

Tuna CHART 2023 Report



Iascach Iníre Éireann
Inland Fisheries Ireland



Foras na Mara
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1. Introduction

In 2018, the International Commission for the Conservation of Atlantic Tunas (ICCAT) permitted countries in the North-East Atlantic without an Atlantic bluefin tuna quota to authorise a limited number of sport vessels to target bluefin tuna with the purpose of “tag and release” without the need to allocate a country-specific quota. To that end, Tuna CHART is Ireland’s conventional tagging programme designed to implement, co-ordinate and oversee “tag and release” of ABFT by authorised angling charter skippers.

The aim of the programme is to collect data on the spatial and temporal distribution of Atlantic bluefin tuna in Irish waters. Another function is to record biometric data such as length and general condition for Ireland to report to ICCAT and improve our understanding of aspects of the ecology of Atlantic bluefin tuna presenting in Ireland’s coastal waters.

Atlantic bluefin tuna (*Thunnus thynnus*), the largest tuna in the world, typically frequent Irish coastal waters from mid-summer to mid-winter to feed, following annual spawning migrations in the Mediterranean and possibly even the Gulf of Mexico. The bluefin tuna is prized by sea anglers for its power and fighting ability and is a highly valuable commercial species.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is an inter-governmental fishery organisation responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas. ICCAT compiles fishery statistics from its members and from all entities fishing for these species in the Atlantic Ocean, coordinates research, including stock assessment, on behalf of its members, develops scientific-based management advice, provides a mechanism for Contracting Parties to agree on management measures, and produces relevant publications.

ICCAT manage Atlantic bluefin stocks under a two-stock hypothesis for management and assessment i.e.

- Eastern Atlantic Ocean and Mediterranean Sea stock, that spawns in the Mediterranean Sea
- Western Atlantic Ocean stock, that spawns in the Gulf of Mexico, with a boundary line dividing the stocks at 45 W longitude.

The Mediterranean and Eastern Atlantic bluefin tuna (considered a single stock) is a highly regulated species with annual catch limits set by ICCAT based on scientific advice.

The EC became a Contracting Party to ICCAT in 1997. EU TACs and quotas for Bluefin Tuna were set by Council for the first time at the December 1997 meeting to implement ICCAT catch limits/TACs for these species. Ireland did not have a track record of targeting bluefin tuna and does not have a quota. Ireland has access to a by-catch “others” quota for member states

without a quota share to cover by-catches of BFT in commercial fisheries subject to certain conditions. Ireland has no quota to cover recreational angling for BFT and has had no such quota since 1997.

The ocean waters off south Donegal are currently regarded by ICCAT as a key area for Atlantic bluefin tuna and indications are that significant numbers arrive in the area over the period August to November each year.

The Tuna CHART programme is a collaborative scientific programme between Inland Fisheries Ireland and the Marine Institute in partnership with the Sea Fisheries Protection Authority, the Department of Agriculture, Food and the Marine (DAFM) and the Department of Environment, Climate and Communications (DECC). Management and staff from these agencies manage the overall Tuna Chart programme.

This is a recreational catch and release fishery operated by authorised, trained charter skippers who take out paying anglers to catch tuna for tagging. Training of skippers in tagging procedures and reporting of the fish caught and fishing activities are the requirements of the programme. Mortalities must be reported to ICCAT.

The Tuna CHART programme commenced in 2019. This report presents a summary overview of the 2023 programme results compared with previous years.

2. Methods

This section provides an overview of the methods relating to various elements of the programme and the changes made in 2023. The methods relate mainly to the process of enabling the charter skippers to capture and report data on individual tuna and to effect safe tagging and release. Tuna welfare is central to this process. A methods manual was compiled separately and provides an overview of the requirements of the programme - such as gear specifications and the requirement for all bluefin to be retained in the water at all times. Additionally, recommendations are included for handling, recovery, and release of the fish (Wögerbauer et al. 2019)

A subgroup, the Tuna CHART technical group manage skipper authorisations, the training course, the tagging methodologies, and determine which data to collect. This group also coordinates the data collection by skippers, including the measurement and handling aspects, as well as overseeing the data collection observer programme.

2.1 Skipper authorisation and training

In 2023, following an application process, 19 experienced charter skippers were authorised under a DECC Section 14 authorisation to operate a catch, tag and release bluefin charter fishery. A total of 17 skippers returned from previous Tuna CHART programmes; two new

skippers, based on the northwest and west coasts respectively, were approved for inclusion. Authorised skippers were based in ports along the Northwest, West and South coasts (Fig.1).

Anglers are permitted to participate in the fishery as paying customers onboard vessels of authorised skippers. Anglers participate in the fishery by hiring charter skippers and their vessels for angling trips. Anglers hook and play the bluefin to the side of the boat using angling gear, applying methods approved by the wider Tuna CHART group. The process is strictly monitored. The angling methods and bluefin tuna handling guidelines for the programme are detailed in the method manual (Wögerbauer *et al.* 2019) which is, in-part, based on the ICCAT Tagging manual (Cort *et al.* 2010).

As training must be undertaken by authorised skippers as a condition of the data collection fishery, a detailed online training course was developed in 2020 by IFI and the Marine Institute in collaboration with DAFM, DECC and the SPPA. This course was expanded in 2021 to include information on the regulations regarding angling near cetaceans. New skippers are required to pass a test for each module to pass the course. The training course encompasses an introduction to ICCAT and bluefin tagging research, bluefin welfare, required angling gear and best practice, bluefin handling and tagging techniques, legislation, and data collection.

