Natural Resources Canada | Ressources naturelles Canada

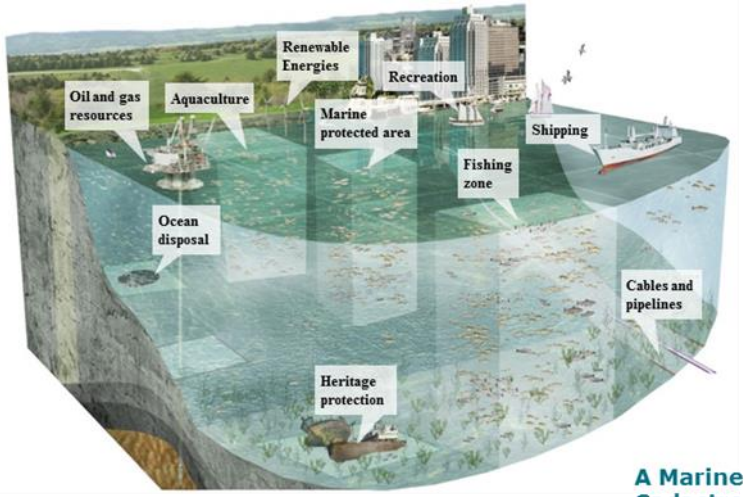
Surveyor General Branch

Beyond Boundaries sgb.nrcan.gc.ca

Marine Spatial Data Infrastructure (MSDI) & The Marine Cadastre Application

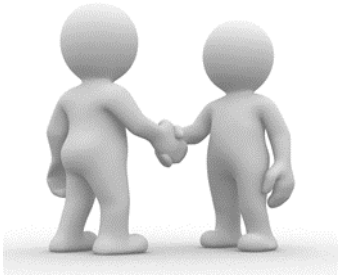
April 10, 2018

Canada



A Marine Cadastre

A Collaborative Pilot Project



Vision of CHS:

A framework of geographic data, metadata, users and tools

Intent of SGB:

A system of registries to provide a legal foundation for the management of Canada's oceans and more certainty for industry and capital investment

What is the MSDI Context ?

Federal

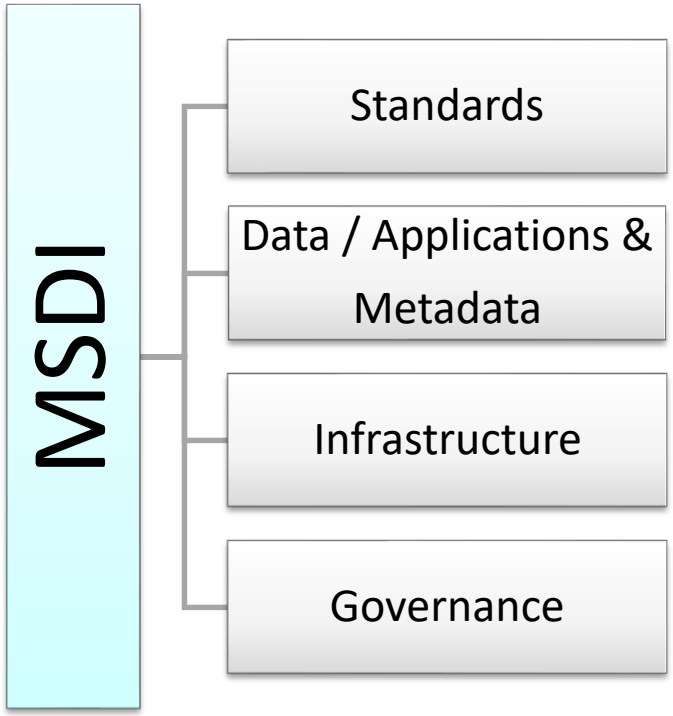
- Marine component of the CGDI
- Compliant with the FGP
- Integrated within the FCGEO
- Inline with the Open Government, Open Data and Open Maps directives

What is the MSDI Context ?

International

- **UN-GGIM**:
  - **ISO**:
  - **OGC**:
  - **IHO**:
- **Best practices**: Interoperable & Common Structure

What is it about ?



Current Status ?

Prototype Development

- Define 3 pilot areas
- Gather, harmonize data/metadata
- Create test applications
- Create single point of entry
- Enhance the prototype infrastructure
- Refine application to meet client vision and needs

Collaboration

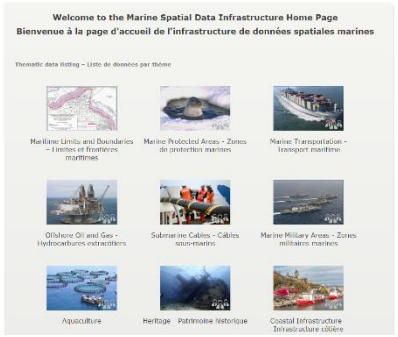
- DFO-Science
  - CHS
  - Fisheries Management
  - Ecosystems Oceans Sciences
  - Aquaculture
- **Natural Resources Canada**
  - **Surveyor General Branch (SGB)**
- Transport Canada
- Environment Canada
- Department of National Defense

MSDI Benefits?

