



Government
of Canada

Gouvernement
du Canada

OCEANS PROTECTION PLAN

Draft National Framework
Proactive Vessel Management

Executive Summary

The *National Framework for Proactive Vessel Management* is a joint effort by the Government of Canada, Indigenous partners and marine stakeholders. It provides guidance for a proactive vessel management (PVM) approach in local waterways and lays out an approach to address vessel traffic issues cooperatively with consensus-based decisions.

The framework also promotes a renewed relationship with Indigenous partners through collaboration based on respect, cooperation and the recognition of rights.

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1.0 Preface

Canada's oceans are unique ecosystems and valuable economic resources. It's a shared responsibility to keep oceans healthy and competitive while ensuring users' safety.

Indigenous communities have raised concerns about marine safety and the impacts of marine shipping on ecologically sensitive marine areas.

In response, the Government of Canada has launched the Proactive Vessel Management (PVM) Initiative, as part of the Oceans Protection Plan.

The PVM Initiative acknowledges Indigenous communities as important partners in marine safety, along with:

- provincial, territorial, and municipal governments
- the marine industry
- non-government organizations (NGOs)
- academia

The framework provides guidance on using a PVM approach nationally, while allowing for regional differences. The framework is **complementary to, but does not change or replace** existing regulatory responsibilities.

The first draft was based on engagement activities, starting in September 2017, which included:

- in-person meetings, such as the Oceans Protection Plan Dialogue Forums
- a discussion paper posted on the ["Let's Talk – Oceans Protection Plan"](#) website in August 2018
- the draft National Proactive Vessel Management Framework workshop in September 2018

Participants from Canada's three coasts, as well as American and European experts, took part during the workshop in creating the framework's initial content.

Over the next several months the framework will be assessed and refined through pilot projects and engagement efforts. Once the framework is finalized, it will guide the use of PVM in waterways across Canada.

The document is intended to keep evolving through practice and application.

2.0 A National Framework for Proactive Vessel Management

The national framework sets out the concept and approach for PVM, based on a common vision, goals, and principles. It provides guidance on implementing each of the six components of the framework.

Transport Canada considered information from reviewing waterway safety committees, other forums in Canada, and other nations which have achieved

positive results and used this information to develop the framework. Appendix I gives examples of these. Recommendations and tips for implementing the framework have been gathered into a toolkit in Appendix II.

2.1 What is Proactive Vessel Management?

Proactive Vessel Management is a term developed by the Government of Canada. It refers to the collaboration of multiple parties to:

- resolve marine safety issues in local and regional waterways and conflicts related to commercial shipping
- protect the marine environment

These solutions are developed **cooperatively** and adopted **voluntarily**.

2.2 Vision

The framework envisions partnership and collaboration between:

- the federal government
- Indigenous partners
- coastal communities
- provincial, territorial and municipal governments
- the marine industry
- Non-Government Organizations (NGOs), academia and others

The vision is to keep Canada's waterways safe and clean, while preserving traditional livelihoods and realizing potential economic opportunities.

2.3 Goal

The goal of the framework is to enable dialogue and collaboration to reduce conflicts, improve safety, and provide environmental and cultural protection in local waterways.

2.4 Principles

The framework is grounded by six principles, which were identified through discussions with interested parties. Proactive Vessel Management must:

1. Ensure opportunities for effective communication, education, and knowledge exchange to enhance transparency, increase awareness of concerns, and boost confidence in marine safety;
2. Respect the rights, title, and authorities of Indigenous peoples;
3. Considers responsible economic development in the context of sound environmental stewardship, community livelihoods, and cultural well-being;
4. Implement cooperative and flexible ways to address vessel traffic concerns, which complement existing regulations;

5. Promote transparent consensus-based decisions that build and maintain trust and cooperation; and
6. Ensure that decisions are based on evidence supported by traditional and local knowledge and Western science.

These principles are intended to guide all aspects of the framework and its use.

3.0 Framework Components and Considerations for Implementation

Building on the six principles, the framework is divided into six key components and offers considerations for how to use each one. The components are:

- governance
- consensus-based decisions
- engagement
- issue identification and evidence
- cooperative measures
- monitoring, adaptation and evaluation

The following sections describe the components.

3.1 Governance

The framework encourages establishing local or regional governance structures, or using structures already in place.

Governance structures set clear, measurable goals while using partners' and stakeholders' expertise to find cooperative solutions to vessel traffic issues. The structures' terms should clearly state the:

- purpose, mandate and scope of work;
- shared goals, such as whether the structure will address a single, one-time issue, or deal with various issues on an ongoing basis;
- criteria for membership, focusing on equity and inclusivity;
- functions, roles and responsibilities of participants (e.g., chair, members, secretary, treasurer);
- approach for working together, making decisions and resolving conflicts
- timelines, and resources, including potential funding or other supports
- meeting organization and frequency;
- accountability and reporting;
- provisions for in-camera dialogue and participation by observers and the public;
- record-keeping; and
- approach to assess the ongoing need for the structure and the work, and to dissolve the structure if appropriate.

Organizers should formally record these items in terms of reference, by-laws or other guidance document.

3.1.1 Consensus-based decisions

The PVM approach is based on arriving at decisions through consensus. This way of making decisions helps participants find mutually acceptable solutions. Under this model, several questions can be considered:

- How do participants support consensus-based decision-making?
- Who participates in the approach?
- How do participants ensure that everyone has a voice at the table?
- How is the information given by participants and stakeholders included in decision making?
- What happens when consensus cannot be reached?

The toolkit provides more guidance for decision making.