In addition, a live interactive on-line training session for all skippers was held in mid-June 2023 with contributions from IFI and MI. The live session emphasised good handling and the best possible recovery of the bluefin prior to release and advised that after tagging the fish should be recovered by a moving vessel for a minimum of five minutes recovery time prior to release to maximise post-release survival. A short video of a bluefin being recovered in Tuna CHART 2021 was screened to discuss improvements and facilitate learning. Skippers were encouraged to minimise fight times wherever possible; skipper discretion was permitted. We recommended that skippers should take over from anglers if the fish was not alongside the vessel after 30 minutes. The skipper should then bring the fish alongside as quickly as possible.

DECC Section 14 authorisations enable the skippers to operate for the duration of the survey fishery (1st July - 12th November 2023).

All skippers/vessels are required to have suitably rated angling equipment, including 80-130lb class (or greater) bent butt rods and reels, and swivel rod holders. These provisions are required to minimise risk to tuna from lengthy playing bouts, and to allow for best management of fish welfare. Gear checks were undertaken by IFI staff prior to authorisation.

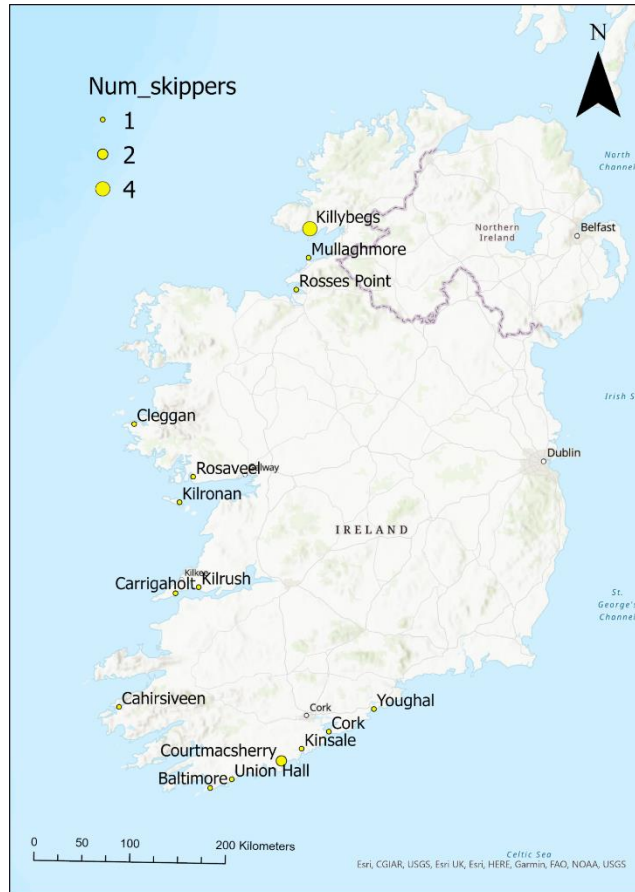


Fig. 1 Spatial Distribution of Authorized Skippers in 2023



Fig. 2 Atlantic bluefin tuna a) and b) tagged, c) measured and d) recovered in the water as required by Tuna CHART guidelines.

Skippers were provided with standardised equipment including measuring kits, lip hooks, and double-barbed tags in 2023, the same tag types used since 2020. These tags were a more robust tag compared to the spaghetti tags used in 2019. The double-barb tag was once again supplied by ICCAT.

2.2 Additional Control Measure

The Department of Environment, Climate and Communications introduced a bye-law in 2020. Bye-law 981 of 2020 Control of sea angling methods for certain species of fish prohibits the use of surface trolling for catching any species of tuna, shark or billfish and prohibits retaining gear or equipment on board capable of trolling fishing lines for these species. This bye-law provided additional powers to protection officers to ensure that no unauthorised persons could target Atlantic bluefin tuna. As authorised persons, Tuna CHART skippers are exempt from this bye-law.

2.3 Protection

Inland Fisheries Ireland (IFI) and the Sea Fisheries Protection Authority (SFPA) have joint responsibility for the protection of the bluefin tuna fishery. IFI undertakes RIB patrols and coastal surveillance to monitor for unauthorised fishing of bluefin. RIB patrols engage with authorised skippers at sea to ensure handling and release methods are in keeping with Tuna CHART requirements.

SFPA has responsibility for port inspections to ensure no bluefin tuna are landed by authorised or unauthorised vessels.

A separate report (in preparation) compiled by IFI and SFPA details the protection and control activities undertaken by both agencies for Bluefin Tuna in 2023.

2.4 Data

All skippers were required to permit onboard installation of a vessel monitoring system (VMS) for the duration of the open season. The VMS was provided by CLS (www.cls.fr, Toulouse, France), a provider of satellite systems, which support monitoring and tracking of vessels at sea. Vessel positions were monitored by the Sea Fisheries Protection Authority (SFPA) and IFI.

Skippers submitted a digital report of their bluefin angling trips to IFI and Tuna CHART using the Tuna CHART form on Survey123, an ArcGIS application developed by IFI on ruggedised Samsung tablets. Paper copies of the data were also recorded. Screenshots of the data collection process are available in the 2021 report (Wögerbauer et al. 2021).

Data collected from the programme were subsequently cross-checked. The quality assured data are collated and submitted to ICCAT in the form of the conventional tagging report

(TG02-CnvTReRc). The tagging data forwarded to ICCAT is processed regularly and included in the international tagging database according to the relevant Species Group needs (in this case the ABFT) and is updated every year. A summary of these data is then published and made available publicly at <https://www.iccat.int/en/accesingdb.html> under the “Tagging” toggle.

