Department of Agriculture and Fisheries

# Sustainable Fisheries Strategy 2017–2027

## River and Inshore Beam Trawl Fishery Scoping Study

Queensland Government

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# Summary (Table)

| Feature | Details |
|---|---|
| **Species targeted** | Banana prawn (*Fenneropenaeus merguiensis*), greentail prawn (*Metapenaeus bennettae*), school prawn (*M. macleayi*) |
| **Fisheries symbols** | Trawl symbols—T5, T6, T7, T8, T9 |
| **Legislation** | *Fisheries Act 1994; Fisheries (General) Regulation 2019; Fisheries (Commercial Fisheries) Regulation 2019; Fisheries Declaration 2019* |
| **Working group** | No |
| **Harvest Strategy** | No |
| **Gear** | Commercial—Beam trawl and restricted use on an Otter trawl<br>Recreational—Bait and cast nets<br>*A full description of the types of apparatus permitted is outlined in the Fisheries (Commercial Fisheries) Regulation 2019*. |
| **Main management methods** | The following management measures are in place for the RIBTF<br>• Regional management:<br>– T5: Brisbane River to Double Island Point;<br>– T6: Double Island Point to Burrum River;<br>– T7: Burrum River to Rodds Peninsula;<br>– T8: Rodds Peninsula to Island Head;<br>– T9: Island Head to Cape York.<br>• Use of beam trawl symbols within inshore tidal waters outside rivers and creeks is also permitted.<br>• Use of an otter trawl limited to Laguna Bay (near Noosa) and is subject to additional gear restrictions.<br>• Spatial and temporal closures;<br>• Maximum vessel length (9m).<br>• Gear restrictions including net configurations, head-rope length, mesh size and prescribed codend dimensions.<br>• Mandatory use of a bycatch reduction device (BRD).<br>• Mandatory use of a turtle excluder device (TED) while operating in areas outside rivers and creeks and when using an otter trawl.<br>*A full description of the types of apparatus permitted in specific areas is outlined in the Fisheries (Commercial Fisheries) Regulation 2019*. |
| **Quota** | No effort quotas or TACC limits in place |
| **Fishing Season** | All year |
| **Commercial Fishery licences** | T5—36; T6—4, T7—5; T8—21; T9—17 (2017)<br>Total number of boat licences with access to the fishery—83 (2017)<br>Number of licences active in the fishery—48 (2017) |

| | |
|---|---|
| **Total annual harvest by sectors** | Commercial: 202t (Department of Agriculture and Fisheries, 2019)<br>Charter: Negligible (Department of Employment Economic Development and Innovation, 2009; Department of Agriculture and Fisheries, 2019)<br>Indigenous: 4–7t (Fisheries Research and Development Corporation, 2003; Department of Employment Economic Development and Innovation, 2011)<br>Recreational: 6t (all prawns) (Department of Employment Economic Development and Innovation, 2011) |
| **GVP** | $1.6 million GVP (2017 estimates) |
| **Stock Status** | East coast banana prawns: 'sustainable' (Larcombe *et al.*, 2018)<br>Queensland eastern school prawns: 'sustainable' (Taylor *et al.*, 2018)<br>Greentail prawns: not assessed |
| ***EPBC Act* Accreditation** | Part 13: Accredited<br>Part 13A: declared and approved wildlife trade operation (expires 11 February 2022) |

# 1 Overview

## 1.1 Commercial Fishery

The *River and Inshore Beam Trawl Fishery* (RIBTF) is one of three prawn trawl fisheries operating on the Queensland east coast. This fishery along with the *Moreton Bay Trawl Fishery* (MBTF) and *East Coast Otter Trawl Fishery* (ECOTF), form the basis of the broader *East Coast Trawl Fishery* (ECTF). The RIBTF represents the smallest component of the ECTF and has an estimated Gross Value of Production (GVP) of $1.6 million (based on 2017 estimates). This is in contrast to the ECOTF which has an estimated GVP of $79.9 million.

Operators in the RIBTF target inshore/estuary prawn species which largely consists of banana, greentail (widely known as greasybacks) and school prawns. While operators can retain other prawn species, blue swimmer crabs, bugs, squids, cuttlefishes, and fin fish (Appendix 1), only a moderate amount of byproduct is reported from the fishery; typically <1% of the total catch weight (Department of Agriculture and Fisheries, 2019). The RIBTF does however interact with a range of bycatch species including those classified as Species of Conservation Interest (SOCI).

The RIBTF operates along the entire Queensland east coast and is sub-divided laterally into five regions. Each division is assigned an individual fishing symbol beginning with the T5 in the southern portion of the state and T9 in the north (Fig. 1; Appendix 2). The majority of the commercial catch and effort in the RIBTF is reported under the T5 fishing symbol which operates between the Brisbane River and Double Island Point.

## 1.2 Non-commercial Fishing

The *Statewide Recreational Fishing Survey 2013–14* estimated that Queensland had an annual recreational fishing population of more than 640,000, with the sector registering a combined 12-month estimate of 2.5 million fishing days (Webley *et al.*, 2015). Recreational fishers tend to target species not-affiliated with the RIBTF such as yellowfin bream, whiting, tailor, flathead, trevally and barramundi (among others). Of those species that transact with the RIBTF, the recreational harvest of banana prawns (6t) using cast/bait nets is considered to be the most relevant (Tanimoto *et al.*, 2006; Webley *et al.*, 2015).

In addition to the recreational and commercial sectors, the prawn fishery includes a much smaller proportion of catch retained by Aboriginal peoples and Torres Strait Island peoples, estimated to be at around 7t (Fisheries Research and Development Corporation, 2003). Prawn catch in the charter sector is negligible (Department of Agriculture and Fisheries, 2019). While catch and effort by Aboriginal peoples and Torres Strait Islander peoples is the least understood, DAF anticipates that this sector has low levels of effort with fishing activities aligning closely with the recreational fishing sector.

# 2 Legislation & Advisory Bodies

The RIBTF is managed in accordance with the broader objectives of the *Fisheries Act 1994* and the relevant subordinate legislation *e.g.* the *Fisheries (General) Regulation 2019,* the *Fisheries (Commercial Fisheries) Regulation 2019* and the *Fisheries Declaration 2019*.

Historically, the RIBTF, MBTF and ECOTF were managed as part of a broader *Fisheries (East Coast Trawl) Management 2010*. In May 2019, the *Fisheries (East Coast Trawl) Management Plan 2010* was repealed and the management strategy consolidated into the relevant regulations and declarations. All legislation relating to the management of the RIBTF can be obtained at: https://www.legislation.qld.gov.au/

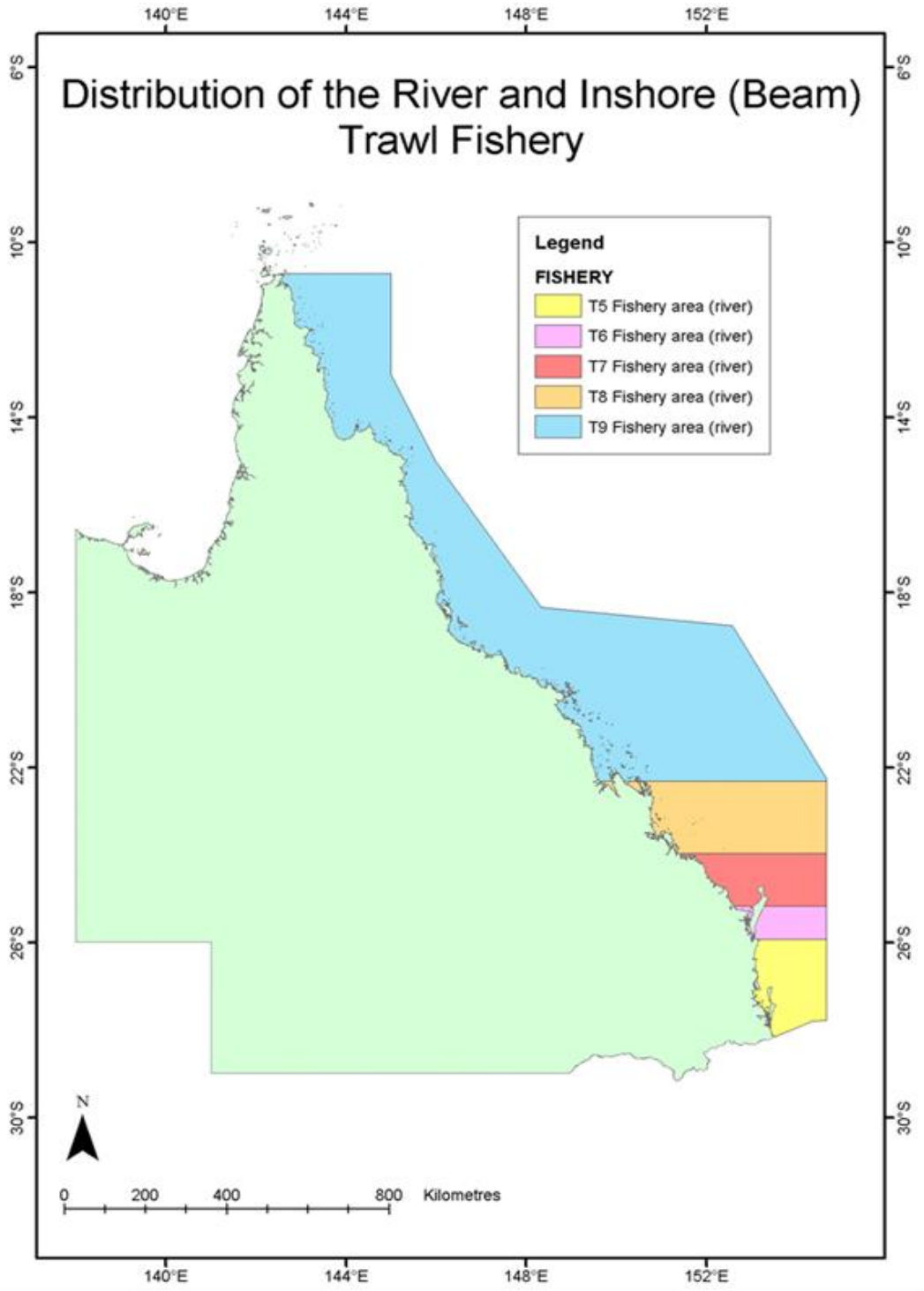


***Figure 1**. Map of the T5–T9 fishing symbol areas. A more detailed account of the fishing boundaries applied to each of the respective fishing symbols is provided in Appendix 2.*

A Trawl Fishery Working Group (FWG) has been established as part of the broader *Queensland Sustainable Fisheries Strategy* and includes stakeholders from the scientific community, management agencies, conservation groups and the commercial and recreational fishing sectors. The primary focus of the FWG (at present) remains on the operational aspects and management of the larger MBTF and ECOTF (Department of Agriculture and Fisheries, 2017). While there are no immediate plans to form a working group or harvest strategy specifically for the RIBTF, these are objectives that will be considered as a part of the broader Strategy.