- Simple, efficient, expandable and transparent governance solution
- Provision of targeted marine applications, tools and services
- Promote access, visibility, and delivery of value added products
- Leverages existing federal and international initiatives

https://msdi-idsm.maps.arcgis.com/home/index.html

MSDI - Thematic Data Listing



MSDI - Terms and Supporting Tools

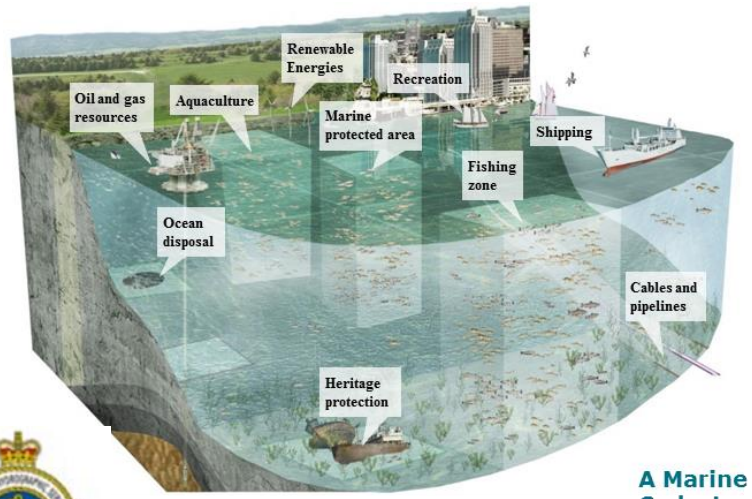
MSDI - Applications

Let's now focus on

The Marine Cadastre Application

WHAT IS A MARINE CADASTRE ?

A marine cadastre is an integrated system of registries that is fundamental to enable the systematic public recording of all recognized legal rights, restrictions, and responsibilities related to ocean space (Joint Task Team, March 2010).



A Marine Cadastre

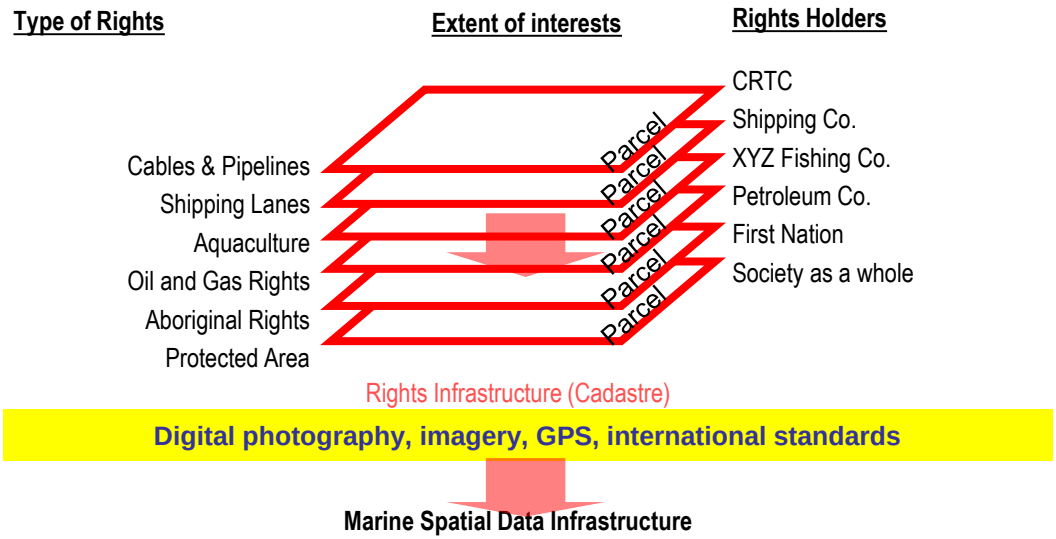
WHY A MARINE CADASTRE ?

