# Bass and Conservation Species Trawling Survey Report

## 2025

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# 1. Executive Summary

This annual trawling survey forms part of Inland Fisheries Ireland's long-term programme to monitor European seabass (hereafter 'bass') recruitment. The survey ultimately aims to support ICES stock assessments and inform the management of bass, a marine fish species managed solely for angling in Ireland.

The Bass and Conservation Species Trawling Survey 2025 is designed to provide survey data to inform an assessment of pre-adult European Seabass (*Dicentrarchus labrax*) populations (ages 1–4) across three key Irish transitional waterbodies: the Lower Slaney, the Lower Munster Blackwater, and Barrow–Suir systems. This survey also provides information on size ranges and distribution of two Conservation species; Twaite shad, a Habitats Directive-listed species and Thinlip mullet, a diadromous species of interest. This survey has been conducted annually on all three waterbodies since 2017.

A total of 53 trawls were carried out in early September 2025 using a standardised modified sprat trawl. Bass were recorded in all three waterbodies and were the most abundant species overall, followed by herring (Munster Blackwater only) and European flounder. The survey also yielded a wide range of other demersal and pelagic species, including adult Scad, juvenile Gilthead bream and Starry smooth-hound. This report describes bass recruitment by calculating bass density per year class per waterbody:

- Recruitment of the 2022 to 2025-year classes to the Slaney was strong, although continued monitoring will be required to confirm the strength of the 2024- and 2025-year classes. The estuary exhibited low species richness, consistent with previous years.
- The Munster Blackwater reported a strong presence of 2022-year class bass and above average values of 2023- and 2024-year class bass. It was the only estuary where bass aged 6–8-years-old were recorded, suggesting its importance as a feeding ground for adult bass. Species richness was high (21 species), including a large shoal of herring and small numbers of juvenile gilthead bream.
- The Barrow-Suir showed moderate recruitment driven by moderately good 2022-year class recruitment and above average recruitment for the 2023–2024-year classes. It was the most species-rich estuary (23 species), including unique records of dab, pouting, pogge, poor cod, cod, and red mullet. Shad were widely distributed, with 29 individuals recorded.

The 2025 Juvenile Bass Trawling Survey shows variable but generally good bass recruitment across the Slaney, Barrow-Suir, and Munster Blackwater estuaries, with the 2022-year class particularly robust. This cohort will begin contributing to the spawning stock from 2026 and is likely to represent an important contribution to bass stocks following weaker recruitment in 2019–2021. Fish species richness trends were stable in the Barrow–Suir, increasing in the Munster Blackwater, and low, but historically consistent, in the Slaney.

The trawling survey provides a consistent method to assess pre-adult bass density and recruitment, while also recording the abundance and distribution of marine fish species, including Habitats Directive-listed fish species. Current results support cautious optimism for a modest upturn of the bass stock but emphasise the need for continued long-term monitoring and precautionary management.

Recommendations are made for continued monitoring with some expansion to increase fundamental knowledge of Transitional Waters habitat use by Bass and Conservation fish species.

## 2. Introduction

European seabass (*Dicentrachus labrax*) is an extremely important and valuable marine sport angling species in Ireland. A steep decline in European seabass stocks (hereafter referred to as 'bass') in Ireland in the mid-1970s resulted in a severe deterioration of the renowned bass angling resource and the cessation of the commercial fishery to conserve stocks through the Bass (Conservation of Stocks) Order, 1990. Since then, bass have been managed solely for angling. Bass falls within Inland Fisheries Ireland's (IFI's) responsibilities for the conservation, protection, management, marketing, development and improvement of inland fisheries, including sea angling (Inland Fisheries Act 2010). Bass stock status in the Irish Sea and Celtic Sea is assessed as part of the northern stock of European seabass in the central and southern North Sea, Irish Sea, English Channel, Bristol Channel and Celtic Sea (ICES 2025) and a multiannual management plan is in place since 2019 (EU 2019).

The purpose of the trawl survey is to provide a repeatable measure of pre-adult bass stock (1-4 years old) status in transitional waters. Bass spawn at sea and post-larval bass migrate to inshore estuaries to mature. Young bass up to four years old tend to congregate in the food-rich, relatively warm, sheltered waters of estuaries in the warmer months (Pickett and Pawson 1994). The pilot trawling survey in 2014 was focused on Barrow at New Ross Point, and the River Suir, due to its large size, wide variety of habitat types, suitability for trawling, and previous juvenile surveys indicating bass presence. From 2016 on, the trawling expanded to include the Munster Blackwater, and from 2017 the Slaney.

Cefas has been conducting bass trawling surveys in UK estuaries and inshore waters since 1981. The Cefas methodology captures bass from zero to age six; catches of 2–4-year-olds are most consistent and are utilized to establish a year class index measuring recruitment strength of pre-adult bass to the adult stock (Pickett *et al.* 2002). Cefas use survey data to assess juvenile bass stocks and to support ICES bass assessment as part of the UK bass stock assessment. These surveys were initiated in Irish waters to provide a method comparable to that in use in UK waters, and to potentially provide data to support stock assessment. Although aimed at catching bass, the survey catches a wide range of demersal and pelagic species. All fish biota encountered are recorded and the dataset constitutes a time series of their local distribution, relative abundance, and population size structure. Several fish species of conservation interest such as Twaite shad and Thinlip grey mullet have been encountered in these surveys.

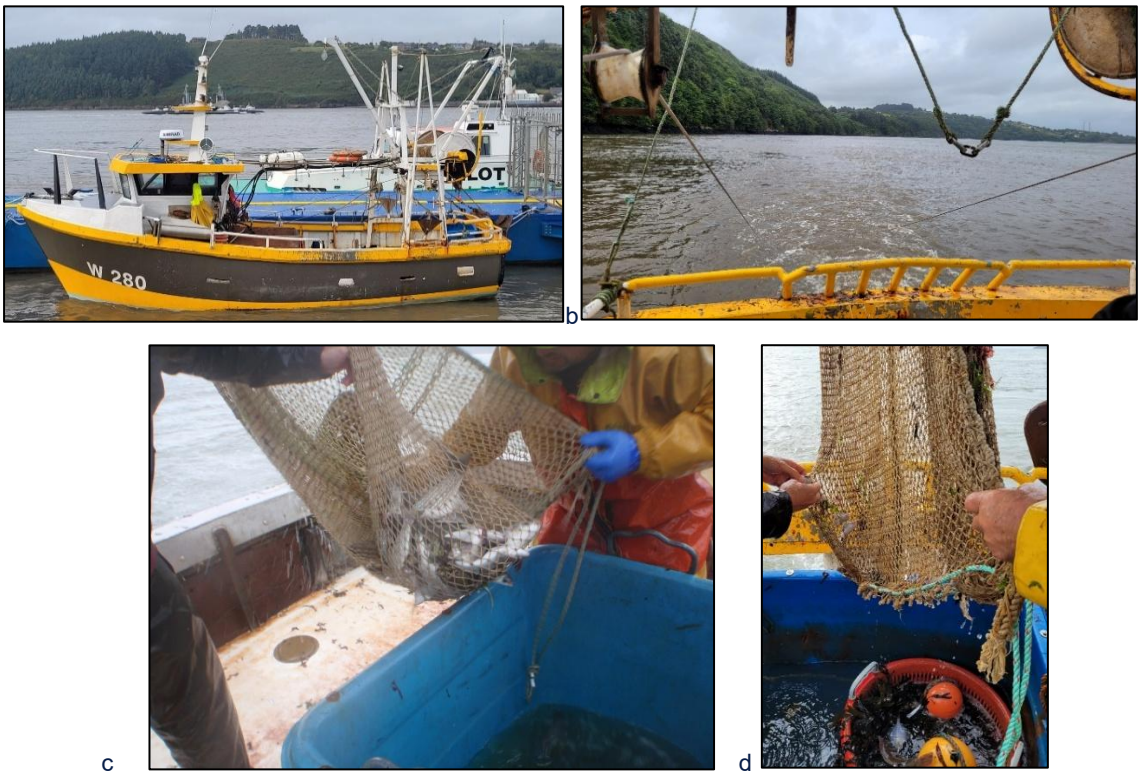
A derogation to undertake the survey was provided annually by Sea Fisheries Protection Authority between 2014-2023 and between 2024-2025 by the Department of Agriculture, Food and the Marine. The 2025 derogation was titled "Demersal Scientific Trawling Survey Authorisation issued pursuant to section 13 of the Sea-Fisheries and Maritime Jurisdiction Act 2006 Authorisation No.: SS/3/August/2025"

# 3. Methods

## 3.1. Trawling vessel and net

The trawling methodology was adapted from a method to catch pre-adult bass and provide an estimate of year class strength developed by Cefas in the UK in consultation with local skippers (Pickett *et al.* 2002). Working with a local skipper is advisable as they possess detailed knowledge and advice needed to minimise risks such as trawl 'hangers', locate shoaling areas, assess tidal patterns, in addition to knowing the locations of static fishing gear.

