An Initiative of the Together for Climate Project:

CONSIDERING SEA LEVEL RISE AND CULTURAL HERITAGE

A Resource for Municipalities

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EXECUTIVE SUMMARY

Sea level rise (SLR) is projected to impact, among many things, the integrity of our cultural heritage. Considering Sea Level Rise and Cultural Heritage: A Resource for Municipalities assists local government staff in better understanding cultural heritage and the various approaches and adaptive actions that can be taken to begin or continue these efforts.

The Resource starts by setting the stage about cultural heritage, defining both tangible and intangible cultural heritage in Canada. It elaborates on the importance of protecting cultural heritage – highlighting its significance to our collective identity, diversity, knowledge and rights, the interaction between cultural heritage and strengthening of relationships and partnerships in the community, the economic opportunities they may offer, and the scientific knowledge and data cultural sites provide so that we may better manage our ecosystems. Both direct and indirect impacts of SLR on cultural heritage are explored, followed by examples of what these impacts may look like across the various landscapes in Canada.

To aid local government staff in developing a deeper understanding of how to better manage cultural heritage sites affected by SLR, seven core adaptive actions are discussed. Examples and case stories of how these adaptive actions have been implemented by municipalities around Canada and internationally are detailed to demonstrate the variety of planning, protective, economic, ecological, and archival approaches a local government can take. These seven adaptive actions include the following:

- Considering climate change & cultural heritage risks in municipal planning
- Building protective barriers and sea walls
- Relocating cultural heritage features: Iconic buildings
- Developing cultural heritage tours
- Restoring traditional resource management features
- Preserving knowledge of cultural heritage sites for future generations
- Partnerships, outreach, and citizen science

Considering Sea Level Rise and Cultural Heritage concludes with next steps and in-depth action items for local governments to begin or continue their efforts to protect cultural heritage. This includes information on identifying cultural heritage stakeholders and partners; establishing a cultural heritage working group; compiling baseline data by accessing existing records and completing survey for new sites; assessing site vulnerability; monitoring and tracking erosion; establishing plans for culturally appropriate adaptive responses; and maintaining cultural heritage funding for data recovery and conservation.
1. INTRODUCTION

Cultural heritage refers to the tangible and intangible elements of culture that are passed from one generation to the next, that define our society and from which we derive meaning, purpose, and identity. In Canada we are fortunate to maintain a multicultural heritage, and derive our collective identity from the Indigenous peoples who have been here since time immemorial, and from generations of immigrants who have arrived more recently from around the globe. Among all groups we recognize traditions, practices, and built structures that unite us with the lands and waters often collectively identified as Canada. For many of us, we also inherit a sense of place and identity that is much more local, and defined by the natural, cultural and built environments within the lands, waters and local communities that we live in day to day. These national and local examples are integral parts of our cultural heritage.

As with natural resources, biodiversity, public health, and municipal infrastructure, the integrity of our cultural heritage is threatened by climate change. Of the various climate change hazards we face, sea level rise (SLR) is one of the most damaging to our tangible cultural heritage. Given our collective responsibility to manage cultural resources for past, present and future generations and obligations to honour both the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[1] and the Truth and Reconciliation Commission (TRC) of Canada’s calls to action[2], this guide provides background information and strategies for municipal planners incorporating cultural heritage into sea level rise management plans. We begin by defining and providing examples of cultural heritage, discuss why it is important to manage and protect, and provide examples of how tangible cultural heritage can be managed in the face of SLR. We provide action items for municipalities as they begin developing plans.
climate change adaptation plans, or move to include cultural heritage within existing management frameworks. While the focus of this guide is on tangible cultural heritage, particularly archaeological and traditional use sites, there are overlaps with processes for safeguarding intangible cultural heritage. Municipal planners wishing to understand more about intangible cultural heritage are encouraged to review UNESCO resources for safeguarding intangible cultural heritage.[3]

2. WHAT IS CULTURAL HERITAGE?

Cultural heritage refers to the tangible and intangible expressions of our cultures that are passed from one generation to the next. Tangible heritage refers to our moveable material objects such as artifacts, artwork, clothing, and tools, as well as immovable built features such as buildings, monuments, village scapes and cultural landscapes, as well as culturally important places that instill pride, identity, and connections to our shared and diverse cultural backgrounds. Intangible cultural heritage refers to traditions, knowledge, ceremonies, stories, events and other cultural practices that are passed along through generations but do not have physical form. Tangible and intangible elements of culture are often intertwined and deeply connected to place, which can be on land or underwater.

2.1 Tangible Cultural Heritage

In Canada, tangible cultural heritage includes archaeological, historic, and Indigenous traditional use sites as well as cultural landscapes. Archaeological and historic resources tend to be finite and increasingly fragile as they age. Once gone, tangible cultural heritage can be difficult if not impossible to replace. While SLR threatens all forms of tangible cultural heritage, archaeological and traditional use sites are among the most threatened due to their widespread occurrence. Some examples of tangible cultural heritage sites include:


Photo by Otis DuPont from Flickr
**Archaeological Sites:**
Archaeological sites contain material evidence of peoples’ lives in the past. Within Canada, most archaeological sites are of Indigenous heritage, although a number of Non-Indigenous sites also exist including sites from ethnic communities whose past heritage may be underrepresented in historic documents. Archaeological sites date back to the last glaciation and up until recent historic times. While thousands of archaeological sites are recorded throughout Canada, the majority are unknown. Archaeological sites, whether known or not, are protected by provincial or territorial heritage legislation. Provincial and territorial governments maintain archaeological site databases for local government properties.

**Historic Sites:**
Historic sites include locations of past significance for which we have written records, photographs, maps, oral histories, surviving built structures or monumental architecture. Historic sites can also commemorate specific events or people of national or local historic significance. They can be post-contact Indigenous sites (such as fortresses, towns, and villages) and non-Indigenous sites (such as canneries, piers, homesteads, farms, lighthouses, cemeteries, waterways, trading posts, churches, entire city districts or towns, etc.). These sites be on municipally owned land and should therefore be considered in the municipalities’ land management efforts.
Indigenous Traditional Use Locations:
Indigenous traditional use locations refer to the sacred, spiritual, medicinal, hunting, fishing, gathering, growing, logging, resource management and other important locations that have been used by Indigenous peoples for generations. Some of these practices will leave physical or tangible evidence in the environment. Other times the traditional use is subtle and may be represented by the types and quantities of plants and trees in an area. Some traditional use locations will not have any tangible physical evidence connected to them but will be connected to ceremonial, spiritual, or other important cultural practices. In some cases the location may be named, or feature in a story, song or dance. Traditional uses can extend well beyond any material expressions that may exist in an area. First Nations, Métis, and Inuit communities hold knowledge of their traditional use locations.

