

RDBFIS – fleet analysis tool

Fleet Analysis: An Open Access Tool¹ has been developed and integrated within the RDBFIS to illustrate the evolution of fleet dynamics in Europe, with potential links to landings, discards, and value variables (FDI Table A).

Data from the professional fishing fleet, spanning the period from 1991 to 2024, was downloaded from the official EU Fleet Register portal². GIS techniques were employed to spatially join the fishing ports with various geographical entities, including NUTS2 and NUTS3³, FDI subregions⁴, Geographical areas (GFCM, ICES). The fishing ports were matched to LOCODE from the CIRCAMB Master Data Register⁵. The accuracy of the fishing port locations was validated using information available from the IFREMER Sextant portal⁶.

The main interface of the RDBFIS web-based application is divided into two sections. The left panel hosts the primary navigation menu and the remaining screen area is dedicated to tabular data visualization, processing/analysis. The EU fleet is accessible through the "EU Fleet/Fishing Fleet Vessels" module. This module is organized into two main tabs, each supporting different stages of data exploration and analysis.

In the first tab, users can view the raw fleet open data exactly as provided by the official EU Fleet Register portal. The interface supports data filtering, enabling users to refine the dataset by year, country, vessel identifiers, event types, and other key attributes. All displayed data can be exported in CSV format, allowing users to conduct further offline analysis or integrate the data into external workflows (Figure 1).

The second tab provides an advanced analysis and reporting environment. Here, users can define fleet-related queries by selecting the relevant fleet segment, time period, and optional filters on vessel characteristics or geographical criteria. The tool enables the execution of standardized analyses based on predefined coding system used in EU (e.g. gears, vessel length, geographical areas). Results are generated automatically and may include aggregated statistics, vessel segmentation outputs, or comparative analyses across years or regions (Figure 2). This functionality supports the production of consistent and reproducible fleet reports, facilitating scientific evaluations and policy-driven decision-making within the EU fisheries context.

Together, these two components offer a complete workflow—from data retrieval and filtering to analytical processing—integrated seamlessly within the RDBFIS platform.

The automatic generation of a comprehensive report, including maps, graphs, and tabular information, is currently under development. The system is updated annually, when the complete data series is downloaded each March or April. The reference year corresponds to

¹ Accessible on <https://medbs-rdbfis.hcmr.gr/> with credentials: **user** as username, **RDBF1\$** as password

² https://webgate.ec.europa.eu/fleet-europa/index_en

³ <https://ec.europa.eu/eurostat/web/gisco/geodata/statistical-units/territorial-units-statistics>

⁴ https://dcf.ec.europa.eu/data-calls/fdi_en

⁵ <https://circabc.europa.eu/ui/group/3cc8c417-0f2a-4eb4-8ff7-10d60638446a/library/7133c5c8-305d-4a5b-9956-ae83f0e1a4f1>

⁶ <https://sextant.ifremer.fr/>

the end of that year. Therefore, if you select 2024, the system will return the fleet status (i.e., the data) as it was on 31/12/2024.

The screenshot shows a web-based application titled "Med&BS RDBFIS". The left sidebar has a dark theme with various menu items, including "EU Fleet" which is currently selected. The main content area is titled "VESSELS" and contains two tabs: "Tabular Visualization" (selected) and "Fleet Analysis". Under "Tabular Visualization", there is a section titled "Select a table" with a dropdown set to "Vessels" and a button "Open Advanced Query Form". Below this is a "Data Table" with columns: Year, Country, Cr, Id, Event, Event Start Date, Event End Date, and Registration Number. The data table lists entries for 2024, all from Finland (FIN), with various event types like MOD and specific dates. At the bottom of the table, it says "2,846,184 total" and has a page navigation bar with pages 1 through 5.

Figure 1. Tabular Visualization of the EU Fishing Fleet

The screenshot shows the same "Med&BS RDBFIS" application, but the "Fleet Analysis" tab is now selected. The interface includes a "Fleet Analysis - Query Parameters" section with fields for "Query on" (set to "Active Fleet"), "Type of Query" (radio buttons for "By Year" and "Between"), and "Filter on vessel characteristics" (radio buttons for "Yes" and "No"). There are also sections for "Filter Results Geographically" (radio buttons for "Yes" and "No") and "Group Results" (radio buttons for "Yes" and "No"). At the bottom is a "Execute Fleet Analysis" button. On the right side, there is a "Fleet Analysis Results" section which is currently empty. The footer of the page includes the text "RDBFIS: Financed by EMFF (2021-2022) and CINEA/EMFAF (2023-2025)" and a small circular logo.

Figure 2. EU Fishing Fleet tool

Reports can be generated based on user-defined queries about active or decommissioned fishing fleets.

