



DIRECTORATE OF FISHERIES

## Hobart 2023

Monitoring with Remotely Piloted Aircraft Systems

Viðar Ólason – Dep. Head of surveillance at sea

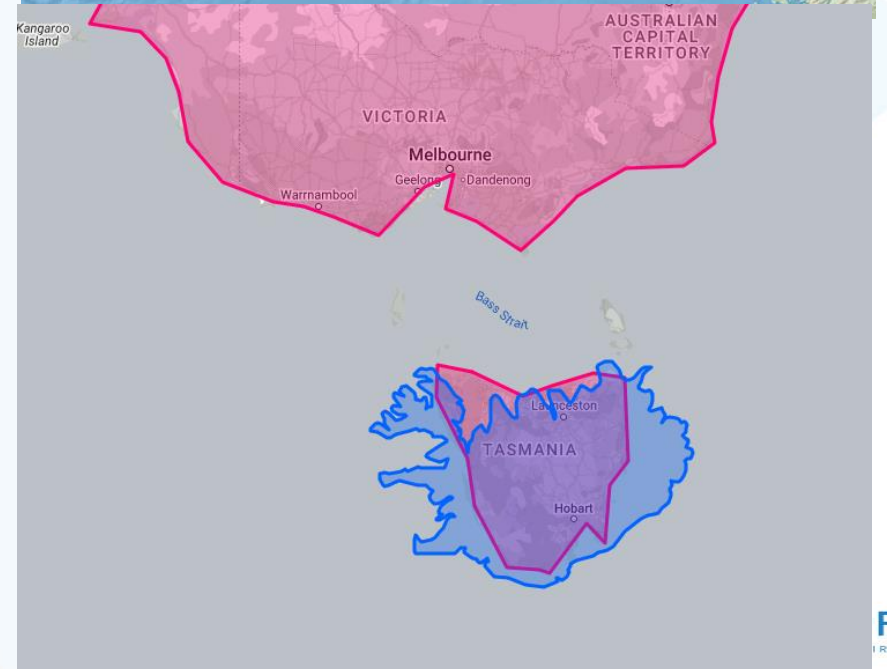
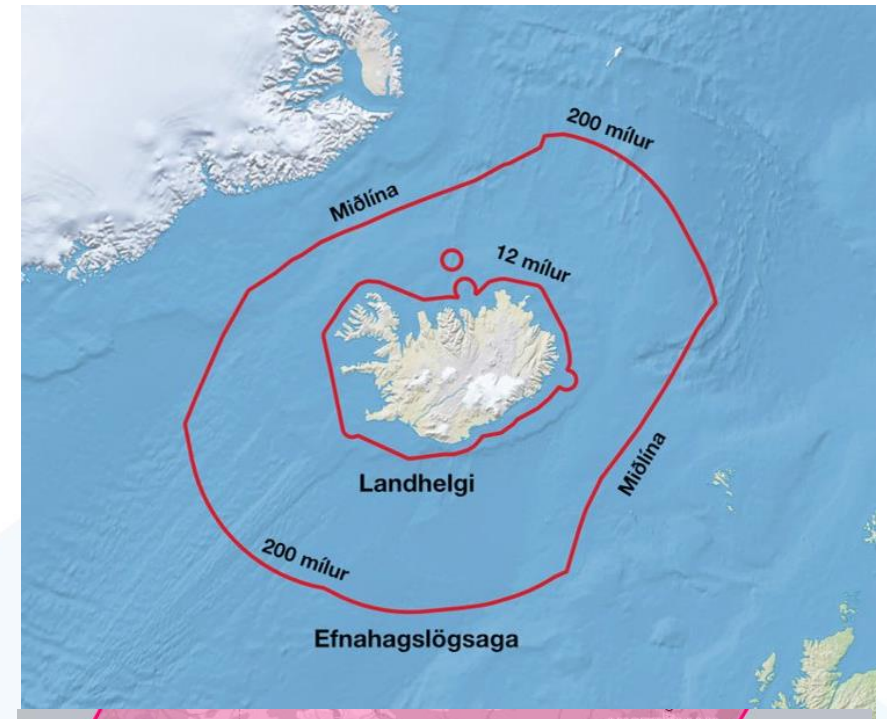