3. Results

3.1 Overview

A total of 239 bluefin targeted fishing trips were undertaken in 2023 and 381 Atlantic bluefin tuna were tagged during the open season (Table 1). An additional 34 tuna were hooked but lost before being brought alongside, and a further nine were lost after being brought alongside and therefore not tagged. Six of these managed to slip off the hook while swimming alongside the boat. No other species were caught as bycatch.

One suspected mortality was recorded in 2023. The suspected mortality of a 283cm bluefin in Donegal Bay may have taken place when the fish became entangled in ghost fishing gear underwater while being brought alongside. The relevant data was reported digitally upon submission of the trip survey form. All data were submitted fully to the programme and there was good compliance by authorised skippers with the requirements of the programme.

For the first time since the programme commenced in 2019, two recaptures were reported of Atlantic bluefin tuna tagged and released under Tuna CHART. One, Tag No. BYP080650, tagged by a Tuna CHART authorised skipper on 2/10/20 in Donegal Bay was recaptured on 11/9/23 off the north-east coast of Spain. The second was Tag No. BYP080330, tagged by another authorised skipper on 23/8/23 off the Kerry Coast and recaptured just 22 days later, on the 14/09/2023 off the northwest French coast (Fig. 3).



Fig. 3 Bluefin Tuna tagging locations and estimated route to recapture sites.

3.2 Fishing Effort

Authorised skippers undertook bluefin angling trips in Donegal Bay and along the west and southwest Irish coasts (Fig. 4). Peak angling activity was recorded in September and October. Three authorised skippers did not undertake any bluefin angling trips during the season due to poor weather conditions (1), illness (1) and breakdown issues (1).

Fishing effort was highest in the Northwest, low in the South and rare in the West (Table 1).

Table 1. Summary of 2023 fishing effort, bluefin encounters and catch per unit effort (CPUE = no. bluefin tagged per angling trip).

Fishing Region	No. Authorised Skippers	No. Active Authorised Skippers	No. Trips	No. Angler Days	No. BFT measured	No. BFT Tagged	CPUE
Northwest (Donegal and Sligo)	7	7	178	555	347	338	1.90
South (Kerry and Cork)	8	7	52	111	43	43	0.83
West (Clare to Galway)	4	2	9	14	0	0	0.00
Total	19	16*	239	680	390	381	1.60

*One authorised skipper participated in one trip in the West (Clare) and all further trips in the Northwest (Donegal Bay). That skipper is not included in the West active skippers count.

Poor and unpredictable weather conditions across the whole season but particularly in the peak months for the South coast of September and October, resulted in a high number of scheduled tuna angling trip cancellations as reported by various skippers in the region.

In the Northwest two noticeable dips in fishing effort occurred in early August and late September (Fig. 5). These coincide with the onset of storms Antoni, Betty and Agnes which hit Ireland on August 5th, August 18th and September 27th, respectively. Effort then tapered off towards the end of October and into November.

In the West coast two of the five authorised skippers for the region did not participate in the season and one participated in one angling trip in the region before moving to Donegal Bay. This resulted in only two authorised skippers fishing this area over the whole season and despite some reports of tuna sightings, fishing effort was even lower this year than last year and no bluefin tuna were encountered.