Fleet Analysis - Query Parameters

Source:

Active Fleet

Decommissioned Fleet

Four vessel length segmentations are available according to the code list provided in Appendix 2 of the FDI Annex 1 (Med&BS, Baltic Sea, Other waters) and in Appendix B of the GFCM/DCRF manual.

Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

The queries can retrieve information for a specific year or a range of years (starting from the year 1991 up to current year-1).

Type of Query:

.....

By Year: Year
2024

Between: Start 1991 End 2024

The requested information can be filtered:

- (i) on vessel technical characteristics (GT, kW, age, length)

Filter on vessel characteristics: Yes No

.....

Number of Vessels
any

GT
any

Power (kw)
any

Age
any

Length
any

.....

Filter on vessel characteristics: Yes No

.....

Number of Vessels

any

equals to

greater than

less than

between

.....

Length

any

(ii) Geographically

Filter Results Geographically: Yes No

Country

Fishing Port

Region (NUTS2)

Prefecture (NUTS3)

FDI Subregion

Fishing Areas

Geographical Areas

Group Results: Yes No

The results can be grouped:

Group Results: Yes No

By Country

By Fishing Port

By Region (NUTS2)

By Prefecture (NUTS3)

By FDI Subregion

By Fishing Area

By Geographical Area

By Gear Type

By Length Class

By Age Class

Below are example queries that extract information for the period 1991–2024.

1. The query ...

Tabular Visualization Fleet Analysis

1 Fleet Analysis - Query Parameters

Query on: Active Fleet

Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

Type of Query:

By Year: Year 2024

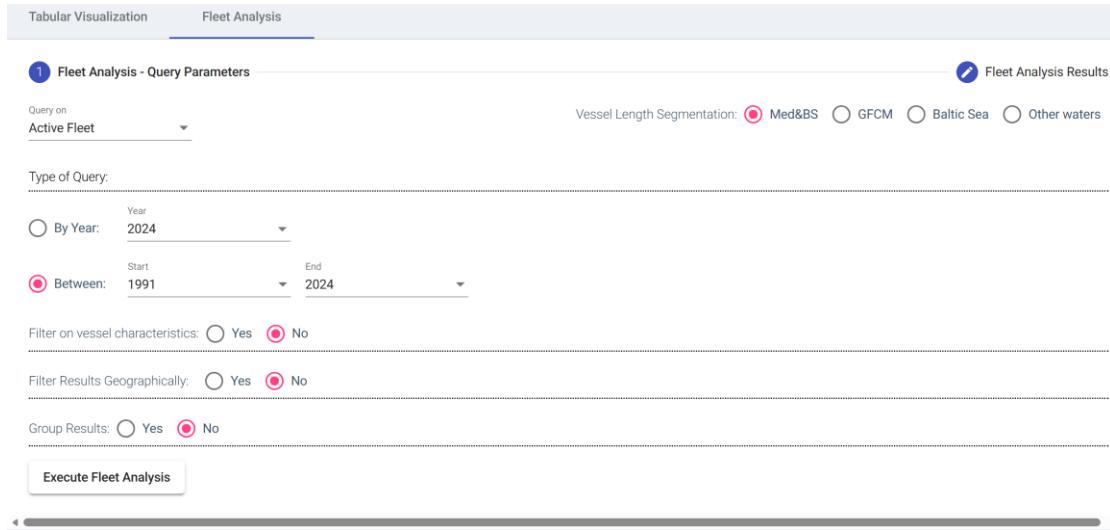
Between: Start 1991 End 2024

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Group Results: Yes No

Execute Fleet Analysis



.. and the results (this query takes approximately 20 seconds to retrieve the data)

