Fisheries New Zealand
Tini a Tangaroa

New Zealand billfish and gamefish tagging, 2022–23 to 2024–25

New Zealand Fisheries Assessment Report 2025/53

J.C. Holdsworth
S.G. Gaskell

ISSN 1179-5352 (online)
ISBN 978-1-991407-59-7 (online)

December 2025

Te Kāwanatanga o Aotearoa
New Zealand Government

Disclaimer

Requests for further copies should be directed to:

Fisheries Science Editor
Fisheries New Zealand
Ministry for Primary Industries
PO Box 2526
Wellington 6140
NEW ZEALAND

Email: Fisheries-Science.Editor@mpi.govt.nz
Telephone: 0800 00 83 33

This publication is also available on the Ministry for Primary Industries websites at:
http://www.mpi.govt.nz/news-and-resources/publications
http://fs.fish.govt.nz go to Document library/Research reports

Please cite this report as:

Holdsworth, J.C.; Gaskell, S.G. (2025). New Zealand billfish and gamefish tagging, 2022–23 to 2024–25. *New Zealand Fisheries Assessment Report 2025/53.* 52 p.

TABLE OF CONTENTS

PLAIN LANGUAGE SUMMARY

This report outlines the findings of the New Zealand Gamefish Tagging Programme (NZGTP) for the 2022–23 to 2024–25 fishing years. The NZGTP is a cooperative project between Fisheries New Zealand, the New Zealand Sport Fishing Council (NZSFC), its affiliated clubs, and other recreational and commercial fishers.

The programme collects data on the tagging and recapture of key gamefish species, including marlin, swordfish, kingfish, and some shark and tuna species, within New Zealand's waters and surrounding areas. Over the last three years, 6308 fish were tagged and released in New Zealand waters, with an additional 99 tagged internationally.

Information collected in this project can be used to describe:

- When each species of fish is available in New Zealand.
- Seasonal migrations.
- Stock boundaries or management regions.
- Growth rates.
- Changes in distribution over time.

Striped marlin, one of the main species, was tagged and released in significant numbers, especially in 2024. Large numbers of yellowfin tuna were tagged in 2025. Yellowtail kingfish is another important species in the programme, while the number of blue marlin and southern bluefin tuna tagged has varied. The number of tagged sharks has declined, with the exception of bronze whaler sharks.

Anglers are encouraged to record capture details, including latitude and longitude on tag report cards or the fishtagnz website. This data is summarised and included in New Zealand fisheries reports, New Zealand country reports, and some stock assessments for the Western and Central Pacific Fisheries Commission.

EXECUTIVE SUMMARY

Holdsworth, J.C. [1]; Gaskell, S.G.[1] (2025). New Zealand billfish and gamefish tagging, 2022–23 to 2024–25.

New Zealand Fisheries Assessment Report 2025/53. **52 p.**

The New Zealand Gamefish Tagging Programme (NZGTP) is a cooperative project between the recreational fishing sector and Fisheries New Zealand. It was initiated in 1975 at the request of the New Zealand Sport Fishing Council making it one of the longest running citizen science programmes in the country. The austral sport fishing year runs from July to June with peak fishing effort from December to April.

The gamefish tagging programme uses Hallprint dart tags with plastic intra-muscular tag heads or stainless steel anchors sold at cost through fishing clubs and online. Release and recapture data from two constituent initiated tagging programmes for yellowtail kingfish are also incorporated into the NZGTP data base and included in this report. The first was initiated by fly fishers and fishing guides to investigate movement and recapture rates of kingfish caught in harbours or over sand flats. The second was a project initiated by the Southern Inshore and Deepwater Group to tag kingfish released from trawl vessels targeting jack mackerel. These two projects increased the number of kingfish tagged under the 75 cm minimum legal size for recreational fishers.

The number of fish tagged to the end of June 2025 within New Zealand waters was 89 472. Of the total, 39% were billfish species, 26% shark species, 30% kingfish, and 2% tuna, mainly yellowfin tuna. New Zealand fishers travelling overseas have also tagged fish outside the Exclusive Economic Zone (EEZ), totalling 3090 to date, mostly striped marlin (1727) and blue marlin (920) in the southwest Pacific Ocean. The seasonal and regional distribution of fish tagged are summarised for the main species, and the number of gamefish landed by recreational fishing clubs is updated from New Zealand Sport Fishing Council records. The combination of data from these sources provides a reasonably complete record of annual recreational catch of striped marlin, blue marlin, broadbill swordfish and shortbill spearfish.

There have been 2498 tag recaptures reported across all areas, with 1729 kingfish, followed by 374 mako shark, 129 striped marlin, and 90 blue shark. The number of billfish recaptures per year has been relatively stable in recent years, but increased to nine in 2024–25, which were mainly short term recaptures of fish off the west coast of the North Island. Over the course of the NZGTP marlin, tuna, and sharks have also been recaptured around the southwest Pacific Ocean by various fleets.

The recent results of striped marlin released with pop-up satellite archival tags (PSAT) is included, although not funded through this project. In 2024 an electronic tag provided the first record of a tagged striped marlin leaving the southwest Pacific stock assessment region and entering the eastern Pacific. The straight-line distance of 4739 nautical miles in 244 days was the longest recorded for 2023–24 in the International Game Fish Association (IGFA) Great Marlin race. In 2025 a striped marlin tagged off Taranaki also entered the eastern Pacific region travelling a straight line distance of 3836 nautical miles in 180 days. This fish won the IGFA Great Marlin race for 2024–25. These are significant as they are the first striped marlin shown to leave the southwest Pacific Ocean after 50 years of conventional tagging and 20 years of electronic tagging from New Zealand and Australia, indicating connectivity between the southwest Pacific and eastern Pacific stocks.

Tagging data collection and management was funded by Fisheries New Zealand project TAG2022/01 for the three years from 1 July 2022 to 30 June 2025.

[1] Blue Water Marine Research, New Zealand.

1. INTRODUCTION

1.1 Overview

The New Zealand Gamefish Tagging Programme (NZGTP) is a cooperative project between Fisheries New Zealand, the New Zealand Sport Fishing Council (NZSFC), its affiliated clubs, and anglers. The NZGTP was initiated by the Ministry of Agriculture and Fisheries in 1975 following requests from gamefish clubs. Although the tags supplied in New Zealand were initially intended for billfish, it was accepted that a variety of gamefish species would be tagged (Saul & Holdsworth 1992).

Tagging meaningful numbers of large oceanic pelagic species without constituent participation would have been difficult if not impossible to accomplish at reasonable cost (Prince et al. 2002). This kind of programme has gained widespread support from recreational anglers in New Zealand and overseas and provides the only logistically and economically feasible way to tag large numbers of billfish (Pepperell 1990).

The New Zealand Sport Fishing Council has supported the programme since its inception and has purchased and distributed all tags through gamefish clubs since 1992. This report summarises the results for Fisheries New Zealand project TAG2022/01, which had the following objectives:

1. To collect, record, and manage recapture data for gamefish species in the 2022–23 fishing year.

2. To characterise the New Zealand recreational gamefish fishery for the 2023–24, 2024–25 fishing years.

3. To collect and record tagging and recapture data for gamefish species for the 2023–24, 2024–25 fishing years.

4. To compile annual summaries of the results of the tag recapture programme for the 2023–24, 2024–25 fishing years.

5. To update and develop graphical descriptions of linear displacements for each species tagged, released, and recaptured by the programme; review displacements in terms of time-at-liberty, fish size, season and area for the 2023–24, 2024–25 fishing years.

1.2 Description of the fishery

The Bay of Island Swordfish Club is the second oldest sport fishing club in the world and has kept detailed catch records since 1925. Local and international anglers relied on experienced charter boat operators and the saltwater fishing opportunities were brought to the attention of world following Zane Greys expedition in 1926 and publication of his book ‘Tales of the Angler’s Eldorado, New Zealand’. The recreational fishery for large pelagic species is highly valued by many New Zealanders and attracts tourist fishers from around the world. The fishery operates mainly over the warm summer and autumn months. Striped marlin (*Kajikia audax*) is the mainstay of the game fishery in northern New Zealand. Blue marlin (*Makaira nigricans*), small numbers of black marlin (*Istiompax indica*), shortbill spearfish (*Tetrapturus angustirostris*), and increasing numbers of broadbill swordfish (*Xiphias gladius*) are also caught. Yellowfin tuna (*Thunnus albacares*) and yellowtail kingfish (*Seriola lalandi*) have historically been caught in large numbers.

The North Island recreational fishery was affected by summer storms in 2022–23 but there were record summer catches of gamefish in central and southern regions in 2023–24 and 2024–25.
Catch in the North Island winter recreational fishery for southern bluefin tuna (*Thunnus maccoyii*) has increased since becoming popular in 2017. In the last four years the commercial catch of juvenile Pacific bluefin tuna (*Thunnus orientalis*) has increased. They are occasionally caught by recreational fishers over

summer and in October 2024 schools of Pacific bluefin were seen off east Northland and occasionally caught close to Cape Brett in the Bay of Islands.

Game fishing has also developed off the North Island's west coast over the last 25 years with, at times, a very productive marlin and albacore (*Thunnus alalunga*) fishery accessed from the west coast harbours and beaches, and extending to the top of the South Island in 2025 (Figure 1). Shark species used to be important as a recreational target species in the southern regions. In the South Island, the game fishery is centred off Canterbury, Otago, and Fiordland. Over the last eight years albacore, and southern bluefin tuna have become the primary target species (Figure 1).

Generally, cooperative tagging programmes aim to provide basic information on movement and migration patterns; age, growth, and longevity; stock structure for defining management units, and in some circumstances the average migration rate (displacement rate) of the fish involved (Ortiz et al. 2003).

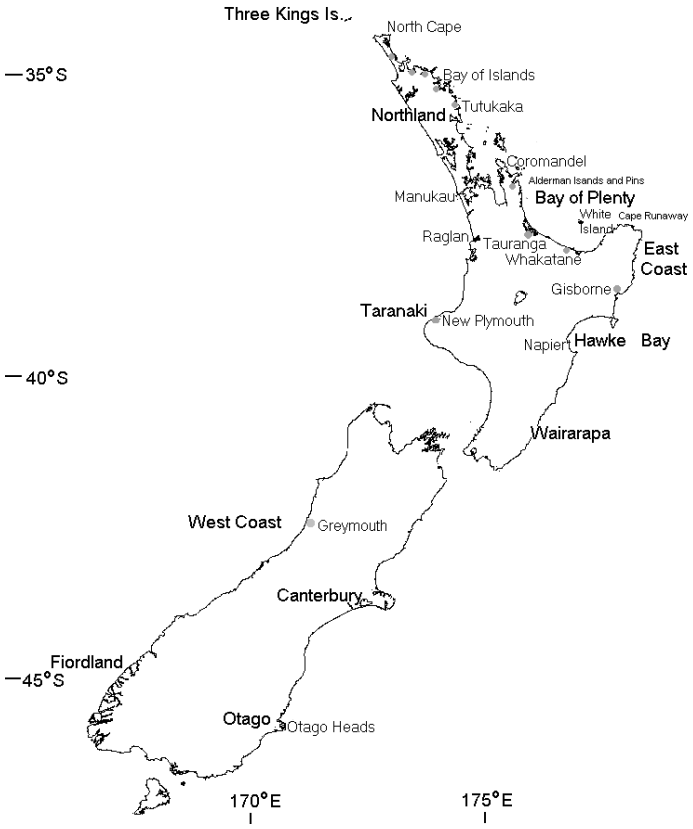

Figure 1: Location of the main areas of gamefish tagging around the North Island and South Island in New Zealand.

2. METHODS

Various different types of plastic spaghetti tags have been used in the NZGTP since the start of the project in 1975 (Table 1). The tags used in the gamefish tagging programme up to 2005 all had printed yellow streamers with a stainless-steel dart anchor. In 2005, tags with nylon double-barbed anchors were purchased for billfish. These plastic head intra-muscular tags - Hallpint type PIMA-W - are widely used by international billfish tagging programmes, with higher recapture rates in blue marlin and white marlin (*Kajikia albidus*) compared to stainless steel anchors (Ortiz et al. 2003). The PIMA-W tags require a different applicator tip from that used with the stainless steel dart tags and are

not suitable for tagging sharks with tough skin. Both tag types are currently in use, and several leading charter skippers have been double-tagging billfish using both tag types.

NZSFC purchases and distributes gamefish tags to fishing clubs and to private individuals online at https://new-zealand-sport-fishing.myshopify.com/collections/all at the cost price. Some tags were provided free of charge to fishers participating in other Fisheries New Zealand gamefish research projects. Gamefish tags are also sold from the fishtagnz website.

Table 1: Summary of tag types used by NZGTP since its inception in 1975 and more recent ancillary projects.

Tag type.	Timescale of use.	History.
Floy FH-69	1975–1985	Stainless steel tag head. Supplied by US Marine Fisheries Service (NMFS) Prefix H before tag number.
Floy FH-69A	1985	Stainless steel tag head. 1000 modified tags supplied with prefix G before tag number.
Hallprint SSD	1986–present	Stainless steel tag head. Plastic streamer. Prefix G continued.
Hallprint SSD (modified)	1996–2004	Modified SSD tag with stainless steel wire extending the full length of the streamer. Tag numbers G-53501–G92500.
Hallprint PIMA (nylon leader)	2005–present	Nylon double barbed anchor. Developed by The Billfish Foundation (USA) and the NMFS and has been widely used on billfish in the USA and Australia. 24 kg nylon line attaches the streamer to the anchor. Tag numbers N 102501–N 103500.
Hallprint PIMA (wire leader)	2007–present	Nylon double barbed anchor. This tag features a stronger stainless steel wire connector. Tags N 108001–present. Both PIMA tags require a different applicator tip to the FH69/SSD tags. Both tag types are still in use.
Ancillary Projects		
Hallprint PDAT	2016–present	Plastic-tipped single-barb anchor. Tag numbers R 0001 to R XX primarily for small yellowtail kingfish.
Hallprint PIMS-W	2019–present	A smaller version of the plastic intra-muscular anchor tags. Numbers R – present. For yellowtail kingfish released from mid-water trawl vessels.

The gamefish tagging database records also include tag and recapture events from two other New Zealand tagging programmes to assist in providing these data to Fisheries New Zealand and reporting results. In 2016, flyfishing guides and enthusiasts purchased single-barb plastic-tipped dart tags—Hallprint type PDAT—for use on kingfish caught and released on sand flats and in harbours. These fish tended to be too small for tagging with the larger gamefish tags.

In 2019, the Southern Inshore and Deepwater Group jointly purchased a smaller version of the plastic intra-muscular anchor tags -Hallpoint type PIMS-W and distributed these to vessels in the trawl fishery for jack mackerel (*Trachurus* spp.) that were operating off the west coasts of the North Island and South Island and catching increasing numbers of kingfish. At the time, under schedule 6 of the Fisheries Act 1996 fishers were allowed to release kingfish that were likely to survive, in order to reduce the deemed value payments that were applied to catch over their Annual Catch Entitlement. Tagging was a way of proving that trawl caught kingfish were surviving and to show movement and mixing with fish in other regions.

The primary way of collecting tag-and-release information has been on printed and numbered tag report cards issued with each tag. Tag cards request information on the species, date, location, length, and weight of the fish tagged. Since 2003 tag cards have included a space for the latitude and longitude of release, the skipper's phone number, tick boxes for the fishing method, and whether the hook was removed before release (Holdsworth & Saul 2003). Recording latitude and longitude is encouraged for all release and recapture events. More recent tag cards ask fishers to record whether a J hook or circle hook was used.

The individually numbered tags are printed with the address of the Auckland office of Fisheries New Zealand and the words "Please measure – Reward". Tag cards and recapture reports are passed on to the contractor for entry into the database. The fisher who reported a recaptured fish is sent a printed polo shirt as a reward, along with a letter describing the release date, location, growth, movement, and time-at-liberty of the fish. A copy of the recapture letter is also sent to the angler who tagged the fish (Holdsworth & Saul 2017).

A webpage was established by the NZGTP in 2018 to help fly fishers record tag-and-release and recapture events for the plastic dart tags, which do not have printed tag cards . This enabled data to be incorporated into the Fisheries New Zealand gamefish tagging database and was a pilot for providing the option of online reporting for all gamefish catch and release. Gamefish tags and tag cards purchased since 2019 are printed with the new postal address for the Auckland Fisheries New Zealand office as well as the fishtagnz.co.nz web address as an option for reporting release and recapture events.

The NZSFC compiles annual sport fish tallies for the main species from 54 game fishing clubs around New Zealand. These records are used as an estimate of the national landed recreational catch of billfish, tuna, and shark species in New Zealand waters, and provides estimates of the proportion of catch landed or tagged and released by species. Historical records for individual fish, including fish weight, vessel, and capture date, were collected from long-established fishing clubs. Detailed catch records are updated annually, including tagged fish for club members and some captures from non-members who choose to get their fish weighed.

3. RESULTS

The multi-species NZGTP was initiated in 1975 to study the seasonal and short-term movements of gamefish important to New Zealand fisheries. Although the tags supplied in New Zealand were initially intended for billfish, it was accepted that a variety of gamefish species would be tagged (Saul & Holdsworth 1992). For the first 14 years few billfish were tagged and released. There were around 150 mako sharks (*Isurus oxyrinchus*) and 50 yellowtail kingfish tagged per year. The number of striped marlin and other species tagged increased significantly after the introduction of the Billfish Moratorium in 1987–88 restricting the commercial landing of marlin (Holdsworth, & Kopf 2011). The NZGTP database now contains records of 89 472 fish tagged in the New Zealand EEZ with an average of 2272 fish recorded per year since 1987–88 (Figure 2, Appendix 1, Table A1). The warm summer of 1995 resulted in an increase in the number of striped marlin and sharks tagged. One third of the gamefish tagged that year were small mako sharks caught off East Northland (Figure 2).

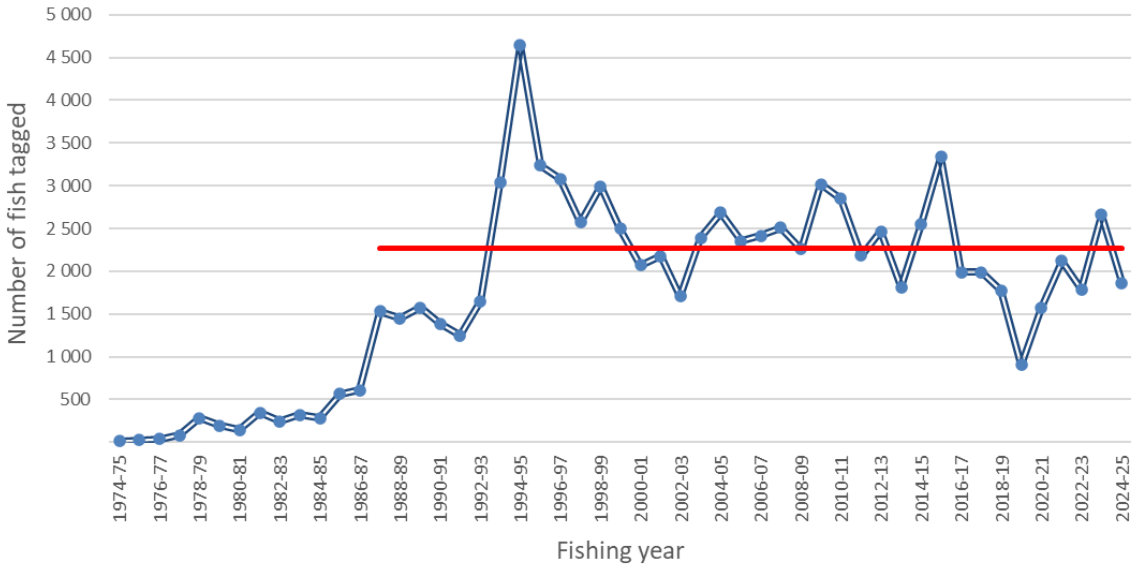

Figure 2: Annual totals of gamefish tagged in New Zealand fisheries waters in the NZGTP and the average number of fish tagged since 1987–88 (2272 fish; red line).

Of the total, 39% were billfish species, 26% shark species, 30% kingfish, and 2% tuna, mainly yellowfin tuna. New Zealand fishers travelling overseas have also tagged fish outside the EEZ, totalling 3090 to date, mostly striped marlin (1727) and blue marlin (920) in the southwest Pacific Ocean (Table A3).

There have been 2498 tag recaptures reported across all areas, with 1729 kingfish (the main species) followed by 374 mako shark, 129 striped marlin, and 90 blue shark (Appendix 2, Table A4). A summary of release and recapture data for all years of the tagging programme is provided below the heading for each species in the following summaries by species groups.

3.1 Billfish

Tagged Billfish

Striped marlin (*Kajikia audax*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
32 153	1 727	129	0.38	3 184	4.18

Striped marlin is the main billfish species caught and tagged in the recreational gamefish fishery. The NZSFC initiated the introduction of a voluntary minimum weight of 90 kg for recreational fishers in 1987–88 which helped lift the proportion of marlin catch tagged and released by recreational fishers to over 50%. The number of striped marlin tagged peaked at 1658 in 2015–16 but was below the ten-year average for the following five years (Figure 3, Appendix 1, Table A1). Recreational fishing from boats was prohibited for much of March and April 2020, which reduced the catch and number of gamefish tagged in 2019–20. In 2023–24, there were aggregations of small striped marlin and an increased number tagged and in 2024–25 1019 were tagged which was also above the annual long-term average of 864 fished tagged since 1988–89 (Figure 3).

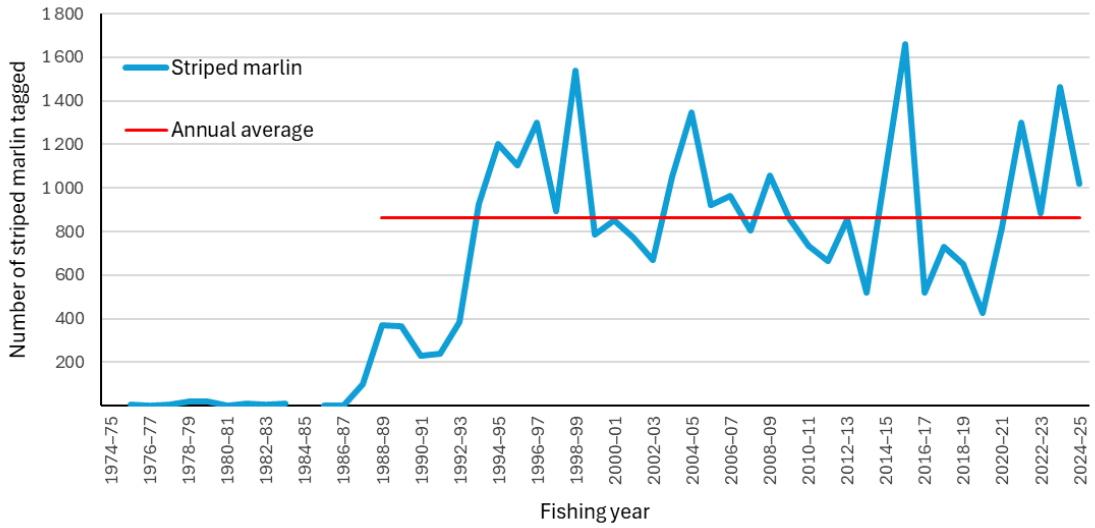

Figure 3: Striped marlin tagged per year in New Zealand fisheries since 1974–75 and the average number of fish tagged since 1988–89 (864 fish; red line).

The New Zealand striped marlin season usually extends from January to May. Occasionally striped marlin are caught in early December, but the fishing effort is low until January, while February is consistently the peak month for striped marlin caught and tagged (Figure 4). The number tagged in January has increased steadily since a low point in 2018. In 2023–24, 38% of the striped marlin were tagged in January, with only 15% between March and June. The 2024–25 season had a more typical distribution of monthly catch but an unusual distribution of catches with few fish caught in East Northland or Bay of Plenty and most striped marlin tagged or landed off the west coast of the North Island.