Cultural Heritage Landscapes:
Cultural heritage landscapes show evidence of important relationships between humans and the environment. We are surrounded by cultural landscapes most of the time. When the landscape combines natural and cultural elements that have enduring meaning and value to a specific community of people over time, it can be considered a cultural heritage landscape. Some cultural landscapes are millennia old, as is the case of the Haida ancestral village of SGang Gwaay; a UNESCO world heritage site. Other cultural heritage landscapes, such as the Acadian cultural landscape of Grand Pré in Nova Scotia, are hundreds of years old. Cultural heritage landscapes can also develop meaning and value over decades as exemplified by the Western Counties Cultural Heritage Landscape in Ontario, which offered longstanding rehabilitation services for WWII veterans.
2.2 Intangible Cultural Heritage

Intangible cultural heritage refers to living cultural traditions that have been passed down through generations. UNESCO identifies “oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe of the knowledge and skills to produce traditional crafts” as examples of intangible cultural heritage.[4] Intangible cultural heritage is defined by the people who practice the traditions. We can safeguard and maintain intangible cultural heritage by ensuring that communities continue to have opportunities to participate in, and transmit their cultural practices. Intangible cultural heritage may or may not be linked to specific locations, places and/or entire landscapes. Some examples of intangible cultural heritage in Canada[5] include:

- **Oral Traditions**: Oral traditions include histories, stories, songs, poems, legends, myths, etc.
- **Performing Arts**: Performing arts include drama, musical performance, dance, etc.
- **Contemporary Social Practices**: Social practices include present day traditions that bring diverse people together to engage in events in a unified way. These practices have been continuing for generations and are important to the identity of the local community. Examples include ceremonies, rituals, festivals, fairs, etc.
- **Knowledge and Skills about Nature and the Universe**: This category refers to the skills, knowledge, and technological innovations developed by peoples over generations by living in their local environments. Examples include traditional resource management practices, husbandry, agriculture, mariculture, traditional burning, architectural design, calendric systems, scientific and medicinal knowledge, etc.
- **Traditional Crafts**: This category refers to the knowledge and skills needed to produce crafts and technologies such as weaving, carving, embroidery, construction of watercraft, etc.

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3. WHY IS PROTECTING CULTURAL HERITAGE IMPORTANT?

There are many reasons for protecting or safeguarding our cultural heritage. Cultural heritage strengthens our identity, and allows us to maintain a diversity of perspective and knowledge. Maintaining cultural heritage provides opportunities to build and maintain relationships and partnerships with stakeholders, to show leadership for how we can respect and celebrate cultural differences, and demonstrates a commitment to safeguarding Indigenous rights. Cultural heritage sites also contain environmental data that allow us to extend our understanding of environmental circumstances back in time thereby allowing us to reflect on present day environmental practices and policy. Cultural heritage can also allow for the creation of economic initiatives that celebrates heritage through tours, performances, etc. We explore these ideas in more detail below.

3.1 Identity, Diversity, Knowledge and Rights
Access to cultural heritage is increasingly being recognized as a basic human right.[6] When we lose cultural heritage resources, whether by looting, vandalism, an errant backhoe, natural decay, coastal erosion or sea level rise, we lose knowledge about ourselves, our neighbours, and we risk losing and forgetting the historical conditions that have created our contemporary existence. We also lose information about the distinct identities, traditions, knowledge systems, inventions and connections to home and place that people hold. By safeguarding and celebrating cultural diversity and heritage, we maintain higher levels of resiliency and adaptability as a species.

The majority of tangible cultural heritage sites threatened by SLR in Canada are archaeological and traditional use sites of

Indigenous heritage. For First Nations, Inuit, and Métis communities, cultural heritage sites represent cultural traditions, knowledge systems, and connections to place that extend back millennia, and in some parts of Canada for over 700 generations. When cultural heritage sites disappear without documentation, evidence of traditional ways of life disappear, as well as evidence of Indigenous rights and title to land and sea. Indigenous knowledge and observations about the various places throughout Canada also have exponentially more time depth than modern scientific observations. When local governments work to safeguard Indigenous and multi-cultural heritage, sites, traditions, languages, and practices we all benefit, are more resilient, have more strategies for adapting to change and enhancing food security, and we demonstrate a commitment to uphold the tenants of UNDRIP and the TRC calls to action.

3.2 Relationships, Partnerships and Leadership

By protecting and managing cultural sites we also create opportunities to strengthen and build positive relationships between local governments, Indigenous, and cultural heritage communities. We create opportunities for cross-cultural learning, capacity building within Indigenous communities, and strengthen our commitments to each other. When we protect our cultural heritage, we become leaders who honour diverse cultural heritage and we create a sense of belonging and inclusion.

3.3 Scientific Knowledge and Environmental Data

By protecting and managing cultural sites we maintain access to environmental data that can help us manage our ecosystems and resources today. While scientific data and observations go back decades, archaeological sites are repositories of environmental data that span thousands of years. By studying archaeological faunal materials (mammal, bird and fish bones), for example, archaeologists have demonstrated that the size of cod on the northeast coast of North America are three times smaller today than in the past [7], and that there were more herring spawn locations on the west coast of Canada in the past then there are today. [8] Findings such as these encourage us to reconsider how we manage our fisheries today.

As we further study and manage cultural heritage in partnership with local Indigenous communities, we may learn about traditional practices that present practical solutions for dealing with local, contemporary environmental issues. Partnerships that form around cultural heritage management can foster the exchange of ideas and learning about local traditions that have been honed over generations and may offer practical present-day solutions to environmental challenges (see section 5.5 for case story about clam gardens).


3.4 Economic Opportunities

When we protect and manage cultural heritage economic opportunities can follow.[9] When municipalities restore local heritage buildings or manage cultural heritage sites there are opportunities to hire local tradespeople, cultural heritage professionals, and to foster capacity building among First Nations community members. When heritage sites are restored or celebrated publicly, heritage tourism can follow bringing economic opportunities to rural and urban communities. Restored cultural heritage buildings and landscapes attract investment, skilled professionals, and businesses to the area. Museums and heritage programming centered around cultural heritage preservation or documentation generates revenue, and educational opportunities for locals and visitors. Celebration of cultural heritage landscapes and traditions can also be incorporated into locally based products for local and international markets.