3.2 Engagement

As participants work to identify issues and solutions, it may be necessary to engage with others who are not part of the governance structure at different points throughout the process. Considerations for engagement include:

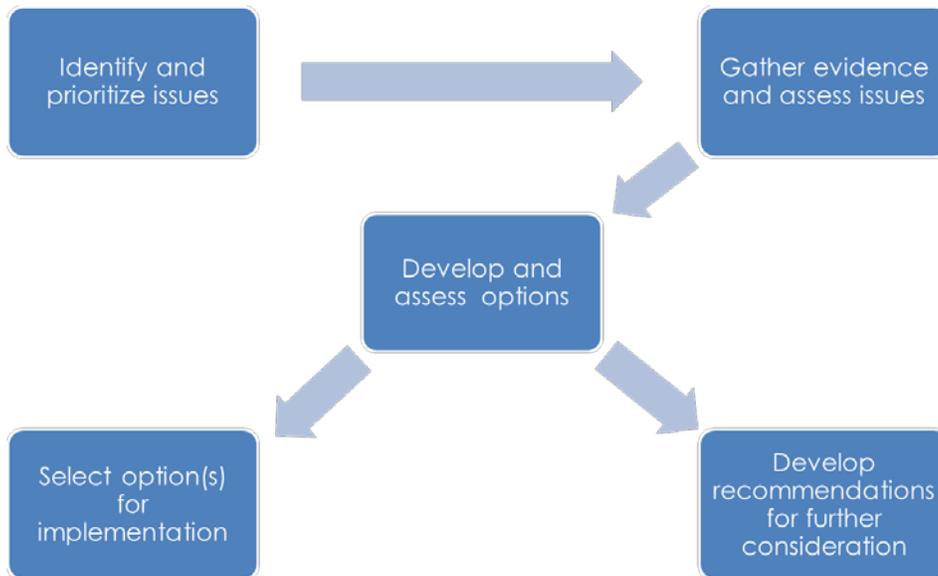
- What is the purpose of the engagement?
- How are the rights of those affected by decisions respected?
- Do Indigenous partners have the capacity and funding to take part effectively from the outset?
- What is a formal leadership role for Indigenous peoples in the context of nation-to-nation and Inuit-Crown relationships?
- Do barriers to participating exist, such as funding, language, time, travel, or technical skills? Are the timeframes reasonable?
- Have the full range of interested and affected parties been identified?
- How is trust built and maintained among our members, partners and stakeholders?

Effective engagement uses various ways to get the widest possible participation from potential stakeholders and partners. It respects concerned parties' rights and gives them various ways to participate, including public meetings and online contact.

The toolkit gives more information on engagement.

3.3 Issue identification, evidence, and options

The PVM approach identifies and prioritizes issues, gathers evidence and develops potential solutions, as shown in the graphic below.



3.3.1 Identifying and prioritizing issues

It is important to clearly describe and document the issues that participants will examine. Defining the issues, their location and the severity of their impacts can help establish the issues' relative importance and priority.

It is important to note that not all issues are appropriate for a PVM approach. Participants will need to be strategic about which issues to address and may wish to define scope in the terms of reference.

To prioritize issues, participants may ask:

- Do the issues fall within the scope defined by the terms of reference?
- What is the approach/criteria for deciding the priority of issues?
- What information or evidence needs to be considered? For example: Traditional knowledge or IQ, Western science?
- Who is involved? Who else is working on the issue? Is the issue being addressed through another forum or approach?
- Are there constraints such as time, capacity or financial resources?

3.3.2 Gathering evidence and assessing issues

Evidence is needed to ensure that the issue is understood by all, its impacts can be assessed, and potential solutions can be discussed. The information and evidence required will depend on the region and the issue.

Considering multiple sources of information is essential for good decision-making. The government acknowledges and values Traditional Knowledge, in all its expressions, and *Inuit Qaujimajatuqangit* (IQ).

IQ is a body of knowledge and cultural insights of the Inuit into nature, humans and animals. Traditional knowledge, IQ, and Western knowledge complement each other, as community values in decision-making.

Considerations for gathering evidence and assessing issues include:

- What types of evidence should be included or excluded?
- What information is available, and where is it housed? (e.g., community, government sources, academia, non-governmental organizations, industry associations, etc.)
- How will Traditional Knowledge, IQ, and Western science be integrated?
- Is there enough information and evidence to support a decision?
- Are there any gaps in the research?
- Is there a cost to acquiring this information?
- How will information and evidence be managed and stored so that it respects confidentiality?

The toolkit has examples of information and evidence.

3.4 Cooperative measures

The framework contemplates cooperative measures that are adopted voluntarily. These measures complement rather than conflict with existing regulations and legislation. They promote safe, efficient, and environmentally responsible marine operations that respect regional concerns for sustainability, livability and prosperity. Examples have shown that measures developed cooperatively are likely to result in compliance. They may be implemented quickly and adjusted rapidly in response to new circumstances or information.

A range of options may be considered and assessed. Participants may lend their perspectives, resources, and authorities to find these solutions. More than one action may be appropriate.

Potential solutions must also be thoroughly assessed for:

- risks to safe navigation;
- social and economic implications; and
- other impacts.

Cooperative measures are likely to focus on:

- improved communication between waterway users;
- information and outreach campaigns;
- voluntary restrictions on speed and on transit routes;
- daytime or night time limits on activities; and
- seasonal or temporary restrictions such as during fisheries openings.

Appendix I lists case studies with examples. The toolkit provides sample criteria for assessing options.

As participants work through an issue it may become clear that cooperative solutions are impossible because of:

- limited resources;
- lack of authority to implement measures;
- challenges over jurisdiction; or
- not being able to reach consensus.

In such cases, participants may wish to develop recommendations for decision makers.

3.5 Monitoring, adaptation and evaluation

Measures will need to be monitored and assessed:

- for their impacts;
- for their effectiveness;
- to identify any unforeseen consequences; and
- to make changes as needed.