# 3 Key Management Controls

The RIBTF is managed through a complex series of input controls that includes (among others): limited licencing; regional management; temporal and spatial closures; gear restrictions (*e.g.* vessel size, net head rope length, mesh size); the mandatory use of a bycatch reduction device (BRD); and the use of a Turtle Excluder Device (TED) when operating in waters other than a river or creek (Appendix 3). Unlike the ECOTF, the RIBTF does not operate under an effort unitised system, meaning T5–T9 operators are not required to hold effort units to access the fishery.

While output controls are not used at a whole of fishery level (*i.e.* quotas), they are employed for *Permitted species* or the list of additional species that can be retained for sale (Appendix 1). Output controls used in the RIBTF include minimum legal size limits, the prohibition on retention of females or ovigerous females for some species and weekly/daily possession limits or trip limits.

When compared to teleost-based fisheries, the RIBTF (and trawl fishing in general) has a much smaller recreational component. This is due to a prohibition on the use of beam trawls for non-commercial purposes. Key management arrangements for this sector include spatial closures, gear restrictions and in-possession limits (Department of Agriculture and Fisheries, 2018). A recreational fishing licence does not apply to this sector of the fishery.

A more detailed account of the gear restrictions applied to the RIBTF is contained within Appendix 3, and species-specific output controls in Appendix 1. Refer to the *Fisheries (General) Regulation 2019* and *Fisheries (Commercial Fisheries) Regulation 2019* for more information on the rules governing the use of the use of T5–T9 fishing symbols (available at: https://www.legislation.qld.gov.au/).

# 4 Assessment History

While the RIBTF has been subject to a number of sustainability and risk-based assessments, a fishery-specific ERA has yet to be completed for this fishery. A broader ERA was completed for trawl fishing activities outside of the Great Barrier Reef Marine Park and included the RIBTF (Jacobsen *et al.,* 2018). The bulk of this assessment focused on the otter trawl fishery and provided limited insight into the key sources of risk within the beam trawl fishery.

The RIBTF has also been the subject of an ecological sustainability assessment by the Department of the Environment and Energy (Department of the Environment and Energy, 2019). This assessment was done as part of the *Wildlife Trade Operation* (WTO) approvals process under the *Environment Protection and Biodiversity Conservation Act 1999*. The fishery has had an approved WTO since 2006 and the current export approval is due to expire in 2022. The full report is available at: http://www.environment.gov.au/marine/fisheries/qld/river-beam-trawl.

Aspects of the whole ECTF have been provided with indicative sustainability assessments as part of the Queensland stock status and *National Status of Australian Fish Stocks* (SAFS) process. Not all of these assessments will be applicable to the RIBTF; although banana prawn and school prawn have been assessed as sustainably fished on the Queensland east coast (Larcombe *et al.*, 2018; Taylor *et al.*, 2018).

A full list of SAFS assessments for key ECTF target and byproduct species is provided in Appendix 4. Further information on the SAFS process can be found at http://fish.gov.au/.

# 5 Licence & Fishing Symbols

Access to Queensland's commercial fisheries is managed using fishery symbols. These symbols, in effect, define what gear can be used in each fishery (*e.g.* N = Net, L = line, T = trawl) and the area of operation. While operators can have multiple fishery symbols attached to their licence (*e.g.* N1, N2 and L1 or a L1 and T1), they can only use one fishery symbol at a time. The notable exceptions to this are a) the crab (C1) fishery symbol that can be used in conjunction with a line (L) and net (N) fishery symbol; and b) fishing symbols related to quota such as those used in the *Coral Reef Fin Fish Fishery* and the *East Coast Spanish Mackerel Fishery*. In each fishery, the total number of symbols represents the number of fishers that could potentially access the fishery at any one time. This differs from data on the number of 'active' licences which represents the number of operators that have used their symbol to access the fishery over a 12 month period.

Commercial fishers wanting to access the RIBTF are required to hold a T5, T6, T7, T8 or T9 fishery symbol. Each symbol restricts access to a specific region along the Queensland east coast (Fig. 1; Appendix 2) and it covers all beam trawl operations in riverine systems and inshore waters. The RIBTF is one of the few commercial fisheries in Queensland that is subject to regional management arrangements.

The total number of RIBTF symbols has declined by around 50% since 2004 with all five symbols displaying downward trends (Table 1; Fig. 2). These declines can be attributed to a range of management initiatives including licence restructures over the 2004/05 (DEWHA / GBRMPA), 2008/09 (Moreton Bay) and 2010/11 periods, the 2008/09 latent effort review process and licence buybacks related to the introduction of net-free zones (Department of Agriculture Fisheries and Forestry, 2012; Department of Agriculture and Fisheries, 2016a; b). Without management intervention, the number of fishing symbols available for use in the beam trawl fishery is expected to remain at or around 2017 levels (Table 1). The primary reason for this is that Queensland operates under a limited licencing policy that prevents new licences being issued for the fishery. While this does not prevent the re-activation of underutilised licences, it will help prevent licence numbers expanding into the future.

Reporting systems used by the Department of Agriculture and Fisheries will classify a licence as 'active' when the operator has reported catch and effort from a fishery. This will be done irrespective of the days fished, the frequency of the fishing events or the amount of catch that is reported. As a consequence, data on the number of 'active' licences may include operators that have fished infrequently, have small catch quantities or undertake very limited fishing events.

***Table 1.*** *Overview of the total number of beam trawl (T5–T9) symbols. The number of symbols represent the number of licences that could potentially access the fishery at one time.*

| Year | No. of symbols | | | | | |
|---|---|---|---|---|---|---|
| | **Total** | **T5** | **T6** | **T7** | **T8** | **T9** |
| **1995** | 101 | 40 | 13 | 7 | 12 | 29 |
| **1996** | 124 | 47 | 13 | 8 | 22 | 34 |
| **1997** | 151 | 54 | 16 | 9 | 28 | 44 |
| **1998** | 155 | 59 | 15 | 10 | 31 | 40 |
| **1999** | 163 | 62 | 16 | 10 | 34 | 41 |
| **2000** | 162 | 62 | 16 | 10 | 34 | 40 |
| **2001** | 161 | 62 | 16 | 9 | 34 | 40 |
| **2002** | 159 | 62 | 16 | 8 | 34 | 39 |
| **2003** | 158 | 61 | 16 | 8 | 34 | 39 |
| **2004** | 154 | 60 | 16 | 6 | 34 | 38 |
| **2005** | 153 | 60 | 16 | 6 | 34 | 37 |
| **2006** | 142 | 56 | 14 | 6 | 32 | 34 |
| **2007** | 143 | 59 | 15 | 6 | 33 | 30 |
| **2008** | 143 | 59 | 15 | 6 | 33 | 30 |
| **2009** | 124 | 51 | 10 | 6 | 31 | 26 |
| **2010** | 121 | 51 | 11 | 6 | 30 | 23 |
| **2011** | 109 | 39 | 11 | 6 | 30 | 23 |
| **2012** | 109 | 39 | 11 | 6 | 30 | 23 |
| **2013** | 105 | 38 | 9 | 5 | 30 | 23 |
| **2014** | 105 | 38 | 9 | 5 | 30 | 23 |
| **2015** | 92 | 36 | 5 | 5 | 26 | 20 |
| **2016** | 87 | 36 | 5 | 5 | 21 | 20 |
| **2017** | 83 | 36 | 4 | 5 | 21 | 17 |

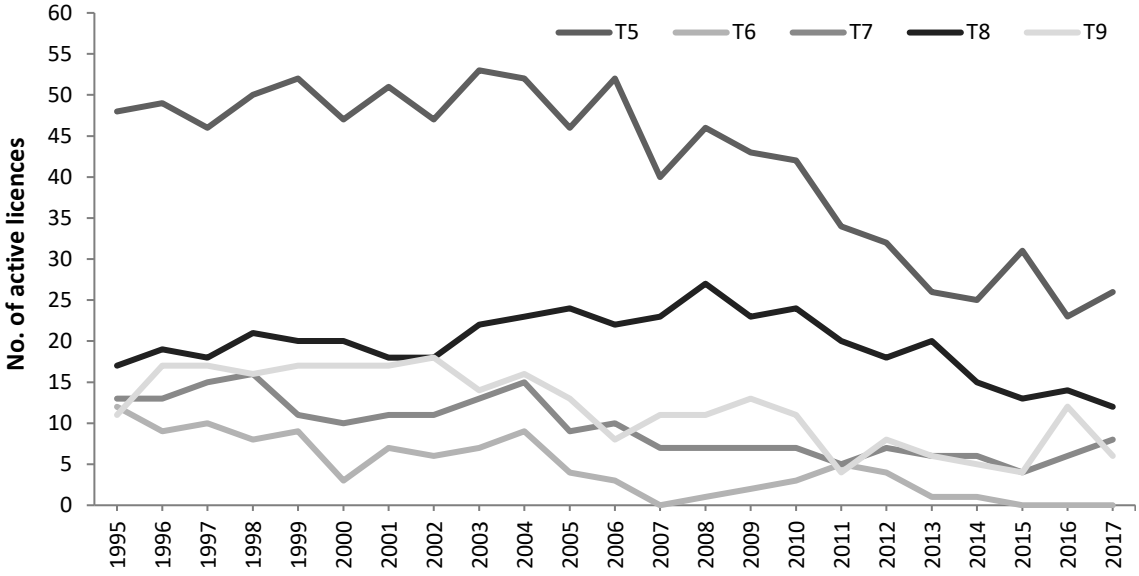


***Figure 2.*** *Long-term trends in the number of licences that are 'active' in the T5, T6, T7, T8 and T9 management areas.*

In the RIBTF, the situation surrounding the number of active licences is complicated by the fact that some operators will hold multiple beam trawl symbols and may access multiple management areas within a given year *e.g.* the T5 and T6 or T6 and T7. From a reporting perspective this will present as a single licence being 'active' in each region.

