



# Framework for monitoring and reporting ecological sustainability

## WHY WE MONITOR

**MONITORING** is a system of regular long-term observations, measurements, or knowledge used as a management tool to set and work towards conservation objectives for each NMCA. **We use the information from our long-term monitoring program for:**

**Decision making** on the protection of ecological and cultural resources and the management of marine uses and activities

**Assessing outcomes** of our management actions and investment against objectives

**National reporting** on the NMCA system in the state of Canada's Protected Areas and other public documents

## ECOLOGICAL SUSTAINABILITY

is defined as a state in which marine ecosystems are self-regulating and resilient, and whose structure, function and capacity to provide ecosystem services is not compromised.



### Indigenous knowledge and Management

Indigenous led initiatives and priorities are built into monitoring program from development (i.e. choice of indicators) to implementation (i.e. how and who collects information) to assessment.



### Climate change

Environmental Quality Indicators will inform climate change mitigation and adaptation, with NMCAs as sentinel sites in broader Ocean and Great Lakes tracking collaborations.



### Connectivity

Working in collaboration and coordination with regional programs and partners (Indigenous, other federal, provincial/territorial government, and non-governmental organizations, industry, academics and citizens) to strengthen on-going monitoring and research.

## WHAT WE MONITOR

For each NMCA, ecological sustainability is assessed through a suite of inter-connected, site-specific indicators under three themes: **Environmental Quality, Habitats and Species, and Marine Use.**

GUIDING PRINCIPLES

- Relevant
- Knowledge based
- Integrated regionally
- Flexible and consistent
- Efficient and sustainable use of financial and human resources

## ECOLOGICAL SUSTAINABILITY THEMES



### Environmental quality

The main environmental threats that affect species, habitats and other conservation values. These indicators may also be called stressors.



### Habitat and species

Priority and/or representative ecological and cultural elements, such as habitat, species or other values protected and conserved by an NMCA.



### Marine use

The human uses and activities such as fishing, shipping or tourism occurring in an NMCA that could impact species, habitats and other values if not managed. These indicators may also be called pressures.

## HOW WE ASSESS

Parks Canada works with multiple partners not only to monitor but also to assess the state of NMCAs at regular intervals to ensure the effective management of these places. Monitoring data, observations, and knowledge on each indicator are assessed with experts and knowledge holders to determine status and trend for each indicator, using national grading statements. A confidence level in the assessment is also determined, to provide more context.

National reporting combines individual site assessments to inform Parks Canada, its partners and Canadians on the state of indicators, and on priority issues and challenges facing national marine conservation areas from coast-to-coast to coast, across the network of NMCAs.

NMCA ECOLOGICAL SUSTAINABILITY INDICATORS		
STATUS	TREND	CONFIDENCE
	↑ Improving	● Very High
	↔ Stable	● High
	↓ Deteriorating	● Medium
	? Undetermined	● Low

## INDICATOR ASSESSMENT

INDICATOR CATEGORY	PACIFIC	ARCTIC	GULF/ATLANTIC	GREAT LAKES	
	SITE L	SITE M	SITE N	SITE O	
ENVIRONMENTAL QUALITY	Oceanography	↔ ●	↓ ●	↔ ●	↓ ●
	Invasive Species	↔ ●		↓ ●	↔ ●
	Nutrients and Algae			↓ ●	↓ ●
	Contaminants		↓ ●		
	Ocean Noise	↔ ●	↓ ●	? ●	
	Marine litter and plastics	↔ ●			? ●
HABITAT AND SPECIES	Coastal habitats		↔ ●	↓ ●	↓ ●
	Subtidal / Benthic habitats	↑ ●			
	Pelagic habitats	↔ ●		↓ ●	↔ ●
	Sea Ice		↓ ●		
	Marine mammals	↔ ●	↓ ●	↔ ●	
	Fish	↔ ●			↑ ●
MARINE USE	Marine Birds		↔ ●	↔ ●	↔ ●
	Invertebrates	↔ ●			
	Coastal Development				↑ ●
	Commercial Fisheries	↑ ●		↔ ●	
	Recreational Fisheries				
	Marine Tourism and Recreation	↔ ●		↑ ●	
Shipping		↓ ●	? ●		
Special Management Areas			↑ ●	↑ ●	



## INDIGENOUS RELATIONS

Indigenous partners play key roles in the protection and presentation of natural and cultural heritage in NMCAs. Five principles that guide a more inclusive approach to site management are used as indicators to assess the state of work with Indigenous partners.

## EXTERNAL RELATIONS

Parks Canada promotes public awareness, appreciation and support for marine heritage. Two indicators assess progress in actively engaging Canadians in marine conservation.

## VISITOR EXPERIENCE

At NMCAs, visitors discover and experience the marine world. Parks Canada uses four indicators to evaluate the state of visitor experience. Recent Visitor Information Program data shows that 94% of visitors to NMCAs are satisfied with and enjoyed their visit.

## CULTURAL RESOURCES

NMCAs conserve cultural heritage that reflects past and present use by Indigenous peoples and coastal communities. Four indicators assess the condition of cultural resources.

## COLLABORATIVE MANAGEMENT

Collaborative governance is recognized as key to achieving NMCA conservation objectives given the inherent multi-jurisdictional nature and the engagement requirements of coastal communities associated with NMCAs (i.e. Advisory committees). Where an NMCA is established under a cooperative management agreement with one or more Indigenous communities, success of cooperative management mechanisms forms a crucial part of overall governance.

## COASTAL COMMUNITIES

Coastal community well-being indicators represent and measure the social-cultural-economic benefits related to the objectives of NMCA establishment.

