

NSW TOTAL ALLOWABLE FISHING COMMITTEE

ESTUARY GENERAL FISHERY

- MUD CRAB
- BLUE SWIMMER CRAB
- EELS

DETERMINATIONS FOR THE 2025/26 FISHING PERIOD

13 May 2025

Executive Summary

Preamble

The New South Wales (NSW) Total Allowable Fishing Committee (TAFC) has statutory responsibilities set out in Part 2A of the *Fisheries Management Act 1994* (the Act) to determine the Total Allowable Commercial Catch (TACC) or Total Allowable Commercial Effort (TACE) by NSW fishers holding the relevant endorsement in some commercial fisheries. Various fishing regulations under the Act also contain provisions requiring the making of fishery determinations.

The TAFC is an independent statutory body established under Schedule 2 of the Act. In making a determination on catch or effort in a commercial fishery, the TAFC must consider the ecological, economic and social issues associated with each fishery and make determinations that 'on balance' pursue the objectives of the Act.

The TAFC is not subject to the control or direction of the Minister as to any determination made. However, the Minister may direct the TAFC on the procedures to be followed and the matters to be taken into account in making a fishing determination.

This determination is for Mud crab, Blue swimmer crab (BSC) and Eels in the Estuary General Fishery for the fishing period 1 July 2025 to 30 June 2026.

Management recommendations & supporting actions

The TAFC provides the following recommendations to the Minister, NSW DPIRD Fisheries and the fishing industry towards improving the management of the fishery:

1. The TAFC recommends that DPIRD utilise compliance data to estimate illegal catches of Mud crab and Blue swimmer crab to inform future TACC determinations and management processes.
2. The TAFC considers that the current Blue swimmer crab Fishery Independent Survey (FIS) provides an effective template for ongoing independent surveys and recommends that it be expanded to selected other estuaries, as it has a significant role in improving accuracy for future TACC determinations.
3. DPIRD investigate the risks to the fishery of a decrease in the legal minimum length (LML) for BSC in Wallis Lakes.

Determination

The Total Allowable Fishing Committee, pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the commercial catch of Mud crab, Blue Swimmer crab and Eels in the Estuary General Fishery should be controlled and allocated through the following measures:

1. A TACC for Mud crab during the fishing period 1 July 2025 to 30 June 2026 of **185 tonnes**;

2. A TACC for Blue swimmer crab during the fishing period 1 July 2025 to 30 June 2026 of **185 tonnes**; and
3. A TACC for Eels during the fishing period 1 July 2025 to 30 June 2026 of **100 tonnes**.

Introduction

The Estuary General (EG) Fishery is a diverse multi-species, multi-method fishery that may operate in 76 of NSW estuarine systems. It is the most diverse commercial fishery in NSW and comprises approximately 450 fishing businesses authorised to utilise 17 types of fishing gear. The EG Fishery includes all forms of commercial estuarine fishing (other than estuary prawn trawling) in addition to the gathering of pipis and beachworms from ocean beaches.

Generally, the 10 species that make up over 80% of landings by weight are Sea mullet (*Mugil cephalus*) Luderick (*Girella tricuspidata*), Yellowfin bream (*Acanthopagrus australis*), Eastern school prawn (*Metapenaeus macleayi*), Blue swimmer crab (*Portunus pelagicus*), Dusky flathead (*Platycephalus fuscus*), Sand whiting (*Sillago ciliata*), Piri (*Donax deltoides*), Mud crab (*Scylla serrata*) and Silver biddy (*Gerres subfasciatus*).

The EG Fishery is divided geographically into seven regions. Appendix 1 describes the waters within each region of the EG Fishery. A reference to an estuary in the table includes all creeks, rivers, lakes, lagoons and tributaries flowing into or from that estuary. Hand gathering is also permitted on more than 100 beaches throughout NSW. The EG Fishery is subject to many spatial and temporal closures within these waters¹.

Interim Total Allowable Catch Levels (ITCALs) were set for these fisheries in December 2017. The maximum catch over the 10-year period 2002/03 to 2011/12) was used, due to the implementation of recreational fishing havens and marine parks and associated loss of access to fishing grounds and commercial fishery buyouts. The TAFC set the first formal TACCs for these fisheries in 2024.

The TAFC met with DPIRD Fisheries and a number of shareholders in the Estuary General Fishery on-line on 2 April 2025 to discuss fishery biology, catch and associated management issues concerning the Mud crab, Blue Swimmer crab and Eel fisheries. Written submissions by shareholders on the stock status of the fisheries and other fishery management issues were provided to the Committee by

¹ Management Report 2025 – Estuary General Fishery. NSW Department of Primary Industries and Regional Development. 33 pp

DPIRD. Current stock assessment reports on Mud crab², Blue Swimmer Crab³ and Eels⁴ were also provided to the Committee by DPIRD.

Biological considerations

Mud Crab

Distribution and stock structure

Giant Mud Crab (*Scylla serrata*, GMC) inhabit tropical to warm temperate waters from Exmouth in Western Australia up and along the coastline of the Northern Territory and Queensland to the Bega River in southern New South Wales. There are two genetic stocks divided at the eastern Torres Strait, with the East Coast biological stocks showing connectivity along the east coast, although with a north – south movement of larvae, with contributions to populations in NSW estuaries from female crabs in Queensland decreasing with distance southwards.

The East Australian Current separation acts as a barrier to recruitment between spawning and settlement to the north and south of this region, with estuaries to the south obtaining most of their larvae from within NSW, and those to the north obtaining larvae from Queensland. Contributions from the north range from 89% for the Richmond River to around 60% for Port Stephens and the Hunter River. Measures that protect female crabs in Queensland therefore contribute to maintaining Mud crab populations in northern NSW estuaries.

Fishery catch and effort

Recent catches of Mud crab in the EGF have been subject to an interim total allowable catch limit (ITACL) of 206.3 tonnes (t) from 2017/18 to 2023/24 and 185 t TACC for 2024/25. Prior to quota implementation, catches rose rapidly to reach 204.6 t in 2014/15, close to the level at which the ITCAL was set. After transition to quota management, reported total landings declined rapidly to 116.9 t in 2019/20, 103.9 t in 2021/22, and 85.2 t in 2022/23⁵. In 2023/24, reported landings increased to 160.9 t (~78% of the TACC), but were 38.9 t lower than reported quota usage of 199.8 t (~ 96.9% of TACC), probably due to late submission of data records.