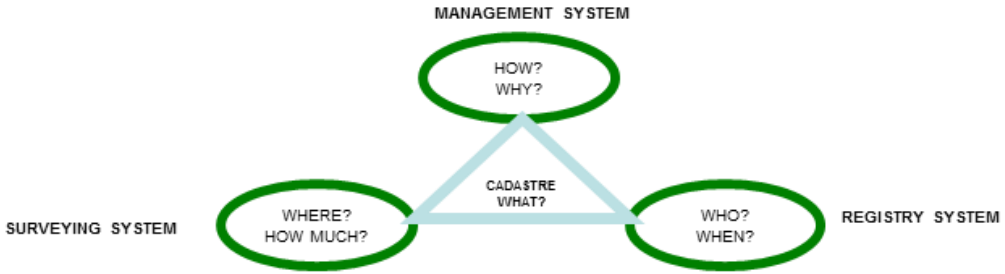
- **Growing competition for the usage of the ocean space**
- ***Lack of cohesive and consistent land development process and tools***
- **Increased recognition around the world**

The Solutions:

- *Develop a Geospatial Infrastructure (Geospatial Platform)*
- *Promote the implementation of a Cadastral System in the offshore*
- *Encourage a formal recording of rights for an integrated view*

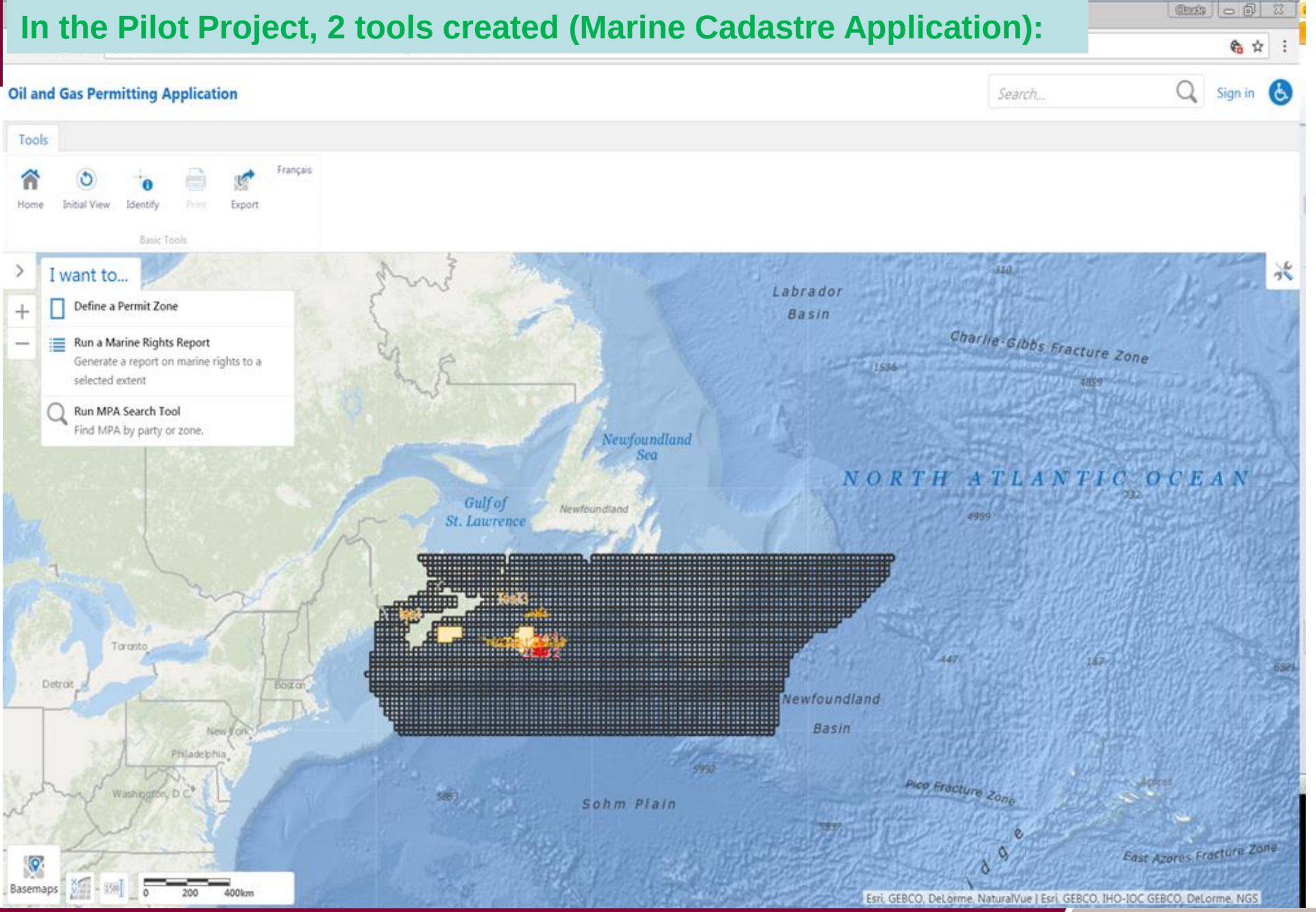
How is Information Structured and Integrated?