Similarly, beam trawl symbols are frequently used as part of a *multi-endorsed and diversified fishing operation*.[1] *Multi-endorsed and diversified fishing operations* spread their effort across multiple fisheries (*e.g.* line, pot, beam trawl) and, on occasion, utilise the temporary transfer of symbols to gain access to additional fisheries. In these instances, the catch and effort reporting system will show that two separate licences were active in the fishery; despite the operators using the same fishery symbol at different times of the year. As a consequence, the number of 'active' licences may be higher than the total number of symbols (Fig. 2; Table 2).

Despite the above anomalies, data on the number of active licences was presented as it provides insight into the number of operators that accessed the RIBTF over a 12 month period.

***Table 2.*** *Overview of the total number of active licences and number of T5-T9 fishery symbols operating within the state. *Includes licence holders who utilise multiple symbols (e.g. a T5 and T6).*

| Year | No. Active Licences | | | | | |
|---|---|---|---|---|---|---|
| | **Total*** | **T5** | **T6** | **T7** | **T8** | **T9** |
| **1995** | 90 | 48 | 12 | 13 | 17 | 11 |
| **1996** | 102 | 49 | 9 | 13 | 19 | 17 |
| **1997** | 95 | 46 | 10 | 15 | 18 | 17 |
| **1998** | 101 | 50 | 8 | 16 | 21 | 16 |
| **1999** | 100 | 52 | 9 | 11 | 20 | 17 |
| **2000** | 90 | 47 | 3 | 10 | 20 | 17 |
| **2001** | 96 | 51 | 7 | 11 | 18 | 17 |
| **2002** | 94 | 47 | 6 | 11 | 18 | 18 |
| **2003** | 100 | 53 | 7 | 13 | 22 | 14 |
| **2004** | 105 | 52 | 9 | 15 | 23 | 16 |
| **2005** | 95 | 46 | 4 | 9 | 24 | 13 |
| **2006** | 93 | 52 | 3 | 10 | 22 | 8 |
| **2007** | 80 | 40 | 0 | 7 | 23 | 11 |
| **2008** | 89 | 46 | 1 | 7 | 27 | 11 |
| **2009** | 86 | 43 | 2 | 7 | 23 | 13 |
| **2010** | 85 | 42 | 3 | 7 | 24 | 11 |
| **2011** | 65 | 34 | 5 | 5 | 20 | 4 |
| **2012** | 66 | 32 | 4 | 7 | 18 | 8 |
| **2013** | 57 | 26 | 1 | 6 | 20 | 6 |
| **2014** | 51 | 25 | 1 | 6 | 15 | 5 |
| **2015** | 51 | 31 | 0 | 4 | 13 | 4 |
| **2016** | 53 | 23 | 0 | 6 | 14 | 12 |
| **2017** | 48 | 26 | 0 | 8 | 12 | 6 |

[1] *Multi-endorsed and diversified fishing operations refers to (generally) smaller operators where the fisher accesses multiple fisheries throughout the year (e.g. line, beam trawl and crab fishing) verses concentrating all their effort on a single fishery.*

From a regional perspective, licencing data revealed that over half (51% on average) of the active beam trawl licences were from the T5 area (Table 2; Fig. 2). While showing a small degree of variability, these proportions have remained relatively stable through time (Fig. 2). The T5 symbol also experienced the largest decline in the number of active licences (*n* = 22 between 1995 and 2017) which, for the most part, is attributed to licence buybacks associated with the Port of Brisbane development. This buyback commenced in 2010 and resulted in 13 symbols being removed from the fishery. While not directly linked to the fishery, a further eight beam trawl symbols were surrendered as part of buybacks connected to the introduction of net-free zones in 2015 and 2016 (Department of Agriculture and Fisheries, 2016a; b). Both of these factors would have contributed to the observed decline in the number of active licences.

From an ERA perspective, understanding regional differences in the number of 'active' licences will be important when taking into consideration the risk posed by the fishery to key species / species complexes.

# 6 Catch & Effort Summary

## 6.1 Effort

Effort in the RIBTF can be analysed at both the whole of fishery and regional level (Table 3; Fig. 3). At a whole of fishery level, the effort data can be subdivided into a pre and post 2011 period. From 1995 to 2010 (inclusive) effort in the RIBTF was elevated and fluctuating between 5260 and 8202 fishing days per year (Table 3; Fig. 3). After which, total RIBTF effort showed a marked decline (~46%) with annual effort coming in at less than 3000 fishing days (Table 3; Fig. 3). From a regional perspective, the T5 fishery contributed most to the total effort levels. This region of the RIBTF has accounts for more than half (55–69%) of the RIBTF effort since 2011 (Fig. 3).

The decline in effort during 2010 to 2011 period (46%; Table 3; Fig. 3) is attributed to the *2010–11 Beam Trawl Buyout Process* which resulted in 13 symbols being removed from the fishery. This restructure was followed by the 2011 Brisbane floods which impeded fishers ability to access the fishery, deposited debris throughout the fishing area and affected key infrastructure *e.g.* vessels, gear, and mooring facilities. This again would have contributed to the observed declines in effort.

On a smaller scale, effort data for the RIBTF shows a moderate degree of between-year variability (Table 3; Fig. 3). Some of this variability can be linked to environmental conditions such as rainfall which influences prawn recruitment rates (Tanimoto *et al.*, 2006; Venables *et al.*, 2011). Conversely, market demands for product taken from within and outside the RIBTF will have a bearing on the amount of time some operators dedicate to this fishery. This would be most applicable to licence holders who access multiple fisheries as part of a *multi-endorsed and diversified fishing operation* and sell a wider range of product.

Most of the beam trawl effort is concentrated in the southern portion of the state (Appendix 5). This is unsurprising as the most numerous fishing symbol, the T5, limits fishing activities to rivers and inshore areas between the Brisbane River and Double Island point (Table 1; Fig 1, Appendix 2). At a whole of fishery level, RIBTF effort extends unevenly along the Queensland east coast with a second hotspot observed in waters around Rockhampton (Appendix 5). This again is consistent with the licencing data which identifies the T8 fishery as the second largest sector of the RIBTF (Table 1, Fig.1, Appendix 2).

***Table 3.*** *Effort data for the entire River and Inshore Beam Trawl Fishery (RIBTF) and for each of the respective management regions.*

| Year | Total | No. days fished | | | | |
|---|---|---|---|---|---|---|
| | | T5 | T6 | T7 | T8 | T9 |
| **1995** | 5475 | 3842 | 248 | 587 | 592 | 206 |
| **1996** | 5547 | 3738 | 224 | 544 | 804 | 237 |
| **1997** | 6471 | 3908 | 145 | 621 | 1454 | 343 |
| **1998** | 7944 | 4813 | 259 | 971 | 1483 | 418 |
| **1999** | 7692 | 5147 | 335 | 469 | 1441 | 300 |
| **2000** | 6226 | 4030 | 49 | 594 | 1371 | 182 |
| **2001** | 7102 | 4484 | 47 | 687 | 1582 | 302 |
| **2002** | 6791 | 4478 | 71 | 702 | 1106 | 434 |
| **2003** | 8202 | 5133 | 163 | 694 | 1936 | 276 |
| **2004** | 7815 | 4988 | 116 | 720 | 1504 | 487 |
| **2005** | 6694 | 4389 | 25 | 432 | 1550 | 298 |
| **2006** | 6013 | 4060 | 27 | 513 | 1283 | 130 |
| **2007** | 5846 | 4074 | 0 | 361 | 1244 | 167 |
| **2008** | 6022 | 3761 | 7 | 453 | 1602 | 199 |
| **2009** | 5605 | 3453 | 66 | 614 | 1259 | 213 |
| **2010** | 5260 | 3476 | 83 | 466 | 1061 | 175 |
| **2011** | 2816 | 1722 | 72 | 116 | 810 | 96 |
| **2012** | 2312 | 1478 | 59 | 148 | 549 | 78 |
| **2013** | 2127 | 1168 | 15 | 122 | 745 | 77 |
| **2014** | 2463 | 1638 | 19 | 146 | 594 | 66 |
| **2015** | 2810 | 1946 | 0 | 197 | 632 | 35 |
| **2016** | 2354 | 1323 | 0 | 233 | 603 | 195 |
| **2017** | 2017 | 1411 | 0 | 220 | 400 | 26 |

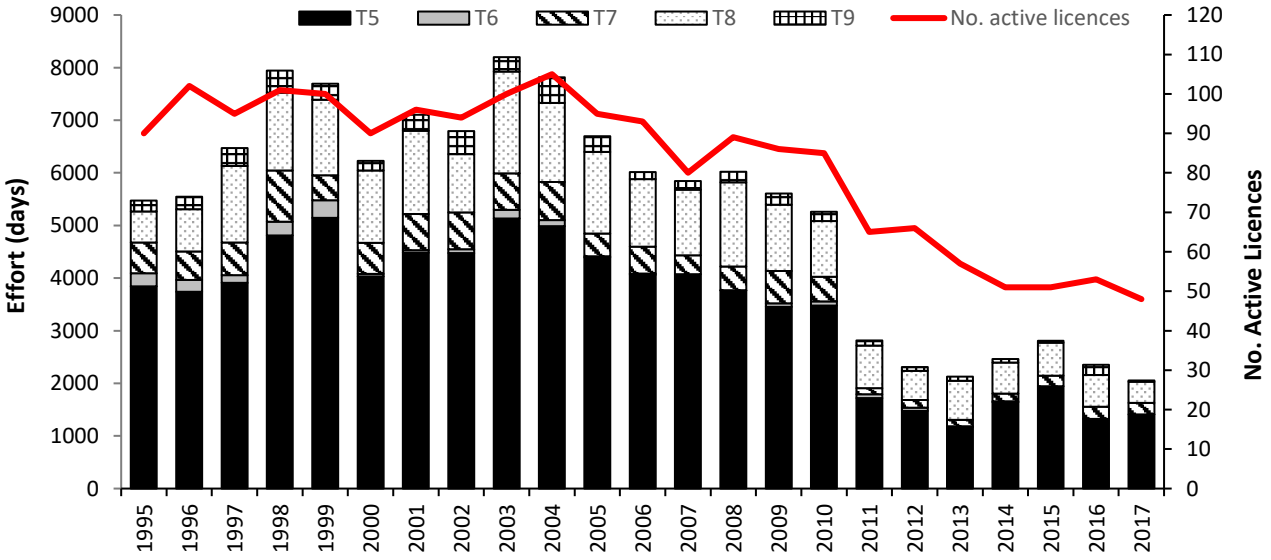


***Figure 3.*** *River and Inshore Beam Trawl effort data including regional breakdowns of days fished compared to the number of active licences*

## 6.2 Catch

Catch data for the RIBTF varies more than the effort data and the two parameters seem to have better correlation in the post 2004 period (Table 4, Fig. 4). As with effort, total catch experienced a considerable decline in 2011 (49%) (Fig. 4) before recovering over the subsequent years. This recovery in total catch was principally driven by T5 operators.