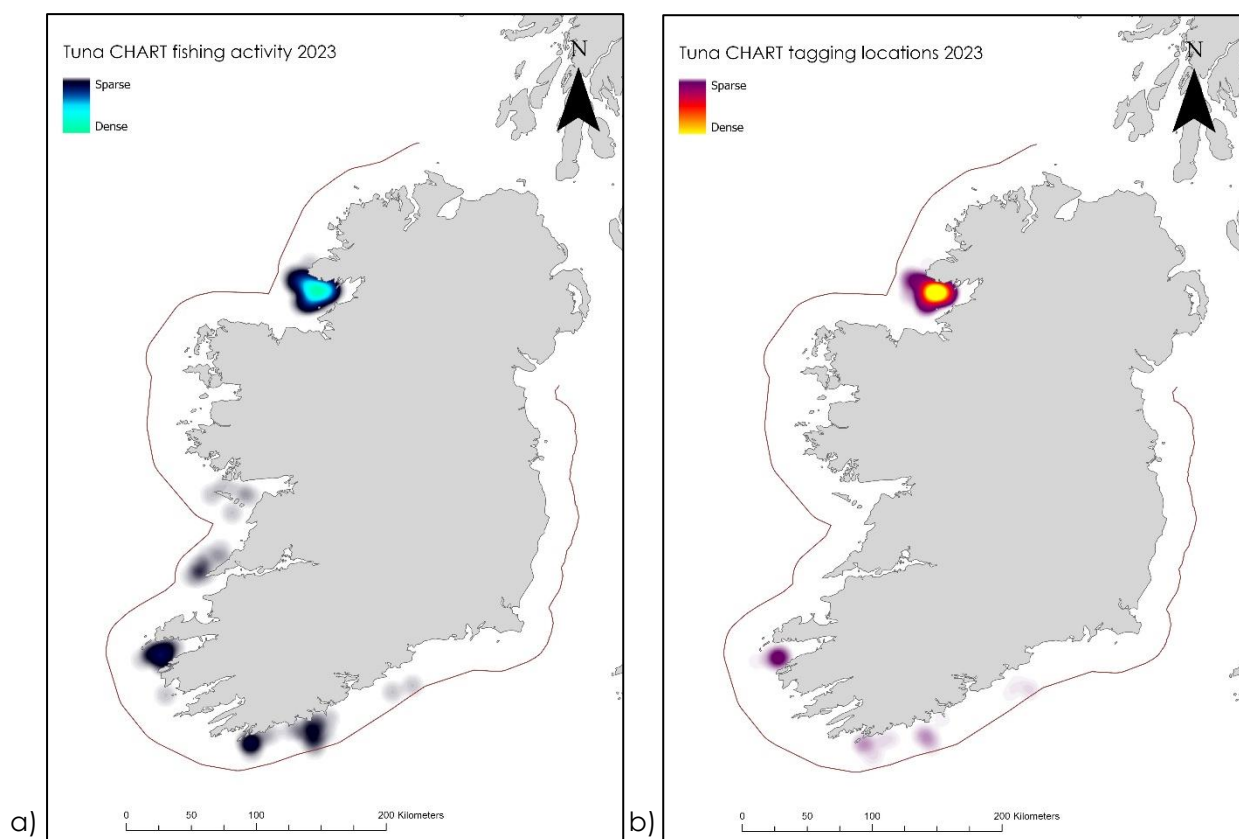


Fig. 4 a) Fishing locations by authorised skippers and b) Bluefin tuna tagging heat map Tuna CHART 2023

3.3 Tagging Results

The first bluefin angling trip of the season was undertaken in Donegal Bay on the 10th of July. However, it was July 25th before the first fish were caught and tagged, one off the coast of Kerry and the other in Donegal Bay. This is the second time that the coast of Kerry recorded the first bluefin tagged of the season. A further 19 bluefin were tagged off the Kerry coast, accounting for almost half of all bluefin tagged in the Southern region. CPUE in the Northwest remained relatively low throughout August and the beginning of September, peak angling months for the region, however the South saw peaks in CPUE during mid-August and mid-September, earlier than is usual for the programme (Fig. 5). October proved to be the most productive tagging month overall, with CPUE spiking in both regions during this time, but with particular prominence in the South (Fig. 5).

In the Northwest seven skippers undertook a total of 178 bluefin angling trips, during which 379 bluefin were hooked up, 347 were measured and 338 were tagged. All authorised skippers in this region caught and tagged bluefin during the open season. These numbers are on par with the previous year (2022) resulting in a similar CPUE of 1.9 (2022=1.96) (Table 1).

Along the south coast, eight skippers were authorised for bluefin tuna fishing, of which seven actively participated. A total of 52 bluefin angling trips were undertaken. 44 bluefin tuna were

hooked up in this region, of which 43 were successfully measured and tagged. Despite reports from skippers that poor weather conditions throughout the season resulted in many cancelled trips, the number of trips this season was similar to the previous year, but with an improvement in the numbers of fish tagged and a higher CPUE of 0.83 (2022=0.53).

Weekly CPUE reached a record high for the project this year at 4.5, previously held in the most successful year of the project in 2020 at 4.0 (Table 3).

The last bluefin of the season was caught off the Northwest coast on the 11th of November, and off the South coast on the 24th of October.

3.4 Size distribution of Bluefin tuna

Measured bluefin fell within a size range of 129cm to 283cm Straight Fork Length for 2023 (mean = 185 cm). The range was outside that of previous years recording both the largest bluefin of the entire project to date as well as one of the smallest, with only one smaller fish recorded in 2019 at 122cm (Fig. 6).

Despite recording the largest fish of the project, the Northwest coast recorded a cohort of smaller fish compared to averages in previous years, with an average recorded length of 182cm (n=338) (Fig. 6), suggesting that there was an incoming group of younger fish in the bay, estimated ages ranged from 4 to 11 years old (Santamaria *et al.* 2009) along with the typical size range.

There were differences in the size distributions across the two fishing regions, with the South presenting a more evenly spread length distribution and a tendency towards larger fish than the Northwest with a mean of 210cm (n=43) (Fig. 7).

3.5 Satellite tagged Atlantic bluefin tuna

The Marine Institute (MI) undertook satellite tagging of 19 Atlantic bluefin tuna part of a separate study under Health Products Regulatory Authority (HPRA) Licence No. AE19121/P003. These fish were caught on rod and line by anglers on authorised skipper vessels, but usually brought on board the vessel for application of a satellite tag with the supervision of scientific staff. The length and distribution of these bluefin are not included in the tagging and length data provided here.