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TRAUÐ - FRAMSÆKNI - VIRÐING

# Iceland

## A fishing nation

- 760.000 km<sup>2</sup> EEZ
- 1.100 Icelandic vessels and boats
- 90 Foreign vessels
- 1,1 – 1,6 million tonnes
- 45.000 Landings
- 63 Harbours
- 330 Salmon and trout fishing rivers
- Joint operation and obligation with other actors and institutions; domestic and foreign
- Limited monitoring resources



# Why RPA's?

- Act No 57 from 1996 among other things says:
  - “It is mandatory to land all catch that comes into the fishing gear of a fishing vessel, and no shall be discarded.”*
- Data collected by the observers of the DoF indicates that the laws set in 1996 are not fully complied with.
- When species comparisons and length distribution are conducted for fishing trips with and without an observer
- FAO has criticized the lack of data on how much catch is thrown away in Iceland. The institute estimates that discards were 10.8% of the global catch between 2010 and 2014.
- Discard project indicates that discard is around 3-5% in Icelandic waters

Veiðistofn	23. febrúar 2022	2. mars 2022	9. mars 2022	15. mars 2022	21. mars 2022
Porskur	89.479	91.276	103.915	84.639	112.130
Ýsa	33.995	9.864	46.880	40.102	28.227
Ufsi	32.363	32.258	4.910	1.249	1.356
Gullkarfi	5.043	2.036	5.217	3.176	3.560
Steinbítur	358	98	496	5.472	186
Grálúða	557	33	3.442	6	
Hlýri	380	430	960	977	293
Tindaskata	213	422	1.519	139	
Langa	0		951	240	
Lúða	24	21	405	189	46
Skrápfúlur	61	106	249	51	1
Blágóma		44	306	15	
Skarkoli		9	47	226	
Þykkvalúra sólkoli			47	108	
Keila	4		27		
Skötuselur			30		
Langlúra				13	
Gulllax			8		
Mjóri			8		
Lýsa			2		