Catches over 2017/18 to 2023/24 have mostly been well below the 2024/25 185 t TACC level, although approached (reported landings) or exceeded (quota usage) 185 t in 2023/24. The decline in landings was associated with a decline in fishing effort from over 20,000 days fished over 1998 – 2000 to around 16,000 days fishing

² Johnson, D.D. 2025. Stock assessment report 2024/25 – Estuary General Fishery – Giant Mud Crab (*Scylla serrata*). NSW Department of Primary Industries and Regional Development. Fisheries NSW, Port Stephens Fisheries Institute: 62 pp.

³ Johnson, D.D. 2025. Stock assessment report 2024/25 – Estuary General Fishery – Blue Swimmer Crab (*Portunus armatus*). NSW Department of Primary Industries and Regional Development. Fisheries NSW, Port Stephens Fisheries Institute: 62 pp.

⁴ Hall, K.C. and Schilling, H.T (2024/25) NSW Stock assessment report 2023/24 – River Eels – Longfin Eel (*Anguilla reinhardtii*) and Southern Shortfin Eel (*Anguilla australis*). NSW Department of Primary Industries and Regional Development, Coffs Harbour, 82 pp.

⁵ Johnson, D.D (2025) NSW Stock assessment report 2024/23 – Giant Mud Crab (*Scylla serrata*). NSW Department of Primary Industries and Regional Development, Taylors Beach, 62 pp.

in 2007/08, dropping substantially after introduction of the ITCAL to average around 6,700 days over 2010 – 2013. Effort increased again to over 12,000 days in 2015/16 but has since declined steadily to average around 7,500 days over 2021 - 2024.

Estimates of recreational harvest have been increased from initial survey estimate by application of a scaling factor to account for unsurveyed components of the sector. Raised estimates of recreational Mud crab harvest are 89,557 crabs (~60 t) in 2017/18, 29,378 crabs (~20 t) in 2019/20 and 26,318 crabs (~18 t) in 2021/22.

Stock assessment and stock status

The East Coast Mud crab stock is shared with Queensland, which takes some 86% of the commercial harvest of the east coast Mud crab biological stock. Female crabs may not be landed in Queensland (although there is likely some handling discard mortality), and male crabs are protected by a minimum size limit of 150 mm carapace width, above the size at first maturity in Queensland. The male-only harvest policy in Queensland maximises the number of females that survive to spawn and likely provides a degree of stability in spawning biomass, which may support higher levels of recruitment for NSW estuaries that are connected with spawning in Queensland waters. The Queensland East Coast Mud Crab Fishery was classified as **Sustainable** in 2023 using the Status of Australian Fish Stocks (SAFS) weight-of-evidence classification framework.

The main indicators for fishing mortality and biomass of the NSW component of the stock are derived from commercial catch and standardised commercial catch rate (sCPUE). After introduction of quota management in 2017/18, nominal catch-per-unit effort (CPUE) across the fishery declined steadily from 15.2 kg/day in 2017/18 to 11.3 kg/day in 2021/22 and 10.5 kg/day in 2022/23.

Trends in standardised sCPUE have differed by region. In 2023/24, sCPUE for the Richmond River, Clarence River, Macleay River, Tuggerah Lakes and Hawkesbury River (areas that landed ~59% of total catch) increased to the highest levels since 2017/18. sCPUE in the Tweed River (~9% of total catch) and Port Stephens (~5% of landings) was 15% and 5% above mean catch rate, respectively. In contrast, sCPUE in Nambucca River, Camden Haven River, Manning River and Wallis Lake (with combined landings of ~27% of total catch) was ~5 to 18% below mean catch rate in 2023/24.

At a fishery wide level, sCPUE was stable or increased slowly over 2009 - 2016, declined slowly to 2022 and then increased back to the 2017 level in 2023. Following the decreases in effort, catches and CPUE seen over 2017 - 2022, the overall stock seems to have recovered to previous higher levels in 2023/24. However, this has only been a one-year increase.

Noting that there has only been a one-year increase in sCPUE following a period of decline, the TACC for Mud crab should be retained at 185 tonnes. CPUE should continue to be closely monitored to determine whether it continues to increase.

Blue swimmer crab

Biology and distribution

Blue Swimmer Crabs (*Portunus armatus*, BSC) occur in coastal and estuarine waters along the entire NSW coastline. Populations of BSC in NSW and Queensland are genetically similar, but oceanographic modelling of larval distribution patterns indicates that these constitute separate stocks. Within NSW, modelling indicates that larvae are generally sourced from within about 50 – 320 km of a settlement estuary. BSC is therefore managed as a single stock within NSW.

Fishery catch and effort

The NSW BSC fishery was subject to an interim TACC (ITCAL) of 225 t set in December 2019, calculated from the sum of the maximum reported catch for each of the Estuary General Fishery regions over the period 2007-08 to 2016-17. This was reduced to a TACC of 185 t for 2024/25.

Annual total catches have never reached the ITCAL or TACC levels since they were implemented. Commercial catches of this species from the EGF tended to fluctuate around a long-term average of about 132 t over the period 2000/01 to 2016/17. In 2020/21, reported commercial landings declined to 83.4 t and declined further to 51.2 t in 2021/22 and 22.8 t in 2022. Reported landings then increased in 2023/24 to 93.8 t, with reported quota usage of 108.8 t.

Estimates of state-wide recreational catches from the National Recreational and Indigenous Fishing Surveys estimated a recreational state-wide harvest of ~155 t in 2000/01, decreasing to ~27 t in 2013/14. More recent estimates of recreational catch have been derived from a small number of reporting households. After application of a scaling factor to account for the unaccounted component of the sector, recreational catches are estimated at 49 t in 2017/18, 33 t in 2019/20 and 10 t in 2021/22. There has therefore apparently been a steady decline in recreational harvests since 2000/01.

The main estuarine fishing region is Region 4, which has accounted for ~75% of total landings. Within Region 4, the most important estuary is Wallis Lake, accounting for ~80 per cent of the Region 4 landings, with most of the catch being taken using fish and crab trapping. Catch composition is biased towards males, which accounted for about 65% of the total landings from 2009 - 2022.

