



# FIRMS

FISHERIES AND RESOURCES MONITORING SYSTEM

## The Geospatial expansion of the GRSF standard

Global Record of Stocks and Fisheries

GRSF & UW 2022 – GRSF & SFP 2023

✉ [FIRMS-Secretariat@fao.org](mailto:FIRMS-Secretariat@fao.org)

# GRSF Areas Database - Background

## Records with known defined area

Known areas with official namespace and area code

e.g., FAO Areas – fao:27.4 ; RFB Areas (i.e., GFCM GSAs) – gfcm:1; LMEs – lme:4

CECAF Scientific advice 2016

### European squid - Dakhla stock (26°N - 21°N)

*Calmar (Loligo vulgaris) - Stock Dakhla (26°N - 21°N)* Citation

Owned by Food and Agriculture Organization (FAO) – More

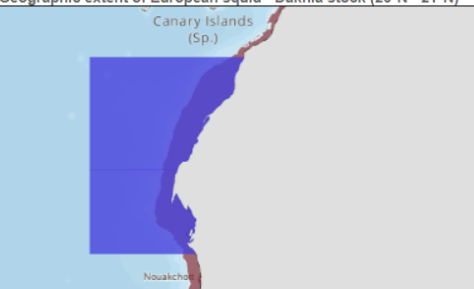
**Monitoring period**  
Previously monitored as: European squid - Morocco, Mauritania, Senegal and Gambia.

Related observations Locate in inventory

**Species:**  
*Loligo vulgaris*  
**FAO Names:** en - European squid, fr - Encornet, es - Calamar, ar - قنبر البحر الأروبي, zh - 真枪乌贼

**Fishery Indicators**  
Production: Catch

**Geographic extent of European squid - Dakhla stock (26°N - 21°N)**



Map legend Area Details

FAO Fishing Statistical Subdivision Areas  
34.1.31 Atlantic, East central / 34.1.31  
34.1.32 Atlantic, East central / 34.1.32  
[More Geo References](#)

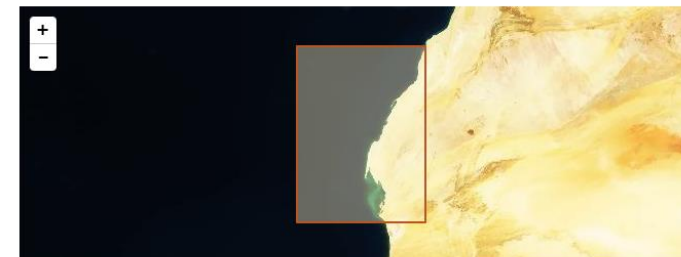
## European squid - Dakhla stock (26°N - 21°N)

PRIVATE

Short Name: European squid - Dakhla stock (26°N - 21°N)  
Record URL: [https://data.d4science.org/ctlg/GRSF\\_Pre/9a0020c9-f166-3066-a719-464cad727d73](https://data.d4science.org/ctlg/GRSF_Pre/9a0020c9-f166-3066-a719-464cad727d73)

Citation

## Dataset extent



Map data © OpenStreetMap contributors  
Tiles by MapBox

## Tags

Assessment Unit Code 34.1.31 System fao\_sub\_div Name Atlantic East central 34.1.31  
Code 34.1.32 System fao\_sub\_div Name Atlantic East central 34.1.32

## Records with unknown area

Unknown areas without enough information, and sometimes without any polygon to display.

unk:Australia-AFMA-NAUST

unk:CSIRO\_DEEPFLATHEADSE\_1978\_2007\_FULTON

Select database:  
RAMLDB

Select country (or multinational body):  
Australia

Select region (or country):  
Australia

Select stock:  
Northern Australia grooved Tiger Prawn

Plot boundary



Record Groups

## Grooved tiger prawn Northern Australia

PRIVATE

Short Name: Grooved tiger prawn Northern Australia  
Record URL: [https://data.d4science.org/ctlg/GRSF\\_Admin/e78efe2d-8afa-3ecd-a24e-e28092e029bc](https://data.d4science.org/ctlg/GRSF_Admin/e78efe2d-8afa-3ecd-a24e-e28092e029bc)

Citation

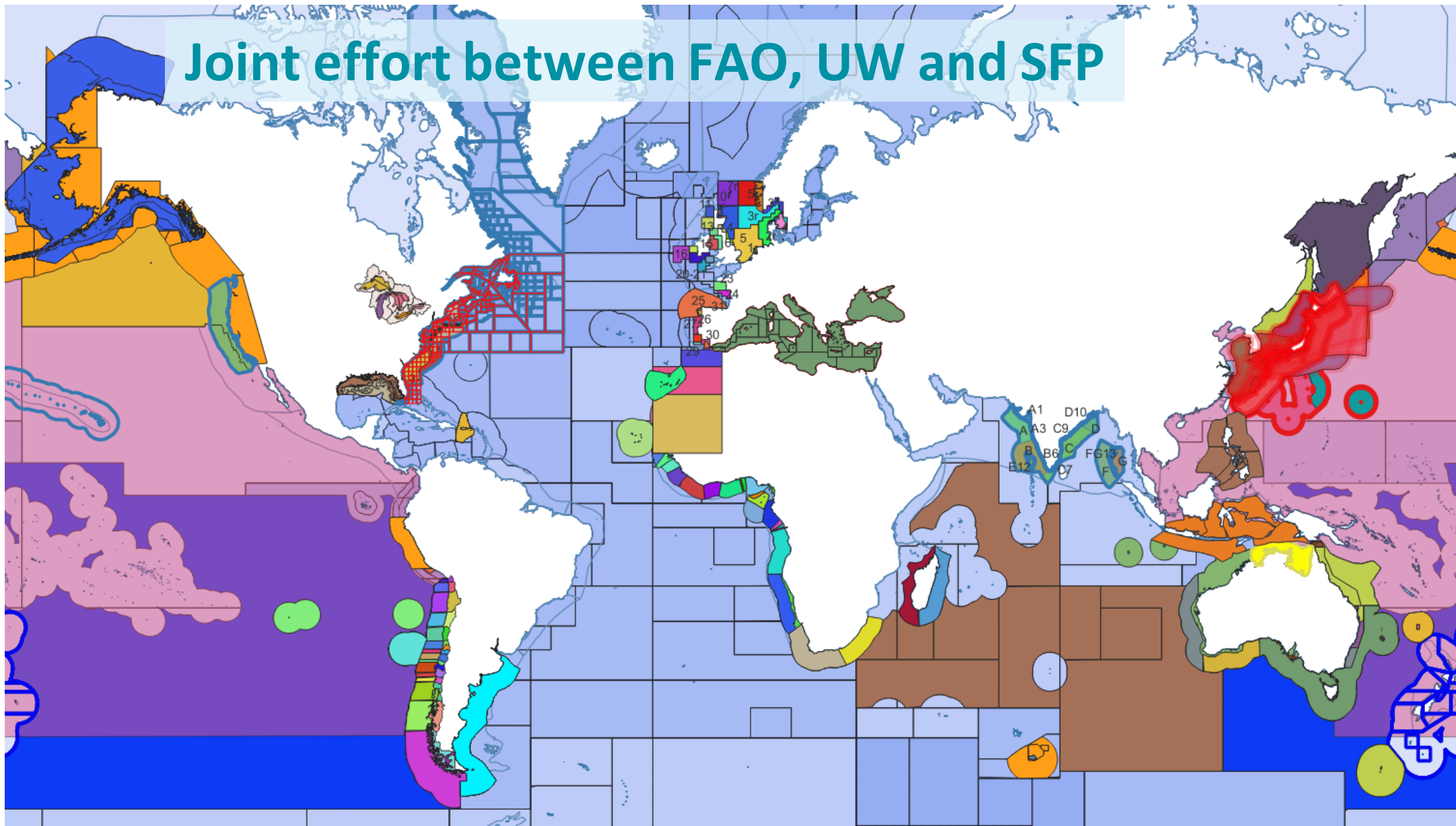
## Tags

Assessment Unit Code Australia-AFMA-NAUST System Unknown Name Northern Australia  
Code TIP Classification System ASFIS Scientific Name Penaeus semisulcatus not connected  
without similar records



# GRSF Areas Database

Joint effort between FAO, UW and SFP

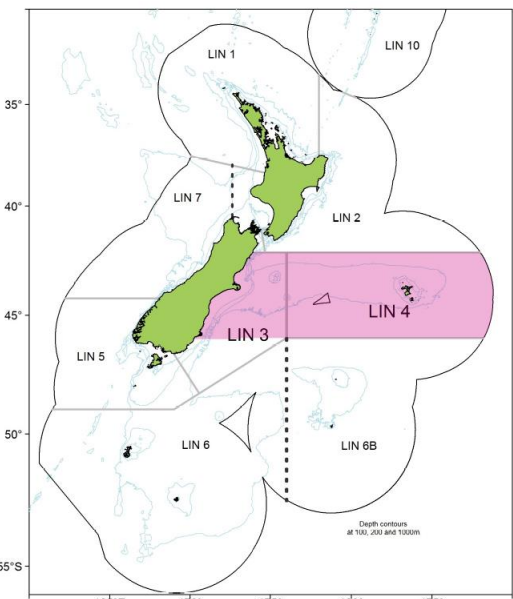




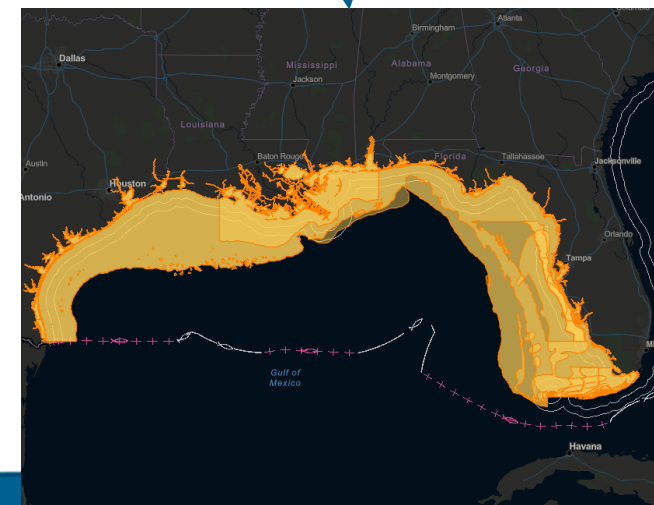
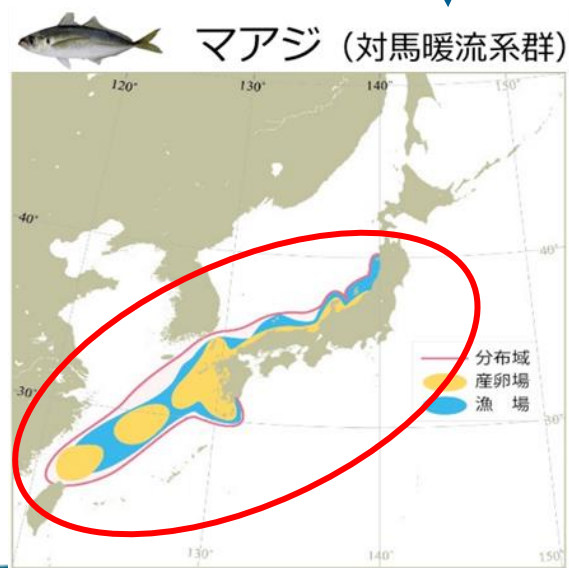
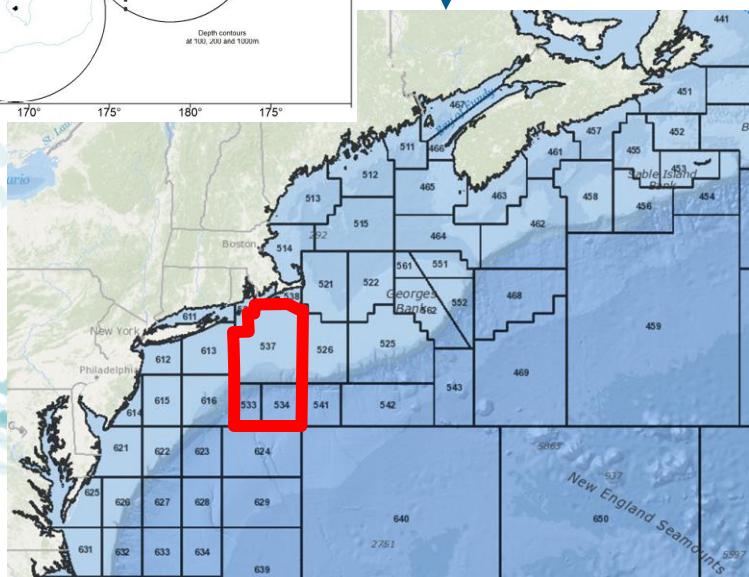
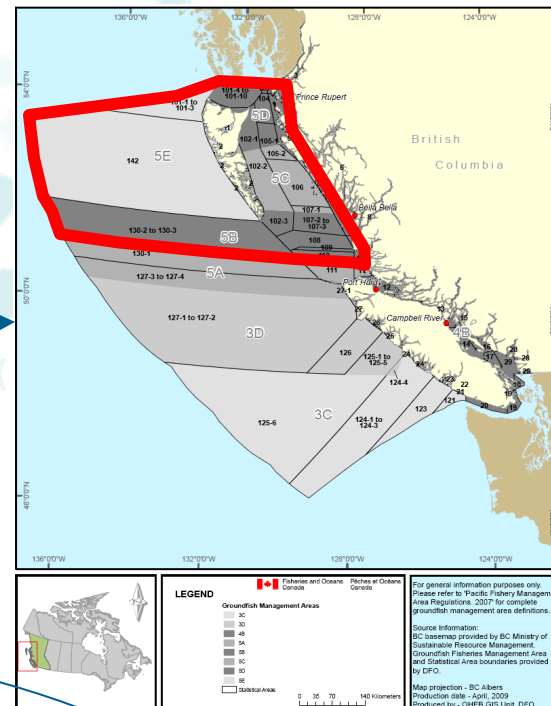