Monitoring ensures that both quantitative and qualitative information is collected and analysed regularly while the measure is in place. Participants bring a range of tools and capacities that can be used to carry out these activities. Information could also be collected from a range of affected stakeholders.

Participants may consider:

- how to track and assess impacts or changes resulting from the measure (intended and unintended);
- what the reasons are behind any change;
- how to interpret changes, such as people's perceptions and experiences; and
- using key performance indicators that are relevant, specific and measureable.

The toolkit gives examples of indicators that can be used in monitoring.

Measures should be periodically reviewed to assess whether they are achieving their purpose. The review would provide the information to adjust measures, if needed, and assess success.

The governance structure should clearly identify who is responsible for monitoring and evaluation.

Participants should communicate the evaluation results widely to key audiences.

4.0 Resources and capacity

The success of using PVM relies on having enough resources and capacity to support:

- full participation of all involved and affected parties;
- data gathering, research and technical analysis; and
- assessments of navigational and socio-economic impacts, if needed.

Use of the framework requires receiving ongoing or project-specific funding from the public, private or other sectors.

Appendix I: Case studies

Puget Sound Harbor Safety Committee

Background

The Puget Sound Harbor Safety Committee (PSHSC) was created in 1997 by stakeholders who wanted to improve marine safety and protect Puget Sound. The committee was formally incorporated as a non-profit organization on December 13, 2000.

Mission and purpose

The committee's mission is to provide a proactive forum that identifies and implements measures, beyond those required by law, for secure, and efficient use of Puget Sound and nearby waters.

The committee's purpose is to join the marine interests of Washington State in one forum to act together. Other functions include:

- improving operational and environmental safety for Puget Sound and nearby waters;
- being a resource for governmental bodies and politicians on safety issues related to marine operations and the environment;
- supporting programs for marine and environmental safety; and
- ensuring that safety and environmental measures are coordinated with security activities.

Geographic scope

Puget Sound extends about 100 miles southward from where it meets the Strait of Juan de Fuca at Admiralty Inlet to Olympia, Washington. "Puget Sound" refers to the general region around the sound.

The committee is concerned with the region and all navigable waters of Northwest Washington.



Source: Puget Harbor Safety Committee

Organizational structure and governance

Managing board of directors

- All voting members make up the governing body;
- The board has four elected officers: a chair, vice chair, secretary and treasurer; and
- Elected officers have a two-year term.

Standing committees and ad-hoc committees

- The PSHSC chair establishes the committees and appoints the committee chairs;
- The committee chairs appoint committee members;
- Committee chairs must choose members with expertise who will provide a broad perspective and embrace diverse viewpoints;
- Committee members may or may not be PSHSC members;
- Standing committee chairs may create subcommittees; and
- Adhoc committees may be created temporarily to do a specific task.

Organization of meetings

- The PSHSC meets every other month, starting with the annual meeting in February;
- All meetings are open to the public;
- The chair prepares and distributes the agenda before scheduled meetings; and
- The PSHSC strives to operate by consensus.
 - If there is a vote, a two-thirds majority is needed for approval

Funding

Members fund their own participation.

Membership

The committee consists of voting members and non-voting advisory members.

Voting members represent groups with an interest in marine operations and environmental safety. Such groups include:

- | | |
|-------------------------------|------------------------------|
| • commercial fishing industry | • passenger vessel operators |
| • environmental groups | • petroleum shippers |
| • steamship lines | • tug and barge operators |
| • public port authorities | • pleasure boat users |
| • information services | • Puget Sound pilots |
| • labour organizations | • state ferry system |
| • American treaty tribes | • the public |

Advisory members represent these government agencies:

- U.S. Coast Guard Captain of the Port
- U.S. National Oceans and Atmospheric Administration
- U.S. Department of Transportation Maritime Administration
- U.S. Army Corps of Engineers
- US Navy
- Washington Department of Ecology
- Executive Secretary of the Marine Exchange of Puget Sound

Safety measures

The committee has carried out a number of safety measures by developing standards of care, contained in the Puget Sound Harbor Safety Plan.¹ The standards complement existing legislation.

The standards of care, listed below, complement and supplement existing federal, state, and local laws and regulations to advise mariners about unique conditions and requirements they may face in Puget Sound and nearby waters.

- Anchoring – the expectations of anchored vessel owners and operators during various weather conditions.
- Bridge team management - what is involved in bridge team management, communications procedures and the expectations of vessel owners, operators and masters.
- Bunkering operations – guidelines that go beyond federal regulations to reduce risks to the environment during bunkering.
- Dead ship tow plans – good marine practice for these unusual tows, to reduce safety risks.
- Equivalent failures and equivalent levels of safety –guidelines for making effective decisions to ensure an equivalent level of safety during a mechanical or operational deficiency.
- Heavy weather – sound operating practices to reduce risks posed by heavy weather (mooring policies, hazards to navigation, reporting process).
- Hot work – outlines procedures for hot work operations aboard ship.
- Lightering – guidelines to reduce risks to the environment during lightering
- Line handling procedure guideline for taking lines at grain terminals – a safe and efficient method for taking mooring lines at grain terminals in Puget Sound.
- Propulsion loss prevention – measures that must be taken by vessels arriving in Puget Sound ports, to reduce the threat posed by propulsion losses.
- Rosario towing vessel operations – alerts towing vessel owners and operators to the dangers associated with transiting Rosario Strait, and establishes good marine practice to mitigate associated risks.
- Tanker escort – guidelines for tanker escorts.
- Towing vessel operations – explains the standards of care in the American Waterways operator’s Responsible Carrier Program.
- Under keel clearance – minimum clearance standards for vessels when underway or anchored.