4. HOW DOES SEA LEVEL RISE IMPACT CULTURAL HERITAGE?

As our climate changes, global mean sea level is projected to rise between 28 and 98 cm with more than 1 m rise in some cases.[10] However, relative change in sea levels will vary throughout Canada depending on local circumstances and glacial isostatic rebound. In some parts of the country sea levels are projected to rise by up to a meter while in other places they may fall by the same amount.[8] Natural Resources Canada predicts that the risks of flooding and impacts of sea level rise are highest along the east and west coasts of Canada as well as the Beaufort Sea coast. Other areas of the north coast may see more stability in terms of sea level position but the effects of sea ice loss and changes in wave patterns will still cause impacts to shorelines and coastal communities. As a result of these changes, coastal communities may experience an increase in the frequency and magnitude of extreme weather events and resultant storm surge flooding, which threatens the integrity of cultural heritage both directly and indirectly as summarized below.

More information on SLR projections and impacts in Canada can be found in NRCAN’s *Canada’s Marine Coasts in a Changing Climate* report.


4.1 Direct Impacts of SLR on Cultural Heritage

Sea level rise affects cultural heritage resources in many ways. Tangible cultural heritage resources like archaeological sites can suffer from erosion, collapse and eventual disappearance. Historic buildings can be flooded and permanently damaged resulting in loss of heritage and potentially public safety concerns. Other heritage resources such as traditional use locations can be damaged or entirely submerged. Where shorelines are destabilized near estuaries, creek and rivermouths, or in areas of permafrost melt, the potential to encounter significant and perishable cultural materials and artifacts increases, which require special recovery, conservation and long term storage.

Intangible cultural heritage is often linked to specific locations, places and/or entire landscapes and can be detrimentally affected by sea level rise. Individual events or social practices can be disrupted when medicinal plants uprooted, ceremonial locations or fairgrounds are flooded, or tourist destinations eroded. Access to landmarks referenced in oral traditions or used for ceremonies, rituals or performances may be lost or restricted. Similarly locations that facilitate and inspire knowledge and skills transmission, or which are material gathering locations for traditional crafts, may be lost or restricted.

4.2 Indirect Impacts of SLR on Cultural Heritage

The indirect impacts of SLR on cultural heritage are less obvious but occur when protective barriers or infrastructure development affect cultural resources both at and away from the shoreline. For example, protective barriers constructed to mitigate impacts of SLR such as sea walls, retaining walls, berms, or dikes may impact or damage recorded or unrecorded cultural resources, such as archaeological sites, during construction. Similarly the relocation of monuments, people, roads and infrastructure to areas away from shoreline can impact known or unknown cultural heritage resources inland. All construction and relocation activities should be preceded by impact assessments early in planning stages to ensure archaeological or other cultural resources will not be threatened by proposed construction.

The table below provides a summary of direct and indirect impacts on tangible cultural heritage sites that can be triggered by SLR.
# Examples of Direct and Indirect SLR Impacts on Cultural Heritage Sites

<table>
<thead>
<tr>
<th>CLIMATIC EVENT AND/OR IMPACT</th>
<th>CONSEQUENCES</th>
</tr>
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| **Erosion**                 | • Loss of resources along coastlines and in intertidal zone  
                              • Exposure of wet sites, organic materials, and cultural resources in need of special conservation and preservation  
                              • Tree root undercutting and exposure, is then vulnerable to wind and extreme weather events  
                              • Incremental and massive collapse of archaeological deposits  
                              • Loss of access to resources as shorelines cutoff  
                              • Public safety concern  
                              • Undermining of building foundations |
| **Permafrost melt along shoreline** | • Destabilizes shorelines which become more susceptible to erosion  
                              • Exposure of wet sites, organic materials and cultural resources in need of special conservation and preservation  
                              • Undermines foundation of buildings |
| **Construction of Protective Barriers and Infrastructure** | • Damage to archaeological or historic resources that have not been identified or assessed |
| **Erosion and Flooding** | • Access to material gathering, hunting, fishing locations may be flooded, eroded, restricted or lost  
                              • Access to locations that influence language, words, stories may be lost  
                              • Ceremonial, ritual, event locations may be eroded, flooded, or lost  
                              • Access to landmarks referenced in oral traditions and placenames may be lost or restricted  
                              • Performance locations may be lost, flooded or impacted  
                              • Access to locations that facilitate and inspire knowledge and skills transmission may be lost or restricted |
| **Construction of Protective Barriers and Infrastructure** | • Damage or loss of access to traditional use locations that have not been identified |
5. HOW CAN LOCAL GOVERNMENTS MANAGE CULTURAL HERITAGE SITES AFFECTED BY SEA LEVEL RISE?

There are many types of adaptive actions that local governments can take to manage cultural heritage that may be impacted by SLR. In this section we provide some examples of planning, protective, economic, ecological, and archival responses that could be used by municipalities in the face of SLR. Local governments should work with local stakeholders to determine what kind of response is most appropriate for the local setting; a decision that will depend on cultural protocols, cultural heritage significance, and the severity and rate of erosion and other SLR impacts. Though not an exhaustive list, successful responses may be a creative combination or novel adaptation inspired by any of the approaches listed below.

5.1 Considering Climate Change & Cultural Heritage Risks in Municipal Planning
By integrating cultural heritage management into planning and development approval processes, municipal and regional governments play a role in the preservation of Canada’s past. Local governments are ideally situated to identify developments that may threaten protected archaeological or cultural sites and notify developers of the need to plan for and manage potential damage to these sites.

Given the rapid pace of development in many municipalities throughout Canada, protected cultural, Indigenous, and archaeological sites are being accidentally damaged with increasing frequency. Oftentimes, this damage is due to a lack of knowledge regarding the location of archaeological sites and the legislation that protects them. By raising the profile of these sites in official community plans, municipal strategies, and other highest order planning documents, local governments can alert people to cultural heritage management issues at the earliest stages of development planning.