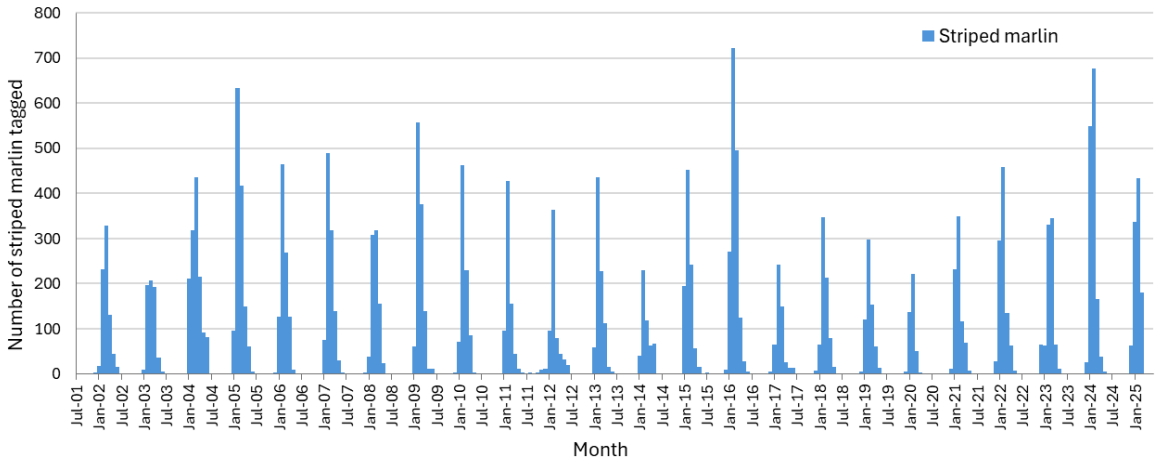

Figure 4: Striped marlin tagged by month in New Zealand waters since July 2001.

The average estimated weight for striped marlin tagged and released was mostly between 90 and 100 kg but this reduced to 86 kg in the last 2 fishing years (Figure 5).

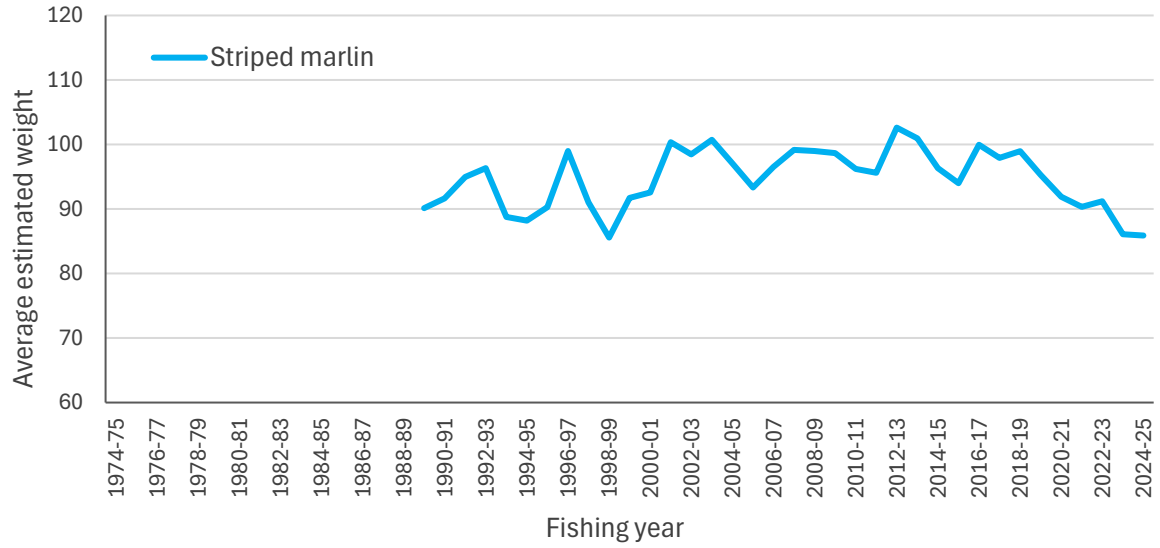

Figure 5: Average estimated weight by fishing year for tagged striped marlin from the main data years.

The distribution of tagged striped marlin weight estimates are very similar for 2023–24 and 2024–25. In 2022–23, a higher proportion of tagged fish were in the 100 to 130 kg size classes (Figure 6).

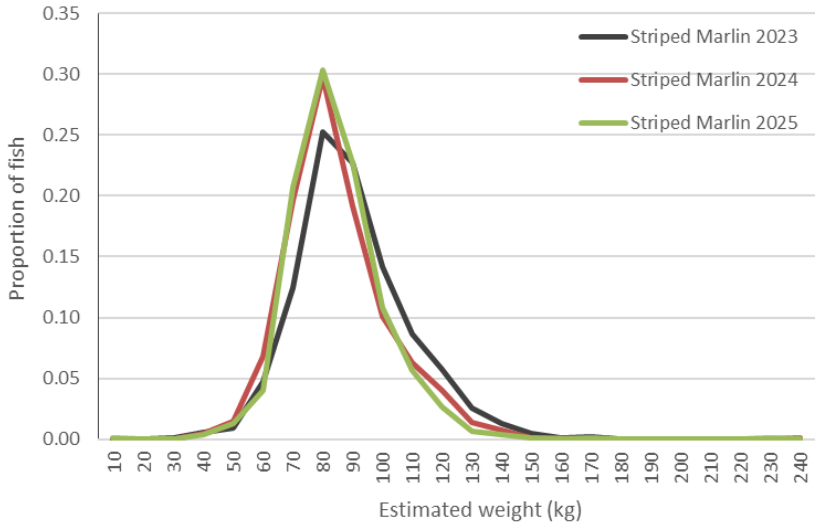

Figure 6: Comparison of the proportion of striped marlin tagged and released by estimated weight, for 2022–23 to 2024–25.

The proportion of striped marlin tagged off the North Island west coast has increased since 2006–07, while the proportion tagged off East Northland and the Far North including the Three Kings Islands area has declined (Figure 7). The number of striped marlin tagged on King Bank and Middlesex Bank has declined following the reduction in the number of long-range charter vessels in the fishery. In 2023–24 there was a large proportion of striped marlin caught and tagged off East Northland and many of these fish were small, below the voluntary minimum size for landing marlin of 90 kg that is adopted by most fishing clubs. The number of striped marlin caught and tagged off East Northland in 2024–25 was very low, while the west coast of the North Island had a record season, with 63% of the national total tagged (Figure 7).

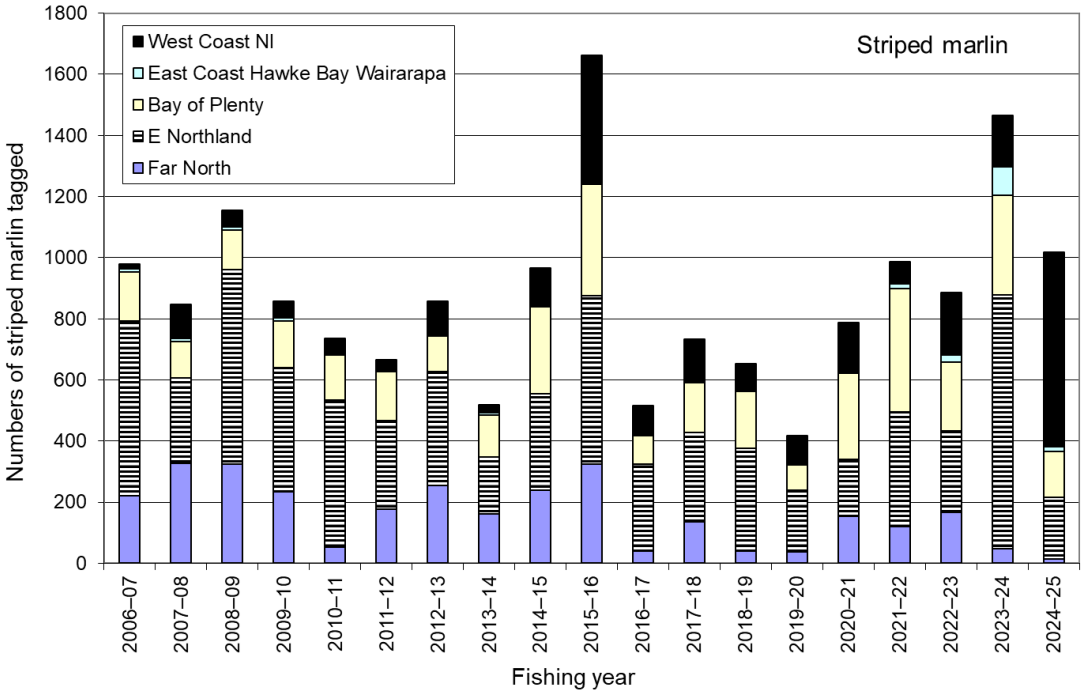

Figure 7: Striped marlin tagged by region and fishing year since 2006–07.

Blue marlin (*Makaira nigricans*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
953	920	8	0.43	1 000	3.18

Blue marlin prefer the warmest months of February and March around northern New Zealand, which is the period when most fish are tagged. The number tagged in New Zealand waters varies from year to year but has generally increased since 2001. The number of blue marlin tagged in New Zealand in 2023–24 (27) and 2024–25 (4) declined following relatively good seasons in the two previous years.

Some billfish were also tagged outside the New Zealand EEZ by NZGTP participants. The number tagged in the Pacific Islands, mainly the Kingdom of Tonga, was low in the early 2020s due to Covid 19 restrictions (Figure 8). In the Pacific Islands, most blue marlin have been tagged in Tongan waters from July to December (Figures 9 & 10). For the three years since 2021–22, there were 16 blue marlin and four sailfish (*Istiophorus platypterus*) tagged with New Zealand tags outside the EEZ (Appendix 1, Table A2).

The long-term annual average since 1993–94 for inside and outside the New Zealand EEZ is 29. There are indications of a high number of blue marlin in one region corresponding to a low number in the other region (Figure 8).

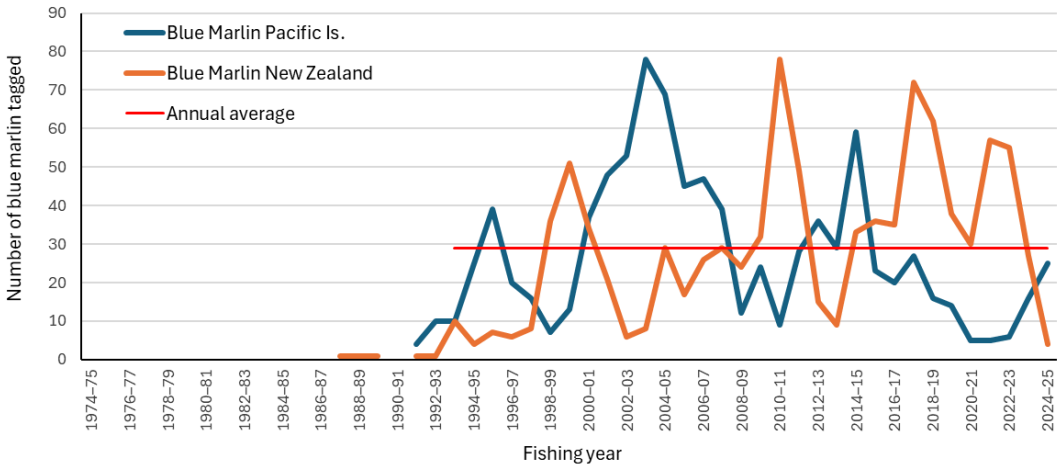

Figure 8: Blue marlin tagged in New Zealand and the Pacific Islands since 1974–75 and the average number of fish tagged since 1993–94 (29 fish; red line).

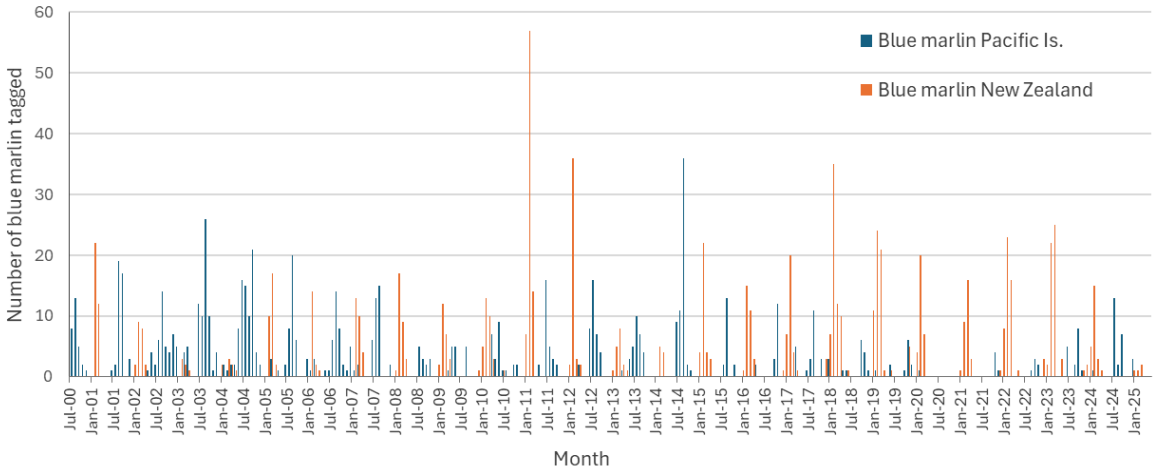

Figure 9: Blue marlin tagged by month around New Zealand and the Pacific.

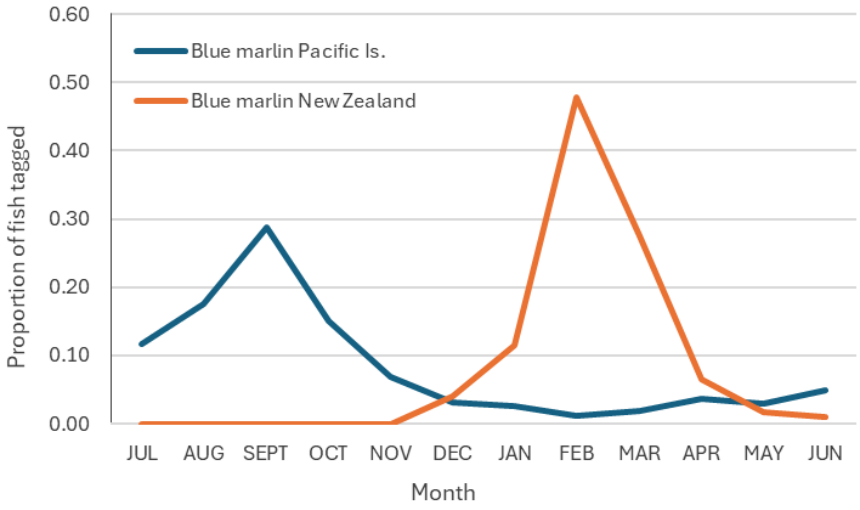

Figure 10: Proportion of tagged blue marlin per month in New Zealand and the rest of the Pacific since July 2000.

Blue marlin release weights in New Zealand waters are seldom less than 100 kg, even in years with warmer water temperature. Blue marlin tagged in Pacific Island fisheries, such as around Tonga and Samoa, are frequently less than 100 kg (Holdsworth 2023). Some blue marlin tagged from 2022–23 to 2024–25 in New Zealand and the Pacific Islands overlap at weights in the 90 to 150 kg weight range (Figure 11).

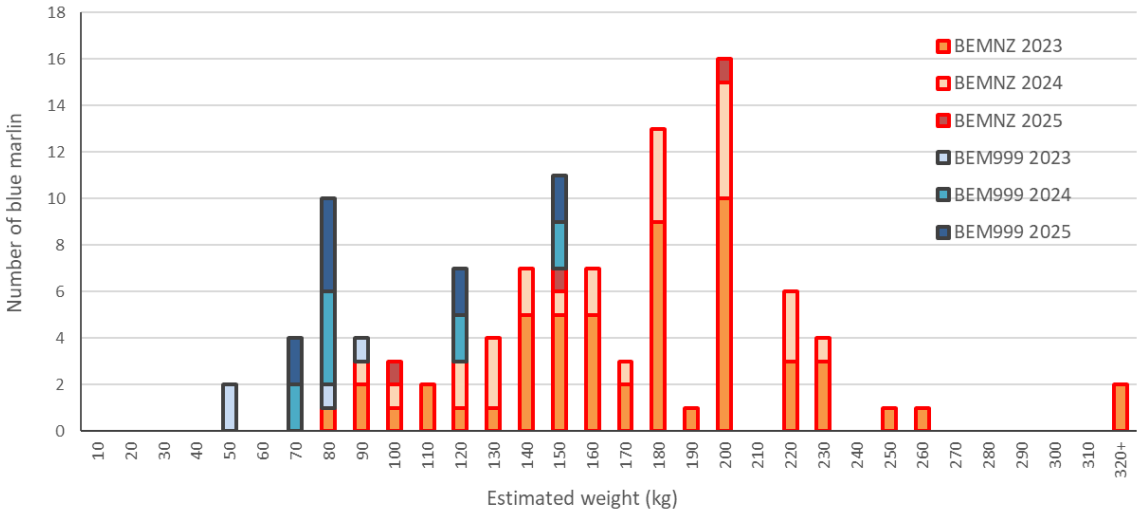

Figure 11: Weight frequency distribution of blue marlin tagged in New Zealand (BEMNZ) and tagged in the Pacific Islands (BEM999) estimated on release, 2021–22 to 2024–25.

Broadbill swordfish (*Xiphias gladius*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
903	5	15	1.62	1 360	10.69

Broadbill swordfish are species that is a highly regarded by recreational anglers. In New Zealand a few swordfish are caught by trolling baits or lures during the day and most are landed. Prior to 2007–08 most tagged swordfish were small fish released by commercial fishers. The recreational fishing effort and catch of swordfish increased significantly with the adoption of daytime deep dropping of baits using breakaway weights in 2010. The number tagged per year is variable but shows an increasing trend, with a long-term average of 24 tagged swordfish since 1987–88 (Figure 12). The average of the last three years is 82 swordfish tagged and released.

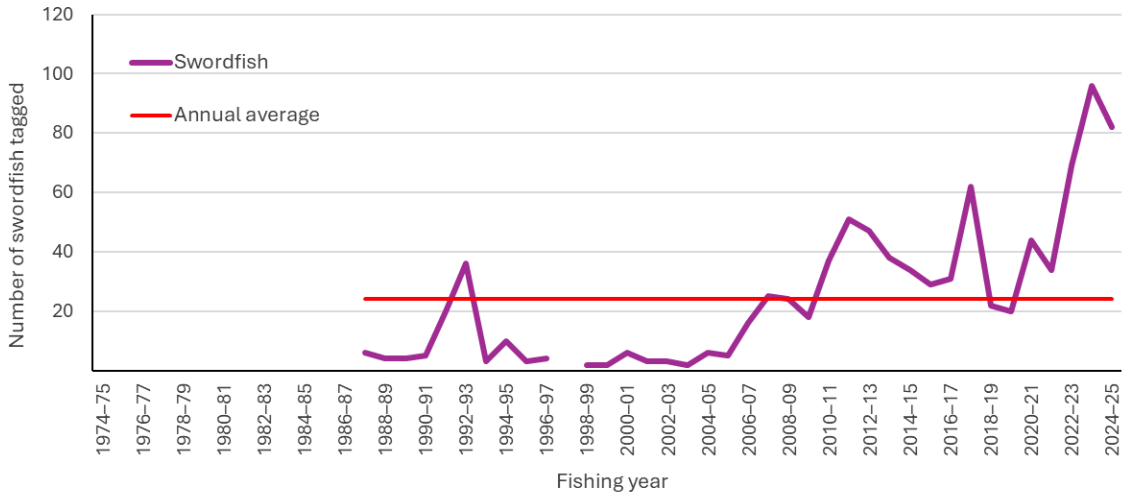

Figure 12: Broadbill swordfish tagged in New Zealand since 1974–75 and the average number of fish tagged since 1987–88 (24 fish; red line).

Swordfish tagging mainly occurs from February to May. For the fishing years 2022–23 to 2024–25 February and March had the highest catches. For many of the previous years the mode was in April or May (Figure 13). Swordfish have a broader depth and temperature range than other billfish and are present in New Zealand waters through autumn and winter, long after the marlin have left. The proportion of swordfish tagged by month for all 25 years combined highlights their availability through autumn and into winter (Figure 14).

The distribution of estimated release weight for swordfish from 2021–22 to 2024–25 shows a range from less than 20 kg to more than 300 kg. There is a mode at around 80 kg and 66% are less than 90 kg (Figure 15). Average estimated weight by fishing year increased after 2006–07 but has decreased since 2018–19 (Figure 16).

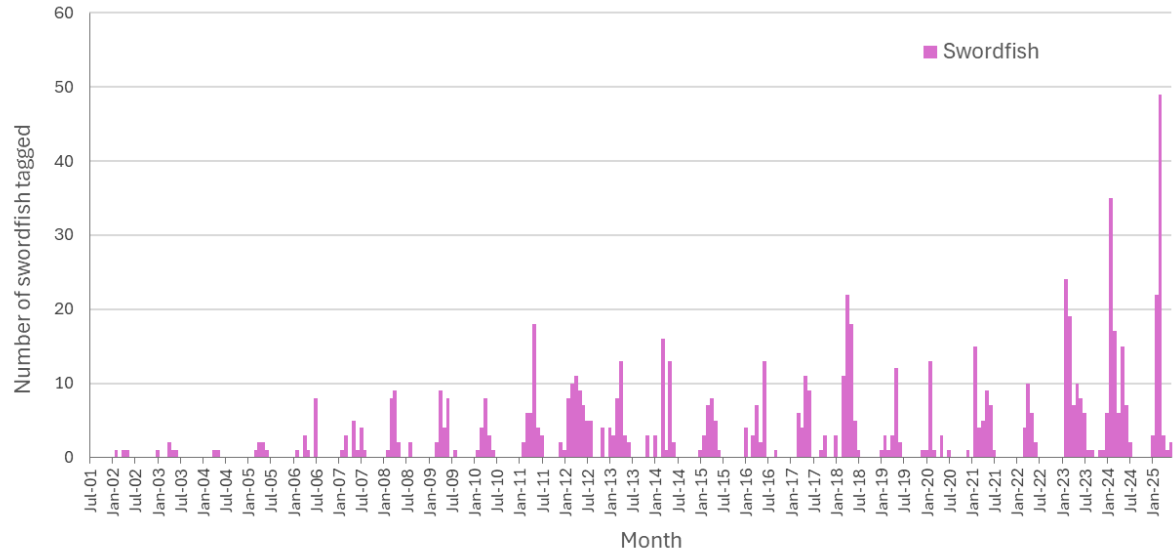

Figure 13: Broadbill swordfish tagged by month in New Zealand

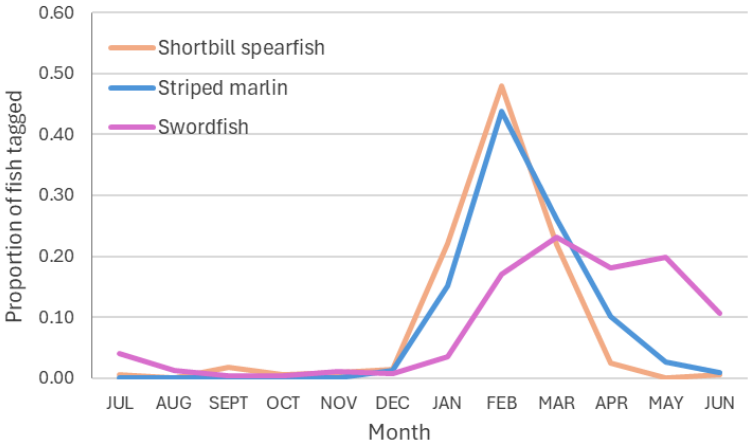

Figure 14: Proportion of tagged billfish per month in New Zealand since July 2000.

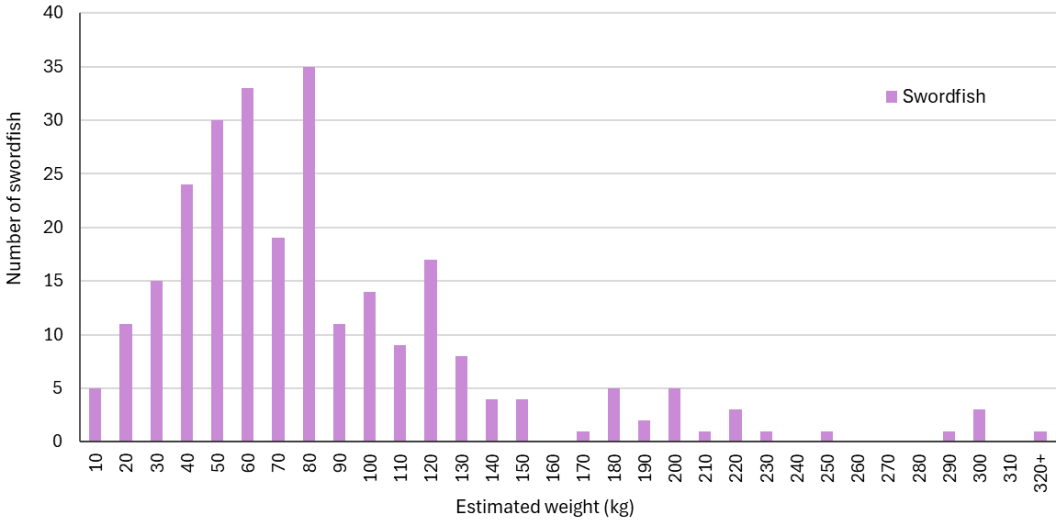

Figure 15: Weight frequency distribution of broadbill swordfish estimated on release, 2022–23 to 2024–25.