Reported fishing effort for crab trapping for BSC estimated from monthly catch and effort records slowly decreased from ~10,900 days in 1997/98 to ~6,900 days in 2003/04 then declined by ~50% to 3,460 days in 2004/05. Following the introduction of daily catch and effort reporting in 2009/10, reported effort has remained below 3,000 days per year.

In contrast, reported effort fish trapping increased from 2004/05 onwards, exceeding 2,000 days per year over 2004/05 to 2008/09. Reported effort increased and peaked at 5,600 days in 2014/15, but has since steadily declined, with 3,050 days reported in 2021/22.

Stock assessment and stock status

The main indices used in the weight of evidence evaluation of stock status for BSC are standardised catch rates (sCPUE) and fishery independent surveys (FIS). Following indications of concern in 2023-24, sCPUE indices have shown increases in several estuaries⁶. Following a 50% decline in sCPUE declined from 2017/18 to 2022/23, sCPUE for fish trapping in Wallis Lake in 2023/24 exceeded the average catch rate and was 24% higher than 2021/22 and 61% higher than 2022/23. For crab trapping in Wallis Lake, sCPUE in 2023/24 exceeded the average catch rate and was 27% higher than 2021/22 and 42% higher than 2022/23. For other main estuaries, fish and crab trap sCPUE in 2023/24 exceeded the average catch rate.

Annual fishery independent surveys (FIS) have been conducted in Wallis Lake providing indices of abundance and catch rates. Catch rates of undersize crabs in 2022/23 were 25% lower than 2021/22 and ~90% lower than 2020/21, 2019/20 and 2018/19. However, catch rates in 2023/24, increased substantially over 2022/23. Catch rates of legal-sized crabs from the FIS in 2023/24 were 86% above 2022/23 and close to peak catch rates recorded in 2018/19. Catch rates of undersize crabs from FIS in Wallis Lake in January 2025 (14.9 crabs.trap-1) were the second highest in the available time series and the catch rate of undersize crabs from December 2024 to February 2025 exceeded the average annual catch rate for summer (December, January, and February).

NSW BSC was classified in 2023-24 as **Depleting** under the *Status of Australian Fish Stocks* (SAFS) framework. However, based on recent evidence, the NSW BSC stock has now been classified as **Sustainable**. Previously observed CPUE declines appear to have reversed, with sCPUE, particularly for fish trap, returning to long-term average levels, and crab trap sCPUE returning to average levels over 2007 – 2018. The rapid decline in CPUE over 2022 – 2023 may have been precipitated by the effects of recent flooding. However, the sCPUE increase is currently only a one-year increase.

As there has only been a one-year increase in CPUE following a period of decline, the TACC for Blue Swimmer Crab should be retained at 185 tonnes.

Recommendation

- There appear to be adequate data available for BSC to justify developing an integrated stock assessment to provide estimates of relative biomass and fishing mortality rate.
- FIS results should continue to be closely monitored to detect whether signs of recovery of the population in Wallis Lakes continue.

⁶ Johnson, D.D (2025) NSW Stock assessment report 2024/23 – Blue Swimmer Crab (*Portunus armatus*). NSW Department of Primary Industries and Regional Development, Port Stephens Fisheries Institute, 62 pp.

Eels

Distribution and stock structure

Two species of river eels are taken in NSW waters – Longfin Eel (*Anguilla reinhardtii*, LFE) and Southern Shortfin Eel (*Anguilla australis*, SFE). Longfin Eel distribution extends along the entire eastern Australian coast from Cape York to Tasmania and also occurs in northern New Zealand. Genetic studies indicate a single biological stock across this range. Southern Shortfin Eel are widespread in coastal streams of south-eastern Australia from southern Queensland to South Australia and Tasmania and also occur in New Zealand and western Pacific Islands. Genetic studies indicate that Shortfin Eel consist of two geographically separate subspecies – *A. australis australis* in Australia and *A. australis schmidtii* in New Zealand and western Pacific islands⁷.

As there are currently no cross-jurisdictional stock assessments undertaken for either of these shared eel stocks, the NSW components are assessed and managed as NSW jurisdictional stocks.

Fishery catch and effort

Commercial catches of river eel in NSW waters are primarily taken by eel trapping in the Estuary General Fishery (EGF), which targets the sub-adults as they return to estuaries on their migration back into freshwater systems. No eel trapping in freshwater rivers above tidal waters is permitted in NSW, affording protection to maturing eels in the upper reaches of river systems.

Commercial catches of river eel landed from NSW waters rapidly increased in the early 1990s to supply a newly established live export market to China, with combined catches peaking at 469 t in 1992/93, much of which was reported as 'unspecified Eels' at that time. After 1998, when reporting by species improved, it appears that Longfin Eel catches north of the Hawkesbury River continued to be incorrectly reported as shortfin eel. Adjusting for this gives recent peak catch of 234.2 t of Longfin Eel in 2000/01 and an average catch of ~90 t/year over 2002/03 – 2015/16. More recently, associated with loss of the export market to China, annual catches have average only ~15 t. Since 2000, Shortfin Eel has contributed only ~1.5% of the total reported Eel catch.

Estimated recreational catches of Eel from five surveys conducted over 2000 - 2022 are low, with little recreational targeting for Eel with most caught Eels returned. Weight-converted estimates of recreational catch have been <2.5 t in recent years. Statewide estimates of Aboriginal cultural harvest of Eel are unknown, but they are assumed to be significant.

A combined-species interim total commercial access level (ITCAL) of 137 t was implemented for River Eel in December 2017, set at the maximum annual combined catch weight (in 2002/03) for both Eel species reported over the 10-year period 2002

⁷ Hall, K.C. and Schilling, H.T. (2025) NSW Stock assessment report 2024/25 – River Eels – Longfin Eel (*Anguilla reinhardtii*) and Southern Shortfin Eel (*Anguilla australis*). NSW Department of Primary Industries, Coffs Harbour, 82 pp.

- 2012. This reduced to a TACC of 100 t for 2024/25. Total reported catches of combined Eel species have been well below the ITCAL and 2024/25 TACC levels since 2003/04.