¹ Standards of care refer to procedures and practices beyond regulatory requirement that experienced and prudent maritime professionals follow to ensure safe, secure, efficient and environmentally responsible maritime operations.

Other highlights

The Makah Tribe is the only Indigenous partner involved in the committee. However the committee is exploring ways to get other treaty and non-treaty Tribes with interests in the region involved. State governments are not obligated to uphold treaty-protected rights so federal agency observers have been vital in upholding these rights.

The committee has seen good success with consensus-based decision-making. Issues rarely, if ever, go to a vote.

The committee has also seen high compliance with its standards of care. The standards reflect best practices established by marine experts with local knowledge, and address issues outside the arduous process of regulation. Insurance companies also follow these standards, which further motivates the industry to comply to avoid affecting their insurance.

Links to more resources

[Puget Sound Harbor Safety Committee website](#) (includes links to meeting summaries, Harbor Safety Plan, bylaws)

Aleutian Islands Waterway Safety Committee

Background

In 2010, the National Fish and Wildlife Foundation, U.S. Coast Guard and Alaska's Department of Environmental Conservation launched the Aleutian Islands Risk Assessment. This was a multi-phase risk assessment of marine transportation in the Bering Sea and the Aleutian Archipelago. Its goal was to find ways to avoid oil spills from large vessels.

The assessment was funded by the settlement from the 2004 M/V Selendang Ayu grounding and oil spill. The final report was tabled in 2015. It included a recommendation that a diverse group of waterway users continue to meet to share information and find ways to improve safety for vessels.

Over 40 people from diverse interests in the region's marine operations held an exploratory meeting in 2017. Participants agreed on the value of creating a non-profit Aleutian Islands Waterway Safety Committee.

The U.S. Coast Guard organized a convening workgroup which created the committee's structure and selected its founding board of directors.

Mission and purpose

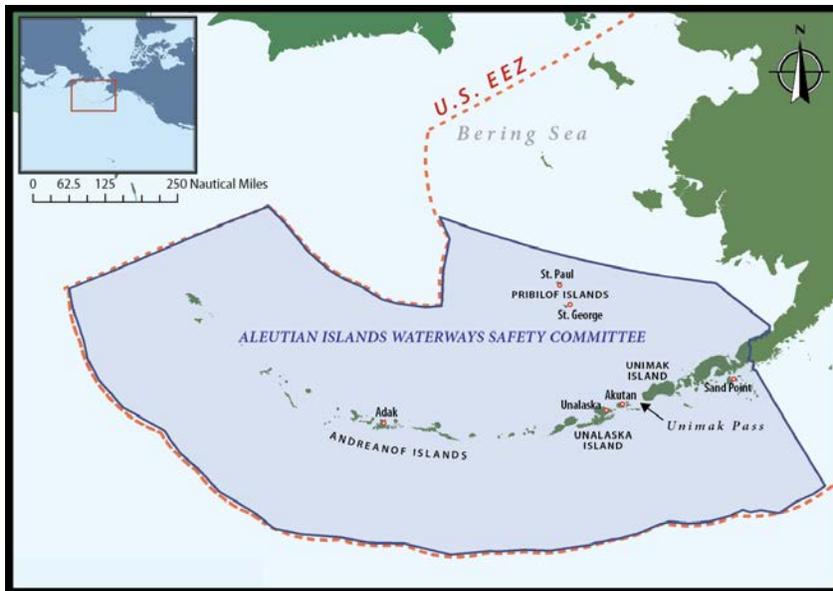
The committee's mission is to enhance safe and efficient maritime operations in the Aleutian Islands by supporting information exchange among mariners and other stakeholders, and creating and promoting best practices.

The committee's purpose is to provide a forum where mariners, resources users, and the public may discuss waterway safety and management issues and establish best practices for both local and transiting vessels.

The committee is responsible for developing, updating, and distributing a Waterways Safety Plan for the Aleutian Islands Waterways.

Geographic scope

The committee's geographic scope includes the area inside the boundaries of the Aleutians East Borough and the Aleutians West Coastal Resource Service Area, including adjacent shorelines and waters, to the outer boundary of the U.S Exclusive Economic Zone. The map below shows this area.



Source: Aleutian Islands Waterways Safety Committee

Organizational structure and governance

- Corporate board of directors
 - The oversight and administration body
- Aleutian Islands Waterway Safety Committee
 - The deliberative body responsible for carrying out the organization's mission.
 - The committee meets as needed.
 - All meetings are open to the public and there is a set period for public comment.
 - In-person participation is encouraged, but remote participation is possible (example, teleconference or webinar).
 - The committee selects a Chair, Vice Chair, and Secretary.
- Work Groups
 - These are either standing groups with specific, long-range goals or ad-hoc work groups with short-term goals.
 - The two standing committees are the Navigation Safety Work Group and the Waterways Safety Plan Work Group.
 - Members can include AIWSC members or subject matter experts.
 - Members are nominated by the work group chair and confirmed by the committee.
 - Work groups meet as needed.
 - Meetings are not open to the public, but a meeting summary is posted on the committee's website.

Governing rules are outlined in the committee's charter and bylaws. Members strive for consensus on decisions and actions of the committee. Work groups present their recommendations to the committee for approval.

Any official action or publication requires adoption by a simple majority of a quorum of the committee. If there is a vote, each membership category has one vote, which is cast by their primary member or alternate.

The Chair develops agendas, distributes them to members, and posts them on the committee website at least a week before meetings.

Funding

The committee was funded through 2018 by a grant from the National Fish and Wildlife Foundation to Nuka Research Group, which handles organizational development and initial operations. The Board is now looking at longer-term funding.