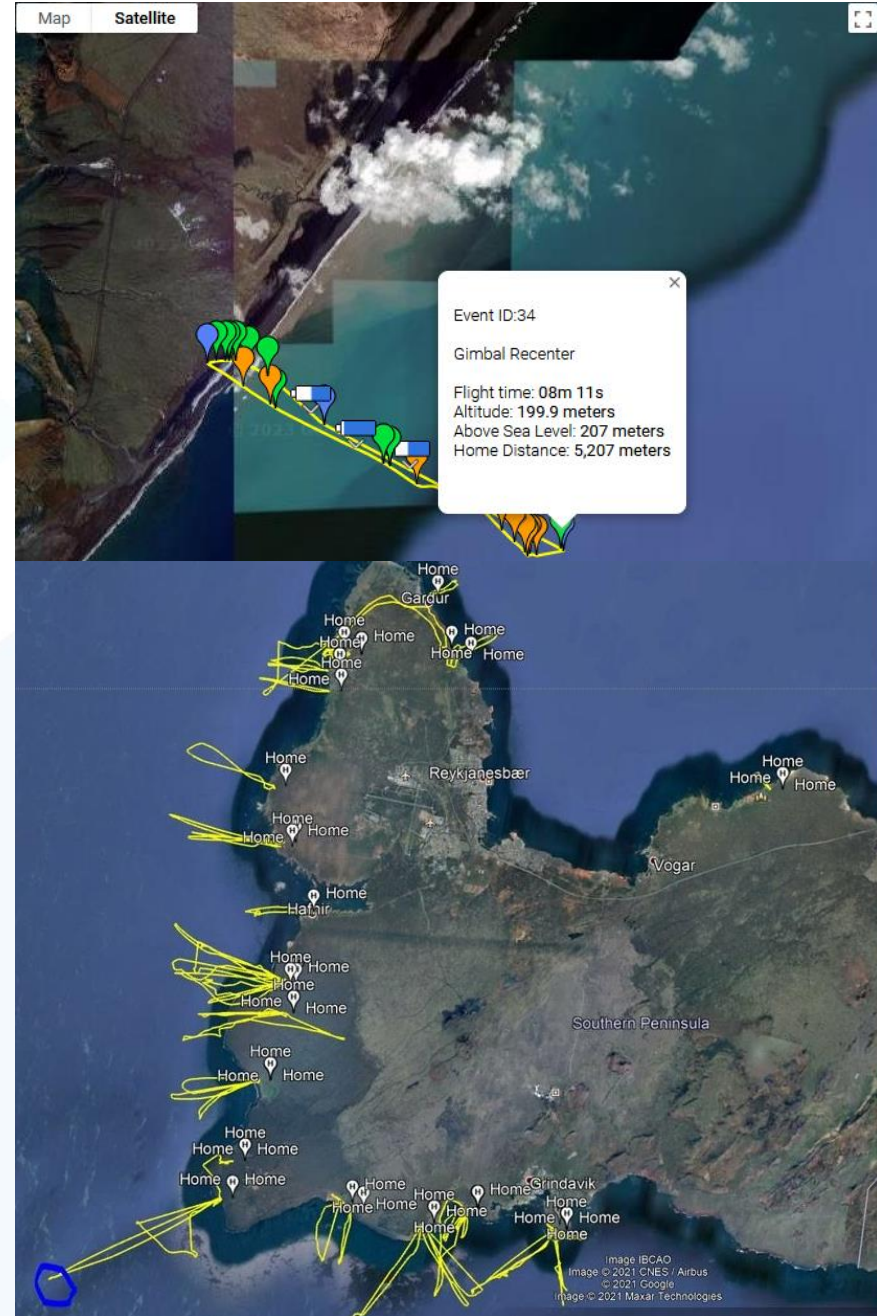
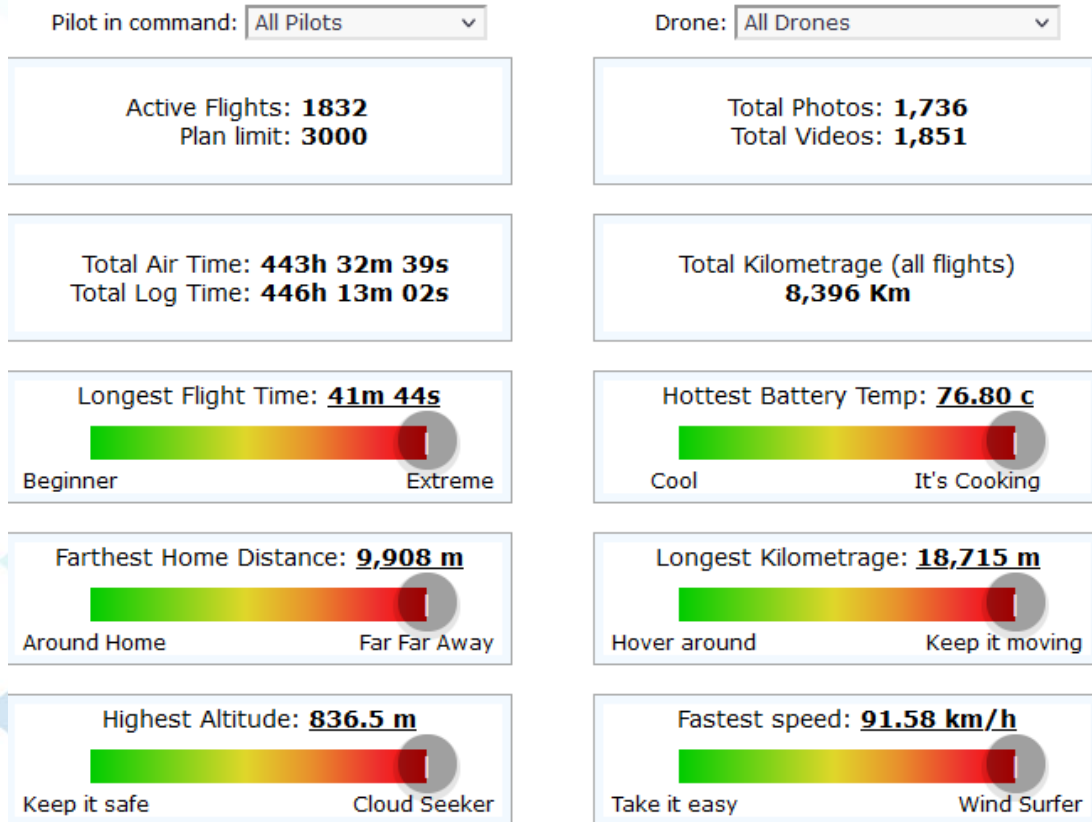
# The process and restrictions