As with the data on the number of active licences and days fished, the greatest amount of catch was recorded against the T5 symbol (60–86%) (Fig. 4) followed by the T8 symbol (6–26%) and the T7 symbol (1–23%). As the T5 management area has the greatest number of active licences, effort and catch it will be a considerable factor of influence in subsequent ERAs involving the RIBTF.

## 6.3 Target Species

The RIBTF operates in shallow, inshore waters and bays with fishers primarily targeting four prawn species (Appendix 6; Appendix 7) or species groupings:

- Banana prawns, *Fenneropenaeus merguiensis*
- Greentail prawns, *Metapenaeus bennettae* (formerly known as greasybacks)
- School prawns, *Metapenaeus macleayi*
- Bay prawns (species complex)

Banana prawns make up on average 42% of the total RIBTF catch followed by greentail (16%) and school prawns (13%) (Appendix 6). The remainder of the catch (7–45% of the annual catch), is reported as 'bay prawns' and refers to a commercial size class of prawns *vs.* a particular species (Courtney *et al.*, 2012). Bay prawns, in effect, refer to smaller cohorts of prawns that are sold as a single entity due to the impracticality of sorting the catch into individual species. While the compositions are likely to vary, bay prawns will include greentail prawns (*M. bennettae*), school prawns (*M. macleayi*) and to a lesser extent brown tiger prawns (*Penaeus esculentus*) and eastern king prawns (*Melicertus plebejus*) (Department of Employment Economic Development and Innovation, 2009; Courtney *et al.*, 2012).

*Note—The nomenclature of some target species / species groupings has changed through time, creating inconsistencies between the reported catch and the legislation. An overview of these inconsistences are provided in Appendix 8.*

## 6.4 Byproduct

The retention of permitted species or byproduct occurs with more regularity in the ECOTF. In the RIBTF, permitted species frequently makes up less than 1t of the total catch (Appendix 6) (Department of Agriculture and Fisheries, 2019). The most notable of these are Balmain bugs, cuttlefish and blue swimmer crabs. These three species / species groupings only make up around 0.5% of the total RIBTF catch (2015–17 data) (Appendix 6). Species able to be retained as byproduct in the ECTF (*i.e.* permitted species) are outlined in Appendix 6 along with the percentage contribution they make to the total RIBTF catch.

*Note—The nomenclature of some bycatch species / species groupings has changed through time, creating inconsistencies between the reported catch and the legislation. An overview of these inconsistences are provided in Appendix 8.*

**Table 4.** *Catch data for the entire RIBTF and each of the management areas.*

| Year | Total | Catch (tonnes) | | | | |
|---|---|---|---|---|---|---|
| | | T5 | T6 | T7 | T8 | T9 |
| **1995** | 440 | 336 | 21 | 48 | 25 | 10 |
| **1996** | 368 | 260 | 8 | 62 | 26 | 13 |
| **1997** | 324 | 222 | 3 | 33 | 46 | 20 |
| **1998** | 487 | 303 | 9 | 111 | 48 | 16 |
| **1999** | 401 | 301 | 16 | 22 | 44 | 18 |
| **2000** | 267 | 160 | <1 | 51 | 44 | 11 |
| **2001** | 376 | 251 | 1 | 50 | 60 | 14 |
| **2002** | 401 | 241 | 2 | 85 | 42 | 30 |
| **2003** | 430 | 259 | 5 | 58 | 87 | 22 |
| **2004** | 562 | 402 | 6 | 64 | 64 | 27 |
| **2005** | 389 | 291 | <1 | 20 | 65 | 12 |
| **2006** | 395 | 293 | <1 | 36 | 60 | 6 |
| **2007** | 379 | 289 | 0 | 20 | 56 | 14 |
| **2008** | 427 | 297 | <1 | 34 | 87 | 10 |
| **2009** | 423 | 284 | 4 | 52 | 69 | 13 |
| **2010** | 462 | 353 | 4 | 30 | 68 | 6 |
| **2011** | 236 | 161 | 9 | 3 | 61 | 3 |
| **2012** | 179 | 138 | 4 | 5 | 27 | 5 |
| **2013** | 165 | 108 | 1 | 12 | 40 | 4 |
| **2014** | 227 | 181 | 2 | 9 | 31 | 4 |
| **2015** | 313 | 270 | 0 | 11 | 30 | 2 |
| **2016** | 198 | 123 | 0 | 19 | 28 | 28 |
| **2017** | 217 | 182 | 0 | 14 | 18 | 2 |

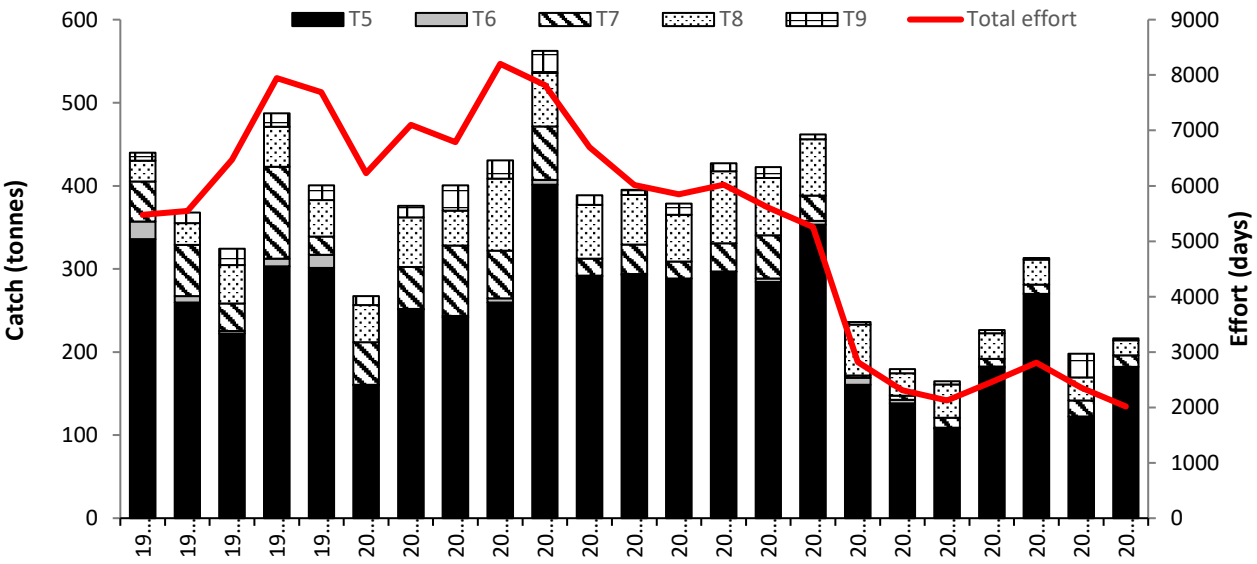


***Figure 4.*** *River and Inshore Beam Trawl catch data including regional breakdowns and comparisons to total effort.*

## 6.5 Bycatch

The RIBTF interacts with a wide range of non-target bycatch including crustaceans, squid, elasmobranchs, and teleosts (Robins & Courtney, 1998). The impact of the fishery on non-targeted bycatch has been reduced though provisions requiring operators to use a BRD in beam trawl nets and (when applicable) a TED in inshore tidal waters outside rivers and creeks. The fishing method though still has a high potential to interact with non-target species.

Fisheries Observer Program (FOP) data from 2007 revealed that the largest proportion of catch by weight (67%) was retained target species. The remainder of catch was returned to the water and consisted of bycatch (non-target) species (31%), unwanted target product (1%), and SOCI (1%). Although the RIBTF has a relatively high proportion bycatch compared to other fishing methods, post-release mortality is understood to be lower than in the ECOTF due to the short shot times, shallow depth of the water, and lower catch weights (Zeller, 2015).

## 6.6 Species of Conservation Concern (SOCC)

The overwhelming majority of SOCI that interact with the RIBTF are sea snakes, but minor constituents include marine turtles, whales, and seabirds, (Appendix 9). A SOCI interaction is classified as any physical contact an individual has with a protected species and includes being caught on or in fishing gear and collisions (*e.g.* boat strike).

Most SOCI are listed as vulnerable, threatened or endangered under the *Nature Conservation Act 1992* and the *Environment Protection and Biodiversity Conservation Act 1999* and or protected under Queensland fisheries legislation.