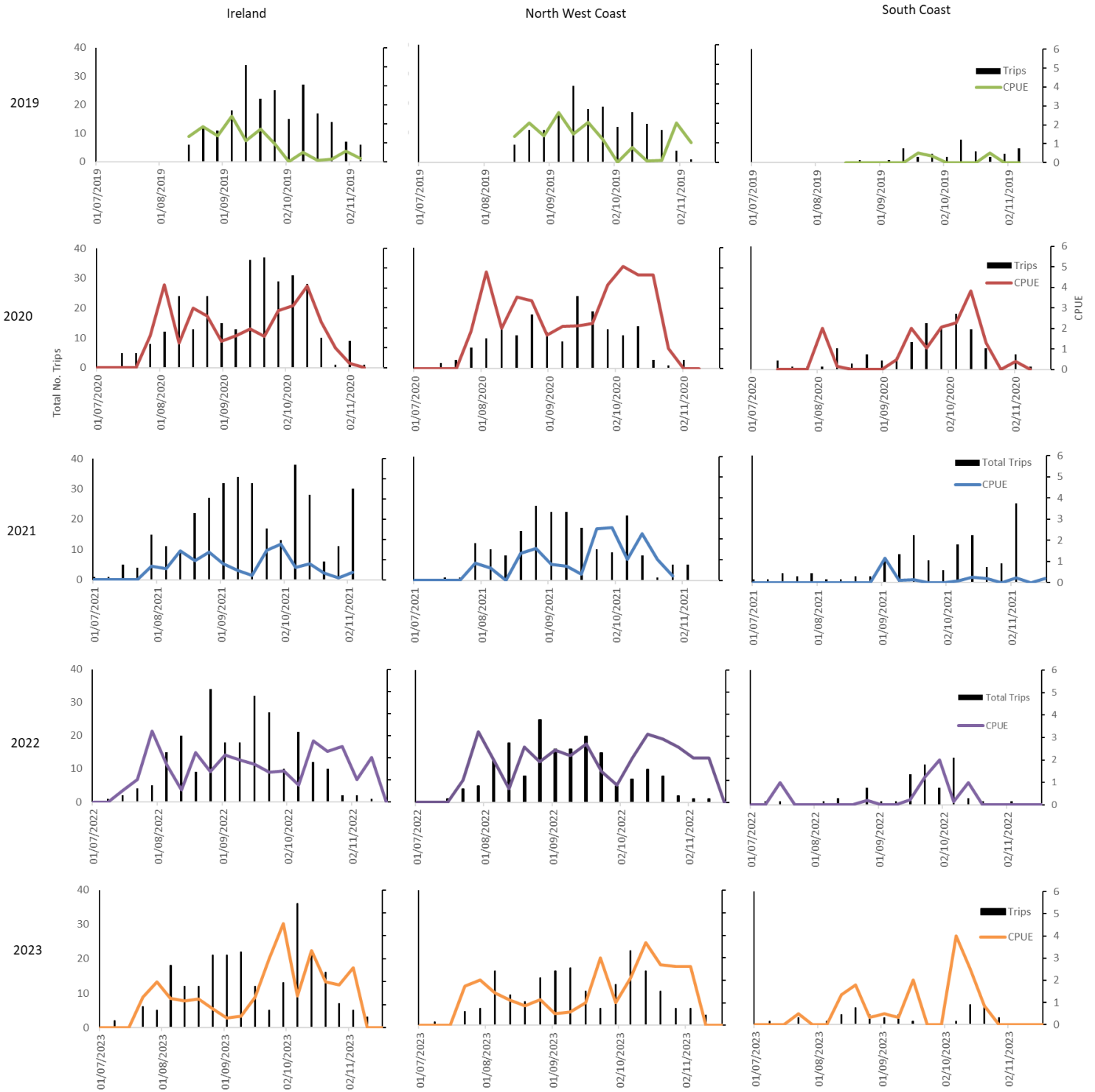


Fig. 5 Fishing effort presented as number of fishing trips and Catch Per Unit Effort (CPUE Total Tagged Bluefin/ Total Trips per week). Data is presented for the entire country and for the Northwest and South Coasts by year.

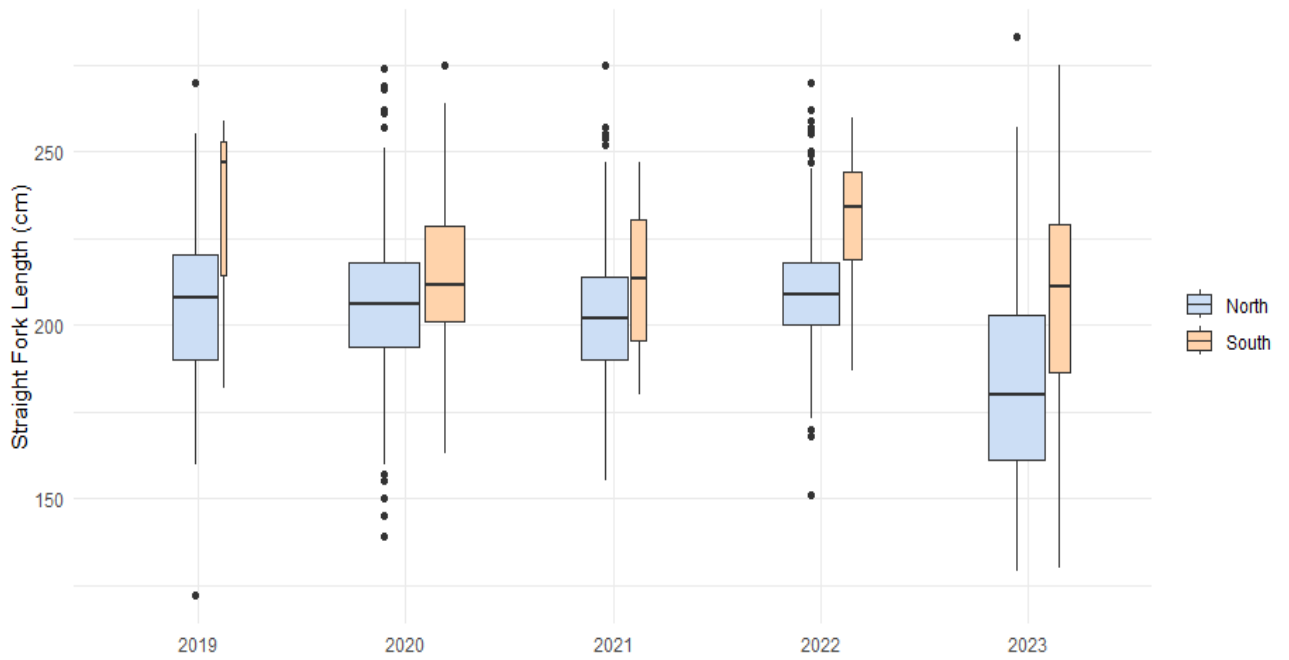


Fig. 6 Length distributions in the Northwest and Southern coasts of measured bluefin tuna 2019-2023