In 2025 (and 2014-2024) a 9.72m survey vessel fished using a modified demersal trawl off the stern gantry using two sets of twin 10 fathom bridles. Two 1.0 m steel trawl doors (60 kg) were detached when hauling inboard to allow the main towing warp to wind around the winch drum. The length of the tow warp varied depending on depth in the area being trawled. Trawls in less than 5 m of water used a 30 m tow warp and a 50 m tow warp was used for depths greater than 5 m. Towing speed was maintained as close to 3 knots over the ground as was practicable.




a b c d

**Fig. 1. a) Survey vessel and b) the deployed trawl c) and d) unloading the catch**

The modified demersal trawl is based on Cefas specifications with the exception of mesh size: 80 mm diagonal stretched mesh was used throughout instead of the 70 mm used by Cefas in order to comply with minimum mesh sizes required with Irish trawls. In the first year of trawling, 2014, the cod-end was fitted with a 4 mm mesh knotless, 'Frymer' liner in accordance with the Cefas method. Due to the presence of the liner, the change in larger mesh size was unlikely to have any effect on the catch (Barrie Horton, Cefas, pers. comm.) However, the initial trial survey in 2014 yielded poor results; just 12 bass

over the course of 33 trawls of the Barrow-Suir. In 2015 a 20 mm mesh 'Herring Brailer' net was used in place of the 4 mm 'Frymer' liner as few 2+ bass were encountered in the initial trial. After the replacement, bass of 2+ years were encountered more frequently. In subsequent years (2016+), fishing effort in the Barrow-Suir was decreased from 36 to 16 trawls per survey and the sampling effort was expanded in 2016 to include the Munster Blackwater and further in 2017 to include the Slaney transitional waterbody

Surveys took place annually in early September. For each tow a log was completed, recording shoot and haul times and position (longitude and latitude), starting and ending depth, salinity, weather conditions, and number of each species caught. On hauling, at the end of each tow, the cod-end was opened directly into a 60-gallon tub on deck and then sorted though. For each species of fish, a sample of thirty individuals were measured, and any surplus fish were counted but not measured. The only exception were small clupeids (generally recorded as sprat), and Gobiidae (gobies), for which an estimate was made on the general abundance. For bass, all individuals were measured where possible. Additionally, a scale sample was taken for age determination back in the laboratory and, if the fish was large enough (>20 cm), it was tagged with a numbered t-bar tag. After sampling, all fish and benthos were returned alive to the water.

## 3.2. Sampling

Sampling was undertaken between the 25th August and the 5th September 2025. Each waterbody was surveyed over two days with a minimum of 18 trawls undertaken per waterbody.

The Lower Slaney is a transitional waterbody located on Ireland's southeast coast, with a narrow estuary mouth (1km at Wexford bridge), widening to a stable, shallow sandy basin at Wexford town. It was not possible to trawl above Ferrycarrig bridge as the height of the bridge and the shallow nature of the riverine reaches of the estuary were inaccessible to the trawling vessel. 18 trawls were conducted over 145.7 minutes with most of the trawls conducted between Ferrycarrig bridge and Wexford Bridge (Fig. 2). With a mean depth of 2.6m (Range: 1.0 to 7.8m), the Slaney was the shallowest of the three waterbodies. Mean salinity was 27.3ppt (Range: 21.5 to 33.1ppt). Mean water temperature was 18.1°C (Range: 16.9 to 19.3°C) (Fig. 3).

The Munster Blackwater transitional waterbody is a deep waterbody with a narrow estuary mouth (1.4km at Youghal Bridge) opening to the Celtic Sea. Upstream of the estuary mouth, the channel widens to 3km where three rivers join the lower estuary. Further upstream there was decreasing salinities and increasing freshwater influence. 19 trawls were conducted over a total of 165.9 minutes. Two trawls were carried out outside the transitional waterbody, in the Celtic Sea and the remaining 17 were up to 15 km upstream from the estuary mouth (Fig. 2). Mean depth was 4.4 m (range: 1.5 -8.7m), mean salinity was 22 ppt (range: 10.6 to 32.9ppt) and mean water temperature was 16.6°C (range: 15.1 to 17.6°C), making the Munster Blackwater the coolest waterbody surveyed (Fig. 3).

The Barrow-Nore-Suir is a deep transitional waterbody, a confluence of three rivers. The Barrow-Nore flows from the north while the Suir flows from the west increasing to a wide estuary mouth (5km) at the

end of the Transitional waterbody. The confluence at Cheekpoint is the site of a power station which previously pumped warm water into the main channel, which led to fish aggregating at this location. At the time of the 2025 survey, the warm water output was fully stopped, with temperatures close to the average for the waterbody. 18 trawls were conducted over 215.3 minutes with two trawls in the R. Suir at Little Island, 3 in the Barrow-Nore at the Fisherstown mudflats, and the remaining 13 trawls conducted at the confluence and downstream (Fig. 2). With a mean depth of 4.6m (Range: 1.0 to 11.5m) the Barrow-Suir was the deepest waterbody surveyed. Mean salinity was 26.6ppt (Range: 17.2 to 33.1ppt) and mean water temperature was 19.6°C (Range: 18.1 to 20.5°C), the warmest of the three waterbodies (Fig. 3).