Membership

The committee has voting and non-voting ex-officio members. The board appoints a primary voting member and an alternate for each group listed below:

Marine vessel operations

- At-sea fish processors
- Commercial fishing
- Passenger vessels
- Cargo ships
- Tank vessels
- Barges (including cargo and petroleum) and associated tugs

Ports and harbours

- Port Director
- Harbourmaster
- Local government
- Terminal operators

Response operations

- Oil spill response
- Protection and Indemnity clubs
- Salvage

Others

- Alaska native interest
- Conservation organizations
- Marine pilots
- Ships' agents
- Subsistence users
- Director of the committee's managing board
- Vessel monitoring and tracking

Non-voting ex-officio members include representatives of the:

- Alaska Department of Environmental Conservation
- Alaska Department of Fish and Game
- National Oceanic and Atmospheric Administration
- North Pacific Fisheries Management Council
- U.S. Fish and Wildlife Service
- U.S. Coast Guard

Safety measures

The committee has not yet implemented any measures because it has only been active since 2017. The Aleutian Islands Risk Assessment Report, which recommended creating the committee, did result in the implementation of risk reduction measures such as:

- enhanced vessel monitoring and towing; and
- five Areas to be Avoided (ATBA) in the Aleutian Islands.

These ATBAs were later adopted by the International Maritime Organization.

Other highlights

The Aleutian Islands Risk Assessment Organization developed the ATBA recommendations in just over a year. This organization was distinct from the later AIWSC committee but made up of the same key members. It also used consensus-based decisions.

The organization was able to quickly arrive at its recommendations for ATBAs because of its collaborative, consensus-based structure. All relevant players worked through potential disagreements through discussions early on, resulting in overall support for the final recommendations.

The committee is the largest of its kind in the country. It covers the entire U.S. portion of the 1200-mile Aleutian Island chain, in contrast to harbor safety committees to the south that deal only with one harbour. The committee also stands out for its considerable representation of Alaska's native tribes, who are well respected in their role as environmental and cultural stewards.

Links to more resources

[Aleutian Islands Waterway Safety Committee Website](#) (includes links to meeting summaries, charter, bylaws)

Working Group on Marine Traffic and Protection of Marine Mammals in the Gulf of St. Lawrence (G2T3M)

Background

A multidisciplinary team of experts from the federal, commercial shipping, and marine conservation sectors came together to establish the Working Group on Marine Traffic and Protection of Marine Mammals (G2T3M) in April 2011. It was a response to growing concerns about the risks of collision of whales and ships in the St. Lawrence Estuary. People were especially concerned about the St. Lawrence Blue and Beluga species, which have critically low numbers. Organizers are using a 'systems approach' to bring all affected parties together to discuss these risks and look for sustainable solutions.

Mission and purpose

The working group was formed to propose concrete ways to reduce risks to marine mammals related to shipping traffic in the Gulf of St. Lawrence, while maintaining safe commercial shipping.

The working group is guided by three principles:

- Protection of marine mammals;
- Safety of people and ships; and
- Sustainable development of commercial shipping.

The working group has an operating framework with eight components:

1. Consultation of navigation stakeholders;
2. Seeking consensus;
3. Innovation in environmental management measures and consolidation of best practices;
4. Acquisition and sharing of knowledge;
5. Dissemination of information, awareness and commitment;
6. Effective evaluation and adaptive management;
7. Scientific standards; and
8. Legislative measures.

Geographic scope

The working group's scope is the Saguenay-St. Lawrence Marine Park (see map below).

Organizational structure and governance

Since 2013, the working group has been a subcommittee of the Comité Concertation Navigation (CCN). The CCN was founded in 1997 to provide a venue for different parties to work together on managing shipping activities on

the St. Lawrence. Although the working group is affiliated with the CCN, its work is independent.

Structure

- The working group meets two to three times a year.
- The chair prepares and distributes the agenda before scheduled meetings.
- Subcommittees may be created to work on specific issues.
- Decisions are reached by consensus rather than by majority.
- Dissenting positions are recorded in meeting minutes.

Funding

Parks Canada and the Department of Fisheries and Oceans Canada covers operational and research-related expenses for the group.

Members fund their own attendance. This has not raised issues because meetings are in Québec City and most members live nearby or travel a short distance from Montreal.

Membership

There are four different membership types:

- member (attends meetings, brings expertise, has a right to speak and take part in decisions);
- co-chair (same rights as members);
- resource person (attends meetings, brings specialized expertise in a field of interest that touches the issue being addressed, right to speak and comment on documents and materials generated by the working group);
or
- observer (may attend meetings and has access to committee products)

Participating organizations are listed below.

Member

- Marine industry:
 - St. Lawrence Ship operators
 - Lower St. Lawrence Pilotage Corporation
 - Shipping Federation of Canada
- NGOs:
 - Group for research and education on marine mammals
 - St. Lawrence Economic Development Council
- Academia:
 - University of British Columbia
 - Université du Québec en Outaouais

Co-chair

- Parks Canada
- Fisheries and Oceans Canada

Resource person

- Transport Canada
- Fisheries and Oceans Canada
- Parks Canada
- Canadian Coast Guard

Observers

- Green Marine
- Marine Mammal Ecowatch Network

The makeup of the working group is adapted according to needs and priorities. When a seat becomes vacant, the outgoing member chooses a replacement. Otherwise the co-chair appoints a new member after seeking consensus that the person properly represents the interest group.