Oftentimes, known archaeological and cultural heritage site locations are housed in Provincial or Territorial databases, which can be accessed by local governments in order to integrate into their long-term planning policies and initiatives. By incorporating provincial or territorial archaeological and cultural heritage data into municipal GIS databases, planners can see when cultural resources overlap with development permit applications and alert developers and landowners to their responsibilities to manage the cultural heritage concerns. Moreover, these cultural heritage sites can be compared to SLR predictive models and mapping to identify those sites that are most threatened by 50 cm, 1 m, and 2 m increases in static seas level rise or by extreme storm surge conditions, such as 1 in 200- or 1 in 500-year storm events.
Once municipalities have a firm understanding of the location of cultural heritage sites and their vulnerability to relative SLR and storm surge flooding, there are a number of regulatory and land use change tools that can be used to manage these risks. Some examples of these land-use planning responses include:

**REGULATORY TOOLS**

1) Regulation of Land Use
   - Zoning Bylaw to regulate land use, density, siting of buildings and servicing standards relative to floodplain
   - Designation of land as a floodplain
   - Minimum building elevations & setback for land in floodplain

2) Subdivision Regulation
   - Regulation to protect development in areas subject to coastal hazards
   - Regulation where the natural environment would be adversely affected due to sea level rise

3) Development Permit
   - Regulation of specific development plans to protect environment or development from hazard

**LAND-USE OR RESTRICTION TOOLS**

1) Land Acquisition
   - Land purchase or expropriation to prevent development in areas of cultural significance, especially those at risk to sea-level rise
   - Land purchase to implement non-structural adaptation to sea level rise (e.g. natural buffers to reduce erosion or flood risk)

2) Transfer of Development Potential
   - Transfer of allowable development potential to an alternative location not at risk
   - Creation of ‘density bank’ to accommodate density transfer

3) Easements and Covenants
   - Easement on title to restrict use of land for conservation, cultural heritage preservation, or other non-development purposes

4) Land Trusts
   - Management of land for conservation or other non-development purposes by land trust or other separate environmental organization

5) Foreshore Tenure
   - Lease or Licence of Occupation of area from the Crown below the natural boundary to allow integrated management of foreshore

It is important to note that climate change often presents a new challenge for those managing cultural heritage sites. In many places, the land use planning solutions for managing heritage sites threatened by SLR are in their infancy. Capturing these sites and committing to safeguard cultural heritage in local governments community plans may be a great first step to ensure protection and monitoring of these sites in the long-term.

Case Story - Landscape of Grand Pré and the role of the County of Kings, Nova Scotia

In 2012, the Landscape of Grand Pré became Canada’s 16th World Heritage Site. The landscape is an example of the adaptation of the first European settlers to the conditions of the North American Atlantic coast. The site – marked by one of the most extreme tidal ranges in the world, averaging 11.6 m – is also inscribed as a memorial to Acadian way of life and deportation, which started in 1755, known as the Grand Dérangement. Located on the Bay of Fundy’s Minas Basin in Nova Scotia Annapolis Valley, Grand Pré is a 13 square kilometre site, composed of Federally, Provincial, and Municipally owned land and assets. Management of the land involves a series of specialist entities, either public, such as the Federal Parks Canada, or local governments, including the Municipality of the County of Kings, NS.

Municipally, the Grand Pré Landscape is managed through the Grand Pré and Area Community Plan and Bylaw. Adopted in 2010, the Plan was developed to guide land use planning for four communities within the Municipality of the County of Kings District, and was also developed in concert with a bid to designate the Landscape of Grand Pré as a UNESCO World Heritage Site, which was achieved in 2012. In developing the Plan, the County of Kings worked with the Grand Pré and Area Community Association and the wider community to develop a plan that reflects the needs and desires of the community, with the objective to develop the “vision that the community has for its future in a landscape of great environmental, cultural, and historical significance”. Council is guided by the policies and vision that are identified in the Plan when making decisions that impact the lands within the Plan boundary. Moreover, the Plan ensures that development is managed to support community needs while recognizing the intrinsic value of the nominated property - thus the municipality focuses on maintaining the integrity of the resources and protecting the agricultural identity of the community.

Read more about the Grand Pré and Area Community Plan here.
5.2 Building Protective Barriers and Sea Walls

The effects of shoreline erosion on cultural heritage sites can be minor or severe depending on the local setting. In some cases cultural deposits measuring dozens to hundreds of cubic meters can be removed entirely by erosion and storm surges in one season or storm event in which case a salvage recovery operation may be warranted (see section 5.6). Other times shoreline erosion can be incremental with sites losing up to one square cubic meter on an annual basis. While loses may seem insignificant in the short term, the cumulative long-term losses can be significant.

When sites erode gradually there is the potential for artifacts such as stone and bone tools, and features, such as house remains, roasting pits, and hearths, to become exposed in the erosional face of the site. These items and their positions within the site provide evidence that archaeologists use to piece together the stories from the past. When artifacts erode into the beach, their context and relationships to the other objects are lost. They also can become attractants to collectors and pothunters who, not realizing it is illegal to collect artifacts, pick them up and take them home. Worse yet, they may be encouraged to dig in the site looking for additional artifacts further damaging the cultural resources.

Sometimes, sensitive burial features and human remains may also become exposed in erosional faces. These ancestral remains deserve respect and careful management by the descendant communities to ensure cultural protocols are upheld for proper reinterment.

For these reasons it is always important to ensure eroding archaeological sites are monitored and cared for in culturally appropriate and careful ways with guidance from the descendant communities, which is commonly the local First Nation(s).

Where sensitive and significant materials are known to appear, often a protective barrier can slow down or prevent erosion, and help mitigate the risks of pothunting that may result from cultural heritage objects appearing on the beach. Protective barriers can be soft or hard depending on the local conditions. Soft barriers can be built by covering the entire erosional face of the site with gravel. Sometimes the gravel can be secured in place with the addition of fencing, cribbing, or logs. In some instances, a hard barrier, such as riprap or a cement sea wall may be a practical solution. In all instances, it is important that construction is preceded by an
archaeological impact assessment to ensure that construction will not impact additional cultural resources in the surrounding area and intertidal zone. Often intact archaeological deposits are present in the intertidal even if they are not visible on the beach surface. While protective barriers can offer short-term protection, they do require periodic monitoring and maintenance on a decadal scale depending on the construction. As they can also deflect wave energy and erosional forces to nearby beaches, protective barriers often work well along contained stretches of shoreline at the head of a bay or between bedrock. Protective barriers such as those listed above have been used successfully on the south coast of British Columbia, but given the culturally sensitive nature of these sites we are not profiling a specific case story. Depending on the projected SLR for your area, a protective barrier may or may not be an effective solution to shoreline erosion of cultural sites.