Reported fishing effort from 1998 onwards has shown a steady decline from a peak of over 8,500 days combined effort for both Eel species in 2001/02 to ~1,120 days in 2010/11, increasing to just over 2,000 days in 2013/14 and averaging just over 250 days/year since 2017/18. Effort directed at Shortfin Eel has particularly declined, from a peak of just over 1,860 days in 2000/01 to only 12 days in 2016/17, with almost no effort being reported for Shortfin Eel since 2017/18.

Stock assessment and stock status

In the 2023 *Status of Australian Fish Stock* (SAFS) reports, Longfin Eel and Southern Shortfin Eel stocks are assessed as **Sustainable** and **Undefined** for the NSW part of each stock, respectively. Jurisdictional components of these stocks (both species) were assessed as **Sustainable** in Victoria and Tasmania and **Undefined** in Queensland.

The main indices used in the weight-of-evidence approach taken in 2024 to assessing status of Eel stocks in NSW are standardised catch-per-unit-effort, (sCPUE) of commercial catch return records. sCPUE derived from monthly records of Longfin Eel declined substantially over 2001 – 2003 but then increased steadily to above the 1998 - 2009 average. sCPUE from daily event records (since 2009/10) shows a steady increase from 2014/15 onwards to well above the 2010 - 2023 average by 2023, with a slight drop in 2024. This increase has largely been driven by an increase in catch rates in Region 5, although regional indices show increases over the recent few years in Regions 2, 3 and 4, with no recent indices available for Regions 1 or 6.

sCPUE for Shortfin Eel declined steadily over from 1998 to 2006, then increased again to just below the 1998 - 2009 average by 2009. There are insufficient data for Shortfin Eel catch rates to produce a sCPUE index after 2009. However, effort and catches of this species have been so low that recent fishing impact on the stock can be assumed to be low.

The Eel trapping sector of the commercial EGF is only permitted to operate in the tidal waters of a limited number of estuaries along the NSW coast and is excluded from freshwater and inland river reaches. This provides protection for a large proportion of the maturing Eel stock in closed estuaries, freshwater river reaches and impoundments. The combination of low catches and protection of a substantial proportion of the stocks in closed estuaries and freshwater river reaches has likely resulted in rebuilding of the stocks, as indicated by most CPUE indices showing increases to above historical average levels over the past seasons.

Current catches are well below the TACC level and have been so since 2002/03, Catches since 2017/18 have been particularly low (< 20 t), undoubtedly contributing to any rebuilding that has occurred. It is not clear whether the current TACC is sustainable. CPUE should continue to be monitored to determine whether CPUE

continues to increase, particularly if market conditions improve and catches increase to approach the 100 t TACC level.

Recommendation

- Noting that current catches are well below the current TACC, the TACC for Eels should be retained at 100 t.

Economic considerations

Blue swimmer crab

There are 287 shareholders in the BSC fishery, with two fishing businesses having the largest BSC quota holding of 13% of the TACC. 35 Fishing Businesses accounted for 92% of the catch in 2023/24. Figure 1 shows quota usage (including transfers in) by Fishing Business (FB) for the same year – 18 FBs utilised more than 90% of their quota. From data provided by NSW DPIRD there appears to be a reasonably active trading market for quota, with around 15% of quota traded in 2023/24. Industry stakeholders informed the TAFC that the quota is currently leasing for around \$2/kg.

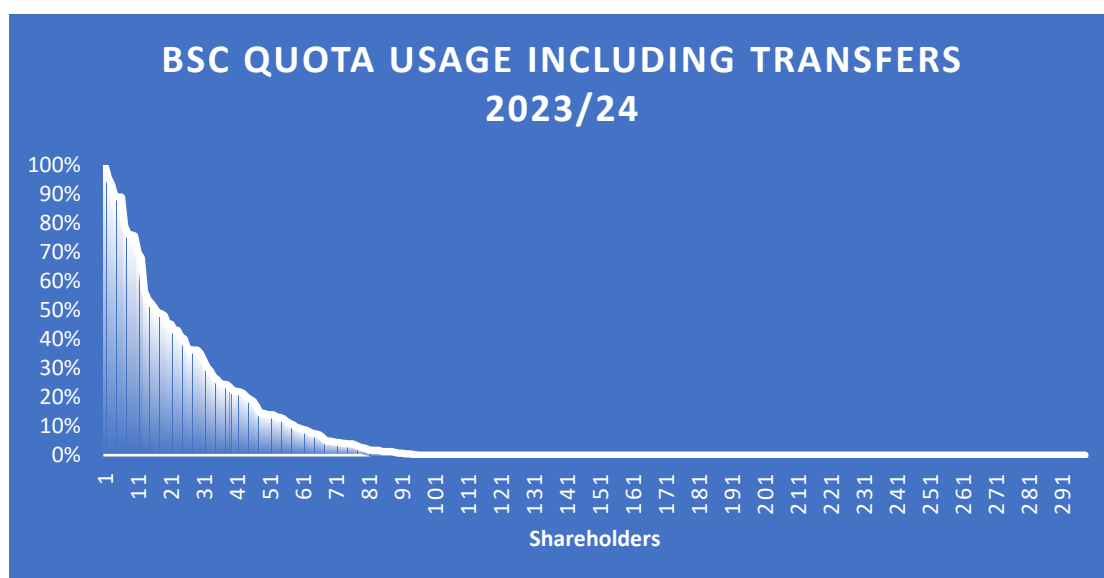


Figure 1. Blue Swimmer Crab Quota and Usage 2023/24. [Source: DPIRD]

The market price for female BSC is reported by industry stakeholders to be three to four times higher than that of males during the Christmas period, and about double at other times. The introduction of an increased size limit in 2016/17, implemented in consultation with the industry due to concerns about stock levels and market conditions, has resulted in reduced landings of females from Wallis Lake, a key contributor to total landings, leading to lower overall revenues. Industry stakeholders advocated to the TAFC for a decrease in the LML of female crabs across the fishery, or only in Wallis Lakes, as this may improve economic returns in the fishery.

The market for BSC is domestic, with real prices trending upward over time and peaking during the COVID-19 pandemic (Figure 2). However, prices declined in

2023/24 and remain below pandemic levels. Some industry stakeholders argue that, at current low prices, fishing is uneconomical, and as a result, the current TACC may be undercaught. Contributing factors cited include increased volumes of South Australian product being sold in New South Wales and adverse environmental conditions.