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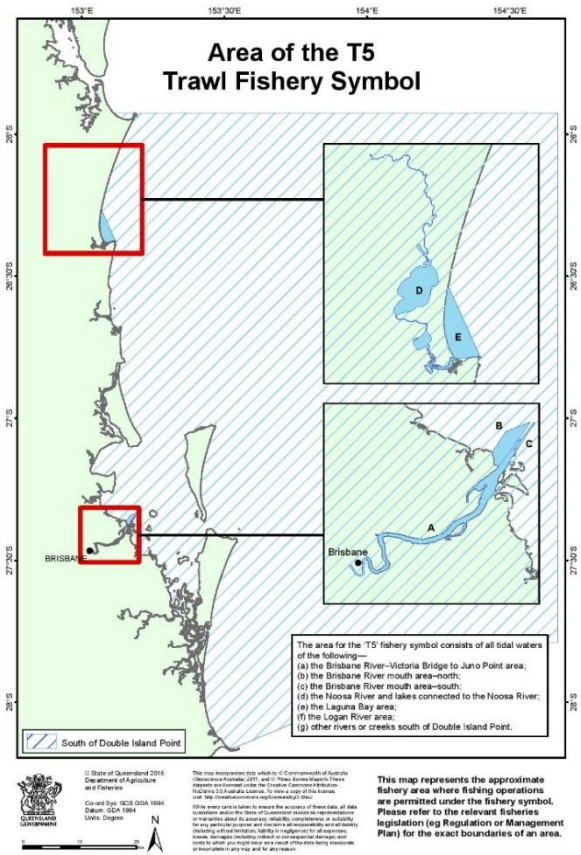
# 8 Appendices

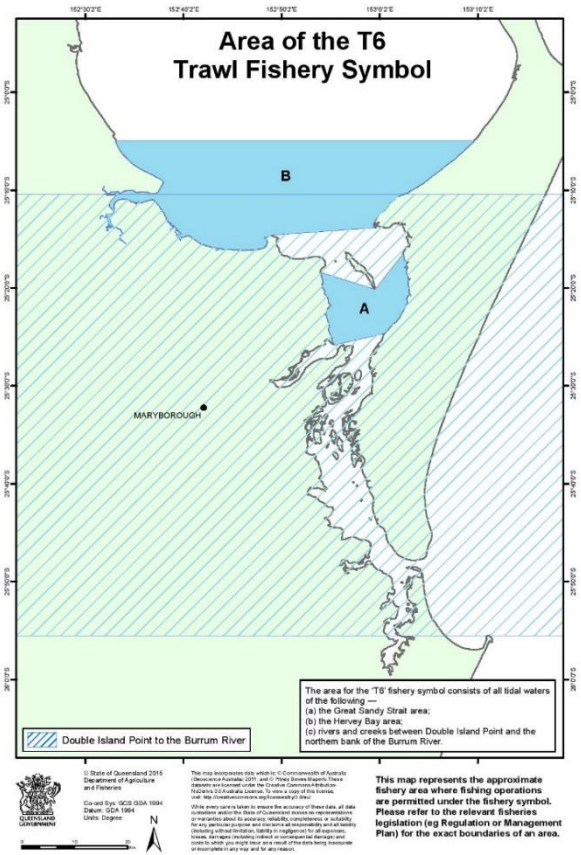
- Appendix 1—*Principle and permitted species output controls for the Queensland ECTF according to the Fisheries Declaration 2019.*
- Appendix 2—*Fine scale boundaries for the River and Inshore Beam Trawl Fishery.*
- Appendix 3—*Beam trawl gear regulations according to the Fisheries (Commercial Fisheries) Regulation 2019.*
- Appendix 4—*Principle and permitted species assessed as part of the National Status of Australian Fish Stocks (SAFS) and Queensland Stock Status processes.*
- Appendix 5—*Effort distribution maps for the T5-T9 fishing symbol regions (2015 – 2017).*
- Appendix 6—*Principle and permitted fish listed under Fisheries (Commercial Fisheries) Regulation 2019 and RIBTF harvest composition (2015 – 2017).*
- Appendix 7—*Retained catch (tonnes) by individual species in the River and Inshore Beam Trawl Fishery.*
- Appendix 8—*Nomenclature discrepancies of some ECTF principle and permitted species.*
- Appendix 9—*Summary of interactions reported in the Species of Conservation Interest (SOCI) logbook by fishers operating in the River and Inshore Beam Trawl Fishery.*

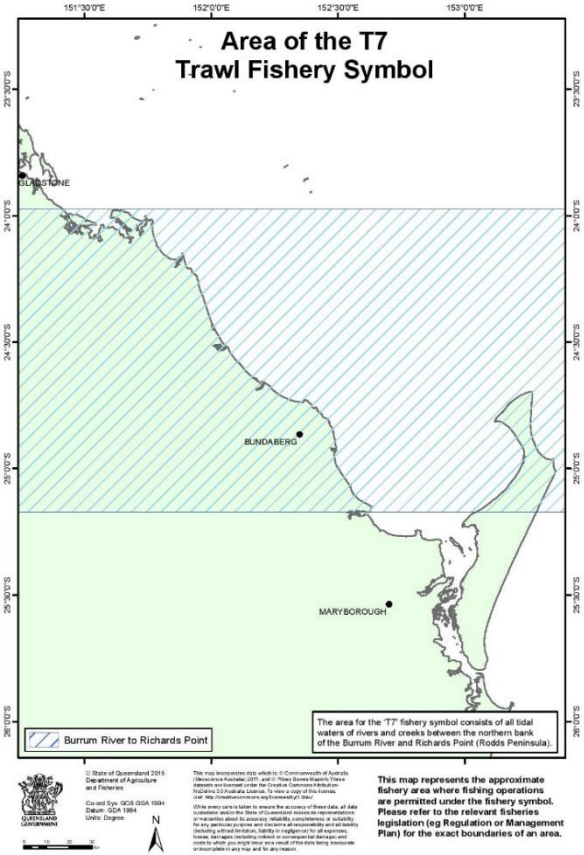
**APPENDIX 1**—*Principle and permitted fish output controls for the Queensland ECTF according to Schedule 2 of the Fisheries Declaration 2019.*

| Principle species | | |
|---|---|---|
| Scallop (saucer) | | No more than 7% of fish in possession must be ≤9cm |
| Moreton Bay bug | | Prohibition of carapace damage & bug meat in possession<br>Minimum legal size ≥7.5cm |
| Squid | | No limits for ECOTF or RIBTF |
| Permitted species | | |
| Balmain bugs (3 *Ibacus* species) | | Prohibition on retention of ovigerous females<br>Prohibition on removal of eggs from females<br>Prohibition of carapace damage & bug meat in possession |
| | Smooth (or Garlic) bug<br>*I. chacei* | Minimum legal size ≥10.5cm carapace width |
| | Deepwater (or Velvet) bug<br>*I. alticreatus* | Minimum legal size ≥7.5cm carapace width |
| | Shovel-nosed lobster (or Honey bug)<br>*I. brucei* | Minimum legal size ≥7.5cm carapace width |
| Blue swimmer crabs<br>(*Portunus armatus*) | | Prohibition on retention of females<br>Minimum legal size ≥11.5cm carapace width measured "notch-to-notch"<br>In-possession limit: ≤100 in Moreton Bay (M1, M2, T5); 500 outside Moreton Bay (T1, T2, T5, T6, T7, T8, T9) for each continuous fishing period of seven days or part of seven days. |
| Cuttlefish<br>(13 *Sepia*, 1 *Metasepia* species) | | No limits for ECOTF or RIBTF |
| Mantis shrimp<br>(21 Stomatopod species) | | In-possession limit of 0.0153m3 if frozen or 15 L if unfrozen where the fish is taken in Moreton Bay |
| Octopus<br>(11 *Octopus* species) | | In-possession limit: 0.0612 m3 if frozen or 66 L if unfrozen for each continuous fishing period of seven days or part of seven days. |
| Pipefish (2 Pipehorse species)<br>(*Solegnathus hardwickii* and *Solegnathus dunkeri*) | | In-possession limit of 50 individuals per trawl boat |
| Red champagne lobster<br>(*Linuparus trigonus*) | | Prohibition on retention of ovigerous females<br>Minimum legal size ≥7.5cm cephalothorax length |
| Slipper lobster (*Scyllarides spp.*) | | Prohibition on retention of ovigerous females<br>No in-possession limits for RIBTF |
| Threadfin bream (aka pinkies)<br>(10 *Nemipterus* species) | | No limits for ECOTF or RIBTF |
| Three spotted crabs<br>(*Portunus sanguinolentus*) | | Prohibition on retention of ovigerous females<br>Minimum legal size ≥10cm carapace width measured "tip-to-tip" |

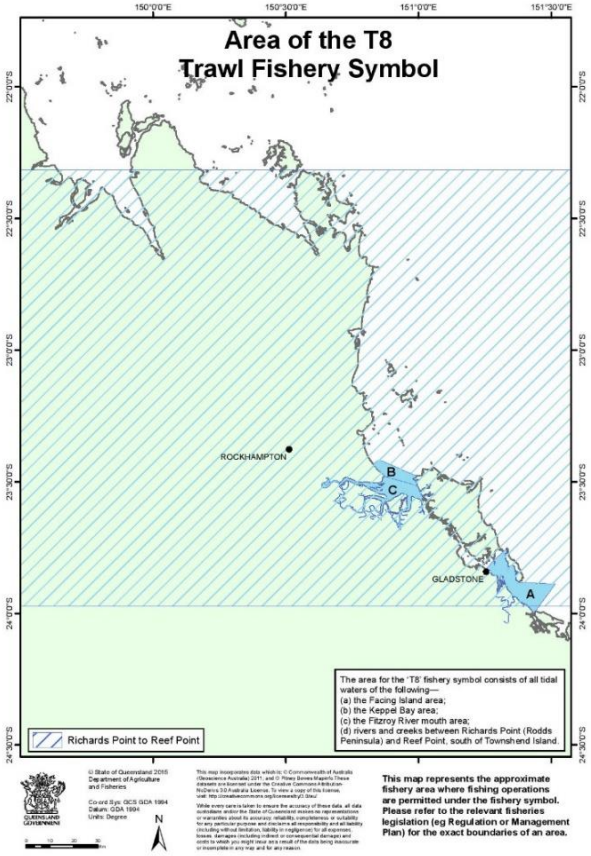
**APPENDIX 2**—*Fine scale boundaries for the River and Inshore Beam Trawl Fishery.*

