

Paper for Consideration by HSSC-16
Canadian S-100 Sea Trial Area

Submitted by:	Canada
Executive Summary:	Canada is proposing the St-Lawrence River as a Designated International S-100 Sea Trial Area for 2025.
Related Documents:	IHOSP2021_2026_final.pdf
Related Projects:	IHO strategic plan, Roadmap for the S-100 Implementation Decade

Introduction / Background

The successful implementation of the S-100 suite depends on numerous factors, each playing a crucial role in ensuring the system's efficiency and reliability. Among these factors, final product specification stands as a significant aspect, setting the standard for the system's functionality and performance. However, another critical element lies in the comprehensive testing of all route monitoring layers, served via encrypted and digitally signed data. Recognizing the importance of this, Canada is stepping forward to propose an international designated area for these crucial tests. This initiative reflects Canada's commitment to the successful realization of the S-100 suite, contributing to the global efforts in enhancing maritime safety and efficiency.

Analysis/Discussion

Canada is proposing the St-Lawrence River in Québec as the S-100 sea trial area for 2025. The primary objective of this trial is to evaluate the S-100 system's capabilities in ingesting and displaying a variety of datasets. These include S-101 Electronic Navigational Charts, S-102 High-Resolution Bathymetry, S-104 Water Levels, S-111 Surface Currents, S-124 Navigational Warnings, S-128 Catalog, and S-129 Underkeel Clearance Management Data.

The trial is open to all IHO Member States, stakeholders and manufacturers of ECDIS/PPU/Nav app. It will provide full coverage of all Route monitoring S-100 layers and potentially more. Data will be freely available from June 2025 to November 2025, utilizing the latest encrypted and digital signature technology in S-100. For the purpose of this trial, 500 accounts will be created, and participants are expected to provide formal feedback.

St-Lawrence River is an extremely complex waterway with up to 6 meters tides, strong river fluctuations, dredged channel portions, continuous survey activities, strong currents... making a perfect sea trial area to push the limits of S-100.

Conclusions

The trial aims to test real-world scenarios to assess how the systems portray different datasets in an integrated fashion. It will also test all operational versions of S-100 route monitoring layers in preparation for the official launch in January 2026. Successes and issues will be documented and reported to the IHO and IMO.

Recommendations

Participants are encouraged to take full advantage of this opportunity to test the S-100 systems and provide valuable feedback.

Justification and Impacts

This will help in identifying any potential issues and will contribute to the successful implementation of the S-100 systems by the January 2026 deadline.

Action Required of HSSC

The HSSC is invited to:

- a. Endorse the proposed area as a ***IHO Designated International S-100 Sea Trial Area***.
- b. Include specific work plan items in S-100WG relative to the coordination of these tests and feedback loop
- c. HSSC to task the design real-time SPI relative to product specification readiness. This could be posted in prominent location on IHO web site
- d. HSSC to task design automated geospatial process using S-128 from MS to enable real-time IHO SPI 1.1.1 to be posted on IHO web site in a prominent location.

Status of S-100 Products Specifications as of 2024-03-27 (Route monitoring Highlighted)

Idx	Product ID	Name	Version	Status	Domain	Date updated
197	S-100	Universal Hydrographic Data Model	5.1.0	Published	IHO Hydro	2023-10-31
203	S-101	Electronic Navigational Chart	1.2.0	Published	IHO Hydro	2024-03-26
199	S-102	Bathymetric Surface	2.2.0	Published	IHO Hydro	2023-07-05
198	S-104	Water Level Information for Surface Navigation	1.1.0	Published	IHO Hydro	2023-08-11
178	S-111	Surface Currents Product Specification	1.2.0	Published	IHO Hydro	2023-08-11
177	S-121	Maritime Limits and Boundaries	1.0.0	Published	IHO Hydro	2021-10-29
73	S-122	Marine Protected Areas	1.0.0	Published	IHO Hydro	2021-05-06
74	S-123	Marine Radio Services	1.0.0	Published	IHO Hydro	2021-05-06
181	S-124	Navigational Warnings	1.0.0	Published	IHO Hydro	2023-07-28
175	S-127	Marine Traffic Management	1.0.0	Published	IHO Hydro	2021-05-06
192	S-128	Catalogue of Nautical Products	1.0.0	Published	IHO Hydro	2023-09-14
196	S-129	Under Keel Clearance Management Product Specification	1.1.0	Published	IHO Hydro	2024-02-27
201	S-130	Polygonal Demarcations of Global Sea Areas	1.0.0	Published	IHO Hydro	2023-07-20
193	S-131	Marine Harbour Infrastructure	1.0.0	Published	IHO Hydro	2023-08-17
200	S-201	Aids to Navigation (AtoN) Information	1.1.0	Published	IALA AtoNs	2023-04-27
189	S-240	DGNSS Station Almanac	1.0.0	Published	IALA AtoNs	2021-09-17
180	S-401	Inland ENC Product Specification	1.0.0	Published	Inland ENC	2020-11-24
185	S-421	Route Plan	1.0.0	Published	IEC	2021-07-02
191	S-98	Data Product Interoperability in S-100 Navigation Systems	1.0.0	Published	IHO Hydro	2022-05-23