# GRSF Areas Database

## Typology summary



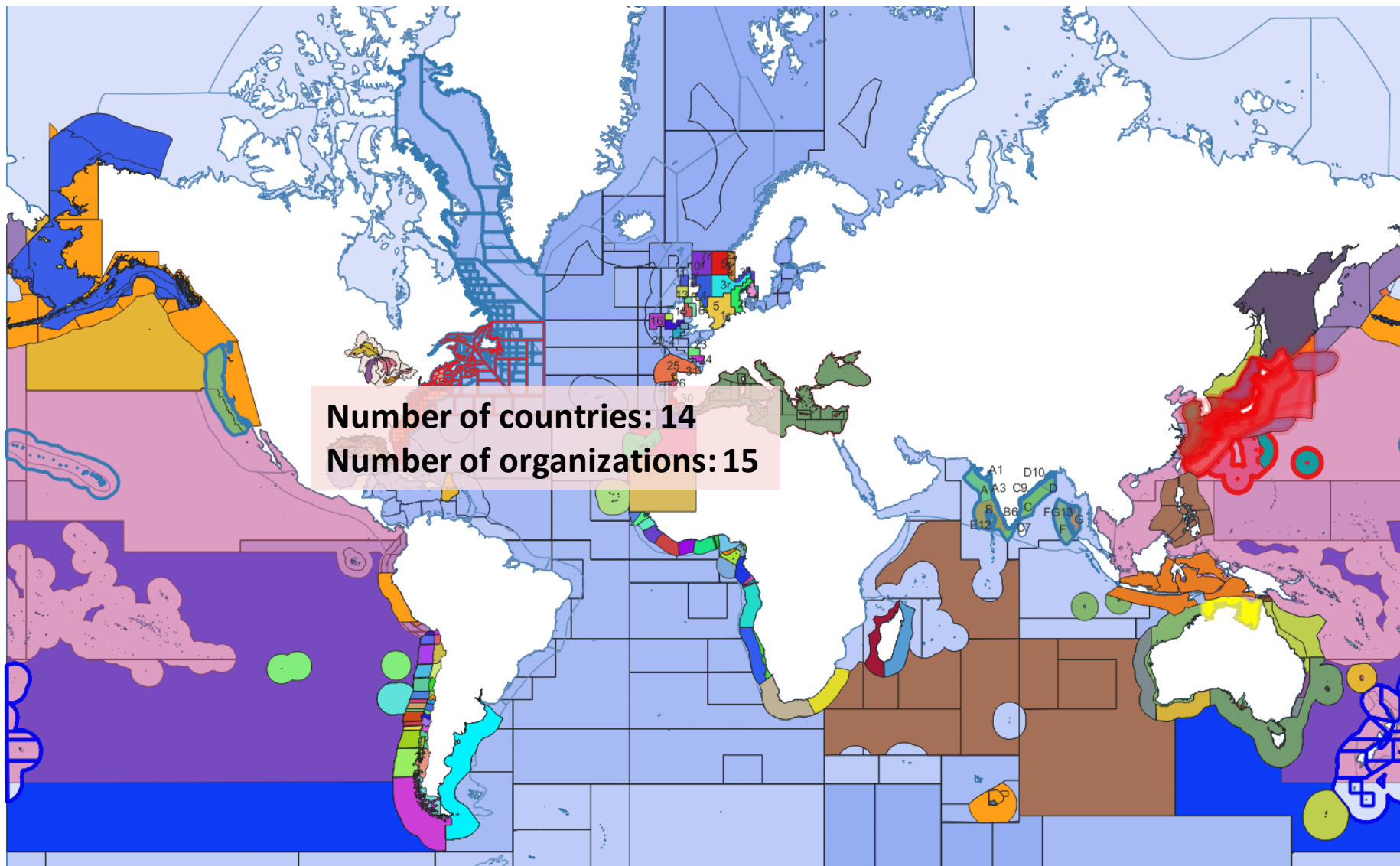
System_category	Number of Areas
Assessment areas	402
Statistical areas	921
Management areas	1209
Biological areas	305
<b>Total number of Areas</b>	<b>2837</b>





# GRSF Areas Database - Regions summary

Country/Organization	Number of Areas
Argentina	8
Australia	161
Canada	335
CECAF	3
Chile	42
FAO	324
GFCM	31
IATTC	13
ICCAT	33
ICES	37
Indonesia	11
India	30
IOTC	8
IPHC	12
ISC	6
Japan	56
LME	62
NAFO	2
Namibia	1
NJAs	152
New Zealand	725
Peru	1
Philippines	12
RFBs	61
Russia	48
SIOFA	9
SPC	3
United States of America	603
WCPFC	6
South Africa	42
<b>Total number of Areas</b>	<b>2837</b>



# GRSF Areas Database - GitHub



## Global Record of Stocks and Fisheries

4 followers <https://services.d4science.org/group/...>

Unfollow

Overview Repositories 7 Projects Packages Teams People 15

### Popular repositories

**water\_areas\_geoflow** Public

Geoflow for publishing GRSF water areas in the GRSF SDI (OGC metadata and data services)

R 2

### Repositories

Find a repository... Type Language Sort New

- water\_areas\_shapefiles**  
Shapefiles of water areas described in water\_areas\_vocabulary: [https://github.com/GRSF/water\\_areas\\_vocabulary](https://github.com/GRSF/water_areas_vocabulary)  
0 stars 0 forks 0 issues Updated 3 minutes ago
- water\_areas\_vocabulary**  
List of area codes by country or regions for GRSF. More info at [https://support.d4science.org/projects/stocksandfisherieskb/wiki/GRSF\\_area\\_standards](https://support.d4science.org/projects/stocksandfisherieskb/wiki/GRSF_area_standards)  
1 star 0 forks 4 issues Updated 3 hours ago
- water\_areas\_geoflow**  
Geoflow for publishing GRSF water areas in the GRSF SDI (OGC metadata and data services)  
R 0 stars 2 forks 0 issues Updated on Nov 9, 2022

View as: Public

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You can create a README file visible to anyone.

### People



### Top languages

R

# GRSF Areas Database – GitHub water\_areas\_vocabulary

Search or jump to... Pull requests Issues Marketplace Explore

GRSF / water\_areas\_vocabulary Private

<> Code Issues 4 Pull requests Actions

ArturoMunozAlbero Add files via upload

- README.md Update README.md
- aus\_areas.csv Add files via upload
- can\_areas.csv Add files via upload**
- cecaf\_areas.csv Add files via upload
- chi\_areas.csv Add files via upload
- gfcf\_areas.csv Update gfcf\_areas.csv
- iattc\_areas.csv Add files via upload
- iccat\_areas.csv Add files via upload
- ices\_areas.csv Add files via upload
- indonesia\_areas.csv new areas
- iotc\_areas.csv Add files via upload
- iphc\_areas.csv new areas
- isc\_areas.csv Add files via upload
- jpn\_areas.csv Add files via upload
- nzl\_areas.csv Add files via upload
- philippines\_areas.csv new areas
- rus\_areas.csv Add files via upload
- russia\_areas.csv new areas
- spc\_areas.csv Add files via upload
- usa\_areas.csv Add files via upload
- wcpfc\_areas.csv Add files via upload 4 days ago
- zaf\_areas.csv Add files via upload 4 days ago

Search or jump to... Pull requests Issues Marketplace Explore

GRSF / water\_areas\_vocabulary Private

<> Code Issues 4 Pull requests Actions Projects Security Insights

main water\_areas\_vocabulary / can\_areas.csv Go to file ...

ArturoMunozAlbero Add files via upload Latest commit 96c3bf4 4 days ago History

1 contributor

166 lines (166 sloc) | 72.3 KB Raw Blame

Search this file...

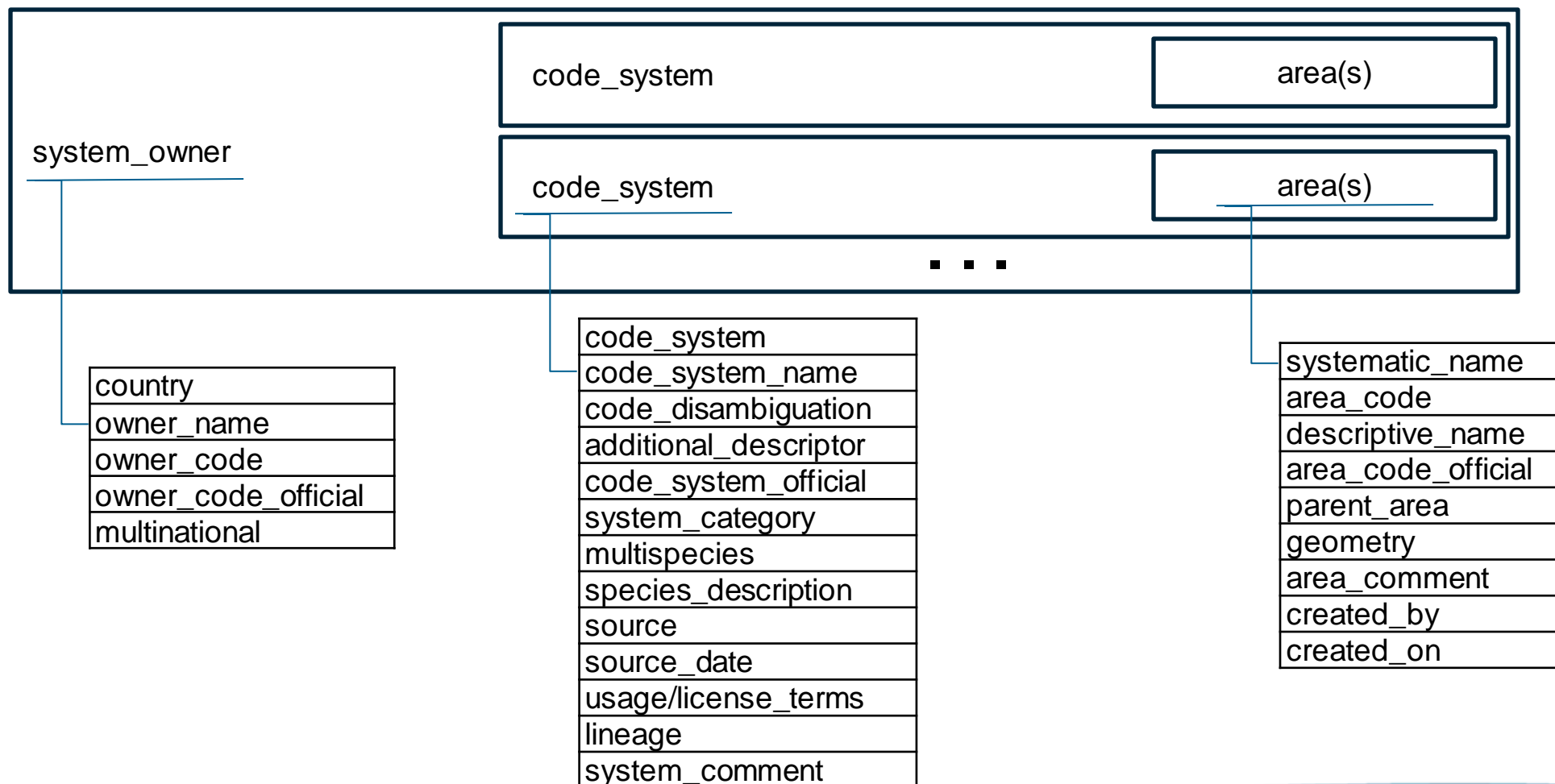
	namespace	country	system_owner_code	system_owner	code_system	code_system_name	differentiating_code_system	differentiating_code_system_description	area_c
1	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12
2	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12A
3	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12B
4	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12C
5	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12E
6	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			12F
7	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			13
8	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			14
9	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			15
10	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			16
11	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			16A
12	can_dfo_cfa	can	dfo	Fisheries and Oceans Canada	cfa	Crab Fishing Area			17



# GRSF Areas Database – GitHub water\_areas\_vocabulary

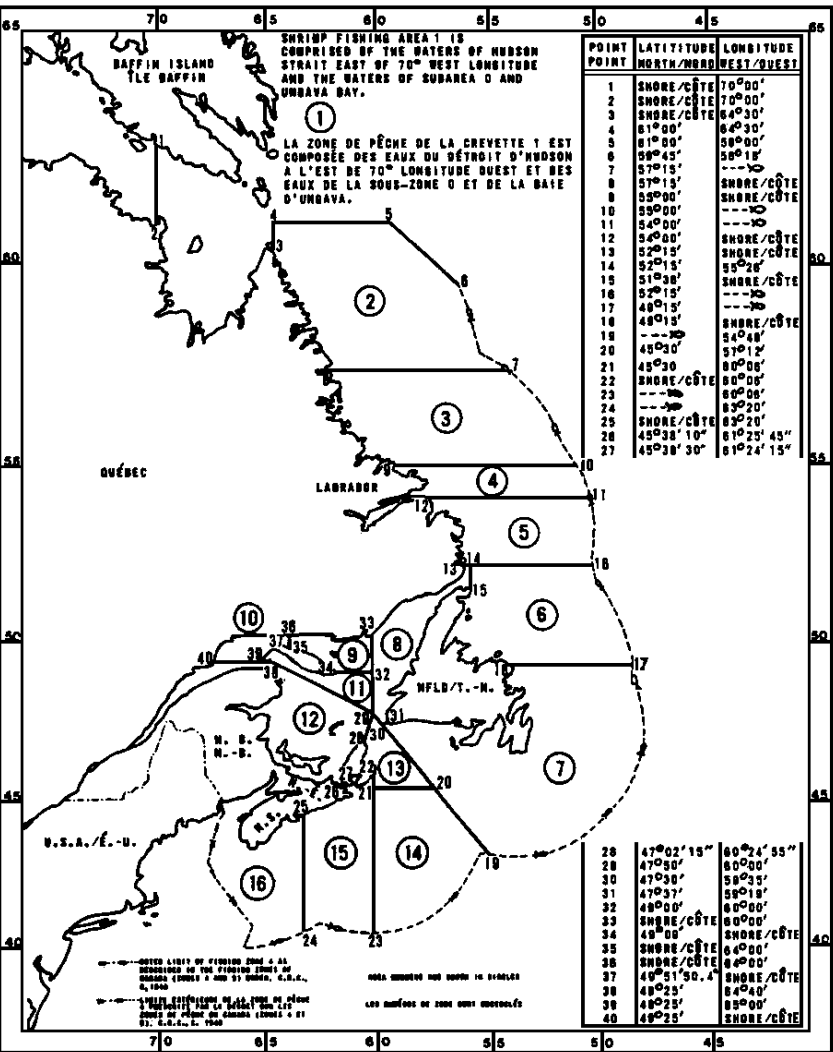
The water\_areas\_vocabulary defines the areas' metadata in three blocks:

- system\_owner metadata
- code\_system metadata
- area metadata



## Canadian DFO Shrimp Fishing Areas

Atlantic Fishery Regulations, 1985 (SOR/86-21)  
SCHEDULE XVII / ANNEXE XVII



### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE ESTUARY AND GULF OF ST. LAWRENCE IN 2021




Image of Northern Shrimp

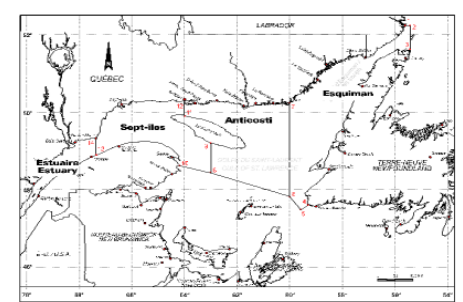


Figure 1. Shrimp fishing areas in the Estuary and Gulf of St. Lawrence.

**Context**  
The northern shrimp (*Pandalus borealis*) fishery began in the Gulf of St. Lawrence in 1965. The exploitation is conducted by trawlers in four shrimp fishing areas (SFA): Estuary (SFA 12), Sept-Iles (SFA 10), Anticosti (SFA 9) and Esquiman (SFA 8) (Figure 1).