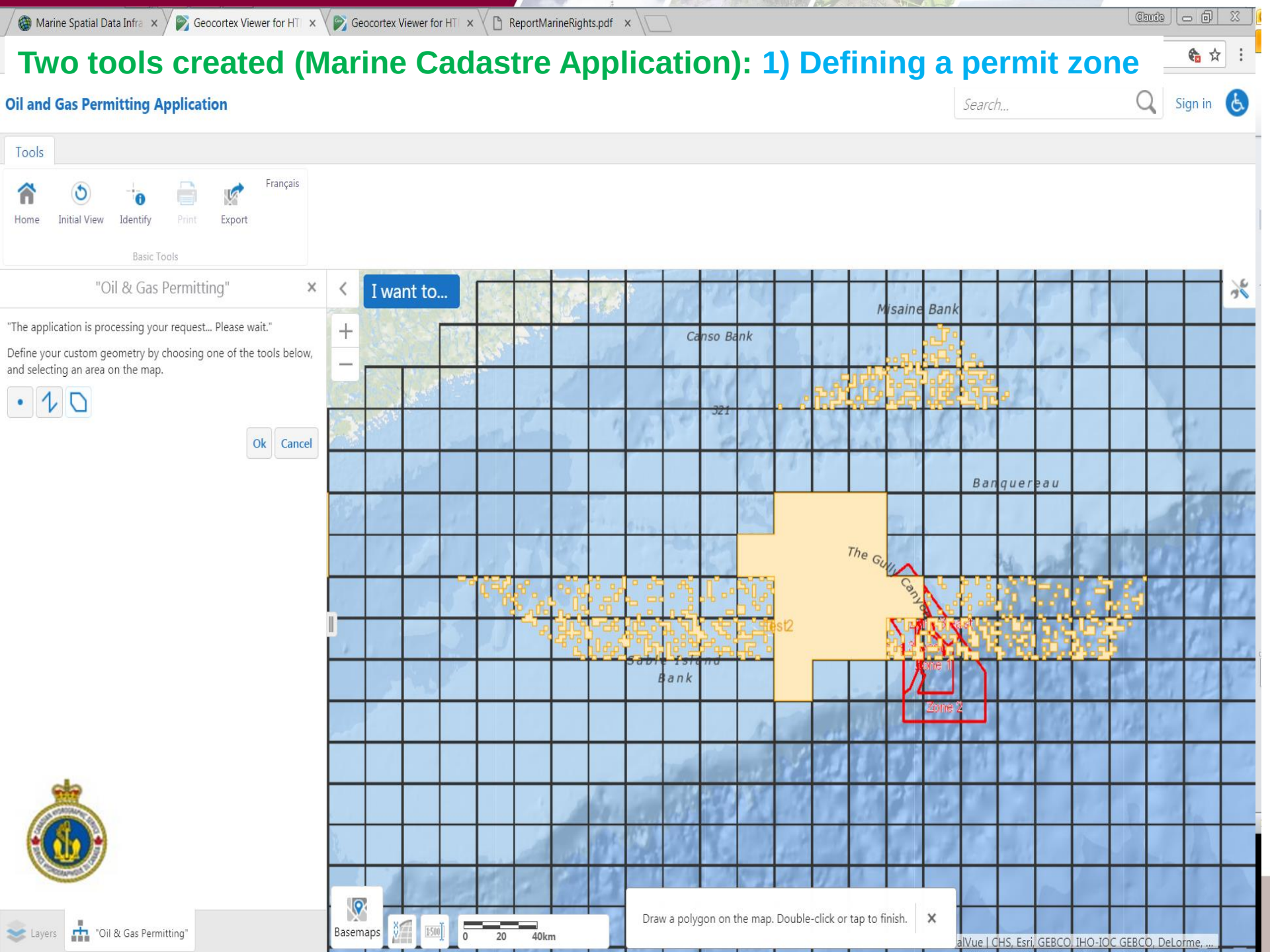


Source: SGB, ESS, Natural Resources Canada

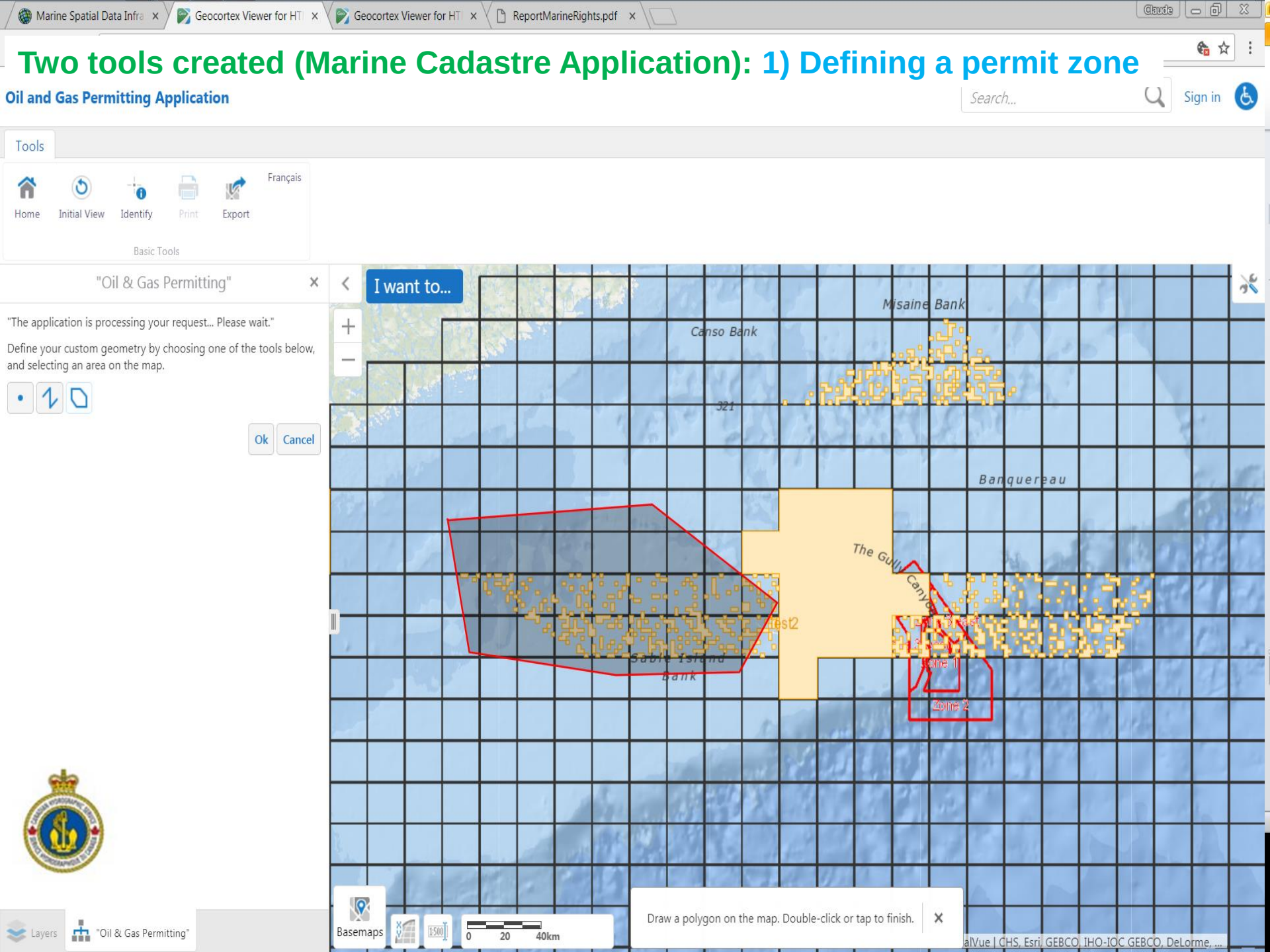
In the Pilot Project, 2 tools created (Marine Cadastre Application):