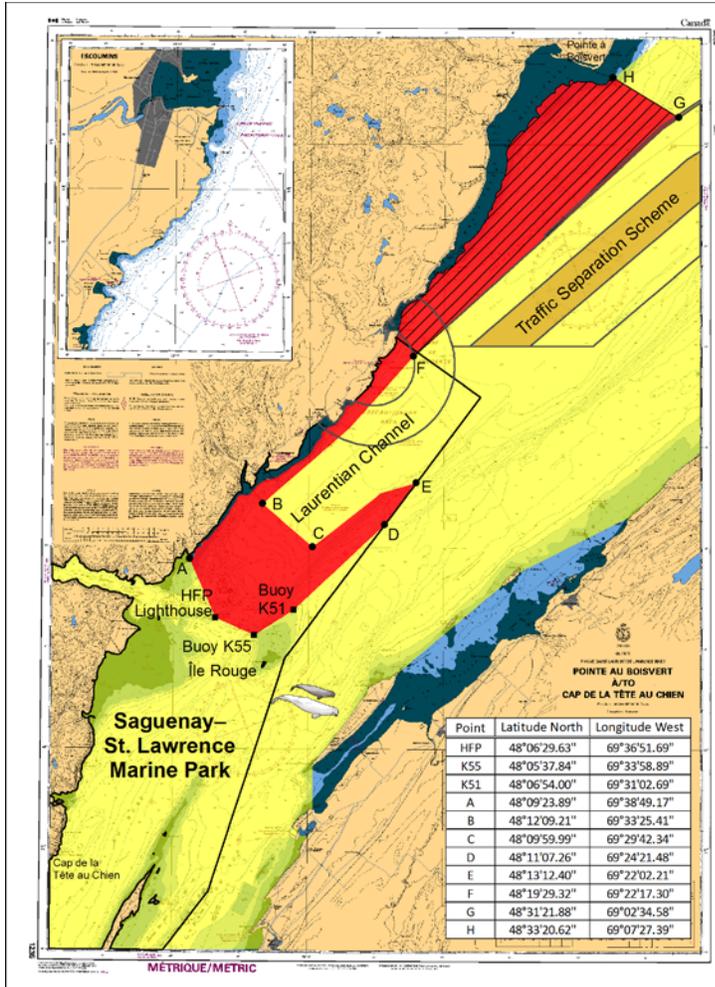
Safety measures

After less than two years of data gathering and analysis, the working group recommended voluntary measures to reduce ship strikes and the impact of noise on whales. The Canadian Coast Guard published the measures in the Notice to Mariners, Eastern Edition, May 2013. The provisional measures have been in effect since then.

These measures apply to commercial vessels and cruise ships navigating the St. Lawrence Estuary between point à Boisvert and cap de la Tête au Chien. They include a caution area with increased vigilance recommended, an area of reduced speed of 10 knots or less at the head of Laurentian Channel off Tadoussac, and an area to avoid, downstream of Les Escoumins (see map below). Ships are instructed to take these measures only when it is safe to do so.

Because of the committee's work, ship operators have voluntarily reduced speeds and avoided areas with high numbers of whales. Average speeds dropped significantly from 12.3 knots to 10.3 knots between August 2012 and August 2013 in the speed reduction zone. This speed reduction resulted in a nearly 40% decrease in the risk of collisions, which is very close to the maximum potential target of 55%.²

² <http://www.gc.dfo-mpo.gc.ca/infoceans/201410/article7-eng.html>

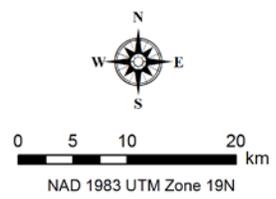


Voluntary protection measures to reduce the risk of ship strikes with whales and to minimize the impact of noise on beluga whale

Provisional measures in effect from May 1st to October 31st 2015

- Caution area**
presence of whales
- Slow down to 10 knots* or less area**
Important whale feeding area
- Area to be avoided; if impossible, slow down to 10 knots* or less**
Important blue whale area
- Sensitive area highly used by beluga herds composed of females and young**
It is recommended to navigate in the Laurentian Channel north of Île Rouge

* 10 knots refers to speed through the water



Other highlights

The high rate of compliance with the voluntary measures may be credited to the working group's:

- building relationships and sharing perspectives among diverse members, leading to a better understanding of organizations' mandates and constraints, and collaboration based on trust;
- evidence-based decision-making, through collecting scientific data and using modelling and GIS tools, resulting in sound, credible recommendations; and
- weighing trade-offs between economic costs and conservation gains, while keeping navigational safety in mind.

A key message the group has heard is the importance of using existing structures. As the group gradually expanded, stakeholders have expressed a desire to avoid duplication and confusion by keeping this project within the working group structure instead of creating a separate body.

The group is planning to a peer review of these measures in 2020 with a view to having them adopted by the International Maritime Organization.

An ongoing challenge is finding how best to assess compliance and overall success in achieving the group's purpose.

Links to more resources

- [Notice to Mariners Publication Eastern Edition 05/13](#)
- [A voluntary conservation agreement reduces the risks of lethal collisions between ships and whales in the St. Lawrence Estuary \(Québec, Canada\): From co-construction to monitoring compliance and assessing effectiveness](#)

[Chion C, Turgeon S, Cantin G, Michaud R, Ménard N, Lesage V, Parrott L, Beaufile P, Clermont Y, Gravel C. (2018)]

Appendix II: PVM Toolkit

1. Marine vessel traffic in Canada

To better understand the PVM as an Oceans Protection Plan Initiative, the following provides an overview of how marine vessel traffic is managed.

1.1 Responsible authorities

The federal government is responsible for regulating and managing commercial shipping and navigation. The main federal authorities responsible for managing vessel traffic in Canada include:

- [Transport Canada](#)
- [Canadian Coast Guard](#)
- [Pilotage authorities](#)
- [Canada Port Authorities](#)
- [International Maritime Organization](#)

Transport Canada

Transport Canada is the lead federal department for marine safety. It:

- promotes efficient marine transportation;
- promotes safe, secure and sustainable marine practices;
- oversees marine infrastructure; and
- helps protect the marine environment.