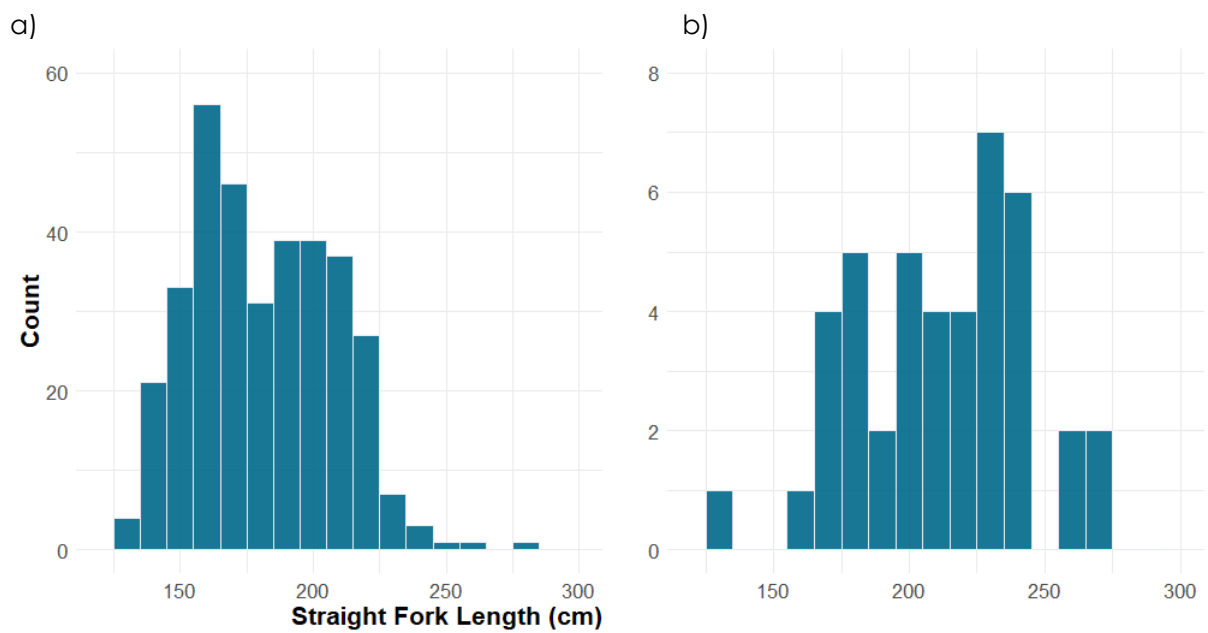


Fig. 7 Histograms of a) Northwest (Donegal Bay) measured Atlantic bluefin tuna length distribution (cm) (Straight fork length) 2023 (n=346) and b) South coast (Cork and Kerry) measured Atlantic bluefin tuna length distribution (cm) (Straight fork length) 2023 (n=43).

3.6 Observer programme

A total of four observer days were undertaken in 2023 by IFI staff on board the vessels of four different skippers in Donegal Bay. Three bluefin were caught, tagged and released during the observer trips (Table 2).



Fig. 8 Bluefin recovering alongside vessel during observer trip on 13th September 2023 according to Tuna CHART guidelines.

Table 2. Observer days and fishery coverage by Tuna CHART observers

Fishing Area	No. Skippers observed	No. Observer trips	% Trip coverage	No. BFT Hooked during observer trips
Northwest	4	4	2.2%	3
Total	4	4	2.2%	3

Observing staff noted that all skippers handled the tagging process from hooking up to release within the guidelines set out, ensuring that the welfare of the fish was the priority throughout. On one trip a double hook-up was observed, and the skipper managed this situation well. Instructions were clear to both anglers responsible for bringing in the fish and he was able to measure, tag and recover the first fish in a swift manner, allowing for time to bring in the second fish without much of a time delay.

Two of these trips ended with no fish being caught or tagged, one of which was ended slightly earlier than planned due to changes in the weather that had not been forecasted, an issue that had been reported by some other skippers during the season. During these trips, both skippers remained focused on finding bluefin, following any signs of wildlife activity throughout. Additional observer trips were planned for the southern region but were cancelled due to poor weather conditions.

3.7 Comparisons of angling and handling over time

The Tuna CHART Technical team recommend minimising fight times wherever possible, however skipper discretion was permitted. The SOP recommends that skippers should take over from anglers if the fish was not alongside the vessel after 30 minutes. A review of fight times over the span of the programme indicates that the fight time has remained largely unchanged with a reduction in the average fight time to 17.6 minutes, lower than in 2022 (20 minutes) and all previous years (Fig. 9). Straight Fork Length (SFL) influenced fight time in 2023 (Fig. 10) with smaller fish brought alongside in shorter times ($r^2 = 0.4588$, $F(1, 386) = 327.2$, $p < 0.000$).

The Tuna CHART technical group also promote a recovery time of at least 5 minutes alongside the vessel with head and gills fully submerged underwater to maximise post release survival. Longer average handling-recovery times were reported for the 2023 season at 8.3 minutes, staying within the average for the whole programme (Fig. 9).