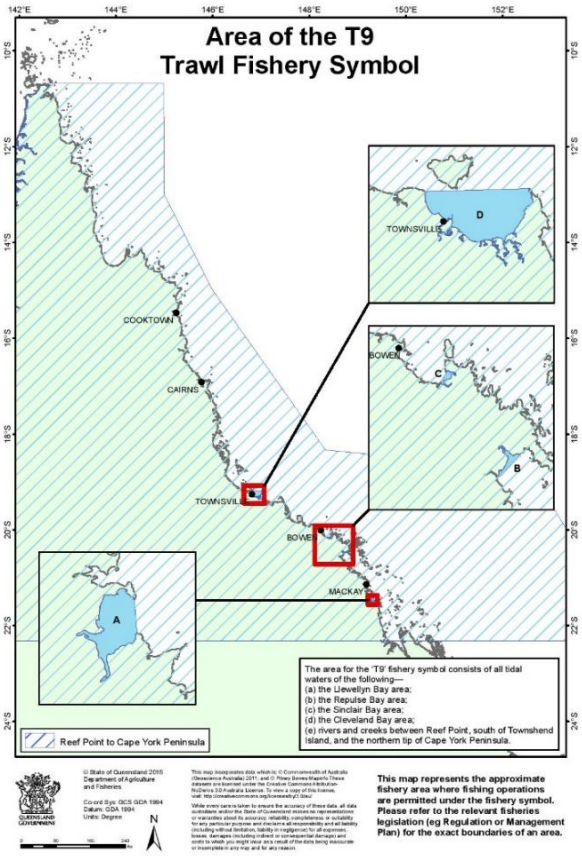


**APPENDIX 2 cont.**—*Fine scale boundaries for the River Inshore Fin Fish Fishery.*



**APPENDIX 3**—*Beam trawl gear regulations according to Fisheries (Commercial Fisheries) Regulation 2019.*

<table>
<tr><th colspan="3">T5 fishery symbol</th></tr>
<tr><td></td><td>• the Brisbane River–Victoria Bridge to Juno Point area<br>• the Brisbane River mouth area–north<br>• the Brisbane River mouth area–south<br>• the Noosa River and lakes connected to the Noosa River<br>• the Logan River area<br>• other rivers or creeks south of Double Island Point.</td><td>Laguna Bay area</td></tr>
<tr><td rowspan="9">Permitted gear</td><td>Beam trawl</td><td>Otter trawl net</td></tr>
<tr><td>No longer than 5m in length</td><td>No longer than 18.6m, with a head rope no longer than 8m</td></tr>
<tr><td colspan="2">Mesh size >28mm</td></tr>
<tr><td>Cod end mesh size >25mm, and no more than 100 rows of mesh<br>(excl. Noosa river and lakes connected)</td><td></td></tr>
<tr><td>BRD must be used</td><td>BRD & TED must be used</td></tr>
<tr><td colspan="2">The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 28mm.</td></tr>
<tr><td colspan="2">The bottom half of a net, other than within 100 rows of mesh from its drawstring, must not be completely covered.</td></tr>
<tr><td colspan="2">The horizontal part of the underside of the beam, otter board, or trawl sled (‘trawl shoe’) that contacts the sea floor must be smooth and flat, and no part of the beam, otter board, or trawl sled should extend below the trawl shoe.</td></tr>
<tr><td colspan="2">A thing must not be attached to the beam, otter board or trawl sled that extends below the trawl shoe</td></tr>
<tr><td rowspan="2">Vessel restrictions</td><td colspan="2">Primary vessel must not exceed 9m in length</td></tr>
<tr><td>1 beam trawl net per vessel, unless the combined length of nets do not exceed 5m in length</td><td>1 otter trawl net per vessel, unless the combined length of nets do not exceed 18.6m in length, and combined head rope does not exceed 8m in length</td></tr>
</table>

| T6 fishery symbol | | |
|---|---|---|
| | • **the Great Sandy Strait area**<br>• **rivers and creeks between Double Island Point and the northern bank of the Burrum River.** | **Hervey Bay area** |
| **Permitted gear** | Beam trawl | |
| | No longer than 5m in length | No longer than 10m in length |
| | Mesh size >28mm | Mesh size 38–60mm |
| | Cod end mesh size >25mm, and no more than 100 rows of mesh | |
| | BRD must be used, and a TED must be used in areas other than rivers and creeks | |
| | The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 28mm. | The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of 38–60mm. |
| | The bottom half of a net, other than within 100 rows of mesh from its drawstring, must not be completely covered. | |
| | The horizontal part of the underside of the beam, otter board, or trawl sled ('trawl shoe') that contacts the sea floor must be smooth and flat, and no part of the beam, otter board, or trawl sled should extend below the trawl shoe. | |
| | A thing must not be attached to the beam, otter board or trawl sled that extends below the trawl shoe | |
| **Vessel restrictions** | Primary vessel must not exceed 9m in length | |
| | 1 beam trawl net per vessel, unless the combined length of nets do not exceed 5m in length | 1 otter trawl net per vessel, unless the combined length of nets do not exceed 10m in length |

| T7 fishery symbol | |
|---|---|
| | **All tidal waters of rivers and creeks between the northern bank of the Burrum River and Richards Point (Rodds Peninsula)** |
| **Permitted gear** | Beam trawl |
| | No longer than 5m in length |
| | Mesh size >28mm |
| | Cod end mesh size >25mm, and no more than 100 rows of mesh |
| | BRD must be used, and a TED must be used in areas other than rivers and creeks |
| | The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 28mm. |
| | The bottom half of a net, other than within 100 rows of mesh from its drawstring, must not be completely covered. |
| | The horizontal part of the underside of the beam, otter board, or trawl sled ('trawl shoe') that contacts the sea floor must be smooth and flat, and no part of the beam, otter board, or trawl sled should extend below the trawl shoe. |
| | A thing must not be attached to the beam, otter board or trawl sled that extends below the trawl shoe |
| **Vessel restrictions** | Primary vessel must not exceed 9m in length |
| | 1 beam trawl net per vessel, unless the combined length of nets do not exceed 5m in length |

<table>
<tr><th colspan="4">T8 fishery Symbol</th></tr>
<tr><td></td><td>• the Facing Island area<br>• the Keppel Bay area</td><td>Fitzroy River mouth area</td><td>Rivers and creeks between Richards Point (Rodds Peninsula) and Reef Point, south of Townshend Island</td></tr>
<tr><td rowspan="9">Permitted gear</td><td colspan="3">Beam trawl</td></tr>
<tr><td>No longer than 10m in length</td><td colspan="2">No longer than 5m in length</td></tr>
<tr><td>Mesh size 38–60mm</td><td>Mesh size >31mm</td><td>Mesh size >28mm</td></tr>
<tr><td colspan="2"></td><td>Cod end mesh size >25mm, and no more than 100 rows of mesh</td></tr>
<tr><td colspan="2">BRD & TED must be used</td><td>BRD must be used</td></tr>
<tr><td>The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of 38–60mm.</td><td>The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 31mm.</td><td>The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 28mm.</td></tr>
<tr><td colspan="3">The bottom half of a net, other than within 100 rows of mesh from its drawstring, must not be completely covered.</td></tr>
<tr><td colspan="3">The horizontal part of the underside of the beam, otter board, or trawl sled (‘trawl shoe’) that contacts the sea floor must be smooth and flat, and no part of the beam, otter board, or trawl sled should extend below the trawl shoe.</td></tr>
<tr><td colspan="3">A thing must not be attached to the beam, otter board or trawl sled that extends below the trawl shoe</td></tr>
<tr><td rowspan="2">Vessel restrictions</td><td colspan="3">Primary vessel must not exceed 9m in length</td></tr>
<tr><td>1 beam trawl net per vessel, unless the combined length of nets do not exceed 10m in length</td><td colspan="2">1 beam trawl net per vessel, unless the combined length of nets do not exceed 5m in length</td></tr>
</table>

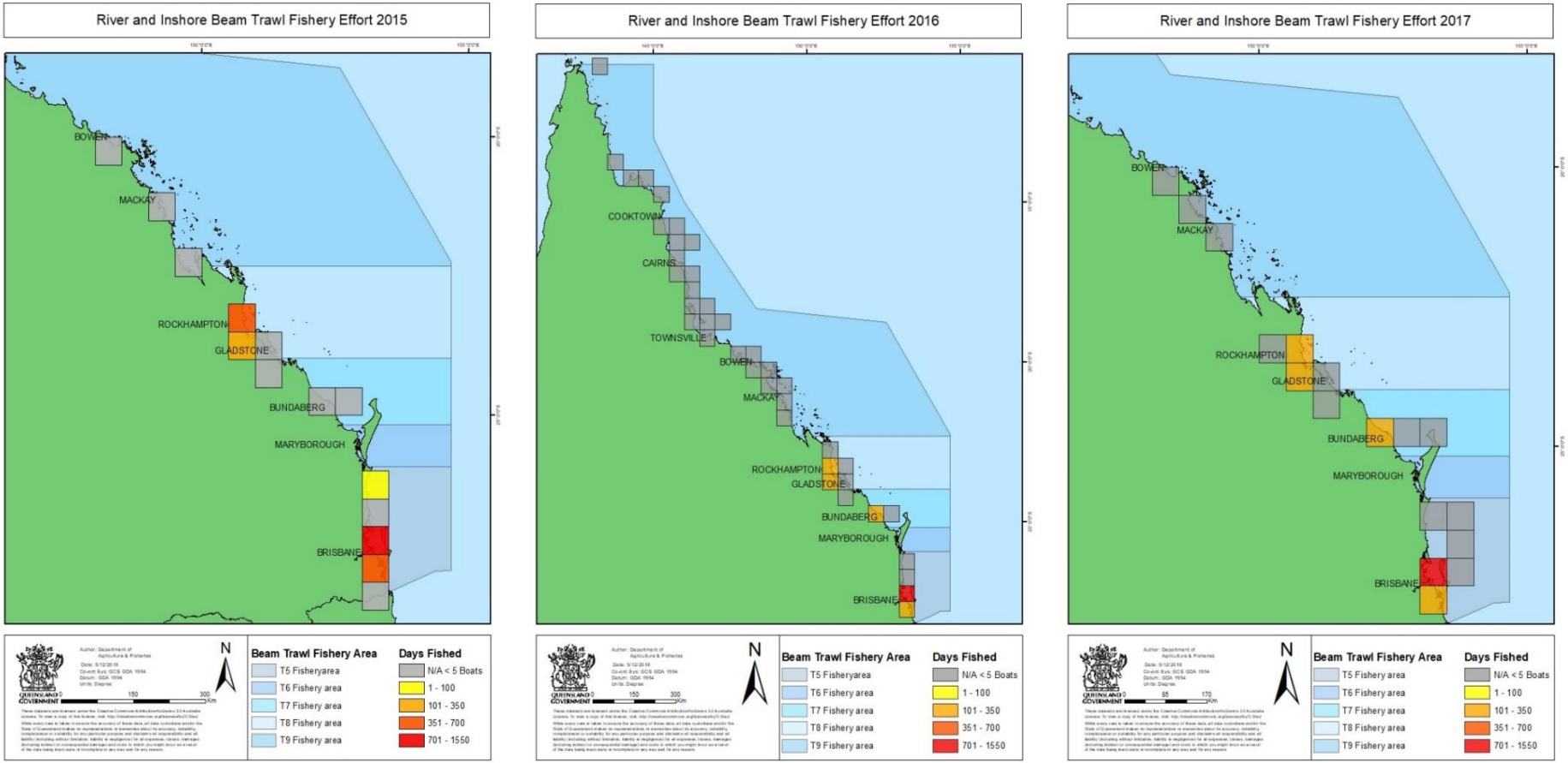
<table>
<tr><th colspan="3">T9 fishery Symbol</th></tr>
<tr><td></td><td>• the Llewellyn Bay area<br>• the Repulse Bay area<br>• the Sinclair Bay area<br>• the Cleveland Bay area</td><td>Rivers and creeks between Reef Point, south of Townshend Island, and the northern tip of Cape York Peninsula.</td></tr>
<tr><td rowspan="10">Permitted gear</td><td colspan="2">Beam trawl</td></tr>
<tr><td>No longer than 10m in length</td><td>No longer than 5m in length</td></tr>
<tr><td>Mesh size 38–60mm</td><td>Mesh size >28mm</td></tr>
<tr><td></td><td>Cod end mesh size >25mm, and no more than 100 rows of mesh</td></tr>
<tr><td>BRD & TED must be used</td><td rowspan="2">BRD must be used</td></tr>
<tr><td>A TED is not required if:<br>• vessel is less than 6.7m in length and<br>• vessel has an outboard engine with less than 90kW of power<br>• Net is used in water shallower than 3m<br>• Net is in the water for no longer than 25 mins<br>• Net is used by hand, without any equipment to assist</td></tr>
<tr><td>The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 38–60mm.</td><td>The part of a net within 100 rows of mesh from its drawstring must not be covered with netting material, unless the material has a mesh size of at least 28mm.</td></tr>
<tr><td colspan="2">The bottom half of a net, other than within 100 rows of mesh from its drawstring, must not be completely covered.</td></tr>
<tr><td colspan="2">The horizontal part of the underside of the beam, otter board, or trawl sled (‘trawl shoe’) that contacts the sea floor must be smooth and flat, and no part of the beam, otter board, or trawl sled should extend below the trawl shoe.</td></tr>
<tr><td colspan="2">A thing must not be attached to the beam, otter board or trawl sled that extends below the trawl shoe</td></tr>
<tr><td rowspan="2">Vessel restrictions</td><td colspan="2">Primary vessel must not exceed 9m in length</td></tr>
<tr><td>1 beam trawl net per vessel, unless the combined length of nets do not exceed 10m in length</td><td>1 beam trawl net per vessel, unless the combined length of nets do not exceed 5m in length</td></tr>
</table>