Its key responsibilities include:

- safe operations, inspections and certification of foreign and domestic vessels;
- training and certification of seafarers; and
- setting requirements for preventing pollution from ships.

Canadian Coast Guard

The Canadian Coast Guard:

- ensures the safety of all mariners on Canadian waters;
- protects Canada's marine environment; and
- supports economic growth through the safe and efficient movement of maritime trade in and out of Canada's waters.

Its key responsibilities include:

- conducting marine search and rescue;
- overseeing the responses to oil spills;
- icebreaking; and
- installing and maintaining aids to navigation and to Marine Communications and Traffic Services.

Pilotage authorities

Pilotage means using qualified experienced mariners aboard-ship who use their knowledge of local waters to safely guide vessels to their destination.

Pilotage is mandatory in some coastal waterways across the country, especially in busier waterways or where vessels travel close to shore.

Canada has four pilotage authorities which are responsible for providing safe pilotage:

- Atlantic
- Laurentian
- Great Lakes
- Pacific

Canada Port Authorities

Canada Port Authorities operate key ports across the country. The authorities:

- provide marine infrastructure;
- ensure that marine traffic and cargo move safely and efficiently; and
- set traffic control measures such as:
 - speed, wind and visibility restrictions;
 - minimum clearances between the bottom of the keel and the seabed;
 - time and tide windows for vessel transits; and
 - anchoring controls and restrictions for different types and sizes of vessels.

1.2 International Maritime Organization

Most commercial, deep-sea trading vessels in Canadian waters are registered in foreign countries. Because shipping is a global activity, marine safety and vessel traffic management need to be consistent. Therefore, the International Maritime Organization (IMO) plays the most important role in managing vessel traffic worldwide.

The IMO is a specialized agency of the United Nations. It:

- sets global standards for safe, secure and environmentally sound international shipping; and
- creates a fair, effective and worldwide regulatory framework for the shipping industry.

Over 50 IMO conventions apply to all vessels operating in Canadian waters, and to Canadian vessels operating worldwide. Domestic laws and regulations enforce these conventions.

1.3 Key components of the system

A system of international and Canadian laws, regulations, programs and services manages vessel traffic. These legislation and programs cover all aspects of shipping and navigation, including:

- vessel operation (speed, routing, "rules of the road" and watch keeping)
- aids to navigation

- discharges (ballast, bilge and sewage)
- air emissions
- communications equipment and procedures
- standards for crew training and certification
- vessel design and construction
- safety equipment

1.4 Regulatory framework

Transport Canada is the main authority responsible for regulatory measures under the *Canada Shipping Act, 2001*. The department regulates Canadian and foreign vessels in Canadian waters extending 12 nautical miles offshore. This area is called the territorial sea.

However, Canada also has obligations to foreign vessels under the United Nations Convention on the Law of the Sea (UNCLOS). The most important of these is the right of foreign vessels to “innocent passage.” This means that foreign vessels may travel through our waters as long as they do not interfere with the peace, good order, or security of Canada.

Waters extending 200 nautical miles beyond the territorial sea form Canada’s exclusive economic zone. While Canada controls fishing and natural resource development in the zone, any traffic management measures must be consistent with UNCLOS.

Canada also manages some waters cooperatively with the United States, such as the straits of Haro and Juan de Fuca in British Columbia’s Salish Sea. The two countries take a joint approach to managing vessel traffic for these waters.

2. Guidance for PVM Implementation

2.1 Nominating a chair

Considerations for nominating a chair:

Integrity – having high personal standards such as honesty, reliability, and commitment to the role

Leadership – being able to influence others without dominating, and recognizing that each member is there for a reason, with knowledge and expertise to share

Personal Strength –having a strong personality that can motivate others and deal with challenging group dynamics or conflict

2.2 Consensus-based decision making

The group will strive to achieve decisions by consensus. To seek consensus, members have an obligation to:

- speak up for the interests they represent
- try to build agreements
- negotiate the adoption of their recommendations

In return, members have the right to expect:

- a full statement of agreement and areas of disagreement, if any; and
- an opportunity to revisit issues if new information becomes available during deliberations

If they cannot support consensus, members must show that the proposed decision would seriously and adversely affect their constituents. Also, dissenting members must:

- 1) state the reason(s) in detail for withholding their consent
- 2) offer an alternative suggestion that addresses not only their concerns and interests, but also other members'

Definition of consensus

Consensus means finding the most agreement possible without dividing the participants into factions. Everyone in the group supports, agrees to, or can accept a decision.

In the end, everyone can say, "Whether or not I prefer this decision above all others, I will support it because it was reached fairly and openly."

Levels of agreement

To gain consensus on an interim or final recommendation, it is understood that members should express any concerns with specific proposals along the way, rather than waiting until the final recommendation. The group may use the following scale to describe a member's degree of support for something being considered, and to determine the group's degree of consensus:

Level 1 - I feel we have no clear sense of agreement among the group. We need to talk more before considering a decision.

Level 2 - I do not agree with the group's proposal. I feel the need to block its adoption and propose an alternative.

Level 3 - I may not be especially enthusiastic about it, but I can accept the group's proposal.

Level 4 - I think this proposal is the best choice of the options available to us.

Level 5 - I am enthusiastic about the group's proposal and am confident it expresses the best wisdom of the group.

The goal is for all members of the committee and/or forum to be in the upper levels of agreement. If all members are at Levels 3 – 5, consensus is considered to have been reached.

If any member is at Level 1 or 2, the committee and/or forum will stop and evaluate how to proceed.

If there is significant disagreement, the working group will consult with the Chair to decide how best to move forward. For example, the group may need more discussion to understand unresolved concerns, or the group may need to create more options.