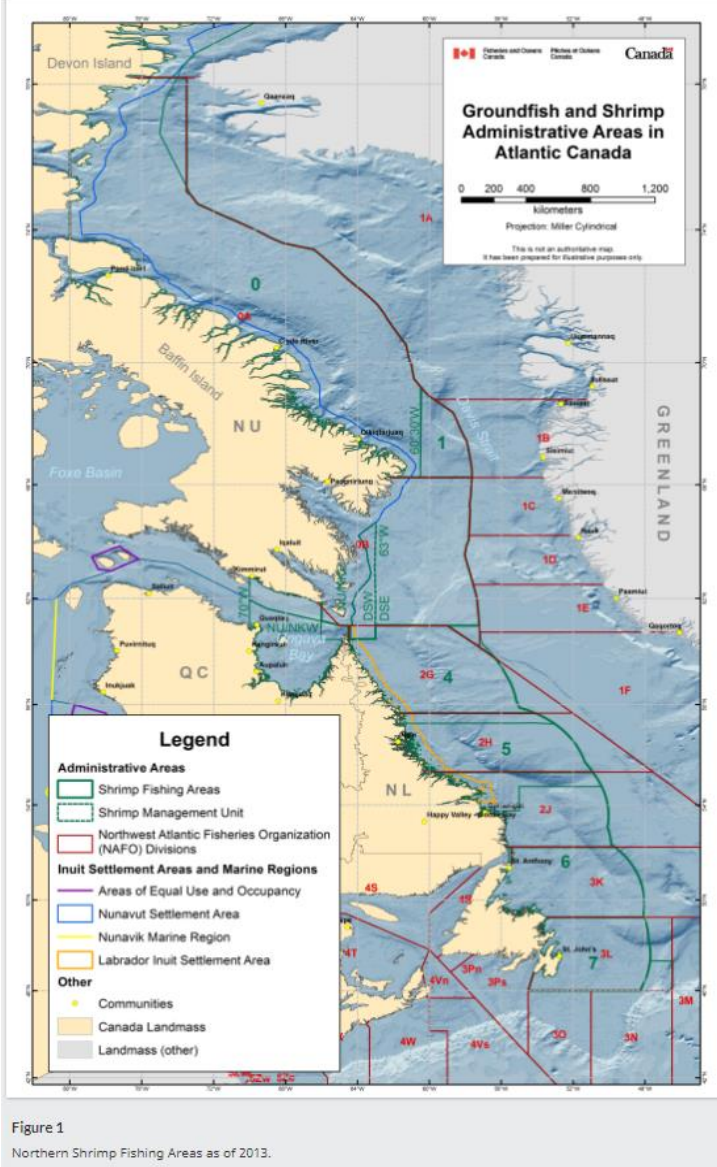
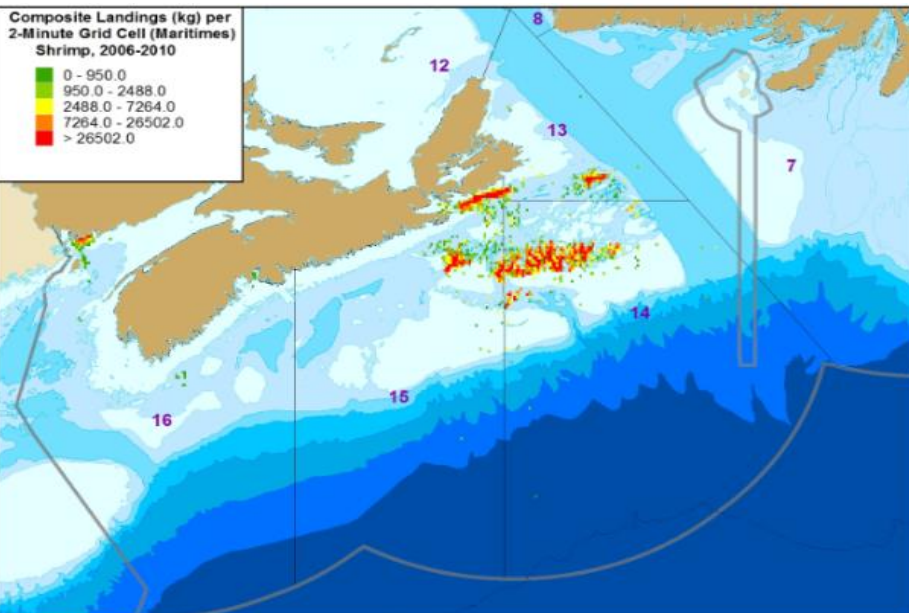


Figure 1 Northern Shrimp Fishing Areas as of 2013.

# GRSF Areas Database – Water\_areas Example

## Canadian DFO Shrimp Fishing Areas

### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE

code\_system

area(s)

system\_owner

code\_system

area(s)

...

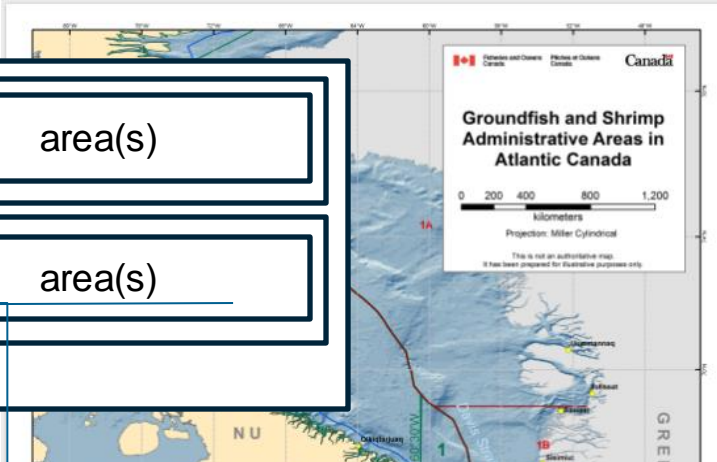
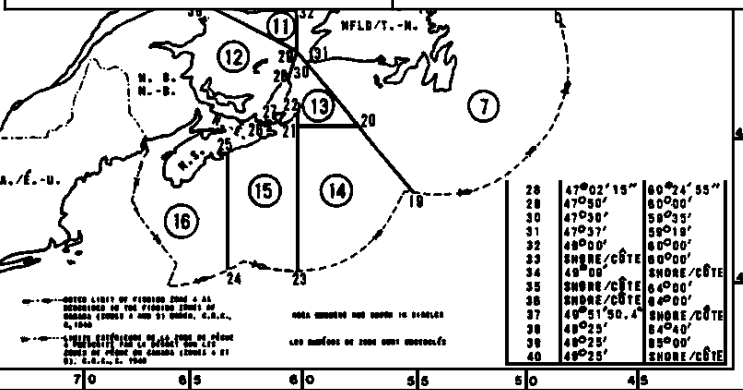


Figure 1. Shrimp fishing areas in the Estuary and

14	52°15'	55°26'	SHORE/CÔTE
15	51°38'	---	---
16	52°15'	---	---
17	48°15'	---	---
18	48°15'	SHORE/CÔTE	---
19	---	54°48'	---
20	48°25'	54°48'	SHORE/CÔTE

country	
owner_name	
owner_code	
owner_code_official	
multinational	



Context  
e north  
ploitation  
(FA 10),  
posite L  
nute Grid  
shrimp, 2  
0 - 95  
950 0  
2488.8  
7264.4  
> 265

code_system	
code_system_name	
code_disambiguation	
additional_descriptor	
code_system_official	
system_category	
multispecies	
species_description	
source	
source_date	
usage/license_terms	
lineage	
system_comment	

systematic_name	
area_code	
descriptive_name	
area_code_official	
parent_area	
geometry	
area_comment	
created_by	
created_on	

Figure 1  
Northern Shrimp Fishing Areas as of 2013.



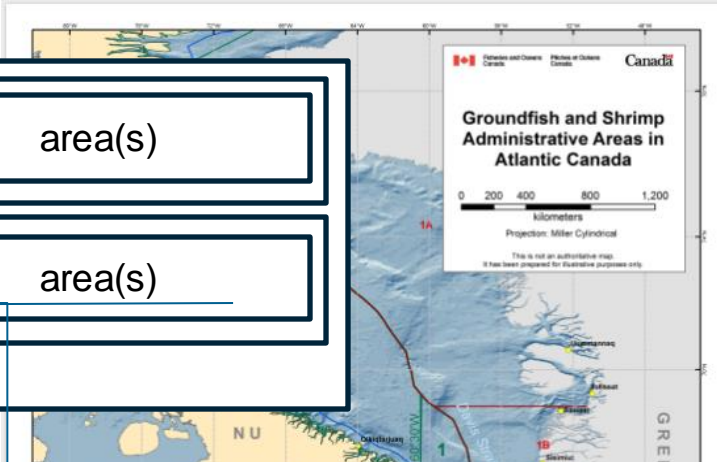
# GRSF Areas Database – Water\_areas Example

Section name	Field name	Field definition	Mandatory	Old database field name
system_owner	<b>country</b>	If not multinational, the country from the ISO 3166 3 alpha standard under whose jurisdiction the entity exists.  E.g., <b>can</b>		country
Entity responsible for definition, publication and upkeep of areas system standard.	<b>owner_name</b>	Official or directly translated name of the system owner in English	Y	system_owner
	<b>owner_name_english</b> <b>owner_name_spanish</b> <b>owner_name_french</b> <b>owner_name_japanese...</b>	E.g., <b>Fisheries and Oceans Canada</b> E.g., <b>Pêches et Océans Canada</b>		
	<b>owner_code</b>	Abbreviation of system owner name. If one is in use in local language this is the preferred one to use. If one is in use in English this would be next choice. If none is known, create from local name.  E.g. <b>DFO</b>	Y	system_owner_code
	<b>owner_code_official</b>	Binary flag for whether Owner_code is officially defined by System owner (1) or not (0)  E.g., <b>1</b>	Y	-
	<b>multinational</b>	Binary value for a multinational entity (1) or an entity under the jurisdiction of a single sovereign country (0).E.g. the Department of Fisheries and Oceans Canada (DFO) a Canadian entity, not multinational, so value here would be 0.  E.g., <b>0</b>	Y	-

# GRSF Areas Database – Water\_areas Example

## Canadian DFO Shrimp Fishing Areas

### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE



system\_owner

code\_system

area(s)

code\_system

area(s)

...

Figure 1. Shrimp fishing areas in the Estuary and

country	can
owner_name	Fisheries and Oceans Canada Pêches et Océans Canada
owner_code	DFO
owner_code_official	1
multinational	0

code_system	
code_system_name	
code_disambiguation	
additional_descriptor	
code_system_official	
system_category	
multispecies	
species_description	
source	
source_date	
usage/license_terms	
lineage	
system_comment	

systematic_name	
area_code	
descriptive_name	
area_code_official	
parent_area	
geometry	
area_comment	
created_by	
created_on	

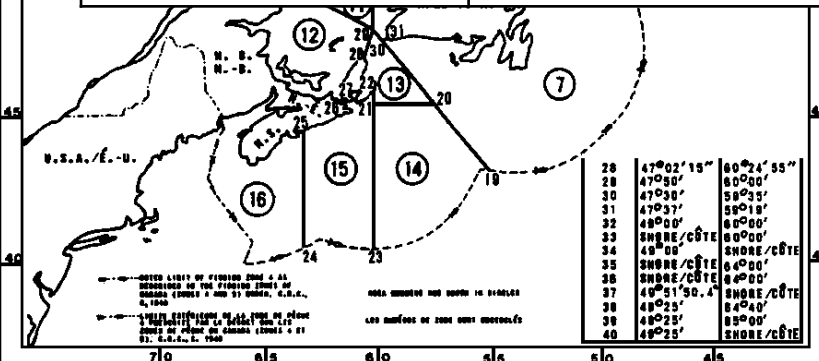
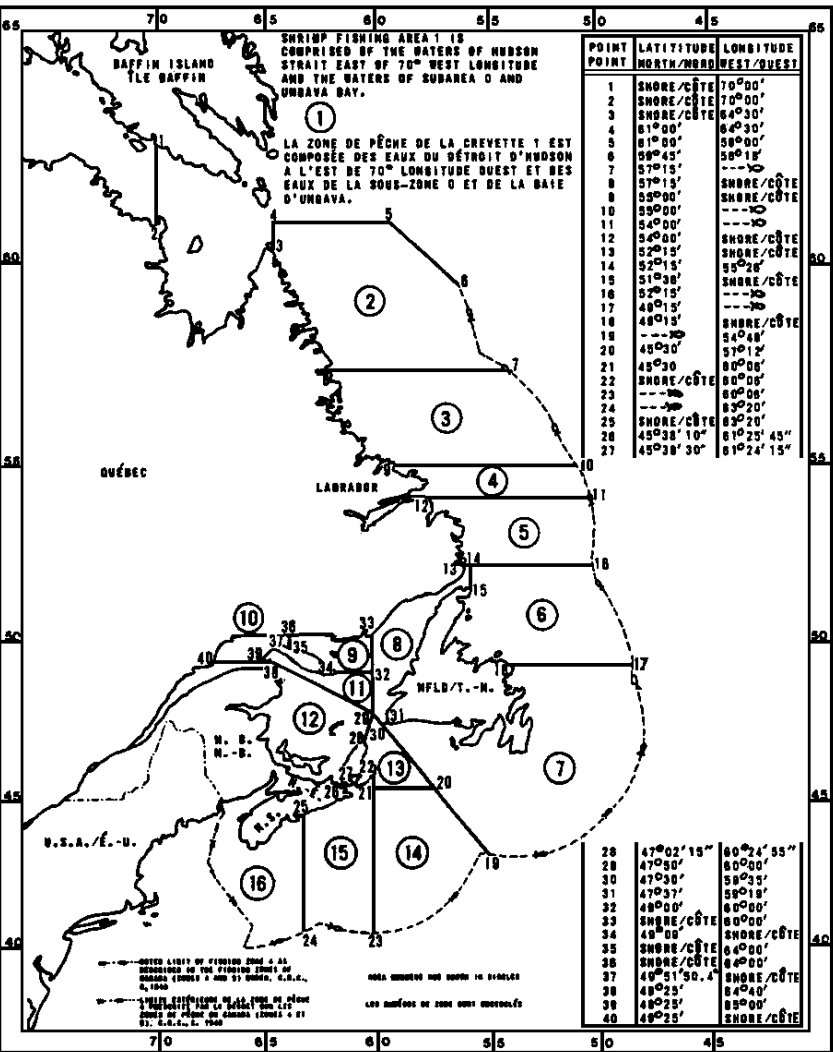


Figure 1 Northern Shrimp Fishing Areas as of 2013.

## Canadian DFO Shrimp Fishing Areas

Atlantic Fishery Regulations, 1985 (SOR/86-21)  
SCHEDULE XVII / ANNEXE XVII



### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE ESTUARY AND GULF OF ST. LAWRENCE IN 2021




Image of Northern Shrimp

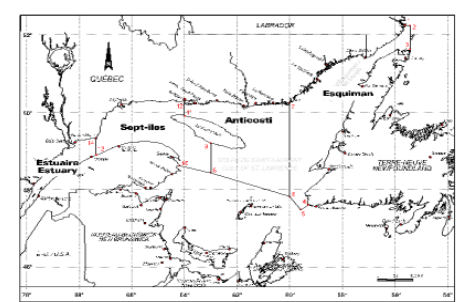


Figure 1. Shrimp fishing areas in the Estuary and Gulf of St. Lawrence.

**Context**

The northern shrimp (*Pandalus borealis*) fishery began in the Gulf of St. Lawrence in 1965. The exploitation is conducted by trawlers in four shrimp fishing areas (SFA): Estuary (SFA 12), Sept-Iles (SFA 10), Anticosti (SFA 9) and Esquiman (SFA 8) (Figure 1).