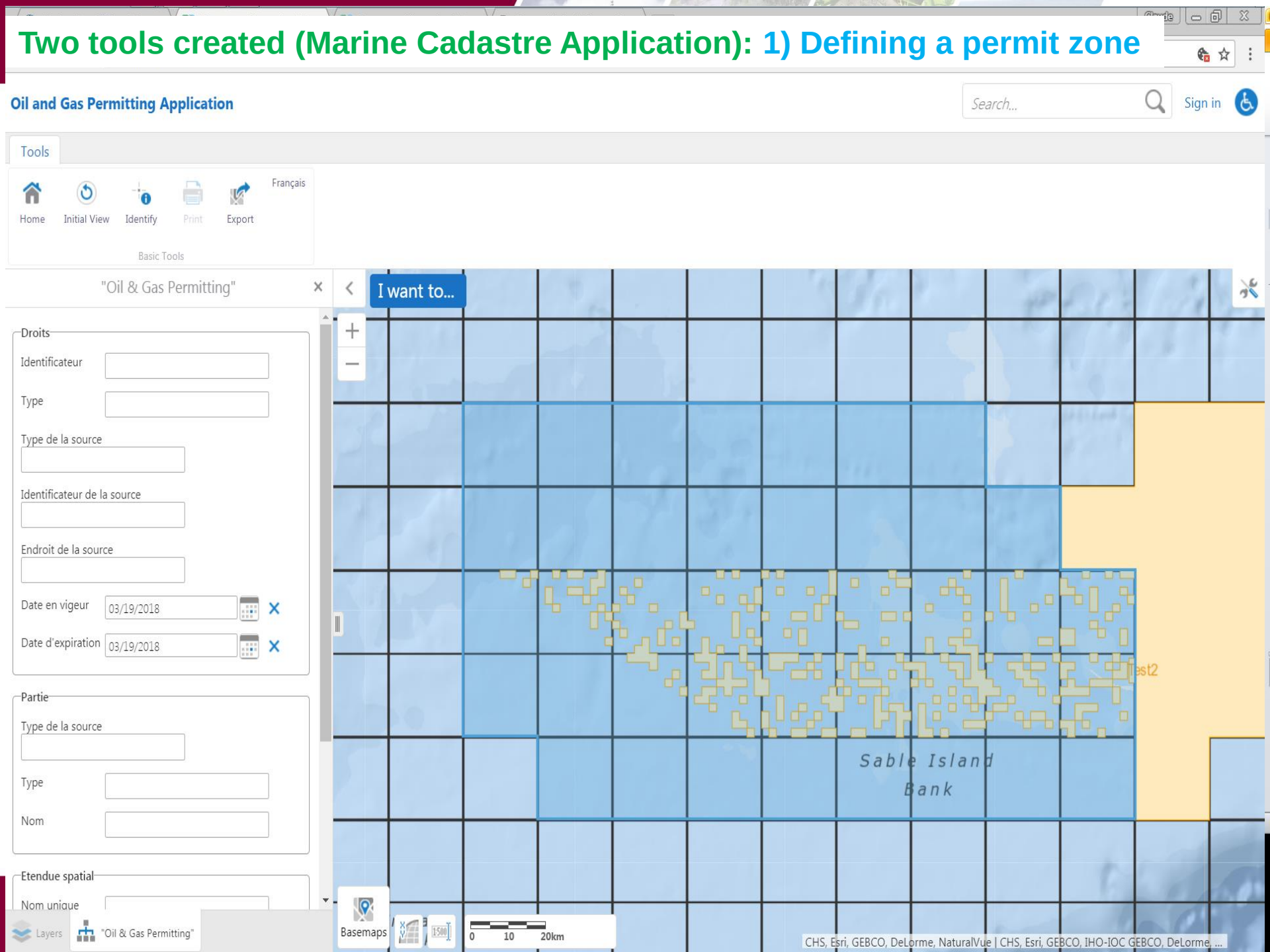
Two tools created (Marine Cadastre Application): 1) Defining a permit zone



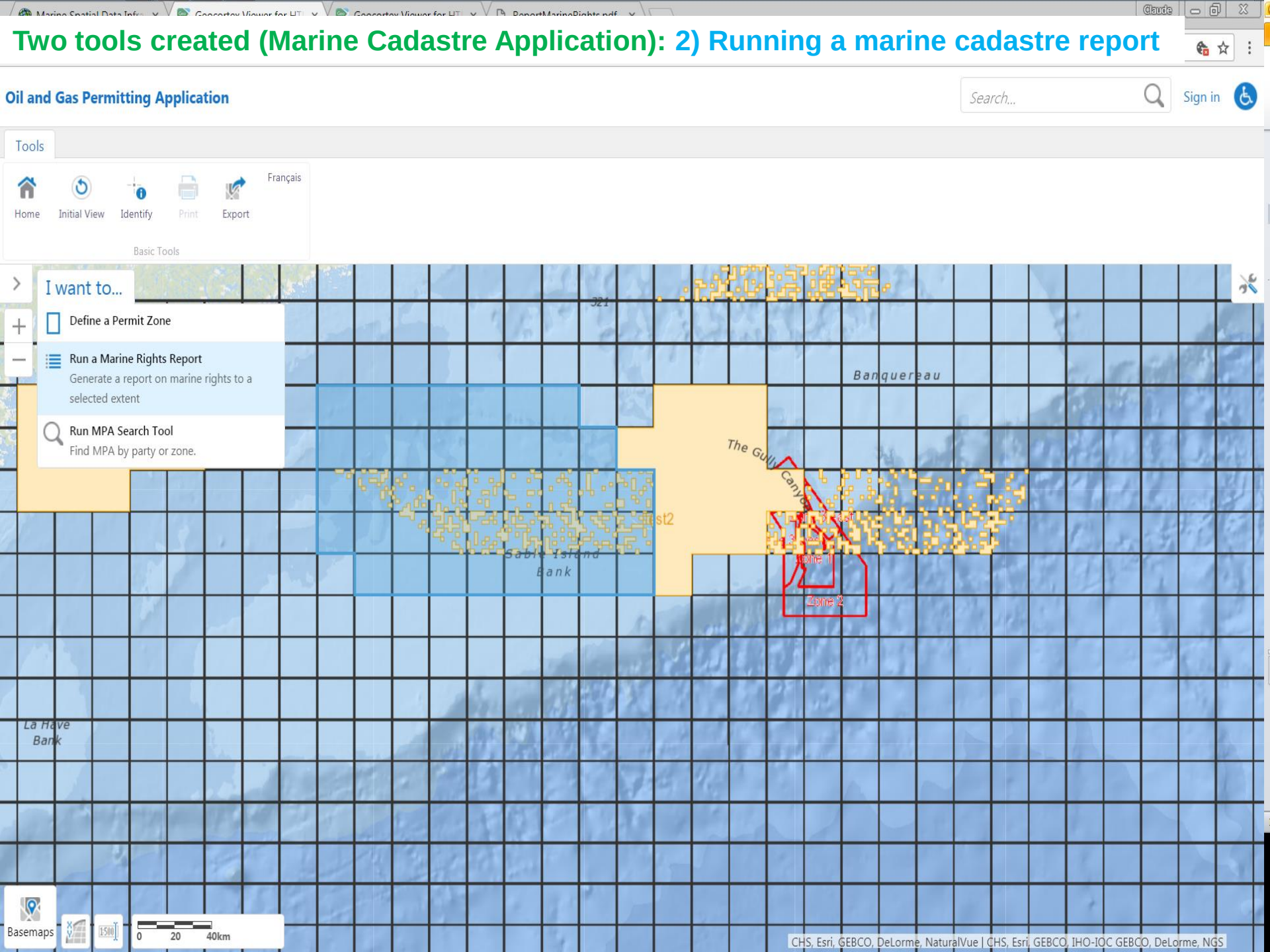
Two tools created (Marine Cadastre Application): 1) Defining a permit zone