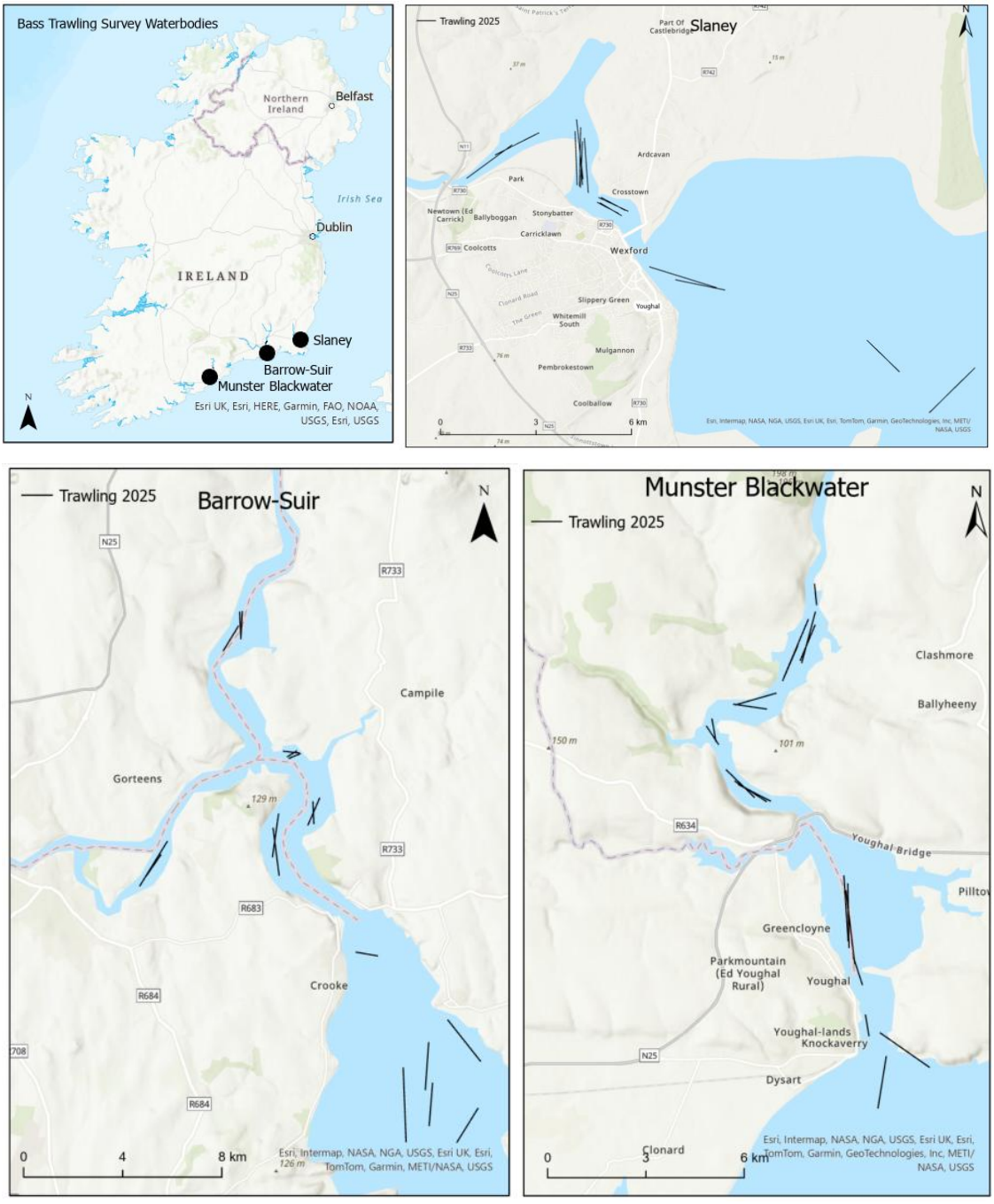



**Fig. 2. Spatial distribution of 2025 trawls**

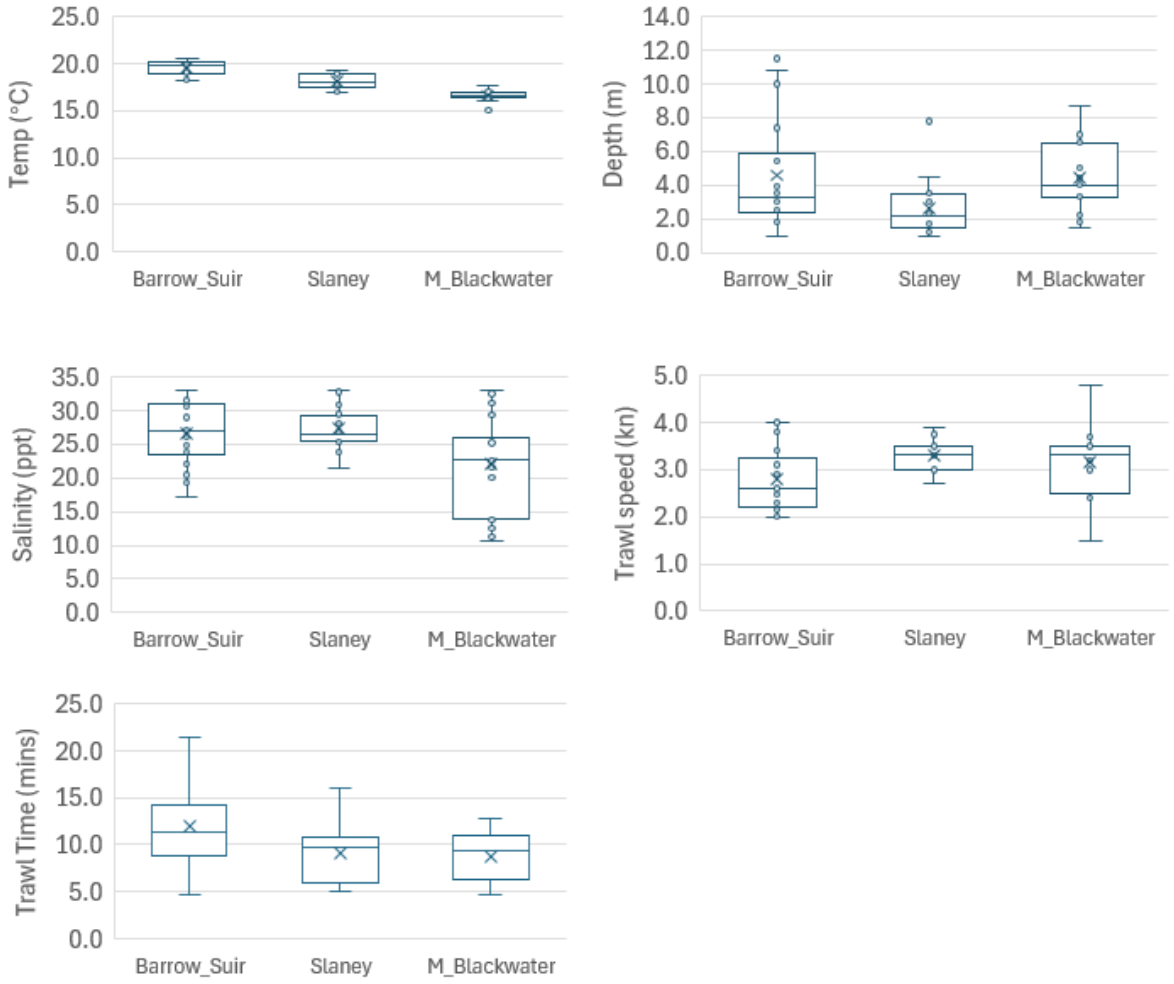



**Fig. 3. Measured parameters of each sampled site per waterbody**

## 3.3. Water Quality

Water Quality of Transitional Waterbodies is assessed using six biological criteria; phytoplankton, macroalgae, other aquatic flora, angiosperms, benthic invertebrates and fish, physico-chemical criteria and hydromorphology. Between 2019-2024, 70% of Ireland's transitional water bodies fell within the "Moderate", "Poor" and "Bad" categories and required improvement to meet the objectives of the Water Framework Directive (WFD). All three transitional waterbodies surveyed in this survey failed to meet required standards in the 2019-2024 WFD Assessment; the Slaney was assessed as 'Poor' Status, the Barrow-Nore-Suir and the Munster Blackwater were assessed as 'Moderate'. The Upper Barrow Estuary, the Barrow Nore Estuary Upper, the Upper Slaney Estuary and the Upper Blackwater Estuary were among the Transitional waterbodies with the highest dissolved inorganic nitrogen concentration (Feeley *et al*. 2025).

## 3.4. Ageing

A maximum of 5 scales per bass were removed and retained for scale ageing in the lab. Ages from a subsample of three bass per cm class per waterbody were estimated by viewing the expanding reflected light image of a magnified scale using a UScan digital scanner (e.g. Fig. 4). These ages were reviewed by a second reader and where there was discrepancy, the scales were reviewed jointly to find agreement. Once ages were agreed, the subsampled ages per cm class were assigned to all bass.

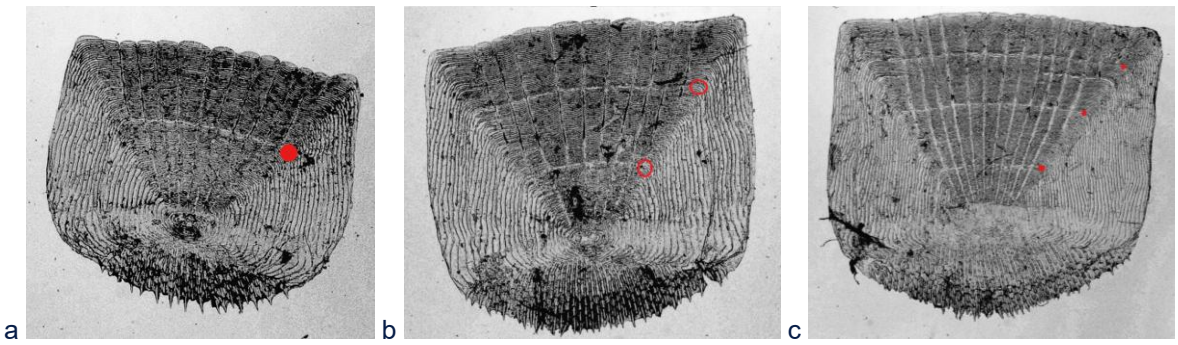



**Fig. 4. Scales from a) 1-year-old bass Slaney (18.6cm), b) 2-year-old bass Munster Blackwater (22.6cm), c) 3-year-old bass Barrow-Suir (29.7cm).**

## 3.5. Bass catch per standardised 10-minute trawl per year class

Utilising length frequency and age abundance data for all years of the Trawling survey (Appendix 1), the number of bass per age class per 10 minute standardised trawl was calculated to allow comparison with Cefas reporting (e.g. Brown 2017, Woods and Brown 2022) and the corresponding year class was assigned to each age, e.g. a 2 year old bass encountered in a trawl in 2025 was assigned to the 2023 year class. This was used to assess year class strength for the 1–4-year-old bass encountered in these trawling surveys and compared to the results of previous trawling surveys.

# 4. Results

53 Trawls were undertaken across three waterbodies. Bass was the most abundant species encountered in 2025. Age classes of bass ranged from 0 to 10 years. Herring was the second most abundant species overall, but only encountered in the Munster Blackwater, European flounder was the third most abundant and recorded in all estuaries surveyed (Table 1). All three waterbodies recorded Bass, European flounder, Scad, Sole, Sprat and Sand goby. Below is a summary of the results per waterbody.

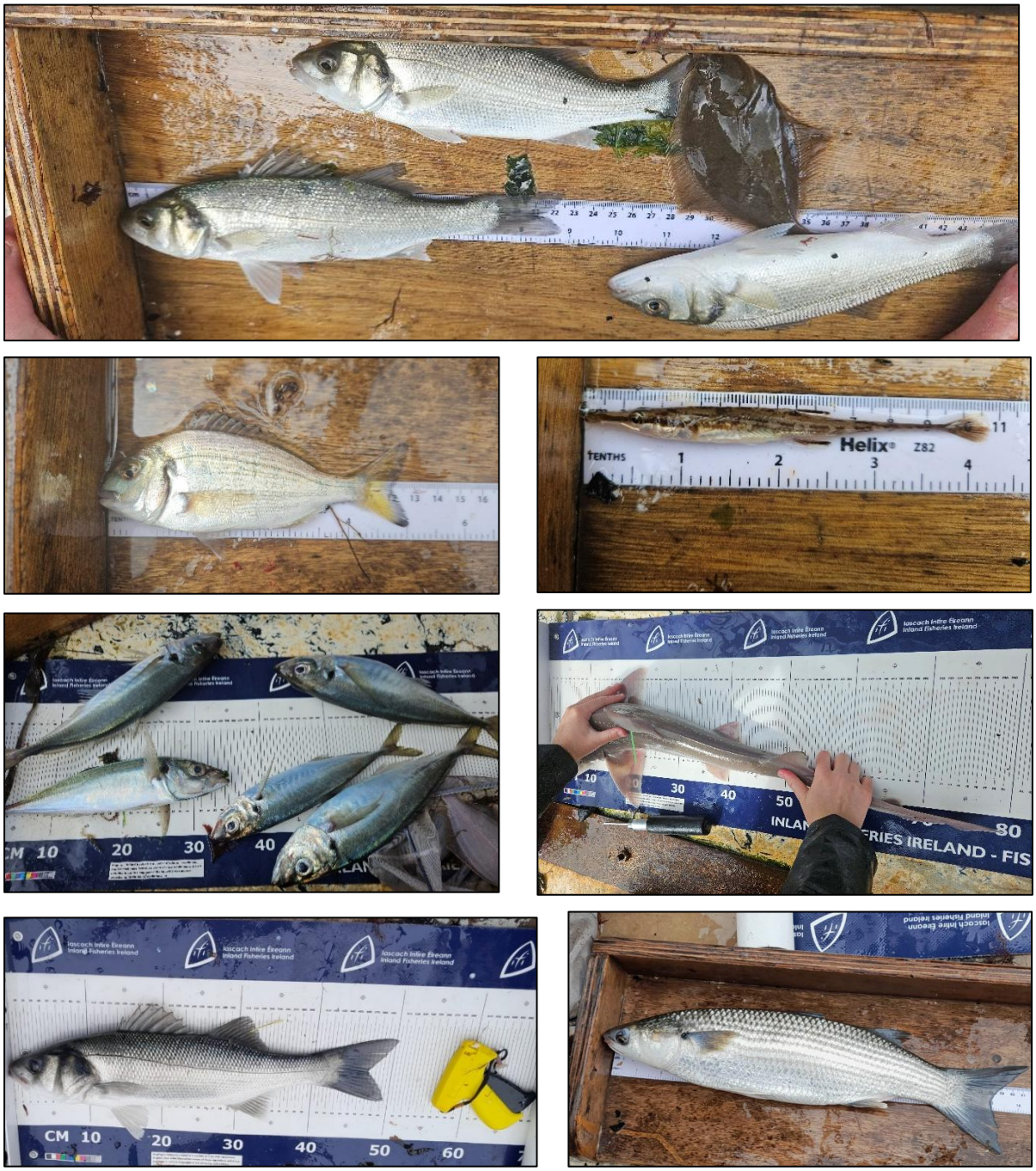



**Fig. 5. Images of juvenile European seabass, European flounder, juvenile gilthead bream, fifteen spined stickleback, Scad, Starry smooth-hound, adult Bass and Thinlip mullet from the 2025 surveys.**

**Table 1. Species list per waterbody**

| Common name | Species | Slaney | Munster Blackwater | Barrow-Suir |
|---|---|---|---|---|
| European seabass | *Dicentrarchus labrax* | 1523 | 258 | 422 |
| Herring | *Clupea harengus* | | 1040 | |
| European flounder | *Platichthys flesus* | 367 | 166 | 414 |
| Scad | *Trachurus trachurus* | 3 | 17 | 112 |
| Sprat | *Sprattus sprattus* | 58 | 39 | 4 |
| Dab | *Limanda limanda* | | | 83 |
| Common Sole | *Solea solea* | 4 | 6 | 40 |
| Whiting | *Merlangius merlangus* | | 8 | 32 |
| Starry smooth-hound | *Mustelus asterias* | | 5 | 31 |
| Thick-Lipped Grey Mullet | *Chelon labrosus* | 1 | | 34 |
| Twaite shad | *Alosa fallax* | 1 | 4 | 29 |
| Plaice | *Pleuronectes platessa* | | 1 | 32 |
| Lesser Spotted Dogfish | *Scyliorhinus canicula* | | 21 | 11 |
| Pouting | *Trisopterus luscus* | | | 29 |
| Pollack | *Pollachius pollachius* | | 22 | 2 |
| Sand Goby | *Pomatoschistus minutus* | 7 | 4 | 12 |
| Five bearded rockling | *Ciliata mustela* | | 19 | |
| Tub gurnard | *Chelidonichthys lucerna* | | 2 | 14 |
| Mackerel | *Scomber scombrus* | | 1 | 15 |
| Pogge | *Agonus cataphractus* | | | 6 |
| Poor Cod | *Trisopterus minutus* | | | 5 |
| European smelt | *Osmerus eperlanus* | 1 | | 3 |
| Gilthead Bream | *Sparus aurata* | | 3 | |
| Brill | *Scophthalmus rhombus* | | 1 | 1 |
| Fifteen-spined Stickleback | *Spinachia spinachia* | | 2 | |
| Cod | *Gadus morhua* | | | 2 |
| Greater Weever | *Trachinus draco* | | 1 | |
| European Eel | *Anguilla anguilla* | 1 | | |
| Red Mullet | *Mullus surmuletus* | | | 1 |
| Thinlip Grey Mullet | *Chelon ramada* | | 1 | |
| **Total No. Fish** | | **1966** | **1621** | **1334** |
| **Species Count** | | **10** | **21** | **23** |
| **No. Trawls** | | **18** | **19** | **18** |

## 4.1. Lower Slaney Transitional waterbody

The highest density of bass was recorded in trawls upstream of Wexford Bridge and north of the sandbank on the south side of the estuary (Fig. 6). 78% of all fish encountered were bass (Table 1). A total of 1,523 bass were recorded (105 bass per 10-minute standardised trawl time). The highest number of bass per 10-minute trawl were recorded in this waterbody (Table 2). The size range of bass caught was between 5.2 and 52cm, with 87% of bass falling between 5-21.8cm (Fig. 7). These were 0-group (5.2-13.5 cm) and 1-year-old (14.8-21.8 cm) bass (Table 2). Only one bass older than 3 years old was encountered: one 52cm 10-year-old. The highest catch per 10-minute trawl of 0 and 1-year old bass of all three waterbodies was recorded in the Slaney (Fig. 8).

Although there were elevated numbers of bass, the Slaney trawling survey reported few other fish species. It was the least species rich waterbody of the three trawled in 2025 with only 10 fish species. Individual specimens of European eel, Thick-lipped grey mullet were recorded. One Habitats Directive listed species were encountered; one Twaite shad (*Alosa fallax*) (11.3cm) was encountered, below Wexford bridge.

## 4.2. Munster Blackwater Transitional waterbody

16% of all fish encountered were bass (Table 1). Bass occurrences were well distributed throughout the sampling area (Fig. 6). The lowest numbers of bass per 10-minute trawl were recorded in this waterbody (Table 2), and this is typical for the trawling surveys, where the lowest number of bass per survey are typically reported from the Munster Blackwater. The highest density of bass per trawl was just outside the transitional waterbody at the Celtic Sea coastal waterbody. A total of 258 bass were recorded (15.5 bass per 10-minute standardised trawl time). Bass ranged from 7.9 to 60cm, with 69% of bass falling between 19.7-28.3 (Fig. 7, Table 2). These were 2-year-old (19.7-25.8cm) and 3-year-old (28.3-37.7cm) bass (Table 2). Small numbers of 4- to 10-year-old bass were encountered, with the only records of 6–8-year-old bass in the entire survey recorded in this estuary (Fig. 7, Table 2).

21 fish species were recorded (Table 1) including a large shoal of 869 Herring. Bass was the second most abundant species followed by European flounder. One Habitats Directive listed taxon were recorded four Twaite shad (*Alosa fallax*) (7.1-23.4 cm). One Thinlip mullet (*Chelon ramada*) (41.5 cm) was recorded. Three juvenile Gilthead bream (13-13.4cm) were encountered across two trawls for the first time in the Munster Blackwater trawling survey.

Two species of elasmobranchs were recorded; 21 Lesser spotted dogfish (*Scyliorhinus canicula)* and five Starry smooth-hound (*Mustelus asterias)* in trawls below Youghal Bridge.

## 4.3. Barrow-Suir Transitional waterbody

The highest density of bass was recorded in trawls was in the vicinity of the Barrow-Suir confluence (Fig. 6). 23% of all fish encountered in this waterbody were bass (Table 1). A total of 422 bass were recorded (19.6 bass per 10-minute standardised trawl time). The size range of bass caught was between 5.0 and 55cm, with 70% of bass falling between 14.1-24.7cm (Fig. 7). These were 1-year-old (14.1-18.8cm) and 2-year-old (19.0-24.7cm) bass (Table 2).

The Barrow-Suir was the most diverse waterbody, reporting 23 species. It was the only waterbody with records of Dab, Pouting, Pogge, Poor cod, Cod and Red Mullet. Three European smelt (*Osmerus eperlanus)* (16.5-18cm) were recorded. Twaite shad (*Alosa fallax*) was the only Habitats Directive species recorded in the Barrow-Suir. 29 shad were recorded across six trawls widely distributed throughout the Barrow-Nore and below the confluence at Cheekpoint. Twaite shad ranged in size from 7.6-25.4cm. Two species of elasmobranchs were recorded; 11 Lesser spotted dogfish (*Scyliorhinus canicula)* and 31 Starry smooth-hound (*Mustelus asterias*) all were recorded near the estuary mouth and downstream of Passage East.

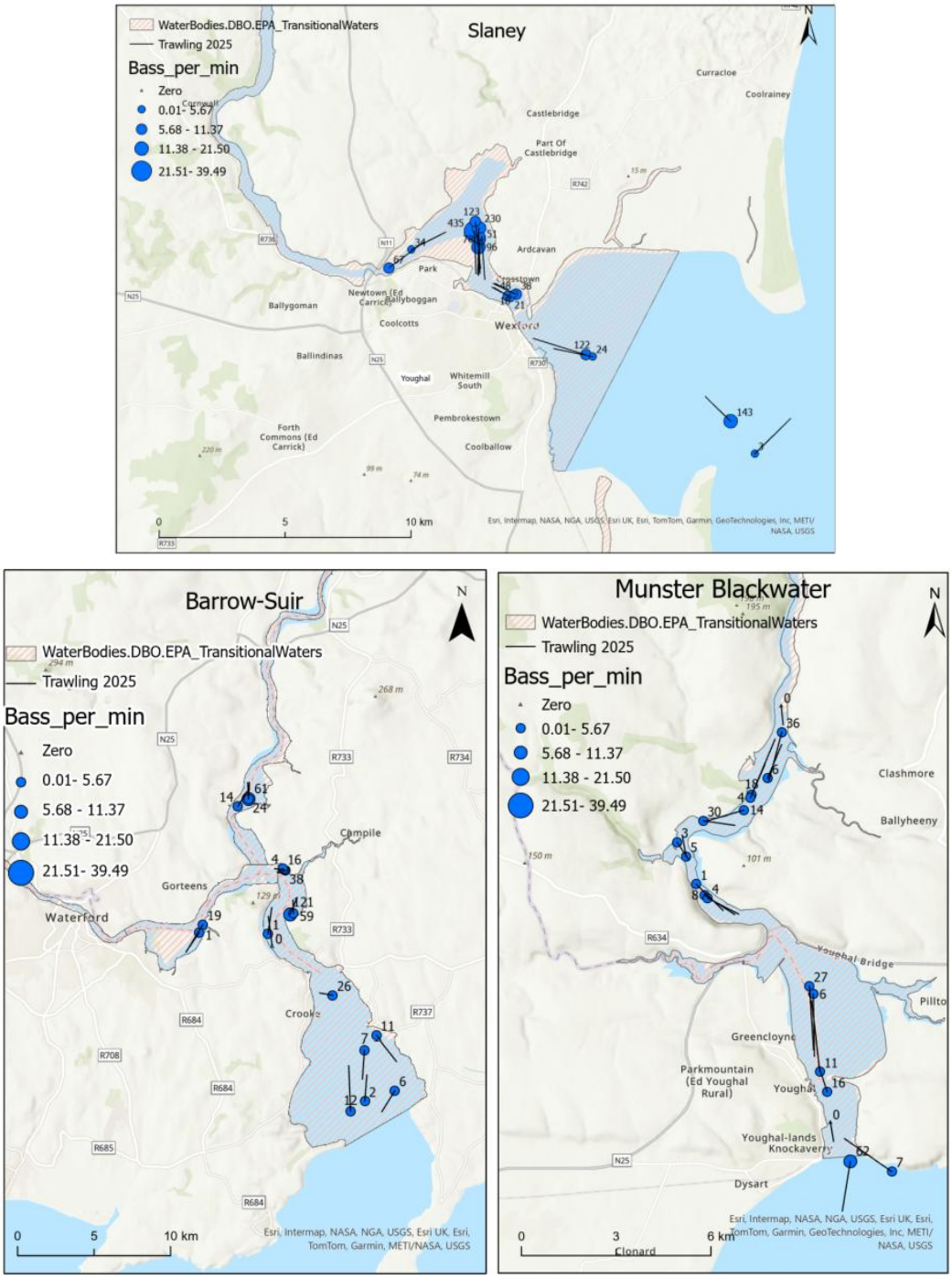



**Fig. 6. Density distribution of bass per minute trawled. Labels are counts of Bass per trawl.**

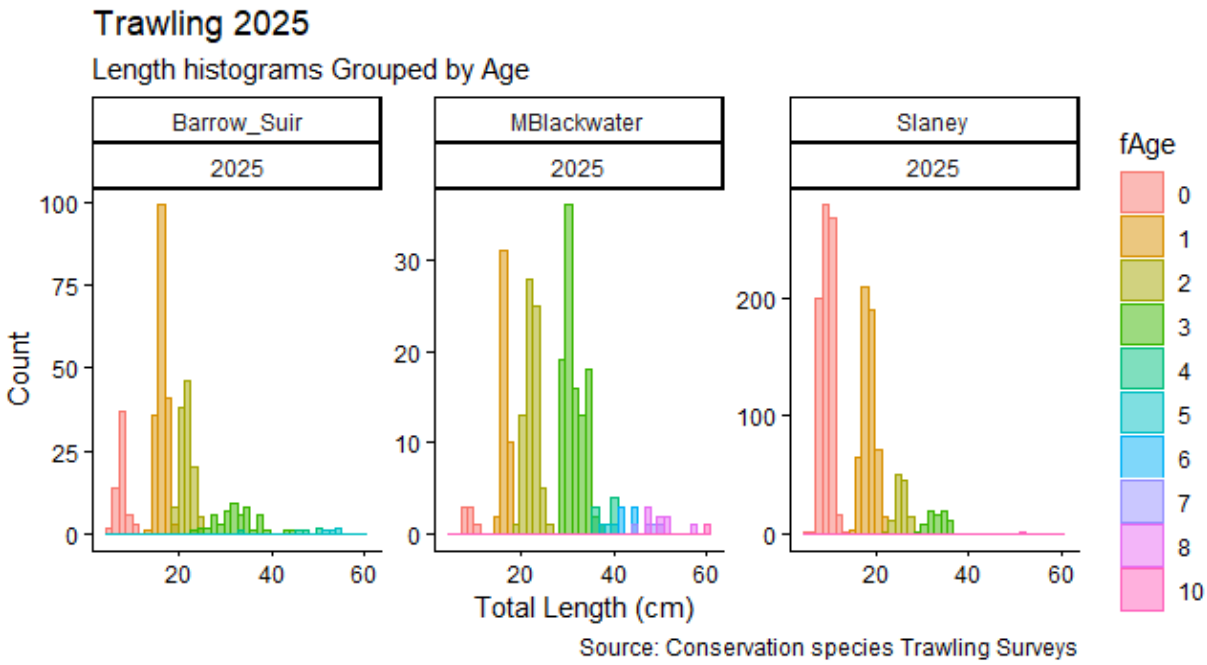



**Fig. 7. Length frequency distribution and age of bass at each waterbody.**

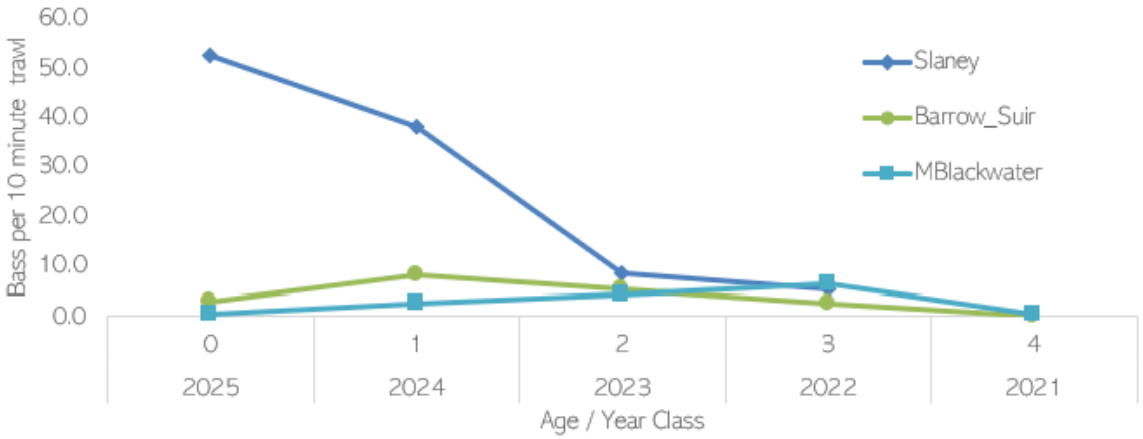



**Fig. 8. Number of bass captured by age group per 10-minute trawl in 2025**

**Table 2. Counts of bass per age group and year class, lengths and Bass per 10-minute trawl from the 2025 sampling survey**

| Waterbody | Trawl (mins) | Year Class Age | 2025 0 | 2024 1 | 2023 2 | 2022 3 | 2021 4 | 2020 5 | 2019 6 | 2018 7 | 2017 8 | 2016 9 | 2015 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Counts** | | | | | | | | | | | | | | |
| Slaney | 145.7 | | 767 | 554 | 124 | 77 | | | | | | | 1 | 1523 |
| Barrow-Suir | 215.3 | | 62 | 180 | 117 | 54 | 5 | 4 | | | | | | 422 |
| M. Blackwater | 165.9 | | 7 | 43 | 73 | 105 | 8 | 3 | 6 | 4 | 8 | 0 | 1 | 258 |
| **Mean Total Length (Range) (cm)** | | | | | | | | | | | | | | |
| Slaney | | | 9.8 (5.2-13.5) | 18.4 (14.8-21.8) | 25.4 (22.2-28.1) | 33.1 (29.0-36.5) | | | | | | | 52.0 | |
| Barrow-Suir | | | 7.7 (5.0-10.2) | 16.3 (14.1-18.8) | 21.7 (19.0-24.7) | 32.1 (23.0-44.0) | 45.2 (33.0-50.0) | 53.6 (52.0-55.0) | | | | | | |
| M. Blackwater | | | 8.7 (7.9-10.0) | 16.5 (14.9-17.8) | 22.4 (19.7-25.8) | 31.6 (28.3-37.7) | 38.7 (36.5-40.9) | 39.1 (38-40.2) | 43 (41.4-45.0) | 47.6 (44.8-49.5) | 50.2 (46.7-56.5) | | 60.0 | |
| **Bass per 10-minute trawl** | | | | | | | | | | | | | | |
| Slaney | | | 52.6 | 38.0 | 8.5 | 5.3 | | | | | | | 0.1 | 105 |
| Barrow-Suir | | | 2.9 | 8.4 | 5.4 | 2.5 | 0.2 | 0.2 | | | | | | 19.6 |
| M. Blackwater | | | 0.4 | 2.6 | 4.4 | 6.3 | 0.5 | 0.2 | 0.4 | 0.2 | 0.5 | 0.0 | 0.1 | 15.6 |

## 4.4. Bass catch per 10-minute trawl per waterbody and per year class

The number of bass recorded per 10-minute trawl in the Barrow-Suir and the Munster Blackwater in 2025 were similar to 2023 and 2024, indicating an increased abundance of bass (all ages combined) in these two waterbodies for the last three years. The Slaney recorded the highest ever number of bass per 10-minute trawl since trawling surveys began (Fig. 9).

When the age profile of bass was compared to previous surveys (Appendix 2, Fig. 10) across all three waterbodies, densities of the 2022-year class was improved compared to the 2019–2021-year classes, as evidenced by the increased numbers of 2- and 3-year olds from that year class per 10-minute trawl (Fig. 10). The density of the 2023-year class at ages 1 and 2 was high in the Slaney and the Munster Blackwater. The 2024-year class was recorded in high densities from the Slaney. The abundance of 0-group bass in the Slaney was high (not shown in Fig. 10), and it may be that the 2025-year class will prove to be a very good recruitment year also, but multiple years of sampling will be required for confirmation that these young-of-the-year fish survived their first winter (2025/26).

The Slaney had good recruitment for the last four years, the Barrow reported moderate-average recruitment for 2022-2024 and the Munster Blackwater recorded good recruitment of the 2022- and 2023-year classes (Appendix 2).

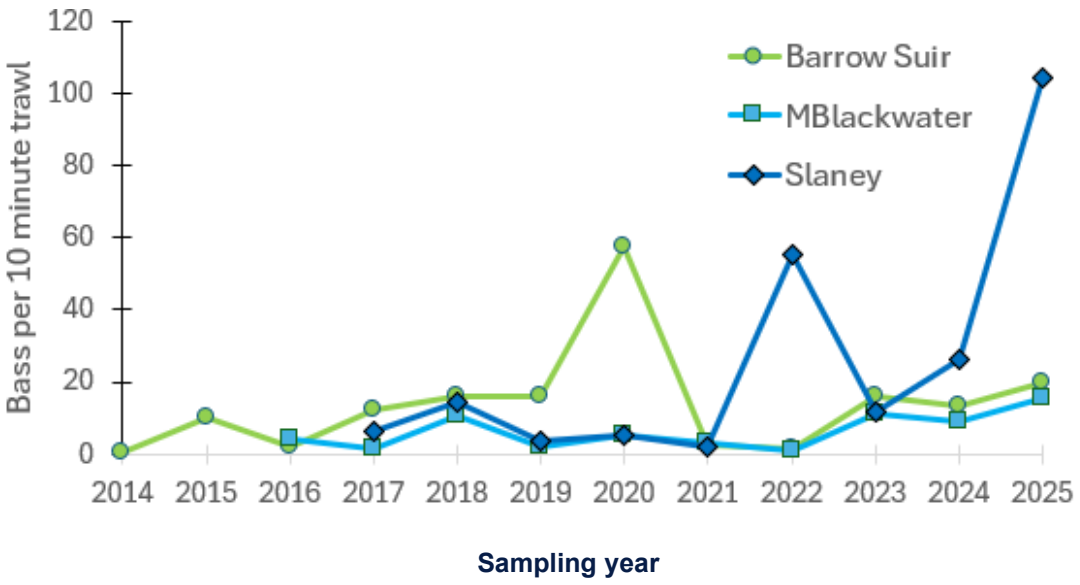



**Fig. 9. No. of bass (all ages) per 10-minute trawl using data from surveys 2014-2025.**

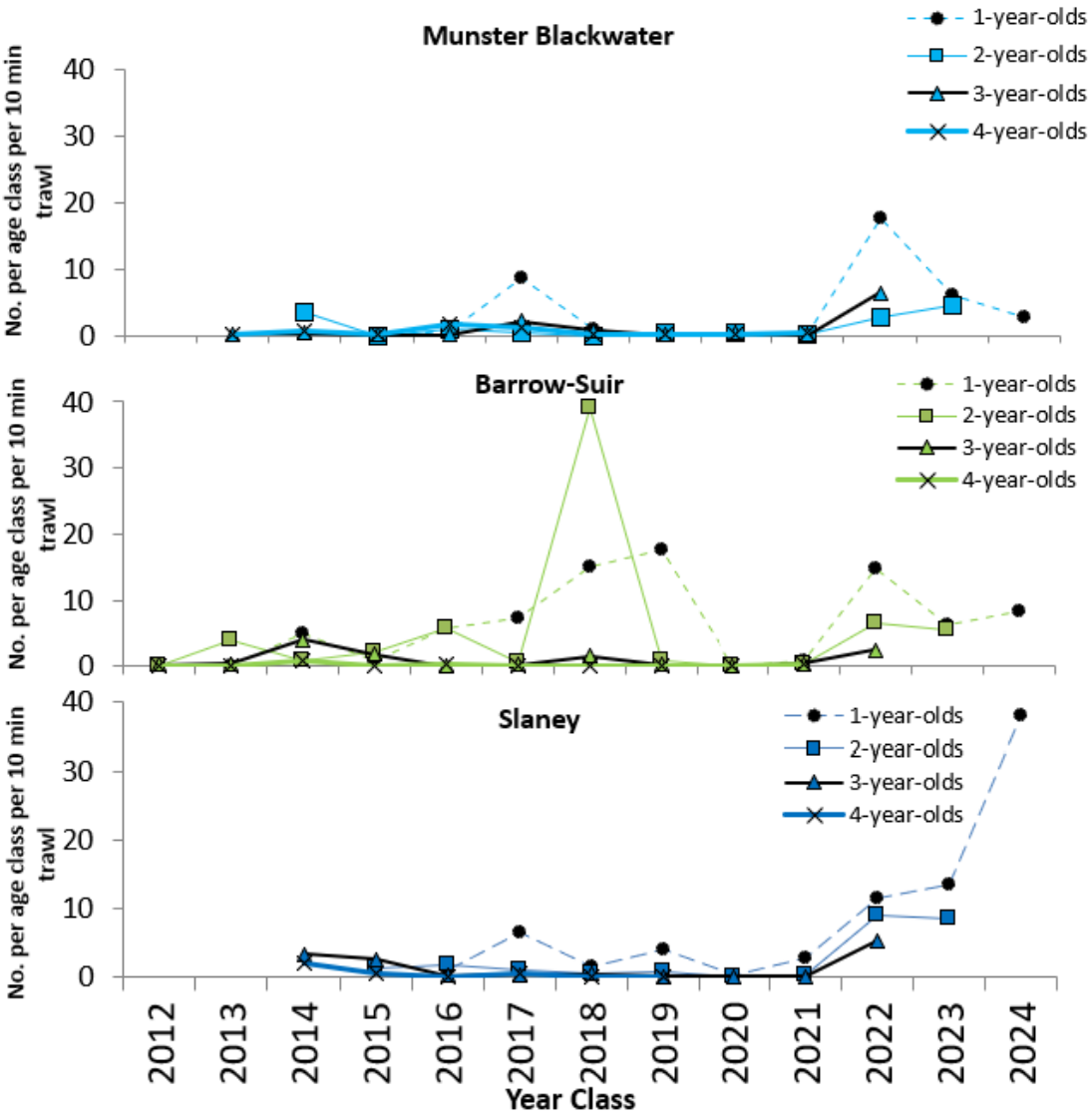



**Fig. 10. No. of Bass per 10-minute trawl per year class per age group**

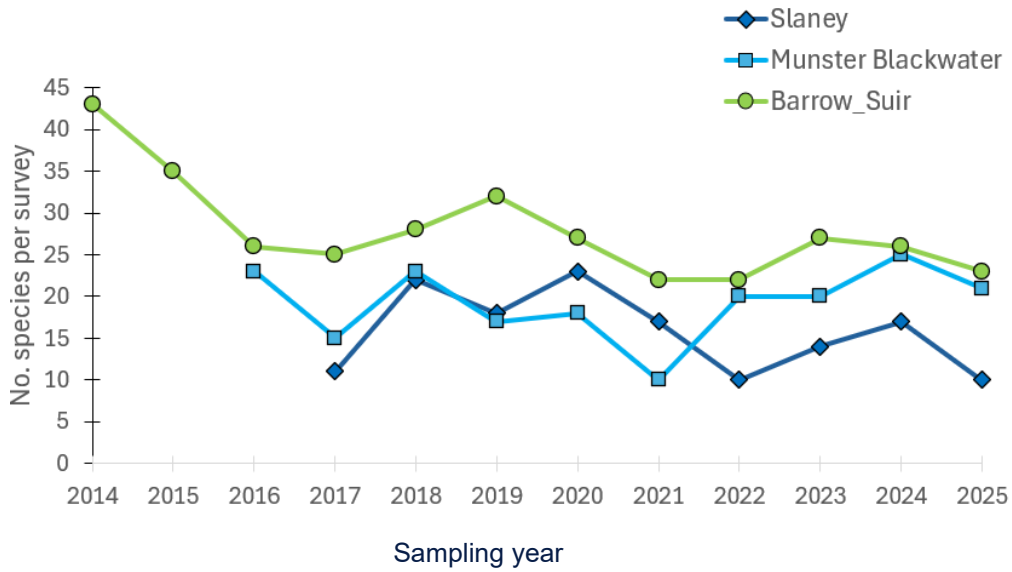



**Fig. 11. No. species per survey 2014-2025**

# 5. Discussion

## 5.1. Bass recruitment

The 2025 trawling survey provides evidence of variable, but positive, bass recruitment across the surveyed waterbodies. In particular, the 2022-year class demonstrated consistently strong recruitment across all three estuaries surveyed, suggesting favourable oceanographic conditions during the 2022 spawning and larval development period (ICES 2012, Graham et al. 2023) and favourable conditions inshore since 2022 to facilitate the survival of this year class. This cohort is particularly significant as these fish are approaching maturity in 2026. The 2022-year class are likely to move outside their natal estuaries and will contribute to the spawning stock biomass from 2026 onwards while also becoming increasingly available to anglers. The strong 2022-year class follows a period of poor recruitment (2019–2021), highlighting the patchy nature of bass recruitment and the importance of multi-year monitoring to capture these fluctuations.

Recruitment was either stable or above average for all three index catchments since 2022 which is a moderately positive indicator for the future of bass population around the Irish coast. Regional variation in year class strength was evident, with the Slaney showing particularly strong recruitment of the 2023, 2024-year classes, while the Munster Blackwater demonstrated above average recruitment for both the 2023- and 2024-year classes. The Barrow-Suir showed above average recruitment across the 2023 and 2024 period. These regional differences may reflect variations in habitat types, local environmental conditions, spawning stock distribution, or larval transport mechanisms The high abundance of 0-group bass in the Slaney suggests that 2025 may also prove to be a strong recruitment year, although multiple years of data will be required to confirm the survival and recruitment of this cohort to older age classes.

The three estuaries surveyed exhibit distinct ecological characteristics and appear to serve different functions in the bass life cycle. The Munster Blackwater stands out as the only estuary where adult bass aged 6–8 years old were recorded, suggesting its importance not only as a nursery ground but also as a feeding habitat for adult fish. The presence of multiple age classes in this estuary suggests it provides suitable conditions throughout much of the bass life cycle. In contrast, the Slaney appears to function primarily as a nursery ground, with the highest densities of 0- and 1-year-old bass but very few older fish (only one individual >3 years old). This pattern implies that pre-adult bass emigrate from the Slaney early, moving to offshore waters or other inshore areas as they mature. The Barrow-Suir showed an intermediate pattern, with good representation of 1–3-year-old bass and small numbers of 4- and 5-year-olds, indicating it serves both nursery and feeding ground function for maturing bass.

The strong 2022-year class documented in this report will reach spawning age between 2026–2028, potentially providing a boost to spawning stock biomass. However, the preceding period of poor recruitment (2019–2021) suggests that stock recovery may be uneven rather than linear. The variable recruitment observed underscores the importance of precautionary management approaches that account for natural recruitment variability and protect spawning stock during periods of poor recruitment.

Since bass in Ireland are managed solely for recreational angling, the documented increase in juvenile abundance across index estuaries is encouraging for the future of the angling resource. However, the

lag time between recruitment and availability to the angling fishery (typically 4-6 years for bass to reach legal/target size) highlights the importance of protecting Ireland's estuaries as fishery nursery habitats. Current management decisions must consider both current adult stock status and future recruitment potential.