Recommendation

- DPIRD investigate the risks to the fishery of a decrease in the LML for BSC in Wallis Lakes.

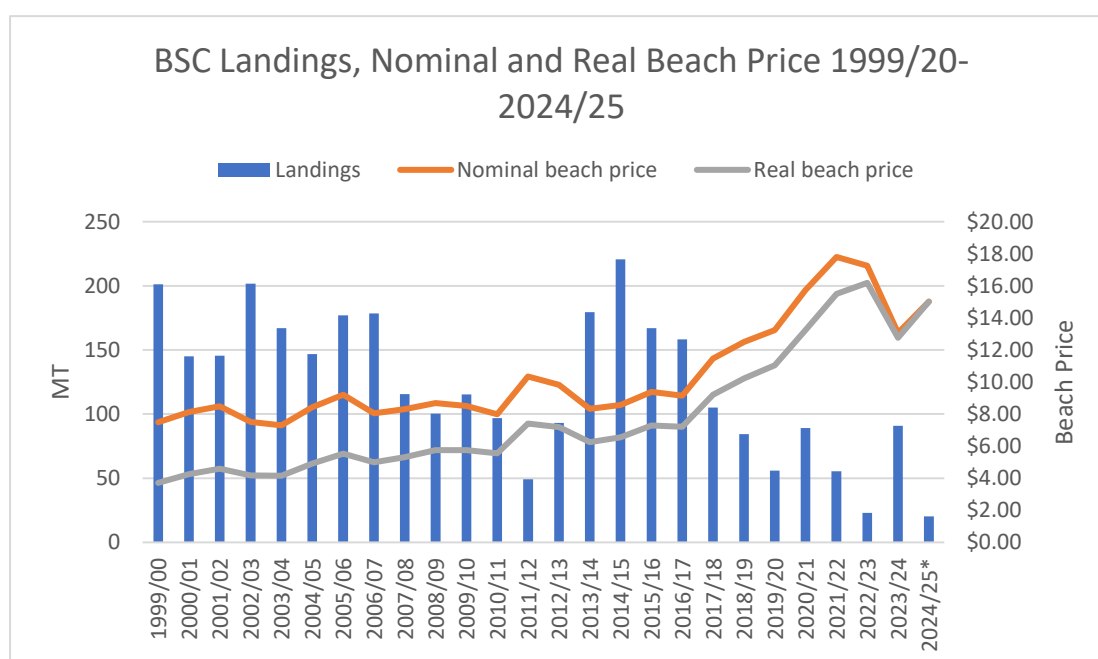


Figure 2. EGT Landings of Blue Swimmer Crab; nominal and real beach price at December 2024 prices (* incomplete year). Source: DPIRD

Commercial fishing offences pose significant risks to both the effective functioning of the quota system and the value of BSC quota as an asset. These violations include logbook discrepancies, quota allocation exceedances, selling undersized crabs, failing to submit real-time reports, and contravening license endorsement conditions.

Mud Crab

There are 273 shareholders in the Mud crab fishery. Five shareholders collectively hold just under 27% of all quota shares. In 2023/24, of the 266 shareholders who held quota (including those who received transfers and excluding those who only leased out their quota), 120 utilised 90% or more of their total quota holdings. The quota market appears to be functioning effectively, with 44% of the TACC traded during the year (Figure 3). Industry stakeholders informed the TAFC that current lease prices range from \$5.70 to \$7.70 per kilogram. Maintaining the current TACC is unlikely to have a negative economic impact on the fishery.

Beach prices of Mud crab sold in NSW and interstate have been steadily increasing (Figure 4) with a dip in 2022/23 due to high volumes in the market. Maintaining the current TACC is unlikely to have a negative economic impact on the fishery. However, commercial fishing offences pose significant risks to both the effective functioning of the quota system and the value of MC quota as an asset. These violations include logbook discrepancies, quota allocation exceedances, selling undersized crabs, failing to submit real-time reports, and contravening license endorsement conditions.

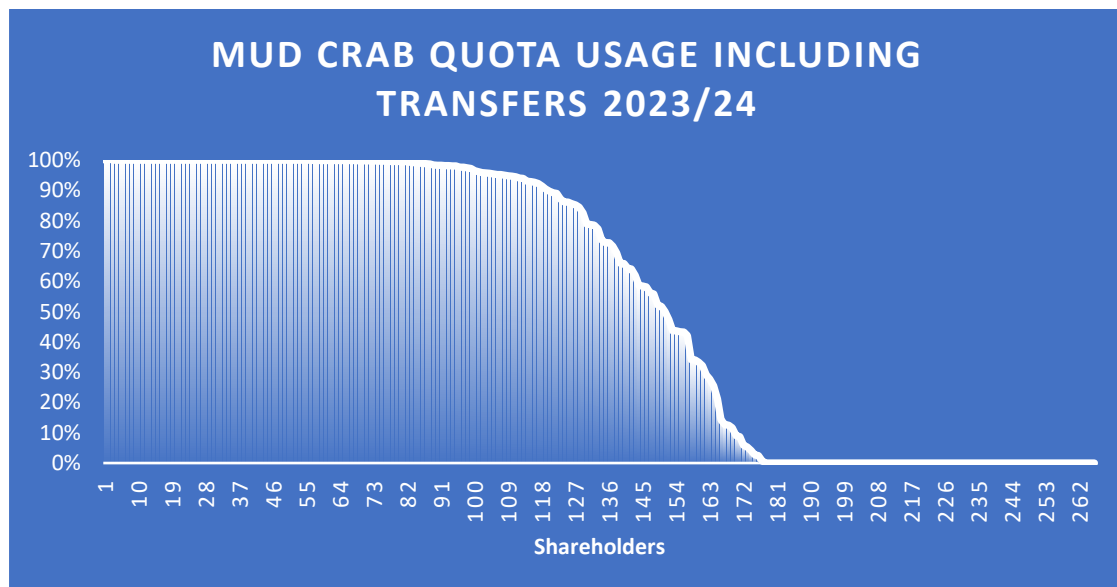


Figure 3. Mud Crab quota and usage 2023/24. [Source: DPIRD]