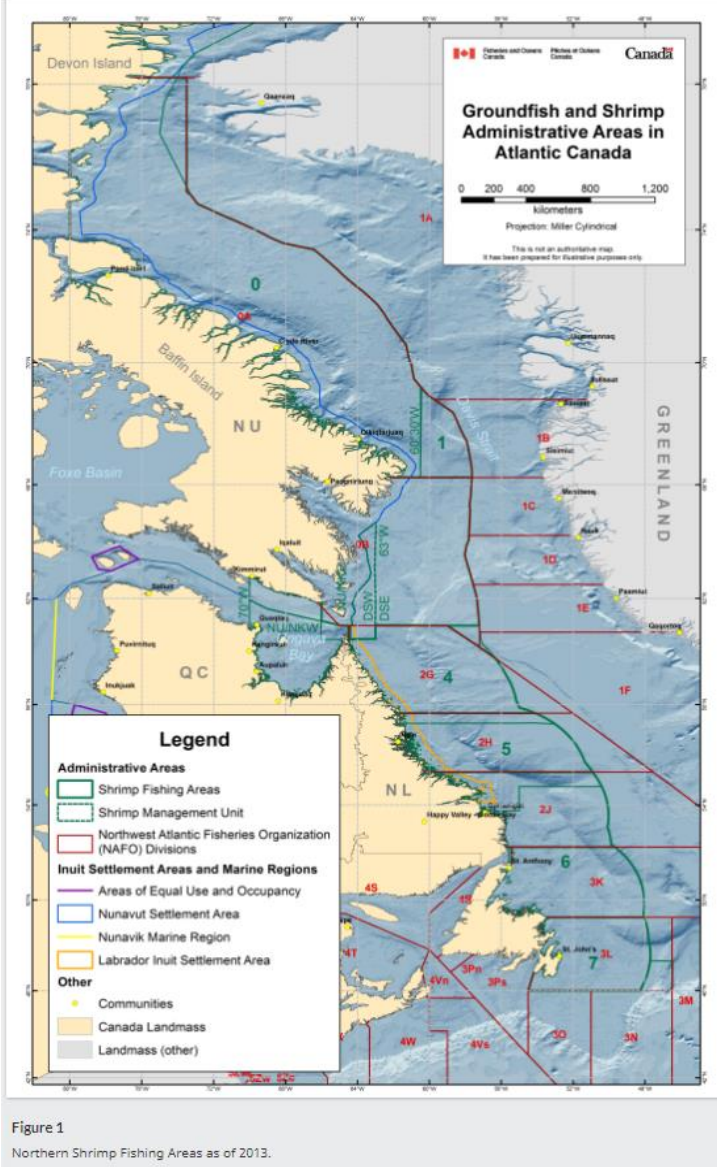
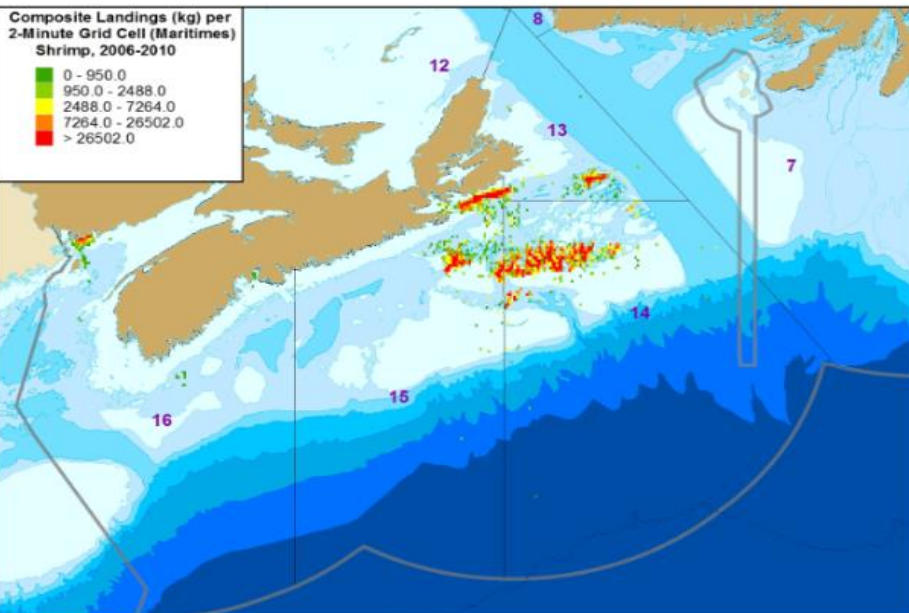


Figure 1 Northern Shrimp Fishing Areas as of 2013.



# GRSF Areas Database – GitHub water\_areas\_vocabulary

Section name	Field name	Field definition	Mandatory	Old database field name
code_system	code_system	Most commonly used abbreviation of the code created by user.		
<p>Area or multiple areas defined, published and upkept by an Owner as a single set. Areas within a single system will be non-overlapping except for hierarchies, e.g. FAO 34.1.11 is a subset of FAO 34.1. Examples: FAO fishing areas; IOTC area; DFO shrimp fishing areas.</p>	code_system_name	Official or directly translated English name of species or owner name should be included.		
	code_system_name_english			
	code_system_name_spanish...			
	code_disambiguation	Additional code necessary when a code is used. Shrimp Fishing Areas code_system is 'SFA'. Areas with the same code_system: "SFA" 'sca' for scallop, to differentiate.		
	additional_descriptor	Where necessary, additional descriptor to differentiate similar name and code (i.e. when name is the same).		
	code_system_official	Binary flag for whether System_code is official.		
	system_category	Classification of the system as to its use: fishing area, species distribution area. Can be used for other purposes.		
	multispecies	Binary flag for whether the system is multi-species.		
	species_description	Description of the species the system is for, including scientific and common name. If multispecies, cite the source.		
		E.g., - (empty), but could be filled with the 3alpha code for <i>Pandalus borealis</i> )		

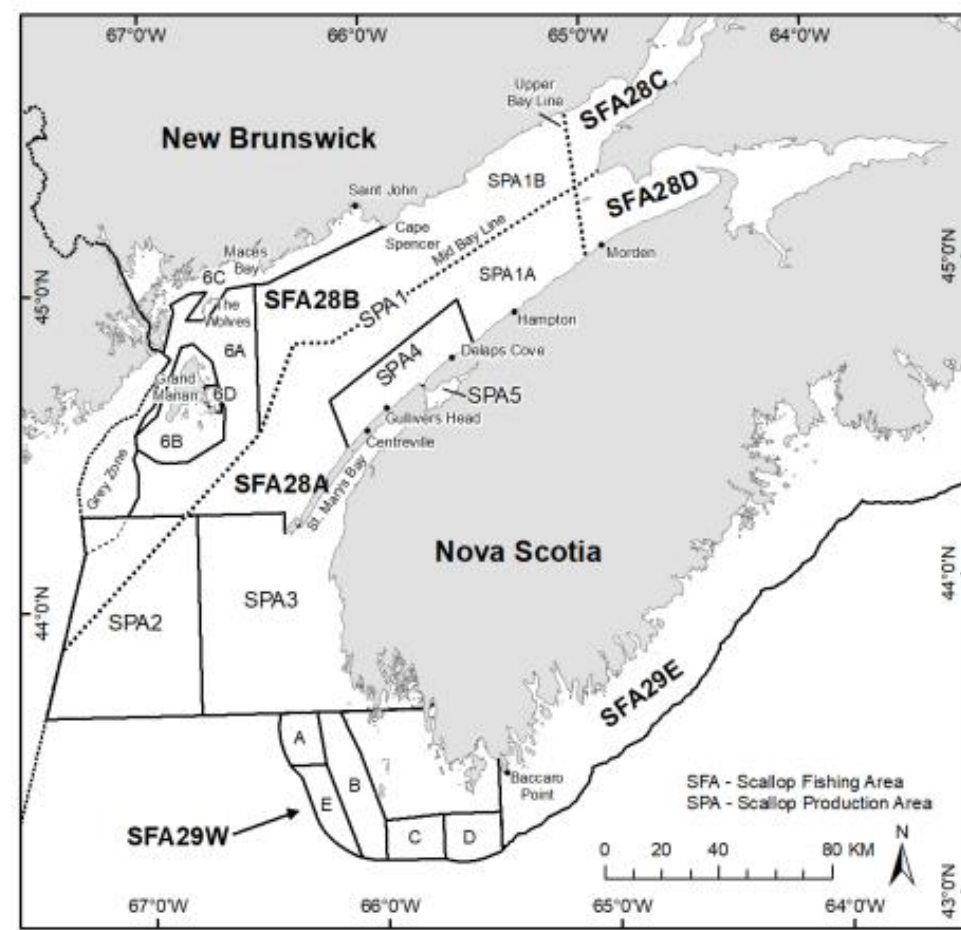


Figure 2. Map of the DFO Maritimes Region Inshore Scallop Fishing Areas (SFAs) 29W and 29E and Scallop Production Areas (SPAs). Note SFA 29E extends to the tip of Cape Breton as shown in Figure 1.

# GRSF Areas Database – GitHub water\_areas\_vocabulary

Section name	Field name	Field definition	Mandatory	Old database field name
<b>code_system (continuation)</b>	<b>source</b>	Source of the system and its areas. E.g.: <a href="https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html">https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html</a>	Y	source
<p>Area or multiple areas defined, published and upkept by an Owner as a single set. Areas within a single system will be non-overlapping except for hierarchies, e.g., FAO 34.1.11 is a subset of FAO 34.1. Examples: FAO fishing areas; IOTC area; DFO shrimp fishing areas</p>	<b>source_date</b>	Date that the source was published or last updated (whichever is most recent). If date resolution only goes down to month, then select 1st of month. If date resolution only goes down to year, then select 1st of year. If no specific source date is known, use website date if available or retrieval date otherwise. ISO 8601 standard.  E.g., <b>2013</b>	Y	-
	<b>Usage/ license_terms</b>	The usage terms of the data. Will generally appear within a section named 'Terms of use' of a website or source. Select one of the following options:  Public domain Copyleft- Attribution only Copyleft- ShareAlike Copyleft- No derivatives Copyleft- Non commercial Copyright Not explicit/unknown	Y	-
	<b>citation</b>	This should be the mandatory if provided, otherwise use APA style citation, also noting date retrieved. The citation is automatically created by concatenating different fields of the GRSF Areas database. E.g., <a href="#">[GRSF Area Vocabulary] [2023] [Shrimp Fishing Area] [https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html] [https://github.com/GRSF/water_areas_vocabulary/blob/main/can_areas.csv] [25.10.2022]</a>	Y	
	<b>lineage</b>	Describes the history of the spatial data, including descriptions of the source material from which the data were derived, and the methods of derivation. It also contains the dates of the source material, and all transformations involved in producing the final digital files or map products. This includes whether the area was georeferenced from an image in the source, and any other layers and steps that may have been used in the creation (such as clipping to Natural Earth Admin - 0, 1:10 m land boundaries). If downloaded, then imported with no additional manipulations then note 'Downloaded and imported from SOURCE on DATE'.	Y	"coordinates"
	<b>system_comment</b>	Additional comments, notes, or considerations on the system by the database user. Could include known issues or uncertainties with the system.  E.g., <b>(empty)</b>		"coordinates"

# GRSF Areas Database – Water\_areas Example

## Canadian DFO Shrimp Fishing Areas

### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE

code\_system

area(s)

system\_owner

code\_system

area(s)

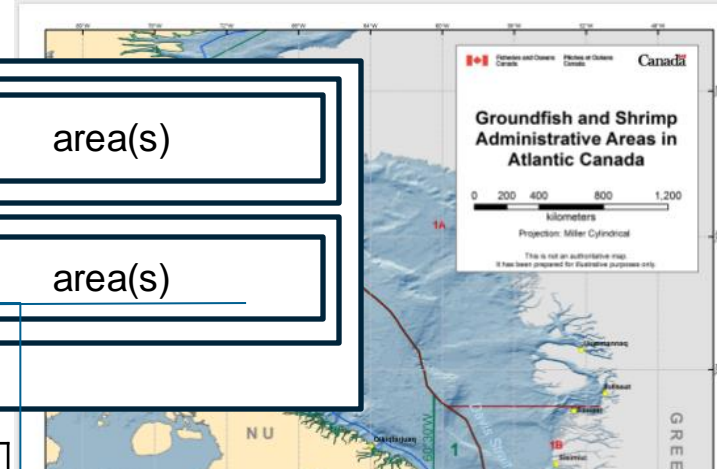
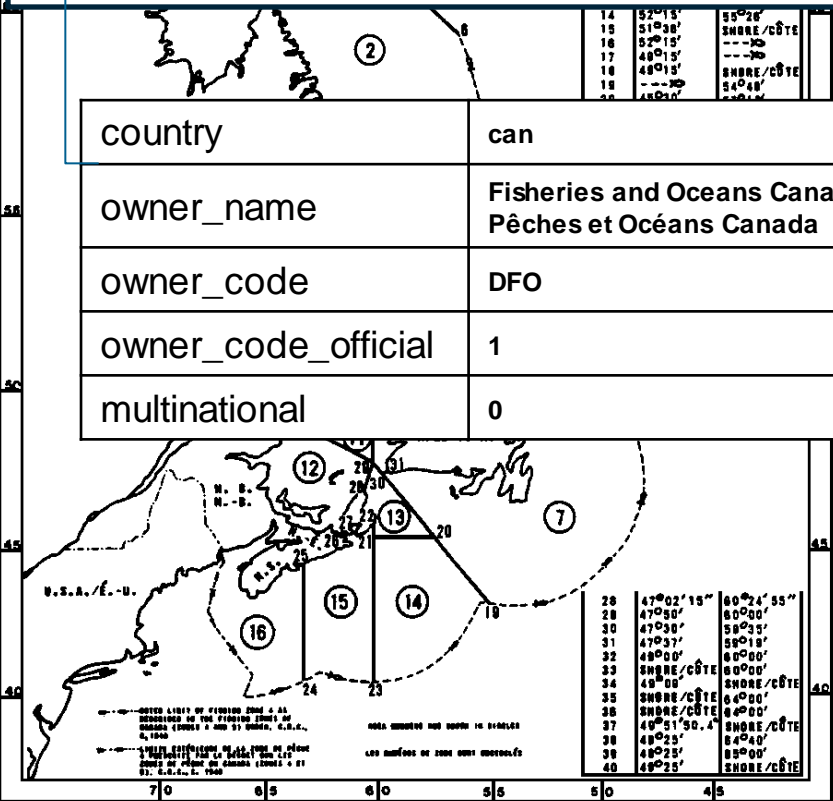


Figure 1. Shrimp fishing areas in the Estuary and

code_system	SFA
code_system_name	Shrimp Fishing Areas
code_disambiguation	shp
additional_descriptor	Id for Shrimp Fishing Areas
code_system_official	1
system_category	Management areas
multispecies	0
species_description	
source	<a href="https://www.dfompo.gc.ca/f...">https://www.dfompo.gc.ca/f...</a>
source_date	2013
usage/license_terms	
lineage	[GRSF Area Vocabulary] [2...
system_comment	

systematic_name	
area_code	
descriptive_name	
area_code_official	
parent_area	
geometry	
area_comment	
created_by	
created_on	

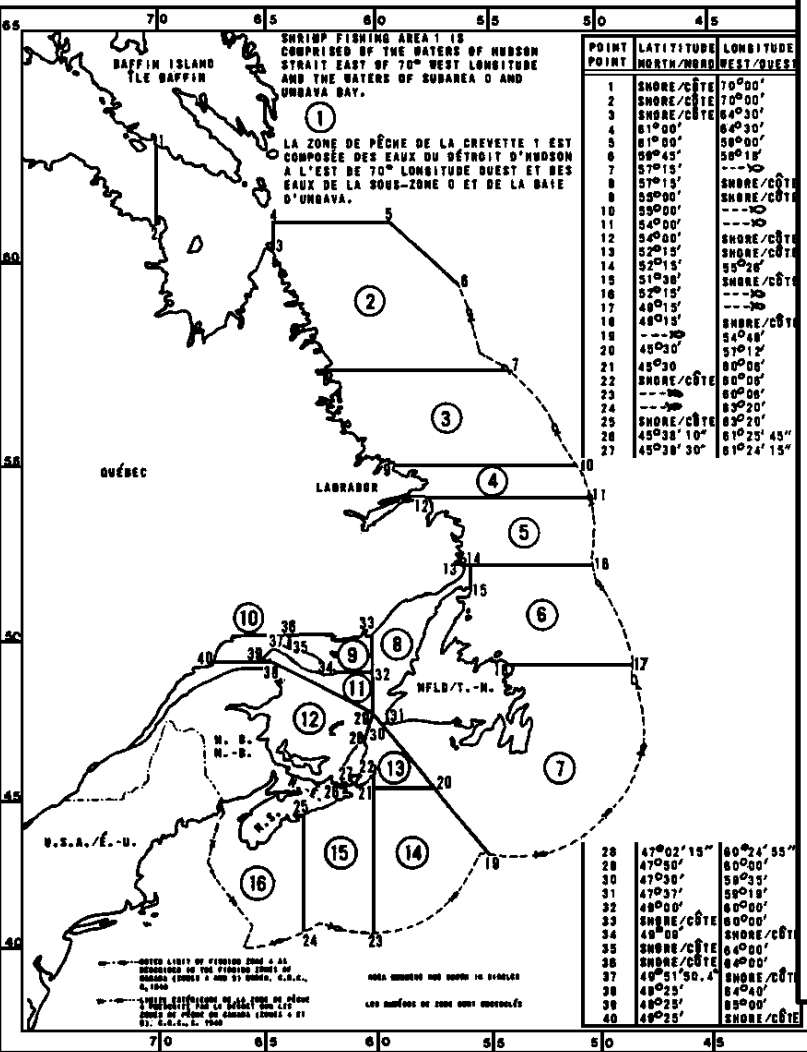
Figure 1 Northern Shrimp Fishing Areas as of 2013.





## Canadian DFO Shrimp Fishing Areas

Atlantic Fishery Regulations, 1985 (SOR/86-21)  
SCHEDULE XVII / ANNEXE XVII



## ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE ESTUARY AND GULF OF ST. LAWRENCE IN 2021



Image of Northern Shrimp

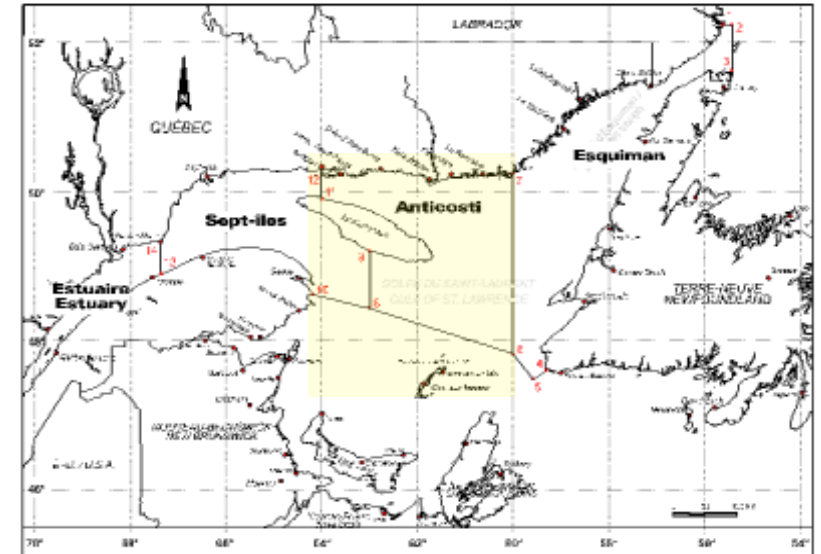


Figure 1. Shrimp fishing areas in the Estuary and Gulf of St. Lawrence.

**Context**  
The northern shrimp (*Pandalus borealis*) fishery began in the Gulf of St. Lawrence in 1965. The exploitation is conducted by trawlers in four shrimp fishing areas (SFA): Estuary (SFA 12), Sept-Iles (SFA 10), Anticosti (SFA 9) and Esquiman (SFA 8) (Figure 1).

Northern Shrimp Fishing Areas as of 2013.

# GRSF Areas Database – GitHub water\_areas\_vocabulary

Section name	Field name	Field definition	Mandatory	Old database field name
<b>area</b>  Individual polygons defined within a system. All hierarchies should be captured, e.g. both FAO 34.1 and FAO 34.1.11 are areas.	<b>systematic_name</b>	Full official or directly translated name of the area in English, as defined by the owner. Country, species or owner name should be included only if in the official name.  E.g., <b>Shrimp Fishing Area 9</b>	Y	layer_name
	<b>area_code</b>	Abbreviated code of the area. This should be unique within the system. If the area is only referred to by a full name (i.e. Area_name_English or Area_name_localized) and does not have a unique code then a code should be created and the Area_code_official field set to 0.  E.g., <b>9</b>	Y	area_code
	<b>descriptive_name</b>	Local name of the area used by the organization, assessment, etc. Normally kept in local language  E.g., <b>Anticosti</b>		area_name
	<b>area_code_official</b>	Binary flag for whether code is defined by System owner or not.  E.g.: <b>1</b>	Y	namespacer different that "grsf"
	<b>parent_area</b> <b>parent(_fao)_area</b>	FAO Area in which the water_area is contained.  E.g., <b>fao:21</b>		parent_area
	<b>geometry</b>	Archive that contains the polygon of the area in EPSG:4326. A single area is a single polygon (or multi-polygon) with a single (homogenous) area name, of a single system, of a single management authority/owner.  E.g., <b>can_dfo_sfa_shp.zip</b>	Y	shape_file
	<b>area_comment</b>	Additional comments, notes, or considerations on the area by the database user. Could include known issues or uncertainties with the area.  E.g., <b>(empty)</b>		Data can be found at "coordinates"
	<b>created_by</b>	Database username/email address of the user or name of organization who creates the record  E.g., <b>arturoalbero@gmail.com</b>		-
	<b>created_on</b>	Date of creation of the area, ISO 8601 standard.  E.g., <b>2022-10-25</b>		-

# GRSF Areas Database – Water\_areas Example

## Canadian DFO Shrimp Fishing Areas

### ASSESSMENT OF NORTHERN SHRIMP STOCKS IN THE

system\_owner

code\_system

area(s)

code\_system

area(s)

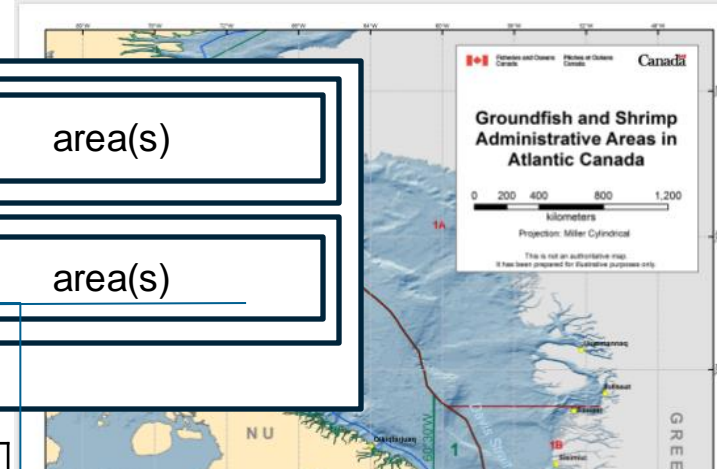
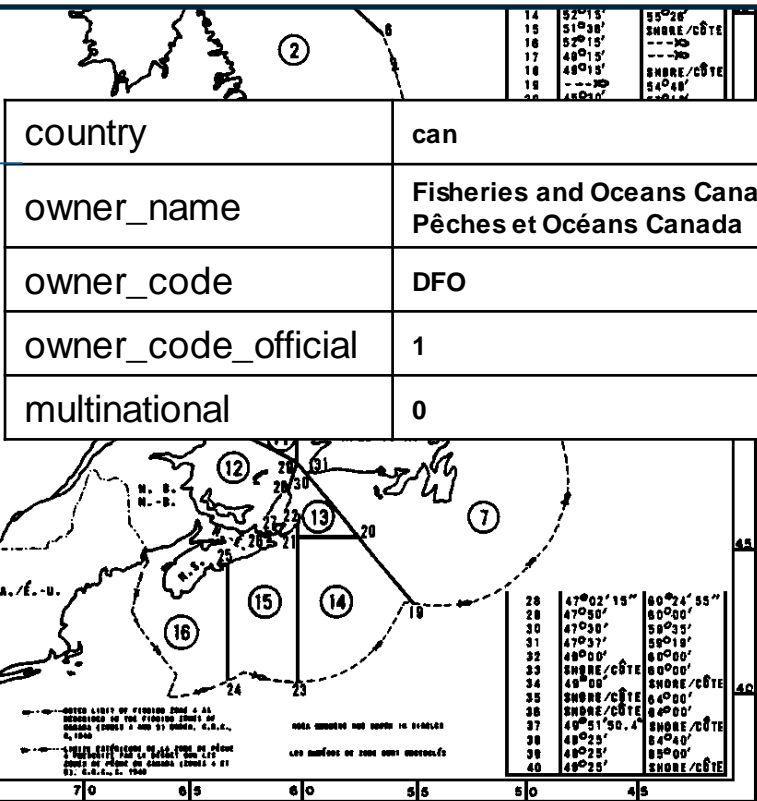


Figure 1. Shrimp fishing areas in the Estuary and



code_system	SFA
code_system_name	Shrimp Fishing Areas
code_disambiguation	shp
additional_descriptor	Id for Shrimp Fishing Areas
code_system_official	1
system_category	Management areas
multispecies	0
species_description	
source	<a href="https://www.dfompo.gc.ca/f...">https://www.dfompo.gc.ca/f...</a>
source_date	2013
usage/license_terms	
lineage	[GRSF Area Vocabulary] [2...
system_comment	

systematic_name	Shrimp Fishing Area 9
area_code	9
descriptive_name	Anticosti
area_code_official	1
parent_area	fao:21
geometry	can_dfo_sfa_shp.zip
area_comment	
created_by	arturoalbero@gmail...
created_on	2022-10-25

Figure 1 Northern Shrimp Fishing Areas as of 2013.



# GRSF Areas Database

## GitHub water\_areas\_vocabulary

### water\_areas\_vocabulary CSVs

Currently, the GRSF Areas Database is formed by CSVs of the different countries/organizations in tables as the one displayed below. The database is pending an actualization of the fields names, so the ones currently available are the "old database field names". For enhancing the database and improving its robustness, actualizations of the fields and a migration to R is planned.

namespace	country	system	system_owner	code_syste	code_system_name	differe	differe	area_code	area_name	area_type	typology	spec	parent_a	layer_name	source	georef_code	shape_
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			4	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishi	https://www.dfo-	area_code	can_dfo
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			8	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishi	https://www.dfo-	area_code	can_dfo
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			9	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishi	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifier	10	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishin	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifier	28	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishin	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifier	29	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishin	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifier	7	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishin	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifier	8	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishin	https://www.dfo-	area_code	can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifier	9	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishin	https://www.dfo-	area_code	can_dfo
gfc		gfc	General Fisheries Commission for the	gsa	Geographical Subarea			4	Algeria	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea	https://www.fao.org	GSA	GSAs_si
gfc		gfc	General Fisheries Commission for the	gsa	Geographical Subarea			5	Balearic Islands	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea	https://www.fao.org	GSA	GSAs_si
gfc		gfc	General Fisheries Commission for the	gsa	Geographical Subarea			6	Northern Spain	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea	https://www.fao.org	GSA	GSAs_si
gfc		gfc	General Fisheries Commission for the	gsa	Geographical Subarea			7	Gulf of Lion	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea	https://www.fao.org	GSA	GSAs_si
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fisheries	wpp	Fishery Management Area			571	Malacca Strait and Andaman Sea	FMA (Fishery Management Area)	Mangement areas	No	fao:57;fao:57	Fishery Management Area	https://jdih.kkp.go.id	area_code	idn_area
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fisheries	wpp	Fishery Management Area			572	Indian Ocean of Western Indonesia	FMA (Fishery Management Area)	Mangement areas	No	fao:57	Fishery Management Area	https://jdih.kkp.go.id	area_code	idn_area
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fisheries	wpp	Fishery Management Area			717	Cendrawasih Bay and Palau	FMA (Fishery Management Area)	Mangement areas	No	fao:71	Fishery Management Area	https://jdih.kkp.go.id	area_code	idn_area
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fisheries	wpp	Fishery Management Area			718	Aru Sea, Arafura Sea and Tasman Sea	FMA (Fishery Management Area)	Mangement areas	No	fao:57;fao:57	Fishery Management Area	https://jdih.kkp.go.id	area_code	idn_area
ind	ind	CMFRI	Central Marine Fisheries Research Institute	lfz	India Fishing Zones			B5	Territorial Waters of Karnataka	Fishing Zone	Mangement areas	No	fao:51	TW Karnataka	Shapefile created	zone_code	india_fishing
ind	ind	CMFRI	Central Marine Fisheries Research Institute	lfz	India Fishing Zones			B6	Territorial Waters of Kerala	Fishing Zone	Mangement areas	No	fao:51;fao:51	TW Kerala	Shapefile created	zone_code	india_fishing
ind	ind	CMFRI	Central Marine Fisheries Research Institute	lfz	India Fishing Zones			C	South West Bay of Bengal	Fishing Zone	Mangement areas	No	fao:51;fao:51	SWBOB	Shapefile created	zone_code	india_fishing
siofa		siofa	Southern Indian Ocean Fisheries Agency		SIOFA Subareas			1	Mozambique Ridge	SIOFA Subarea	Statistical areas	no	fao:51	SIOFA Subarea 1	https://www.apsc.org	SubAreaNo	siofa_si
siofa		siofa	Southern Indian Ocean Fisheries Agency		SIOFA Subareas			7	SE Indian	SIOFA Subarea	Statistical areas	no	fao:57	SIOFA Subarea 7	https://www.apsc.org	SubAreaNo	siofa_si
siofa		siofa	Southern Indian Ocean Fisheries Agency		SIOFA Subareas			8	North of 20S	SIOFA Subarea	Statistical areas	no	fao:51	SIOFA Subarea 8	https://www.apsc.org	SubAreaNo	siofa_si
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	nefmc	New England	AtlanticSeaS	New England - Atlantic	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Atlantic	https://www.habitat.noaa.gov	SITENAME_L	usa_nefmc
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	nefmc	New England	Deep-SeaCra	New England - Deep-Sea	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Deep-Sea	https://www.habitat.noaa.gov	SITENAME_L	usa_nefmc
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	nefmc	New England	AtlanticHalib	New England - Atlantic	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Atlantic	https://www.habitat.noaa.gov	SITENAME_L	usa_nefmc
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	nefmc	New England	OffshoreHak	New England - Offshore	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Offshore	https://www.habitat.noaa.gov	SITENAME_L	usa_nefmc
usa_efh_mafmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	mafmc	Mid-Atlantic	GoldenTilefi	Mid-Atlantic - Golden Tilefish	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21;fao:21	Mid-Atlantic - Golden	https://www.habitat.noaa.gov	SITENAME_L	usa_mafmc
usa_efh_mafmc	usa	noaa	National Oceanic and Atmospheric Administration	efh	Essential Fish Habitat	mafmc	Mid-Atlantic	NorthernShq	Mid-Atlantic - Northern	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21;fao:21	Mid-Atlantic - Northern	https://www.habitat.noaa.gov	SITENAME_L	usa_mafmc

# GRSF Areas Database

## GitHub water\_areas\_vocabulary

**Scombridae - Malacca Strait and Andaman Sea - Indian Ocean of Western Sumatera and Sunda Strait**

Short Name: Mackerels nei - Malacca Strait and Andaman Sea, Indian Ocean of Western Sumatera and Sunda Strait

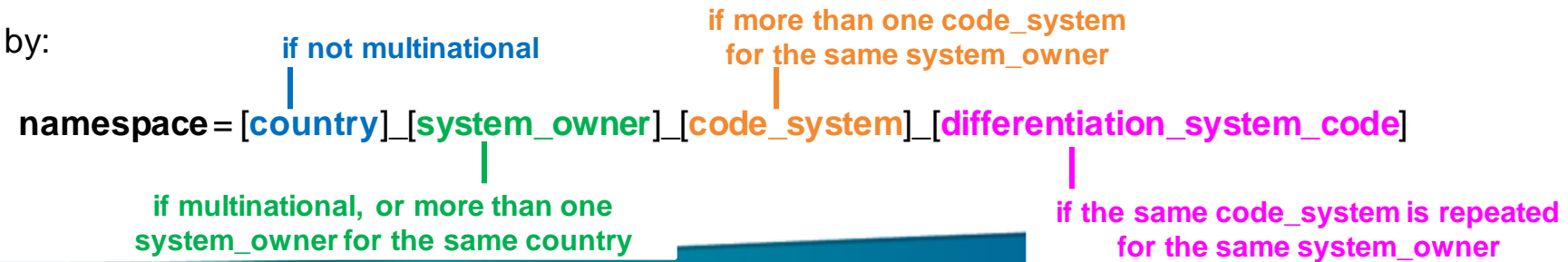
GRSF Semantic Identifier: **asfis:MAX+idn\_wpp:571;idn\_wpp:572**

Record URL: <https://data.d4science.org/ctlg/GRSF/b2bb99fc-193b-31af-9bfd-ab9d292e4a1f>

Area semantic identifier → [namespace]:[area\_code]

namespace	country	system	system_owner	code_syste	code_system_nam	differei	differe	area_code	area_name	area_type	typology	spec	parent_a	layer_name	source	georef_code	shape
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			4	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			8	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_lfa	can	dfo	Fisheries and Oceans Canada	lfa	Lobster Fishing Area			9	Canadian Lobster Fishin	Lobster Fishing Area	Mangement areas	Yes	fao:21	Canadian Lobster Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifie	10	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifie	28	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_sca	can	dfo	Fisheries and Oceans Canada	sfa	Scallop Fishing Area	sca	identifie	29	Canadian Scallop Fishin	Scallop Fishing Area	Mangement areas	Yes	fao:21	Canadian Scallop Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifie	7	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifie	8	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifie	9	Canadian Shrimp Fishin	Shrimp Fishing Area	Mangement areas	Yes	fao:21	Canadian Shrimp Fishir	<a href="https://www.dfo-1 area_code">https://www.dfo-1 area_code</a>		can_dfo
gfc		gfc	General Fisheries Commission for	gsa	Geographical Subare			4	Algeria	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea (	<a href="https://www.fao.c GSA">https://www.fao.c GSA</a>		GSAs_s
gfc		gfc	General Fisheries Commission for	gsa	Geographical Subare			5	Balearic Islands	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea (	<a href="https://www.fao.c GSA">https://www.fao.c GSA</a>		GSAs_s
gfc		gfc	General Fisheries Commission for	gsa	Geographical Subare			6	Northern Spain	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea (	<a href="https://www.fao.c GSA">https://www.fao.c GSA</a>		GSAs_s
gfc		gfc	General Fisheries Commission for	gsa	Geographical Subare			7	Gulf of Lion	Geographical Subarea (GSA)	Statistical areas	No	fao:37	Geographical Subarea (	<a href="https://www.fao.c GSA">https://www.fao.c GSA</a>		GSAs_s
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Management			571	Malacca Strait and Anda	FMA (Fishery Management A	Mangement areas	No	fao:57;fao:;	Fishery Management A	<a href="https://jdih.kkp.gc area_code">https://jdih.kkp.gc area_code</a>		idn_are
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Management			572	Indian Ocean of Wester	FMA (Fishery Management A	Mangement areas	No	fao:57	Fishery Management A	<a href="https://jdih.kkp.gc area_code">https://jdih.kkp.gc area_code</a>		idn_are
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Management			717	Cendrawasih Bay and P	FMA (Fishery Management A	Mangement areas	No	fao:71	Fishery Management A	<a href="https://jdih.kkp.gc area_code">https://jdih.kkp.gc area_code</a>		idn_are
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Management			718	Aru Sea, Arafura Sea and	FMA (Fishery Management A	Mangement areas	No	fao:57;fao:;	Fishery Management A	<a href="https://jdih.kkp.gc area_code">https://jdih.kkp.gc area_code</a>		idn_are
ind	ind	CMFRI	Central Marine Fisheries Research	fz	India Fishing Zones			B5	Territorial Waters of Kar	Fishing Zone	Mangement areas	No	fao:51	TW Karnataka	Shapefile created	zone_code	india_fr
ind	ind	CMFRI	Central Marine Fisheries Research	fz	India Fishing Zones			B6	Territorial Waters of Ke	Fishing Zone	Mangement areas	No	fao:51;fao:;	TW Kerala	Shapefile created	zone_code	india_fr
ind	ind	CMFRI	Central Marine Fisheries Research	fz	India Fishing Zones			C	South West Bay of Beng	Fishing Zone	Mangement areas	No	fao:51;fao:;	SWBOB	Shapefile created	zone_code	india_fr
siofa		siofa	Southern Indian Ocean Fisheries A		SIOFA Subareas			1	Mozambique Ridge	SIOFA Subarea	Statistical areas	no	fao:51	SIOFA Subarea 1	<a href="https://www.apso SubAreaNo">https://www.apso SubAreaNo</a>		siofa_s
siofa		siofa	Southern Indian Ocean Fisheries A		SIOFA Subareas			7	SE Indian	SIOFA Subarea	Statistical areas	no	fao:57	SIOFA Subarea 7	<a href="https://www.apso SubAreaNo">https://www.apso SubAreaNo</a>		siofa_s
siofa		siofa	Southern Indian Ocean Fisheries A		SIOFA Subareas			8	North of 20S	SIOFA Subarea	Statistical areas	no	fao:51	SIOFA Subarea 8	<a href="https://www.apso SubAreaNo">https://www.apso SubAreaNo</a>		siofa_s
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	nefmc	New Eng	AtlanticSea	New England - Atlantic	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Atlantic	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ne
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	nefmc	New Eng	Deep-SeaCra	New England - Deep-Se	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Deep-Se	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ne
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	nefmc	New Eng	AtlanticHalib	New England - Atlantic	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Atlantic	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ne
usa_efh_nefmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	nefmc	New Eng	OffshoreHak	New England - Offshore	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21	New England - Offshor	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ne
usa_efh_mafmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	mafmc	Mid-Atla	GoldenTilefi	Mid-Atlantic - Golden TI	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21;fao:;	Mid-Atlantic - Golden T	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ma
usa_efh_mafmc	usa	noaa	National Oceanic and Atmospheri	efh	Essential Fish Habit	mafmc	Mid-Atla	NorthernSho	Mid-Atlantic - Northern	Essential Fish Habitat (EFH)	Biological areas	Yes	fao:21;fao:;	Mid-Atlantic - Northerr	<a href="https://www.habit SITENAME_L">https://www.habit SITENAME_L</a>		usa_ma

The namespace is formed by:



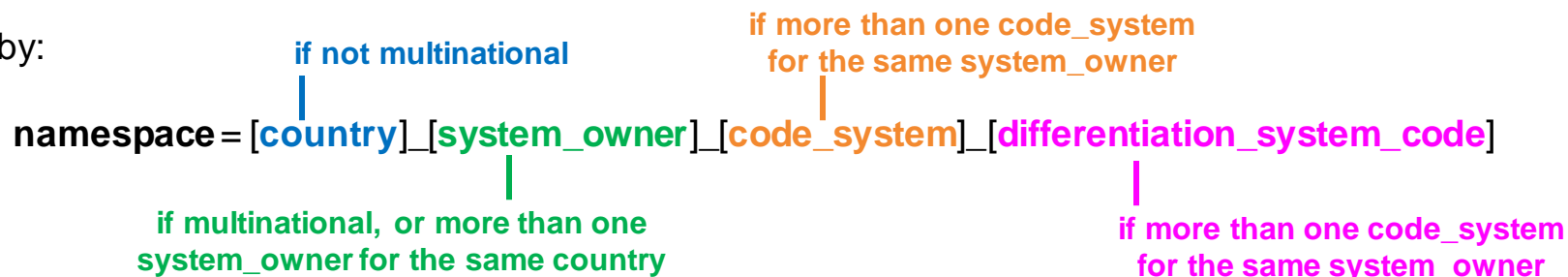


# GRSF Areas Database

## GitHub water\_areas\_vocabulary

namespace	country	system	system_owner	code_syste	code_system_nam	differen	differen	area_code	area_name	area_type	typology	spec	parent_a	layer_name	source	georef_code	shape
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Managemen			571	Malacca Strait and Anda FMA (Fishery Management Ar Mangement areas			No	fao:57;fao:	Fishery Management A	https://jdih.kkp.gc	area_code	idn_are
idn_wpp	idn	kkp	Ministry of Marine Affairs and Fish	wpp	Fishery Managemen			572	Indian Ocean of Wester FMA (Fishery Management Ar Mangement areas			No	fao:57	Fishery Management A	https://jdih.kkp.gc	area_code	idn_are
can_dfo_sfa_shp	can	dfo	Fisheries and Oceans Canada	sfa	Shrimp Fishing Area	shp	identifier	7	Canadian Shrimp Fishin; Shrimp Fishing Area		Mangement areas	Yes	fao:21	Canadian Shrimp Fishir	https://www.dfo-i	area_code	can_dfo

The namespace is formed by:



E.g., namespace = **idn\_wpp**

E.g., namespace = **can\_dfo\_sfa\_shp**

Area semantic identifier → [namespace]:[area\_code] → E.g., **idn\_wpp:571**

**Scombridae - Malacca Strait and Andaman Sea - Indian Ocean of Western Sumatera and Sunda Strait**

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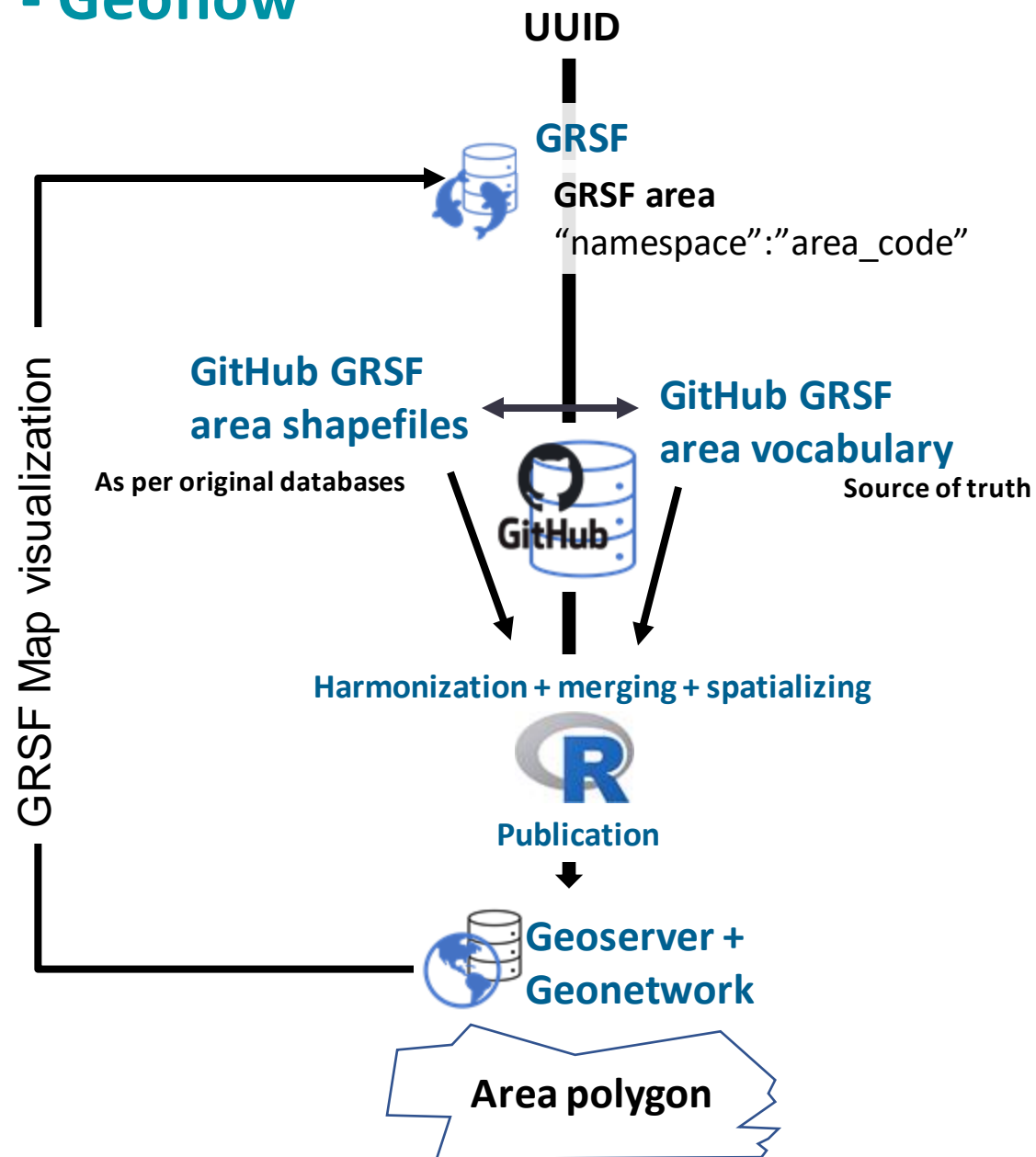
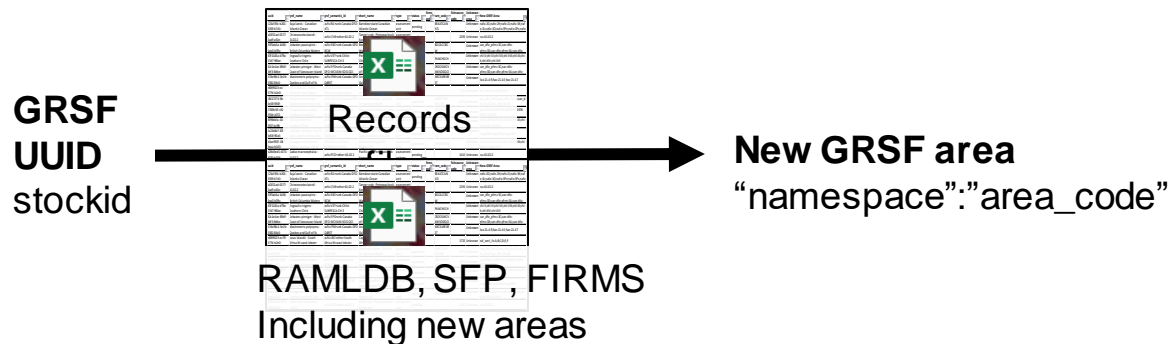
Short Name: Mackerels nei - Malacca Strait and Andaman Sea, Indian Ocean of Western Sumatera and Sunda Strait

GRSF Semantic Identifier: **asfis:MAX+idn\_wpp:571;idn\_wpp:572**

Record URL: <https://data.d4science.org/ctlg/GRSF/b2bb99fc-193b-31af-9bfd-ab9d292e4a1f>