## 5.2. Fish community structure

The trawl survey provides valuable baseline data on fish community composition beyond the target species. The Barrow-Suir was the most species-rich system with 23 fish species (Fig. 11), including several species not recorded in the other estuaries (Dab, Pouting, Pogge, Poor cod, Cod, and Red mullet), reflecting its large size, habitat diversity, and strong marine connectivity. The Munster Blackwater showed improving species richness, 21 species (Fig. 11), with the notable presence of a large herring shoal and the first records of juvenile gilthead bream in this survey series, possibly indicating range expansion or changing environmental conditions. The Slaney consistently shows lower species richness (Fig. 11), which may reflect its relatively simple physical structure, limited tidal range, or other environmental constraints. This pattern of low species diversity has been established across multiple survey years, and so most likely represents a stable characteristic of this system rather than recent degradation. European flounder was the only species besides bass recorded in all three estuaries and in substantial numbers, highlighting its ecological importance and adaptability to varying estuarine conditions.

## 5.3. Habitats Directive species

The presence of Twaite shad (*Alosa fallax)*, a Habitats Directive-listed species, underscores the conservation value of these transitional waters. Twaite shad were most abundant and widely distributed in the Barrow-Suir (29 individuals across six trawls), present in lower numbers in the Munster Blackwater (4 individuals), and rare in the Slaney (1 individual). This distribution pattern may reflect differences in spawning habitat availability, water quality, or connectivity to suitable riverine habitat. The incidental capture data for these protected species as well as European smelt and Starry smooth-hound provides valuable supplementary information for their conservation management.

## 5.4. ICES Bass Stock Assessments

The most recent ICES bass stock status assessment for the central and southern North Sea, Irish Sea, English Channel, Bristol Channel, and Celtic Sea (ICES 2025) provisionally suggests strong recruitment for the bass 2025-year class, strong recruitment for 2018–2020, with moderate recruitment in 2022, different to the results presented here. The ICES recruitment estimate is a broad assessment across an extensive area geographically, derived from two UK and two French recruit surveys. The recruit survey data presented here suggests conservative improvements in the overall stock status locally in these Irish estuaries, although the results are based on a simple analysis. Previous work has highlighted differing recruitment patterns between Irish and English estuaries (Watson *et al.* 2024) and a lack of convergence between regions. The current report offers an opportunity to build on those findings and advance progress toward incorporating recruitment signals from these estuaries in Ireland into the ICES stock assessment model for bass in the Celtic Seas.

## 5.5. Conclusions and Future work

The 2025 Juvenile Bass Trawling Survey demonstrates continued generally positive recruitment of bass in surveyed waters, particularly for the 2022-year class. The survey provides important data for stock assessment, documents variation in estuarine function and fish community composition and contributes to the conservation monitoring of species. The results suggest a modest upturn of the bass stock in Irish waters, while highlighting the importance of maintaining long-term monitoring and conservative management in the face of variable recruitment. The three index estuaries serve complementary roles in the bass life cycle, with the Slaney providing juvenile bass habitat, the Munster Blackwater emerging as important for both juvenile and adult bass and the Barrow-Suir serving an intermediary role. Juvenile bass occur regularly and predictably in substantial numbers in a limited number of estuaries in Ireland (only 4 identified to date); monitoring these waterbodies is an important component of IFI's National Bass Programme. Continued annual monitoring of these three index waterbodies is essential for tracking recruitment trends and should be maintained as a core component of bass stock assessment and management.

Future work, contingent on funding, could extend this trawl survey programme to the Shannon Estuary. At present, there is limited information on bass recruitment along the west and southwest coasts of Ireland. This region is assessed separately by ICES as the "West of Scotland and West of Ireland" stock. According to the most recent advice, ICES was unable to determine the stock or exploitation status due to insufficient data (ICES 2023). Implementing a trawl survey in the Shannon Estuary, comparable to the approach described in this report, could generate valuable information on bass recruitment, as well as on Habitats Directive–listed species and elasmobranch communities within the area.

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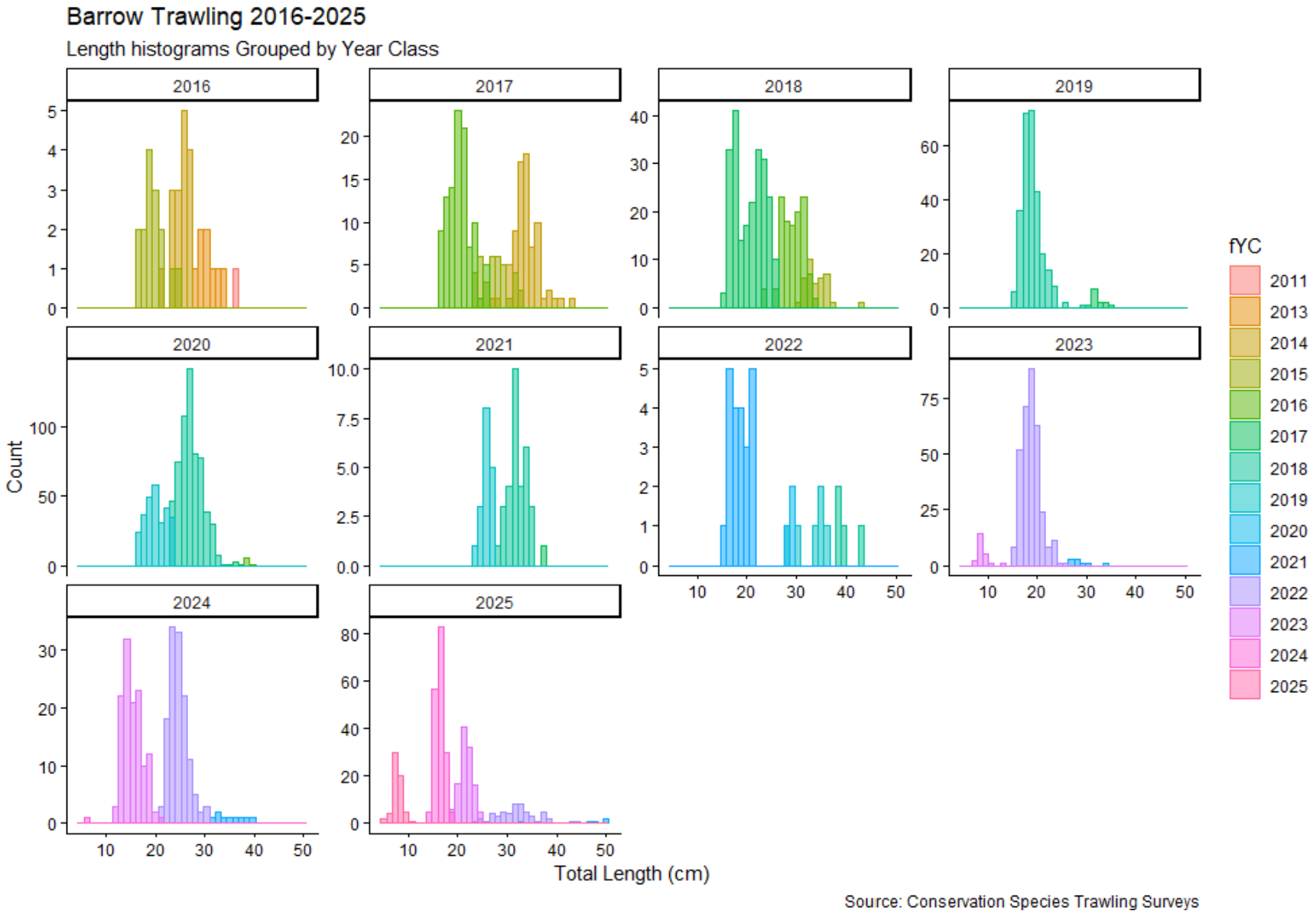
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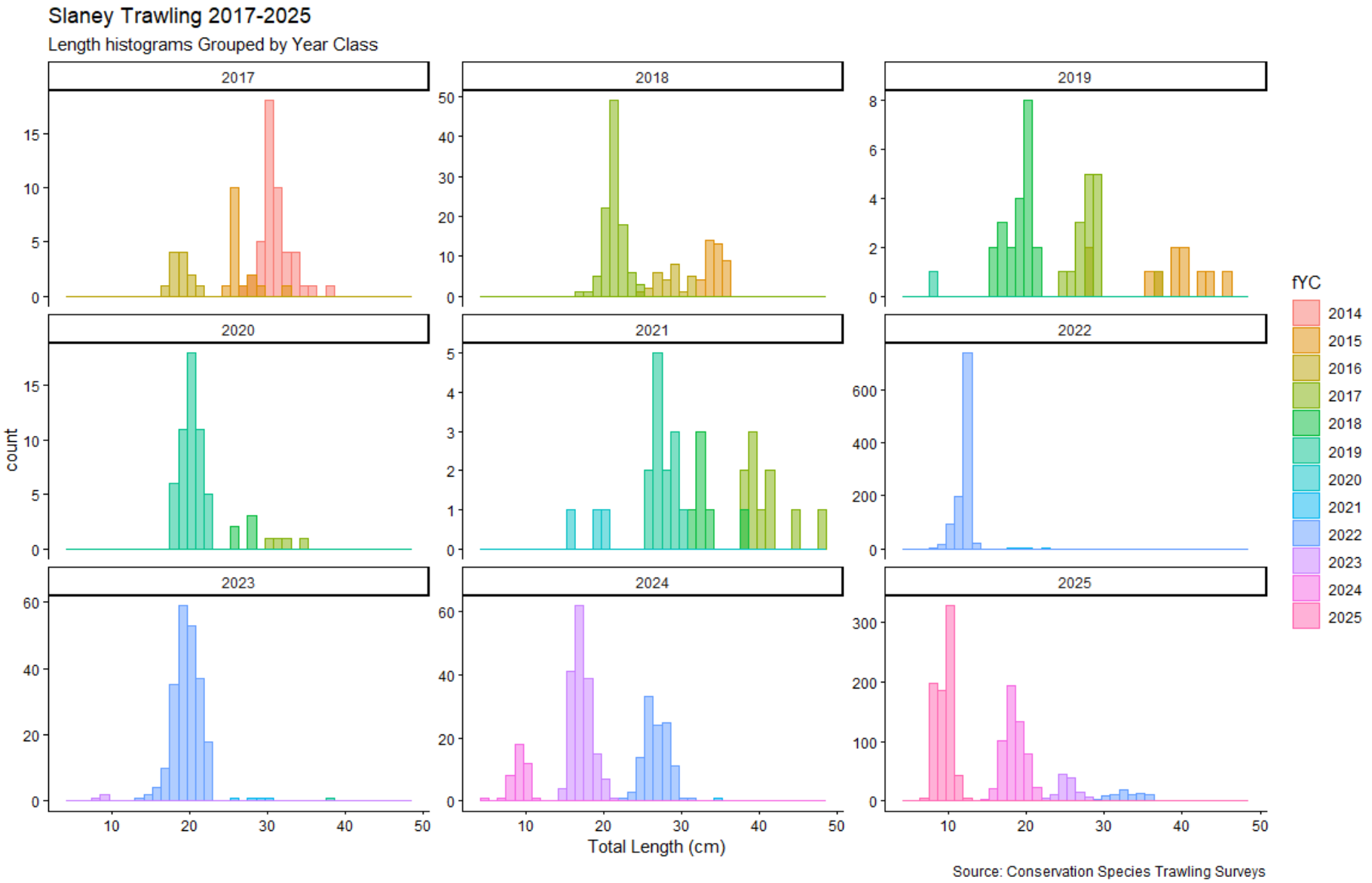
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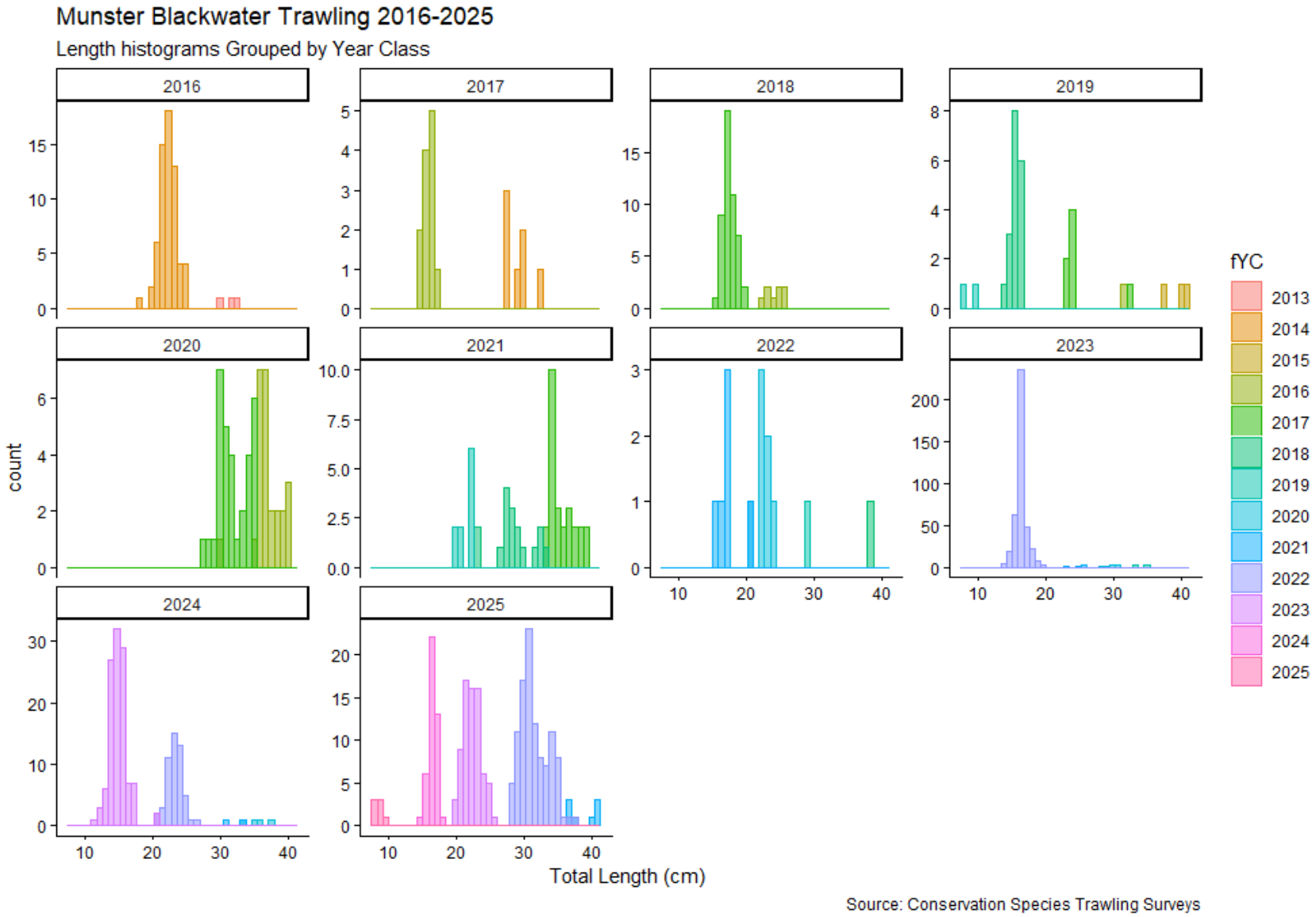
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# 7. Appendices