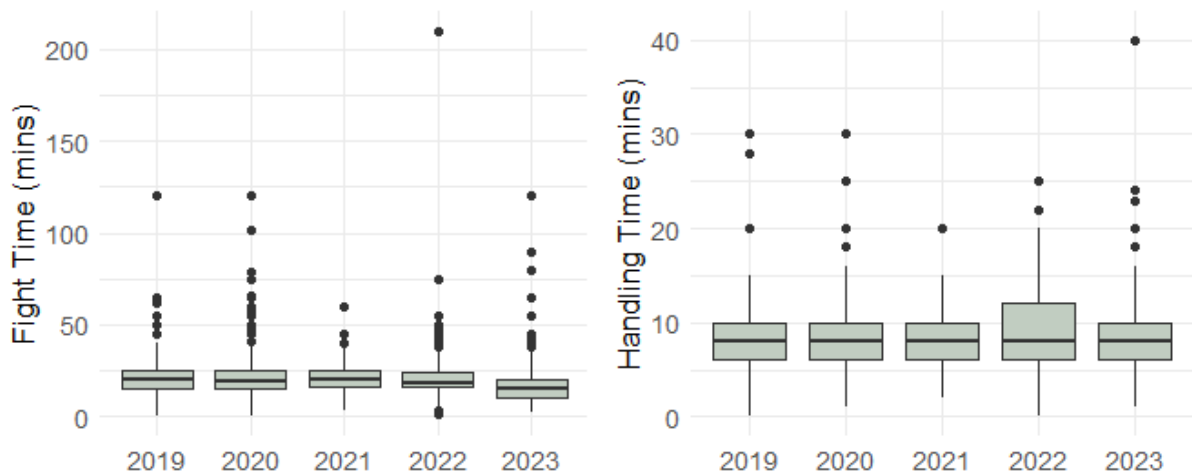


Fig. 9 Comparative fight (left) and handling time (right) for Tuna CHART 2019-2023

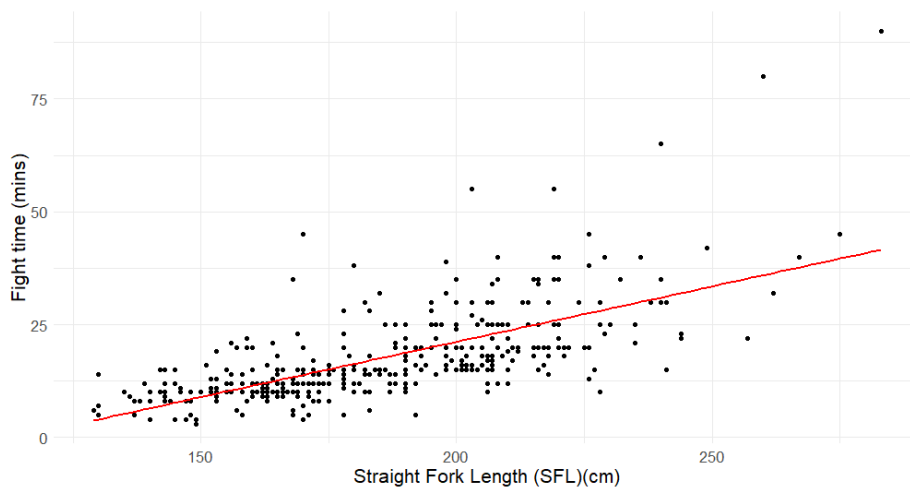


Fig. 10 Fight time vs. Straight fork length of Bluefin Tuna in 2023 with linear regression line

4. Discussion

Ireland's Tuna CHART programme is extensive involving many different elements (governance, administration, research, technical, protection and the angling sector) working together for a common goal. The high level of co-operation amongst the various partner agencies has allowed this programme to operate efficiently and effectively.

Fishing effort was similar to 2022, but in the lower range since the programme started in 2019 due mainly to unforeseen inactivity by three skippers and adverse weather conditions for much of the season, primarily on the South coast. Trips where at least one bluefin was successfully tagged were moderately high at 63% (Table 3). Despite the relatively low fishing effort, CPUE for 2023 was high for the programme at 1.6, second only to 2.27 in 2020, with the majority of bluefin tuna, as recorded in previous years, being tagged off the Northwest coast. To date, 1,881 Atlantic bluefin tuna have been tagged under Ireland's Tuna CHART programme.

Table 3. Tuna CHART CPUE summary data 2019-2023

Year	No. Skippers	Total Trips	No. Tagged	No. Successful Trips	CPUE (Tags/Trips)	Max. CPUE in any week	% Successful Trips
2019	15	204	209	99	1.02	2.4	49
2020	22	302	685	219	2.27	4	73
2021	22	336	242	129	0.72	1.8	38
2022	22	235	364	158	1.55	3.2	67
2023	19	239	381	150	1.60	4.5	63

When comparing the weekly CPUE between the Northwest and Southern regions, the Northwest continues to provide consistently successful bluefin tuna angling. However, the South showed notable peaks in CPUE reaching a weekly high of four bluefin tuna per trip. This observation identifies improved scope for that region and the likelihood that angling in the area could prove quite successful if weather conditions allowed for more consistent angling effort. Skippers reported seeing bluefin tuna along the south coast throughout September and October, but weather hampered their ability to undertake additional angling trips.