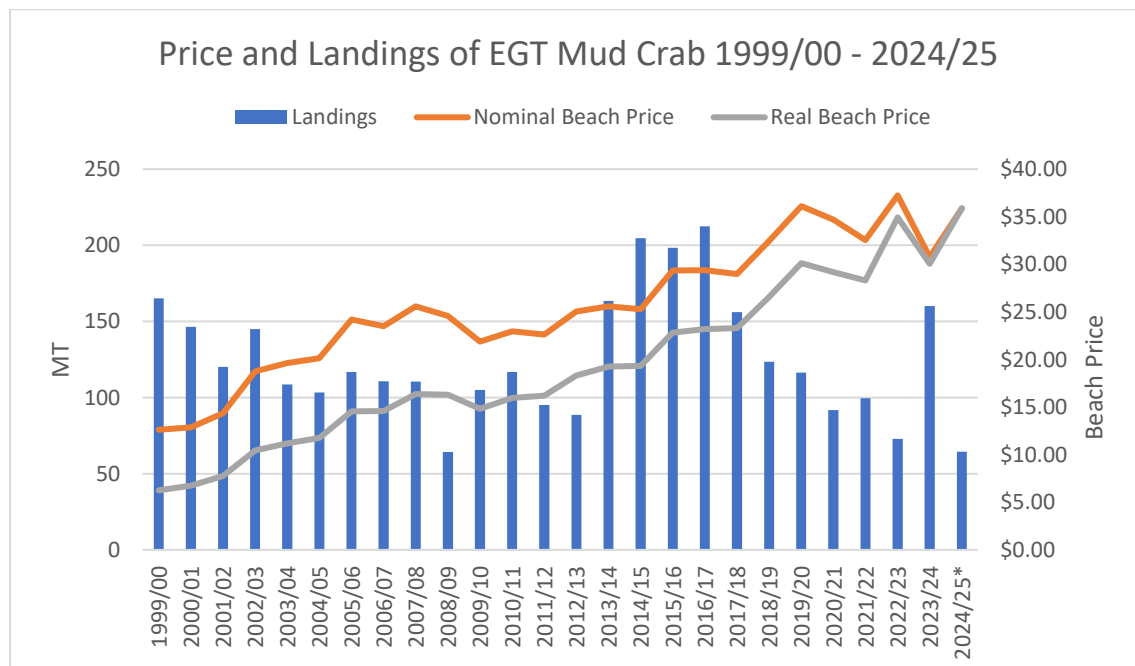


Figure 4. EGT Landings of Mud Crab; nominal and real beach price at December 2024 prices (* incomplete year). [Source: DPIRD]

Eels

There are 84 shareholders in the eel fishery, with 30% of the quota owned by five shareholders. Of these, 33 landed Eels in 2023/24 with 4 shareholders using over 90% of their total holdings. As the TACC is significantly undercaught, the lease market for Eel quota is small, with only 7 transfers occurring in 2023/4 accounting for around 4% of the TACC (Figure 5).

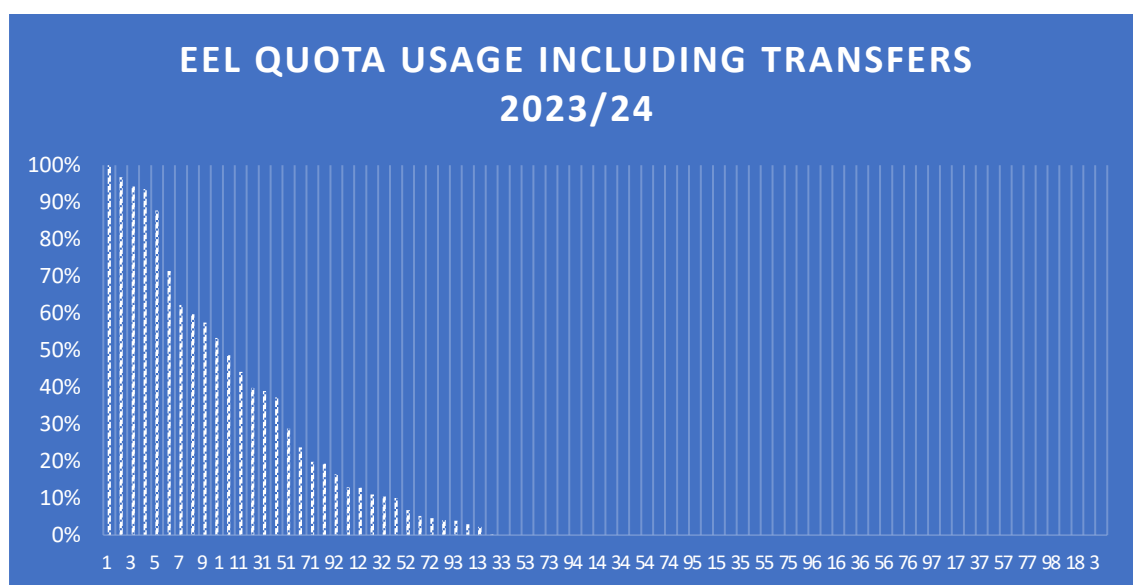


Figure 5. Eel quota and usage 2023/24. [Source: DPIRD]

Beach prices have remained low since the contraction/collapse of the export market and the closure of the only Eel processor in the State. Historically, commercial fishers who targeted Longfin Eel sold their product to China, usually via exporters who used the "grey channel". The crackdown on illegal imports to China has resulted in steadily deteriorating prices making it not economic to catch Eels at current beach prices of around \$3/kg.

Maintaining the TACC at 100 t will allow those shareholders who catch close to their allocation to continue and not have any significant impact on the remaining shareholders.

Fishery management considerations

General Issues

Mud crab, Blue swimmer crab (BSC) and Eel form a sub-sector of the Estuary General Fishery, called the Estuary General (Trapping) Fishery (EGTF). The EGTF is managed using Individual Transferable Quotas (ITQs) and TACCs, together with a suite of input and output controls, including minimum size limits, gear restrictions, and spatial and temporal closures.

The Recreational Fishing Survey undertaken in 2022/23 indicated Mud crab catches of approximately 6.9 t per year (with previous surveys indicating between 20-39 t);

10.2 t of BSC (previous surveys indicating 22-33 t) and 2.2 t of Eels. The precision of the catch estimate for Eels is low. The recreational fishery is managed via minimum size limits and bag limits for Mud crab, BSC, Longfin eel and Shortfin eel.