2 Fleet Analysis - Results

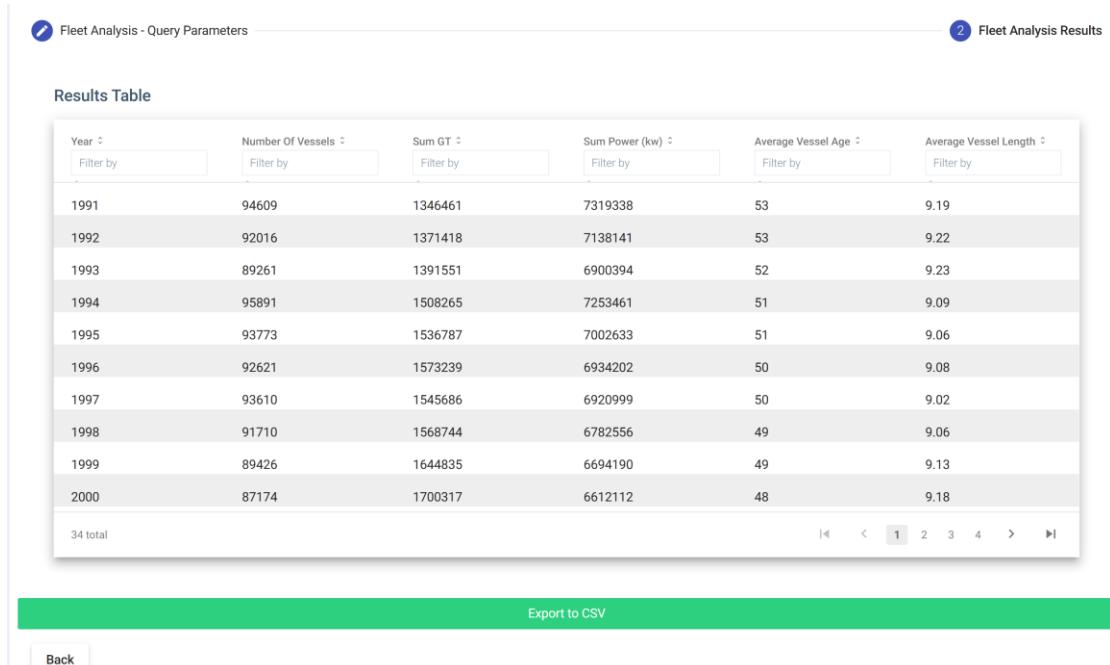
Results Table

Year	Number Of Vessels	Sum GT	Sum Power (kw)	Average Vessel Age	Average Vessel Length
1991	94609	1346461	7319338	53	9.19
1992	92016	1371418	7138141	53	9.22
1993	89261	1391551	6900394	52	9.23
1994	95891	1508265	7253461	51	9.09
1995	93773	1536787	7002633	51	9.06
1996	92621	1573239	6934202	50	9.08
1997	93610	1545686	6920999	50	9.02
1998	91710	1568744	6782556	49	9.06
1999	89426	1644835	6694190	49	9.13
2000	87174	1700317	6612112	48	9.18

34 total

Export to CSV

Back



Click the “Back” button to navigate back to the query form.

2. The query ...

1 Fleet Analysis - Query Parameters

Query on: Active Fleet

Type of Query:

By Year: Year 2024

Between: Start 1991 End 2024

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Group Results: Yes No

By Country
 By Fishing Port
 By Region (NUTS2)
 By Prefecture (NUTS3)
 By FDI Subregion
 By Fishing Area
 By Geographical Area
 By Gear Type
 By Length Class
 By Age Class

Execute Fleet Analysis

.. and the results (this query takes approximately 20 seconds to retrieve the data)

2 Fleet Analysis Results

Results Table

Country	Year	Number Of Vessels	Sum GT	Sum Power (kw)	Average Vessel Age	Average Vessel Length
Filter by	Filter by	Filter by	Filter by	Filter by	Filter by	Filter by
BEL	1991	211	23651	80312	52	25.98
DEU	1991	2707	75858	195014	51	9.51
DNK	1991	3697	89481	516023	55	13.14
ESP	1991	19462	537634	1924966	56	9.43
FRA	1991	7753	246	1093364	44	10.83
GRC	1991	22235	97735	729463	50	7.16
IRL	1991	2103	60624	201672	53	11.1
ITA	1991	20553	211013	1525370	54	10.07
NLD	1991	1489	138192	548574	59	19.91
PRT	1991	14399	112028	504580	54	7.18

599 total

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Export to CSV

3. The query (Active fleet evolution 1991-2024 for Greece) ..

1 Fleet Analysis - Query Parameters
2 Fleet Analysis Results

Query on Active Fleet

Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

Type of Query:

By Year: Year 2024

Between: Start 1991 End 2024

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Country: Greece

Fishing Port

Region (NUTS2)

Prefecture (NUTS3)

FDI Subregion

Fishing Areas

Geographical Areas

.. and the results (this query takes approximately 5 seconds to retrieve the data)

Tabular Visualization
Fleet Analysis

1 Fleet Analysis - Query Parameters
2 Fleet Analysis Results

Results Table

Year	Number Of Vessels	Sum GT	Sum Power (kw)	Average Vessel Age	Average Vessel Length
1991	22235	97735	729463	50	7.16
1992	21542	101490	717516	50	7.22
1993	20728	103501	687245	49	7.25
1994	20754	105331	684645	49	7.29
1995	20578	105448	668815	48	7.3
1996	20500	107751	667996	48	7.35
1997	20462	109456	665582	47	7.39
1998	20389	109223	655491	47	7.4
1999	19694	107070	626669	46	7.4
2000	19543	106698	616379	46	7.41

34 total

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Export to CSV

Back

4. The query (Active fleet evolution 1991-2024 by country and length class)..

Tabular Visualization Fleet Analysis

1 Fleet Analysis - Query Parameters

Query on: Active Fleet Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

Type of Query:

- By Year: Year: 2024
- Between: Start: 1991 End: 2024

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Group Results: Yes No

By Country
 By Fishing Port
 By Region (NUTS2)
 By Prefecture (NUTS3)
 By FDI Subregion
 By Fishing Area
 By Geographical Area
 By Gear Type
 By Length Class
 By Age Class

Execute Fleet Analysis

.. and the results

Tabular Visualization Fleet Analysis

2 Fleet Analysis Results

Results Table

Country	Length Class	Year	Number Of Vessels	Sum GT	Sum Power (kw)	Average Vessel Age	Average Vess
BEL	VL0612	1991	1	13	114	38	11.13
BEL	VL1218	1991	27	613	4313	57	15.98
BEL	VL1824	1991	69	3901	14135	54	21.53
BEL	VL2440	1991	109	17731	58116	50	30.74
BEL	VL40XX	1991	5	1393	3634	50	40.59
DEU	VL0006	1991	1050	882	4564	48	4.87
DEU	VL0612	1991	1084	3181	26317	52	7.89
DEU	VL1218	1991	350	8207	49743	57	15.55
DEU	VL1824	1991	89	5086	17997	52	20.41
DEU	VL2440	1991	111	14930	43761	50	28.93

3,398 total

Export to CSV

Back

5. The query (requested information for 2024 by country, fishing port, gear type, length class) ...

Tabular Visualization Fleet Analysis

1 Fleet Analysis - Query Parameters

Query on: Active Fleet

Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

Type of Query:

By Year: Year: 2024

Between: Start: 1991 End: 2024

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Group Results: Yes No

By Country
 By Fishing Port
 By Region (NUTS2)
 By Prefecture (NUTS3)
 By FDI Subregion
 By Fishing Area
 By Geographical Area
 By Gear Type
 By Length Class
 By Age Class

Execute Fleet Analysis

.. and the results (this query takes approximately 3 seconds to retrieve the data)

Tabular Visualization Fleet Analysis

2 Fleet Analysis Results

Results Table

Country	Port Name	Gear Type	Length Class	Year	Number Of Vessels	Sum GT	Sum Power (kW)
BEL	Blankenberge	Beam trawl (TBB)	VL1824	2024	1	84	221
BEL	Nieuwpoort	Beam trawl (TBB)	VL1824	2024	4	286	884
BEL	Nieuwpoort	Set gillnets (anchored)	VL1824	2024	1	67	220
BEL	Oostende (Ostend)	Beam trawl (TBB)	VL1218	2024	1	42	221
BEL	Oostende (Ostend)	Beam trawl (TBB)	VL1824	2024	5	312	1105
BEL	Oostende (Ostend)	Beam trawl (TBB)	VL2440	2024	4	1006	3740
BEL	Oostende (Ostend)	Bottom otter trawl (O)	VL1824	2024	1	93	221
BEL	Oostende (Ostend)	Bottom otter trawl (O)	VL2440	2024	2	543	1905
BEL	Zeebrugge	Beam trawl (TBB)	VL1824	2024	13	1352	2851
BEL	Zeebrugge	Beam trawl (TBB)	VL2440	2024	28	9907	32806

10,348 total

Export to CSV

Back

6. the query (requested information for 2024 by country) ...

1 Fleet Analysis - Query Parameters
2 Fleet Analysis Results

Query on Active Fleet

Vessel Length Segmentation: Med&BS GFCM Baltic Sea Other waters

Type of Query:

By Year: Year

Between: Start End

Filter on vessel characteristics: Yes No

Filter Results Geographically: Yes No

Group Results: Yes No

By Country
 By Fishing Port
 By Region (NUTS2)
 By Prefecture (NUTS3)
 By FDI Subregion
 By Fishing Area
 By Geographical Area
 By Gear Type
 By Length Class
 By Age Class

Execute Fleet Analysis

.. and the results (this query takes approximately 1 second to retrieve the data)

1 Fleet Analysis - Query Parameters
2 Fleet Analysis Results

Results Table

Country	Year	Number Of Vessels	Sum GT	Sum Power (kw)	Average Vessel Age	Average Vessel Length
BEL	2024	61	13957	45374	31	29.88
BGR	2024	1793	5829	52922	26	6.71
CYP	2024	821	3792	40156		7.31
DEU	2024	1109	59184	128224	38	9.84
DNK	2024	1767	63554	196081	38	9.07
ESP	2024	8431	307310	739883	38	10.93
EST	2024	2070	16230	49098	26	5.81
FIN	2024	3244	14652	171882	32	6.47
FRA	2024	5976	152461	915689	31	9.81
GRC	2024	11452	60123	344612	35	7.73

22 total

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Export to CSV

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