## Appendix 1. Bass Length frequency and year class per waterbody 2016 to 2025


Barrow Trawling 2016-2025
Length histograms Grouped by Year Class
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Count
Total Length (cm)
fYC
2011
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Source: Conservation Species Trawling Surveys


Slaney Trawling 2017-2025
Length histograms Grouped by Year Class
2017
2018
2019
2020
2021
2022
2023
2024
2025
count
Total Length (cm)
fYC
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Source: Conservation Species Trawling Surveys


Munster Blackwater Trawling 2016-2025
Length histograms Grouped by Year Class
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
count
Total Length (cm)
fYC
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Source: Conservation Species Trawling Surveys

## Appendix 2. No. bass per year class per 10-minute standardised trawl per waterbody

| Barrow- Nore | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year Class | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Sampling Year 2014 | 0.02 | 0.07 | | | | | | | | | |
| 2015 | 0.26 | 3.83 | 4.98 | | | | | | | | |
| 2016 | 0.05 | 0.38 | 0.77 | 0.73 | | | | | | | |
| 2017 | | 0.17 | 4.07 | 2.03 | 5.66 | | | | | | |
| 2018 | | | 0.82 | 1.84 | 5.82 | 7.40 | | | | | |
| 2019 | | | | 0.00 | 0.00 | 0.71 | 14.95 | | | | |
| 2020 | | | | | 0.39 | 0.28 | 39.05 | 17.75 | | | |
| 2021 | | | | | | 0.05 | 1.53 | 0.84 | 0.00 | | |
| 2022 | | | | | | | 0.17 | 0.25 | 0.13 | 0.93 | |
| 2023 | | | | | | | | 0.00 | 0.05 | 0.36 | 14.67 |
| 2024 | | | | | | | | | 0.00 | 0.44 | 6.42 |
| 2025 | | | | | | | | | | 0.23 | 2.51 |

| | |
|---|---|
| | 1-year-olds in the sampling year |
| | 2-year-olds in the sampling year |
| | 3-year-olds in the sampling year |
| | 4-year-olds in the sampling year |

| Munster Blackwater | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year Class** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| Sampling Year 2016 | 0.16 | 3.46 | 0.00 | | | | | | | | | |
| 2017 | 0.11 | 0.39 | 0.00 | 0.67 | | | | | | | | |
| 2018 | | 0.67 | 0.07 | 0.80 | 8.73 | | | | | | | |
| 2019 | | | 0.16 | 0.05 | 0.36 | 0.93 | | | | | | |
| 2020 | | | | 1.68 | 2.14 | 0.00 | 0.00 | | | | | |
| 2021 | | | | | 1.18 | 0.77 | 0.46 | 0.00 | | | | |
| 2022 | | | | | | 0.04 | 0.04 | 0.27 | 0.23 | | | |
| 2023 | | | | | | | 0.18 | 0.31 | 0.22 | 17.68 | | |
| 2024 | | | | | | | | 0.21 | 0.11 | 2.71 | 6.07 | |
| 2025 | | | | | | | | | 0.48 | 6.33 | 4.40 | 2.59 |

| | |
|---|---|
| | 1-year-olds in the sampling year |
| | 2-year-olds in the sampling year |
| | 3-year-olds in the sampling year |
| | 4-year-olds in the sampling year |

| Slaney<br>Year Class | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Year 2017 | 0.00 | 3.36 | 1.14 | 0.93 | | | | | | | | |
| 2018 | | 1.93 | 2.48 | 1.68 | 6.52 | | | | | | | |
| 2019 | | | 0.59 | 0.20 | 0.98 | 1.37 | | | | | | |
| 2020 | | | | 0.00 | 0.32 | 0.40 | 4.08 | | | | | |
| 2021 | | | | | 0.61 | 0.37 | 0.79 | 0.18 | | | | |
| 2022 | | | | | | 0.00 | 0.00 | 0.05 | 2.69 | | | |
| 2023 | | | | | | | 0.05 | 0.00 | 0.16 | 11.47 | | |
| 2024 | | | | | | | | 0.00 | 0.08 | 9.04 | 13.52 | |
| 2025 | | | | | | | | | 0.00 | 5.29 | 8.51 | 38.02 |

| | |
|---|---|
| | 1-year-olds in the sampling year |
| | 2-year-olds in the sampling year |
| | 3-year-olds in the sampling year |
| | 4-year-olds in the sampling year |

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