5.3 Relocating Cultural Heritage Features: Iconic Buildings

Historic buildings and monuments can also suffer from the effects of sea level rise. Shoreline erosion can undermine the ground and foundation of buildings, and storm surges and king tides can flood basements and entire districts. Unlike archaeological sites, which cannot be moved, historic monuments and buildings can be relocated. When the cultural heritage value of an historic landmark is high, when it is positively connected to the local identity, or where it offers other benefits to the community through tourism or by performing an important function then the benefits may warrant relocating the structure. Iconic statues, houses, churches, and lighthouses are examples of some historic sites and buildings that can be moved to another location depending on their construction. As with any development or relocation project, planners should be careful not to impact other cultural heritage resources, such as archaeological sites, during the moving and rehousing process. Once moved, the historic site can revitalize the new location by becoming a destination for tourism, cultural events and economic initiatives in the area.
Case Story - Relocation of the Cape Hatteras Lighthouse, North Carolina

The Cape Hatteras Lighthouse in North Carolina is an iconic historic feature and important beacon for mariners on the eastern seaboard of the USA. Construction of the original Cape Hatteras Lighthouse began in 1799 to aid shipping along the Atlantic coast. Its original location was one mile from the shoreline. After a series of improvements throughout the 1800s, the original lighthouse was replaced in 1870. Despite efforts to control ongoing beach erosion using groins running perpendicular to the beach, the Bureau of Lighthouses was forced to decommission the lighthouse and the beacon was moved to a steel frame tower. The original lightstation was then transferred to the National Park Service. In 1950 the beacon was returned to the lighthouse as the beach had been rebuilt. Between 1960 and 1980 beach erosion became a problem again and despite efforts to stabilize the beach using additional groins and beach nourishment, a substantial winter storm in 1980 washed away the original lighthouse location. After much study by partners at the National Academy of Sciences and North Carolina State University, community debate, and consideration of ten options to preserve the lightstation, a decision was made to move the lightstation 2,900 feet to its present location in 1999. The move was found to be the most cost effective option and Congress approved funding in 1998. After a year of preparation the move took 23 days and cost $11.8 million. Details of the move can be found here.

Other significant historic buildings associated with the lighthouse, such as the Keepers’ quarters, dwelling cistern and oil house, were also relocated. The National Parks Service presently maintains the lighthouse and quarters while the Coast Guard maintains the light beacon. In addition to providing an important safety function, the lighthouse is a popular tourist destination with many opportunities to explore local natural and cultural sites, participate in education initiatives, and enjoy local restaurants, accommodation, and amenities.
5.4 Developing Cultural Heritage Tours

In some instances, cultural heritage sites suffering from impacts of SLR can be managed and monitored through economic development responses such as heritage tours. When the effects of SLR are gradual, economic initiatives that provide tours of the heritage site to visitors can double as an opportunity to monitor the effects of erosion. Trained guides who lead tours of the site are also ideal people to monitor the effects of erosion as they are familiar with the site and the subtle changes that may occur on a daily, monthly and annual basis. These onsite guardians can alert planners and managers to shoreline damage that may require immediate intervention or longer term stabilization. The tourism initiative can also bring economic benefit to surrounding businesses as visitors stop in for meals, accommodation, shopping and other attractions.

Case Story - Kiiixin Journey With Our Ancestors, Western Vancouver Island

The Kiiixin Village and Fortress on western Vancouver Island is one of the Huu-ay-aht First Nations’ traditional village sites and one of the only sites on Vancouver Island with well-preserved traditional Nuu-Chah-Nulth architecture. This location has been important to the Huu-ay-aht First Nations for over 5,000 years and was commemorated as a National Historic Site in 2000. Since 2018, Huu-ay-aht have been welcoming visitors on guided tours of the village to explore the traditional standing architecture and stunning coastal setting on the shores of Barkley Sound. Up to 20 guests accompany a guide who leads them along a trail with sections of boardwalk and stairs through lush coastal rainforest and down to the village nestled on a protected beach with bedrock formations and tidal pools. The tour last about 3.5 hours and is guided by traditional knowledge holders who share aspects of Huu-ay-aht knowledge, history and culture with the visitors.

While not explicitly stated as an objective of the tours, the regular presence of the traditional knowledge holders ensures that the shoreline integrity and architectural features are monitored regularly during visits. In the event that storm surges or strong winds impact part of the site, the guides will quickly notice those impacts and respond accordingly by alerting the relevant department within the Huu-ay-aht Government. Regular monitoring is an important step in managing cultural heritage sites affected by SLR.

The tours also bring economic benefit to local businesses. The Kiiixin tours benefit the small island communities of Anacla and Bamfield by encouraging visitors to visit local cafes, hotel, bed and breakfasts, campground, gas station, convenience stores, and water taxi services. More information about the Kiiixin tours can be found [here](#).
5.5 Restoring Traditional Resource Management Features

Throughout Canada, Indigenous peoples have developed ingenious and sustainable traditional practices for managing local plant, mammal, bird, fish, and seafood resources within coastal and tidally influenced environments; areas now affected by SLR. Along the coast of British Columbia, for example, rock walled terraces within the intertidal have been used for cultivating plants such as springbank clover and pacific silverweed [11], as well as shellfish and other traditionally important foods [12], while aqueous tubers such as wapato were cultivated in tidally influenced wetlands and estuaries [13]. Along all Canadian coastlines evidence of traditional fishing practices can be seen in the form of rock walled fish traps or the remnants of wooden fences used in fish weirs or traps, and resources in all coastal environments, estuaries and wetlands play important roles in traditional cultures and livelihoods.

Due to major population decline and policies associated with colonization, many traditional resource management locations have fallen out of regular use but are still known by knowledge holders in the local community or are identifiable by archaeological remains. These cultural heritage sites are threatened by SLR as they may be damaged by storms surges, flooding and erosion, or submerged entirely by rising sea levels. While documenting, monitoring, and protecting these sites are appropriate and important management strategies, there is also potential to restore the resource management features and the associated cultural practices by working with local communities. Restoring traditional resource management features can offer an effective adaptive response to SLR that simultaneously offers opportunities for ecological and cultural rejuvenation. These restoration initiatives offer partnership, capacity, and relationship building opportunities between Indigenous communities, local government and other partners. Local governments are encouraged to work with Indigenous communities to identify local traditional management practices that could be restored in their jurisdiction. Restoration of traditional management features allows for the safeguarding of tangible and intangible cultural heritage and Indigenous rights.
Case Story - Clam (Sea) Gardens

Sea gardens, or clam gardens as they are also known, are rock walled terraces built in the intertidal zone by Indigenous peoples along northwest coast of North America from southeast Alaska, down the British Columbian coast and into Washington State. Built at the low tide mark, these terraces increase clam productivity and provide habitat for other traditional foods and species diversity within the rock wall. This form of mariculture has been used continuously for at least 3,500 years and reflects a deep understanding of the interconnected plant, animal, environmental, and human relationships within the local intertidal ecosystems. While maintained by Indigenous communities for generations, western scientists have only recently learned of these archaeological and traditional use sites. Sea gardens offer intriguing economic possibilities for sustainable Indigenous seafood initiatives, addressing concerns of local food security, and maintaining biodiversity and intertidal health. They also hold potential to buffer against the effects of ocean acidification and storm surges.

