or we may not be permitted to remove it by site owners. What opportunities for naturalization exist with armouring on a site?

Knowledge/Capacity to Design Appropriate Site Plan- Do we have access to the expertise needed for the techniques the site might require?

Data Availability- What data, such as erosion rates, projected sea level rise, historical photos, etc, is available for the site?

Research Opportunities

Timelines- If we choose a given site, will it fit within existing research projects? For example, could a student/researcher collect baseline site data?

Partnership possibilities- Do other factors of the site fit the needs of researchers/research projects? Such as distance to site, site type, etc?

Potential for long-term monitoring- Is the site conducive to a long-term monitoring project?

Comparative research- Is there potential for a reference site?

Climate Change Adaptation Demonstration

Cost effective- Is it more cost effective to implement a living shoreline than a hard structure?

Effective-Can erosion be slowed on the site in a way that fits the budget?

Replicable- Does the site represent a common coastal scenario in need of stabilization and naturalization?

No critical infrastructure put at risk- Because a living shoreline slows and stabilizes erosion, rather than stopping it, critical infrastructure (defined as roads, sewer, and public buildings) needing a high level of protection should not be at that site.

Stormwater integration potential- Stormwater contributes to erosion on coastal properties. Does the site have stormwater management issues contributing to erosion?

Resilience in the face of sea level rise- How will the site change as sea level rises?