- In 2020 the DoF introduced the use of RPA's in the effort to monitor discard.
- Much work was needed to fulfil legal requirements concerning data protection and privacy.
- Following various risk assessments and different licensing obligations, training of pilots commenced.
- In the beginning of 2021 DoF flew its first surveillance flight from the coast.
- Since then, DoF has expanded the application of RPA's in its MSC duties.
- DoF pilots have flown from ICG vessels and light boats to reach even further out for monitoring and surveillance practices, covering larger portion of the EFZ.

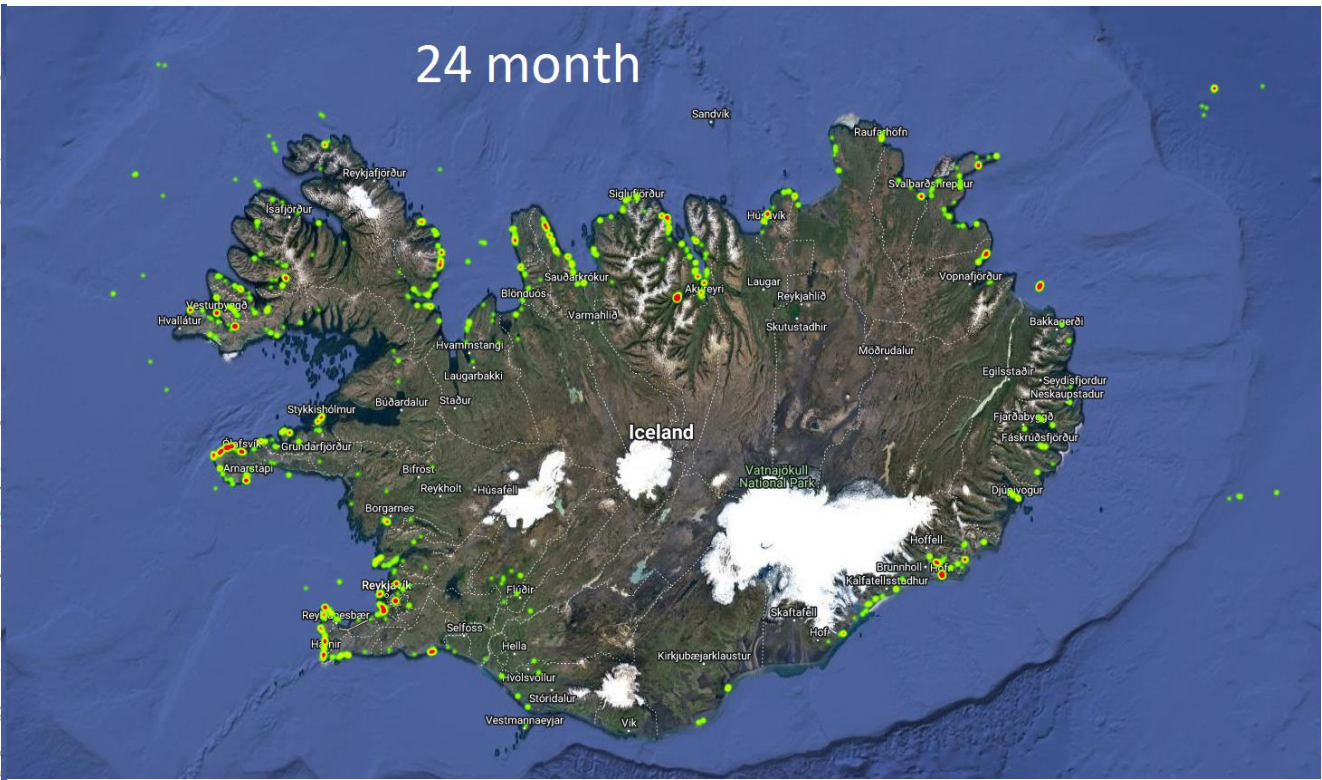
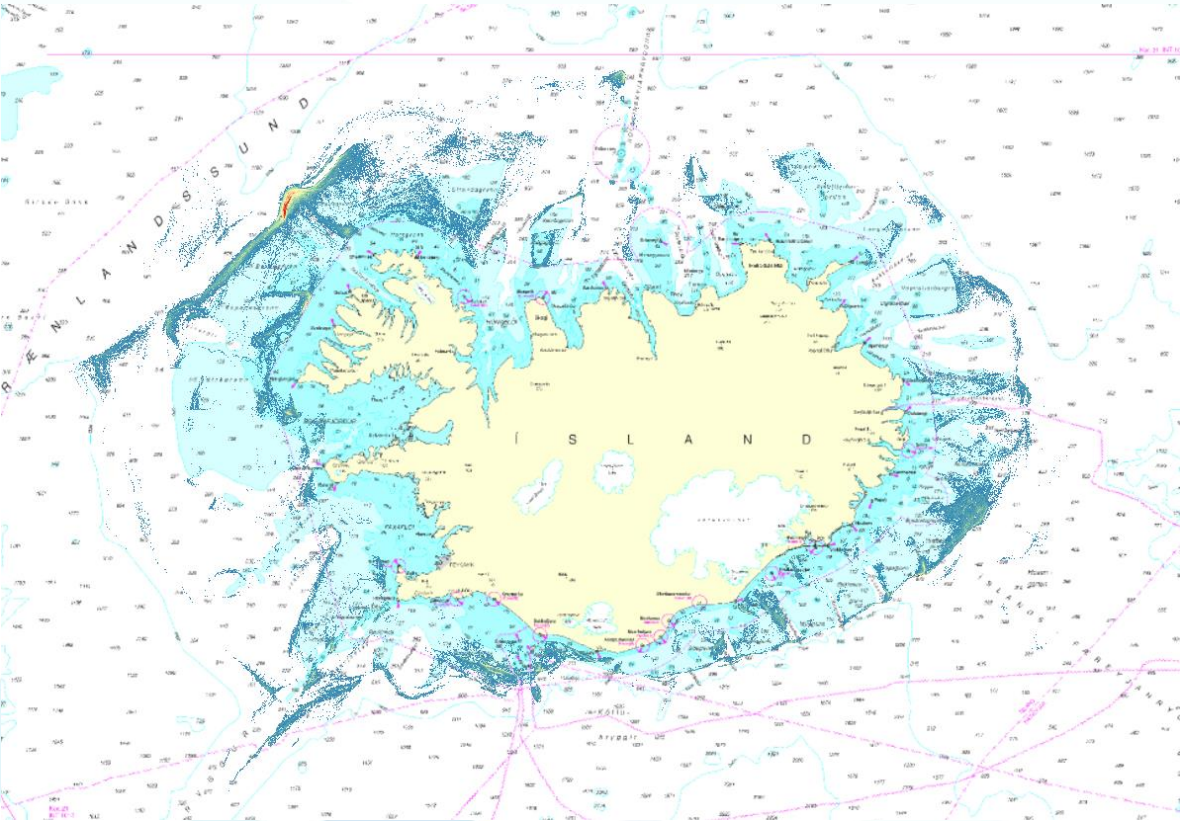