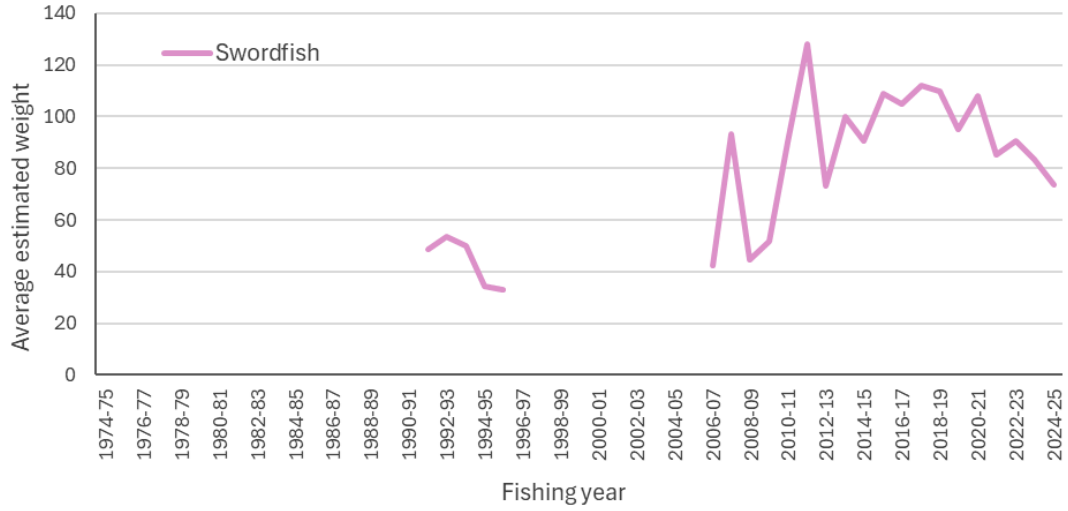

Figure 16: Average estimated weight by fishing year for tagged broadbill swordfish.

Shortbill spearfish (*Tetrapturus angustirostris*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
443	36	1	0.2%	NA	NA

Shortbill spearfish are widely distributed in the Pacific and Indian Oceans and are an occasional bycatch of the marlin and tuna target recreational fishery in New Zealand. The number tagged varies from year to year but has generally been increasing since the late 1990s, with an average of 13 fish tagged since the 1989–90 fishing season (Figure 17). Estimated weights of tagged spearfish are mainly in the 10 to 29 kg range (Figure 18). Recreational fishers also land and weigh spearfish up to 44.2 kg, and many of the IGFA world records were caught in New Zealand. Spearfish can be caught early in the summer fishing season but overall, the proportion caught by month is very similar to stiped marlin with a strong mode in February (Figure 14). While 2023–24 was a near record year for the number of tagged striped marlin only two shortbill spearfish were tagged.

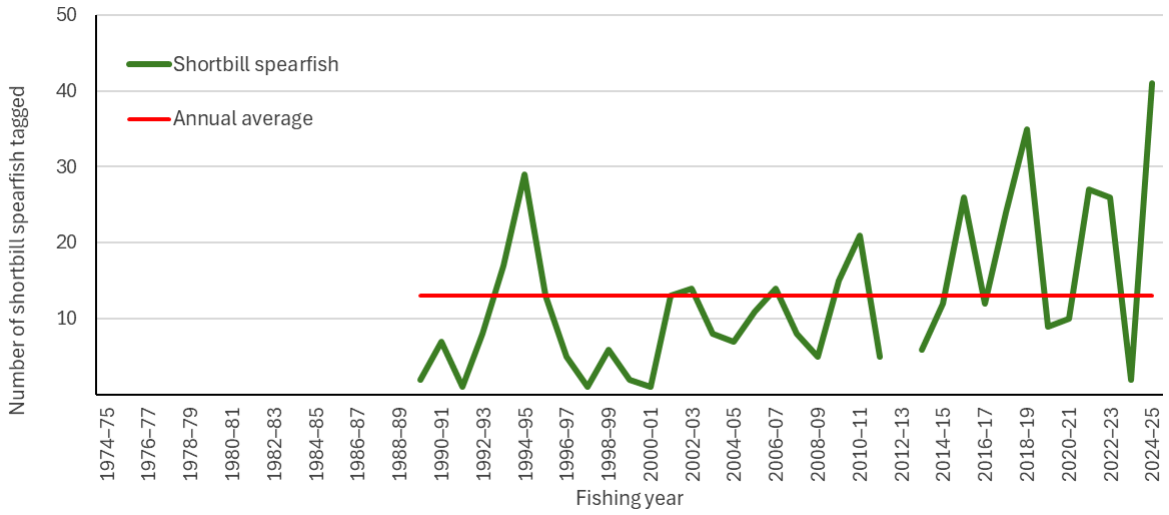

Figure 17: Shortbill spearfish tagged in New Zealand since 1974–75 and the average number of fish tagged since 1989–90 (13 fish; red line).

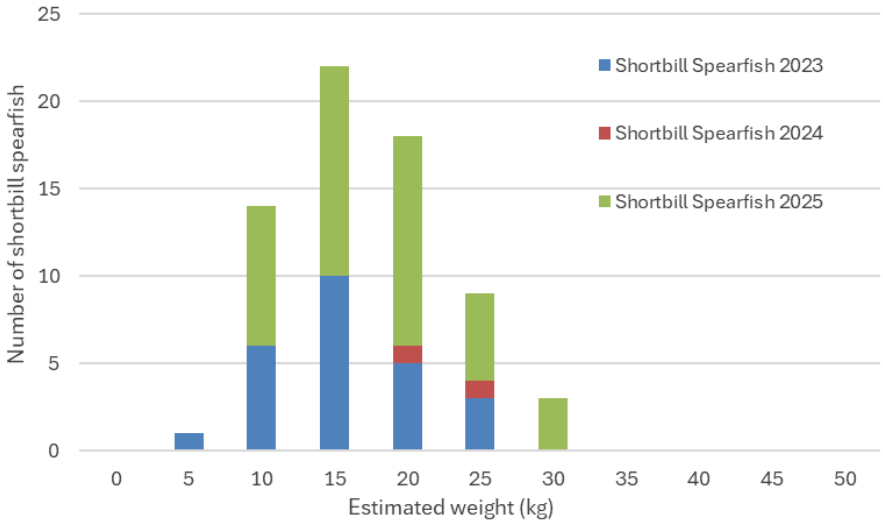

Figure 18: Weight frequency distribution of shortbill spearfish estimated on release, 2022–23 to 2024–25.

Billfish recaptures

Between 1975 and 2025, striped marlin has been the most frequently recaptured billfish species with 120 total individuals recorded (Table 2). Recent annual data from 2015 onwards show considerable variability in striped marlin recaptures, ranging from zero in 2019–20 to nine in 2024–25, with an average of 3.8 recaptures per year over the last decade. Swordfish has been recaptured far less frequently, with only 15 total recaptures since 1975 and an average of 1.1 per year from 2016 to 2025. Other billfish species have been encountered even more rarely in recapture programmes, including blue marlin with 8 total recaptures, and black marlin and shortbill spearfish with just one recapture each over the entire 50-year monitoring period.

Table 2: Billfish recaptures by species for all years and the last ten fishing years.

Recaptures	1975 to 2025	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	Average 2016 to 2025
striped marlin	120	6	2	3	3	0	5	2	3	5	9	3.8
Swordfish	15	1	1	1	0	0	1	1	1	1	4	1.1
Blue marlin	8											
Black marlin	1											
Shortbill spearfish	1											

Striped marlin recaptures

There have been 120 striped marlin recaptures in the NZGTP with the first recorded in October 1989 and 40 of these have been outside New Zealand fisheries waters (Table 2). Tag shedding is a problem with this species and this may explain the short duration of most recaptures, which generally occur within 10 months of tagging (Ortiz et al. 2003).

Long-distance recaptures for striped marlin in the NZGTP have all come from the southwest Pacific Ocean and the Tasman Sea (Figure 19). Fish tagged in the same season, even in the same month and area, have been observed to travel to completely different regions of the southwest Pacific. Most striped marlin are tagged during the first and second quarters (January to June) and some fish had already left New Zealand and been recaptured in subtropical waters during the second quarter. Many of the other recaptures in the subtropics occurred in the third and fourth quarters (Figure 19).

Striped marlin recaptures plotted by latitude and week of the year show that New Zealand recaptures are mainly between 34° S and 37° S, from mid-January to mid-May (Figure 20). Two fish recaptured in these latitudes had also moved to southern New South Wales. Striped marlin are recaptured in subtropical waters from early May through to mid-January (Figure 22) and some of these fish must have left New Zealand in March or April to reach these latitudes (15° S to 25° S) by May (Figure 20).

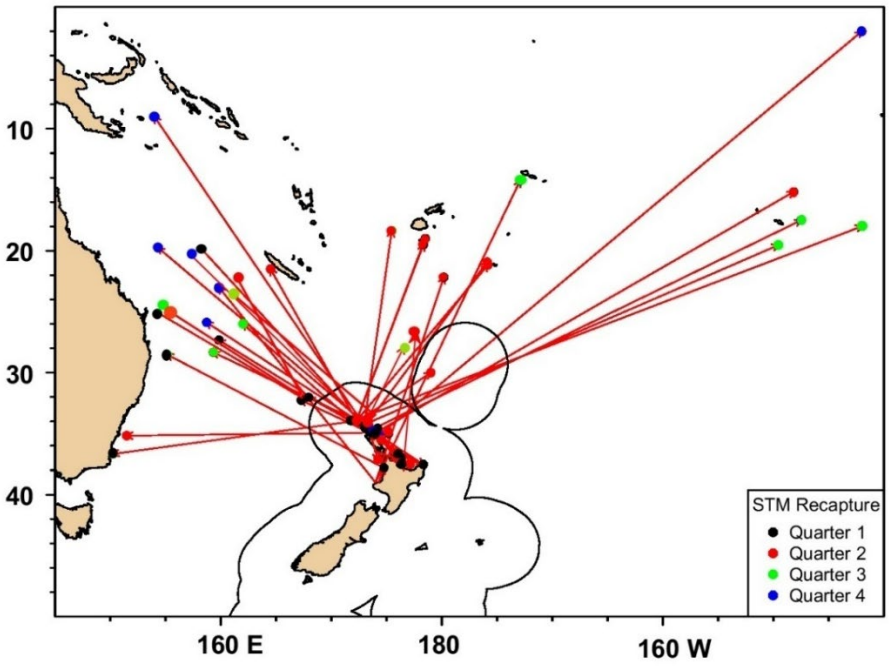

Figure 19: Long-distance movements of striped marlin (STM) in the NZGTP for all years, with recapture location colour coded by quarter (Quarter 1 = Jan–Mar).

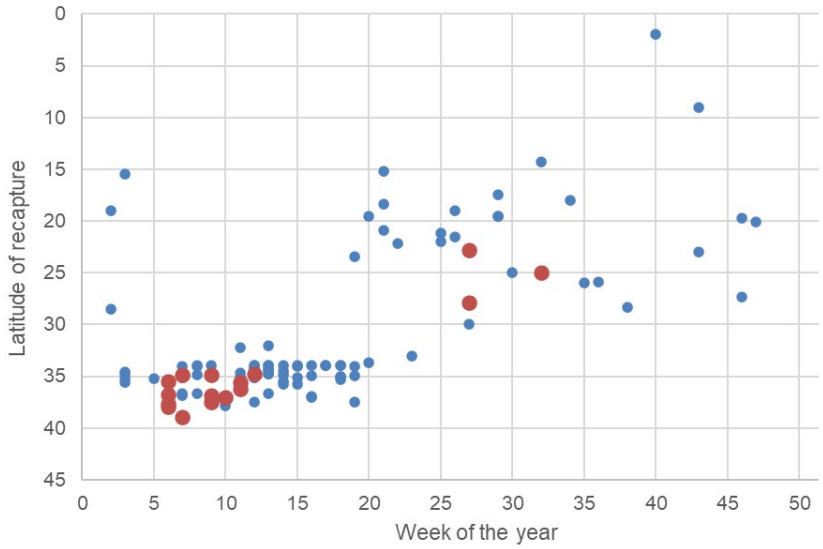

Figure 20: Striped marlin latitude of recapture by week of the calendar year. Recaptures from the 2022–23 to 2024–25 fishing years in red.

A total of eight striped marlin recaptures were reported for the two years from 2022–23 to 2023–24.

- Three of these were recaptured out of zone, starting with a fish caught in the Coral Sea in August 2022, with no release information available. The second offshore recapture was in June 2023, a fish caught south of Fiji that had been tagged near Mayor Island 117 days earlier, giving a displacement of 570 nautical miles. The third was tagged off Cape Runaway and moved 610 nautical miles north-west, to be recaptured in the Tasman Sea during June 2024, after 100 days at liberty.
- Five striped marlin were recaptured around the North Island, all of these fish were tagged and recaptured during the same season (Figure 21). Time at liberty ranged from 2 to 81 days with displacement of 45 to 425 nautical miles. Notable in this group is one fish that was tagged further south than usual, off Cape Kidnappers and recaptured 425 nautical miles north, 33 days later.

Another was tagged earlier in the season, at the end of December, off east Northland and recaptured 81 days later 65 nautical miles southeast, near Great Barrier Island (Figure 21).

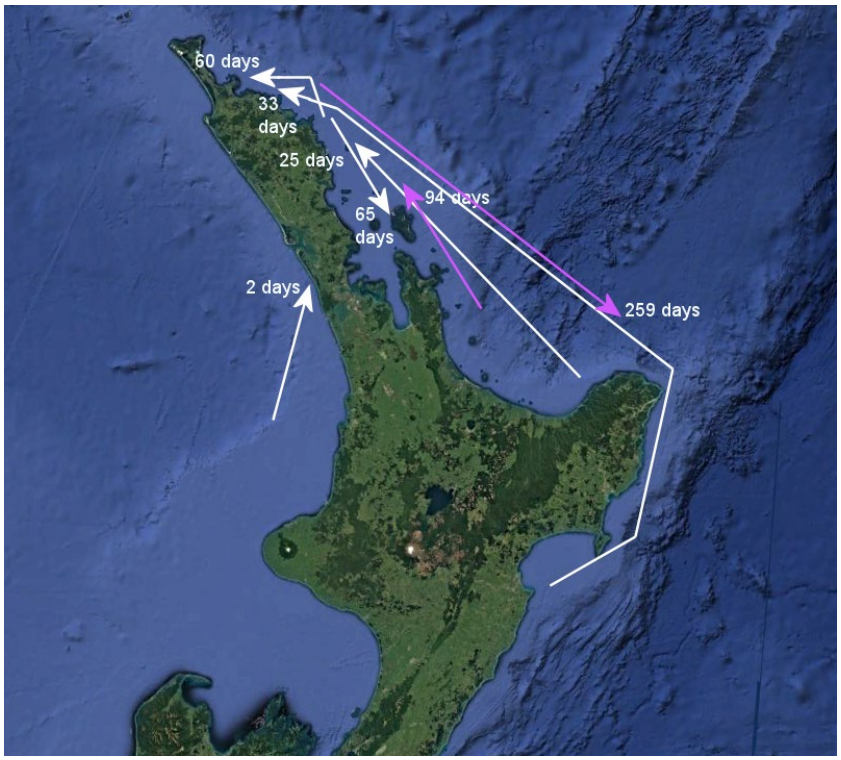

Figure 21: Billfish recaptures in 2022–23 and 2023–24 in New Zealand waters, five striped marlin (white arrows) and two swordfish (purple).

There were nine striped marlin recaptured in the 2024–25 fishing year.

- The first of the season was a fish tagged off Houhora and re-caught 476 days later, in July 2024, by a tuna longline vessel fishing in the Coral Sea, a displacement of 1050 nautical miles north-west.
- Seven of the recaptures took place along New Zealand's west coast, from Hokianga in the north to Waitara in the south. Of these, five were both tagged and recaptured on the west coast with times at liberty of less of than 33 days. There was one fish caught off Manukau that had no release information (Figure 22).
- A striped marlin tagged off Mercury Bay in February 2024 moved to the west coast, to be recaptured off Kawhia, a year later.
- The sole striped marlin recaptured on the east coast was tagged in January 2025 and moved 260 nautical miles north-west, to be recaptured 36 days later off Whangaroa (Figure 22).

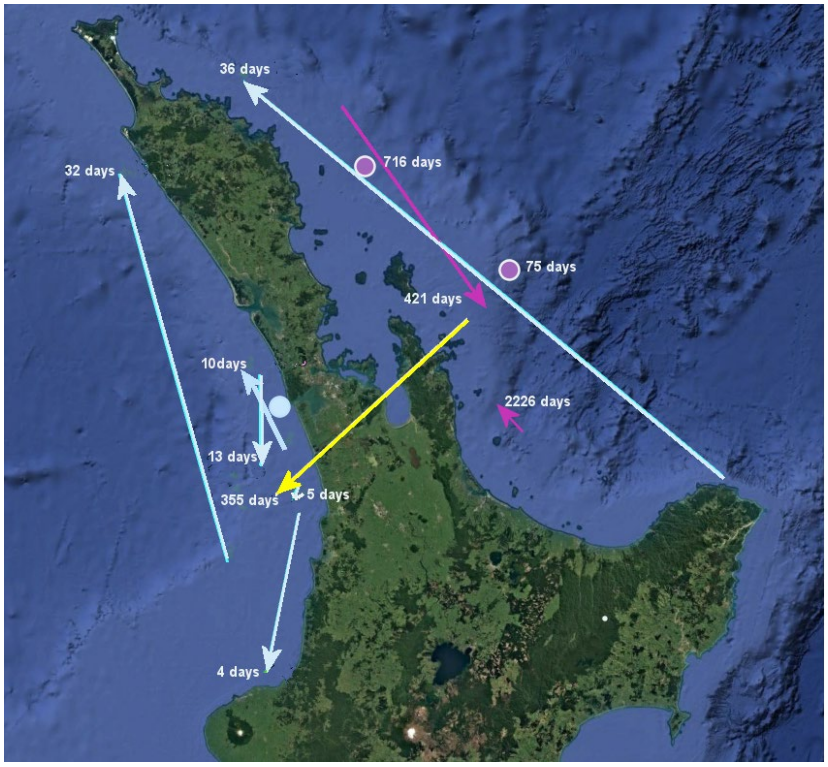

Figure 22: Billfish recaptures in 2024–25 in New Zealand waters, including information on days at liberty for nine striped marlin (light blue and yellow) and four swordfish (purple). Circles indicate recaptures within 20 nautical miles of their tagging location.

Broadbill swordfish recaptures

There have been 15 swordfish recaptures in the NZGTP with the first recorded in February 2002 by an Australian longliner on the Wanganella Banks, after 10 year 8 months at liberty. This fish was estimated to be 12 kg on release and 160 kg on recapture. The other swordfish recaptured in the wider southwest Pacific waters was caught off Tuvalu in September 2013 after 2 years 4 months at liberty. The remainder of recaptures were all from New Zealand waters between January and June.

During the 2022–23 and 2023–24 fishing years two small swordfish were recaptured by New Zealand longliners, one caught north of Cape Runaway in March 2023 almost a year after tagging, having moved 230 nautical miles southeast, the other was recaptured off Great Barrier Island in June 2024 and had moved 106 nautical miles north-east in 94 days. (Figure 21).

Four broadbill swordfish were recaptured during the 2024–25 fishing year. Three of these were re-caught within 20 nautical miles of their original tagging locations, with times at liberty ranging from 75 days to just over six years. The fourth swordfish, tagged off east Northland in March 2024, was recaptured 421 days later, on the southern end of the Colville Ridge (Figure 22).

Blue marlin recaptures

There have been no NZGTP blue marlin recaptured since 2011. In September 2000 a blue marlin tagged near the Three Kings Islands, was recaptured 700 nautical miles north of the release location after 158 days at liberty (Figure 23). Blue marlin have also been released with NZGTP tags from several Pacific Island countries. Two blue marlin tagged in Tongan waters were recaptured three years later around Fiji, and a blue marlin recaptured west of Vanuatu had been at liberty for two years. (Figure 23).

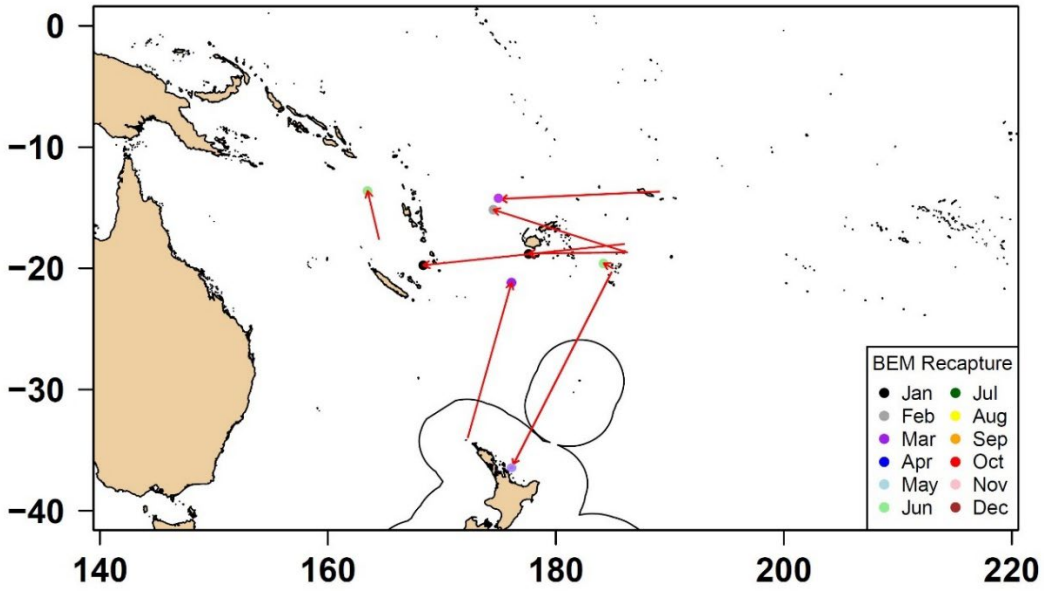

Figure 23: Long-distance movements of blue marlin (BEM) in the NZGTP for all years, with recapture location colour coded by month.

Shortbill spearfish

The number of shortbill spearfish tagged each year is quite varied with few caught some years. There has been one NZGTP tagged shortbill spearfish recaptured so far, a fish caught in New Caledonia in 2008 with no release information.

Recent satellite tagging results

The first record of a tagged striped marlin leaving the southwest Pacific stock assessment region and entering the eastern Pacific came from a pop-up satellite archival tag (PSAT) deployed on 6 January 2024 off the Cavalli Islands, East Northland. This fish spent January and some of February off East Northland, leaving New Zealand waters in March. It travelled through warm waters in May and June and ended up on the eastern side of the East Pacific Ridge, where the sea surface temperature was back to 24°C. The tag popped up as programmed after 244 days 4739 nautical miles from where it was deployed (Figure 24).

Four PSATs were deployed in the Taranaki region in 2025. The first to report in August had also moved into equatorial waters of the eastern Pacific Ocean about 1100 nautical miles east of the Marquéses Islands, a straight line distance of 3836 nautical miles in 180 days (Figure 25). Satellite tagging of marlin in New Zealand is supported by the IGFA Great Marlin Race project and the tracks were generated by Barbara Block's laboratory at Stanford University using a state space model to interpolate daily positions (Lam et al. 2010).

While these satellite tag results are unexpected, the first striped marlin recapture recorded by the NZGTP was in October 1989 close to the boundary with the Eastern Pacific management area. This recapture came from a Japanese longliner fishing in equatorial waters north of the Marquesas Group (2° S 140° W) (Figure 19).

The southwest Pacific striped marlin is considered a single stock for stock assessment and management purposes (Davies et al. 2012, Ducharme-Barth et al. 2025). Spawning occurs in the Coral Sea, the Fiji Basin, and French Polynesia (Kopf et al. 2012) and recaptures of striped marlin from the NZGTP have occurred in all three areas. Recent genetic work indicates that there are potentially three genetically distinct spawning populations: two in the western central Pacific (in the north and south) and a third in the eastern Pacific (Mamoozadeh et al. 2020). However, research based on genetics and pop-up satellite

archival tags around the Hawaii archipelago, indicates some regional connectivity, particularly for the northern and southwestern Pacific striped marlin populations (Martinez et al. 2025, Lam et al. 2022).