In recent years First Nations communities and Native American tribes have begun restoring clam gardens in their territories. Within the southern Gulf Islands the Hul'q'umi'num and WSÁNEĆ Nations have partnered with Parks Canada to restore two clam gardens. This project is a leading example of how First Nations and government agencies can partner on restoration initiatives that foster ecological and cultural resilience. For more information on this project click here and here. Clam gardens also offer intriguing potential for buffering the effects of climate change and SLR. In Washington State, the Swinomish Tribe is constructing a clam garden to enhance their access to traditional seafoods in the face of sea level rise and ocean acidification as is documented here and here. Click here for more information about clam gardens in general.
5.6 Preserving Knowledge of Cultural Heritage Sites for Future Generations

Sometimes it is not possible to protect, move, monitor or restore a cultural heritage site. The site may have suffered extensive damage in a sudden extreme weather event or the costs of protecting, moving or restoring the site may be prohibitive. In these instances, a prudent step is to gather as much knowledge about the site as possible for future generations before the resource disappears.

In the case of sudden and extensive damage, such as an archaeological site collapsing into the intertidal zone following an extreme weather event or permafrost melt, a salvage operation is warranted. Salvage excavations aim to recover as much information as possible about the site before the ocean washes heritage materials and sediments away. Artifacts, archaeological feature, and sample recovery, screening of sediments, mapping, and photo documentation and digitization are typical activities during a salvage operation. Plans must also be made for follow-up laboratory analysis, conservation, long-term storage of recovered materials, and reporting. Recovery costs can be high particularly if perishable and fragile items are found that will require special conservation treatment. These are all important steps in documenting the site and preserving the data for future generations.

Losing a cultural heritage site to an extreme weather event or through shoreline collapse triggered by climate change can be devastating for local communities and is a loss to us all. Proactive recording, survey, documentation and monitoring of cultural sites prior to the need for a salvage recovery helps lessen the impact and costs of sudden damage as preliminary information about the site has already been collected and management plans for the site have been put in place.

If a tangible cultural heritage resource will be lost, or impractical to protect, but there is still time to act, it may be most effective to create a resource that documents and archives information about the site for future generations. The following examples can be effective methods for archiving aspects of a cultural heritage site for future generations:

- Illustrated or photographic records
- Photogrammetry [14] (allows for 3D reconstruction of buildings and heritage sites using photographs)
- Digital recordings
- Museum exhibit
- Interpretive display or panels
- Archaeological excavation and sample collection
- Construction of 3D models
- Commemorative website
- Documentary film
- Virtual heritage tour

5.7 Partnerships, Outreach and Citizen Science

Cultural heritage managers around the world have been recognizing the rapid rate at which heritage resources, and particularly archaeological sites, are being lost along shorelines. Documenting the locations of unknown sites and the scale of loss can be daunting tasks for any one cultural heritage management team or local government to take on. When cultural heritage stakeholders are amenable, enlisting the help of community members such as citizen scientists (public volunteers interested in aiding a science initiative) and/or school groups can be an effective way to create partnerships and work with volunteers to collect relevant data. Programs such as these educate people about the importance of safeguarding cultural heritage, and create teams of cultural heritage stewards who have a broader impact within the local communities. Citizen science programs require effective administrative capacity and good communication with participants to be effective. If this cannot be achieved within the local government then perhaps a local stakeholder could take on the role.
Case Story - Working with Citizen Scientists to Document Heritage Sites in Scotland

In the 1990s, Scotland implemented coastal heritage surveys to document the locations and conditions of heritage sites as vast stretches of shoreline were suffering severe coastal erosion resulting in the loss of significant archaeological heritage. In 2000, the management of these surveys was redirected to the SCAPE (Scotland’s Coastal Archaeology and the Problem of Erosion) program based out of the University of St. Andrews. SCAPE partnered with heritage managers, academics and local communities and continued with rapid surveys to locate coastal sites and assess their significance and vulnerability. This allowed heritage managers to rank sites and prioritize their management. In 2012, SCAPE launched SCHARP (Scotland’s Coastal Heritage at Risk Project) with funding from various organizations, Heritage Environment Scotland, and the Heritage Lottery fund to harness the power of citizen scientists and the public to help update information on priority sites using a citizen science app. By harnessing public participation, the SCHARP program has been able to attain multiple field observations in a shorter period of time, which is crucial as heritage loss accelerates with climate change and as heritage professionals have limited capacity to visit all the sites.

http://www.scharp.co.uk/

The SCAPE model has been applied in other parts of the world including North America and is well suited to large geographic areas. The North American situation is different from Scotland in that in that Indigenous rights are of paramount concern and Indigenous cultures and cultural protocols around heritage sites vary greatly across regions. This means that a SCAPE-like program in Canada may be most successful if initiated at a local level so that guidance from the local Nations can be followed and partnerships formed with local governments and other local cultural heritage specialists. Also given concerns about looting and making cultural site locations public such programs may work best for site types that are deemed by descendant communities to be less sensitive. As managing cultural heritage amidst climate change is a new area for many, there may be interest among local Indigenous communities, universities, museums, and heritage organizations to explore partnership opportunities for documenting and monitoring cultural heritage sites. Local governments or regional districts could take a leadership role in initiating these conversations, although management and administration of the program may best lie with another partner with local government acting in a supportive role.
6. HOW DO WE START? ACTION ITEMS FOR MUNICIPALITIES

As global, federal, provincial and territorial organizations work towards establishing management frameworks and funding mechanisms for protecting cultural heritage in the face of climate change, local governments are experiencing the effects of SLR on cultural heritage resources now and need to develop adaptive responses quickly. The Action Items below are based on a review of cultural heritage monitoring programs that have been developed within Canada and abroad (See Section 7) and are intended to provide local governments with an overview of an idealized management plan that is focused on tangible cultural heritage, particularly archaeological sites. Local governments may wish to focus on one or a few of these items to address immediate concerns, or all items should they be developing a comprehensive cultural heritage management plan. Those governments looking also to identify and inventory intangible cultural heritage are encouraged to access UNESCO resources on the topic here.

The action items presented below are intended to be flexible. Local governments should ultimately aspire to manage heritage in a way that is developed in partnership with local Indigenous and cultural groups, and is respectful of the cultural protocols and concerns of local community members.