Catches by the Aboriginal fishing sector of Mud crabs and BSC are unknown. While there is some data on catches of Eel by the Aboriginal Fishing Sector in the Tweed area, recording 117-350 individual Eels in 2017/18, catches across the State have not been estimated. Possession limits and special cultural access arrangements apply to the sector.

DPIRD uses a risk-based approach to guide fisheries enforcement activities that uses State-wide and fishery specific risk analysis. Compliance strategies employed include intelligence gathering and analysis, education, targeted patrols and covert and overt operations. DPIRD receives a high number of intelligence reports for Mud crab and BSC. Compliance rate in the commercial fishery is relatively high (94%), which is similar to the previous two years.

Commercial offences that do occur involve catch record offences, exceeding quota allocations, selling prohibited size crabs, failing to make real-time reports and contravening condition of endorsement on license. Compliance rate for the Marine Recreational Program which includes targeting of crabs and eels is 92% for the reporting period.

The Mud Crab and BSC fisheries have been rated as high risk by the Compliance Team and expected Illegal, Unreported and Unregulated (IUU) take is unknown, but likely to be high. For the Eel fishery, recreational and commercial demand and take is low, so drivers for non-compliance are largely absent.

The TAFC noted that DPIRD have commenced a trial of VMS in the Estuary General Fishery and are currently considering extension of this technology across operators in the EGTF. In addition to supporting improved compliance and reporting, the enhancement of spatial data could also facilitate the implementation of finer scale spatial management mechanisms.

There are several issues with reporting in the commercial fishery, with discrepancies between reported catches and quota usage, and gaps in spatial and effort data. While there have been some improvements recently, the issue of the discrepancies between reported catches and quota usage remains significant and has persisted for an extended period of time. The reporting issues undermine confidence in the data being used to inform management and increases uncertainty in stock assessments which TACC determinations are dependent on.

Seasonal weather conditions such as floods, storms, water temperature, ocean currents and sea conditions can impact both catch and catch rate of estuarine species, including crabs. These factors can influence the abundance of stock and the availability of that stock to the fishery. These matters are important when

interpreting fishery dependent data (including in stock assessments) and calculating the standardised catch rate, and both industry and DPIRD are of the view that the floods in 2022/23 are likely to have affected catches and catch rates of both crab species. Noting the increased variability in weather and climatic conditions expected due to climate change, improved understanding of the influence of these factors on estuarine populations will be increasingly important to management of the EGTF.

BSC occur both in estuaries where the targeted fishery occurs and in offshore waters, but the interrelationship between the biomasses in these differing types of habitats is largely unknown.

Recommendation

- Given the high risk and potentially increasing illegal catches, the TAFC recommends that the Department utilise compliance data to estimate illegal catches of Mud crab and BSC to inform future TACC determinations and management processes.

Mud crab

There is a single genetic stock for Mud crab shared between QLD and NSW, with catches in NSW accounting for around 15% of the commercial east coast catch. The TACC for mud crabs on the Queensland east coast was set at 770 t for 2024/25. The NSW fishery relies on larvae from the QLD portion of the population and as a result, the management measures in place in QLD, including a prohibition on catching females, the TACC and the minimum size limit, are important protections for the NSW fishery. Given the dependence of the NSW fishery on the management settings in QLD, the TAFC encourages DPIRD to continue working with QLD to collaborate on the management of the east coast Mud crab stock.

Reported landings of Mud crabs in the EGTF fishery have declined from around 156 t in 2017/18 to around 100 t per year in 2020/21 and 2021/22, and 72 t in 2022/23. However, the reported landings in 2023/24 increased to 160 t.

Using data up to 2023/24, the harvest of Mud crabs from NSW is classified as sustainable. A weight-of-evidence approach was used for the assessment and supports an understanding that the biomass of Mud crabs is currently at a level sufficient to ensure that, on average, future levels of recruitment are adequate (recruitment is not impaired) and for which fishing mortality is adequately controlled to avoid the stock becoming recruitment impaired (overfishing is not occurring)

The Mud crab ITCAL was set at 206.3 t, however catches have been significantly below that figure every year. Historically since 1984/85, Mud crab reported landings only exceeded 200 t on two occasions (2014/15 and 2016/17), which was prior to the implementation of the NSW fisheries reforms. The ITCAL was considered a “transitional TACC” based on principles and methodology used for calculating Interim Total Commercial Access Levels (ITCALs). At the time there was a recognition that

more robust TACCs would be developed over time, once the TACC and ITQ framework was more established, as demonstrated in the use of terminology such as “transitional” and “interim”.

There is general recognition that the ITCALs were initially over-allocated and that they need to be transitioned to sustainable levels. For the 2024/25 fishing season, the TAFC, on the information then available (including a stock status of “depleting”), reduced the TACC to 185 tonnes. The TAFC however notes the positive indicators in recent catch data in NSW and the significant influence of environment factors on the fishery.

Recommendation

- The TAFC recommends the TACC remain unchanged at 185 tonnes for the 2025/26 season.

Blue swimmer crab

Reported commercial landings of BSC fluctuated around a long-term average of approximately 132 t during the period 2000/01 to 2016/17, but have since declined to approximately 23 t in 2022/23 and 91 t in 2023/24. The estuary contributing most to catches, Wallis Lake, has also seen a large drop in catches and there have been significant declines in recreational catches.

As noted above, when the ITCALs were set in 2017, they were set at levels that allowed flexibility during the implementation period. However, there was general recognition that they would require adjustment and transitioning to sustainable levels, once the new management approach had become established. The TACC for BSC was set at 225 t, well above the long-term average for the period 2000/01 to 2016/17 (i.e. before the recent declines) of 132 t.

The NSW BSC stock is classified as sustainable. A weight-of-evidence approach was taken for this assessment. The weight of evidence provided supports an understanding that the biomass of BSC is at a level to ensure, on average, future levels of recruitment are adequate, and fishing mortality is controlled to avoid the stock becoming recruitment impaired. However, the change in stock status from “depleting” in 2024, based on understanding that the biomass of BSC declined from 2017/18 to 2022/23 (Johnson 2024), should be interpreted cautiously due to the short-term increases in catches and indices of abundance from the commercial fishery and pre-recruits in the fishery-independent survey (FIS).