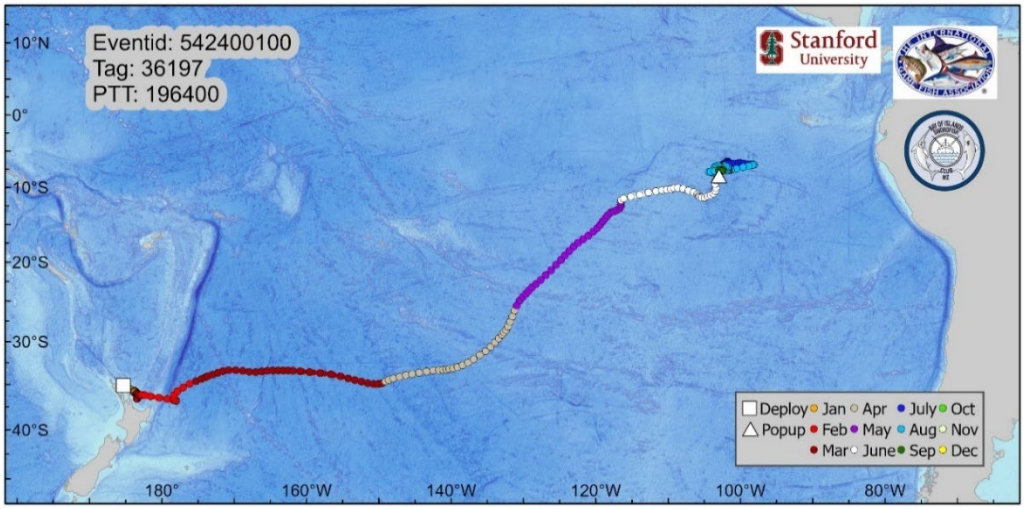

Figure 24: Striped marlin six month track from a pop-up archival tag deployed in January 2024 showing daily positions colour coded by month.

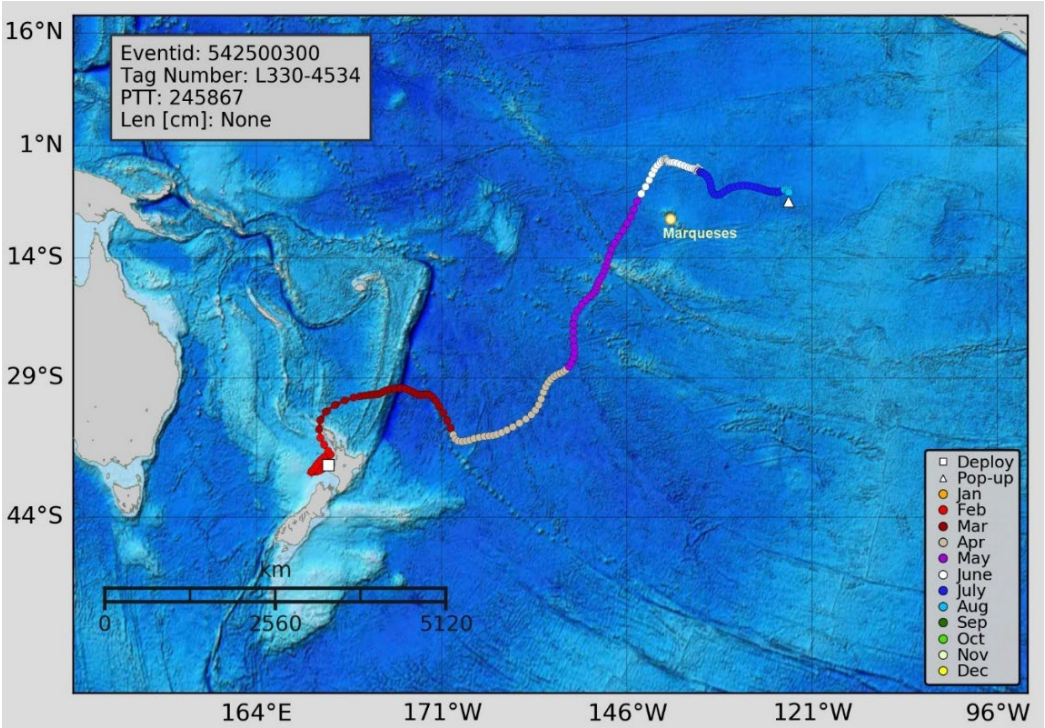

Figure 25: Striped marlin six month track from a pop-up archival tag deployed in February 2025 showing daily positions colour coded by month.

3.2 Pelagic sharks

Tagged sharks

Mako shark (*Isurus oxyrhinchus*) and blue shark (*Prionace glauca*)

NZGTP all years	Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
Mako shark	16 705	7	374	2.23	2 960	11.28
Blue shark	5122	0	90	1.75	4 627	3.79

Mako sharks are the third most tagged species in the NZGTP and blue sharks are the fifth. Blue sharks were targeted by sport fishing club members in Otago for tag and release points in the NZSPFC National Tournament during the 1990s and 2000s. The number of sharks tagged and released inside New Zealand fisheries waters in recent year has decreased significantly. In 2024–25 just 16 mako sharks were tagged and released, and no blue sharks (Figure 26).

The number of tagged mako and blue sharks peaked during the mid to late 1990s. In the summer of 1995 1529 mako sharks with estimated weights between 20 and 60 kg were tagged. Most of these sharks were caught as a bycatch on lures from East Northland. Between 400 and 600 mako sharks were tagged per year from 2009–10 to 2015–16, but the number has decreased significantly with the last three years at the lowest number tagged in 45 years (Figure 26).

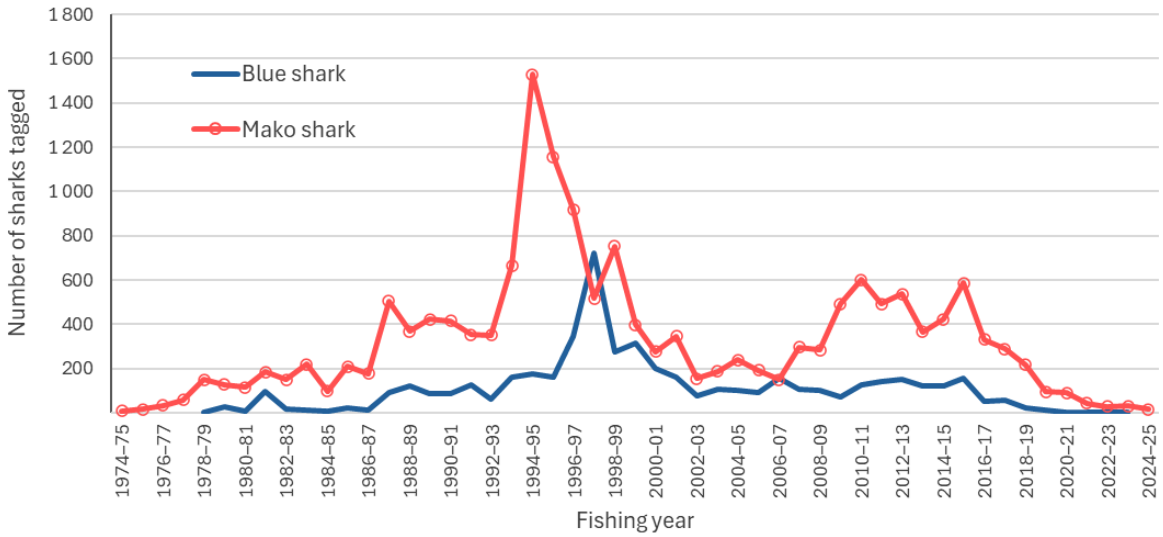

Figure 26: Mako and blue sharks tagged, 1974–75 to 2024–25.

Mako sharks have been tagged from November to July, with the highest numbers between January and April with a strong mode in February. Blue sharks are mostly caught on baits rather than lures and two thirds of the number tagged since 2001–02 were caught in February (Figure 27, Figure 28). The strong modes for this month are associated with the New Zealand Sport Fishing Council Nationals Contest, which encourages the tag and release of various species.

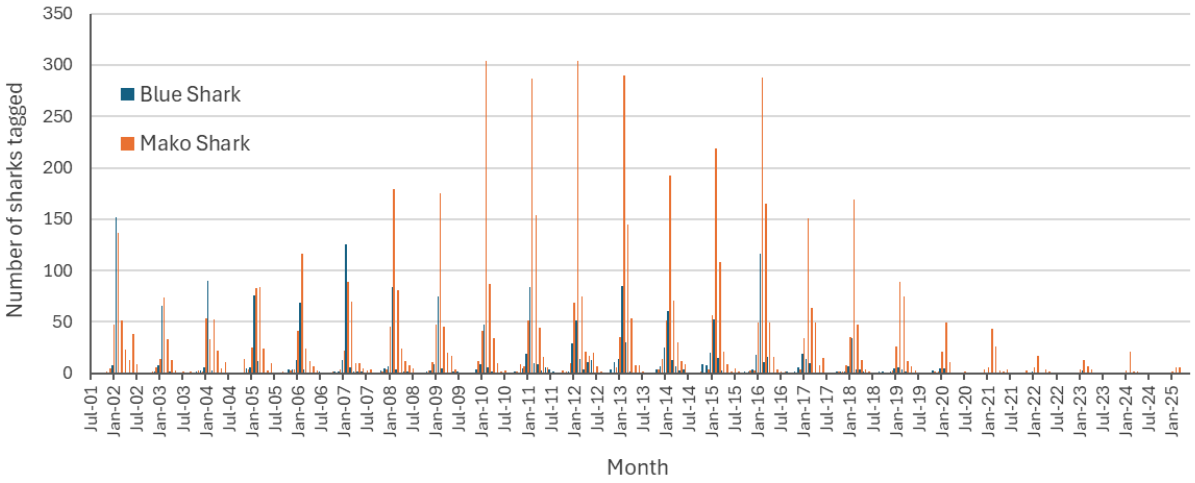

Figure 27: Number of mako and blue sharks tagged by month since July 2001.

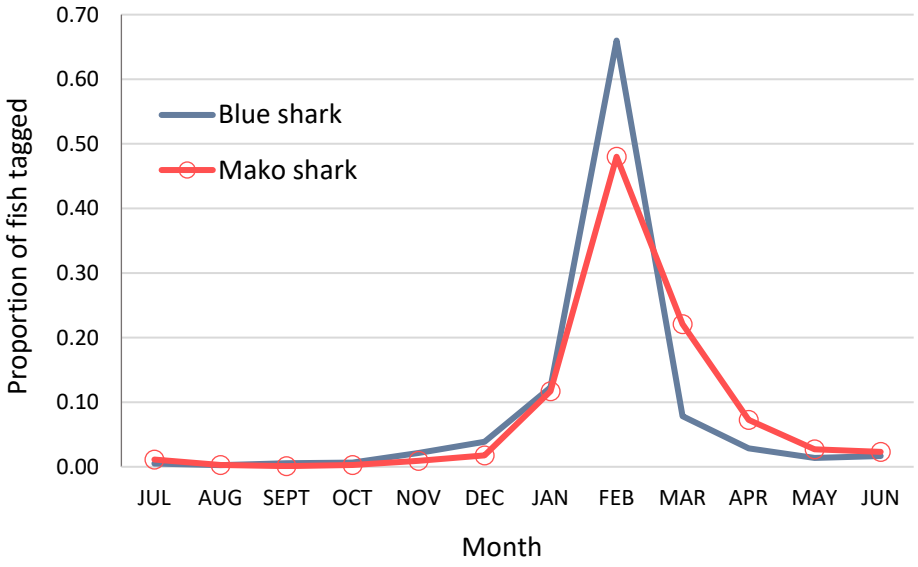

Figure 28: Proportion of mako and blue sharks tagged by month tagged by month since July 2001.

Generally, mako sharks are caught as bycatch of other sport fisheries for highly migratory species, particularly off the North Island east and west coast where sport fishing effort is highest. The decline in the number tagged over the last 10 years has been across all regions (Figure 29). There is less consistency in catch by region for blue sharks but the same sharp decline in the numbers tagged is evident across all regions (Figure 30).

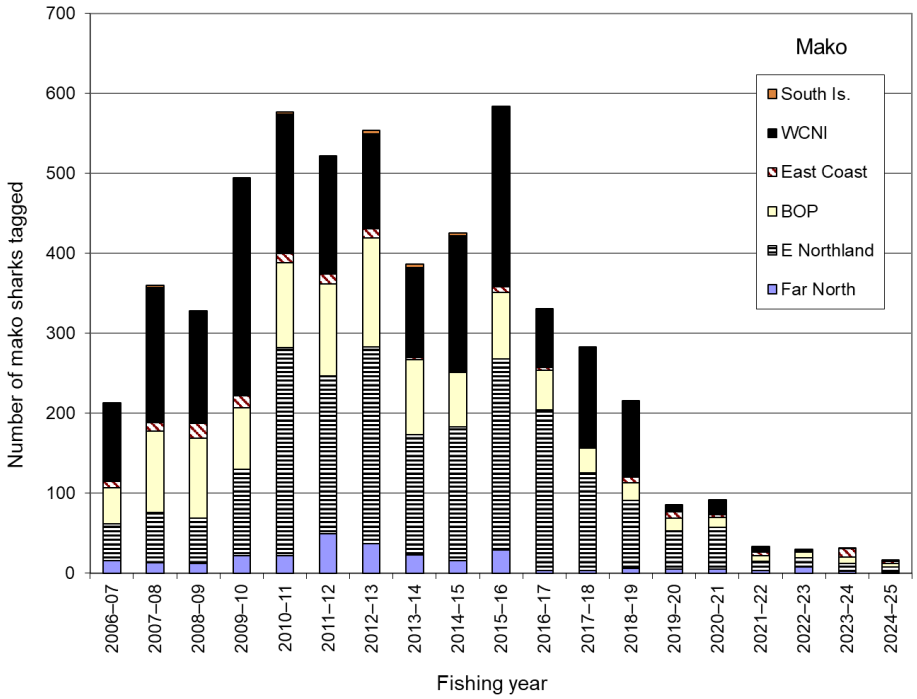

Figure 29: Number of mako sharks tagged by fishing year and region since July 2007.

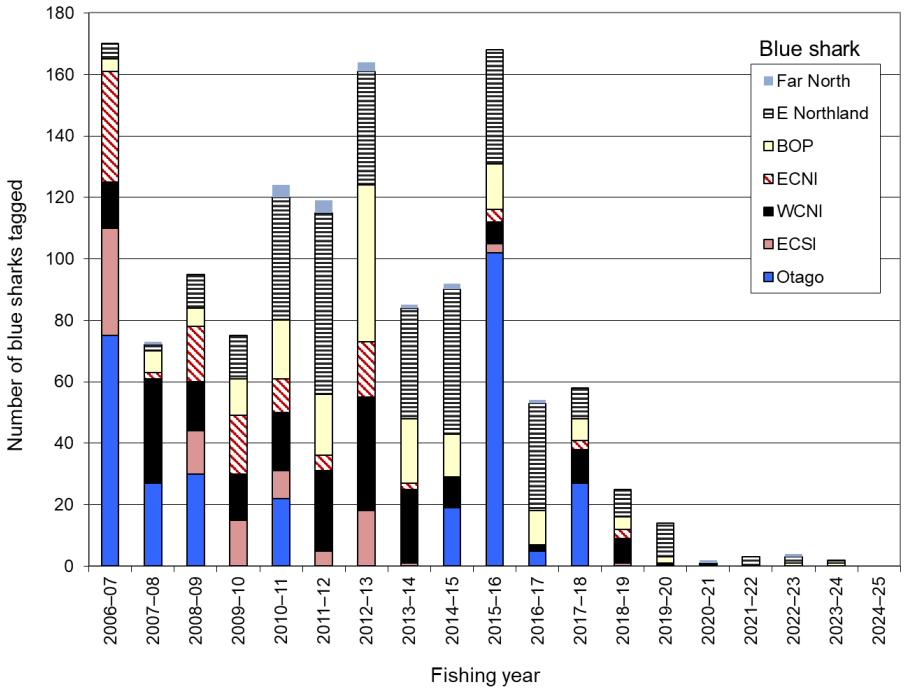

Figure 30: Number of blue sharks tagged by fishing year and region since July 2007.

Bronze whaler shark (*Carcharhinus brachyurus*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
1 289	0	29	2.24	1 800	6.69

The number of bronze whaler sharks tagged and released has increased since 2014–15, particularly in the Bay of Plenty. Many of these are caught in Tauranga Harbour, often by land-based fishers and free tagged from recreational fishing boats. A University of Waikato Master of Science project by Melissa Kellett (Kellett 2021) saw a peak number tagged in 2016–17 (Figure 31). An average of 34 sharks have been tagged annually since 1986–87.

Bronze whalers are mainly tagged between November and April when sport fishing effort is highest with the lowest number tagged between July and September (Figure 32).

The number of bronze whalers tagged along Northland's east coast has been around 20 per year for most of the last 15 years while the number tagged in the Bay of Plenty has risen and fallen in that time (Figure 33).

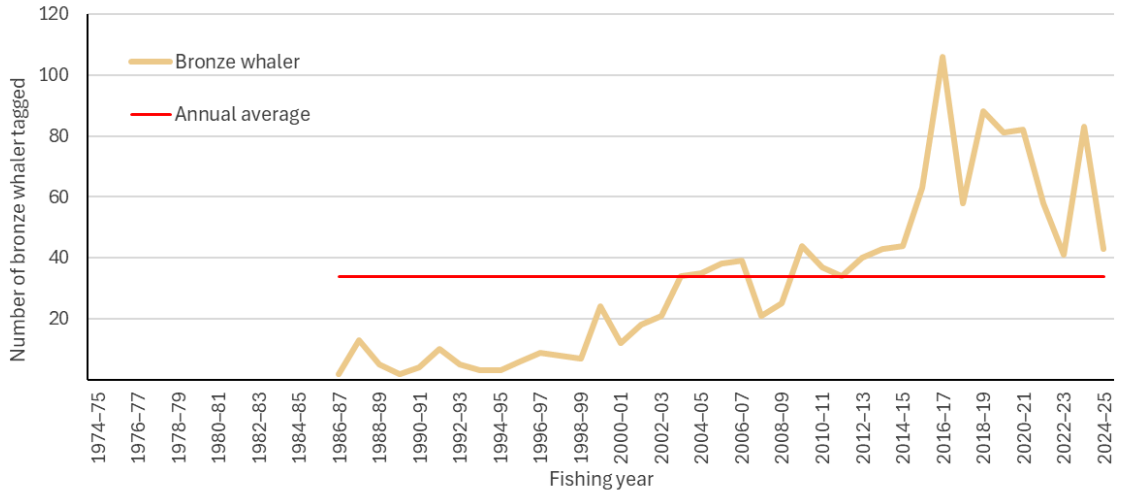

Figure 31: Bronze whaler sharks tagged, 1974–75 to 2024–25 and the average number of sharks tagged since 1986–87 (34 sharks; red line).

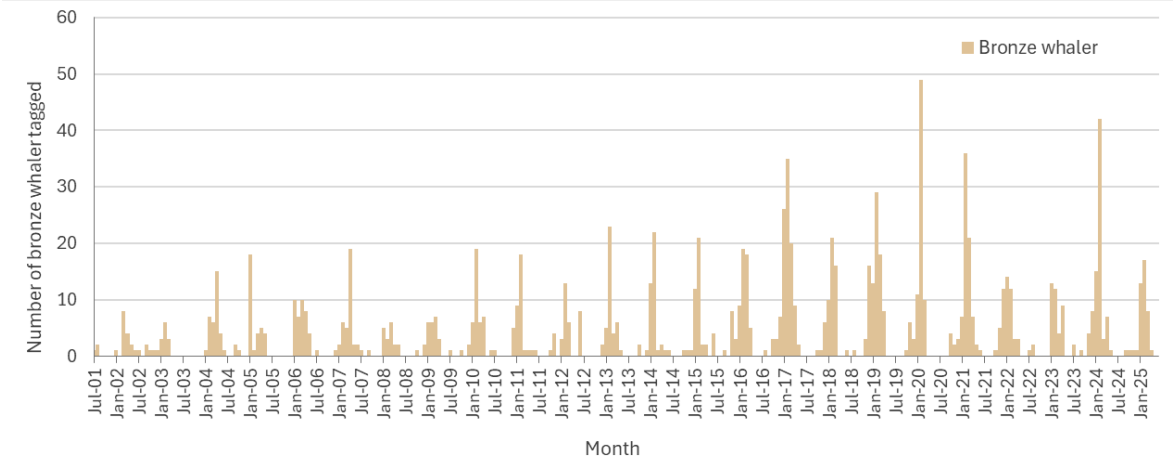

Figure 32: Number of bronze whaler sharks tagged by month since July 2001.

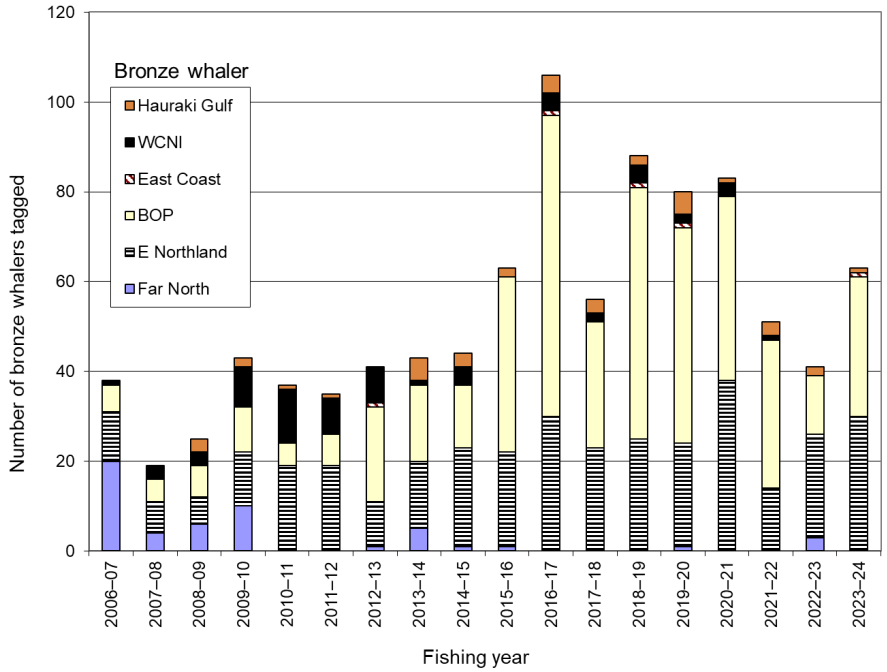

Figure 33: Bronze whaler sharks tagged by region and fishing year, 2006–07 to 2024–25.

School shark (*Galeorhinus galeus*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
216	0	49	22.7	1 063	19.25

While school sharks are not a pelagic species, they are recognised gamefish for IGFA world records. School sharks have been tagged since 1984–85, with an annual average of 5.4 sharks tagged although the number tagged per year has been quite variable (Figure 34). Most have been tagged around northern New Zealand during the summer months and are usually less than 30 kg on release.

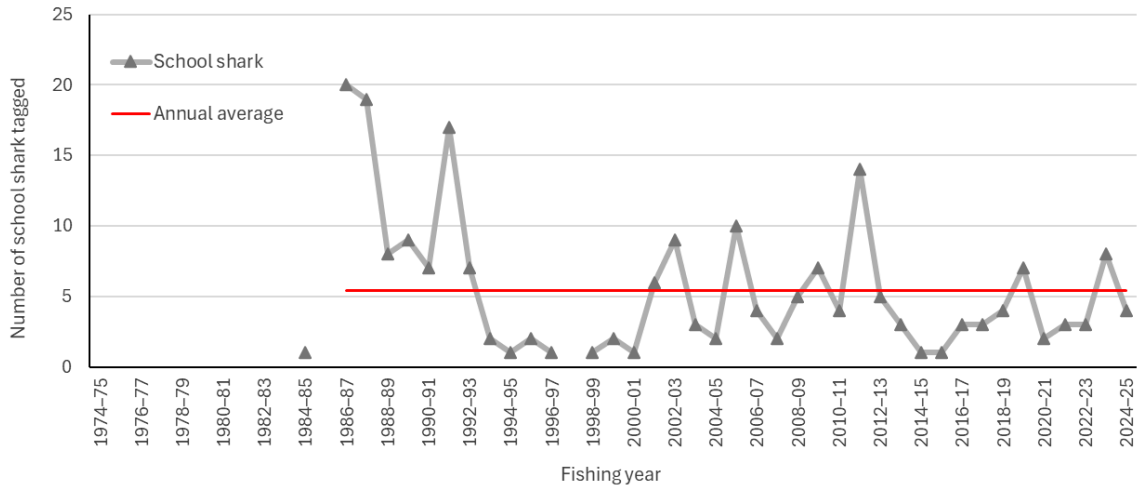

Figure 34: School sharks tagged, 1974–75 to 2024–25, and the average number of sharks tagged since 1986–87 (5.4 sharks; red line).