1.0 Identify Key Cultural Heritage Partners
Identifying and involving a variety of stakeholders in cultural heritage management is important in order to capture a diversity of expertise and for securing widespread support for the implementation of potential adaptive actions. When identifying key cultural heritage partners, it is important to consider the main organizations, people or groups that may be
affected or involved in the study or in the implementation of adaptation measures. Potential partners for consideration may include:

- The local First Nation(s), Inuit, and/or Métis
- Provincial or Territorial archaeology and/or heritage branch;
- Professional archaeologist that is well respected by local First Nation(s), Inuit and/or Metis. Some Nations have their own archaeologist(s);
- Archaeological societies;
- Well regarded local historian(s);
- Historical societies;
- Cultural groups with tangible and intangible heritage in the municipality
  - i.e. Acadian Cultural Society, Chinese Cultural Society, Japanese Heritage Society, Ukrainian Heritage Society, local ethnic or cultural communities with ties to the water front, etc
- Coordinators of major arts festivals, cultural events, fair grounds that may affected by sea level rise;
- Local museum and repository for archaeological and historic materials;
- Local university to find out if anyone engaged in SLR and cultural heritage resource management, etc.

2.0 Create a Cultural Heritage Working Group

The cultural heritage working group is intended to provide guidance on planning around cultural heritage. When forming a cultural heritage working group, try to ensure a diversity of expertise which draws on many relevant local stakeholders perspectives. It may be prudent to develop a Terms of Reference for this group in order to guide governance and expectations of the group in the long-term. Ideally there should be a working group with the local First Nation(s) and another larger group for all cultural heritage partners as deemed appropriate. Make sure the composition of participants in the working group is balanced and not dominated by local government personnel.
Recognize the great cultural diversity among Indigenous peoples within Canada with distinct cultural traditions, languages, protocols, and laws.

Build this partnership early, this relationship is very important as the majority of cultural heritage sites will be of Indigenous heritage.

Reach out to local First Nation(s), Inuit, or Métis community and get to know the people who oversees cultural heritage and archaeological permitting.

Consider hiring a community liaison who can act as that bridge between the Indigenous community(ies) and the municipality, whose key role is to maintain a good relationship between municipality and First Nation(s) and liaise about cultural heritage. Role could expand to include resource planning, and other initiatives that affect the community.

If your municipality overlaps with more than one First Nation, consider hiring a liaison for each. Communication and relationship building are key.

Including cultural knowledge holders in heritage management decisions and establishing meaningful relationships are vital to finding local solutions to impacts of SLR on cultural heritage.

Provide honoraria for working group members and/or elders attending working group meetings. It may be appropriate to have someone from the community open the meeting in a good way. Ask working group members to advise if this would be appropriate. Individuals who open the meeting should also receive an honorarium.

Learn about local protocols for working at or around cultural sites. These vary from culture area to culture area and sometimes First Nation to First Nation and can affect logistical planning such as hours of workday. The First Nation(s) can advise on what it most important for local government to know.

Build respectful and genuine relationships with communities. Think about relationships on multi-year, generational scales.

Remember everyone has a particular way of seeing and understanding the world based on their upbringing (a worldview) and that there are many ways of being in and understanding the world. Should you have a different worldview from a local community, be curious and look for opportunities to explore these differences. You may find that concepts like “past” and “present” are distinct for you but interconnected for your cultural heritage partners.

Always be ready to pivot, encounter surprises, and be flexible. There is no roadmap for reconciliation and we are all learning. Be flexible, be humble, and have the courage to try new things, even if it means rethinking established policies and procedures.

Remember, collaborating on cultural heritage programs often provides an entry point into positive and productive relationships for the long-term. Do your best to recognize the opportunities for reconciliation.

3.0 Know Your Cultural Heritage Sites

Some cultural heritage sites in your community may already be known or recorded, but that information may be tracked or housed by an outside organization or stakeholder. As such, your first step should be data gathering.

The following steps should be followed when gathering data on cultural heritage resources:

1. Find out which tangible heritage resources have been recorded within the municipality. This information may be collected by various departments – such as Planning, Culture & Recreation, Community Services, etc.

2. Request access to archaeological data from Provincial, Territorial and National Heritage Registries and Databases. Specific data requests should also include relevant GIS files, Archaeological Overview Assessments, and archaeological potential models if available.

3. Historic building records and registries are often maintained by municipal and provincial governments. The Canadian Register for Historic Places (CRHP) is a national register for local, provincial, territorial and national historic sites that is administered by Parks Canada and is accessible here.

4. Work with local First Nation(s) to identify cultural heritage areas (areas of special concern, traditional use locations, etc.).
   - Note: It is to be expected that many Nations may not want to share information about cultural heritage sites with government representatives. There are often strict cultural protocols that guide who can share and access information. There are also concerns about safety of sites, looting, pothunting, and vandalism. As such, it is important for municipalities to work towards a relationship and a forum with local First Nations where heritage concerns can be voiced even if specific locations cannot be disclosed.

Many cultural heritage sites are unknown to the municipality, provincial, territorial or federal authorities, or Local Indigenous groups. As such, municipalities should pursue collecting shoreline surveys and site data with local stakeholders. In order to do so, municipalities should:

1. Work with local First Nation(s) and a professional archaeologist to survey shorelines to identify unrecorded sites and revisit previously recorded sites.

2. Assess site conditions, note vulnerability, scientific significance, cultural significance and determine their elevations above sea level.

3. Work with First Nations working group to determine cultural significance of sites if not possible to do in the field.

Note that the compilation of cultural heritage sites and their significance tends to be an iterative process whereby data is updated and refined as new information becomes available.
4.0 Assess Vulnerability and Risks to Cultural Heritage Sites

Now that you have identified local cultural heritage sites, it is important to prioritize sites for management. It may be difficult for municipalities to actively manage all sites within their community – as such, local governments should use a risk-based management approach to identify key sites for monitoring or adaptive actions. In order to do so, municipalities should:

1. Add or update site locations and elevations to GIS database
2. Compare site locations to SLR models to determine degree of vulnerability. Refer to field condition observations for additional empirical data.
3. Rank sites according to heritage significance. This should include scientific value, cultural value, local importance and national importance of the resource.
4. Sites that are most vulnerable and of the highest heritage significance should then become the priority sites for management.

Municipalities may also consider conducting a formalized community risk assessment to determine which cultural heritage areas in the community should be prioritized for planning and adaptive actions. Climate change risk assessments consider the likelihood of climatic events occurring, and the associated negative consequences to the social, built, and ecological systems of a community. These types of assessments can be completed on cultural heritage impacts alone, or as part of a broader climate change adaptation strategy. ICLEI Canada’s Building Adaptive and Resilient Communities (BARC) framework provides a methodology for municipalities looking to conduct a community risk assessment as part of an overall climate change adaptation planning framework. Information on the risk assessment process can be found in Milestone 2.