# The gear and data

- A small aircraft of ca. 1 kg. useful for monitoring ports and rivers and
- An aircraft weighing 9 kg. with a flying range of ca. 3-5 nautical miles out from the coastline



# Flight heat map

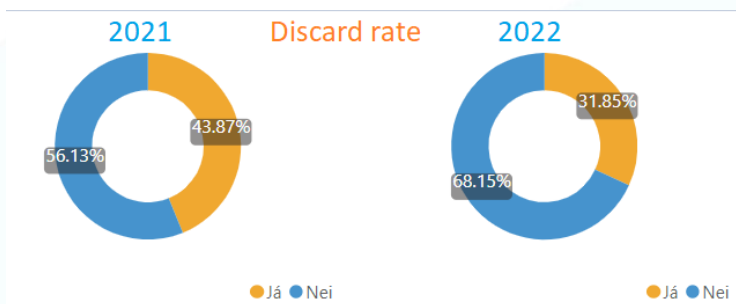


# Changes have occurred

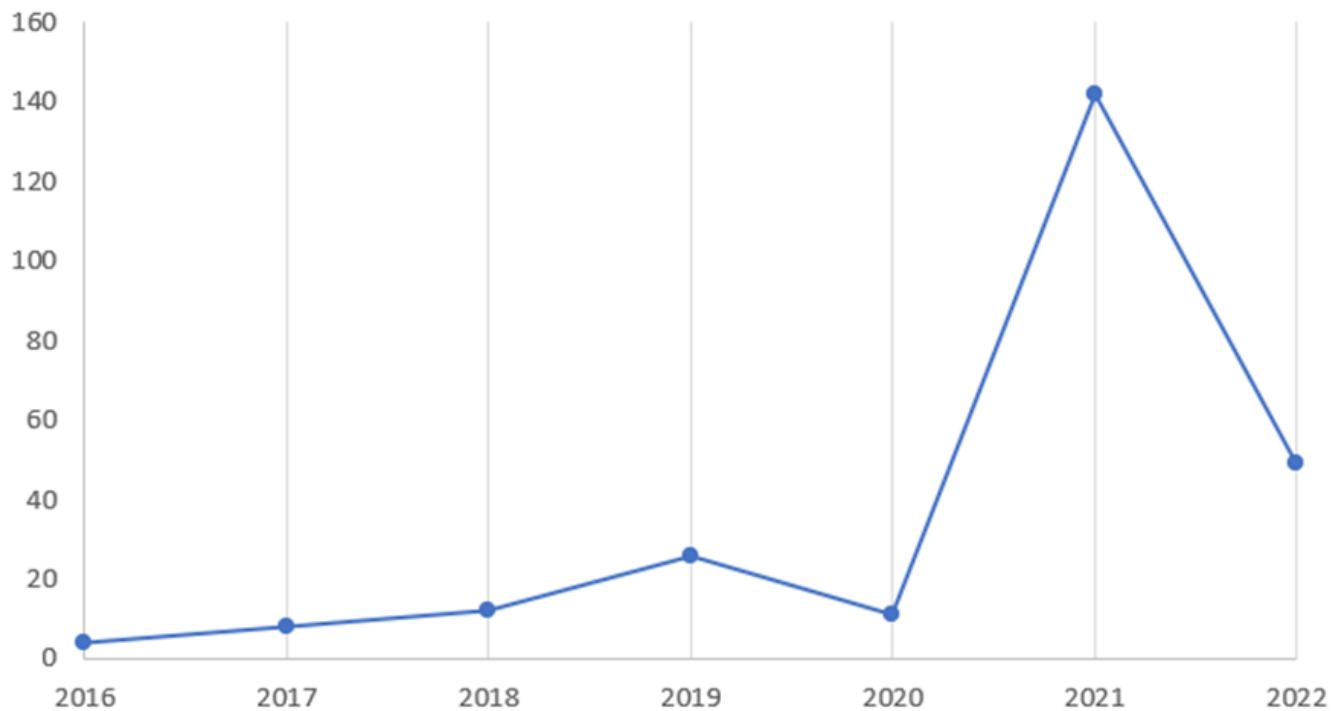
- We see changes in behavior
  - Fishermen and the industry know about the RPA's
- 2022 Clear authorizations for use RPA's in surveillance purpost
  - The Directorate Of Fisheries are permitted to use remote-controlled aircraft in their inspection duties that are equipped with cameras for recording....
- Electronic monitoring on board fishing vessels
  - The Directorate Of Fisheries is authorized to collaborate with the industry on a temporary project for electronic monitoring in fishing vessels in the years 2022, 2023 and 2024.....
- CCTV pilot project in cooperation with two of the largest fishing companies
  - Two bottom trawler and one pelagic vessel