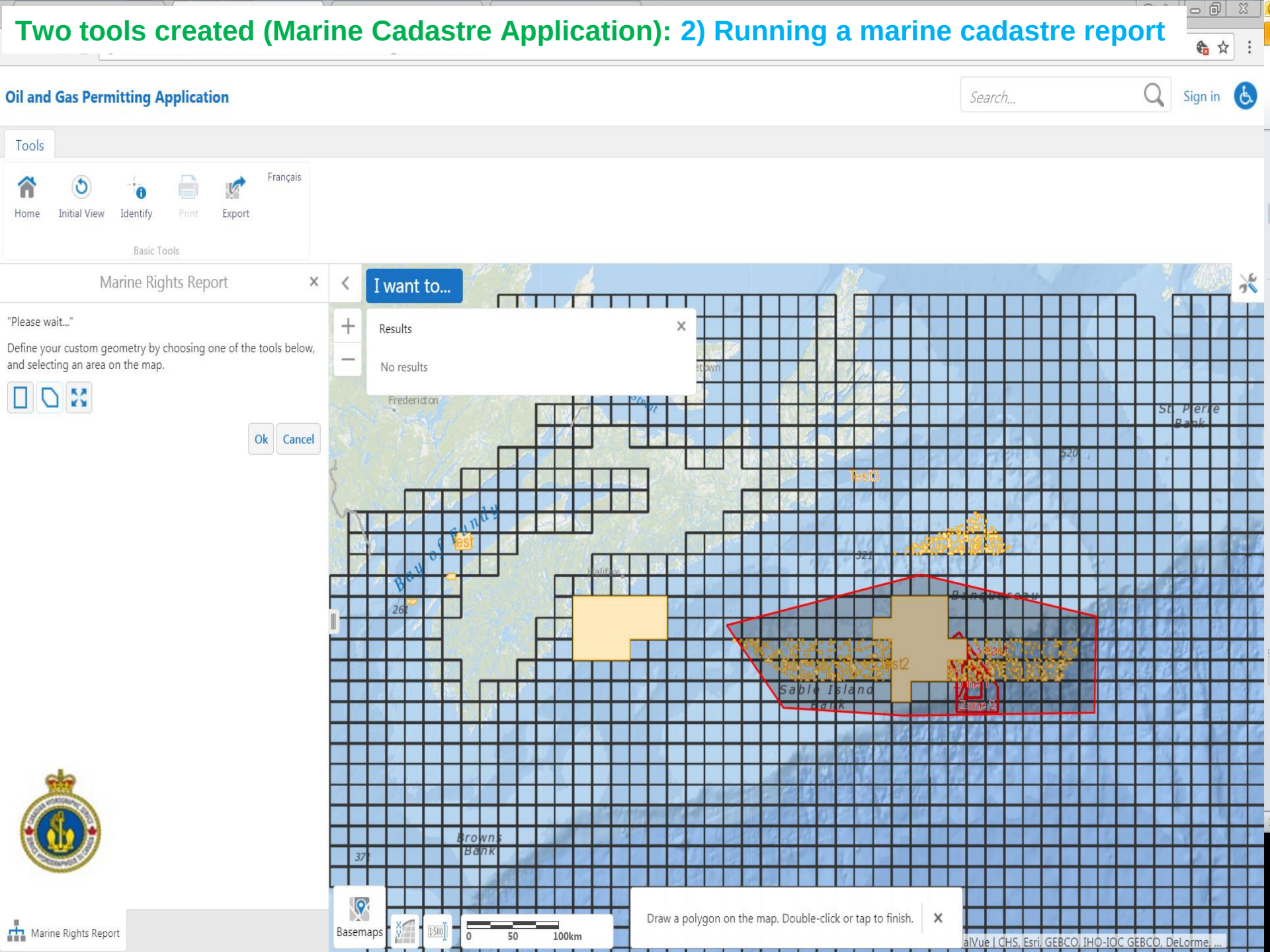
Two tools created (Marine Cadastre Application): 1) Defining a permit zone