5.0 Continually Monitor and Track Coastal Erosion

Vulnerable and significant sites should be continually monitored for erosion and major damage from storm events. This will help to determine the need and timing for adaptive measures in the long term. Some municipalities may already have coastal monitoring programs or procedures in place – these are likely led by municipal Public Works or Planning departments. However, there are also opportunities for local governments to partner with local Guardian Watchmen programs, hire First Nations archaeologists or Cultural Workers to monitor shoreline and sensitive sites as well. This is an excellent opportunity for Indigenous communities to be directly involved in the heritage management, to continue capacity building within Indigenous communities and maintain collaborative programming between First Nations and the municipality. If culturally appropriate, the monitoring stage can also be an opportunity for public education and citizen science initiatives. For large stretches of shoreline with little vegetation, local governments may consider monitoring shoreline erosion using aerial photographs (comparing historic and current shorelines), satellite imagery, drones and remote sensing to track shoreline erosion. [16]

[16] For an example of this from the Beaufort Sea refer to: O’Rourke, M. J. (2017). Archaeological site vulnerability modelling: the influence of high impact storm events on models of shoreline erosion in the western Canadian Arctic. Open Archaeology, 3(1), 1-16.
6.0 Determine Timing and Type of Adaptive Response

Once monitoring begins, the local government and cultural heritage working groups should determine when an adaptive response is necessary. It may require immediate response in cases when a cultural resource is found to need emergency salvage recovery or repair, or a response may happen only once a certain amount of the site has been lost to erosion. Appropriate responses will vary by location and be informed by local values, amount of erosion, provincial or territorial heritage requirements, and input from the cultural heritage working group and can include:

- Integrating cultural heritage values into community planning
- Constructing soft or hard protective barriers
- Relocating heritage resource
- Developing cultural tourism initiatives
- Restoring local traditional resource management features or practices
- Excavation and/or data recovery
- Creation of digital archive for future generation (photographic records, digital records, commemorative website, documentary film, photogrammetry)
- Creation of museum exhibit or interpretive display
- Partnering with stakeholders to develop citizen science or education initiatives

Keep in mind: we have a responsibility to manage cultural heritage for future generations. We may develop new technologies in the future that will be able to analyze and make use of archaeological and historical data that we can’t imagine now. Therefore, even if a good portion of a site may erode without recording or analysis, we need to ensure at the very least, that representative samples of the sites are retained for future scientific analysis and for generations to come who may see value in the resources that we can’t see.

7.0 Funding and Data Recovery and Conservation

It can be important to have emergency cultural heritage funds in place to deal with emergency heritage mitigation and salvage needs, which can be costly. Shoreline environments can also contain a high potential for fragile perishable materials that erode out of waterlogged or previously frozen sediment. Organic materials require special conservation treatment. Work with your local repository / museum and have a plan in place for conservation and long-term storage of emergency salvage projects.

The steps above provide a framework for creating a local cultural heritage management plan. The approach you take may be iterative and a local government may find that some of these steps resonate more strongly than others, but by following the general process of 1) identifying cultural heritage stakeholders and partners, 2) establishing a cultural heritage working group(s), 3) compiling baseline data by accessing existing records and completing survey for new sites, 4) assessing site vulnerability, 5) monitoring and tracking erosion, 6) establishing plans for culturally appropriate adaptive responses, and 7) maintaining heritage funding, a strong local cultural heritage management framework will be developed for managing cultural heritage sites in the face of sea level rise.
7. ADDITIONAL REFERENCES


8. RESOURCES

Links to provincial and territorial government cultural heritage pages are provided below, with a focus on archaeological, historic sites and traditional use/place names if available. We realize Alberta and Saskatchewan are not directly impacted by SLR but have included them here as some information in this guide may still be relevant to local governments in those provinces. Note that some provinces and territories include the management of paleontological resources in their heritage pages. While not a focus of this guide, paleontological resources also hold natural and cultural significance and heritage value. Local governments may wish to include paleontological resources in their cultural heritage planning.

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<td>Protect heritage resources during land and development and mining</td>
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## APPENDIX A: EXAMPLES OF CULTURAL HERITAGE THAT MAY BE IMPACTED BY SLR

### Tangible Cultural Heritage Sites

#### Archaeological Sites
- Shell Midden
- Root Gardens
- Clam (Sea) Gardens
- Lithic Scatters
- Intertidal sites
- Wet sites
- Rock Art (Petroglyph/Pictographs)
- Cairn
- Stone Alignment
- Burial site
- Plane wreck
- Town sites
- Quarry/Mine
- Trail
- Cemetery
- Fish trap
- Fish weir
- Earthwork
- Culturally Modified Tree
- Canoe run
- Shipwreck
- Platform
- Depression
- Earthwork
- Village sites
- Defensive sites
- Town Sites
- Houses

#### Historic Sites
- Lighthouse
- Homestead
- Log Cabin
- Town Site
- Hospital
- Farm
- Cemetery
- School
- Hotel
- Industrial
- Military
- Cannery
- Orchard
- Battlefields
- Rivers, waterways, canals
- Monuments
- Road
- Mine
- Trading Post
- Railway
- Building
- Whaling stations
- Locations commemorating people and events of national or local significance

#### Traditional Use Locations
- Hunting locations
- Trapping locations
- Fishing locations
- Gathering locations
- Shellfish harvesting locations
- Mariculture/Aquaculture terraces
- Intertidal gardens
- Terrestrial gardens
- Agricultural terraces and fields
- Ceremonial and spiritual locations
- Logging/Forestry location
- Corrals
- Caribou Fences
- Quarries
- Medicinal plants
- Named places
- Travel routes and trails
- Places connected to origin stories, family histories, historical events, legends, songs, dances, words, rituals, and other forms of Intangible Cultural Heritage
### CULTURAL HERITAGE LANDSCAPES

- Locally defined but can include intertidal and seaside landscapes that are affected by SLR
- Inland landscapes that may become home to relocated people and infrastructure

### INTANGIBLE CULTURAL HERITAGE

#### ORAL TRADITIONS

- Histories
- Stories
- Songs
- Poems
- Legends
- Myths
- Chants
- Etc.

#### PERFORMING ARTS

- Theatre
- Music
- Dances
- Parades
- Martial Arts
- Etc.

#### CONTEMPORARY SOCIAL PRACTICES

- Festivals
- Fair
- Derbies
- Food festivals
- Rituals
- Ceremonies
- Cultural events
- Etc.

#### KNOWLEDGE AND SKILLS ABOUT NATURE AND THE UNIVERSE

- Traditional resource management
- Husbandry
- Agriculture
- Mariculture/Aquaculture
- Traditional burning
- Architectural design
- Calendric systems
- Scientific knowledge
- Medicinal knowledge
- Etc.

#### TRADITIONAL CRAFTS

- Weaving
- Carving
- Embroidery
- Watercraft design
- Jewelry
- Tanning
- Garment manufacture
- Tool manufacture
- Sewing
- Etc.