# GRSF Areas Database - Geoflow



# GRSF Areas Database – Example

## Lutjanus campechanus - Gulf of Mexico

PRIVATE

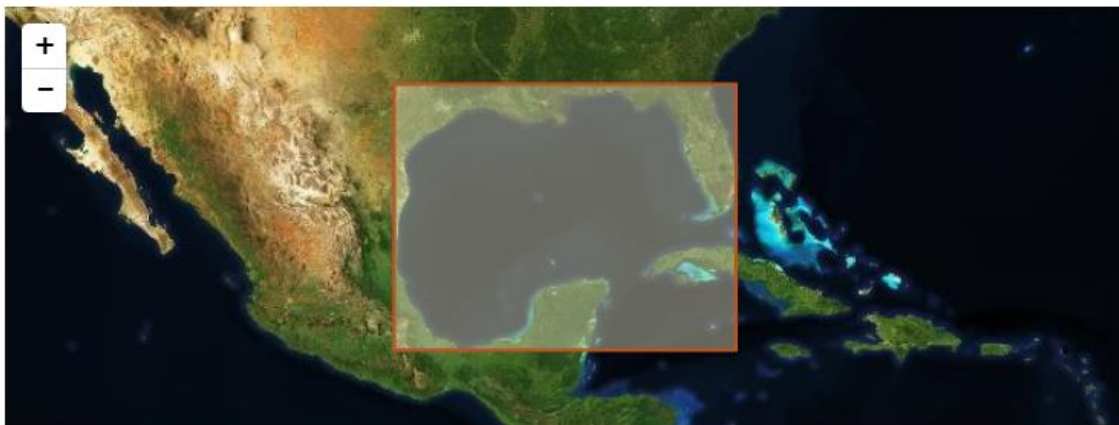
Short Name: Red snapper Gulf of Mexico

GRSF Semantic Identifier: asfis:SNR+unk:USA-NMFS-GM

Record URL: [https://data.d4science.org/ctlg/GRSF\\_Admin/932ead78-05a2-36d5-b3f0-db883a05371c](https://data.d4science.org/ctlg/GRSF_Admin/932ead78-05a2-36d5-b3f0-db883a05371c)

Citation

### Dataset extent



Map data © OpenStreetMap contributors

Tiles by MapBox

## Lutjanus campechanus - Gulf of Mexico - Reef Fish EFH

PRIVATE

Short Name: Red snapper Gulf of Mexico

GRSF Semantic Identifier: asfis:SNR+usa\_efh\_gfmc:ReefFish

Record URL: [https://data.d4science.org/ctlg/GRSF\\_Admin/932ead78-05a2-36d5-b3f0-db883a05371c](https://data.d4science.org/ctlg/GRSF_Admin/932ead78-05a2-36d5-b3f0-db883a05371c)

Citation

### Dataset extent



Map data © OpenStreetMap contributors

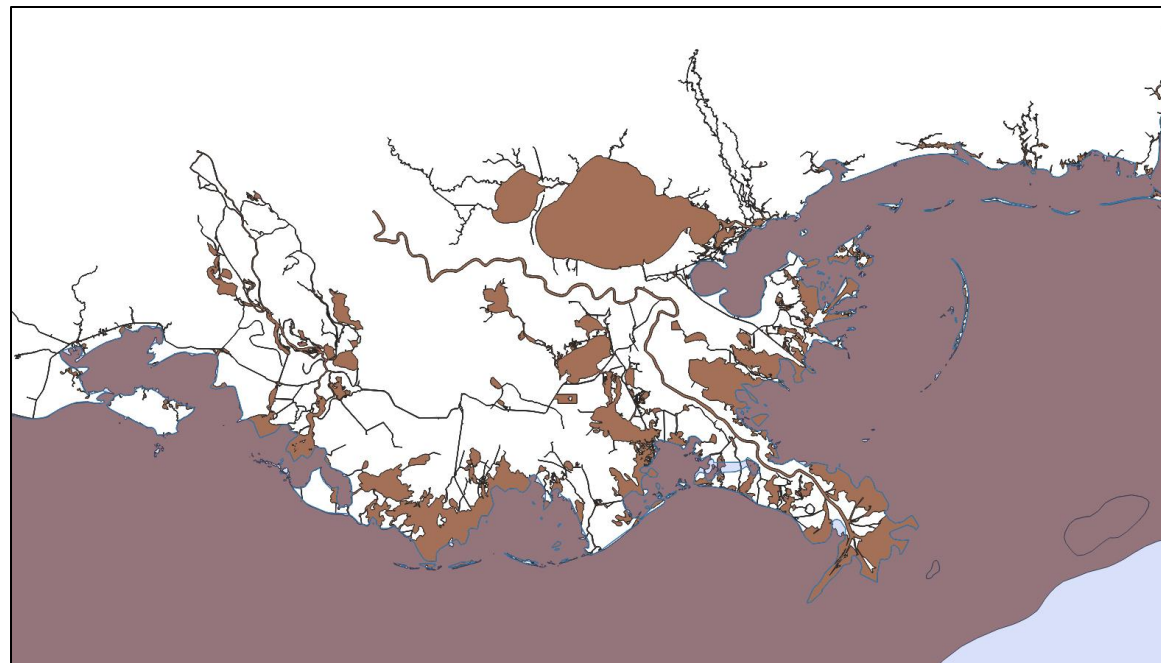
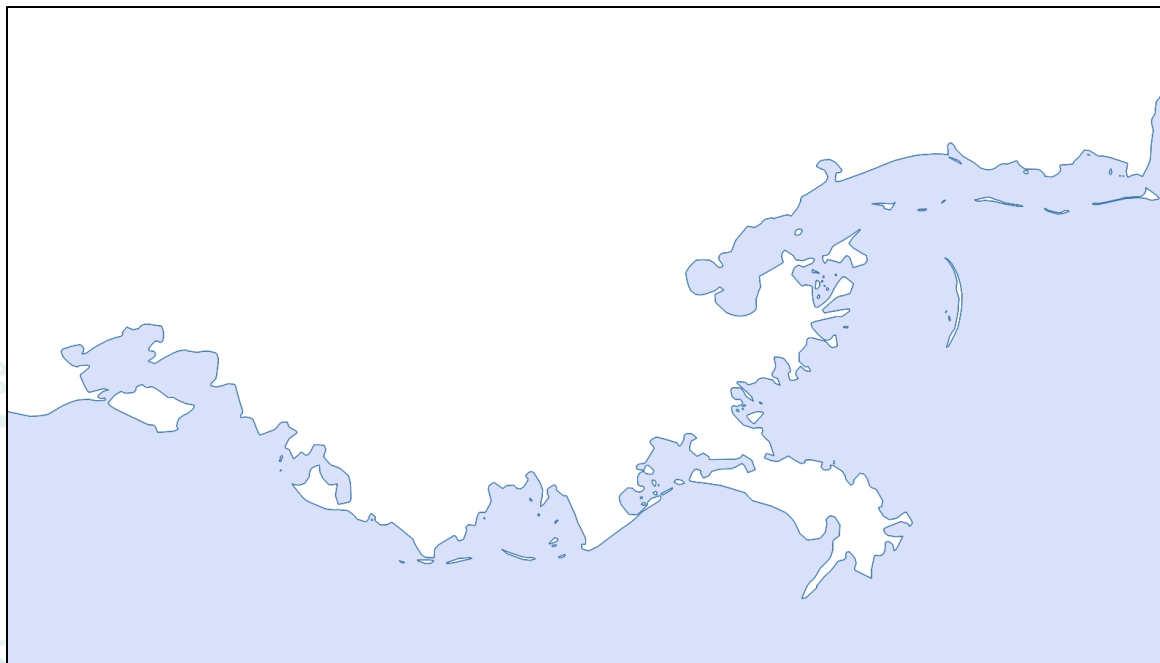
Tiles by MapBox

# GRSF Areas Database – Main issues

## Polygons granularity

Some polygons are too detailed, collapsing the database display and leading to inconsistencies.

Coastline should be standardized to the FAO coastline, but processing this for all areas is time consuming and complex.





# GRSF Areas Database – Main issues

## Seasonality of records areas

Some records refer to stocks with seasonal (winter/summer) or age stage dependent (juvenile/adult) distributions and assessment areas.

Currently, the solution adopted is to combine the different areas for creating a single polygon for the record.

Ideally, the GRSF should display each polygon with the seasonal/age stage correspondent label.

\* Also, polygons need to be continuous, without gaps or isolated boundaries

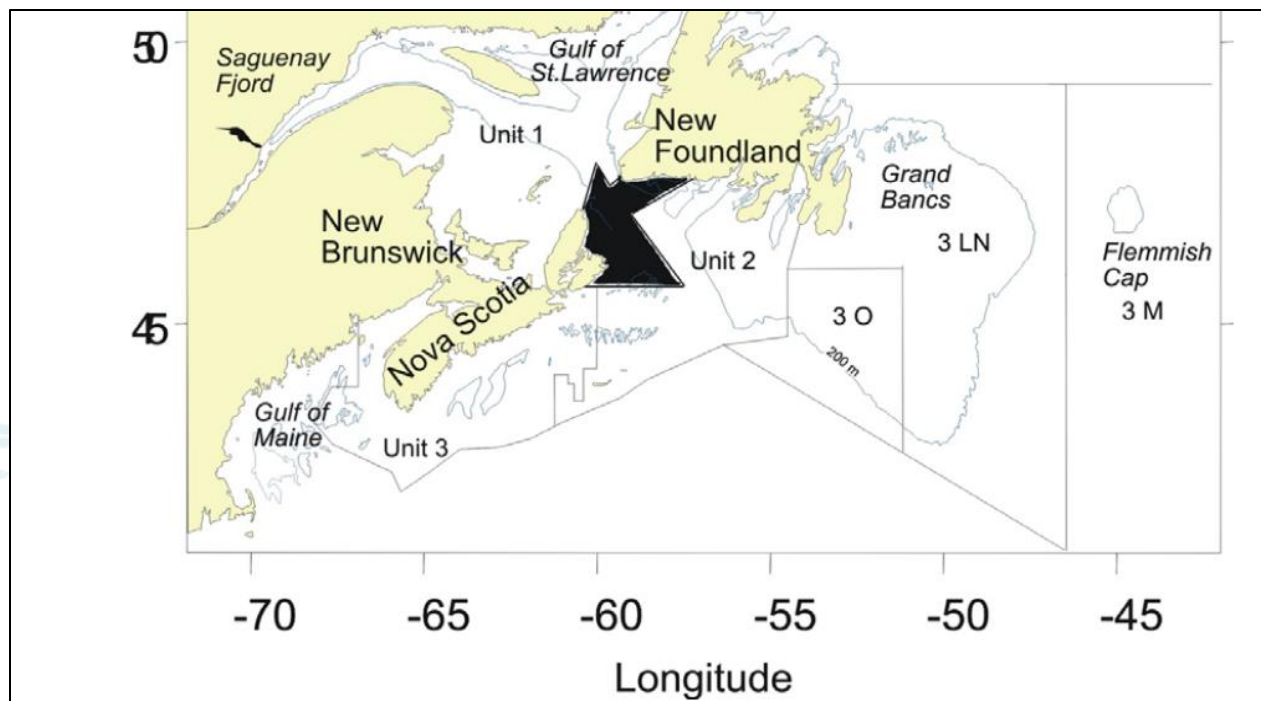


Figure 4. DFO Redfish management units (modified from Morin *et al.* 2004). The black zone is included in Unit 1 from January to May, and in Unit 2 from June to December.

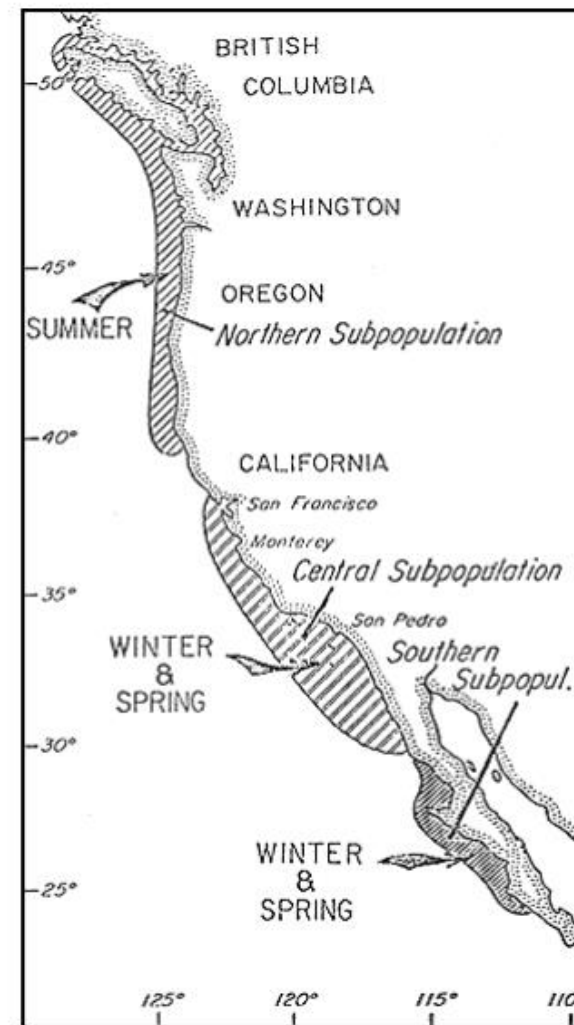


Figure 1: Map showing distribution of the three purported northern anchovy subpopulations.

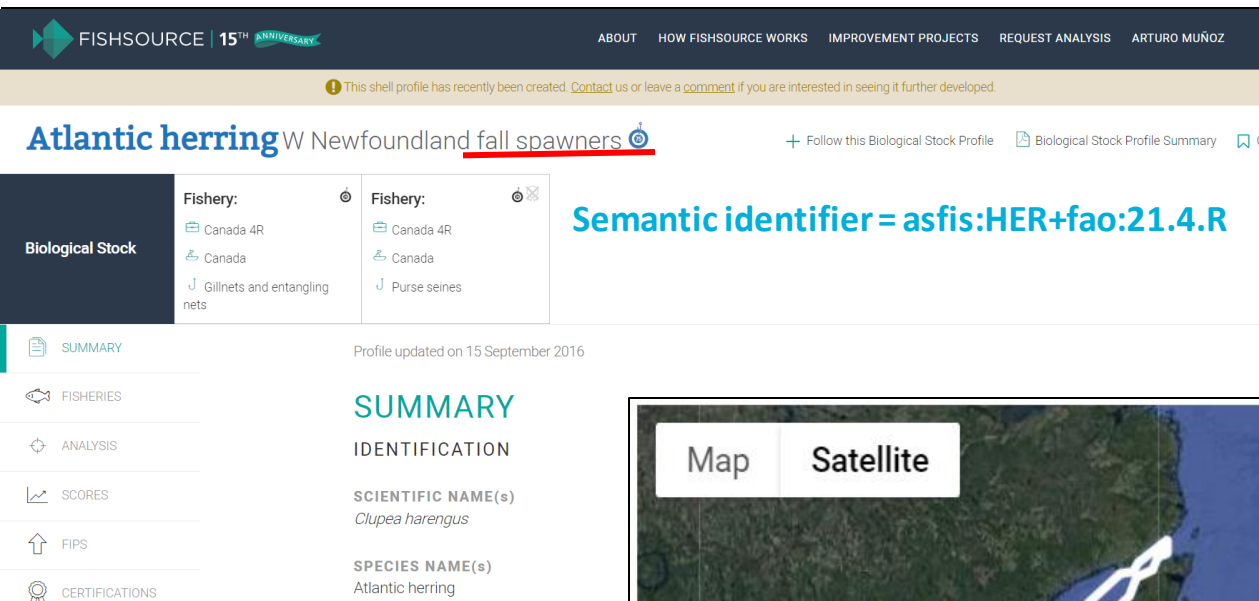
# GRSF Areas Database – Main issues

## Seasonality of stocks in the same area

Some stocks of the same species share the same area because of seasonal (e.g., fall/spring) distributions areas.