Shark recaptures

Mako and blue sharks

Mako sharks tagged in New Zealand seldom stray into equatorial waters to the north, past French Polynesia to the east, or past Australia to the west. A high proportion of recaptures have been reported from the Fijian region, New Caledonia, and New South Wales (Figure 35). The distribution of long-distance recaptures can be affected by non-reporting by some fishing fleets. To date, there have been five mako sharks recaptured after five years or more at liberty, with the longest for a 130 cm mako tagged off Kawhia and recaptured after 9 years and 11 months (3624 days) at liberty northeast of New Caledonia in January 2009. It was a female in pup and measured 297 cm.

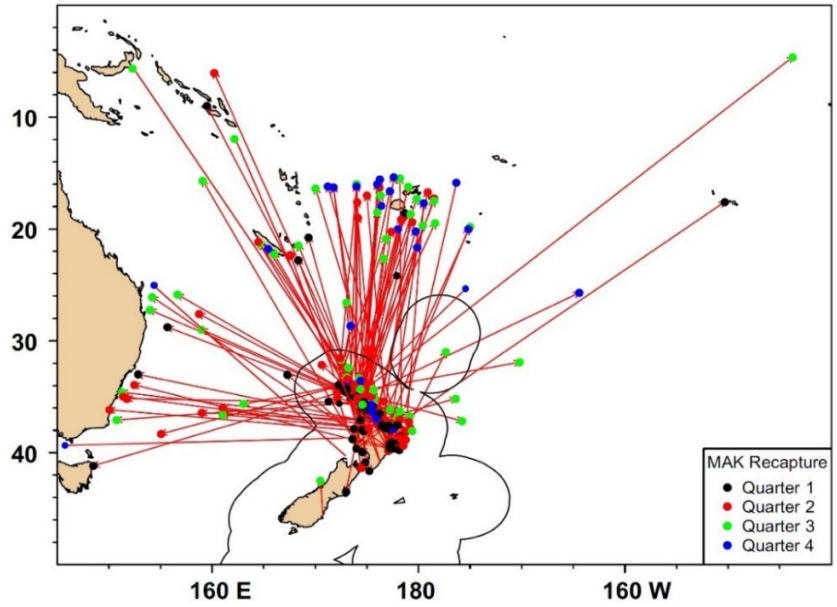

Figure 35: All release and recapture locations of mako sharks (MAK) in the NZGTP, with recapture location colour coded by quarter (Quarter 1 = Jan–Mar).

Blue sharks also appear to disperse across the Southwest Pacific, with recaptures from Australia, New Caledonia, Vanuatu, Fiji, Tonga, Cook Islands, and French Polynesia (Figure 36). However, they have strayed further afield with single recaptures from this programme coming from the south-eastern Pacific off Chile and the Indian Ocean, southwest of Perth.

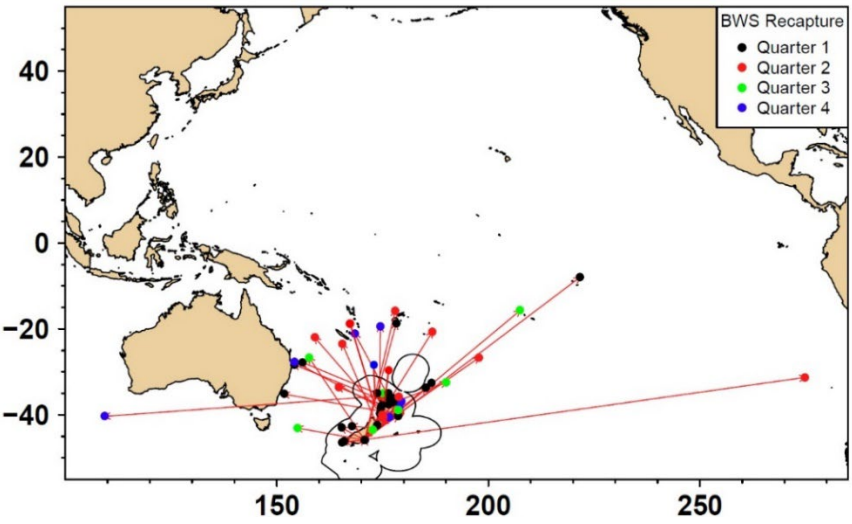

Figure 36: All release and recapture locations of blue sharks (BWS) in the NZGTP, with recapture location colour coded by quarter (Quarter 1 = Jan–Mar).

There have been no mako sharks or blue sharks recaptured in 2022–23 to 2024–25. Overall, the recapture rate is 2.23% for tagged mako sharks and 1.75% for blue sharks.

Bronze whaler shark recaptures

There have been 29 bronze whaler recaptures to date, with the increase in tagging from 2016 leading to more recaptures reported in recent years. Most bronze whaler sharks are recaptured along the coastal areas of northern New Zealand although there have been three offshore recaptures recorded. One moved to New Caledonia; one was recaptured in Bass Strait; and in 2005 a bronze whaler was recaptured near Tuvalu, a distance of 1800 nautical miles north after 2445 days at liberty (6 years 8½ months). The majority of bronze whaler sharks are however recaptured close to their tagging locations with only ten moving at least 10 nautical miles (Figure 37).

Two bronze whalers, originally tagged in Tauranga Harbour, were recaptured by land-based fishers in the Tauranga region in October 2023 and April 2024 with times at liberty of 453 and 940 days, respectively. During the 2024–25 year there were also two bronze whaler recaptures. A fish tagged near the Poor Knight Islands in January 2024 was recaptured in the same area 195 days later by a commercial longline vessel. The second recapture was of a fish that was both tagged and recaptured by land-based anglers, fishing in the same vicinity of Tauranga Harbour almost five years apart.

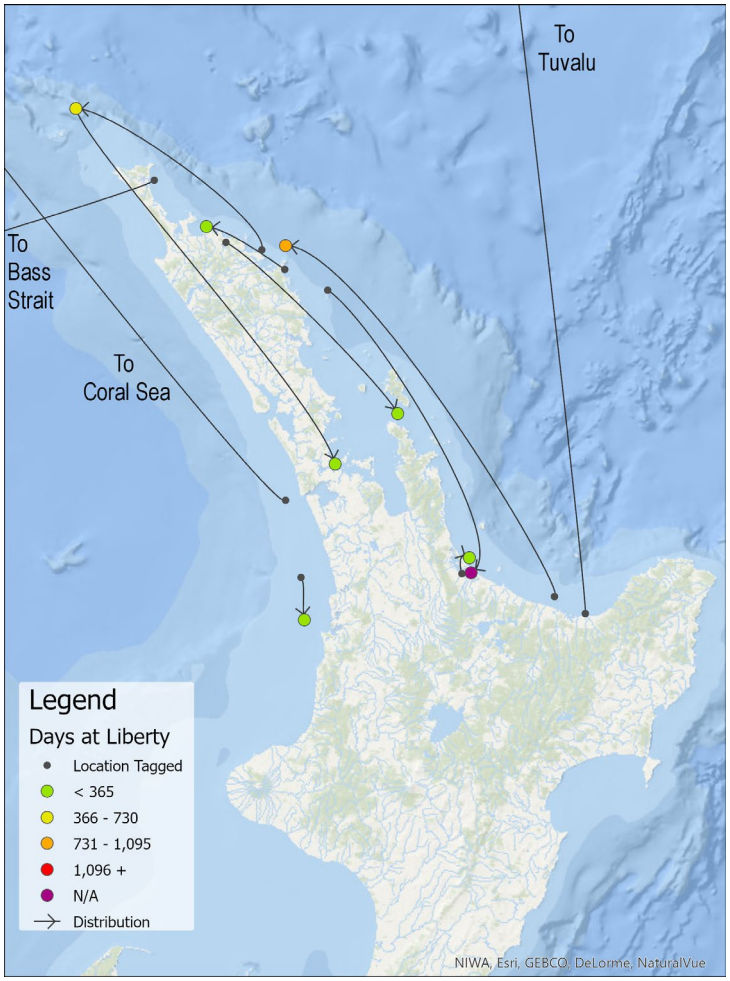

Figure 37: Bronze whaler shark release and recapture locations with displacement more than 10 nautical miles.

There were ten bronze whaler sharks recaptured close to their release locations after a year or more. Three of four bronze whaler sharks with displacement distances between 100 and 250 nautical miles were 200 kg or heavier (Figure 38). The longest distance movements were for sharks of 50 and 100 kg (not plotted).

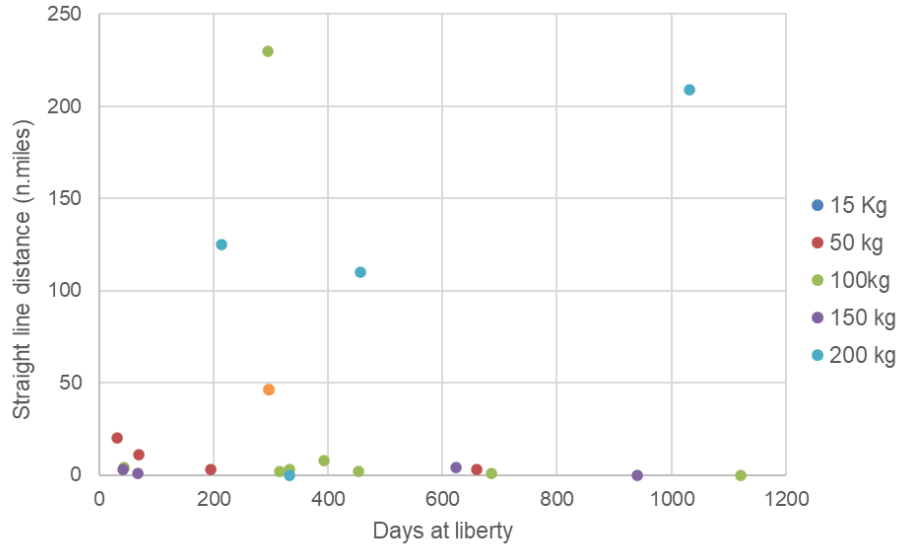

Figure 38: Bronze whaler shark displacement distance by days at liberty and weight on release, all years truncated at 250 nautical miles (n.miles). Not shown are a 50 kg bronze whaler recaptured in Bass Strait after 671 days, a 100 kg bronze whaler recaptured off Tuvalu - a distance of 1800 nautical miles after 2445 days at liberty and a bronze whaler with no recorded size recaptured in the Coral Sea - a distance of 1292 nautical miles after 171 days at liberty.

School shark recaptures

The have been 49 school shark recaptures, all in New Zealand waters and they are the species with the highest recapture rate (22.7%) and the second longest time at liberty (19.24 years) in the NZGTP.

Two school sharks, tagged by the same recreational angler near Waihau Bay in April 2021, were both recaptured in 2023, by the same commercial fisherman, at Hicks Bay. The first was recaptured two years later, the second after two years and seven months.

During 2024–25 there were two school sharks recaptured, the first was caught by commercial longline near the Poor Knight Islands, 35 nautical miles south-east of the tagging location after nearly three years, 11 months at liberty. The second was a 15 kg school shark tagged in the Bay of Islands during March 2021 and recaptured in the same vicinity after just over 4 years at liberty.

3.3 Yellowtail kingfish (*Seriola lalandi*)

Tagged kingfish

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
26 889	3	1 790	6.65	1 400	19.85

Yellowtail kingfish have been an important component of the NZGTP since its inception; they are available year-round in New Zealand waters and tolerate handling and retain tags well. Although they come second behind striped marlin as the most tagged species in the programme, they make up 70% of all recaptures.

An average of 649 kingfish have been tagged annually since 1984–85 (Figure 39), but the number of kingfish tagged with gamefish tags has declined since 2018–19 (Table 3). The retirement of some leading charter skippers who have long supported kingfish tagging has reduced the number of releases and recaptures (Figure 39). The use of smaller dart tags has been an initiative by fly fishers targeting smaller kingfish in harbours and sand flats, they have deployed 465 dart tags (PDAT). The Southern Inshore and Deepwater Group have supplied PIMS tags to observers and crews for kingfish, which they release from trawl vessels targeting jack mackerel. Over the last 10 years crews have tagged 2062 kingfish off the west coast of the North and South Islands (Table 3).

Generally, most kingfish are tagged between October and June of the following year. February is the peak month, as with other species in the NZGTP, but the number tagged in February has become less prominent since 2012 (Figure 40).

Table 3: Yellowtail kingfish tagged and the number recaptured by tag type for all years and the last ten fishing years.

		Fishing year										
	1975 to 2014	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	10 year Total
Gamefish tag releases	21 946	608	598	549	561	130	128	103	75	69	60	2 881
Dart & PIMA tag releases	0	12	229	66	63	26	246	255	447	573	145	2 062
Total releases	21 946	620	827	615	624	156	374	358	522	642	205	4 943
Gamefish tag recaptures	1 488	23	30	22	33	19	11	9	5	4	6	162
Dart & PIMA tag recaptures	0	0	3	14	12	11	2	4	5	20	7	78
Total recaptures	1 488	23	33	36	45	30	13	13	10	24	13	240

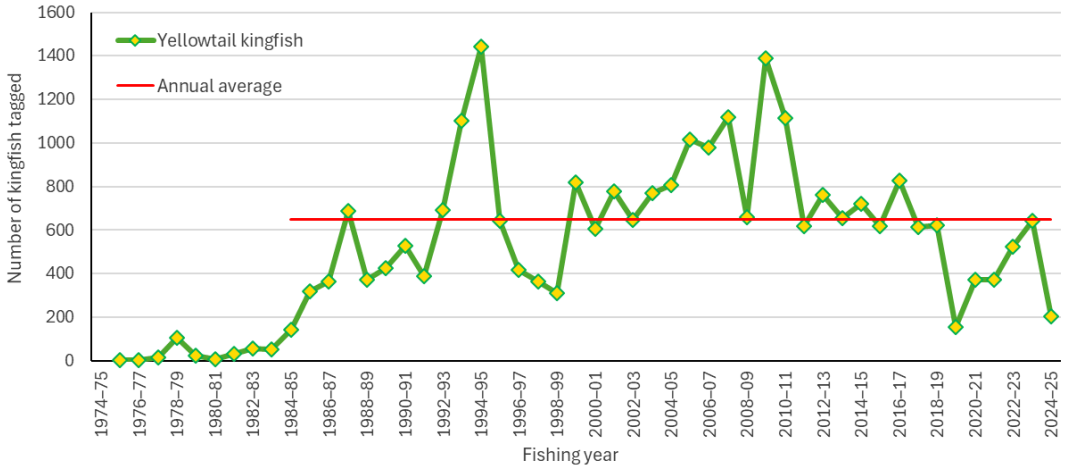

Figure 39: Yellowtail kingfish tagged, 1974–75 to 2024–25 and the average number of fish tagged since 1984–85 (649 fish; red line).

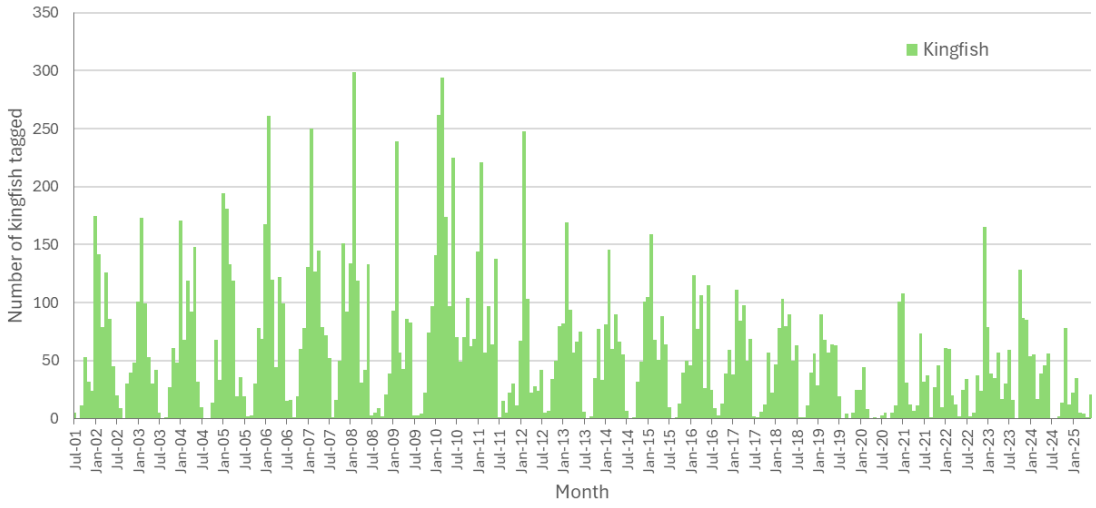

Figure 40: Yellowtail kingfish tagged per month since July 2001.

The number of kingfish tagged and released across all regions has decreased since 2009–10. Covid-19 restrictions reduced fishing efforts in 2019–20. The increase in the number tagged off the North Island's west coast since 2020–21 is from fish released by the jack mackerel trawl vessels (Figure 41).

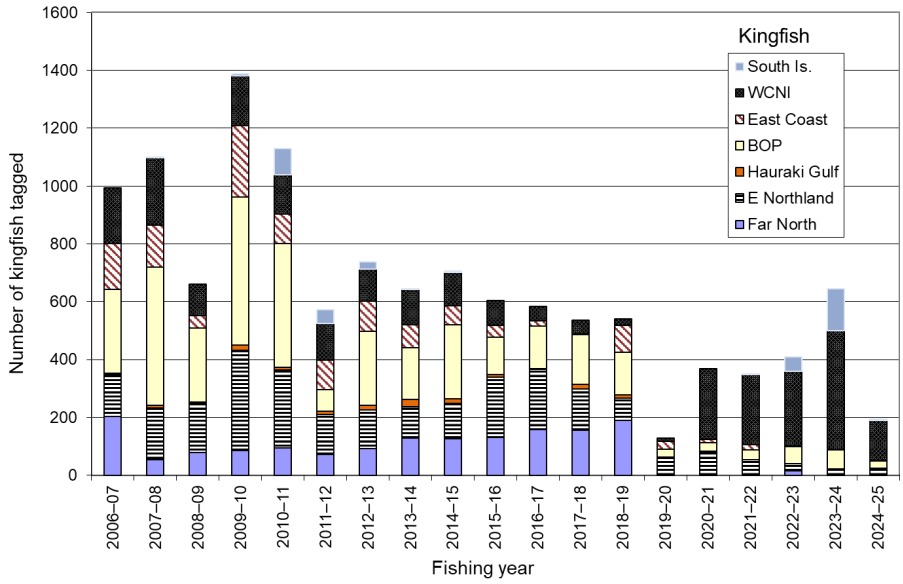

Figure 41: Yellowtail kingfish tagged by region and fishing year, 2006–07 to 2024–25.

The length frequency distribution of tagged kingfish for 2022–23 to 2024–25 shows that a high proportion of tagged fish were in the 70 to 109 cm range. There were fewer kingfish tagged across the length range in 2024–25 (Figure 42). Fishers have been discouraged from tagging kingfish under the recreational minimum legal size of 75 cm with gamefish tags. The use of the smaller dart and PIMA kingfish tags has increased the number of fish under 75 cm tagged and released.

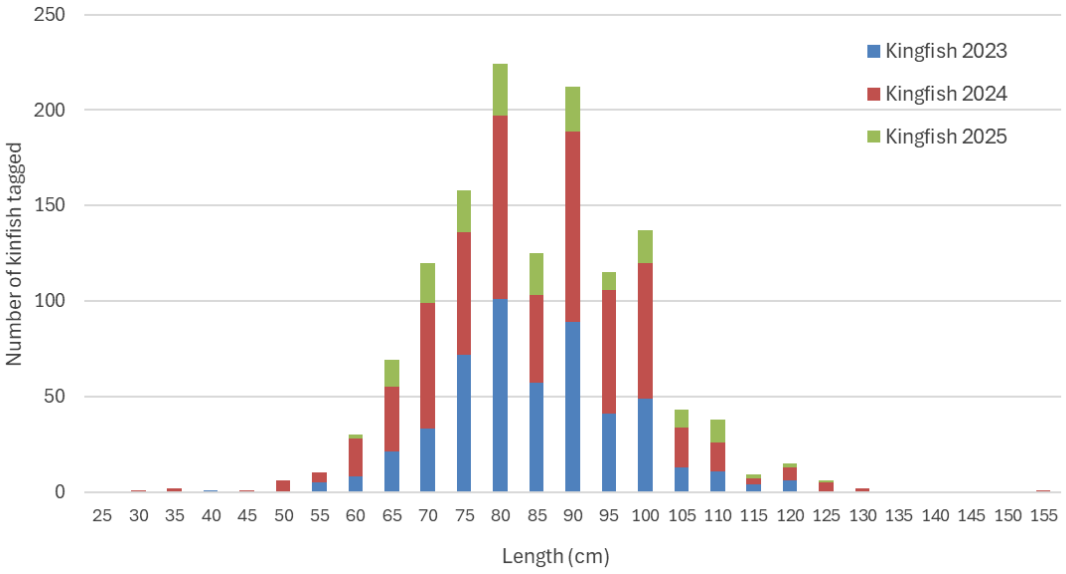

Figure 42: Yellowtail kingfish length frequency distributions by fishing year for 2022–23 to 2024–25.

Yellowtail kingfish recaptures

There are 1729 yellowtail kingfish recaptures recorded in the NZGTP database - more than all other species combined (Figure 43). Kingfish survive tag and release well, with some fish caught and released up to four times. They also retain tags well, with the longest time at liberty for a tagged fish of 19 years 11 months. These fish are generally recaptured close to their release location with 78% of fish at liberty for 30 days or more recaught within 20 nautical miles of their release point and 93 % recaught within 100 nautical miles. Recapture rates have been particularly high at some isolated offshore locations such as White Island in the Bay of Plenty.

Yellowtail kingfish are also capable of long-distance movement. Over the years, four fish tagged in New Zealand have been recaptured in New South Wales, Australia. Recaptures have also been reported from Lord Howe Island and Wanganella Banks. Movement between the east and west coasts of New Zealand also occurs and from the North Island to the South Island. The longest recorded movement within New Zealand waters was a fish recaptured in 1997 that moved 589 nautical miles (shortest distance by sea) and was at liberty 1194 days, during this time it moved from its tagging location near East Cape to Raglan.

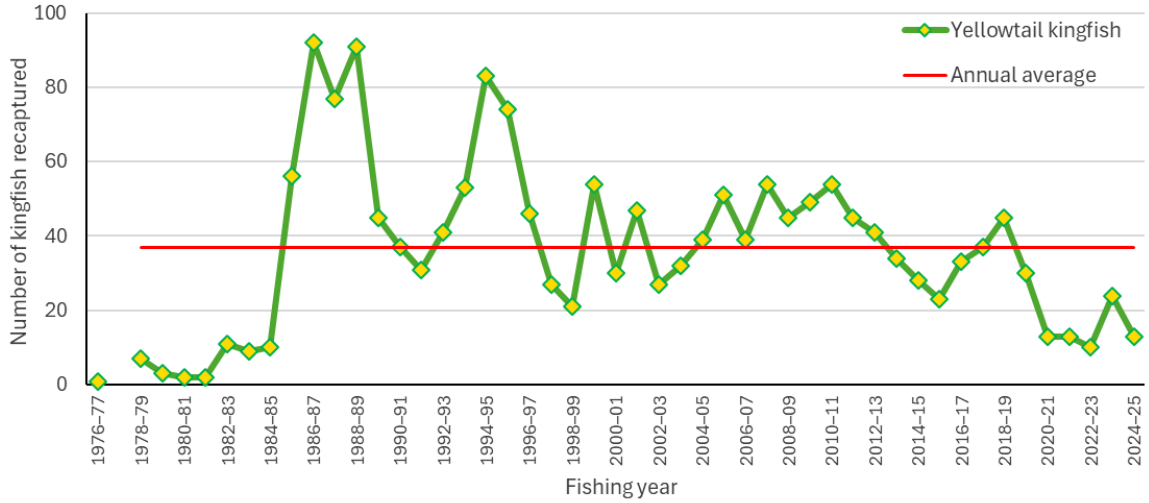

Figure 43: Number of yellowtail kingfish recaptures 1976–77 to 2024–25 and the average number of fish recaptured since 1978–79 (37 fish; red line).

There were 15 kingfish with gamefish tags recaptured in the 2022–23 to 2024–25 fishing years.