Two tools created (Marine Cadastre Application): 2) Running a marine cadastre report



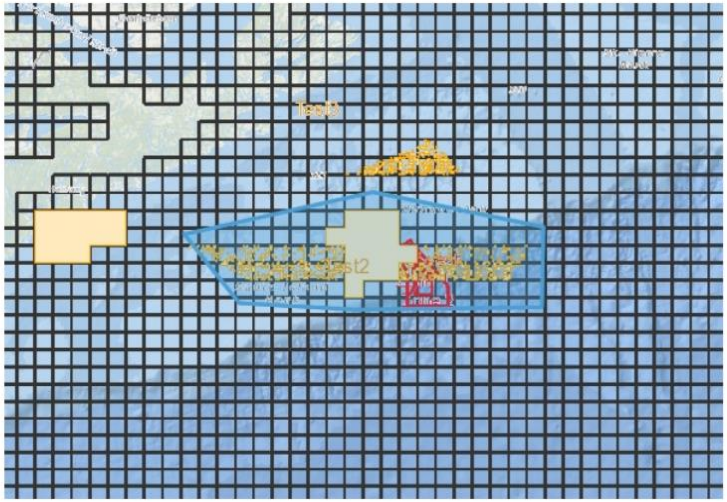
Two tools created (Marine Cadastre Application): 2) Running a marine cadastre report



Two tools created (Marine Cadastre Application): 2) Running a marine cadastre report

ReportMarineRights.pdf 1 / 3

Report on Marine Rights



Pipelines Licenses - Production Licences 2016

Parcel	Keywords	Pipe Type	License Number
26	ExxonMobil Canada Ltd.	PL	2903
47	ExxonMobil Canada Ltd.	PL	2904
48	ExxonMobil Canada Ltd.	PL	2905
55	Encana Corporation	PL	2901
57	ExxonMobil Canada Ltd.	PL	2904
62	Encana Corporation	PL	2902
69	ExxonMobil Canada Ltd.	PL	2906
115	ExxonMobil Canada Ltd.	PL	2907
116	ExxonMobil Canada Ltd.	PL	2908
0	Encana Corporation	PL	2910
0	Encana Corporation	PL	2909
0	Encana Corporation	PL	2911

Pipelines Licenses - Significant Discovery Licences 2016

ReportMarineRights.pdf Show all

Next Steps?

- A project to implement a standard data format, based on S-121 and ISO 19152:
- A development of oil & gas grid web service solution with some functionality to select specific elements of the grid (grid areas, sections and units) to generate extent of rights.

Output?

- Advance a data structure to store marine rights in a common format furthering the S-121 and ISO 19152 standards development
- Provide SGB with the starting point of developing a collaborative marine rights tool
- Support DFO as they consolidate data for use in an MSDI.