Currently, this leads to different records having the same semantic identifier (e.g., asfis:HER+fao:21.4.R).

A seasonal differentiator would be needed for this cases, in order to avoid duplication.



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This shell profile has recently been created. [Contact us](#) or leave a [comment](#) if you are interested in seeing it further developed.

### Atlantic herring

Newfoundland fall spawners

+ Follow this Biological Stock Profile | Biological Stock Profile Summary

**Semantic identifier = asfis:HER+fao:21.4.R**

**Biological Stock**

Fishery: Canada 4R  
Canada  
Gillnets and entangling nets

Fishery: Canada 4R  
Canada  
Purse seines

Profile updated on 15 September 2016

**SUMMARY**

FISHERIES

ANALYSIS

SCORES

FIPS

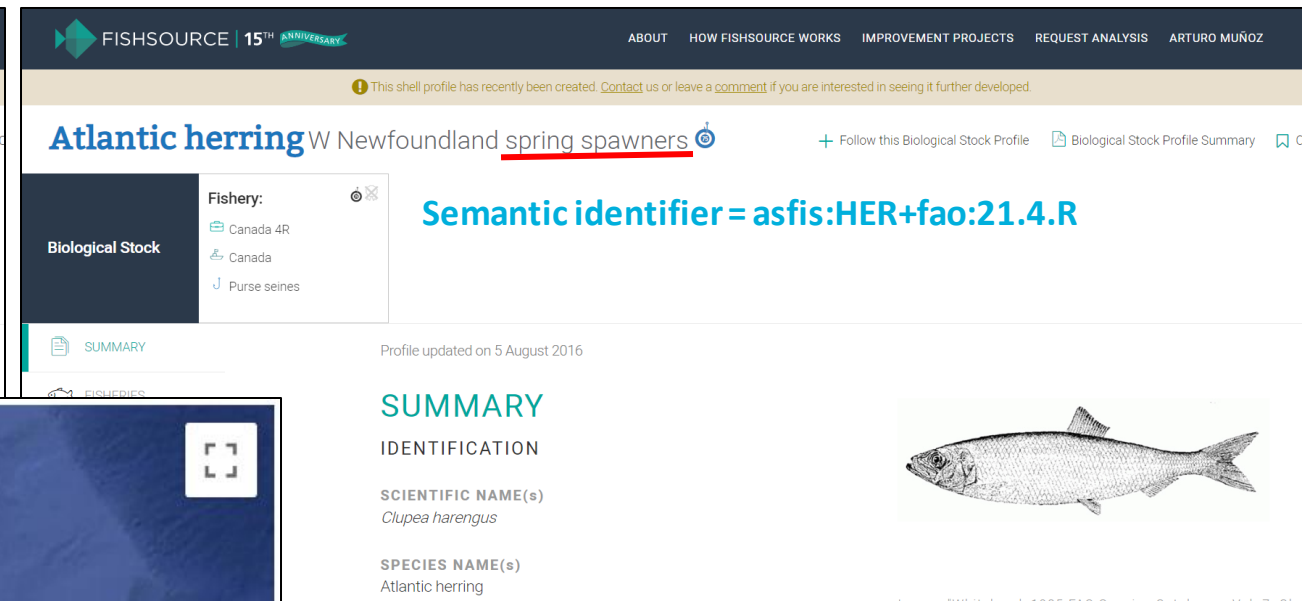
CERTIFICATIONS

**SUMMARY**

IDENTIFICATION

SCIENTIFIC NAME(s)  
*Clupea harengus*

SPECIES NAME(s)  
Atlantic herring



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### Atlantic herring

Newfoundland spring spawners

+ Follow this Biological Stock Profile | Biological Stock Profile Summary

**Semantic identifier = asfis:HER+fao:21.4.R**

**Biological Stock**

Fishery: Canada 4R  
Canada  
Purse seines

Profile updated on 5 August 2016

**SUMMARY**

FISHERIES

ANALYSIS

SCORES

FIPS

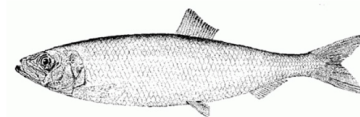
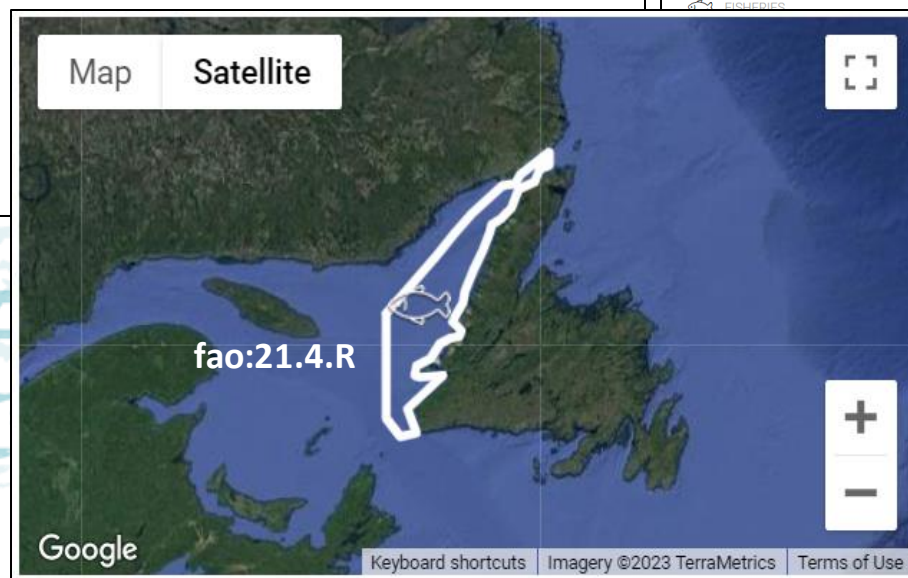
CERTIFICATIONS

**SUMMARY**

IDENTIFICATION

SCIENTIFIC NAME(s)  
*Clupea harengus*

SPECIES NAME(s)  
Atlantic herring

# GRSF Areas Database – Main issues

## Monitoring evolution of assessment units

When assessments for the same record or assessment units change the assessment area due to monitoring evolution.

This could imply the creation of a new area, which may or may not supersede the old one.

Tracking area versions could be a method for controlling these changes.

Also, this is an issue when the GRSF stock/fishery record does not include the last up-to-date assessment, and the area changes in latest assessments.

Assumption: the assessment area displayed in the GRSF stock/fishery record should be the correspondent area of the last assessment available for the stock/fishery record in the GRSF.

Maintenance of the database needs a high effort right now, so work is in progress for automatize the processes, while we publish all areas and data into a geo-infrastructure (including Geoserver, Geonetwork and the GRSF map viewer).

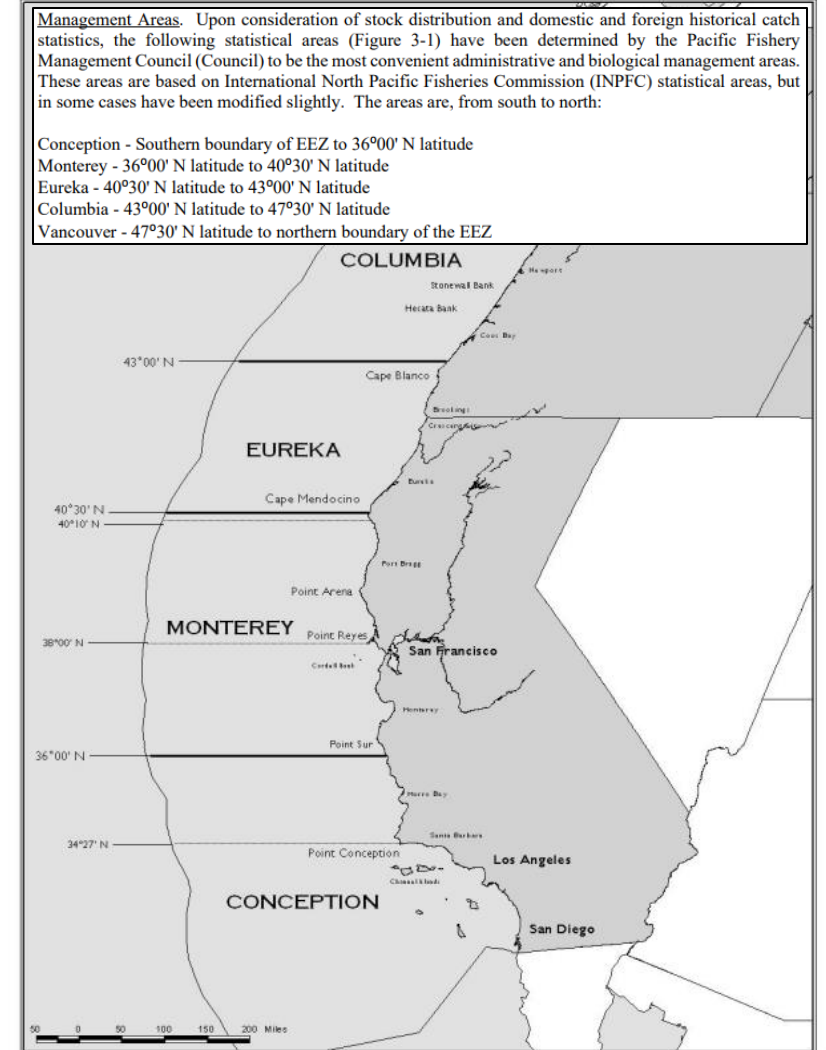


Figure 3-1. International North Pacific Fisheries Commission (INPFC) statistical areas in the U.S. exclusive economic zone seaward of Washington, Oregon, and California.



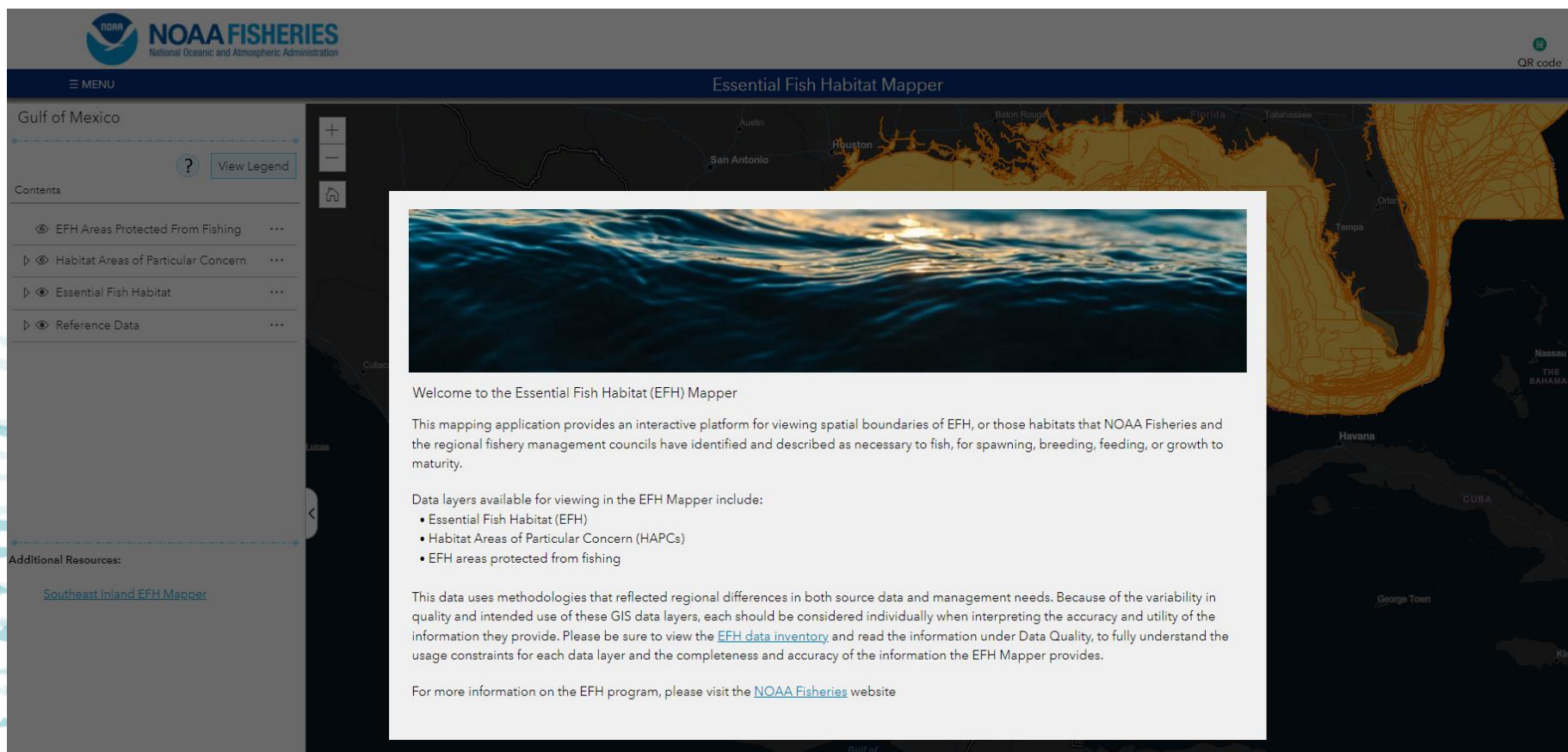
# GRSF Areas Database – Main issues

## Use of third parties' data sources

As the GRSF Areas Database extracts shapefiles and data from official sources, it is important to consider the terms of use and licenses that water\_areas owners specify.

Ideally, the owners of the water\_areas would be involved in the GRSF Areas Database. This would also be beneficial for the maintenance of the database, as well as an opportunity for water\_areas standardization worldwide.

It is important to ensure the conditions under which GRSF can use the source data and polygons, as well as to disseminate them with a proper citation.



**NOAA FISHERIES**  
National Oceanic and Atmospheric Administration

Essential Fish Habitat Mapper

Gulf of Mexico

View Legend

Contents

- EFH Areas Protected From Fishing
- Habitat Areas of Particular Concern
- Essential Fish Habitat
- Reference Data

Additional Resources:

[Southeast Inland EFH Mapper](#)

Welcome to the Essential Fish Habitat (EFH) Mapper

This mapping application provides an interactive platform for viewing spatial boundaries of EFH, or those habitats that NOAA Fisheries and the regional fishery management councils have identified and described as necessary to fish, for spawning, breeding, feeding, or growth to maturity.

Data layers available for viewing in the EFH Mapper include:

- Essential Fish Habitat (EFH)
- Habitat Areas of Particular Concern (HAPCs)
- EFH areas protected from fishing

This data uses methodologies that reflected regional differences in both source data and management needs. Because of the variability in quality and intended use of these GIS data layers, each should be considered individually when interpreting the accuracy and utility of the information they provide. Please be sure to view the [EFH data inventory](#) and read the information under Data Quality, to fully understand the usage constraints for each data layer and the completeness and accuracy of the information the EFH Mapper provides.

For more information on the EFH program, please visit the [NOAA Fisheries](#) website



Thank you ▪ Merci  
Благодарю ▪ ¡Muchas gracias!  
謝謝 ▪ شكرا

[FIRMS-Secretariat@fao.org](mailto:FIRMS-Secretariat@fao.org)