Straw polls

Straw polls may be taken to assess the preliminary support for an idea, before the idea is submitted as a formal proposal. Members may show tentative approval for a preliminary proposal, without fully committing to it. Agreement on a final recommendation usually depends on members considering all parts of the recommendation that emerges from the group.

2.3 Tips for engagement

Engagement Consideration	Guidance
Who needs to be engaged?	<ul style="list-style-type: none"> • Identify a spokesperson to lead the engagement process. • Set a sequence for activities, such as starting with a large information session before creating a governance structure to identify concerns and choose members of the PVM committee. • Ensure regional flexibility. For example, some regions have defined interest groups while others have rights-based groups. • Clarify risk and accountability for effective engagement. Does the risk for PVM fall on the federal government, or on the local communities and partners, etc.?
How do we ensure we are not overlooking participants?	<ul style="list-style-type: none"> • Formalize the approach of identifying stakeholders. List the groups or individuals that will be invited to participate (stakeholder map) and create a formal email or letter of invitation. • Contact local government and local communities. <ul style="list-style-type: none"> • Ensure stakeholders are approached to determine whether, at what level, and over what time frame, they wish to take part.
How will we ensure the participants we choose are a good fit for the purpose of engagement?	<ul style="list-style-type: none"> • Clearly define the purpose of the engagement and the participants' role. • Reach out to groups/individuals with an interest in the issue. • Ensure people representing communities and organizations have the authority to speak for members and will commit to reporting back and taking action. • Include people who may not be representatives of a group, but who may bring an important perspective to the table. For example: recreational boaters.

Engagement Consideration	Guidance
	<ul style="list-style-type: none"> • Set a clear expectation that people actively contribute to achieving the objectives. • Build in regular re-evaluation of who needs to be at the table as the issues advance and the needs of the group shift.
How will we reach out to potential participants?	<ul style="list-style-type: none"> • Provide supports for participation (financial or other). • Adapt your outreach style to the group you are trying to reach. For example, use social media (Facebook), local radio and television for community outreach. • Translate materials, where needed. • Use existing organizations and networks. • Clarify who is responsible for communicating and linking with key partners who need to be at the table (for example, the Canadian Coast Guard). • Develop a communication plan for sharing information, following up on results of engagement and providing updates.

2.4 Assessment criteria for voluntary measures

Criterion 1: Benefits

Responses: Major = "A"
 Moderate = "B"
 Minor = "C"

What are the benefits of implementing this measure? For example, to natural or cultural resources, habitat, navigational safety, local or regional industry?

Does it align with or support current regulations?

If we make progress by using this voluntary measure, will it have major, moderate, or minimal benefits?

Criterion 2: Risks

Responses: Major = "A"
 Moderate = "B"
 Minor = "C"

What are the risks of implementing this measure? For example, to natural or cultural resources, habitat and biodiversity protection, navigational safety, local or regional industry?

Will an assessment be required to analyze safety risks, environmental risks, and socio-economic impacts?

If we make progress by using this voluntary measure(s) will it have major, moderate, or minimal site risks?

Criterion 3: Level of complexity and cost

Responses: Requires Additional resources = "A"

Existing resources = "B"

Requires establishment of Working Group or Technical Team = "C"

Is the development of this voluntary measure complex, and how much resources would it take?

Other items that could make measures more complex include:

- a) The number of sub-issues within the main issue.
- b) Our current understanding of the issue (how can we bring enough information to the table to fully develop this voluntary measure?).
- c) The level of controversy and whether resolving this will require more collaboration or a working group.
- d) Questions over who has jurisdiction (control), especially in disputed waters: federal, provincial, territorial, or international governments.

Based on the level of complexity, are there enough resources (people, resources/skills, funding, infrastructure, and technical capability) to implement the voluntary measure within the timeframe? Will it require more resources, or the establishment of a working group or technical team?

Criterion 4: Compliance and effectiveness

Responses: Major = "A"

Moderate = "B"

Minor = "C"

Are people likely to follow the voluntary measure? Who will monitor this? Does using the voluntary measure create any unfairness or inequity among sectors, individuals, or other jurisdictions?

What evidence suggests that the voluntary measure will be able to address the issue? How likely is it that the measure will have the desired impact?

Will partners and stakeholders be able to monitor the use of the measure and establish performance indicators?

Criterion 5: Level of urgency

Responses: Major = "A"

Moderate = "B"

Minor = "C"

How urgent is the implementation of this measure?

2.5 Examples of information and evidence sources

Potential information and evidence sources
<ul style="list-style-type: none"> • satellite or bathymetric representation of the waterway • data on marine protected areas, fish and animal habitat, and other sensitive coastal areas (ecosystem and species status reports) • frequency, timing and seasonal aspects of all waterway uses • vessel traffic information (density of vessel traffic, interaction of different types of vessels during congestion) • natural resource assessments • analyses of socio-economic costs and benefits (national and local) • traditional knowledge and IQ (oral accounts, mapping, etc.)

3. Potential indicator themes for monitoring

KEY ISSUES/QUESTIONS	INDICATORS (+/-)
Organizational capacity /group processes	Access to resources (human, financial, technical), leadership vision and understanding of change, management (clarity about aims, roles and responsibility)
Working in partnership	Perceptions of value added from working together, early wins, shared vision, objectives, strategy and working principles, clear roles and responsibilities, trust, recognition of the value of different contributions
Relevance	The numbers, percentage and demographic mix of project participants, the wider community's perception of the project
Individual agency or empowerment	People's beliefs that they can take meaningful action and change is possible (may include their motivation, knowledge and skills, intention/commitment and capacity)
Behaviours and practices	Behavioural change
Social capital	Increased interaction between individuals, groups, and sectors