- Nine of these fish were at liberty for 3 years 11 months or longer (1428 days). A fish tagged and recaptured at the King Bank was at liberty for 12 years (4386 days). It grew 15cm and was weighed onboard at 32 kg before release with its tag intact.
- Another 10 kingfish had displacement less than 20 nautical miles. The fish that moved longer distances included one recaptured in Bream Bay, 80 nautical miles north-west of its release location after 5 years 6 months at liberty and another, caught on a commercial longline off Tutukaka, 110 nautical miles south-east of its release location after 1 year 11 months.
- Two fish had no matching release information.

There were 10 kingfish with plastic dart tags recaptured from 2022–23 to the 2024–25 fishing year.

- These fish were all tagged in Tauranga Harbour and were recaptured close to their release locations, often by land-based anglers. Time at liberty ranged from one to 534 days with one fish having been caught four times and two fish three times. These fish were less than 80 cm, except an 86 cm kingfish, caught for the third time in the 534 days since it was first tagged.

There were 22 kingfish from mid-water trawlers with PIMA tags recaptured from 2022–23 to 2024–25.

- These fish were all tagged off the west coast of the lower North and upper South Islands, and all but three fish were recaptured in the same general area.
- Two fish moved further north, one recaptured off Kaipara had no release information, the second was recaptured off Kawhia by a mid-water trawler. This fish moved 110 nautical miles north during 360 days at liberty.
- The third fish moved to the east coast and was recaptured off Tokomaru Bay; no release information is available to date.

There were 174 records for tagged kingfish with complete release and recapture locations in the 10 years to the end of June 2025, only 28 of which moved more than 40 nautical miles. There have been some extensive movements around the North Island and top of the South Island (Figure 44). Seven kingfish have moved between the east and west coast of the North Island, in both directions and one fish was recaptured in Yamba, New South Wales.

However most kingfish are recaptured close to their release location even after many years (Figure 45). Ninety four percent of recaptures of fish at liberty for 30 days or more were within 100 nautical miles of the release point.

Kingfish recapture displacement distances by days at liberty range from zero days and distance to 1400 nautical miles in over 7200 days, a pattern best plotted in log scale to show the distribution (Figure 45). There is no strong relationship between days at liberty and distance (R^2 0.03) with many fish recaptured around their release location. Distances of over 100 nautical miles are reached after 40 to 50 days at liberty (Figure 45).

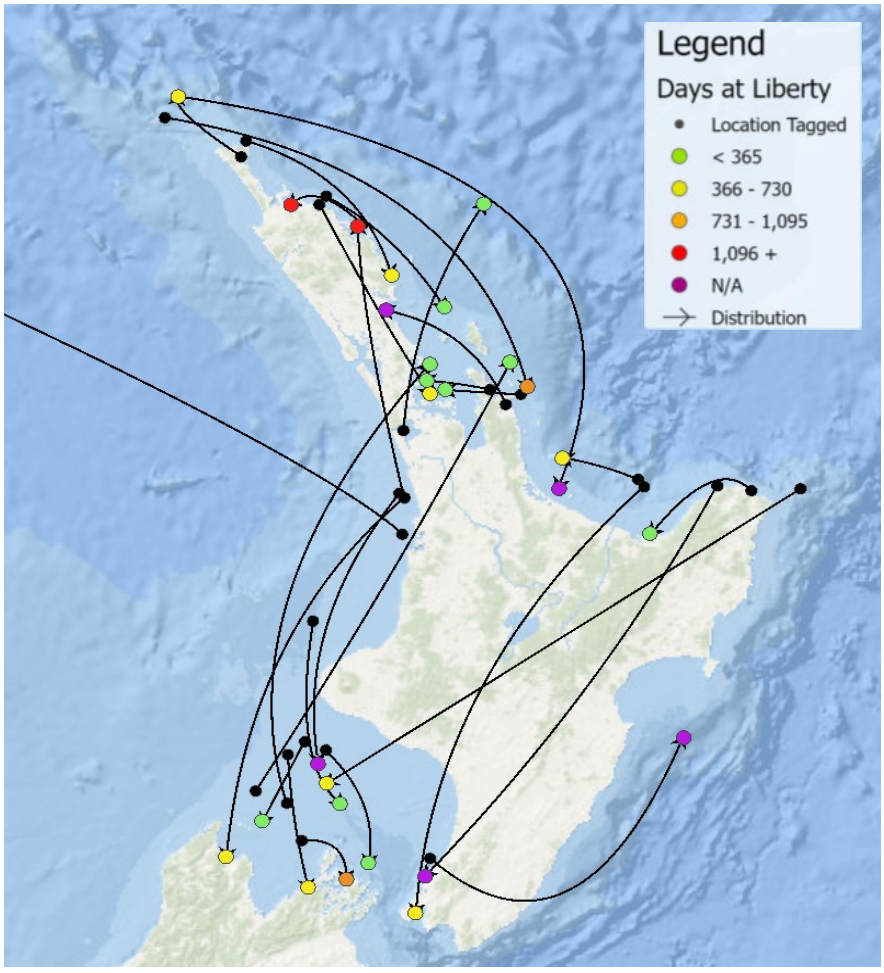

Figure 44: Yellowtail kingfish release and recapture locations from the last 10 years for fish that have been at liberty more than 30 days and with displacement distances more than 40 nautical miles.

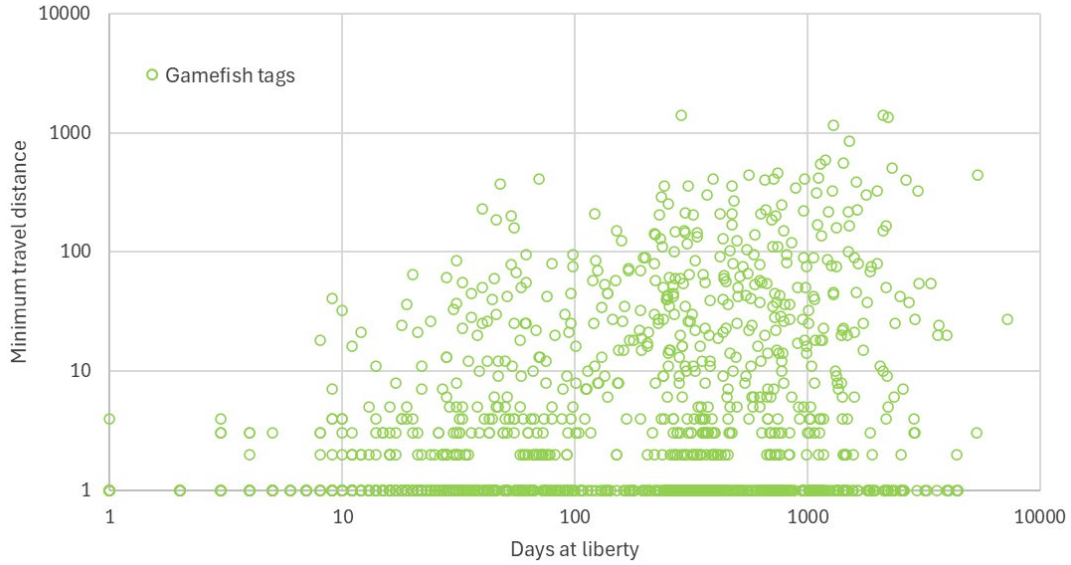

Figure 45: Kingfish displacement distance by days at liberty for fish with gamefish tags since 1976, axes in log scale.

3.4 Tuna

Tagged tuna

Yellowfin tuna (*Thunnus albacares*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
1790	53	23	1.24	1200	1.63

The availability of yellowfin tuna to recreational and commercial fishers in New Zealand has been variable over the last 30 years, with an average of 47 fish tagged annually. Since 2015–16 annual numbers tagged have been below 25 until the 2024–25 season which saw a large increase in catch with 368 fish tagged (Figure 46).

Yellowfin can arrive in November but since 2001–02 most yellowfin have been tagged between December and March with a strong mode in February (Figure 47, Figure 48). Recreational fishers in the last 25 years catch most yellowfin on rod and reel with 24 or 36 kg line weights which are also suitable for billfish. Generally small yellowfin are tagged and released and fight time is recorded on tag report cards. Overall average fight time for yellowfin is 11.3 minutes (s.d. 8.63) but the time ranges from 1 to 120 minutes. Capture times vary with the size of fish which range from 3 kg to 70 kg. The average fight time on released for fish that are later recaptured is 11.3 minutes (s.d. 7.43) with a range of 5 to 30 minutes. Ninety percent of yellowfin have capture times in that range.

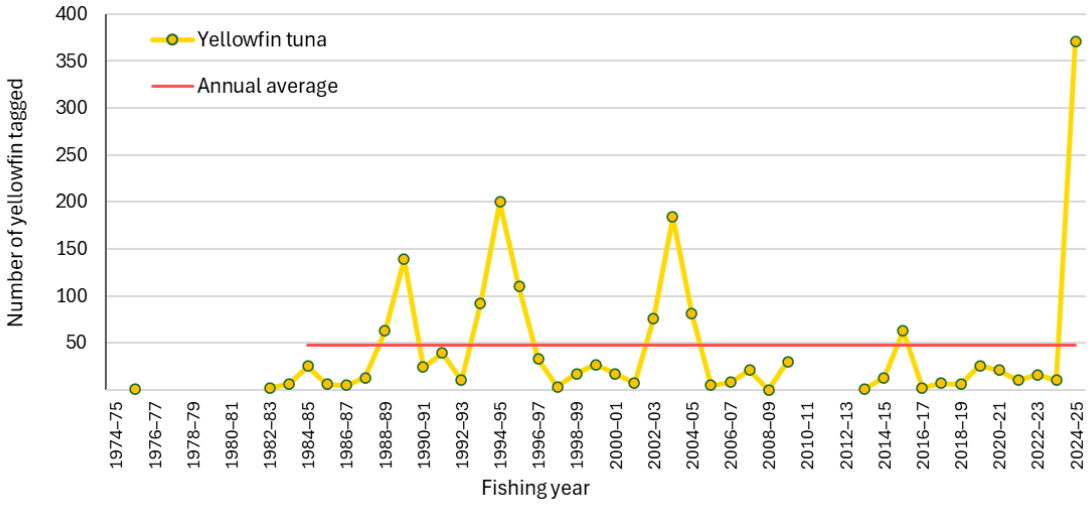

Figure 46: Yellowfin tuna tagged, 1974–75 to 2024–25 and the average number of fish tagged since 1984–85 (47 fish; red line).

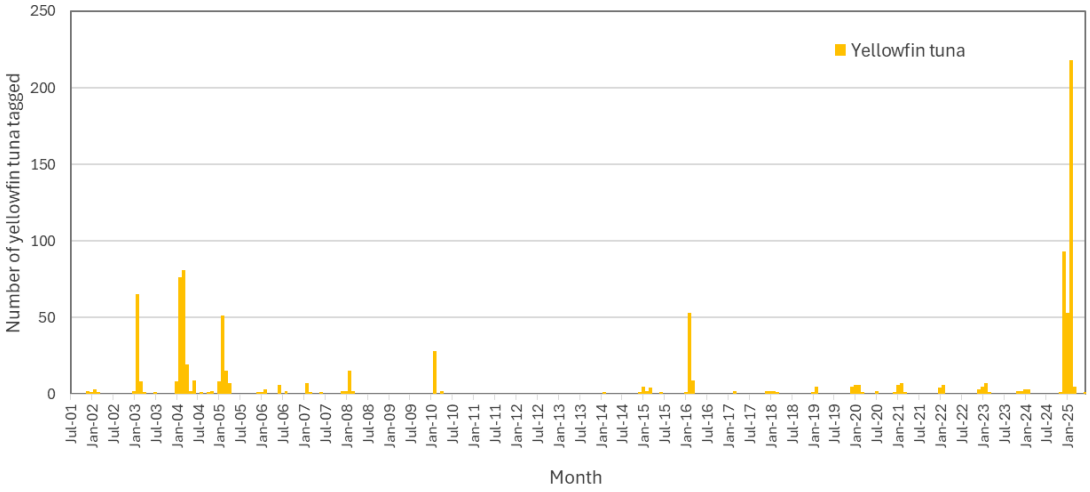

Figure 47: Yellowfin tuna tagged per month since July 2001.

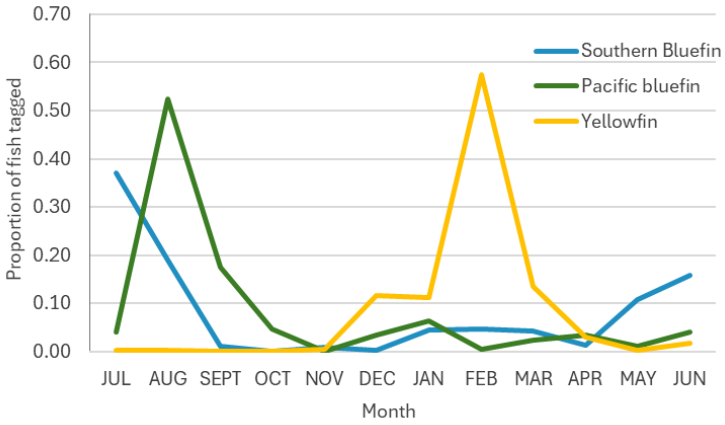

Figure 48: Proportion of tuna tagged by species and month since July 2001.

The yellowfin tuna tagged and released tend to be less than 30 kg, although there has been an increasing trend in average estimated release weights since the 1980s (Figure 49). Large numbers of small yellowfin were caught in 2024–25, with an average estimated weight of 16.4 kg.

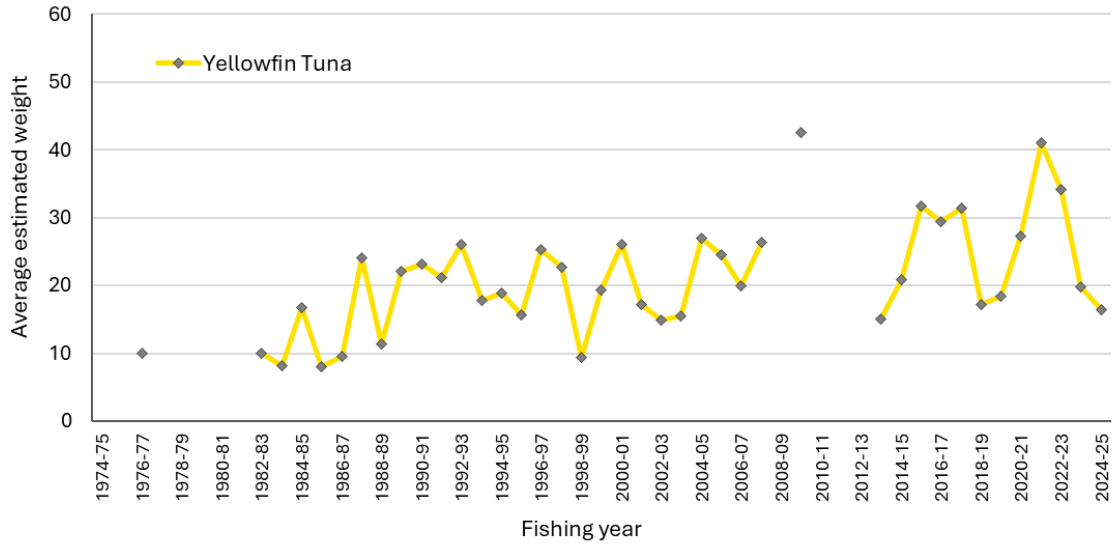

Figure 49: Average estimated weight (kg) by fishing year for tagged yellowfin tuna from the main data years.

Southern bluefin (*Thunnus maccoyii*) and Pacific bluefin tuna (*Thunnus obesus*)

NZGTP all years Releases in EEZ	Releases Outside EEZ	Recaptures all areas	Recapture rate %	Maximum displacement (n. mile)	Maximum time at liberty (years)
449	0	8	1.78	2380	6.03

The number of southern bluefin tuna released by recreational fishers and the number tagged is increasing as targeted recreational fishing effort and catch increases. The number of southern bluefin tagged increases when there are more small fish caught in the North Island fishery (Figure 50). Some New Zealand commercial longliners also tag and release smaller bluefin. There were large Pacific bluefin tuna tagged from recreational or amateur fishing charter vessels fishing on the Hokitika Trench for 10 years from 2005–06. The availability of these fish declined after 2013–14 and the charter fishery ceased to operate (Figure 50).

In recent years there have been two distinct recreational fisheries for southern bluefin tuna in New Zealand. One off the west coast of the South Island from January to August and a target fishery that started in 2017 off the east coast of the North Island, mainly in June to August (Holdsworth 2025). Most of the southern bluefin tuna tagged since 2020 have been from the North Island fishery. The Pacific bluefin recreational catch off the west coast of the South Island was mainly from August and September (Figure 51). There has been an increase in the commercial and recreational catch of Pacific bluefin in New Zealand over the last three years, initially of fish up to 100 kg and increasing in average weight each year.

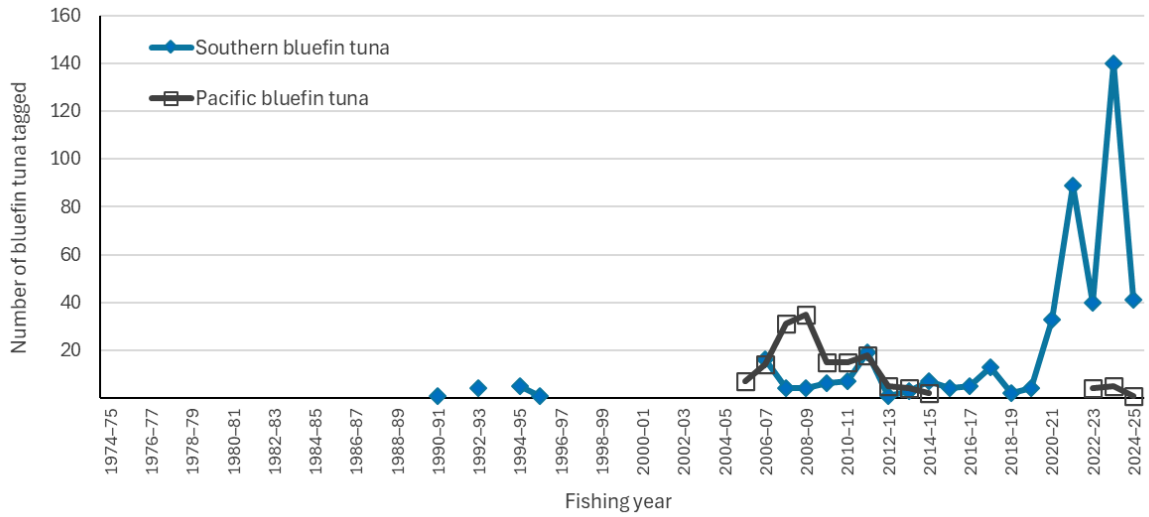

Figure 50: Southern and Pacific bluefin tuna tagged, 1974–75 to 2024–25.

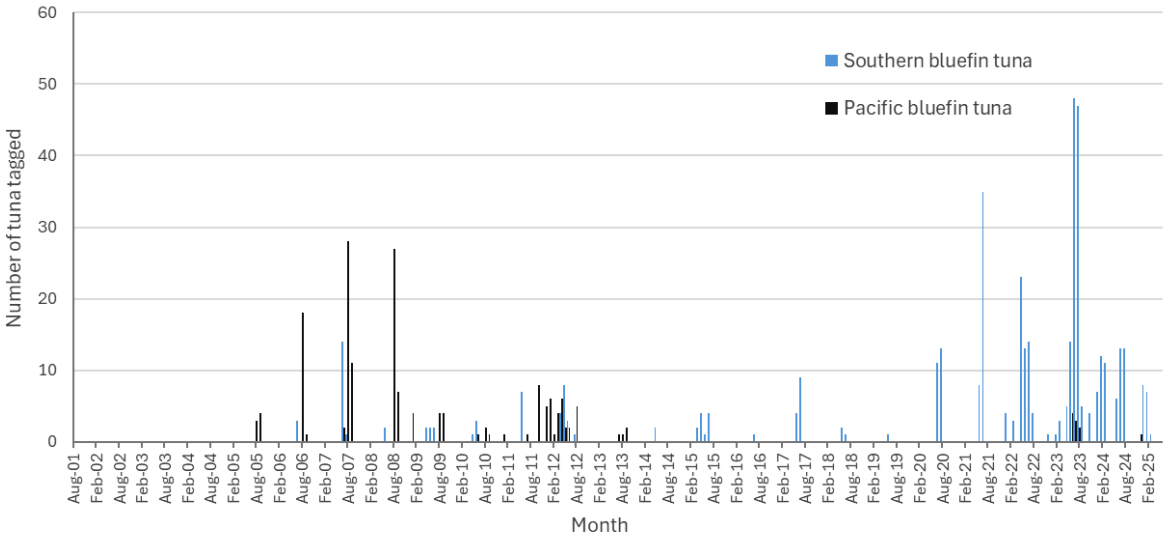

Figure 51: Southern and Pacific bluefin tuna tagged by month since August 2001.

Tuna recaptures

Yellowfin Tuna

Prior to 2023 there were 14 yellowfin tuna recaptures reported from New Zealand waters, the Tasman Sea, and near Fiji (Figure 52). These fish were all recaptured between 1990 and 2007. There were no recaptures of tagged yellowfin tuna from 2007 until January 2023 as there were few fish tagged and released during this period (Figure 46).

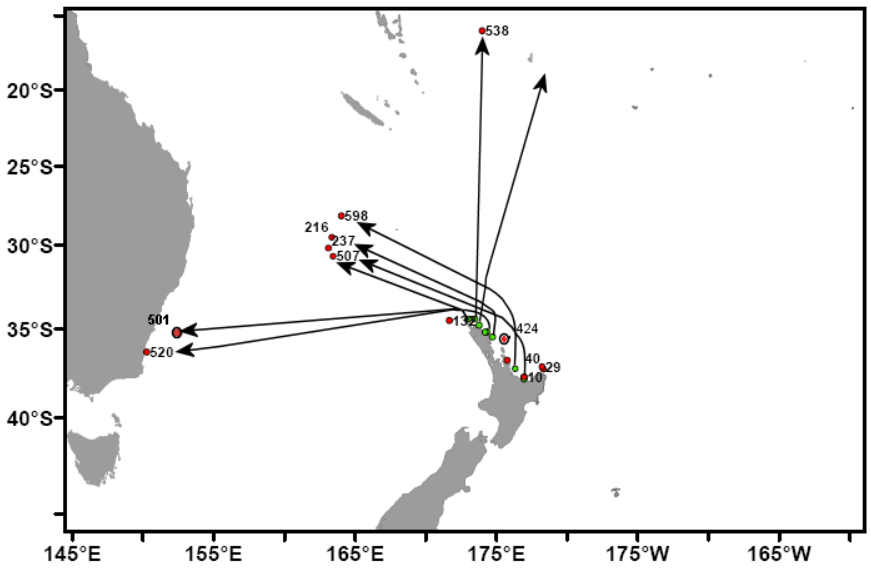

Figure 52: Long distance yellowfin tuna release and recapture locations with days at liberty by recapture location, including New Zealand recapture locations prior to 2007.

There was one yellowfin tuna recapture reported each year during 2022–23 and 2023–24**.** These were tagged and recaptured in the same season within New Zealand waters. The first fish was tagged in western Bay of Plenty in December 2022 and moved 205 nautical miles south in 29 days.
The second fish was tagged off Whangaroa in November 2023 and moved 190 nautical miles south in 25 days (Figure 53).