**APPENDIX 4**—*Principle and permitted species assessed as part of the National Status of Australian Fish Stocks (SAFS) and Queensland Stock Status processes.*

| Species | SAFS Stock name | 2016 SAFS status | 2017 QLD status | 2018 SAFS status |
|---|---|---|---|---|
| Bugs—Balmain<br>*Ibacus chacei & I. brucei* | Queensland east coast | Sustainable | Not assessed | Sustainable |
| Bugs—Moreton bay<br>*Thenus australiensis, T. parindicus* | Queensland (ECOTF) | Sustainable | Not assessed | Sustainable |
| Butterflybream—unspecified | Undefined | Not assessed | Not assessed | Not assessed |
| Crab—blue swimmer<br>*Portunus armatus* | North eastern Australia | Sustainable | Not assessed | Sustainable |
| Crab—three spot<br>*Portunus sanguinolentus* | Undefined | Not assessed | Not assessed | Not assessed |
| Cuttlefish—*Sepia spp.* | Undefined | Not assessed | Not assessed | Not assessed |
| Mantis shrimp—unspecified | Undefined | Not assessed | Not assessed | Not assessed |
| Octopus—unspecified | Undefined | Not assessed | Not assessed | Not assessed |
| Pipehorse—dunkers | Undefined | Not assessed | Not assessed | Not assessed |
| Pipehorse—pallid | Undefined | Not assessed | Not assessed | Not assessed |
| Prawn—banana<br>*Fenneropenaeus merguiensis, F. indicus,*<br>*(formerly Penaeus merguiensis P. indicus)* | Queensland east coast | Sustainable | Not assessed | Sustainable |
| Prawn—blue-legged northern king<br>*Melicertus latisulcatus* | Queensland (ECOTF) | Sustainable | Not assessed | Sustainable |
| Prawn—coral<br>*Metapenaeopsis spp.* | Undefined | Not assessed | Not assessed | Not assessed |
| Prawn—eastern king<br>*Melicertus plebejus* | Eastern Australia | Sustainable | Not assessed | Sustainable |
| Prawn—endeavour<br>*M. endeavouri, M. ensis* | Queensland (ECOTF) | Sustainable | Not assessed | Sustainable |
| Prawn—greentail<br>*Metapenaeus bennettae* | Undefined | Not assessed | Not assessed | Not assessed |
| Prawn—leader<br>*Penaeus monodon* | Undefined | Not assessed | Not assessed | Not assessed |

| Species | SAFS Stock name | 2016 SAFS status | 2017 QLD status | 2018 SAFS status |
|---|---|---|---|---|
| Prawn—red spot northern king *Melicertus longistylus* | Undefined | Not assessed | Not assessed | Not assessed |
| Prawn—school *Metapenaeus macleayi* | Queensland east coast | Sustainable | Not assessed | Sustainable |
| Prawn—tiger *P. esculentus, P. semisulcatus* | Queensland (ECOTF) | Sustainable | Not assessed | Sustainable |
| Scallop—mud *Amusium pleuronectes* | Undefined | Not assessed | Not assessed | Not assessed |
| Scallop—Ballot's saucer *Ylistrum balloti (formerly Amusium balloti)* | Queensland (ECOTF) | Overfished | Not Assessed | Depleted |
| Squid—unspecified | Undefined | Not assessed | Not Assessed | Not assessed |

**APPENDIX 5**—*Effort distribution maps for the T5–T9 fishing symbol regions (2015–2017).*



**APPENDIX 6**—*Principle and permitted species harvested in the River and Inshore Beam Trawl Fishery (2015–17).*

| Principle species | RIBTF harvest percentage (%) | Permitted species | RIBTF harvest percentage (%) |
|---|---|---|---|
| Prawns | 98.5 | Balmain bugs | 0.2 |
| Scallops | <0.1 | Blue swimmer crabs | 0.1 |
| Bugs | 0.4 | Cuttlefish | 0.2 |
| Squid | 0.5 | Mantis shrimp | <0.1 |
| | | Octopus | <0.1 |
| | | Pipefish | <0.1 |
| | | Red champagne lobster | <0.1 |
| | | Slipper lobster | 0 |
| | | Threadfin bream | 0 |
| | | Three spotted crabs | 0 |