Length data collected during the tagging process has indicated that bluefin tuna in the Northwest coast, predominantly Donegal Bay, were smaller in 2023 than in previous years and therefore likely to include a younger age cohort than those that have been tagged in the area in previous years. In previous years, averages for SFL in the region fell between 203-209cm, whereas this year reached a low of 182cm. The presence of smaller, and therefore younger cohort of bluefin is a positive sign for the health of the stock and is an early indicator of good recruitment to the fishery.

October proved to be a highly successful tagging month this season, and despite low CPUE during the peak angling months of August and September, bluefin tuna continued to be caught from late July until the season ended in November.

High levels of skipper compliance were observed for Ireland's Tuna CHART, in relation to Bluefin tuna regulations, Section 14 authorisation and angling, handling and measuring guidelines.

4.1 Other North-Atlantic bluefin tuna angling data collection programmes

The Danish catch and release fishery is run similarly to Ireland's Tuna CHART as Denmark has no quota. However, all bluefin are tagged with satellite tags by scientists during the open season. 134 ABFT were caught and tagged in 2023 (www.Fiskepleje.dk). This is slightly below the number tagged in 2022. Adverse weather conditions hampered angling days and thus the number of bluefin tuna caught and tagged. Tagged bluefin ranged from 217-290 cm (Curved Fork Length (CFL)). Those fish were larger than Irish-tagged BFT and estimated as 211-283cm SFL cm using conversion equations from Lombardo *et al.* (2019).

The UK has a quota for bluefin tuna since its exit from the EU. A recreational catch, tag and release programme, similar to Ireland's Tuna CHART, has been running since 2021. In its pilot year England's CHART ran for 13 weeks from August until November 2021 using trolling as the preferred method. 704 bluefin tuna were tagged in 2021 and a CPUE of 1.74 bluefin per trip was reported (Phillips *et al.* 2022). This CPUE was higher than the Irish Tuna CHART CPUE in the same year of 0.74 (Table 3). Mean fight time was 18 minutes, (Ireland's Tuna CHART 2019-2023: 21 minutes). England's CHART measured BFT from 100-288cm SFL (mean 182cm), smaller than the bluefin reported from Ireland's Tuna CHART and including a cohort of small bluefin less than 129cm never recorded by Ireland's Tuna CHART programme. Ten bluefin mortalities were recorded by England's CHART in 2021. These were attributed to deep hooking, heavy bleeding and lip hooking. The detailed report on the English CHART 2022 season is not yet published. In 2023 the English Tuna CHART season ran from 12th August to 12th December and bluefin were tagged and released until the end of the season. 1,383 bluefin were tagged and released by 24 authorised vessels, which was a CPUE of 2.3 per trip (CEFAS UK, 2023), again higher than Ireland's 2023 CPUE. The sizes of bluefin measured by England's CHART programme in 2022 or 2023 have not yet been reported. Following the increase of the bluefin tuna 2023 quota to the UK, 39 tonnes of a harvest quota were allocated to a novel small-scale rod and reel commercial fishery for ten licensed vessels. This trial fishery closed on the 31st of December 2023.

In 2022 Norway received a quota of 315 tonnes of Atlantic bluefin tuna. Fifteen tonnes of the quota have been set aside as commercial by-catch and 18 tonnes for experimental fishing for live storage of bluefin tuna. Ten tonnes were set aside for a commercial rod and line fishery to permit fish to be retained amongst 22 registered vessels in 2023. In 2023, 58 fishing teams

participated in the recreational bluefin tuna scientific angling programme. Catch rates for 2023 are to date unpublished. In 2022, over 16 angling days, eleven BFT were tagged with both pop-up satellite archival tags (PSATs) and conventional spaghetti tags (Table 4). Norway requires the use of the highest rated rods and reels, similar to Ireland, and permits anglers to fight using stand-up harnesses. Fight times ranged from 18 to 40 minutes (mean 24 minutes). Bluefin ranged in length from 237 cm to 283 cm (CFL) (Ferber *et al.* 2022). This is estimated as 231-280cm SFL cm using conversion equations from Lombardo *et al.* (2019). Total numbers of Norwegian tagged or hooked fish by recreational anglers is not publicly available.

Table 4 Comparison of four European Catch, Tag and Release programmes

Descriptors	Ireland	England	Denmark	Norway
Sampling Year	2023	2023 2021	2023	2022
Size range SFL (cm)	139-283	N/A 100-288	211-283 *	231-280 *
Number tagged	381	1383 704	134**	11**
CPUE (No. ABFT per trip)	1.6	2.3 1.74	N/A	N/A

*Converted from CFL using Lombardo *et al.* (2019)

**conventional and satellite tags

Ireland and Denmark's bluefin tagging programmes are most similar, with the English and Norwegian tagging programmes pivoting to permit fish retention by recreational anglers with the allocation of quota to recreational angling. Ireland and Denmark continue to have no quota but can permit angling for Bluefin through their tagging data collection programmes. Norway requires the use of the highest rated rods and reels, similar to Ireland, and permits anglers to fight using stand-up harnesses. Norway and Denmark encounter a larger size cohort of bluefin, with the authorities in the UK reporting, on average, smaller bluefin than in Irish waters, while bluefin tagged in Irish waters include both small and larger ABFT, ranging in estimated age from 4 to 11 years.

4.2 Concluding remarks

High quality spatial, temporal, and size data were recorded in 2023, which will be shared with ICCAT in 2023 to satisfy national reporting requirements. This builds on the dataset from Tuna CHART activity in 2019-2022 previously submitted to ICCAT and allows for monitoring of population status. The data provides high quality trend data and the basis for more in-depth study of the characteristics of Bluefin tuna in Irish waters.

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