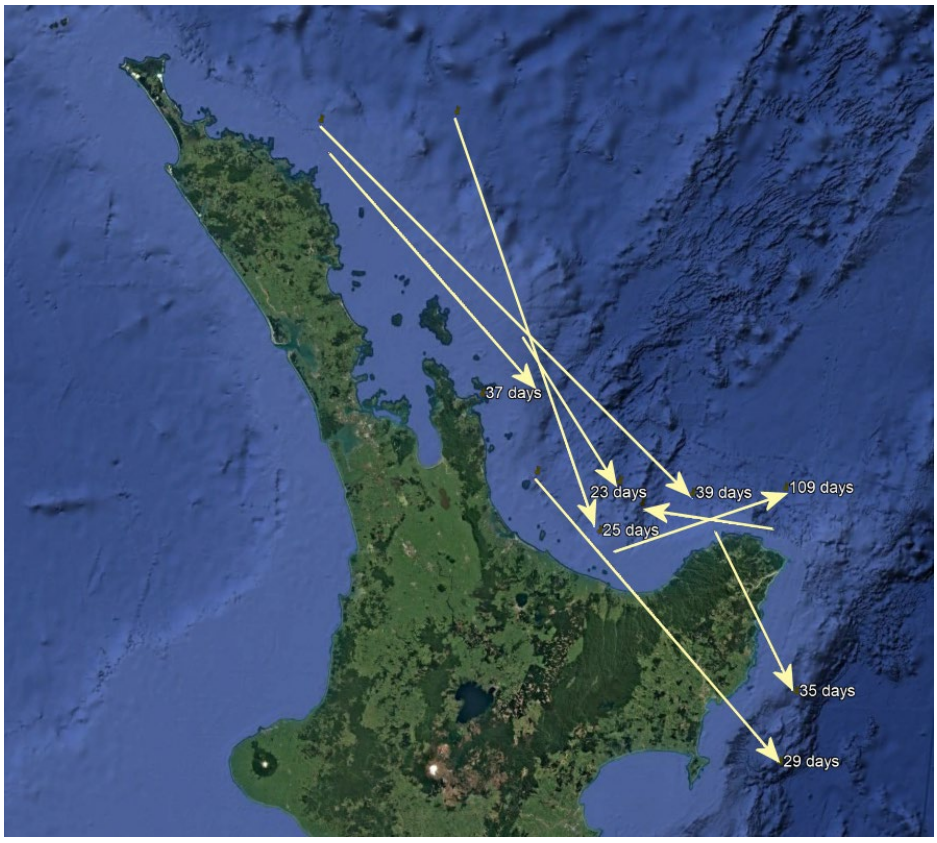

Figure 53: Yellowfin tuna release and recapture locations from the last 3 years.

The increased number of yellowfin tuna tagged in the 2024–25 fishing year has led to a greater number of recaptures of these fish. There were six yellowfin tuna recaptures reported during the 2024–25 year. All these fish were both tagged and recaptured during 2024–25 in New Zealand waters, with the longest time at liberty being 109 days and the shortest 9 days. Displacement ranged from 70 to 220 nautical miles with the dominant movement to the south, apart from some fish that moved in or out of the Bay of Plenty (Figure53).

Southern bluefin tuna recaptures

There were three southern bluefin tuna recaptures in the 2022–23 to 2024–25 fishing years. A fish tagged off the Alderman Islands was recaptured in May, in the mid Tasman Sea, by a tuna longline vessel, having a displacement of 1000 nautical miles west in one year 10 months at liberty (Figure 54). Another was recaptured by a tuna longline vessel off East Cape in July 2023. There was no release information for this fish. A southern bluefin tagged at the Hokitika Trench in August 2023 was recaptured in August 2024 in the same area.

Three small southern bluefin tuna tagged in 2006 and 2009 on a New Zealand surface longline vessel were reported from Port Lincoln ranching farms in 2007 and 2010 (Figure 54).

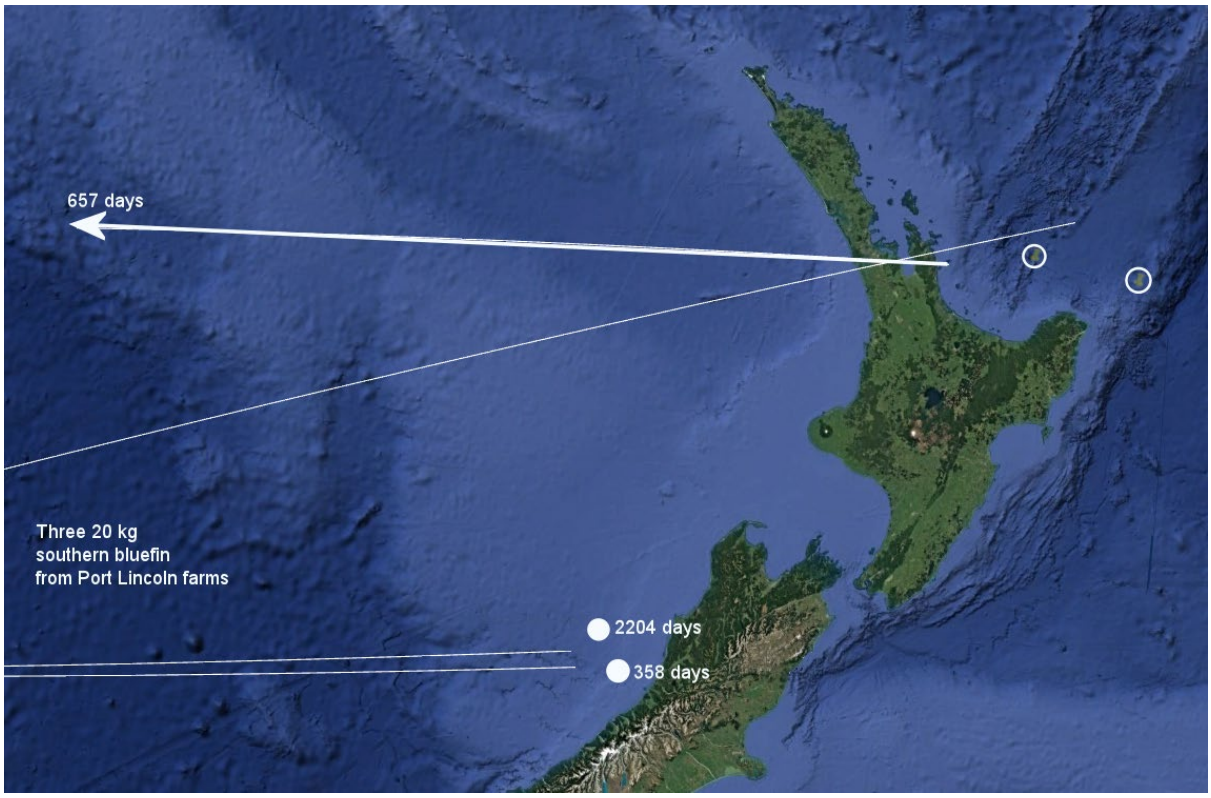

Figure 54: **Southern bluefin tuna with known release and recapture locations for all years. Solid circles - recaptures within 20 nautical miles of the release location. Open circles - recaptures with no release location.**

4. LANDED CATCH

Landed billfish

The New Zealand Sport Fishing Council collects annual catch tallies of landed and tagged fish from its affiliated clubs and has published these in their yearbook since 1978 (Appendix 3). The collective catch is a reasonably complete record of billfish catch in New Zealand with most landed billfish caught by both club and non-club members, fishing from the main ports, being weighed at club weigh stations.

The landed catch of striped marlin from NZSFC records ranged from 400 to 900 fish per year for most years since 1977–78. There were three very poor years in the mid-1980s and the summer fishing season in 2020 was cut short by Covid-19 restrictions. Over the last four years, landed catch has been below 380 striped marlin per year, but the number tagged has been relatively high in these years (Figure 55).

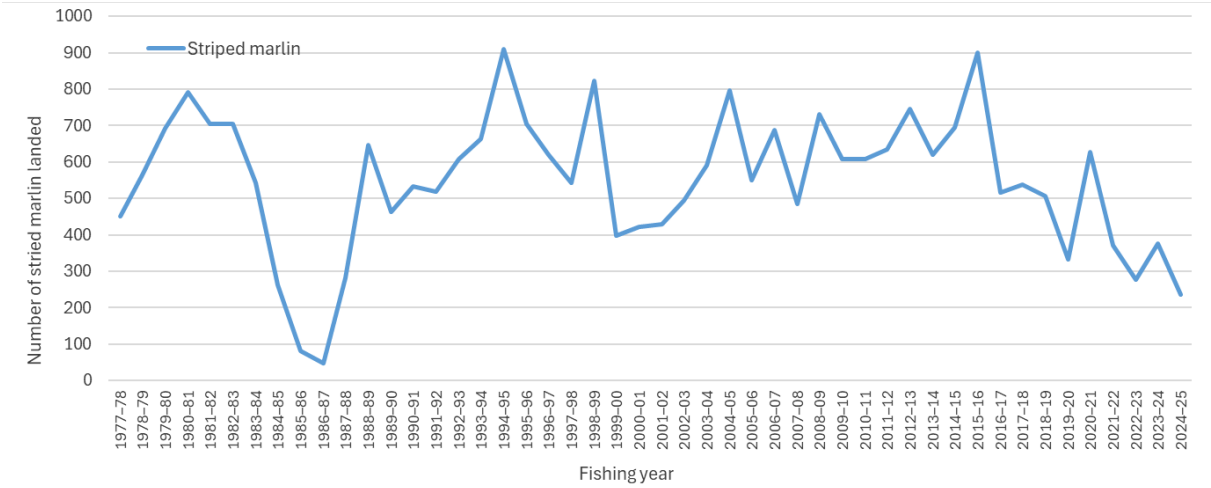

Figure 55: Striped marlin landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

There have been a few broadbill swordfish landed each year since the late 1980s followed by a steady increase from 2010–11 as the adoption of daytime deep dropped baits spread. The number of swordfish landed has been relatively consistent since 2013–14 at around 80 fish per year but was lower in 2020 and 2023 (Figure 56).

Blue marlin numbers have been variable with occasional peak catches about 10 years apart. The 2024–25 season had the lowest landed catch of blue marlin since the 1980s. Shortbill spearfish numbers were also low in 2023–24 (Figure 56).

The sport fishing fleet is changing, with an increase in the number of trailer boats travelling to various launch sites to target marlin over the last 15 years. There may be an increase in landed billfish that are not included in club records.

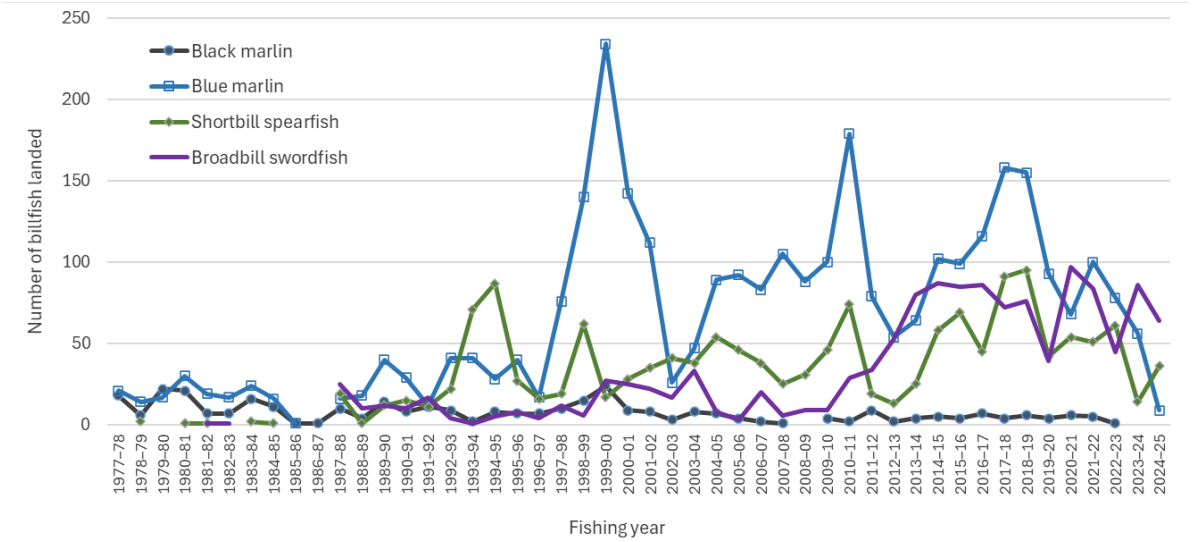

Figure 56: **Billfish (excluding striped marlin) landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.**

Landed sharks

In the 1990s, mako and blue sharks and, to a lesser extent, hammerhead sharks, were regularly caught and landed in New Zealand fishing competitions. The number of landed sharks in club records declined for all species in the early 2000s and has been at low levels since 2004–05 (Figure 57, Figure 58). The NZSFC introduced a minimum weight of 40 kg in 1993 for sharks to qualify to be weighed in their contests and encouraged clubs to apply their own minimum weights for landed sharks. Over the last 15 years, many clubs have removed prizes for landed sharks altogether as attitudes toward sharks have changed. Bronze whalers have been taking fish from recreational fishing lines making some areas unfishable. Some fishers will land bronze whalers if hooked.

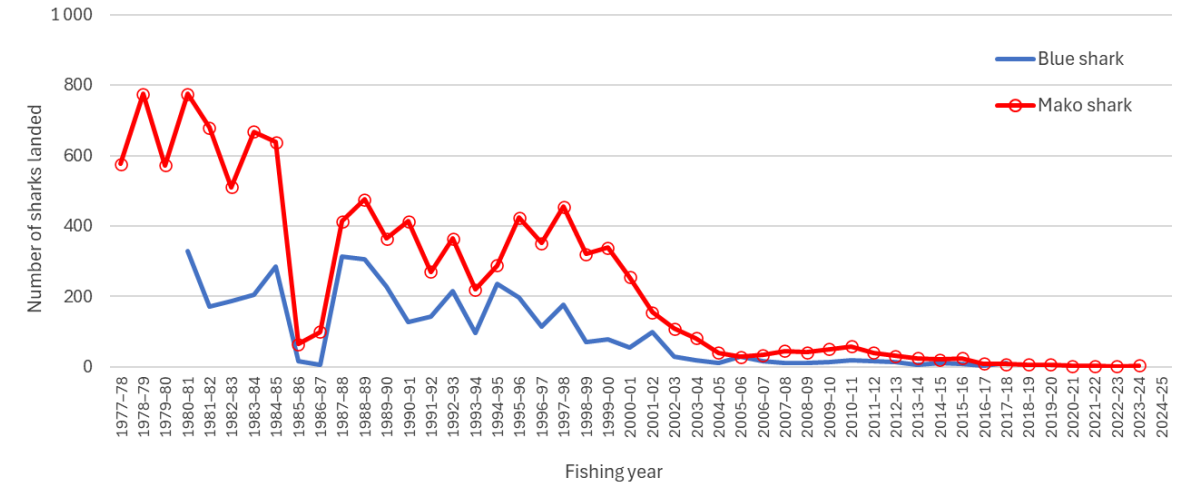

Figure 57: **Number of mako and blue sharks landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.**

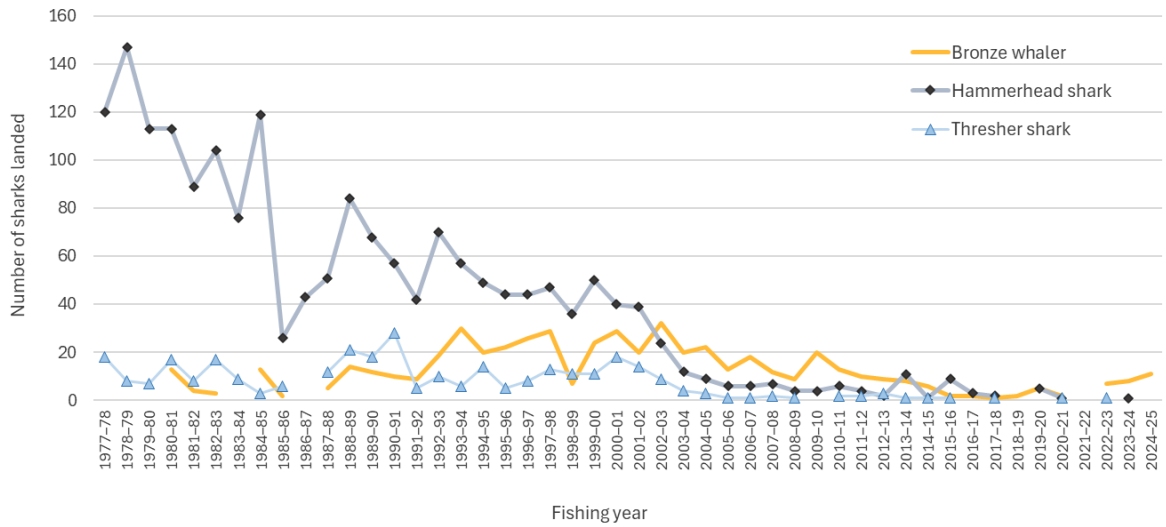

Figure 58: Number of bronze whaler, hammerhead, and thresher sharks landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

Landed yellowtail kingfish

There are many fishing club contests that include a prize section for kingfish, but areas and fishing methods for targeting kingfish are generally different to those used to target summer billfish and tuna. NZSFC club records since 1977–78 average about 610 kingfish per year but capture a small proportion of overall recreational kingfish landed catch (Figure 59).

Figure 59: Number of yellowtail kingfish landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

Landed Tuna

The total landed catch of yellowfin tuna from NZSFC clubs and NZGTP records show the decline in recreational catch since the mid-1990s, with six years of very low catches from 2008–09 compared to most of the 1990s where over 1000 yellowfin were laned per year (Figure 60). The popular summer target fishery for yellowfin tuna around bait balls, that was a feature of the sport fishery in the Bay of Plenty declined. Fishing clubs switched their major fishing tournaments to target marlin and other gamefish. In 2024–25 there were yellowfin across a wide range of sizes off the east coast of the North Island with over 1000 landed fish recorded by clubs for the first time since 2004–05 (Figure 60).

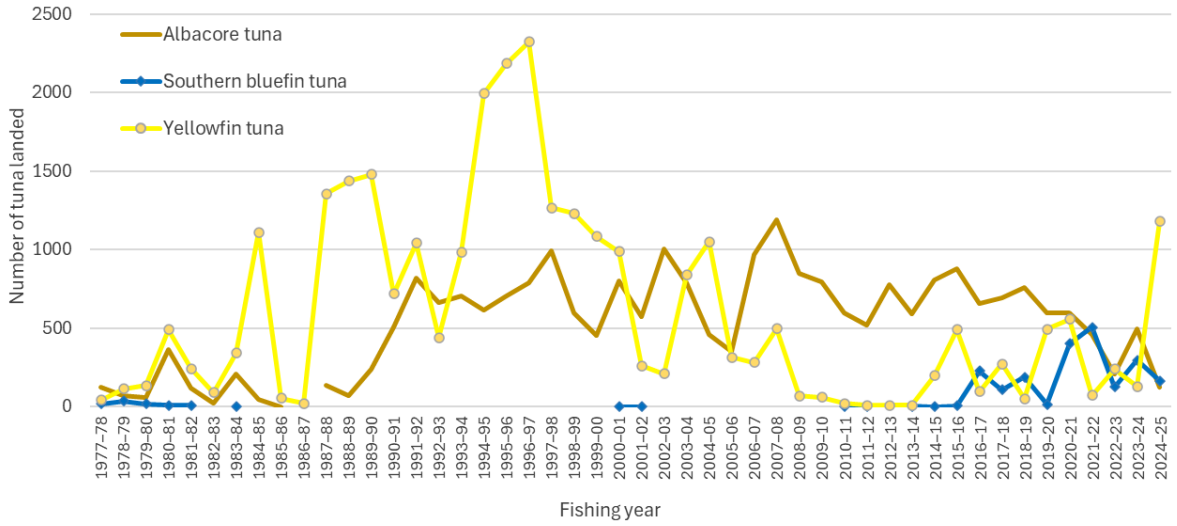

Figure 60: Landed albacore, southern bluefin, and yellowfin tuna landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

The number of albacore landed and weighed by clubs shows a decline since 2018–19 (Figure 60). Most of the albacore catch is reported from clubs from the Bay of Plenty south on the east and west coasts. There was an increase in the number of bigeye tuna in the recreational catch since 2022–23, particularly from the East Coast/Gisborne area (Figure 61). The number of southern bluefin tuna weighed by clubs has increased substantially since the North Island winter fishery developed in 2017. There have been more small southern bluefin tuna caught from 2022–23 to 2024–25, but most were not weighed or recorded by clubs. An annual survey, funded by Fisheries New Zealand, has estimated the recreational landed catch of southern bluefin tuna since 2018. Data sources include club weigh station data, charter vessel catch reports, interviews at the Waihau Bay boat ramp and telephone surveys. In addition, an allowance is made for unaccounted catch. The recreational harvest estimate for 2025 was 70.3 tonnes (Holdsworth 2025).

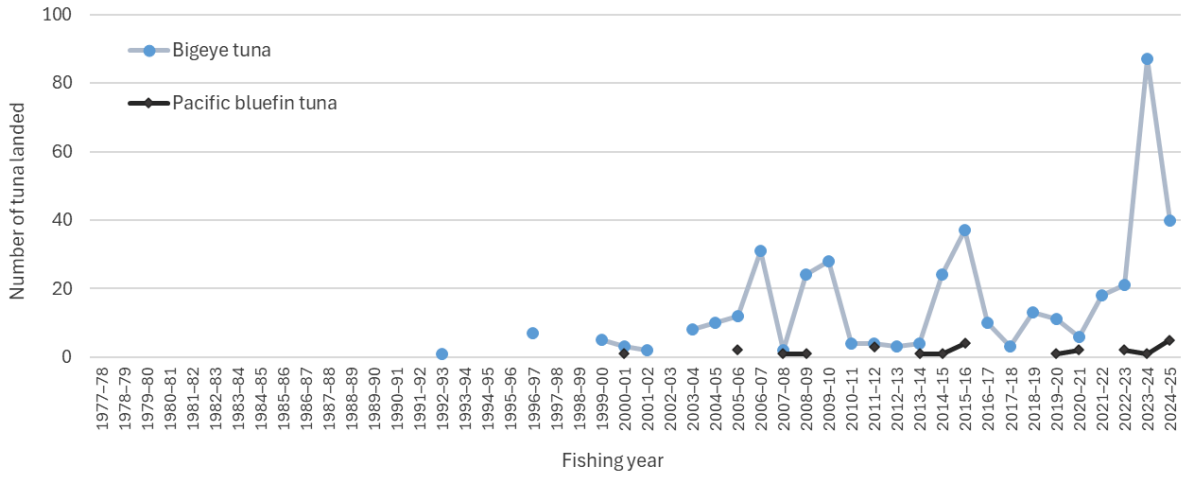

Figure 61: Landed bigeye and Pacific bluefin tuna landed and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

5. DISCUSSION

The New Zealand Gamefish Tagging Programme has been running for 50 years. It took about 10 years for tag and release to become fully integrated into the New Zealand marine sports fishery. Anglers were accustomed to landing the relatively small numbers of billfish and tuna they caught annually. In 1987 the government of the day recognised the importance of the recreational billfish fishery, by first restricting, then halting commercial fishing for marlin. The adoption of voluntary minimum weights for marlin by clubs affiliated to the New Zealand Sport Fishing Council gave impetus to the drive to tag and release at least 50% of the annual recreational marlin catch, and clubs and anglers really embraced the idea of tag and release. Tagging provided sport fishers the opportunity to gain recognition of released fish caught in accordance with IGFA rules. This has become an important component of fishing club catch records, annual club trophies, and gamefish tournaments.

Another factor in the increased proportion of marlin tagged was the widespread shift from skip-baits to trolling lures around 1990. Catching fresh bait such as kahawai became harder and marlin were given time to swallow baits so they were often gut hooked and less likely to survive catch and release. After 1990 lures could be towed faster so a boat could travel further in a fishing day; fish were hooked in the jaw, allowing the hook to be removed before release.

The extent to which tag and release has been embraced is demonstrated by the fact that release numbers for all species combined have been remarkably consistent since 1993–94, despite inter-seasonal variations in availability of some species and variable fishing conditions (Figure 2). Striped marlin remain the number one tagged species and the main focus of summer fishing effort for most blue water fishers.

The summer of 2022 was disrupted by a series of damaging ex-tropical cyclones. The fishing for striped marlin and blue marlin started well and the numbers tagged in January 2023 were above average, but the fishing deteriorated along with the weather. In 2024 large numbers of striped marlin below 90 kg were caught and tagged in January and February. Many clubs on the east coast of the North Island had record catches of stiped marlin including clubs in Hawkes Bay and the Wairarapa Coast which have rarely reported marlin catch before.

The 2024–25 fishing year was exceptional for several reasons. Record numbers of striped marlin showed up on the west coast of the North Island especially off Waikato and Taranaki. They were also caught further south off the Wellington region, with a few striped marlin also caught off the South Island. Very few striped marlin were caught on the east coast of the North Island all season, but small yellowfin tuna were plentiful with others up to 80 kg landed or tagged.

A feature of the NZGTP is the relatively low recapture rates for most species. The main exceptions – school shark, sevengill shark and yellowtail kingfish – don't have a seasonal offshore migration and are caught in New Zealand waters year-round. The recapture rate for yellowfin tuna (1.23%) is slightly less than southern bluefin tuna and swordfish but there have been more New Zealand tagged yellowfin recaptured in international waters than those species. Yellowfin were not recommended as species in the NZGTP until 2022–23 and in most years since then fewer than 50 have been tagged per season. To date there have been seven yellowfin recaptures from 397 releases (1.76% recapture rate) over the last 3 years.

The subject of low recapture rates for billfish and in particular striped marlin has been controversial amongst angling groups. Various reasons have been proposed, including post-release mortality, tag shedding, non-reporting of tags recovered, and movement of fish into areas where fishing effort may be low. In all constituent-based tagging programmes striped marlin recaptures of longer than a year at liberty are rare, regardless of the tag anchor used (Ortiz et al. 2003).

Satellite tagging of striped marlin both in New Zealand and elsewhere has clearly demonstrated that fish which are released in good condition, and that were not deeply hooked or bleeding on release, have

a very high prospect of survival (Domeier et al. 2003, Holdsworth et al. 2009, Sippel et al. 2011). On the other hand, there is some evidence that points to tag shedding as a problem. Very short-term tag recoveries have shown that some tags were poorly anchored or badly fouled with gooseneck barnacles (*Lepas anatifera*). It is very important that anglers strive to improve the quality of tag application so that tags are implanted in the dorsal muscle to the correct depth (50 mm), and where they can easily be seen if the fish is caught again.

The recent long-distance movements from satellite tagged striped marlin are significant. These are the first two records of a striped marlin leaving the southwest Pacific Ocean after 50 years of conventional tagging in New Zealand and Australia. Genetic studies investigating stock structure have detected potential links between Australasia and Hawaii (Martinez et al. 2025). There is also a single record of a 12-month PSAT tag track of a striped marlin tagged in Hawaii that moved to Australia (Lam et al. 2022). This suggests that there may be additional complexity in the stock structure of striped marlin and other highly migratory species that should be further investigated, especially considering potential implications for regional stock assessments.

NZGTP data has been made available through Fisheries New Zealand for use in international projects, during the last 3 years; these projects are not yet complete. The first is an Australian Fisheries Research and Development Corporation (FRDC) funded project on 'Assessing current data and alternate data collection methods relating to recreational catches of tropical tuna and billfishes'. A data overview of the project was presented at the 7th International Billfish Symposium held in San Diego, USA in October 2024.

The second is a University of Tasmania MSc project 'Investigating striped marlin ecology using recreational catch data', which is using remote sensing data to investigate the environmental variables that influence striped marlin distribution and recent latitudinal shifts in preferred habitat. A recent report from the Ministry for the Environment noted that the rate of warming in ocean waters around New Zealand is increasing and is now 34 percent faster than the global average warming rate (Pinkerton et al. 2024). New Zealand's oceans are warming faster than the global average due to changes in atmospheric circulation and corresponding changes in ocean currents (Trenberth et al. 2025). Projections indicate that sea-surface temperatures in New Zealand's oceanic regions will warm 1.0 to 1.5 degrees Celsius by 2050 (Ministry for the Environment & Stats NZ 2025).

The third is data from the NZGTP and landed catch in New Zealand for use in the stock assessment of Southwest Pacific striped marlin. The Science Committee of the Western and Central Pacific Fisheries Commission (WCPFC) identified issues with the integrated age-structured assessments presented in 2024 and again in 2025. The alternative was a simpler Bayesian surplus production model (BSP) for estimating stock status and exploring uncertainties in productivity assuming a single and well-mixed stock with no population age structure. The model primarily used catch per unit effort from surface longline data for the distant water fishing nations (DWFN) and the New Zealand recreational sportfish index. The standardized DWFN CPUE index (1988–2022) and New Zealand recreational index (1975–2022) were the only indices with sufficient length and contrast to inform population-scale estimates, both exhibiting declining trends since the mid-1990s that constrain population size. The Science Committee recommended that stock status and management advice be based upon the BSP model which indicated that the stock was likely to be overfished, but that the stock was currently unlikely to be subject to overfishing (WCPFC 2025).

Your feedback on the NZGTP and this report is encouraged. The programme aims to continue providing good value for all those involved: fishers, New Zealand Sport Fishing Council, scientists, and government. Gamefish catch information, whether landed, released, or recaptured can be entered on the website fishtagnz.co.nz or posted to:

Gamefish Tagging
Fisheries New Zealand
PO Box 53030
Auckland 2150

6. FULFILMENT OF BROADER OUTCOMES

Regional development

- Blue Water Marine Research Ltd is based in rural Northland.
- Gamefish tagging has become an integral part of the sport fishery that attracts fishers and tourists to regional New Zealand. Gamefishing contests are major social and economic events in Northland ports such as Hohoura, Hokianga, Whangaroa, Bay of Islands, Tutukaka and Bay of Plenty ports from Whitianga to Waihau Bay and west coast ports such as Raglan, Kawhia, and New Plymouth.

Building capacity and capability in the research sector

- Over the course of TAG2022-01 we have implemented a succession plan for a young scientist to work on and lead research projects including the Gamefish Tagging Programme.
- Blue Water Marine Research has been approached and has provided striped marlin tagging and recapture data, with Fisheries New Zealand approval, to Australasian research and masters projects for the University of Tasmania.

Transition to zero emissions

- Blue Water Marine Research engages in fisheries assessment science working groups and fisheries management meetings online. We have significantly reduced travel by car and plane from Tutukaka to attend HMS related meetings in Auckland and Wellington.

Making efficient use of existing data

- This project encourages citizen volunteers to contribute to research and conservation by recording catch and release information on where and when the catch or recapture gamefish species. This provides the only logistically and economically feasible way to tag large numbers of billfish.

7. ACKNOWLEDGEMENTS

Thanks to all those who participated in this programme by releasing or reporting tagged fish. The New Zealand Sport Fishing Council and all affiliated clubs are thanked for their cooperation and the purchase and distribution of tags. Peter Saul is acknowledged for his extensive contribution to gamefish tagging in New Zealand for many years and particular thanks to Sydney Curtis of Marinus Research and Consulting reviewing this report. Thanks to Helen Pastor, from the NZSFC, for compiling catch information and keeping track of clubs and tags. This project was reviewed annually by the Highly Migratory Species Working Group chaired by Dr Leyla Knittweis from Fisheries New Zealand. Fisheries New Zealand provided funding for this project TAG2022/01, “Management of data from the gamefish tag recapture programme”.

8. REFERENCES

Davies, N.; Hoyle, S.; Hampton, J. (2012). Stock assessment of striped marlin (*Kajikia audax*) in the southwest Pacific Ocean. Report to the Western and Central Pacific Fisheries Commission Scientific Committee. WCPFC-SC8-2012/SA-WP-05. 84 p. (www.wcpfc.int)

Domeier, M.L.; Dewar, H.; Nasby-Lucus, N. (2003). Mortality rate of striped marlin (*Tetrapturus audax*) caught with recreational tackle. *Marine and Freshwater Research 54*: 425–434.

Ducharme-Barth, N.; Castillo-Jordán, C.; Carvalho, F.; Hamer, P. (2025). 2025 Stock Assessment of Striped Marlin in the Southwest Pacific Ocean: Part II Data-moderate approach. Report to the Western and Central Pacific Fisheries Commission Scientific Committee. WCPFC-SC21-2025/SA-WP-07. 109 p.

Holdsworth, J.C. (2023). New Zealand billfish and gamefish tagging, 2019–20 to 2021–22. *New Zealand Fisheries Assessment Report 2023/02.* 31 p.

Holdsworth, J.C. (2025). Recreational harvest of southern bluefin tuna in New Zealand, 2024–25. *New Zealand Fisheries Assessment Report 2025/52*. 24 p.

Holdsworth, J.C.; Kopf, R.K. (2011). Characterisation of striped marlin fisheries and biology in New Zealand and wider southwest Pacific Ocean. *New Zealand Fisheries Assessment Report 2011/22.*

Holdsworth, J.; Saul, P. (2003). New Zealand billfish and gamefish tagging, 2001–02. *New Zealand Fisheries Assessment Report 2003/15*. 39 p.

Holdsworth, J.C.; Saul, P.J. (2017). New Zealand billfish and gamefish tagging, 2013–14 to 2015–16. *New Zealand Fisheries Assessment Report 2017/14.* 28 p.

Holdsworth, J.C.; Sippel, T.J.; Block, B.A. (2009). Near real time satellite tracking of striped marlin (*Kajikia audax*) movements in the Pacific Ocean. *Marine Biology 156*: 505–514.

Kellett, M.D. (2021). Habitat use and trophic ecology of bronze whaler sharks (*Carcharhinus brachyurus*) in New Zealand (Thesis, Master of Science (MSc)). The University of Waikato, Hamilton, New Zealand. Retrieved from https://researchcommons.waikato.ac.nz/handle/10289/14433

Kopf, R.K.; Davie, P.S.; Bromhead, D.B.; Young, J.W. (2012). Reproductive biology and spatiotemporal patterns of spawning in striped marlin *Kajikia audax. Journal of Fish Biology 81(6)*: 1834–1858. https://doi.org/10.1111/j.1095–8649.2012.03394.x

Lam, C.H.; Nielsen, A.; Sibert, J.R. (2010). Incorporating sea-surface temperature to the light-based geolocation model TrackIt. *Marine Ecology Progress Series Vol. 419*: p 71–84.

Lam, C.H.; Tam, C.; Lutcavage, M.E. (2022) Connectivity of Striped Marlin From the Central North Pacific Ocean. *Frontiers in Marine Science 9:879463*. doi: 10.3389/fmars.2022.879463

Mamoozadeh, N.R.; Graves, J.E.; McDowell, J.R. (2020). Genome-wide SNPs resolve spatiotemporal patterns of connectivity within striped marlin *(Kajikia audax*), a broadly distributed and highly migratory pelagic species. *Evolutionary Applications 13*: p 677–698. doi: 10.1111/eva.12892

Martinez, J.L.; Graves, J.E; McDowell, J. R. (2025). SNP genotyping reveals a mixed-stock fishery for striped marlin, *Kajikia audax*, in the central North Pacific Ocean. *ICES Journal of Marine Science, Volume 82, Issue 9*. 12 p. https://doi.org/10.1093/icesjms/fsaf156

Ministry for the Environment & Stats NZ. (2025). New Zealand's Environmental Reporting Series: Our Marine Environment 2025 | Tō Tātou Taiao Moana. https://environment.govt.nz

Ortiz, M.; Prince, E.; Serafy, J.; Holts, D.; Davy, K.; Pepperell, J.; Lowery, M.; Holdsworth, J. (2003). A global overview of the major constituent-based billfish tagging programs and their results since 1954. *Marine and Freshwater Research 54*: 489–508.

Pepperell, J.G. (1990). Australian cooperative gamefish tagging programme, 1971–1986. *In*: Parker et al. (eds), Fish-marking techniques. *American Fisheries Society Symposium 7*: 765–774.

Pinkerton, M.H.; Gall, M.; Thora l. F.; Sutton, P.; Wood, S. (2024). Monitoring Ocean Health: Satellite Indicators for Surface Temperature, Productivity and Suspended Solids. NIWA Client Report No. 2023217WN_rev2, prepared for the Ministry for the Environment. http://dx.doi.org/10.13140/RG.2.2.29646.27208

Prince, E.D.; Ortiz, M.; Venizelos, A.; Rosenthal, D.S. (2002). In-water conventional tagging techniques developed by the cooperative tagging centre for large highly migratory species.

In ‘Catch and release in marine recreational fisheries’. *American Fisheries Society Symposium 30*: 155–171.

Saul, P.; Holdsworth, J. (1992). Cooperative gamefish tagging in New Zealand waters, 1975–90. *New Zealand Fisheries Technical Report No. 33.* 24 p.

Sippel, T.; Holdsworth, J.; Dennis, T.; Montgomery, J. (2011). Investigating behaviour and population dynamics of striped marlin (*Kajikia audax*) from the Southwest Pacific Ocean with satellite tags. *PLoS ONE 6(6): e21087. doi: 10.1371/ journal.pone.0021087*

Trenberth, K.E.; Cheng, L.; Pan, Y, Fasullo, J.; Mayer, M. (2025). Distinctive pattern of global warming in ocean heat content. *Journal of Climate, 38(9),* 2155–2168. https://doi.org/10.1175/JCLI-D-24-0609.1

Western and Central Pacific Fisheries Commission. (2025). Outcomes document. Twenty-first regular session scientific committee, Nuku’alofa, Tonga. WCPFC22-2025-SC21-01

APPENDIX 1

Table A1: Number of fish tagged and released by species and season in the New Zealand EEZ. Species codes are given in Table A2.

Season	BEM	BKM	BWH	BWS	KIN	MAK	SHA	SSF	STM	STN	SWO	TOR	YFN	OSP	Total
1974–75				1		9									10
1975–76					1	17	2		3				1		24
1976–77				1	1	34			2						38
1977–78					15	58			7						80
1978–79				1	107	152	1		18					5	284
1979–80				26	22	129	3		17						197
1980–81		1		7	7	116	2		2					7	142
1981–82				99	30	185	3		11					17	345
1982–83				18	55	151	4		6				2	11	247
1983–84				15	54	220	7		9				6	9	320
1984–85				10	143	98	4						25	2	282
1985–86				23	318	211	1		2				6	4	565
1986–87			2	12	365	177	29		2				5	18	610
1987–88	1	1	13	91	689	505	34		97		6		13	82	1 532
1988–89	1		5	122	371	370	27		371		4		63	116	1 450
1989–90	1	2	2	87	427	424	24	2	365		4		139	100	1 577
1990–91			4	90	528	417	28	7	229	1	5		24	51	1 384
1991–92	1	1	10	128	389	353	30	1	239		20		39	38	1 249
1992–93	1		5	64	692	352	19	8	383	4	36		10	75	1 649
1993–94	10		3	162	1 100	666	16	17	928		3		92	38	3 035
1994–95	4		3	175	1 443	1 529	20	29	1 202	5	10		200	24	4 644
1995–96	7	3	6	163	643	1 158	24	13	1 102	1	3		110	5	3 238
1996–97	6	5	9	343	416	920	27	5	1 301		4		33	9	3 078
1997–98	8	1	8	724	364	518	46	1	895				3	4	2 572
1998–99	36	1	7	276	311	754	33	6	1 541		2		17	8	2 992
1999–00	51	2	24	314	818	398	32	2	787		2		27	40	2 497
2000–01	34		12	203	606	277	60	1	851		6		17	4	2 071
2001–02	21	2	18	163	778	346	51	13	771		3		7	3	2 176
2002–03	6	1	21	78	646	155	33	14	671		3		76	2	1 706
2003–04	8		34	106	771	188	30	8	1 051		2		184	6	2 388
2004–05	29	5	35	102	806	241	26	7	1 348		6		81		2 686
2005–06	17	2	38	95	1 016	193	38	11	923		5	7	5	4	2 354
2006–07	26	2	39	159	977	150	22	14	965	16	16	14	8	6	2 414
2007–08	29		21	108	1 120	297	30	8	806	4	25	31	21	7	2 507
2008–09	24	2	25	101	661	285	25	5	1 058	4	24	35		9	2 258
2009–10	32	3	44	73	1 390	494	32	15	859	6	18	15	30	9	3 020
2010–11	78	1	37	128	1115	602	66	21	733	7	37	15		10	2 850
2011–12	49	3	34	142	617	492	71	5	663	19	51	18		19	2 183
2012–13	15	3	40	150	760	537	45		858	1	47	5		4	2 465
2013–14	9	4	43	120	654	367	42	6	520	3	38	4	1	2	1 813
2014–15	33	7	44	122	720	424	33	12	1 088	7	34	2	13	13	2 552
2015–16	36	5	63	158	620	587	75	26	1 658	4	29		63	10	3 334
2016–17	35	4	106	54	827	331	55	12	517	5	31		2	10	1 989
2017–18	72	5	58	59	615	289	42	24	730	13	62		7	14	1 990
2018–19	62	3	88	24	624	217	38	35	649	2	22		6	2	1 772
2019–20	38	1	81	14	156	97	28	9	424	4	20		26	5	903
2020–21	30	3	82	2	374	92	30	10	818	33	44		21	33	1 572
2021–22	57	3	58	3	358	44	39	27	1 302	89	34		10	84	2 120
2022–23	55	4	41	4	522	30	62	26	886	40	69	4	16	28	1 789
2023–24	27		83	2	642	33	99	2	1 466	140	96	5	10	52	2 657
2024–25	4		43		205	16	50	41	1 019	41	82	1	371		1 862
Total	953	80	1 289	5 122	26 889	16 705	1 538	443	32 153	449	903	156	1 790	999	89 472

Table A2: Fisheries New Zealand species codes used in Tables A1, A3, and A4.

BEM	blue marlin	KIN	kingfish	SSF	shortbill spearfish	TOR	Pacific bluefin
BKM	black marlin	MAK	mako shark	STM	striped marlin	YFN	yellowfin tuna
BWH	bronze whaler	SAI	sailfish	SWO	broadbill swordfish	OSP	all other species
BWS	blue shark	SHA	other sharks				

Table A3: Number of fish tagged and released by species and season, in the New Zealand gamefish tagging database, for fish caught outside the New Zealand EEZ.

Season	BEM	BKM	BWS	KIN	MAK	SHA	SAI	SSF	STM	SWO	YFN	OSP	Total
1980–81													
1981–82													
1982–83													
1983–84													
1984–85													
1985–86											2	2	4
1986–87											2	4	6
1987–88													
1988–89													
1989–90	6	2						1			1		10
1990–91		2					4						6
1991–92	4	1							2				7
1992–93	10	1		1			5	1	3		3	5	29
1993–94	10	2			1		5		1		12	3	34
1994–95	25	4		1	2		9		4		15	4	64
1995–96	39	3					4	2	2			7	57
1996–97	20						4		1				25
1997–98	16	4					6		3				29
1998–99	7	1					2				2		12
1999–00	13	1					11	1	4				30
2000–01	37	1					8						46
2001–02	48	1					11		1				61
2002–03	53						15	2	40				110
2003–04	78	18		1	1		15	4	308		12	1	438
2004–05	69	3			1		6	3	9		4		95
2005–06	45						7	1	69			6	128
2006–07	45						12	4	62	1		2	126
2007–08	39	2					5					8	54
2008–09	12	1					1		29	2			45
2009–10	24						7	2					33
2010–11	9					3	10		1				23
2011–12	28						2	2		1			33
2012–13	36						6		133	1			176
2013–14	29						4	2	267			2	304
2014–15	59	1			2		5	1	235				303
2015–16	23	18				1	2	2	134			1	181
2016–17	20	2					8		168				198
2017–18	27						11	5	93				136
2018–19	16					1	11		99			2	129
2019–20	14						13		2				29
2020–21	5						5	1	10				21
2021–22	5						1		1				7
2022–23	6						2	2					10
2023–24	16						1		45				62
2024–25	25						1		1				27
Total	920	68	0	3	7	5	219	36	1 727	5	53	47	3 090

APPENDIX 2

Table A4: Number of fish recaptured by species and season by species for all areas.

Season	BEM	BKM	BWH	BWS	KIN	MAK	SHA	SSF	STM	STN	SWO	TOR	YFN	OSP	Total
1976–77					1	2									3
1977–78						3									3
1978–79					7	6									13
1979–80					3	3								1	7
1980–81					2	3									5
1981–82					2	8									10
1982–83				1	11	5									17
1983–84					9	1									10
1984–85					10	7									17
1985–86					56	10									66
1986–87					92	9	4								105
1987–88					77	8	1							3	89
1988–89				2	91	13	1		1					3	111
1989–90					45	10	6		2						63
1990–91				3	37	7	3		1				1	1	53
1991–92			1	3	31	12								3	50
1992–93				2	41	3	2		3						51
1993–94			1	1	53	10	4		4				1		74
1994–95				2	83	16			6					1	108
1995–96		1		1	74	32	1		6				3	1	119
1996–97				4	46	35	2		5				1	1	94
1997–98	1			9	27	17	2		12				1	1	70
1998–99			2	11	21	15	2		14						65
1999–00	1		1	11	54	24	4		5					2	102
2000–01	1		1	5	30	16	3		2				1	2	61
2001–02				2	47	14	1		2		1				67
2002–03	2		1		27	9	1		1					1	43
2003–04			1	2	32	9	1		4		1		2		53
2004–05				3	39	6			4				2		54
2005–06	1		1		51	2	1		1				1		59
2006–07	1		1	2	39					1			1	1	46
2007–08			1	3	54	3	1	1	3				1		67
2008–09				4	45	8	2		3			2			64
2009–10				3	49	6	1		2					2	63
2010–11	1		1	4	54	6	1		1	2		1			71
2011–12				4	45	10					1	1			61
2012–13				3	41	10	2		4						60
2013–14			1	3	34	6	1		3	1	1			1	51
2014–15					28				2						30
2015–16			2		23	2	2		6		1				36
2016–17			2	1	33	3			2		1				42
2017–18			1	1	37	4	1		3		1				48
2018–19			2		45		2		3						52
2019–20					30									1	31
2020–21			1		13	1			5	1	1			1	23
2021–22			4		13		1		2		1			1	22
2022–23					10		1		3	1	1		1	1	18
2023–24			2		24		1		5	1	1		1	1	36
2024–25			2		13		2		9	1	4		6		37
Total	8	1	29	90	1 729	374	57	1	129	8	15	4	23	29	2 497

APPENDIX 3

Table A5: Number of fish landed in New Zealand fisheries waters and recorded in the New Zealand Sport Fishing Council yearbooks since 1978.

	BKM	BEM	BWH	BWS	HHS	KIN	MAK	SSF	STM	STN	THR	TOR	SWO	YFN
1977–78	18	21			120	566	577		452	18	18			42
1978–79	6	14			147	619	776	2	565	36	8			113
1979–80	22	17			113	501	572		692	18	7		1	134
1980–81	21	30	13	328	113	401	775	1	792	8	17			491
1981–82	7	19	4	170	89	488	680	1	704	8	8		1	244
1982–83	7	17	3	188	104	415	511		705		17		1	90
1983–84	16	24		206	76	448	668	2	543	1	9			342
1984–85	11	16	13	284	119	378	638	1	262		3		1	1 112
1985–86	1	1	2	16	26	30	65		82		6			53
1986–87	1			6	43	112	99		47					22
1987–88	10	16	5	313	51	515	413	19	281		12		25	1 358
1988–89	4	18	14	305	84	619	476	1	647		21		10	1 436
1989–90	14	40	12	227	68	511	364	12	463		18		12	1 480
1990–91	8	29	10	127	57	442	414	15	532		28		10	719
1991–92	11	12	9	143	42	598	270	11	519		5		17	1 043
1992–93	9	41	19	214	70	612	364	22	608		10		4	440
1993–94	2	41	30	96	57	645	220	71	663		6		1	986
1994–95	8	28	20	235	49	995	288	87	910		14		5	1 995
1995–96	7	40	22	198	44	862	424	27	705		5		8	2 187
1996–97	7	17	26	114	44	763	352	16	619		8		4	2 325
1997–98	10	76	29	177	47	927	455	19	543		13		12	1 268
1998–99	15	140	7	70	36	788	320	62	823		11		6	1 230
1999–00	24	234	24	79	50	752	338	17	398		11		27	1 085
2000–01	9	142	29	54	40	693	255	28	422	1	18	1	25	988
2001–02	8	112	20	100	39	626	155	35	430	1	14		22	262
2002–03	3	26	32	30	24	709	109	41	495		9		17	211
2003–04	8	47	20	18	12	508	82	38	592		4		33	838
2004–05	7	89	22	10	9	376	40	54	796		3		8	1 050
2005–06	4	92	13	28	6	321	28	46	550		1	2	3	313
2006–07	2	83	18	15	6	570	34	38	688		1		20	283
2007–08	1	105	12	12	7	626	45	25	484		2	1	6	496
2008–09		88	9	12	4	590	41	31	731		1	1	9	69
2009–10	4	100	20	13	4	586	51	46	607				9	59
2010–11	2	179	13	18	6	691	58	74	607	1	2		29	21
2011–12	9	79	10	15	4	765	40	19	635	2	2	3	34	10
2012–13	2	54	9	13	2	782	31	13	745		3		53	10
2013–14	4	64	8	6	11	835	24	25	620	2	1	1	80	8
2014–15	5	102	6	12	1	688	21	58	696	1	1	1	87	198
2015–16	4	99	2	8	9	722	24	69	900	7	1	4	85	492
2016–17	7	116	2	3	3	841	9	45	516	228			86	96
2017–18	4	158	1	10	2	835	8	91	538	109	1		72	272
2018–19	6	155	2			1 190	6	95	507	188			76	51
2019–20	4	93	5		5	566	6	42	333	15		1	39	494
2020–21	6	68	2		1	736	2	54	627	401	1	2	97	556
2021–22	5	100		5		621	2	51	372	505			84	72
2022–23	1	78	7			381	1	61	277	125	1	2	45	241
2023–24		56	8		1	712	4	14	376	297		1	86	130
2024–25		13	10			743		39	429	173		9	90	1 179
Total	344	3 189	542	3 878	1 845	29 700	11 135	1 518	26 528	2 145	321	29	1 340	28 594