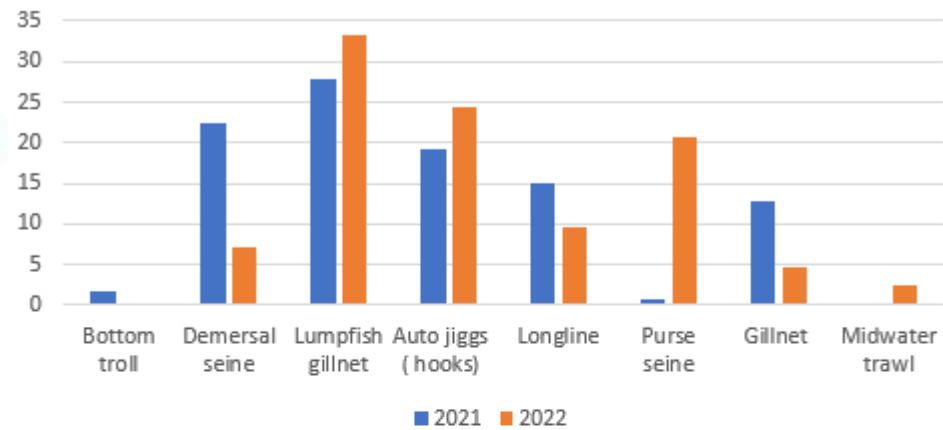
# Statistics



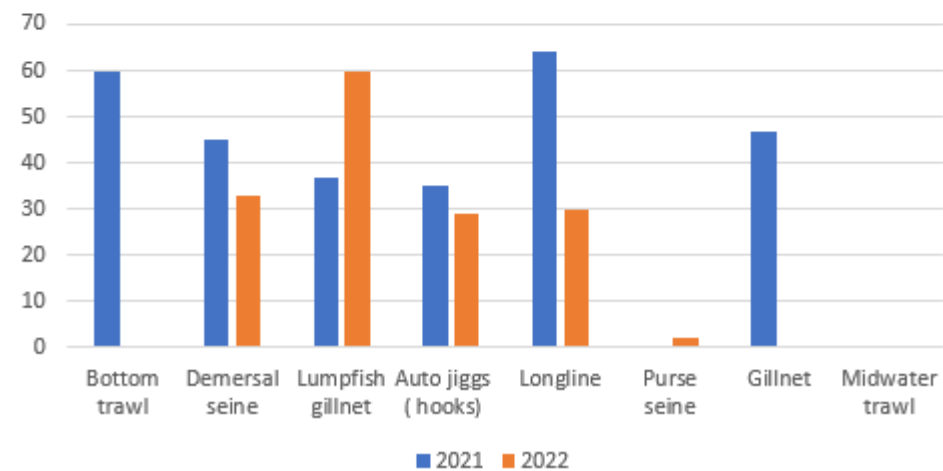
Registered discard cases



Flight rate by fishing gear



Discard rate by fishing gear







It should be the responsibility of the industry in the fisheries sector to prove harmless use of resources

TAKK FYRIR