The FIS provides a necessary source of information on recruitment into the fishery which is an important consideration for TACC setting. FIS data shows below average recruitment has been evident in the fishery for several years, however data for the 2023/24 and 2024/25 indicates stronger recruitment, and possibly some recovery of the stock. Catch rates of undersized crabs from the FIS in Wallis Lake in January 2025 were the second highest in the available time series. Additionally, catch rate of

undersized crabs calculated from December 2024 to February 2025 exceeded mean annual catch rate. Although, summer catch rates in 2022/23 were higher than 2021/22 they were 40 and 30% lower than peak summer catch rates in 2018 and 2020 respectively.

Shareholders and DPIRD are of the view that the 2022 floods are likely to have affected BSC catches and catch rates, while other more local environmental factors may also have contributed. The recent fishery dependent and independent data suggests the stock may be starting to recover from those impacts. While promising, caution should still be taken until any trends are clearer and supported by a longer time series of data.

Recommendations

- The TAFC considers that the current FIS survey provides an effective template for ongoing independent surveys and recommends that it be expanded to selected other estuaries, as it has a significant role in improving accuracy for future TACC determinations.
- The TAFC recommends that the TACC be maintained at 185 tonnes for the 2025/26 fishing period.

Eel

The east coast populations of Longfin eel and Shortfin eel are shared with other jurisdictions and while NSW dominates the east coast harvest of Longfin eel, Victoria and Tasmania catch larger proportions of Shortfin eel. Longfin and shortfin eel can only be harvested commercially in NSW using an Eel trap, although some Eel may be taken inadvertently using other methods. The majority of Eel trap endorsements are for the central region (region 4, and regions 2 and 3 to a lesser degree) and most Eel endorsement holders also hold endorsements for other species.

The ITCAL for Longfin and Shortfin eel collectively was set at 137 t since it was established in 2017, however total landings have been below 15 t per year since the ITCAL was introduced. Shareholders have advised that these low catches are a consequence of low Eel prices and minimal market demand, with fishers choosing to harvest other more profitable species. Indices of abundance in the fishery are compromised by the small amount of data available, the complexities of Eel biology and the likely influence of market conditions. Noting the uncertainties however, the available data does not indicate any issues with stock abundance under current fishing mortality.

The ITCAL in 2017 was based on the maximum catch during the period 2002/03 – 2012/13, which occurred in 2002/03, when 34.1 t was caught in farm dams and impoundments under Section 37 permits. Since the TACC was introduced however, changes have been made to the management arrangements and the Section 37 permits have been phased out. This means that those farm dams and

impoundments can no longer be fished in practice, reducing the area and stock available to the fishery. Given these changes in the management arrangements, the TAFC recommended that the TACC be set to reflect the reduction in the area available to the fishery to 100 t for the 2024/25 fishing season. The TAFC notes that due to market constraints the overall TACC is unlikely to be close to being reached in the 2024/25 season.

Recommendation

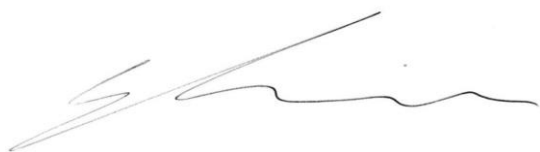
- The TAFC recommends that the TACC be maintained at 100 tonnes for the 2025/26 fishing season.

Determination

The Total Allowable Fishing Committee (TAFC), pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the total allowable commercial catch of Mud crab, Blue Swimmer crab and Eels in the Estuary General Fishery should be controlled and allocated through the following measures:

Species	Catch Limit 2025/26 (tonnes)
Mud crab (<i>Scylla serrata</i>)	185
Blue Swimmer crab (<i>Portunus pelagicus</i>)	185
Eel Longfinned River eel (<i>Anguilla reinhardtii</i>) Shortfinned River eel (<i>A. australis</i>)	100

Signed (for and on behalf of the TAFC)



William Zacharin
Chair, TAFC

13 May 2025

Sevaly Sen – Deputy Natural Resource Economist member

Daryl McPhee – Deputy Fisheries Manager member

Andrew Penney – Deputy Scientific member

Appendix 1 - Regional Estuarine waters

Region 1 – Upper North Coast Tweed River

Cudgen Lake
Cudgera Creek
Mooball Creek
Brunswick River
Richmond River
Evans River
Jerusalem Creek

Region 2 – Clarence River

Sandon River
Region 3 – North Coast Wooli Wooli River
Station Creek
Region Estuarine waters within region
Corindi River
Arrawarra Creek
Darkum Creek
Woolgoolga Lake
Hearns Lake
Moonee Creek
Region 3 – North Coast Coffs Harbour Creek
Boambee Creek
Bonville Creek
Dalhousie Creek
Oyster Creek
Nambucca River
Macleay River
South West Rocks Creek
Saltwater Creek
Korogoro Creek
Killick Creek
Lake Cathie (Lake Innes)
Camden Haven River

Region 4 – Central Manning River

Khappinghat Creek
Wallis Lake
Smiths Lake
Myall Lakes (Myall River)
Port Stephens (Karuah River)
Hunter River
Tuggerah Lakes

Region 5 – Metropolitan Hawkesbury River

Port Hacking

Region 6 – Upper South Coast Towradgi Creek

Lake Illawarra
Minnamurra River
Spring Creek
Werri Lagoon
Crooked River
Shoalhaven River

Lake Wollumboola
Jervis Bay
Swan Lake
Berrara Creek
Nerrindillah Creek

Region 7 – Lower South Coast

Termeil Lake
Willinga Lake
Region Estuarine waters within region
Durras Lake
Clyde River (Batemans Bay)
Moruya River
Congo Creek
Coila Lake
Lake Brou
Wagonga Inlet
Corunna Lake
Tilba Tilba Lake
Wallaga Lake
Barragoot Lake
Cuttagee Lake
Murrah Lake
Bunga Lagoon
Wapengo Lake
Middle Lake (Bega)
Wallagoot Lake
Bournda Lagoon
Merimbula Lake
Pambula Lake
Curalo Lake