**APPENDIX 7**—*Retained catch (tonnes) by individual species in the River and Inshore Beam Trawl Fishery.*

| Species | Year | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Bait fish | | 0.27 | 0.05 | 0.26 | 0.01 | | | 0.03 | | | | | | | | | | | | | | | |
| Bat fish - spotted | | | | 0.02 | | | | | | | | | | | | | | | | | | | |
| Bream - black (luderick) | | | | | 0.00 | | | | | | | | | | | | | | | | | | |
| Bream - bony (herring) | | | 0.02 | | 0.08 | 0.27 | | | | | | | | | | | | | | | | | |
| Bream - unspecified | 0.07 | 0.23 | 0.15 | 0.12 | 0.23 | | | | | | | | | | | | | | | | | | |
| Bugs - Balmain | | | | | | | | | | | 0.01 | | | | | | | | | 0.08 | | 1.35 | 0.03 |
| Bugs - moreton bay | 0.16 | 0.02 | 0.00 | | 0.00 | 0.14 | 0.16 | 0.05 | 0.38 | 0.02 | 0.04 | 0.10 | 0.29 | 0.05 | 0.03 | 0.00 | | 0.01 | 0.19 | 0.04 | | 2.54 | 0.04 |
| Butter fish - striped | | | | | 0.00 | | | | | | | | | | | | | | | | | | |
| Butterflybream - unspecified | | | | | | | | | | | | | | | | | 0.07 | | | | | 0.20 | 0.01 |
| Catfishes | | | | 0.50 | | | | | | | | | | | | | | | | | | | |
| Cod - unspecified | | | | | 0.00 | | | | | | | | | | | | | | | | | | |
| Crab - blue swimmer | 0.12 | 0.03 | 0.06 | 0.20 | 0.07 | 0.06 | 0.06 | 0.13 | 4.24 | 0.07 | 0.17 | 0.04 | 0.02 | 0.03 | 0.10 | 0.03 | 0.26 | 0.03 | 0.08 | 0.37 | 0.25 | 0.03 | 0.16 |
| Crab - coral | | | | | | | | | | | | | 0.04 | | | | | | | | | | |
| Crab - Mud | | | | 0.00 | 0.01 | | | | | | | | 0.01 | | | | | | | | | | |
| Crab - three spot | | | | | | | 0.00 | | | | | | | | | | | | | | | | |
| Crab - unspecified | 1.21 | 0.63 | 0.08 | 0.14 | 0.08 | 0.03 | 0.06 | | | | | | | | | | | | | | | | |
| Cuttlefish | | | | | | | 0.02 | 0.03 | | 0.02 | 0.36 | 0.30 | 0.12 | 0.10 | 0.55 | 0.24 | | 0.02 | 0.00 | 0.14 | 0.11 | 0.44 | 0.63 |
| Lobster - champagne (red) | | | | | | | | | | | | | | | | 0.01 | | 0.01 | | | 0.00 | | |
| Lobster - slipper | | | | | | | | | | | | | | | | | | | | | 0.02 | | |
| Fish - unspecified | 0.01 | | 0.00 | 0.13 | 0.10 | 0.05 | | | | | | | | | | | | | | | | | |
| Flathead - unspecified | | | | 0.02 | 0.03 | 0.00 | | | | | | | | | | | | | | | | | |
| Garfish - unspecified | | | 0.01 | 0.19 | | | | | | | | | | | | | | | | | | | |
| Herring - koningsberger's | | | | | 0.09 | | | | | | | | | | | | | | | | | | |
| Jew fish - mulloway | | 0.01 | | | | | | | | | | | | | | | | | | | | | |
| Mackerel - unspecified | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| Mantis shrimp - unspecified | | | | | | | | | 0.01 | | | 0.01 | 0.01 | 0.06 | | | 0.00 | 0.08 | 0.04 | 0.14 | 0.06 | 0.02 | 0.00 |
| Mullet - tiger / flat tail | 0.12 | | | | | | | | | | | | | | | | | | | | | | |
| Mullet - unspecified | 0.13 | 1.92 | 0.16 | 0.89 | 0.06 | | 0.16 | 0.06 | | | | | | | | | | | | | | | |
| Octopus - unspecified | | 0.00 | | | | | | | | 0.00 | 0.00 | 0.03 | 0.02 | | | | | 0.01 | | | 0.00 | 0.00 | 0.05 |
| Perch - pearl | | | 0.00 | 0.02 | | | | | | | | | | | | | | | | | | | |
| Pipehorse - dunkers | | | | | | | | | | | | | | | | | | | | | | <0.001 | |
| Pipehorse - pallid | | | | | | | | | | | | | | | | | | | | | | <0.001 | |
| Prawn - red spot & blue leg k | | | | | | 0.01 | | 0.16 | | | | | | | 0.01 | | | | | | | | |
| Prawn - banana | 86.55 | 104.63 | 104.40 | 191.77 | 150.92 | 96.17 | 114.24 | 159.94 | 169.11 | 204.84 | 114.33 | 171.08 | 154.70 | 134.60 | 205.57 | 182.16 | 155.07 | 99.30 | 88.69 | 142.37 | 147.68 | 109.41 | 121.60 |
| Prawn - bay | 127.68 | 165.68 | 136.62 | 216.59 | 167.51 | 96.75 | 110.00 | 65.51 | 49.54 | 64.81 | 47.38 | 28.50 | 65.96 | 56.28 | 73.24 | 88.25 | 41.32 | 30.38 | 32.12 | 61.15 | 85.28 | 43.16 | 57.90 |
| Prawn - blue leg king | | | | | | | | | | 0.24 | 0.06 | 0.19 | 0.14 | | | | 0.03 | | | | 0.04 | 0.29 | |
| Prawn - clicker | | | | | | | | | | | | | | | | | | | | 0.03 | | | |
| Prawn - coral | 0.62 | 0.27 | 0.60 | 0.31 | 0.03 | | 1.17 | 2.81 | 1.43 | 1.99 | 0.55 | 0.62 | 1.06 | 3.22 | 1.33 | 0.58 | 1.07 | 0.19 | 0.38 | 0.23 | 0.35 | 0.37 | 0.33 |
| Prawn - eastern king | | | | | | 0.29 | 1.07 | 0.70 | 1.60 | 1.63 | 1.97 | 0.30 | 0.23 | | | | | | | 0.02 | 0.15 | 0.60 | 5.60 |
| Prawn - endeavour | 0.11 | 0.18 | 0.11 | 0.03 | 0.35 | 0.17 | 0.21 | 0.13 | 0.02 | 1.51 | 1.14 | 0.27 | 0.48 | 0.14 | 0.10 | 0.00 | 0.01 | 1.26 | 0.24 | 0.05 | 0.03 | 4.67 | 0.64 |
| Prawn - greasy | 34.60 | 20.66 | 7.04 | 15.34 | 10.53 | 17.23 | 41.64 | 96.17 | 99.62 | 146.55 | 112.10 | 131.25 | 130.62 | 129.70 | 72.14 | 72.13 | 26.33 | 16.75 | 23.78 | 16.05 | 72.69 | 20.00 | 23.79 |

| Species | Year | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Prawn - king | 4.13 | 7.87 | 4.14 | 3.74 | 1.05 | 2.10 | 0.82 | 3.47 | 1.21 | 0.05 | | | | | | | | | | | | | |
| Prawn - leader | | | | | | | | | | 0.00 | | | | | 0.09 | 0.03 | 0.01 | | | | | 0.01 | |
| Prawn - mixed bait | 21.74 | 16.67 | 7.96 | 6.08 | 4.21 | 3.92 | 1.07 | | 3.02 | 1.45 | | 0.90 | 0.07 | 0.98 | 0.04 | | | | | | | | |
| Prawn - red spot king | | | | | | | | | | | | | | | | | | | | | 0.04 | 1.22 | |
| Prawn - scarlet | | | | | 0.08 | | | | | | | | | | | | | | 0.01 | | | | |
| Prawn - school | 138.73 | 37.10 | 45.82 | 35.06 | 48.84 | 29.36 | 72.60 | 37.90 | 77.00 | 131.35 | 104.95 | 53.46 | 19.59 | 93.42 | 60.03 | 116.01 | 10.06 | 30.96 | 18.45 | 4.27 | 3.47 | 0.01 | 2.53 |
| Prawn - tiger | 1.73 | 1.50 | 0.92 | 3.72 | 4.18 | 3.51 | 3.54 | 4.84 | 2.23 | 4.39 | 3.73 | 5.21 | 2.02 | 1.45 | 3.06 | 1.45 | 1.29 | 0.03 | 0.16 | 1.08 | 1.05 | 12.66 | 2.27 |
| Prawn - unspecified | 18.94 | 9.65 | 15.39 | 9.05 | 11.12 | 14.03 | 27.89 | 28.03 | 20.25 | 2.03 | | 0.47 | 2.00 | 5.48 | 4.03 | 0.07 | | | | | | | |
| Ray - eastern fiddler | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| Scallop - mud | | | | | 0.01 | | | | | | | | | | | | | | | | | 0.04 | 0.00 |
| Scallop - saucer | 2.23 | 0.07 | | 0.23 | | 2.59 | | | | | | 0.07 | | | | | | | | 0.03 | 0.01 | 0.14 | |
| Shark - unspecified | 0.07 | 0.08 | 0.02 | 0.08 | 0.07 | 0.01 | 0.17 | | 0.22 | | | | | | | | | | | | | | |
| Silver biddies | 0.02 | | | | | | | | | | | | | | | | | | | | | | |
| Sprat - unspecified | | | 0.02 | 2.05 | 0.03 | | | | | | | | | | | | | | | | | | |
| Squid - unspecified | 0.73 | 0.33 | 0.47 | 0.75 | 0.72 | 0.66 | 0.91 | 0.76 | 0.62 | 1.42 | 1.87 | 2.38 | 1.34 | 1.73 | 2.36 | 1.01 | 0.58 | 0.28 | 0.72 | 0.58 | 1.73 | 0.90 | 0.99 |
| Threadfin - blue | 0.03 | | | | | | | | | | | | | | | | | | | | | | |
| Threadfin - king | | | 0.01 | | | | | | | | | | | | | | | | | | | | |
| Tuna - mackerel | | | 0.04 | | | | | | | | | | | | | | | | | | | | |
| Whiting - stout | | | | | 0.03 | | | | | | | | | | | | | | | | | | |
| Whiting - trumpeter | | | | 0.01 | 0.11 | 0.13 | | | | | | | | | | | | | | | | | |
| Whiting - unspecified | 0.05 | 0.01 | 0.02 | 0.07 | 0.03 | | | | | | | | | | | | | | | | | | |

**APPENDIX 8**—*Nomenclature discrepancies of some ECTF principle and permitted species.*

| Most recent common name | Most recent scientific name | CAAB Code | Previous/other common name | Name in Legislation | Previous scientific name |
|---|---|---|---|---|---|
| Moreton Bay bug | *Thenus spp.* | 28 821903 | Shovel-nosed or slipper lobster | Moreton Bay bug | |
| Mud bug | *Thenus parinicus* | 28 821007 | | Referred to collectively | |
| Reef bug | *Thenus australiensis* | 28 821008 | Sand bug | Referred to collectively | |
| Balmain bug | *Ibacus spp.* | 28 821901 | shovel-nosed or slipper lobster | Referred to at the species level only | |
| Velvet bug | *Ibacus alticrenatus* | 28 821001 | Whitetail bug | Deepwater bug | |
| Garlic bug | *Ibacus chacei* | 28 821019 | | Smooth bug | |
| Honey bug | *Ibacus brucei* | 28 821010 | | Shovel-nosed lobster | |
| Eastern Balmain bug | *Ibacus peronii* | 28 821004 | | Slipper lobster | |
| Bay prawns | *M. bennettae, M. insolitus* | 28711901 | | | |
| Greentail prawns | *Metapenaeus bennettae* | 28 711022 | Greasyback prawns, bay prawns | | |
| Greasyback prawns | *Metapenaeus insolitus* | 28 711028 | Bay prawn, school prawn | | |
| School prawns | *Metapenaeus macleayi* | 28 711029 | Eastern school prawn | | |
| Banana prawns | *Fenneropenaeus spp.* | 28 711907 | | | |
| White banana prawn | *Fenneropenaeus merguiensis* | 28 711050 | Banana prawn | | *Penaeus merguiensis* |
| Redleg banana prawns | *Fenneropenaeus indicus* | 28 711045 | Banana prawn, Indian prawn | | *Penaeus indicus* |
| Scallop | *A. pleuronectes, Y. balloti* | 23 270901 | Saucer scallop | | |
| Mud scallop | *Amusium pleuronectes* | 23 270003 | Asian moon scallop, Northern saucer scallop | | |
| Ballot's saucer scallop | *Ylistrum balloti* | 23 270001 | | | *Amusium balloti* |
| Blue swimmer crab | *Portunus armartus* | 28 911005 | Sand crab | | *Portunus pelagicus* |

**APPENDIX 9**—*Summary of interactions reported in the Species of Conservation Interest (SOCI) logbook by fishers operating in the River and Inshore Beam Trawl Fishery.*

| Species | Yearly SOCI interactions | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | |
| **Whales** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| **Dolphin** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Marine turtles** | 4 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **11** |
| **Fresh water turtles** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Sharks** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Sawfishes & Rays** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Crocodiles** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| **Seabirds** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| **Sea snakes** | 24 | 294 | 35 | 40 | 13 | 0 | 12 | 15 | 0 | 0 | 0 | 0 | 39 | 39 | 112 | **623** |
| **Teleosts** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Dugong** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Water rats** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Syngnathids** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **Non-SOCI reports** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |