Fisheries

Blue Crab (*Portunus armatus*) Fishery 2024/25

C. L. Beckmann and T. M. Clarke

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PO Box 120 Henley Beach SA 5022

July 2026

Fishery Assessment Report to PIRSA Fisheries and Aquaculture

Government of South Australia
Department of Primary Industries and Regions

SARDI
SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE

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The Department of Primary Industries and Regions cares for the Country and communities of South Australia.

We ensure the land, sea, water and sky are healthy for future generations and strive to better understand their spiritual and cultural significance for Aboriginal people across the state.

In the spirit of reconciliation, our commitment is to build progressive and trusting relationships, to share knowledge and learn from each other.

We recognise and own a difficult past, and together we will walk forward.

We acknowledge the many Aboriginal people of this Country as the oldest continuous living culture in the world.

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EXECUTIVE SUMMARY

Overview

This report evaluates the status of the Blue Swimmer Crab (*Portunus armatus*) resource in the South Australian commercial Blue Crab Fishery (BCF) providing updated estimates of the biological performance indicator (PI), assessing them against reference points (RPs), and presenting stock status classifications for the 2024/25 assessment year as described in the Management Plan for the BCF (PIRSA 2024). The harvest strategy follows the National Fishery Status Reporting Framework, used to determine the status of Australian fish stocks. The *Management Plan for the South Australian Commercial Blue Crab Fishery 2024* (the Management Plan) outlines the decision rules for classifying stock status of the Spencer Gulf (SG) and Gulf St. Vincent (GSV) Management zones relative to limit, trigger and target RPs defined for the primary PI, i.e., legal-size catch per unit effort (CPUE) calculated from fishery-independent surveys (FIS; PIRSA 2024).

Uncertainty in this assessment

This assessment incorporates data up to 30 June 2025, and therefore, overlaps with the early stages of the algal bloom that developed off the Fleurieu Peninsula in March 2025 and subsequently expanded into Investigator Strait, GSV and SG during April–July 2025. The algal bloom was associated with widespread reported mortalities across multiple marine species and substantial changes in fishing behaviour, catch and effort during 2025. Fishery-dependent data show a marked decline in Blue Swimmer Crab catch and CPUE in GSV following the onset of the algal bloom; however, it is not possible to distinguish whether these changes reflect direct mortality, altered crab behaviour and availability, or changes in fishing practices.

As the assessment period captures only the onset of the event and does not include a full post-bloom stock survey, the magnitude and duration of algal-bloom impacts on Blue Swimmer Crab stocks remain uncertain. Additional fishery-independent surveys conducted during 2025/26 under the algal-bloom response program provide important post-assessment context for interpreting stock availability and recovery trends but are not used to revise the 2024/25 stock status classifications.

Stock Status

Spencer Gulf

The 2024/25 FIS legal-size CPUE of 5.2 ± 0.3 kg.potlift^{-1} reflects a 6% increase compared to 2023/24 (4.9 ± 0.4 kg.potlift^{-1}) and is the third highest reported since March/April surveys commenced in 2016. The primary PI remained above the target RP (3.7 kg.potlift^{-1}). These results indicate that biomass is unlikely to be depleted, recruitment is unlikely to be impaired, and the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired. Accordingly, the SG stock is classified as '**sustainable**' for the 2024/25 assessment year (Table E-1).

Additional indicators provide supporting evidence for this assessment. The 2024/25 pre-recruit CPUE (2.4 ± 0.2 kg.potlift^{-1}) was among the higher values observed in recent years, although natural interannual variability should be considered when interpreting this result. Commercial CPUE has remained relatively stable over the past three seasons, with the 2024/25 value of 472 kg.boat day^{-1} high compared to historical levels. The commercial harvest of 411 tonnes (t) during 2024/25 represented 98% of the total allowable commercial catch (TACC; 420 t) and was the third highest reported.

Gulf St. Vincent

The 2024/25 FIS legal-size CPUE of 3.2 ± 0.3 kg.potlift^{-1} reflects a 22% decrease compared to 2023/24 (4.1 ± 0.4 kg.potlift^{-1}) and is the fourth lowest value recorded since March/April surveys commenced in 2015. Despite this decline, the primary PI remained above the target RP (2.5 kg.potlift^{-1}). These results indicate that biomass is unlikely to be depleted, recruitment is unlikely to be impaired, and the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired. Accordingly, the GSV stock is classified as '**sustainable**' for the 2024/25 assessment year (Table E-1).

Supporting indicators provide additional context for this assessment. Pre-recruit CPUE during the 2024/25 FIS was low (0.1 ± 0.1 kg.potlift^{-1}), contrasting sharply with the high levels observed in 2023/24 (2.5 ± 0.2 kg.potlift^{-1}). This suggests limited short-term recruitment potential; however, interannual variability is expected. Commercial CPUE increased for the first time since 2019/20, with the 2024/25 value of 426 kg.boat day^{-1}, the highest reported since 2020/21. The commercial harvest of 250 t in 2024/25, represented 93% of the TACC (270 t), and was the highest since 1995/96. The increase in catch and CPUE may be partly attributable to reduced operational constraints, including improved crew and vessel availability, which can have a disproportionate effect on fishing activity in a small fleet. The latter part of the 2024/25 season coincided with the onset of the algal bloom; however, stock status classification is determined using FIS data collected within the 2024/25 assessment period.

Beyond the 2024/25 assessment period, commercial CPUE declined and targeted algal bloom surveys recorded low catch rates during the later part of 2025. The fishery was subsequently closed from November 2025 to April 2026. Catch rates in targeted surveys increased to above-average levels by January–February 2026, followed by a record-high fishery-independent CPUE observed in March 2026. The fishery was reopened from 1 May 2026.

Table E-1. Status of South Australia's Blue Crab Fishery stocks from 2022/23 to 2024/25 assessed against reference points (RP) for legal-size Fishery Independent (FIS) CPUE ± standard error (SE) measured during the March/April FIS (research potlifts).Commercial statistics for 2024/25 are provided as supporting indicators consistent with the Management Plan (PIRSA 2024).

Zone	**RPs (FIS legal-size CPUE kg.potlift^{-1})**			**FIS legal-size CPUE (kg.potlift^{-1} ± SE)**			**Commercial statistics**		
	Limit	**Trigger**	**Target**	**22/23**	**23/24**	**24/25**	**CPUE**	**Catch**	**TACC (% caught)**
SG	1.0	2.4	3.7	7.3 ± 0.4 Sustainable	4.9 ± 0.4 Sustainable	5.2 ± 0.3 Sustainable	472 kg.boat day^{-1}	411 t	420 t (98%)
GSV	0.8	1.7	2.5	2.4 ± 0.3 Sustainable	4.1 ± 0.4 Sustainable	3.2 ± 0.3 Sustainable	426 kg.boat day^{-1}	250 t	270 t (93%)

Keywords: Blue Swimmer Crab, fishery stock assessment, stock status, catch per unit effort (CPUE).

1. INTRODUCTION

1.1. Background

Stock assessments for the South Australian Blue Crab Fishery (BCF) have been produced annually since 1998 (Svane and Hooper 2004) as part of the South Australian Research and Development Institute (SARDI) Aquatic and Livestock Sciences' ongoing assessment program. The fishery targets Blue Swimmer Crabs, *Portunus armatus* (formerly *P. pelagicus*; Lai et al. 2010), hereafter referred to as Blue Crabs. This report updates the 2023/24 stock assessment report (Beckmann 2025).

1.2. Objectives

This report has four aims: 1) to present information on the fishery and biology of the species; 2) to assess the status of the Blue Crab resource in Spencer Gulf (SG) and Gulf St. Vincent (GSV), and to consider the uncertainty associated with each assessment; 3) to comment on the current biological performance indicator (PI) and reference points (RPs) for the fishery; and 4) to identify future directions for the research program.

1.3. Description of the fishery

1.3.1. Access

Blue Crabs support an important inshore fishery in South Australia with the BCF valued at $8.7 million (gross value of production; GVP) in 2023/24 (BDO Econsearch 2025).

There are three major sectors: the commercial fishery which includes the BCF pot fishers and the Marine Scalefish Fishery (MSF) (Figure 1.1), and the recreational fishery. Access to take Blue Crabs in the BCF (SG and GSV zones) is managed under a quota management system with a total allowable commercial catch (TACC). BCF and MSF licences endorsed with BCF quota units are permitted to operate in these zones, with quota allocated on a zone-specific basis. Separate to the BCF, MSF licences (with appropriate gear entitlements and limits on the number of hoop or drop nets) are also permitted to take Blue Crabs on the West Coast (WC) of South Australia (west of longitude 135°E only). Fishing occurs subject to spatial and seasonal closures (Fig 1.1).

Commercial pot fishers use specifically designed crab pots, which are generally hauled once or twice every 24 hours. MSF operators mostly use hoop/drop nets or dab nets, while recreational fishers mostly use hoop/drop nets or handheld rakes. Current management arrangements include bag and boat limits for recreational fishers; a minimum legal-size limit (MLS) of 110 mm carapace width (CW) measured from the anterior base of the first spine; and restrictions on taking berried females.

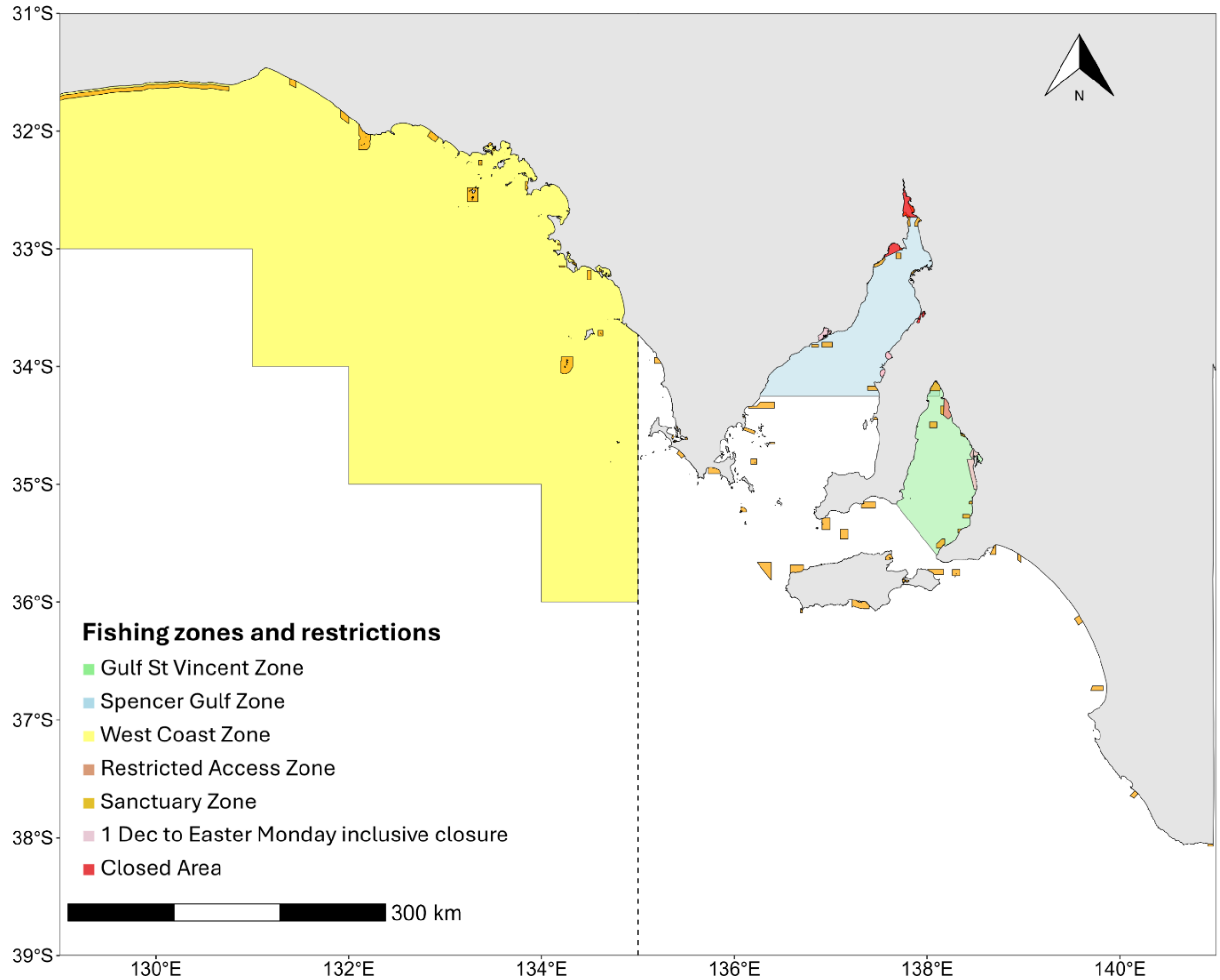

Figure 1.1 South Australian Blue Crab Fishing Areas and restrictions including closed areas, restricted access and Sanctuary zones. The Gulf St. Vincent and Spencer Gulf zones are part of the Blue Crab Fishery, and the West Coast zone (not subject to total allowable catch) in all waters west of longitude 135° East is part of the Marine Scalefish Fishery (indicated by dashed vertical line).

1.3.2. Management arrangements

The BCF was established in 1996 and is managed by the South Australian State Government's Department of Primary Industries and Regions (PIRSA) Fisheries and Aquaculture. The *Fisheries Management Act 2007* provides the statutory framework for management of the resource. Management arrangements are prescribed in the *Fisheries Management (Blue Crab Fishery) Regulations 2013,* the *Fisheries Management (Marine Scalefish Fisheries) Regulations 2017,* and the *Management Plan for the South Australian Commercial Blue Crab Fishery 2024* (the

Management Plan) (PIRSA 2024). General regulations applicable to commercial and recreational take of Blue Crabs are set out in the *Fisheries Management (General) Regulations 2017*.

The fishery operates under an individual transferable quota (ITQ) system with quota units allocated separately for the SG and GSV zones. Key management arrangements include zone-specific quota allocations and input controls such as pot design and pot to quota unit ratios.

1.4. Biology of the Blue Crab

1.4.1. Distribution and habitat

Blue Crabs are distributed within near-shore, marine bays and estuarine systems in Australia and New Caledonia (Lai et al. 2010). They occur in a wide range of algal and seagrass habitats and on sandy and muddy substrata, from the intertidal zone to a depth of at least 50 m (Williams 1982; Edgar 1990). Environmental variability (e.g., freshwater inflow and salinity) can rapidly influence the distribution of Blue Crabs within estuarine systems, altering their movements and habitat use (Schilling et al. 2023). However, in some estuaries like Wallis Lake in New South Wales, substantial migrations between estuarine and coastal habitats may be limited even during periods of reduced salinity. Smaller crabs are generally found in shallow waters < 1 m, while adults are found in deeper waters. Juvenile Blue Crabs live in mangrove creeks and mud flats for eight to twelve months, by which time they attain a size of 80 to 100 mm CW. The proportion of males in the catch increases with depth from January to September and decreases with depth from October to December (Xiao and Kumar 2004). This is likely due to male and female crabs preferring different habitats at different times of the year.

Episodic water-quality disturbances, including harmful algal blooms and associated hypoxic conditions, can influence the distribution, behaviour, and survival of marine crustaceans and other benthic invertebrates in near-shore and estuarine environments (Landsberg 2002). There are no experimental or field studies that directly examine the effects of the harmful algal bloom on South Australian Blue Crabs. Consequently, potential responses are inferred from studies of other marine taxa, which show that dinoflagellate blooms (e.g. *Karenia* spp.) can affect exposed organisms through gill irritation, oxidative stress, haemolytic activity, and reductions in dissolved oxygen, with early life stages generally more vulnerable than adults (Landsberg 2002). For benthic invertebrates, such stressors have been associated with temporary displacement from affected habitats, altered activity or feeding behaviour, and, where blooms are sustained or recurrent, reduced recruitment or population productivity (Anderson et al. 2012). For pot-based fisheries, such responses are most likely to be expressed through changes in catchability or availability to fishing gear, although effects on recruitment or population abundance cannot be ruled out under severe or sustained exposure. Harmful algal bloom conditions therefore represent an additional source of environmental variability that may influence Blue Crab catch outcomes independently of fishing pressure (Gobler 2020).

1.4.2 Reproductive biology

Male and female Blue Crabs generally reach sexual maturity at similar CWs between 70 and 90 mm (Smith 1982). The spawning season lasts for three to four months over the summer/autumn period (Kumar et al. 2000). The duration of the growing season varies among individuals because Blue Crab larvae that settle onto the ocean floor in early summer have a longer growing season than those settling in mid to late summer. In South Australian waters, Blue Crabs close to the MLS (110 mm CW) are ~14 to 18 months old and sexually mature, with females producing at least two batches of eggs within one season. Fecundity of female Blue Crabs is size-dependent, increasing up to a CW of 134 mm and decreasing thereafter, with females producing between ~650,000 and 1,760,000 eggs per spawning event (Kumar et al. 2000; 2003). From 105 mm to 125 mm, fecundity may increase by 84%, indicating that a single large female can produce as many eggs as two small females (Kumar et al. 2003). Spawning behaviour is strongly influenced by temperature, with warmer environments promoting longer spawning seasons (Schilling et al. 2023). Female Blue Crabs typically migrate toward estuary mouths or adjacent coastal waters for egg release, a behaviour influenced by salinity and temperature conditions (Schilling et al. 2023).

In South Australia, late stages of ovarian development were observed in Blue Crabs during late October to November in conjunction with rising seawater temperatures (Kumar et al. 2000). During copulation, the spermatophore is transferred to the female spermatheca. The eggs are subsequently fertilised on extrusion (Smith 1982) and egg extrusion is independent of the timing of copulation. Van Engel (1958) found that, for another portunid, the Chesapeake Blue Crab *Callinectes sapidus*, the sperm in the female spermatheca could remain viable for at least 12 months. Given the close phylogenetic relationship between *Callinectes* and *Portunus* species, and their similar reproductive strategies involving sperm storage in a spermatheca, it is likely that sperm stored by South Australian Blue Crabs remains viable for an extended period, as observed in *Callinectes sapidus*.

1.4.3 Early life history

Blue Crab larvae mostly hatch in offshore areas during November to March (Bryars and Havenhand 2004). Larval dispersal is influenced by wind (strength and direction), and laboratory experiments suggest that temperature has a marked effect on larval development (Bryars and Havenhand 2006). In years of average seasonal temperature increases, the larval durations of development range between 26 and 45 days, with a peak in post-larval settlement occurring between mid-January and mid-March.

1.4.4 Stock structure

Genetic studies have demonstrated that Blue Crab populations in SG, GSV, and the West Coast (WC) of South Australia represent distinct sub-populations with limited gene flow. Using allozyme markers, Bryars and Adams (1999) identified significant genetic differences among regions, suggesting restricted inter-regional larval dispersal and a reliance on local larval supply. This was supported by microsatellite analyses (Chaplin et al. 2001; Sezmiş 2004), which confirmed long-term genetic separation. More recently, SNP genotyping has reinforced the separation between South Australian and Western Australian stocks, while also highlighting uncertainty about finer-scale population structure within SA, particularly along the WC (Briggs et al. 2024). Although genetic exchange among SA regions is limited, environmental drivers such as the Pacific Decadal Oscillation (PDO) may influence year-to-year variability in recruitment and catch rates (Schilling et al. 2023), suggesting that environmental conditions can affect stock productivity independently of genetic structure. Ongoing research using genomic tools is needed to better understand within-region connectivity and the potential contribution of unfished areas to stock resilience.

1.5. Research program

Since 2004, fishery assessment reports have documented the biology and management of the BCF in South Australia, presented analyses of commercial logbook and Fishery-Independent Surveys (FIS data), and provided assessment against the PIs of the Management Plan for the fishery (PIRSA 2012; 2018, 2020, 2024). Since 2008, the report has presented information for each fishing zone separately.

The research program comprises three components: 1) a FIS to inform fishing strategy decisions and assess the fishery against the PI in the Management Plan; 2) management of fishery-dependent commercial logbook data; and 3) production of an annual stock assessment report.

The annual stock assessment report is prepared for PIRSA Fisheries and Aquaculture and informs management decisions in accordance with the TACC decision rules provided in the harvest strategy within the Management Plan. In addition, an advice note is prepared annually to report on the FIS results. A summary of these results for 2026 are provided in Appendix 1.

1.6. Management Plan

The Management Plan outlines the decision rules for classifying stock status of the SG and GSV management zones relative to limit, trigger and target RPs defined for the primary PI. The key biological PI and RPs are used to guide the annual TACC decision-making process, which aims to adjust the TACC when indicators reflect increases or decreases in CPUE, which is a proxy for relative biomass. The primary biological PI to determine the annual TACC is legal-size CPUE ($kg.potlift^{-1}$) estimated from the March/April FIS for the SG (Table 1.1) and GSV zones (Table 1.2).

Table 1.1 The primary biological performance indicator, reference points and decision rules for the Spencer Gulf zone of the Blue Crab Fishery under the Management Plan (PIRSA 2024). Abbreviation: Fishery-independent survey (FIS); catch per unit effort (CPUE).

Legal-size FIS CPUE ($kg.potlift^{-1}$)	**Maximum biological sustainable catch (tonnes)**
5.0 or above	458
3.7 to 4.99	419.84
2.4 to 3.69	381.67
1.7 to 2.39	305.34
1.0 to 1.69	229.00
Below 1.0	0

Table 1.2 The primary biological performance indicator, reference points and decision rules for the Gulf St. Vincent zone of the Blue Crab Fishery under the Management Plan (PIRSA 2024). Abbreviation: Fishery-independent survey (FIS); catch per unit effort (CPUE).

Legal-size FIS CPUE ($kg.potlift^{-1}$)	**Maximum biological sustainable catch (tonnes)**
3.3 or above	294.18
2.5 to 3.29	269.66
1.7 to 2.49	245.15
1.2 to 1.69	196.12
0.8 to 1.19	147.09
Below 0.8	0

1.7. Stock status classification

This stock assessment report assesses the status of the Blue Crab resource and provides the latest estimates of the biological PI, within the context of the RPs and stock status classification in accordance with the Management Plan. The harvest strategy for the fishery was developed in accordance with, and remains aligned with, the National Fishery Status Reporting Framework (Piddocke et al. 2021; Roelofs et al. 2024) classification system to determine the status of all South Australian fish stocks (Table 1.2).

Stock status in the BCF is assessed against RPs based on legal-size CPUE from FIS, which is the primary performance indicator. When CPUE is above the target RP, the stock is considered to have a relatively high biomass; when CPUE is above the trigger RP, the stock is considered sustainable. If CPUE falls below the trigger but remains above the limit, the stock is classified as depleting. When CPUE is below the limit RP, the stock is considered depleted, indicating it is recruitment impaired. In addition to legal-size CPUE from FIS, the Management Plan includes other weight-of-evidence indicators to inform stock status classification, including the relative biomass of pre-recruit crabs from FIS and commercial CPUE of legal-sized crabs from logbook data. However, these indicators do not have defined reference points and are considered as supporting (weight-of-evidence) information rather than being used directly to determine stock status.

Table 1.3 Stock status terminology (Roelofs et al. 2024).

	Stock status	Description	Potential implications for management of the stock
	Sustainable	Biomass (or proxy) is at a level sufficient to ensure that, on average, future levels of recruitment are adequate (recruitment is not impaired) and for which fishing mortality (or proxy) is adequately controlled to avoid the stock becoming recruitment impaired (overfishing is not occurring).	Appropriate management is in place.
	Depleting	Biomass (or proxy) is not yet depleted and recruitment is not yet impaired, but fishing mortality (or proxy) is too high (overfishing is occurring) and moving the stock in the direction of becoming recruitment impaired.	Management is needed to reduce fishing mortality and ensure that the biomass does not become depleted.
	Recovering	Biomass (or proxy) is depleted and recruitment is impaired, but management measures are in place to promote stock recovery, and recovery is occurring.	Appropriate management is in place, and there is evidence that the biomass is recovering.
	Depleted	Biomass (or proxy) has been reduced through catch and/or non-fishing effects, such that recruitment is impaired. Current management is not adequate to recover the stock, or adequate management measures have been put in place but have not yet resulted in measurable improvements.	Management is needed to recover this stock; if adequate management measures are already in place, more time may be required for them to take effect.
	Undefined	Not enough information exists to determine stock status.	Data required to assess stock status are needed.
	Negligible	Catches are so low as to be considered negligible and inadequate information exists to determine stock status.	Assessment will not be conducted unless catches and information increase.

2. METHODS

2.1. Fishery-independent surveys

Fishery-independent surveys are conducted using commercial vessels, in combination with independent onboard observers. The primary aim is to determine the relative abundance and size composition of Blue Crabs in SG and GSV. While there has been some inter-annual variability in the timing of the FIS, they have been generally undertaken during June and July from 2002 to 2018. June/July surveys were not undertaken in SG during 2011, 2013 and 2015 when the CPUE of pre-recruits from the previous year (i.e. 2010, 2012, 2014) was above average from the previous 10-years (PIRSA 2012). Full details of the June/July survey dates are available in Beckmann and Hooper (2019). Annual surveys in March/April commenced in 2015 in GSV and in 2016 in SG (Table 2.1). The shift in timing was implemented to reduce the time lag between survey data collection and the start of the fishing season (1 July), thereby improving the responsiveness of the TACC-setting process to current stock conditions. No survey was undertaken in GSV during March/April in 2018 due to the Pacific Oyster Mortality Syndrome outbreak.

Table 2.1 Fishery-independent survey (FIS) calendar for Spencer Gulf (SG) and Gulf St. Vincent (GSV) during March and April from 2015 to 2025.

Year	Gulf St Vincent		Spencer Gulf	
	Start Date	**End Date**	**Start Date**	**End Date**
2015	19 March	23 March	No survey	
2016	28 March	2 April	5 April	10 April
2017	13 March	18 March	28 March	2 April
2018	No survey		16 April	21 April
2019	3 March	10 March	18 March	24 March
2020	22 March	27 March	9 March	14 March
2021	14 March	19 March	7 April	12 April
2022	2 March	8 March	21 March	26 March
2023	19 March	25 March	7 March	12 March
2024	12 March	18 March	22 March	26 March
2025	27 March	31 March	11 March	15 March

The area of the FIS encompasses waters with depths ranging from three to 22 m, northwards of a line from Wallaroo to Cowell in SG and northwards of a line from Glenelg to Port Vincent in GSV (Figure 2.1). Sampling locations were determined based on fisher knowledge and historical catch and effort data, with four sites selected in each fishing block. From 2003–07, the FIS design included 108 sites in SG and 92 sites in GSV. Note that, in 2002, fewer sites (~3% less in SG and 40% less in GSV) were undertaken compared to surveys undertaken during 2003–2007. In June 2008, the FIS design was modified to provide a more representative measure of relative abundance of Blue Crab in each gulf. Changes included removing all sampling locations from some fishing blocks, adding new FIS locations to previously un-surveyed blocks, and relocating sampling locations within existing blocks. The 2008–2015 FIS design included 108 sites in SG and 104 sites in GSV.

Three additional FIS were undertaken in GSV between 31 August 2025 and 5 February 2026 to assess potential impacts of the algal bloom. Surveys were conducted from 31 August–3 September 2025, 25 September–1 October 2025, and 27 January–5 February 2026 at consistent sites along the Yorke Peninsula and the Metropolitan and Northern coastlines (Appendix 2).

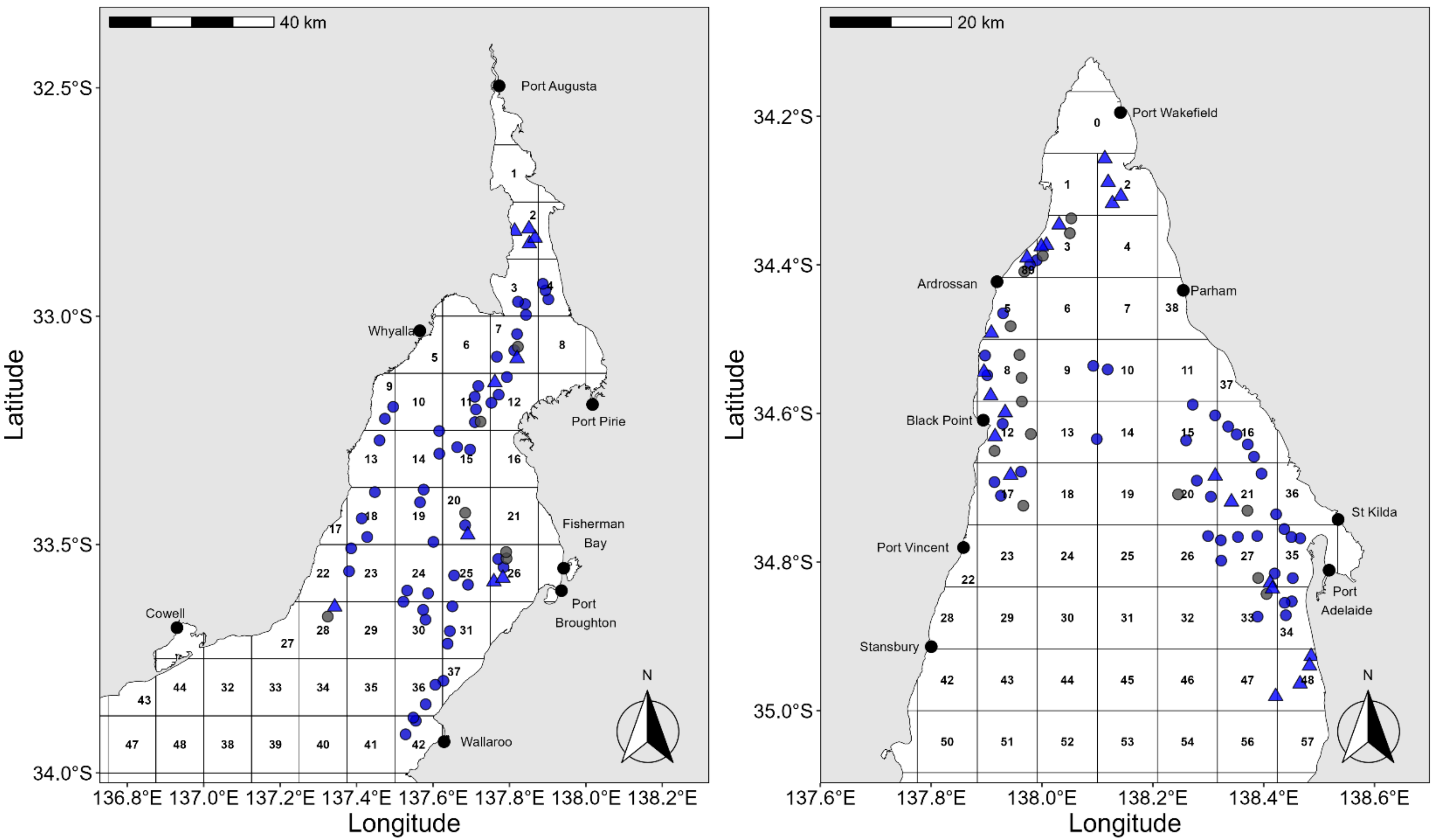

Figure 2.1 Research blocks (grid) and fishery-independent survey (FIS) locations in the Spencer Gulf and Gulf St. Vincent zones of the Blue Crab Fishery. Blue markers represent the 60 sites chosen for the harvest strategy (implemented in 2016), and grey markers indicate sites that were discontinued from 2019. Circles represent standard sites (sampled since 2002), triangles represent new sites (sampled since 2008).

Paired surveys were undertaken during March/April and June/July from 2015 in GSV and 2016 in SG to inform the transition from June/July surveys to March/April (PIRSA 2020). To achieve this, the number of sites sampled during the FIS were reduced. During 2015, 50 sites were sampled in March/April in GSV while the full survey design (108 sites) was maintained during June/July. From 2016, 60 survey sites per gulf were sampled during March/April and June/July (except in 2018 as the GSV survey was not undertaken during March/April). Figure 2.1 shows the sampling locations in the SG and GSV zones of the BCF. The reduction in sites generally reflected the removal of sites in areas with consistently low abundance and are the sites are used to calculate CPUE identified in the current harvest strategy and inform stock status classification.

At each FIS site, commercial and small-mesh research pots were set and hauled daily (i.e. a potlift). Pots were baited with fresh Australian Salmon (*Arripis trutta/truttaceus*), Australian Sardine (*Sardinops sagax*) or Striped Trumpeter (*Helotes octolineatus*) and hauled from dawn each day. A global positioning system (GPS) was used to locate the gear, and depth was recorded at each FIS location. The CW (mm) of captured Blue Crabs were measured using Vernier callipers, and details of sex and condition (dead, soft, berried) were recorded. Bycatch from research and commercial pots was also recorded (Appendix 3). Research pots are the primary source of data for assessing the performance of the stock as they have remained consistent since surveys commenced (i.e. a diameter of 140 cm, a height of 50 cm, and a mesh size of 5.5 cm). Data from commercial pots are also recorded during surveys. However, the pot type is not standardised between operators or through time, and commercial pots have generally increased in size, with larger mesh and escape gaps becoming common since 2006/07.

Prior to 2022, at each FIS site, five sets of gear were deployed, each set consisting of one commercial pot and one small-mesh pot (except for GSV in July 2012 when only small mesh pots were used). Historically, each set of gear was spaced 150 m apart and, where both pot types were used, pots were separated by 40 m of rope. In recent years, some operators have moved to using long-line gear where pots are set along a single line at each FIS location with sets of gear spaced at 76 m apart. From 2022, a single research pot was set with nine commercial pots. This change to the survey design followed a request for advice from PIRSA Fisheries and Aquaculture on transitioning to commercial pots for obtaining CPUE during FIS, in response to high catch rates and mortality of crabs since shifting surveys to March/April. The updated design incorporated the use of both research and commercial pots during FIS;

however, CPUE for the Harvest Strategy continues to be calculated using data from the research pots only.

From FIS data, nominal CPUEs were calculated as the average weight of legal-size Blue Crabs per potlift and the average weight of pre-recruit blue crabs per potlift. Average values are presented as mean ± standard error (SE) unless otherwise noted. Sex- and gulf-specific weight conversions for each crab length measured were undertaken using the length/weight relationship for June/July (see Beckmann and Hooper 2017) or March/April (Beckmann and Hanamseth 2024). CPUE is presented for both gulfs using the historical FIS locations sampled since 2003 (52 sites in SG and 32 sites in GSV) and the 60-site design sampled since 2008, as per the harvest strategy. Size frequency information is presented as the sum of crabs caught per potlift in specified length classes.

RStudio (version 4.5.0) software was used to plot density of legal- and pre-recruit crabs from 2025 surveys. Crab density was quantified as the sum of crabs sampled from research pots at each station. Spatial distribution of legal- and pre-recruit crabs was visualised as 2D kernel density (KDE) over the extent of survey locations using the *stat_density_2d* function (package ggplot2, version 4.0.2).

2.2. Commercial catch and effort statistics

Commercial catch and effort data are recorded in SARDI logbooks by licensed fishers who operate in the SG and GSV pot fishing zones, and in the MSF as part of their licence conditions. In addition to catch and effort data, daily records of fishing block, depth, and the number and sex of Blue Crabs caught are recorded by pot fishers. Additional information on targeted effort using potlifts (by the BCF) is recorded on second potlifts, when pot fishers have lifted and reset their gear on the same day. Under these circumstances, soak time is generally 18 to 20 hours for the first potlift, and 4 to 6 hours for the second potlift.

State-wide catch estimates are presented as combined total catch for each zone (i.e., GSV, SG and WC) and total recreational catch. Targeted effort data are expressed in boat days (days fished per licence) and total number of potlifts (first and second lifts). Annual estimates of targeted nominal commercial CPUE are expressed as the sum of the annual catch divided by the total number of boat days (kg.boat day^{-1}) and the daily catch divided by the daily number of potlifts by licence (kg.potlift^{-1}). Potlift data, available only from 1997/98 onwards, is included to provide a more precise measure of fishing effort while acknowledging the dataset's temporal limitations. Average values are presented as mean ± standard error (SE) unless otherwise noted. The spatial distribution of the annual catch was examined to determine the number of blocks fished and the magnitude of catches within those blocks. When more than one block was reported per day, catch and effort were equally divided between the blocks reported for mapping purposes. A summary of the key statistics is provided in Appendix 4.

2.3. Recreational catch and effort statistics

Quantifying the recreational sector's contribution to the State's total catch is important in determining the overall status of fish stocks and informing resource allocation issues. There have been five extensive recreational fishing surveys conducted in South Australia over the past 32 years. The first was an on-site (creel) that was undertaken throughout 1994 to 1996 (McGlennon and Kinloch 1997). A national telephone/diary survey supported with an on-site (creel) survey was undertaken in 2000/01 (Henry and Lyle 2003). State-wide surveys using similar methodology were undertaken in 2007/08 (Jones 2009), 2013/14 (Giri and Hall 2015) and 2021/22 (Beckmann et al. 2023). The 2013/14 survey included a limited on-site (creel) survey to determine the recreational catch and effort of Blue Crabs in Northern GSV. Of the five published surveys, only the results from the most recent four surveys can be reliably compared, as the data were collected using similar methods. Values are presented as mean ± standard error (SE) unless otherwise noted. The coefficient of variation (CV) is provided where indicated.

2.4. Quality assurance of data

All logbook data were entered and validated according to the quality assurance protocols identified for the BCF (Vainickis 2010). Data were stored in an Oracle database, backed up daily, and with access restricted. All FIS data were entered into Excel spreadsheets. Accuracy of data entry was verified by cross-checking data against the original data sheets. Once validated, data were stored on a network drive with restricted access. Data are analysed using the open-source software R and Microsoft Excel. The results, interpretations and conclusions provided in the reports are discussed with peers, PIRSA and BCF licence holders before the report is being finalised. Additionally, the report is formally reviewed by two independent scientists at SARDI in accordance with the SARDI report review process. Following necessary revision, the report is reviewed by PIRSA to ensure it is consistent with their needs and objectives for the fishery.

3. RESULTS

3.1. State-wide

3.1.1. Commercial

The State-wide commercial catch of Blue Crabs increased significantly from 87 tonnes (t) in 1983/84 to 651 t in 1995/96 (Figure 3.1). Annual TACC limits were introduced in 1996/97, resulting in a 29% reduction in State-wide catch. From 1996/97 onwards, the State-wide catch gradually increased, reaching a peak of 669 t in 2007/08. Since then, commercial catch levels have remained relatively stable, aside from noticeable declines in 2009/10 and 2012/13. More recently, the State-wide catch increased by 17% from 616 t in 2023/24 to 723 t in 2024/25, which represents the highest catch recorded in the time series.

The BCF catch (i.e. SG and GSV only) dominates the State-wide total. In 2024/25, SG contributed 411 t and GSV 250 t (combined 660 t; 91% of the State-wide catch), while the WC contributed 63 t (9%). The WC represents only a minor component of the State-wide catch (generally <15%).

3.1.2. Recreational

The most recent recreational fishing survey conducted by Beckmann et al. (2023) estimated that 356,708 (± 10,843) South Australian residents participated in fishing during the 12 months prior to the 2021/22 survey period. In 2021/22, Blue Crabs were the most frequently caught species in South Australian waters, accounting for 18% of the total recreational catch by number, with an estimated 1,963,340 crabs caught (± 338,346). Of this, 920,721 crabs (± 121,102) were retained.

The estimated recreational catch for 2021/22 was 251 t (± 33 t, coefficient of variation [CV]), which was lower than previous estimates: 376 t (± 110 t CV) in 2013/14 (Giri and Hall 2015), 284 t (± 34 t CV) in 2007/08 (Jones 2009), and 361 t (± 60 t CV) in 2000/01 (Jones 2009) (Figure 3.1). Most of the recreational catch was harvested from the GSV (123 t ± 34 t), SG (102 t ± 53 t), and WC (14 t ± 41 t), based on aggregated regional estimates from the 2021/22 survey. These recreational fishing zones differ from the commercial zones (Figure 1.1), and the State-wide estimate may include minor catches outside these areas.

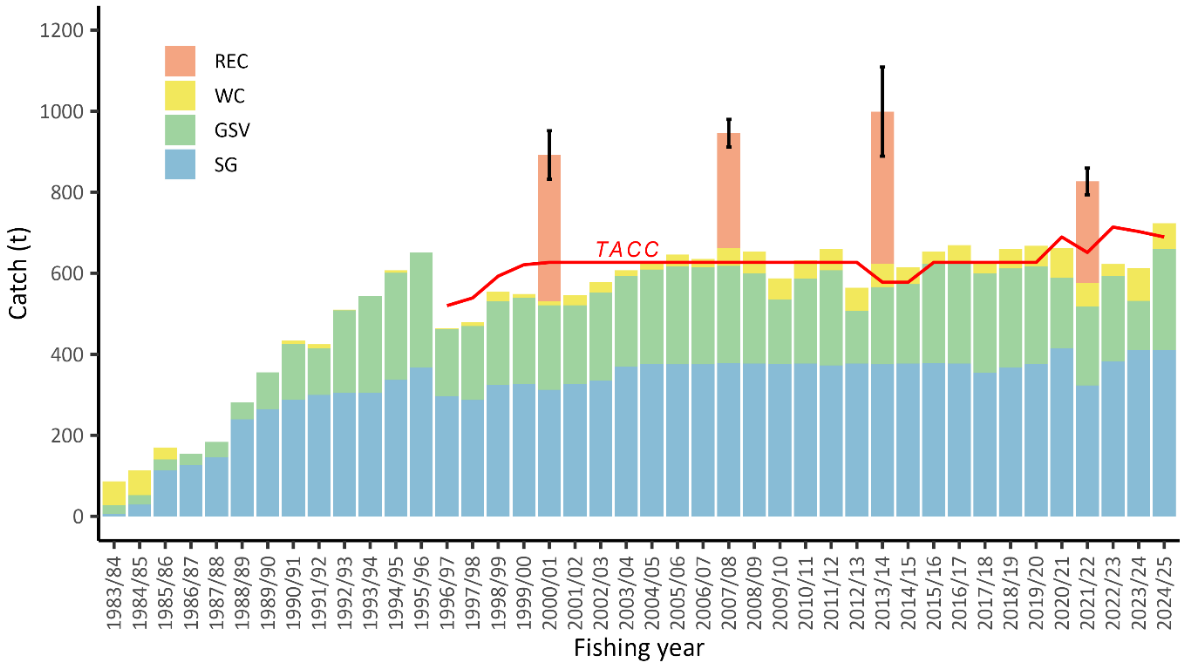

Figure 3.1 State-wide catch including commercial catch (t) of Blue Crabs from 1983/84 to 2024/25 in Spencer Gulf (SG); Gulf St. Vincent (GSV) and from the West Coast (WC), recreational catch (t) estimated in May 2000 to April 2001, October 2007 to September 2008, November 2013 to October 2014, and March 2021 to February 2022. Error bars show ± coefficient of variation (CV).

3.2. Spencer Gulf

3.2.1. Fishery-independent survey CPUE (research potlifts)

The March/April and June/July surveys in SG exhibited similar trends in legal-size CPUE, though March/April CPUE was consistently higher each year (Fig. 3.2a). March/April legal-size CPUE ranged from a low of 2.6 ± 0.1 kg.potlift^{-1} in 2018 to a peak of 7.3 ± 0.4 kg.potlift^{-1} in 2023, before declining to 4.9 ± 0.4 kg.potlift^{-1} in 2024. In 2025, CPUE increased modestly to 5.2 ± 0.3 kg.potlift^{-1}, remaining above pre-2019 levels but well below the 2023 peak.

Spatial density plots from March/April revealed distinct patterns in the distribution of legal-size and pre-recruit crabs across FIS sites (Figures 3.3 and 3.4). From 2016 to 2019, the highest densities of legal-size crabs occurred north of Wallaroo (Blocks 30, 31, 36), south of Whyalla (Block 14), and near Port Broughton (Blocks 24, 26), with additional high density areas near Port Pirie (Block 12). Following 2020, legal-sized crab densities had intensified in northern areas near Whyalla and Pt Pirie, with crab density more widely distributed in areas between Wallaroo, Pt Broughton, and north of Cowell (Figure 3.3). A similar pattern was observed in 2025, with the highest densities near Port Pirie (Blocks 11, 15) and north of Cowell (Block 18), with other patches of increased density near Wallaroo (Block 36) and Port Broughton (Blocks 26).

Pre-recruit CPUE during March/April was higher or similar to June/July CPUE, with a decreasing trend observed from 2016 to 2020 (Figure 3.2b). CPUE increased from 2021 onwards, except for a drop in 2023 (1.4 ± 0.1 kg.potlift^{-1}). In March 2024, pre-recruit CPUE reached 3.9 ± 0.2 kg.potlift^{-1}; the highest recorded for March/April. This was followed by a 38% decline in 2025 to 2.4 ± 0.2 kg.potlift^{-1}, although CPUE remained above the lows recorded between 2018 and 2020.

In contrast to legal-size crabs, pre-recruit crabs displayed more variable distributions. In most years, the highest pre-recruit densities were observed south of Whyalla (Block 14), east of Whyalla (Block 7), near Port Broughton (Block 26), and near Port Pirie (Blocks 11, 12) (Figure 3.4). A marked increase in densities occurred in 2022, particularly near Port Pirie (Blocks 11 and 12) and south of Whyalla (Blocks 7 and 14). In 2024, high densities of pre-recruits were again observed near Port Pirie (Blocks 12 and 15), north of Wallaroo (Block 31), south of Whyalla (Block 14) and near Port Broughton (Blocks 25 and 26). While densities of pre-recruits decreased in most of SG during 2025, most were found near Port Pirie (Blocks 11, 12), Port Broughton (Block 26 and 31), and South of Whyalla (Block 14).

From 2016 to 2024, male crabs dominated the March/April survey catch (83–96%) (Figure 3.5). The modal size of male crabs was undersize (105–109 mm CW) in 2016 and 2022 but was above the legal-size limit in all other years. Peaks in male crab size were observed at 120–124 mm CW in 2020 and 2023. In 2024 and 2025, the modal size for males decreased to 110-114 mm CW. Females constituted a smaller proportion of the catch (4–17%) in all years and were generally below the legal size, except in 2019, 2020, and 2023, when modal sizes exceeded the legal limit (110–114 mm CW). In 2024 and 2025, the modal size for females decreased to 100-104 mm CW, and the overall size distribution was skewed towards smaller size classes.

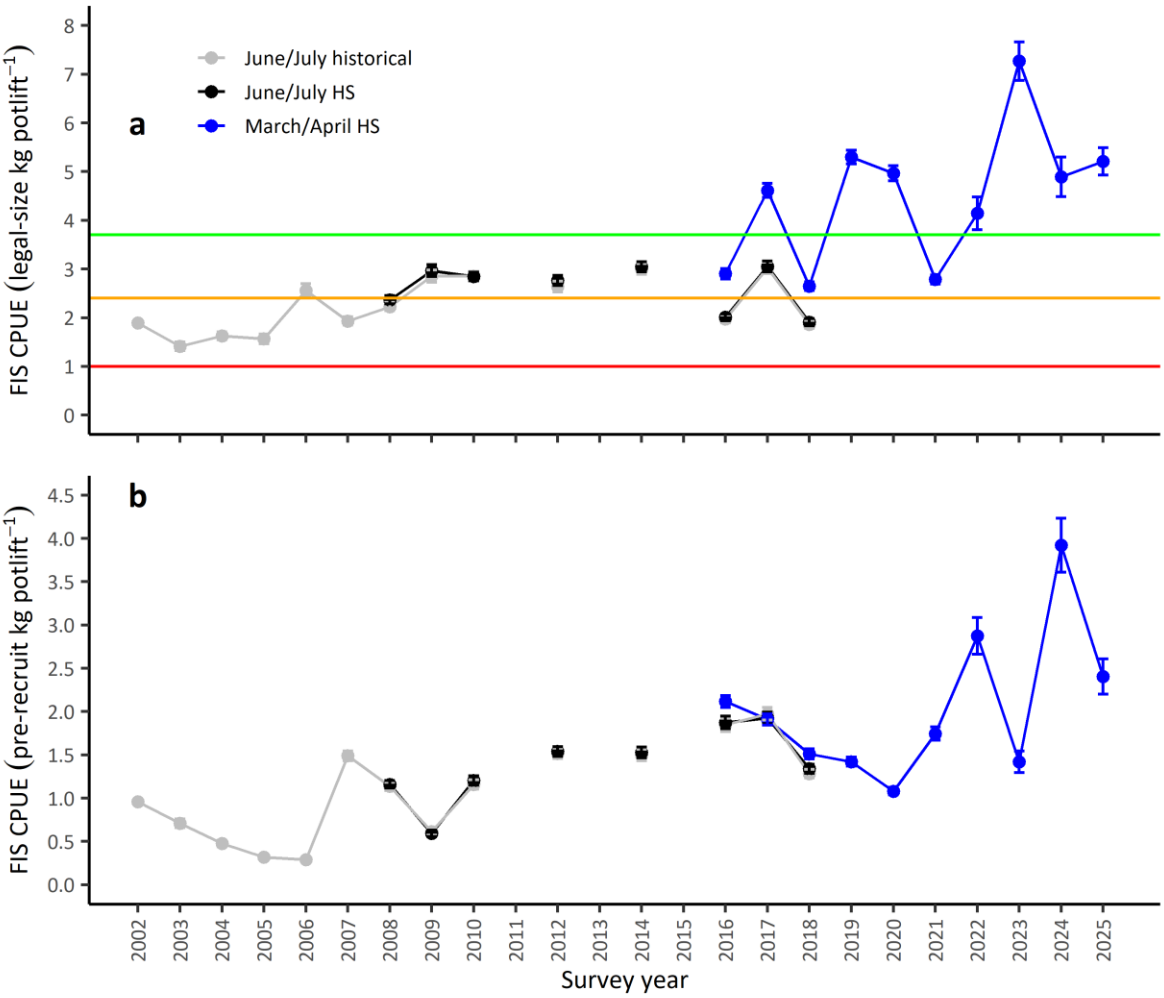

Figure 3.2 Key fishery-independent outputs used to assess the status of the Blue Crab Fishery (BCF) in the Spencer Gulf zone. Fishery-independent surveys (FIS) catch per unit effort (CPUE) by weight of (a) legal-size crabs (kg.potlift^{-1}) and (b) pre-recruit crabs (kg.potlift^{-1}) from research potlifts. Historical sites refer to the 52 sites which have not changed since 2003 (excludes new sites), and harvest strategy (HS) sites refer to the subset of 60 sites sampled since 2008 (includes new sites). Green, yellow and red lines represent the target, trigger and limit reference points, respectively, for March/April identified in the harvest strategy (see Table 1.1). Error bars show ± standard error (SE). Note. June/July surveys were not conducted in 2011, 2013, 2015, and 2019–2025.

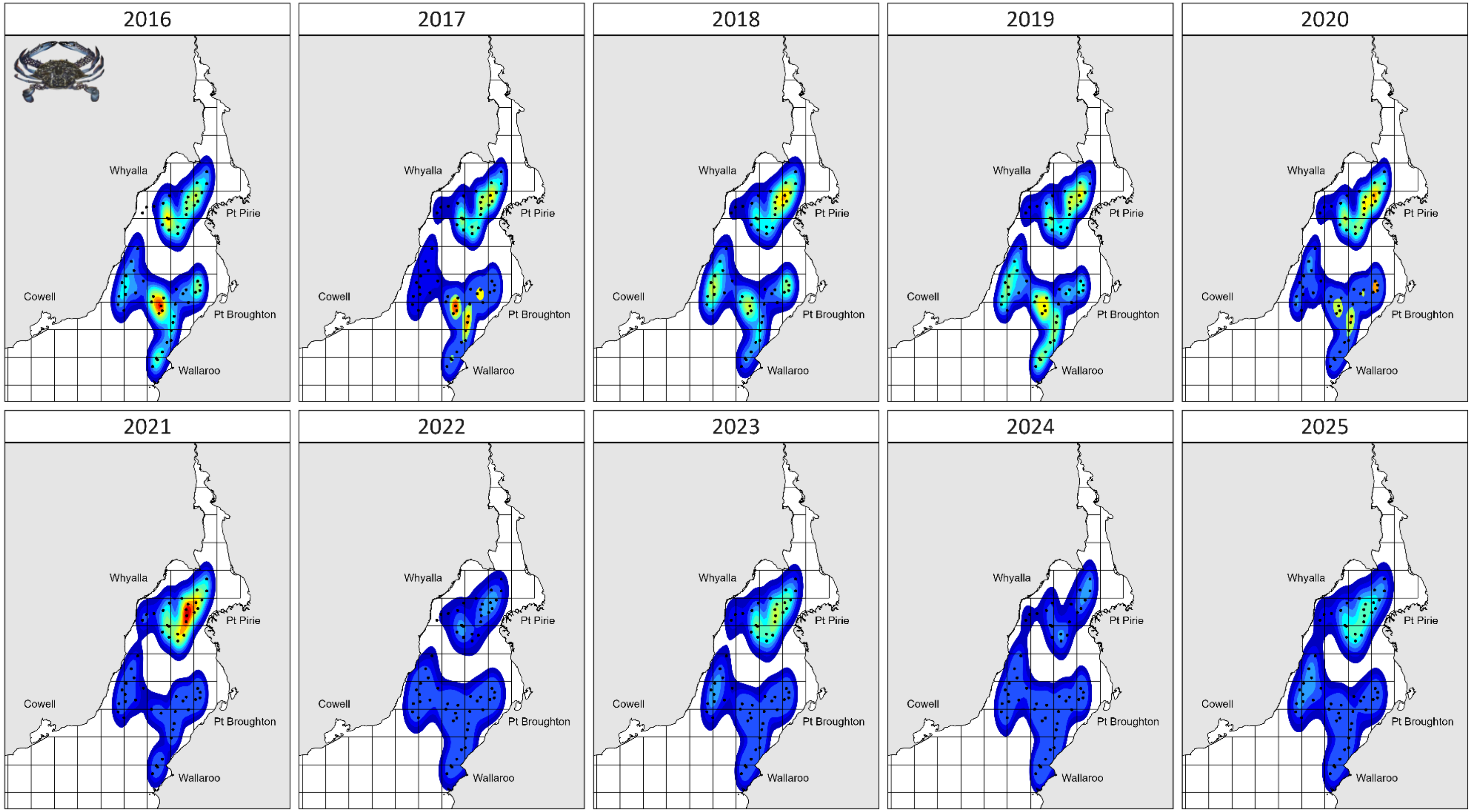

Figure 3.3 Spatial distribution of legal-size crab density from research potlifts sampled during March/April fishery-independent surveys (FIS) in Spencer Gulf. Sampling locations denoted by black dots (●). Warmer colours (red) indicate regions of higher density and greater abundance, while cooler colours (blue) represent areas of lower density.

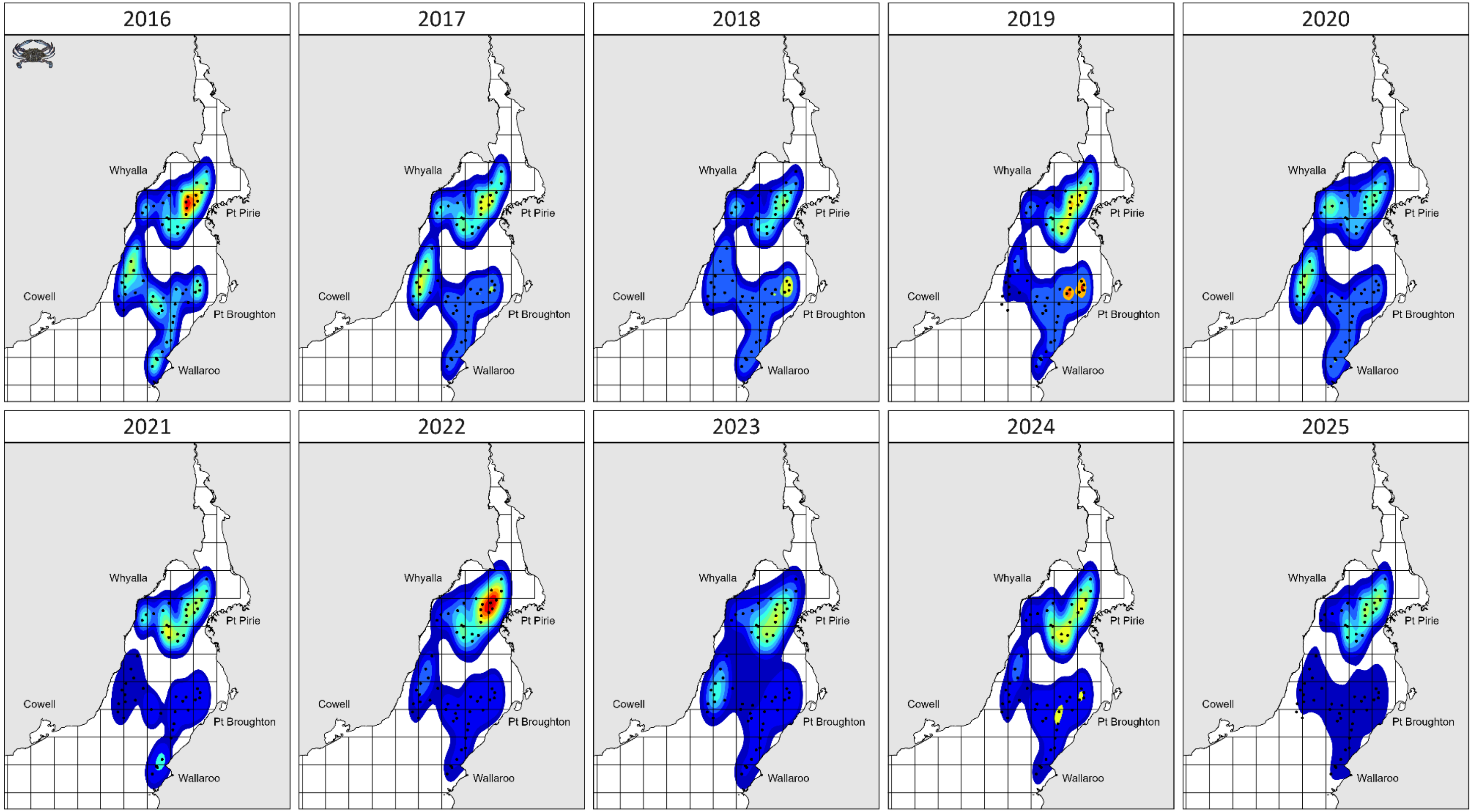

Figure 3.4 Spatial distribution of pre-recruit crab density from research potlifts sampled during March/April fishery-independent surveys (FIS) in Spencer Gulf. Sampling locations denoted by black dots (●).Warmer colours (red) indicate regions of higher density and greater abundance, while cooler colours (blue) represent areas of lower density.

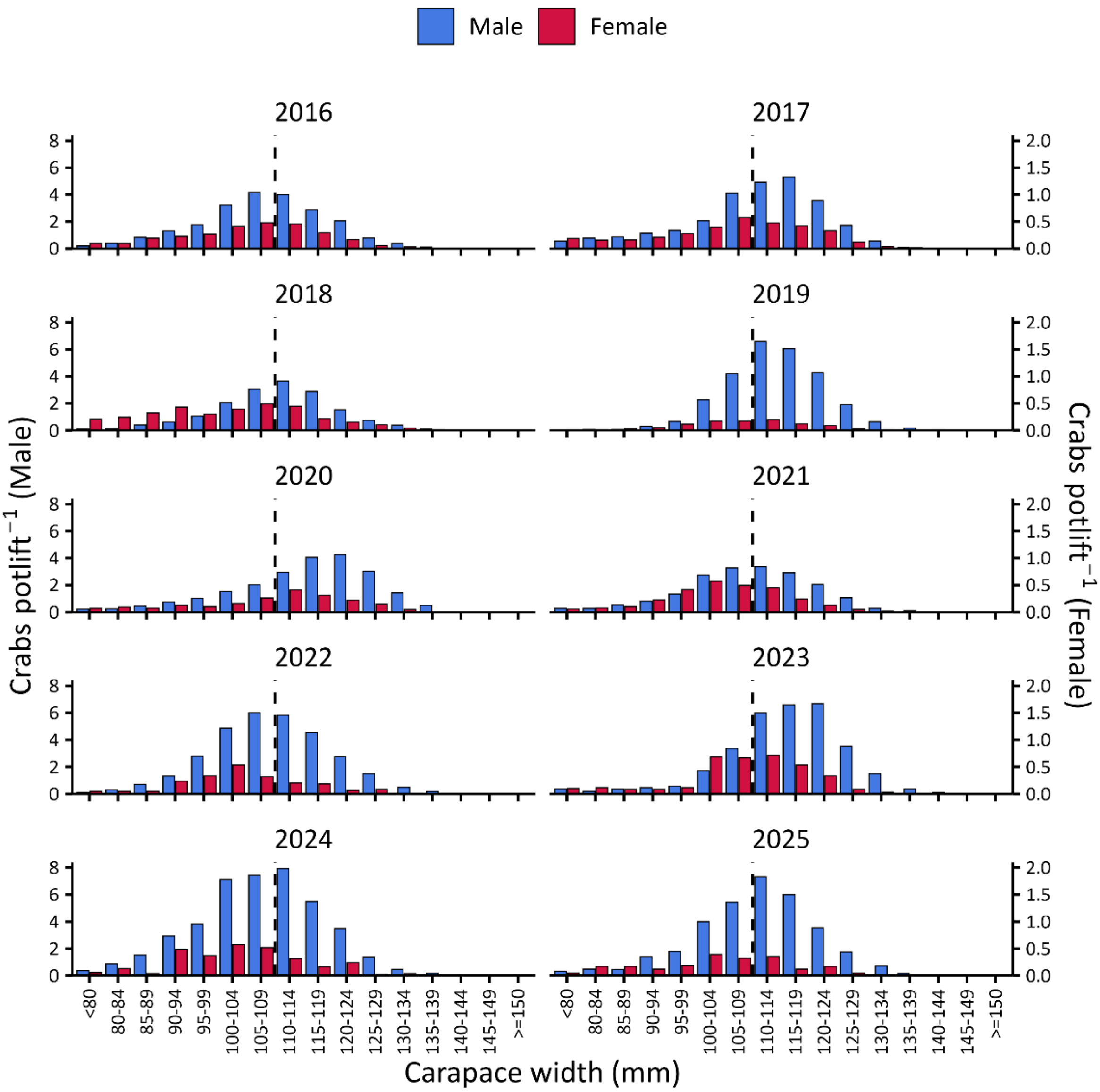

Figure 3.5 Length frequency distributions (mm) for male (blue) and female (red) Blue Crabs from research potlifts sampled during March/April fishery-independent surveys in Spencer Gulf, sampled at 60 sites selected under the harvest strategy from 2016 to 2025. Minimum size limit 110 mm carapace width, CW (---)

3.2.2. Catch

Spencer Gulf has been the most productive zone of the BCF in terms of total annual catch since 1984/85. Commercial catches increased through the late 1980s and early 1990s, reaching 367 t in 1995/96 (Figure 3.6a). With the introduction of the first annual TACCs set in 1996/97 and 1997/98, catches declined over the following two years. As TACCs increased, catches rebounded, reaching 340 t by 2001/02.

From 2003/04 to 2019/20, the fishery consistently harvested between 94% and 100% of the TACC, which was set at 382 t during this period. Annual catches ranged from 359 t in 2017/18 to 382 t in 2007/08. In 2020/21, the TACC was increased to 420 t, resulting in the highest recorded catch of 418 t that year. After declining to 326 t in 2021/22 following a temporary reduction in TACC to 382 t, the TACC returned to 420 t in 2022/23, and was 458 t in 2023/24. Catch increased from 385 t in 2022/23 to 414 t in 2023/24, representing 90% of the TACC. Despite the TACC decreasing to 420 t in 2024/25, catch was similar to 2023/24 at 411 t, equivalent to 98% of the TACC.

3.2.3. Effort

Annual targeted effort in the SG zone increased from 90 boat days in 1983/84 to 1,202 boat days in 1985/86. Effort remained relatively stable from 1985/86 to 2007/08, averaging 1,184 ± 23 boat days during this period (Figure 3.6b). A gradual decline was evident from 2003/04, with effort decreasing from 1,269 boat days to 903 boat days in 2006/07. Although effort increased slightly to 1,050 boat days in 2007/08, it declined further to 895 boat days in 2008/09. From 2009/10 to 2021/22, effort stabilised at a lower level, averaging 718 ± 12 boat days annually. More recently, effort increased to 833 boat days in 2022/23 and 904 boat days in 2023/24 before declining slightly to 871 boat days in 2024/25, representing a 4% decrease relative to the previous year.

The total number of potlifts increased steadily from 102,039 in 1997/98 to a historical maximum of 160,555 in 2007/08 (Figure 3.6c). A significant reduction occurred between 2008/09 and 2011/12, with the lowest recorded effort of 84,756 potlifts in 2011/12. From 2011/12 to 2024/25, the total number of potlifts remained stable, averaging 99,710 ± 2,474 potlifts annually. A total of 116,168 potlifts were reported in 2024/25.

The use of second potlifts increased from 5,718 in 1997/98 to a peak of 60,398 in 2008/09. Subsequently, second potlifts declined sharply to 7,529 in 2013/14, before remaining relatively low at 11,889 in 2014/15 and 10,484 in 2015/16. No second potlifts were recorded during 2016/17 or 2017/18. Since 2018/19, only low numbers have been reported, ranging between 15 and 1,794 potlifts. In 2024/25, the number of second potlifts remained low at 48.

3.2.4. CPUE

Commercial CPUE increased substantially from 30 kg.boat day^{-1} in 1983/84 to 279 kg.boat day^{-1} in 1995/96 (Figure 3.6d). Following the introduction of annual TACC limits in 1996/97, CPUE continued to rise, peaking at 576 kg.boat^{-1} day in 2010/11. From 2011/12 to 2020/21, CPUE has remained relatively stable, averaging 528 ± 10 kg.boat day^{-1}. While, CPUE has been below 500 kg.boat day^{-1} since 2021/22, the value of 472 kg.boat day^{-1} recorded in 2024/25 remains consistent with the higher CPUE values observed over the past two decades.

CPUE per potlift remained relatively stable between 1997/98 and 2009/10, ranging from 2.4 to 3.3 kg.potlift^{-1} (Figure 3.6e). CPUE increased to 4.4 kg.potlift^{-1} in 2011/12. Since 2011/12, CPUE per potlift has remained stable at a high level, fluctuating between 3.4 and 4.4 kg. potlift^{-1}. In 2024/25, CPUE per potlift was 3.5 kg.potlift^{-1}, similar to 2023/24 (3.4 kg.potlift^{-1}), and above the historical baseline observed from 1997/98 to 2009/10 (2.7 ± 0.1 kg.potlift^{-1}).

3.2.5. Spatial distribution of commercial catch and effort

The spatial distribution of Blue Crab catch in SG has been variable over the past 28 seasons (Figure 3.7). High catches (≥30 t per block) were frequently observed in the upper Gulf, particularly in Blocks 2, 3, 7, 12, and 41. Notable peaks include 102 t in Block 12 (adjacent to Port Pirie) in 2006/07, and 70-75 t each in Block 26 (near Port Broughton) during 2017/18, Block 3 (near Whyalla) during 2018/19 and 2019/20, Block 32 (near Cowell) during 2023/24, and Block 41 (near Wallaroo) during 2024/25. In 2024/25, the highest catches were concentrated near Wallaroo (Block 41; 70 t), Cowell (Block 44; 37 t), the stretch of water between Wallaroo and Cowell (Block 34; 44 t and Block 33; 35 t), and near Port Broughton (Block 26; 35 t).

Over time, fishing effort (i.e. the number of times a block is fished) has remained concentrated in the northern gulf (Blocks 2, 3, 7, and 12), which have consistently produced high catches. However, since around 2006 there has been a marked increase in fishing activity in the southern Gulf (Blocks 20–40), with effort becoming more widespread and sustained in these areas in recent years, indicating a gradual expansion of fishing activity (Figure 3.8). Notably, increased effort has been observed near Cowell (e.g., blocks 32 and 44) in recent years, as well as south of Wallaroo during 2024/25 (block 58), highlighting shifts in spatial utilisation within SG.

3.2.6. Temporal distribution of commercial catch

In SG, Blue Crabs are generally harvested year-round, except during historical seasonal closures that occurred from 21 December to 19 February, which were in place until the end of 2014/15. From 1997/98 to 2003/04, monthly catches were evenly distributed, with peaks often occurring in September, March, or April (Figure 3.9). Between 2004/05 and 2021/22, a larger proportion of the catch was typically harvested earlier in the season, particularly from July to December. However, in 2022/23, catches were relatively low between July and December, with peak landings occurring later in the season in February and March (both 51 t). In contrast, catches in 2023/24 and 2024/25 followed historical seasonal patterns, with the highest proportion of catch taken early in the season, peaking in August (59 t) during 2024/25.

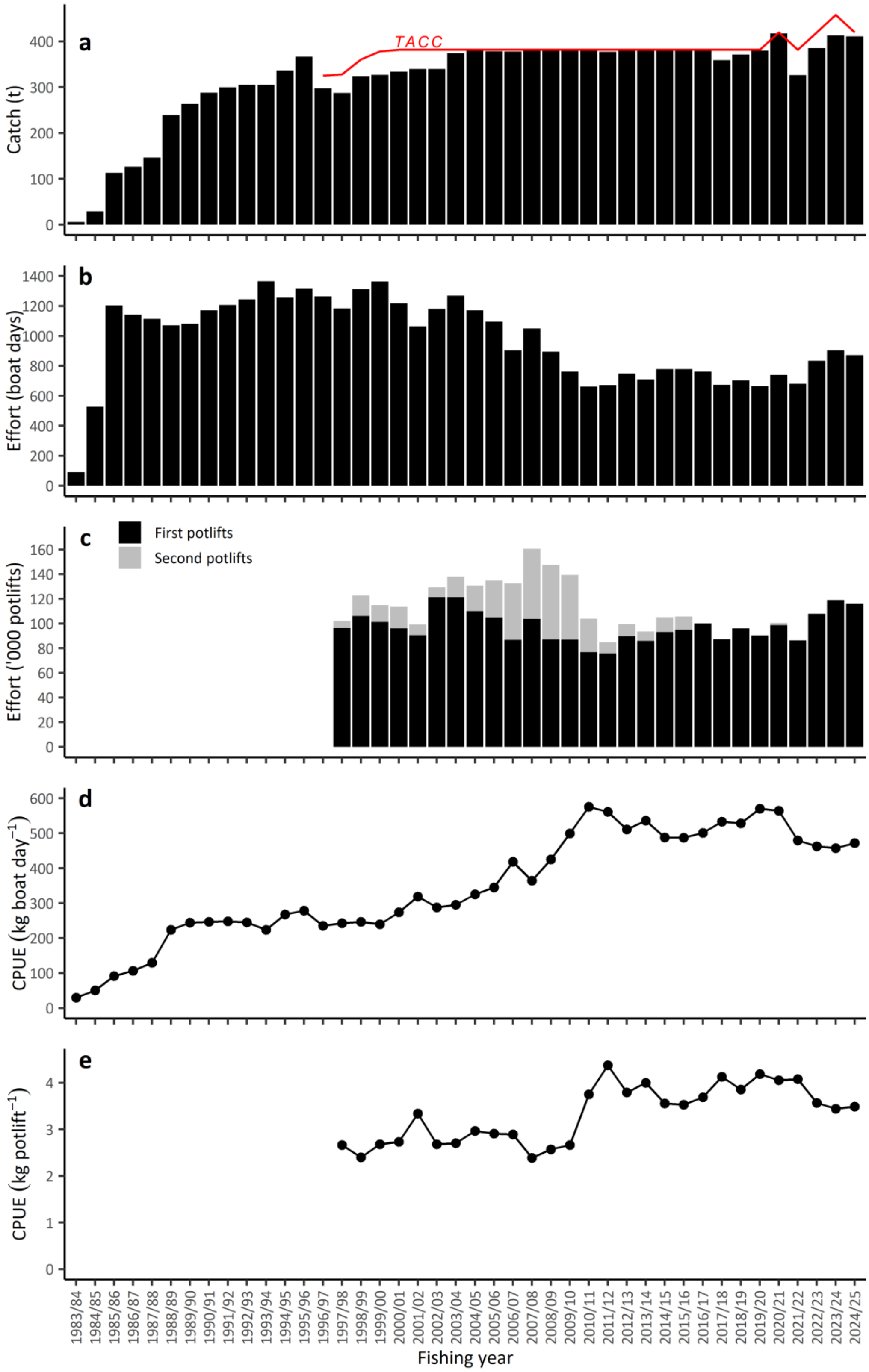

Figure 3.6 Fishery-dependent outputs for the Spencer Gulf zone of the Blue Crab Fishery. (a) Trends in total catch (t) including the total allowable commercial catch (TACC) limit; (b) targeted effort (boat days); (c) total effort from first and second potlifts by the BCF ('000 potlifts); (d) catch per unit effort by day (CPUE, kg.boat day^{-1}), and (e) PF CPUE by potlift (kg.potlift^{-1}).

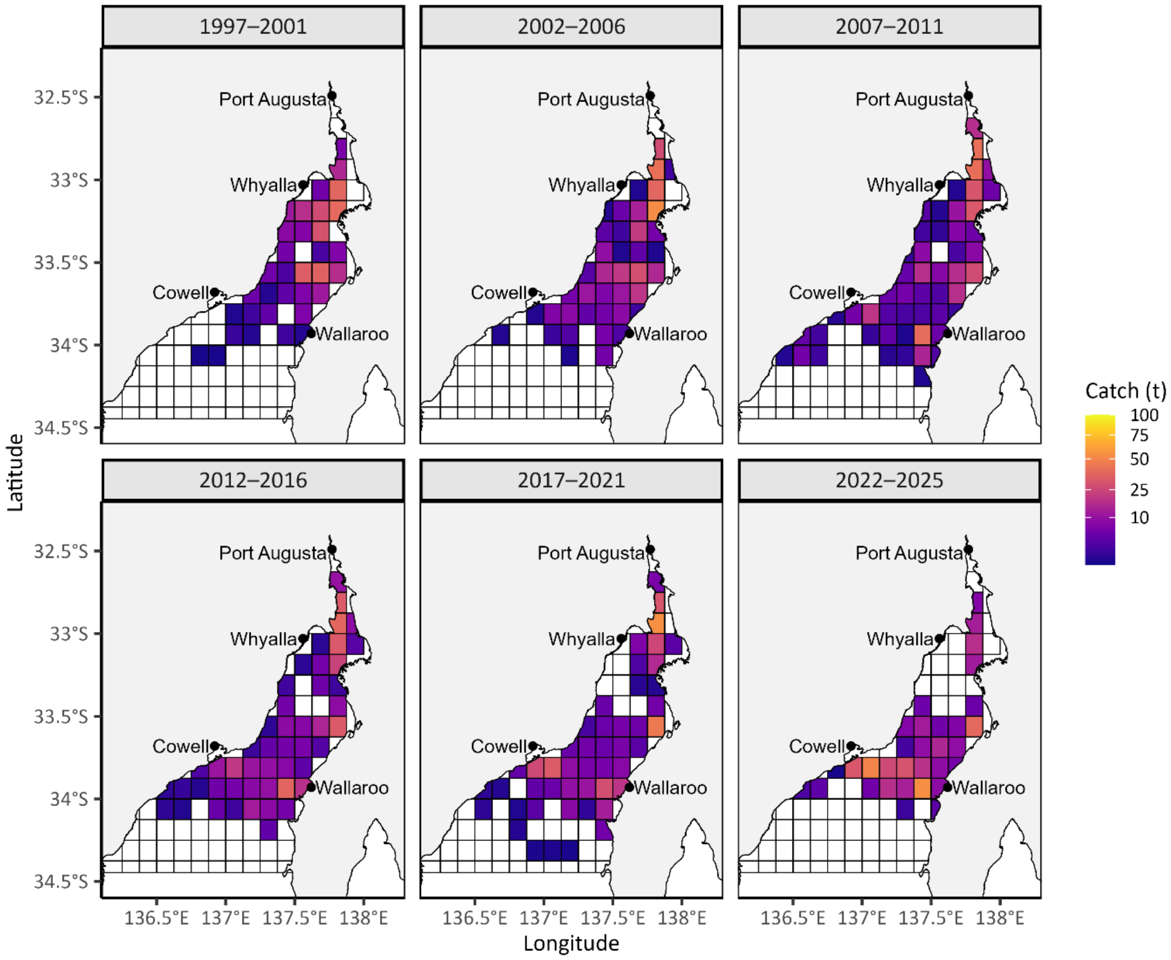

Figure 3.7 Commercial catch (t) reported by block for the Spencer Gulf zone of the Blue Crab Fishery pot fishing sector, shown as 5-year period averages based on fishing years (e.g. 1997/98– 2000/01). The final period (2022/23–2024/25) represents a shorter interval.

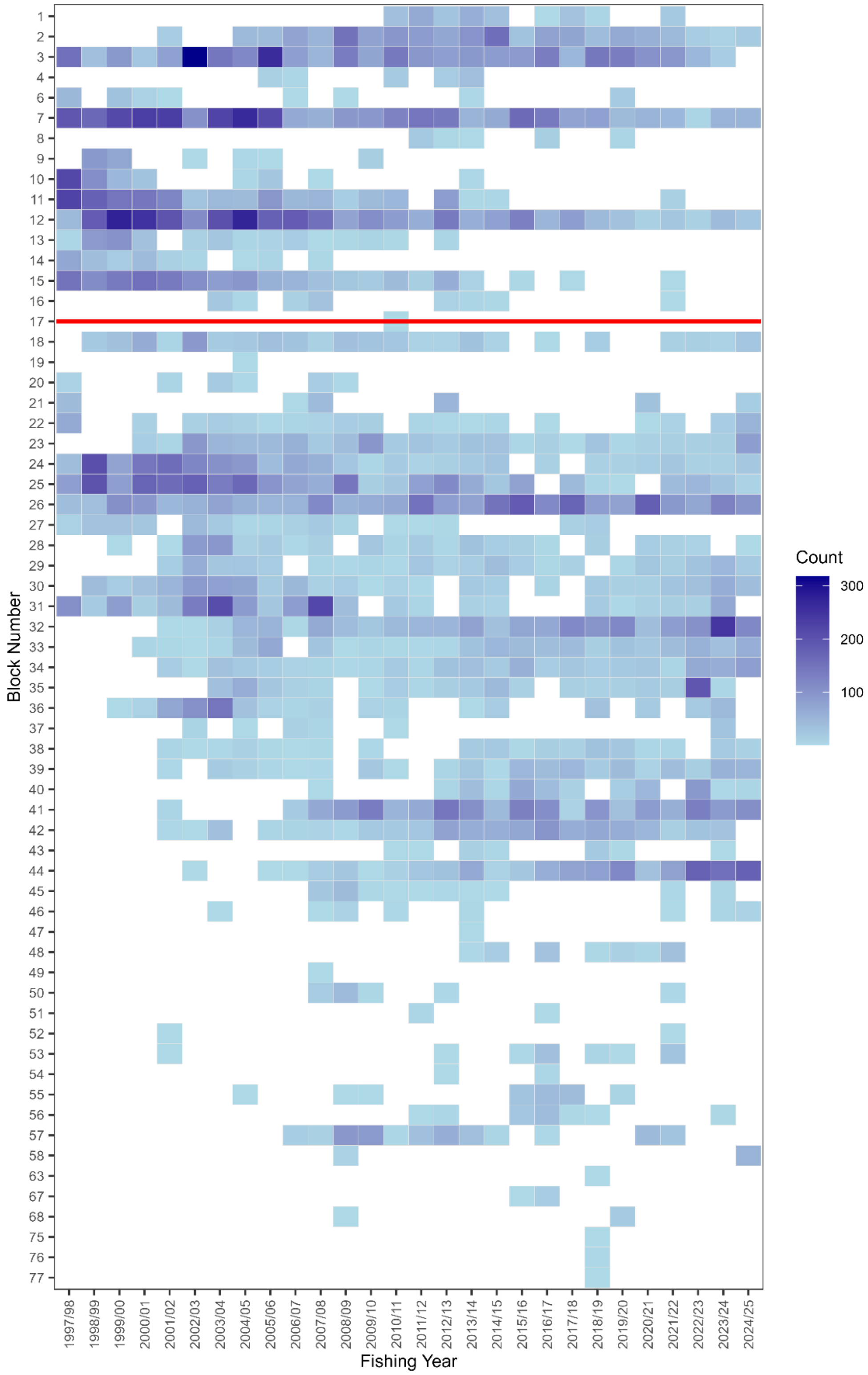

Figure 3.8 Number of times each block was fished in the Spencer Gulf zone of the Blue Crab Fishery pot fishing sector from 1997/98 to 2024/25 with the red line dividing North (blocks 1-18) and South (blocks 19-89).

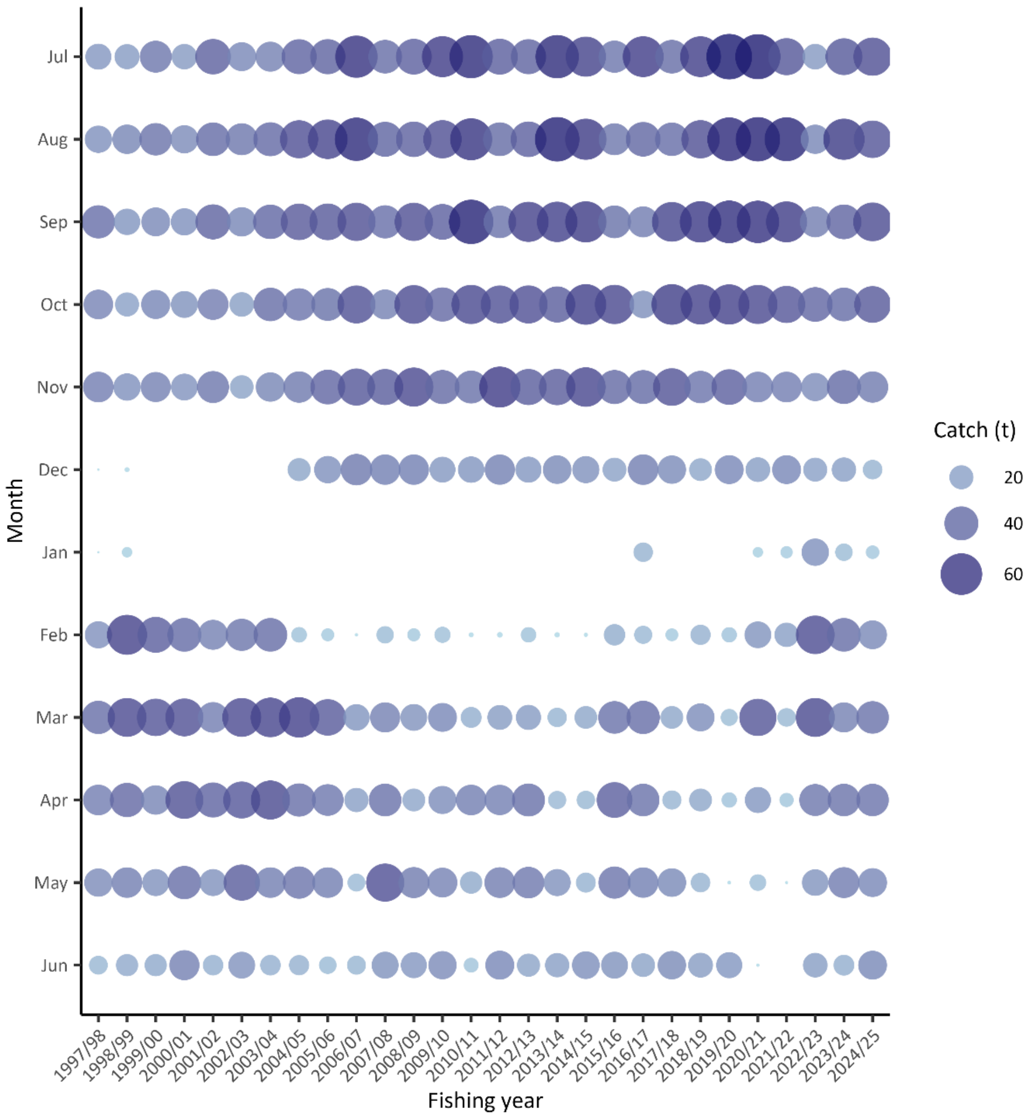

Figure 3.9 Monthly distribution of annual harvest (t) from the Spencer Gulf zone of the Blue Crab Fishery pot fishing sector during 1997/98 to 2024/25. Note: bubble area is proportional to monthly harvest.

3.3. Gulf St. Vincent

3.3.1. Fishery-independent survey CPUE (research potlifts)

The March/April CPUE of legal-size crabs remained higher than June/July CPUE across all years and fluctuates annually (Figure 3.10). CPUE increased from 2.6 kg.potlift^{-1} in 2015 to a peak of 5.3 ± 0.2 kg.potlift^{-1} in 2017, before declining to 2.9 ± 0.1 kg.potlift^{-1} in 2021. CPUE rose sharply in 2022 to 5.3 ± 0.4 kg.potlift^{-1}, matching the earlier peak observed in 2017, but fell to 2.4 ± 0.3 kg.potlift^{-1} in 2023, below the target. In 2024, legal-size CPUE increased to 4.1 ± 0.4 kg.potlift^{-1} and declined again in 2025 to 3.2 ± 0.3 kg.potlift^{-1}, remaining above the 2023 low but below the higher levels observed in 2017, 2019, 2020, and 2022.

The density of legal-size crabs in GSV was historically highest north of Ardrossan (Blocks 3, 5, 89), near Black Point (Blocks 8 and 12) and adjacent to Port Adelaide (Blocks 33 and 35), and the mid-north offshore areas north of Pt Adelaide (Block 16) across most years (Figure 3.11). In 2021–2022, legal-size crabs were more widespread, with high densities observed continuing near Port Adelaide (Blocks 33, 35), Port Wakefield (Block 2), and along the western coastline between Black Point and Ardrossan (Blocks 8, 12, 17). By 2023, densities became more localised to near Port Wakefield (Block 2), and the mid-north offshore area (Block 16), with reduced densities along the western coastline compared to prior years, continuing into 2024, where high-density areas intensified near Port Adelaide and Pt Wakefield, while being more widely dispersed near Ardrossan and Black Point. In 2025, densities were highest north of Ardrossan (Blocks 1, 3, 89), and in the mid-north offshore area north of Port Adelaide (Block 16).

For pre-recruit crabs, CPUE during March/April was lower than June/July CPUE. March/April pre-recruit CPUE remained low from 2015 to 2020 (≤1.0 kg.potlift^{-1}) before increasing to 3.5 ± 0.1 kg.potlift^{-1} in 2021. CPUE declined in both 2022 (1.1 ± 0.1 kg.potlift^{-1}) and 2023 (1.0 ± 0.1 kg.potlift^{-1}), before rising to 2.5 ± 0.2 kg.potlift^{-1} in 2024, the highest value since 2021. In 2025, pre-recruit CPUE decreased to 0.1 ± 0.1 kg.potlift^{-1}, the lowest level recorded in the time series.

From 2015 - 2020, relatively low densities of pre-recruit crabs were generally observed in the mid-north offshore area (Blocks 9, 10 and 15), with slightly higher densities near Port Adelaide (Blocks 27, 35), particularly in 2017 where density was highly concentrated in Blocks 27 and 35 (Figure 3.12). Pre-recruit numbers increased in 2020 off the Port Adelaide metropolitan area (Blocks 47, 48) and western coastline near Black Point (Blocks 8, 12 and 17). In 2021, pre-recruits were wide-spread, with the highest densities near Port Adelaide (Block 27), on the western coastline (Block 8), off the Adelaide metropolitan coast (Block 21), in the mid-north offshore area (Block 15). In 2022 and 2023, pre-recruit densities declined and were mainly concentrated in the mid-north offshore area (Block 9, 10 and 15) and near Port Adelaide (Block 35). Densities in 2024 decreased along the western coastline of GSV, with hotspots in the northern beaches (Block 16), and near Port Adelaide (Blocks 27 and 35). Low pre-recruit densities were observed throughout GSV in 2025 with very low densities in Port Adelaide (Blocks 33, 34, 45), mid-north (Block 16, 21), and Black Point areas (Blocks 12, 17), with the highest levels near Port Wakefield (Blocks 1, 2) and north of Ardrossan (Block 3).

Sex-specific length-frequency data from March/April surveys indicate a strong male dominance, comprising 91–98% of the catch (Figure 3.13). Male modal sizes typically ranged from 115–124 mm CW in most years, with larger sizes observed in 2025 (120–124 mm CW) and 2017 (125–129 mm CW) and smaller sizes in 2021 (105–109 mm CW) and 2024 (110–114 mm CW). Female crabs consistently made up a smaller proportion of the catch (2–9%). From 2016–2020 and in 2025, the female modal size was above the legal-size limit, peaking at 115–119 mm CW in 2017, 2020 and 2025. However, from 2021–2024, the modal size of female crabs was below the legal-size limit, reaching a low of 90–94 mm CW in 2023 before increasing to 105–109 mm CW in 2024.

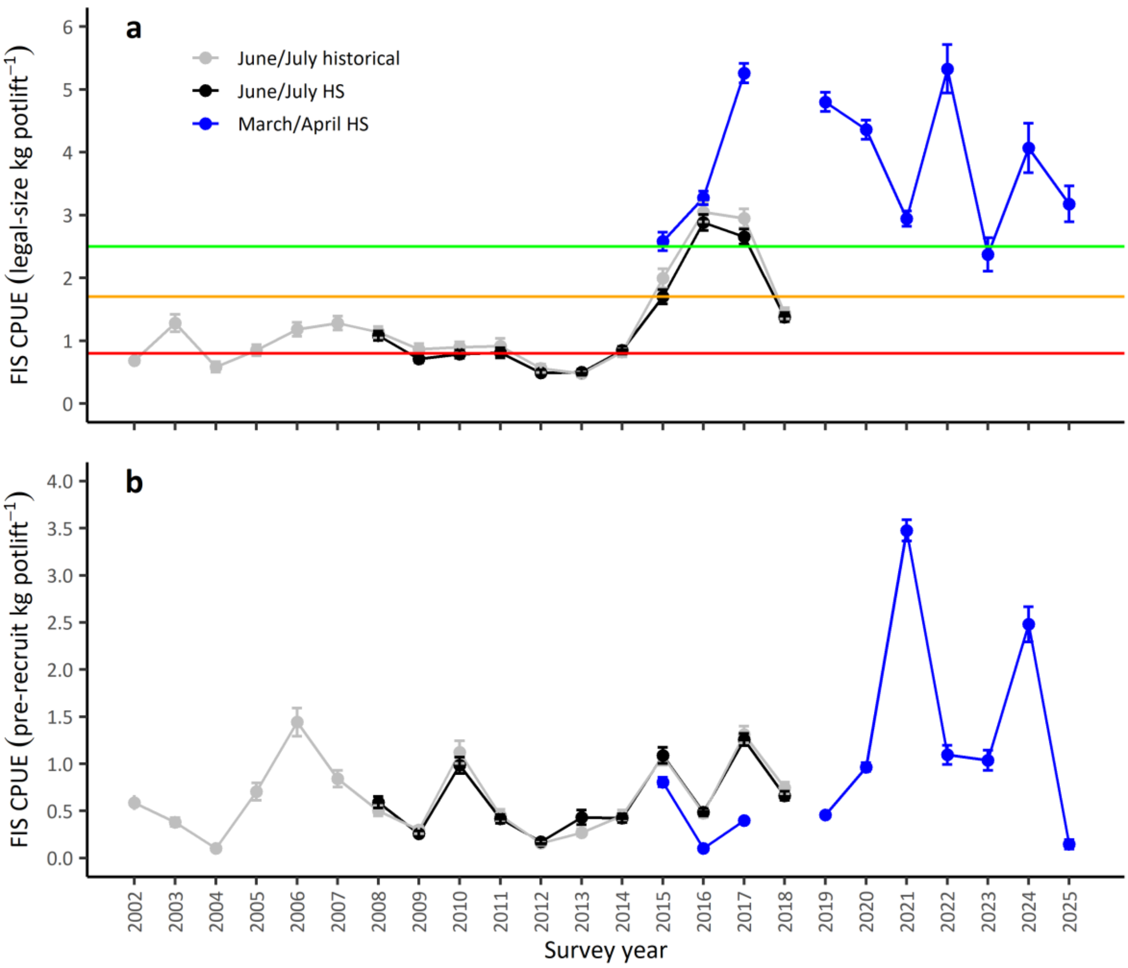

Figure 3.10 Key fishery-independent outputs used to assess the status of the Gulf St. Vincent zone of the Blue Crab Fishery (BCF). Fishery-independent surveys (FIS) catch per unit effort (CPUE) by weight of (a) legal-size crabs (kg.potlift^{-1}) and (b) weight of pre-recruit crabs (kg.potlift^{-1}) from research potlifts. Historical sites refer to 37 sites which have not changed since 2003 (excludes new sites), and harvest strategy (HS) sites refer to the subset of 60 sites sampled since 2008 (includes new sites). Green, yellow and red lines represent the target, trigger and limit reference points, respectively, for March/April identified in the harvest strategy (see Table 1.1). Error bars show ± standard error (SE). Note: no survey was conducted in March/April 2018 or June/July 2019–2025.

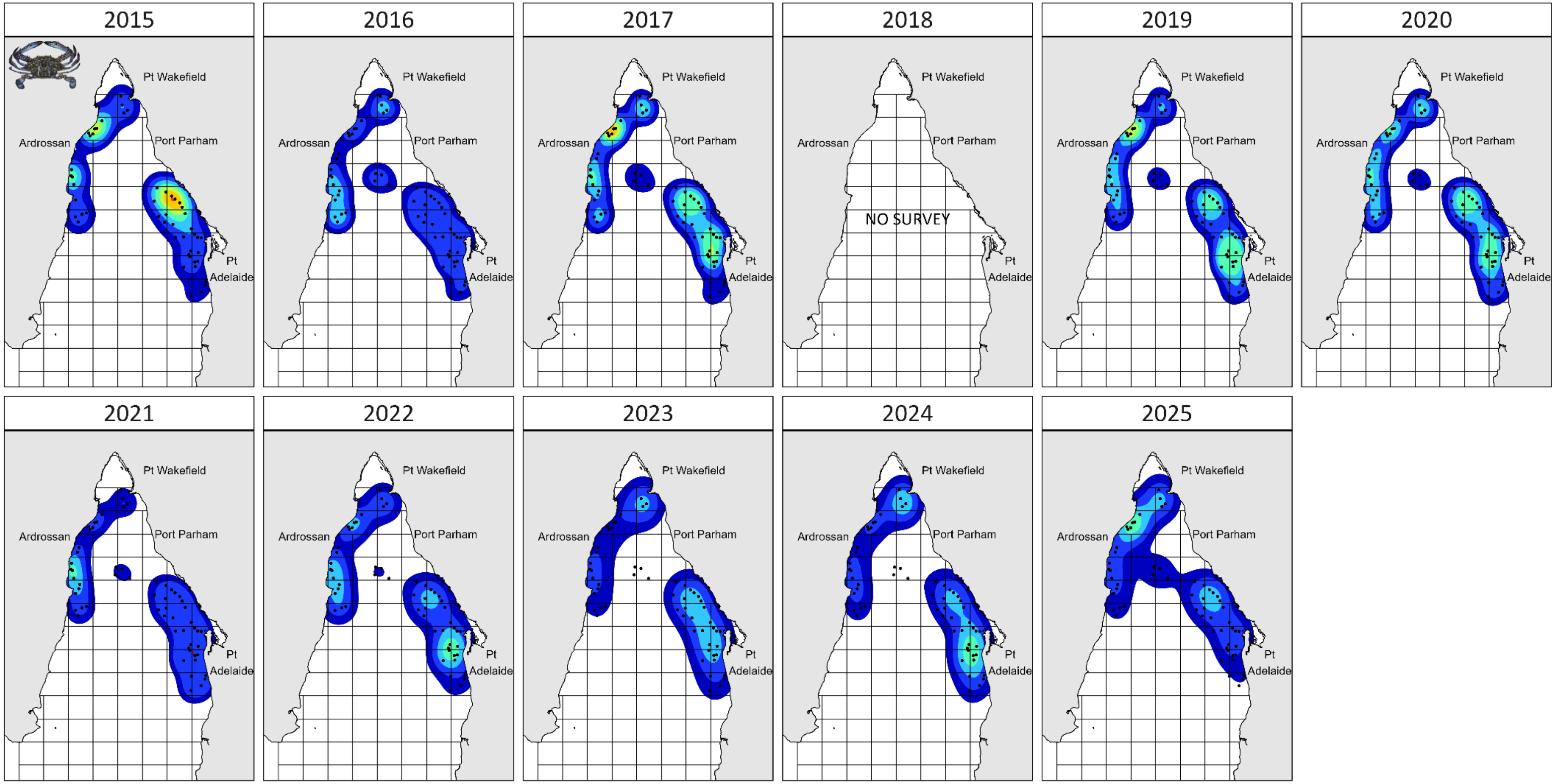

Figure 3.11 Spatial distribution of legal-size crab density from research potlifts sampled during March/April fishery-independent surveys (FIS) sampled in Gulf St. Vincent. Sampling locations denoted by the black dots (●). Warmer colours (red) indicate regions of higher density and greater abundance, while cooler colours (blue) represent areas of lower density. Note: no survey was conducted in March/April 2018

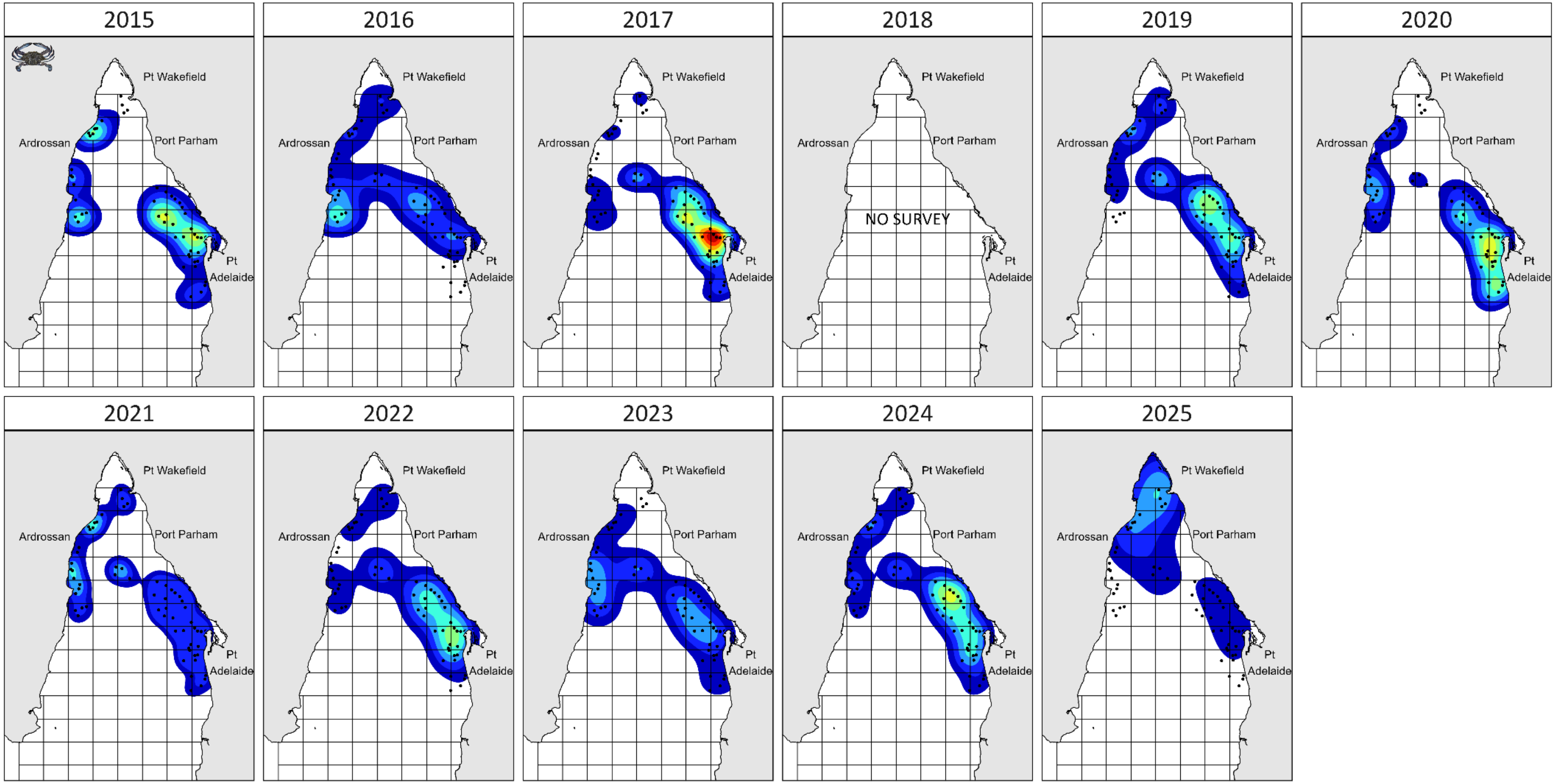

Figure 3.12 Spatial distribution of pre-recruit crab density from research potlifts sampled during March/April fishery-independent surveys (FIS) sampled in Gulf St. Vincent. Sampling locations denoted by black dots (●). Warmer colours (red) indicate regions of higher density and greater abundance, while cooler colours (blue) represent areas of lower density. Note: no survey was conducted in March/April 2018.

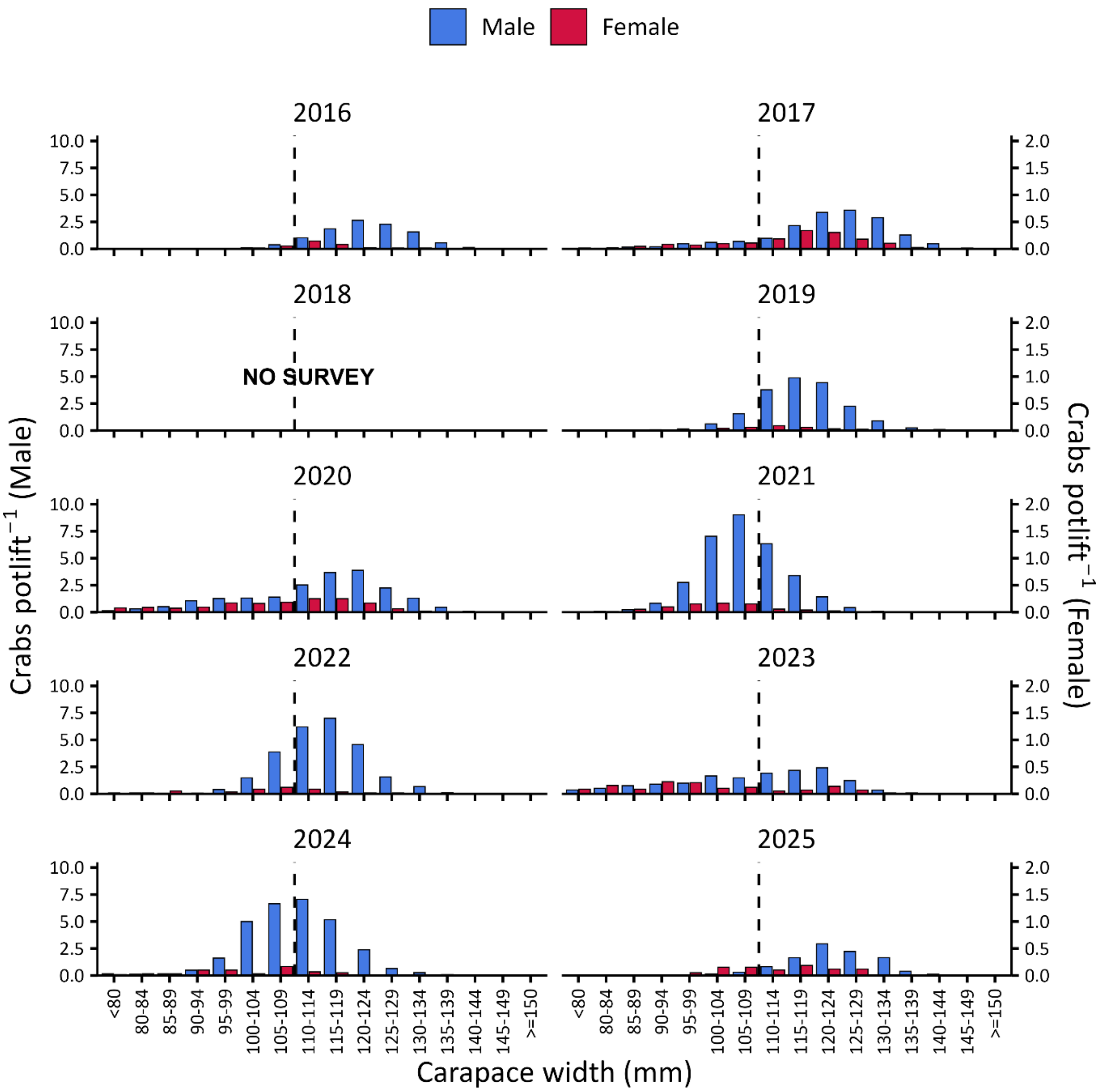

Figure 3.13 Length frequency distributions of male (blue) and female (red) Blue Crabs from research potlifts sampled during March/April fishery-independent surveys in Gulf St. Vincent sampled at 60 sites selected under the harvest strategy from 2016–2025. Minimum size limit 110 mm carapace width, CW (---). Note: no survey was conducted in March/April 2018.

3.3.2. Catch

The highest recorded GSV commercial catch was 285 t in 1995/96, while the lowest was 22 t in 1983/84, during the fishery's early development (Figure 3.14a). Following the introduction of an annual TACC in 1996/97, catch initially declined but then stabilised between 183 t and 243 t from 1997/98 to 2007/08. A notable reduction occurred in 2009/10, followed by a partial recovery before another sharp decline to 129 t in 2012/13. In response, the GSV component of the TACC was reduced by 20% in 2013/14.

Between 2015/16 and 2019/20, the TACC was set at 245 t, with over 98% of the quota harvested annually. Catches declined in subsequent years, with 174 t (65% of the 270 t TACC) in 2020/21 and 195 t (72% of the 270 t TACC) in 2021/22. In 2022/23, total catch increased to 212 t, representing 72% of the revised 294 t TACC. However, catch declined sharply again in 2023/24 to 122 t, equivalent to 50% of the 245 t TACC, and was one of the lowest catches recorded since 1991/92 (115 t). In 2024/25, 250 t was harvested, equivalent to 93% of the 270 t TACC. The 2024/25 catch was twice that of the previous year, the highest since 1995/96 (285 t), and the fourth-highest on record.

3.3.3. Effort

Before the introduction of annual TACC settings, targeted fishing effort increased steadily from 444 boat days in 1983/84 to a peak of 2,114 boat days in 1995/96 (Figure 3.14b). After the TACC was implemented, effort was largely transferred to the pot fishing sector, leading to a 54% reduction in effort to 964 boat days in 1996/97. After a small increase in 1997/98 to 1,088 boat days, effort continued to decline, reaching a low of 315 boat days in 2012/13. From 2013/14 to 2024/25, effort remained lower than the pre-TACC period but showed moderate fluctuations, increasing from 404 boat days in 2013/14 to 586 boat days in 2024/25, with intermediate peaks in 2015/16 (568 boat days), 2021/22 (502 boat days) and 2022/23 (555 boat days). The most recent value (586 boat days in 2024/25) is the highest observed since 2007/08 (628 boat days).

The number of potlifts increased from 49,452 in 1997/98 to a historical maximum of 75,508 in 2005/06 (Figure 3.14c). Potlift numbers then declined to a historical low of 47,677 in 2013/14, before stabilising at around 65,000 potlifts per year. In 2024/25, a total of 77,537 potlifts were reported, this was a 33% increase compared to 2023/24 (58,205 potlifts) and the highest on record after 2005/06 (75,508 potlifts).

Second potlifts were highly variable between 1997/98 and 2015/16, ranging from 432 in 1998/99 to a peak of 13,367 in 2008/09. After 2011/12, second potlifts declined substantially, ranging between 0 and 1,063 annually. In 2024/25, 763 second potlifts were recorded, increasing from 70 in 2023/24.

3.3.4. CPUE

Commercial CPUE increased from 35 kg.boat day^{-1} in 1983/84 to 473 kg.boat day^{-1} in 2008/09 (Figure 3.14d). Afterward, CPUE fluctuated, with an overall increasing trend, reaching a historical maximum of 573 kg.boat day^{-1} in 2019/20. From 2019/20 to 2023/24, CPUE declined, reaching a low of 283 kg.boat day^{-1} in 2023/24. The 2024/25 CPUE was 426 kg.boat day^{-1}, this was a 51% increase compared to 2023/24 and the highest reported since 2020/21 (435 kg.boat day^{-1}).

Per potlift, CPUE increased from 2.6 kg.potlift^{-1} in 1997/98 to 3.3 kg.potlift^{-1} in 2007/08 (Figure 3.14e). CPUE then fluctuated from 2008/09 to 2012/13, with lows of 2.4 kg.potlift^{-1} and 2.3 kg.potlift^{-1} observed in 2009/10 and 2012/13, respectively. Between 2013/14 and 2019/20, CPUE stabilised at a mean of 3.8 ± 0.1 kg.potlift^{-1} before decreasing to 2.7 kg.potlift^{-1} in 2020/21 and 2.1 kg.potlift^{-1} in 2023/24. In 2024/25, CPUE increased 52% compared to 2023/24, reaching 3.2 kg.potlift^{-1}, the highest value since 2017/18 (3.5 kg.potlift^{-1}).

3.3.5. Spatial distribution of commercial catch

The spatial distribution of catch in GSV has been variable over time (Figure 3.15). Historically, the highest catches were concentrated in blocks adjacent to the Adelaide Metropolitan coastline, particularly blocks 21, 27, and 33, which consistently produced catches exceeding ~20 t. Across the 5-year periods, catches were initially concentrated in these metropolitan blocks, with an expansion into central and western Gulf blocks during the early to mid-2000s. From 2007–2011, catches were also relatively high in the western gulf, particularly in Block 17, before catches returned to a more concentrated pattern along the metropolitan coastline in later periods.

More recently (2017–2025), catches have remained centred along the metropolitan coastline, with moderate contributions from central Gulf blocks. Annual block-level variation and finer-scale temporal variability are presented in Appendix 5.

Over time, there is evidence of a shift in fishing effort and catch towards central and southern blocks, with an initial increase in activity in these areas in the early 2000s and higher frequencies of fishing persisting in subsequent years (Figure 3.16).

3.3.6. Temporal distribution of commercial catch

In GSV, Blue Crabs are generally harvested year-round, except during historical seasonal closures from 1 November to 15 January, which were in place until the end of the 2014/15 season. Between 1997/98 and 2014/15, catches were typically highest in the second half of the season (January–June), with peak catches most often occurring in February or March. This pattern was also evident in 2018/19, 2020/21–2022/23 and 2024/25 (Figure 3.17), with catches in 2024/25 peaking at 39 t in March. In contrast, higher catches during the first half of the season (July–December) were observed in 2015/16–2017/18, 2019/20, and 2023/24.

Although the latter part of the 2024/25 season coincided with the onset of the harmful algal bloom in March 2025, commercial catch patterns in GSV remained broadly consistent with historical seasonal trends through the end of the assessment period.

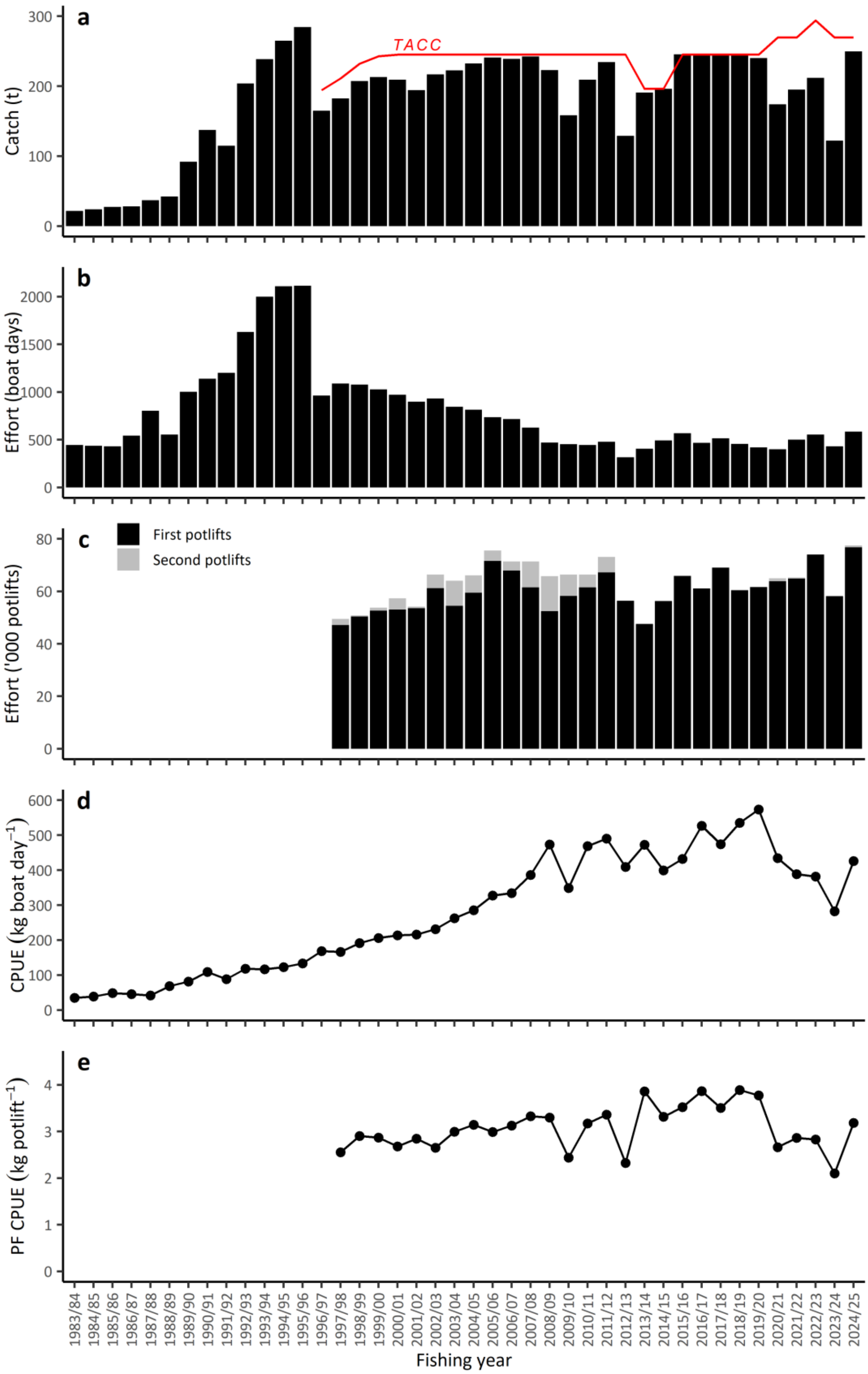

Figure 3.14 Fishery-dependent outputs for the Gulf St. Vincent zone of the Blue Crab Fishery; (a) trends in total catch (t) including the total allowable commercial catch (TACC) limit, (b) targeted effort (boat days), (c) total effort from first and second potlifts by the BCF, (d) catch per unit effort by day (CPUE, kg.boat day^{-1}), and (e) PF CPUE by potlift (kg.potlift^{-1}).

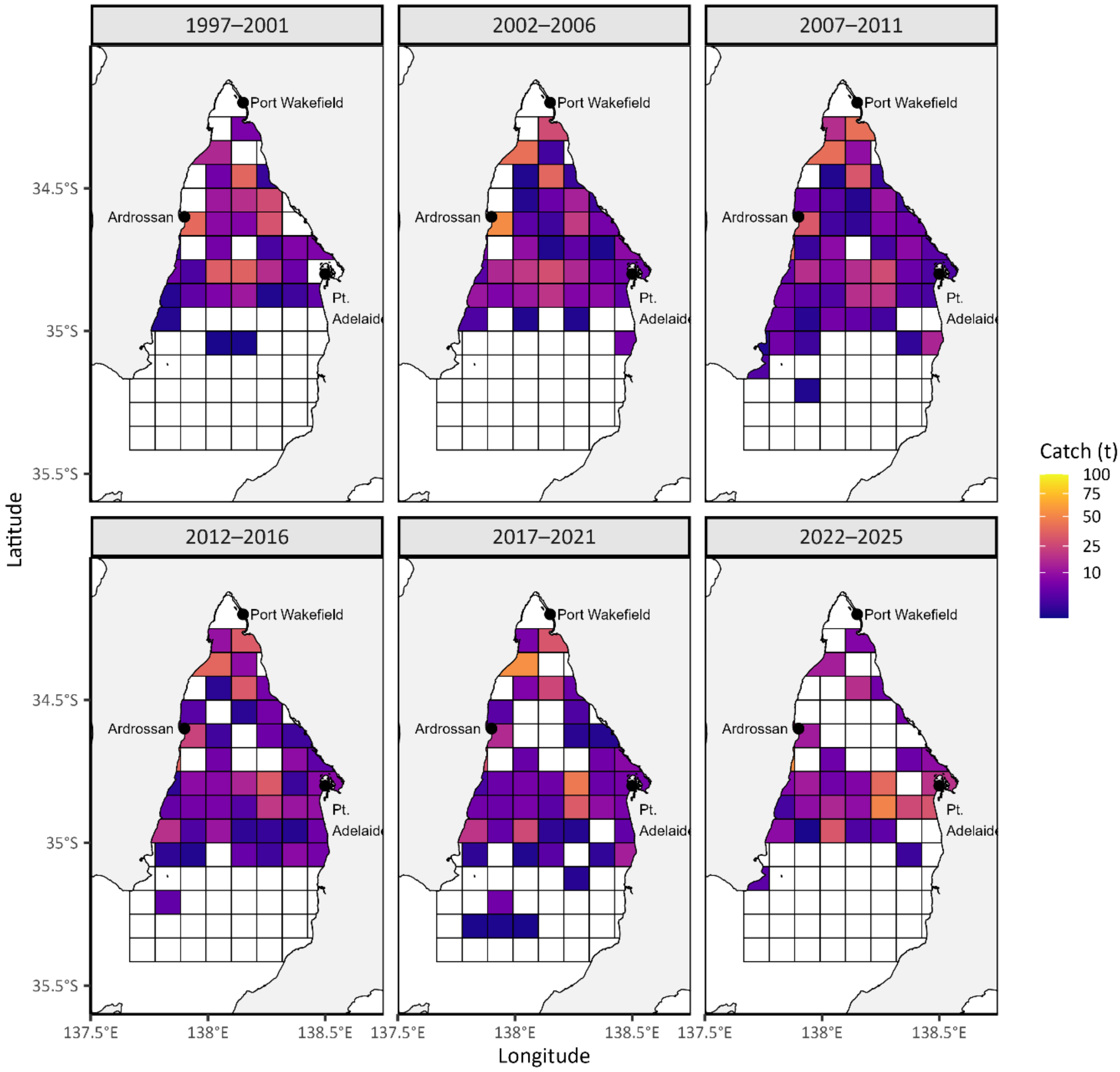

Figure 3.15 Commercial catch reported by block for the Gulf St. Vincent zone of the Blue Crab fishery pot fishing sector, shown as 5-year period averages based on fishing years (e.g. 1997/98–2000/01). The final period (2022/23–2024/25) represents a shorter interval.

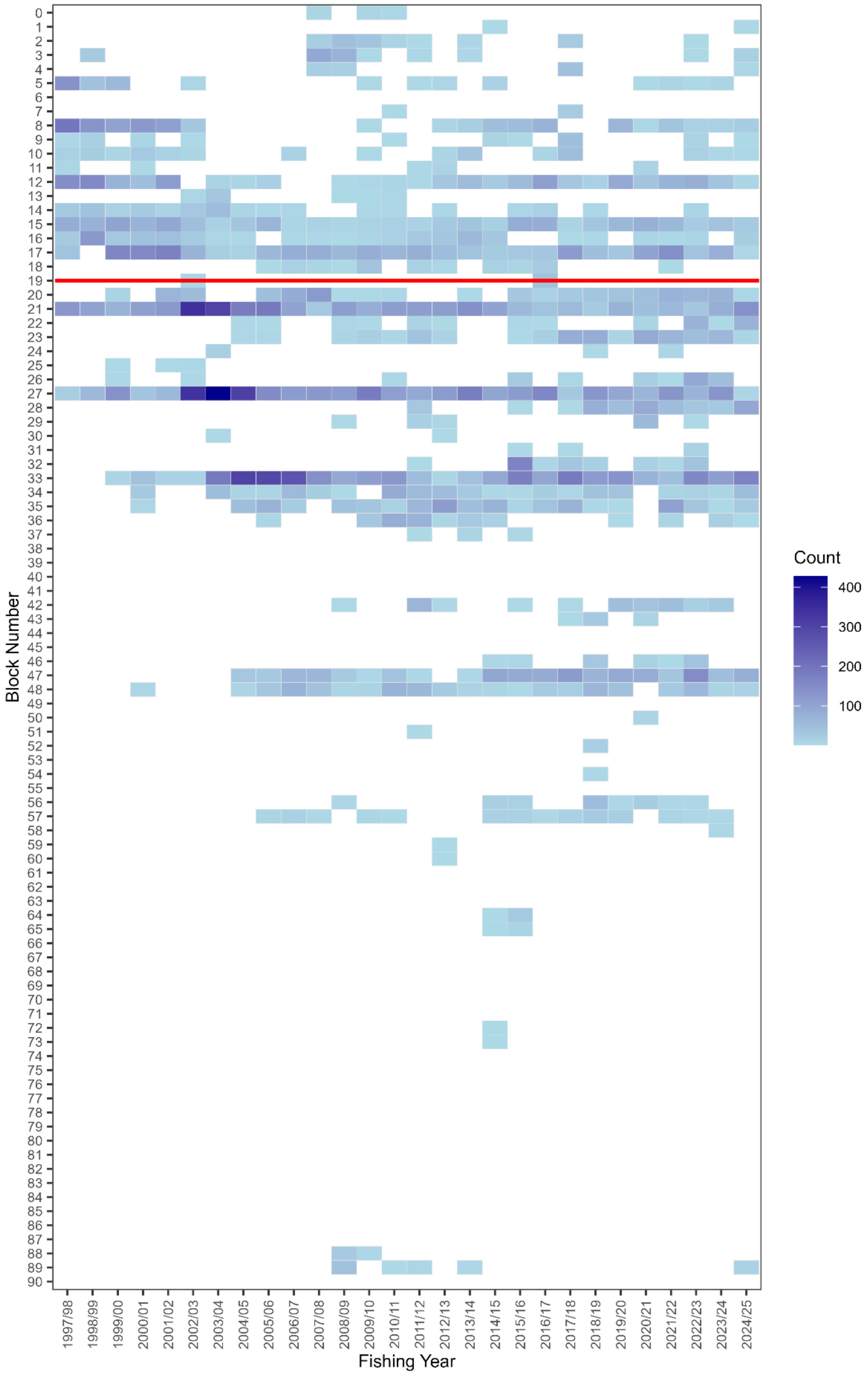

Figure 3.16 Number of times each block was fished in the Gulf St. Vincent zone of the Blue Crab fishery pot fishing sector from 1997/98 to 2024/25 with the red line dividing North (blocks 1-18) and South (blocks 19-89). Note in GSV block 89 is in the North.

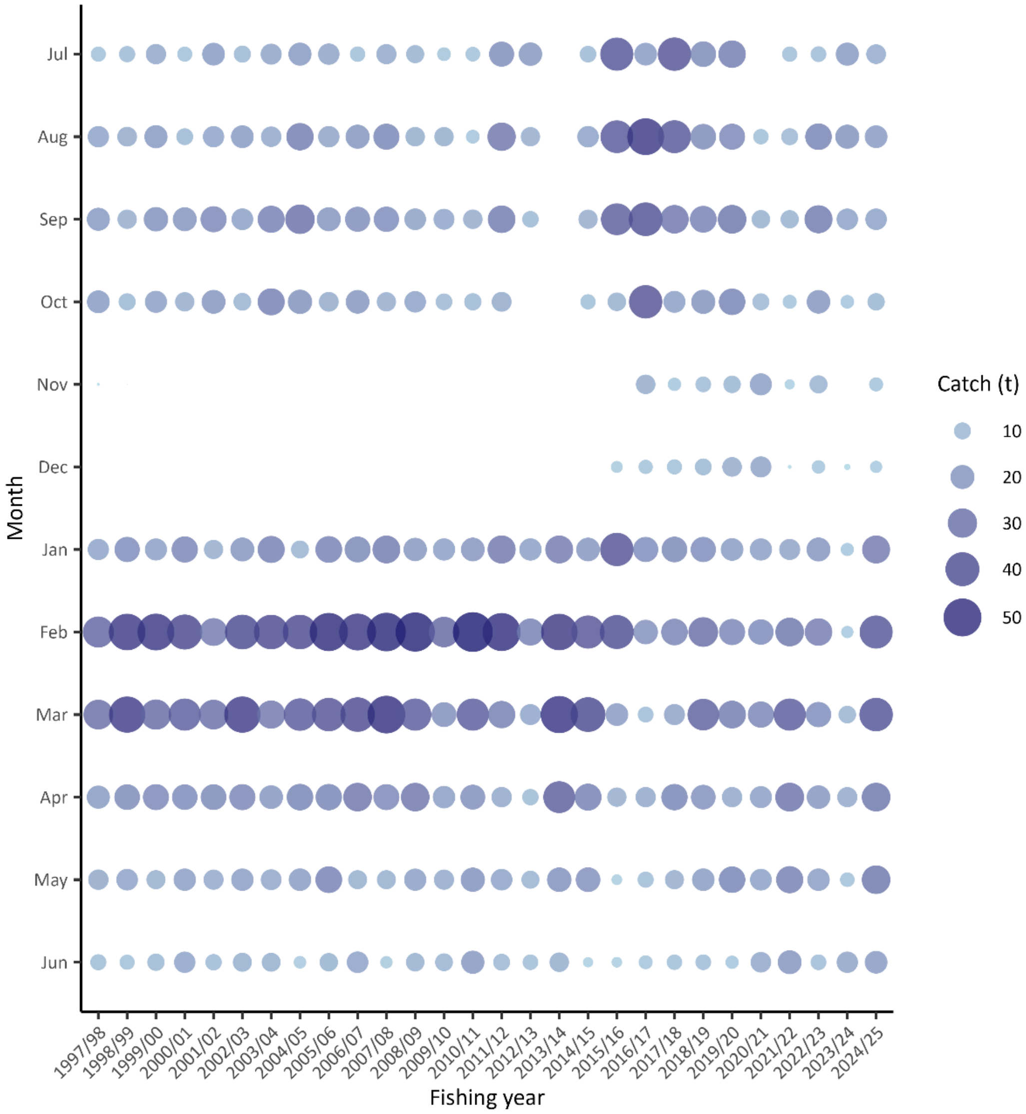

Figure 3.17 Monthly distribution of annual harvest from the Gulf St. Vincent zone of the Blue Crab Fishery pot fishing sector during 1997/98 to 2024/25. Note: bubble area is proportional to monthly harvest.

3.4. Fishery Performance Indicators

The CPUE of legal-size crabs measured during March/April FIS is the primary PI under the harvest strategy in the Management Plan. For SG, the CPUE of legal-size crabs measured in research pots during 2024/25 (5.2 kg.potlift^{-1}) was above the target RP (3.7 kg.potlift^{-1}) (Table 3.1). For GSV, the CPUE of legal-size crabs measured in research pots during 2024/25 (3.2 kg.potlift^{-1}) was above the target RP (2.5 kg.potlift^{-1}).

Table 3.1 Summary of the performance of the Spencer Gulf (SG) and Gulf St. Vincent (GSV) pot fishing zones for 2021/22–2024/25. The key biological performance indicator (PI) under the harvest strategy in the Management Plan is presented for both zones (PIRSA 2024). Cell shading reflects the classification of legal-size CPUE (kg.potlift^{-1}) relative to Management Plan reference ranges, with colours corresponding to performance categories from below limit (red) to above target (blue).

Zone	Reference Point				Research pot - March/April Legal-size CPUE (kg.potlift^{-1})			
	Limit	Trigger	Target		2021/22	2022/23	2023/24	2024/25
SG	1.0	2.4	3.7		4.1	7.3	4.9	5.2
GSV	0.8	1.7	2.5		5.4	2.4	4.1	3.2

4. DISCUSSION

4.1. Information sources used for assessment

4.1.1. Primary biological performance indicator

The primary biological PI for assessing stock status and determining the annual TACC for the BCF fishery is the legal-size CPUE from the FIS conducted in March/April. The FIS program has been a cornerstone of stock assessments since 2002, providing a reliable index of relative biomass (Beckmann and Hooper 2017).

Historically, June/July surveys focused on collecting data on the spatial abundance and size composition of Blue Crabs during winter, when juvenile crabs generally recruit to the fishery (PIRSA 2012). These surveys provided valuable insights into recruitment potential but were less effective for assessing the legal-size biomass available for immediate harvest. This, coupled with a lag of up to 18 months before the data could inform quota setting, limited their direct utility for timely management decisions.

To address these limitations, March/April surveys were introduced in 2015 for GSV and 2016 for SG. These surveys shifted the focus to legal-size crabs and are conducted after the reproductive peak (October to January), providing a timelier index of the biomass available for harvest. This shift also aligned data collection closer to the start of the quota period, which better supports immediate quota-setting needs. However, FIS CPUE trends vary depending on environmental and biological factors. The differences between June/July and March/April surveys have only been broadly assessed using the three-year period (2016–2018) when both surveys were conducted. During this overlap, trends were evaluated by comparing relative FIS CPUE levels across survey months for legal-size and pre-recruit crabs to assess consistency and seasonal influence. In more recent years, increased climate variability has contributed to greater fluctuations in FIS CPUE, particularly in the March/April survey series.

4.1.2. Other biological performance indicators

Additional biological PIs include the CPUE of pre-recruits (kg.potlift^{-1}) from the March/April FIS and the commercial CPUE of legal-sized crabs (kg.potlift^{-1}) (PIRSA 2024). While these indicators are not the primary basis for assigning stock status, the Management Plan states they will be used, if available, to inform stock status classification. FIS data are considered the most reliable due to their standardised sampling methodology (locations, timing, and gear), which supports consistent estimation of relative biomass. However, FIS CPUE also varies due to environmental and biological factors. Commercial CPUE is subject to additional sources of variation, including fisher behaviour, temporal and spatial effort shifts, gear modifications, and vessel technology, which can complicate interpretation. Commercial CPUE can also provide complementary information and help interpret variability in FIS CPUE.

4.2. Stock status

4.2.1. Spencer Gulf

The SG Blue Crab stock was assessed in 2024/25 using the key PI of FIS CPUE for legal-sized crabs. FIS CPUE increased to 5.2 ± 0.3 kg.potlift^{-1} in 2024/25, which substantially exceeded the target RP of 3.7 kg.potlift^{-1} and indicated robust biomass levels. FIS results in SG show moderate variability from year to year, likely reflecting natural fluctuations in abundance and environmental conditions. The 2024/25 result is consistent with the range of values observed in recent assessments. In addition, the 2024/25 pre-recruit CPUE remained high, suggesting continued, but variable, recruitment potential.

The total catch of 411 t represented 98% of the TACC (420 t), and commercial CPUE remained high at 472 kg.boat day^{-1}. Spatially, FIS data for 2024/25 indicated widespread high densities of legal-size crabs across the northern Gulf, extending from Whyalla to Wallaroo. In contrast, commercial fishing activity was concentrated in fewer blocks along the western coastline, with fishing extending further south than the survey coverage. Temporally, catch and effort patterns during 2024/25 followed historical seasonal patterns, with the highest proportion of catch taken early in the season.

Although the harmful algal bloom expanded into parts of Spencer Gulf during the latter half of 2024/25, no measurable impact on Blue Crab catch, CPUE or survey indicators was evident in SG within the assessment period, indicating no evidence of negative impacts on stock indicators within the assessment period.

These results indicate that biomass is unlikely to be depleted, recruitment is unlikely to be impaired, and the current level of fishing mortality is unlikely to cause recruitment impairment. On this basis, the stock is classified as **sustainable** for the 2024/25 assessment period.

4.2.2. Gulf St. Vincent

The GSV stock was assessed in 2024/25 using the key PI of FIS CPUE for legal-sized crabs. The FIS legal-size CPUE decreased to 3.2 ± 0.3 kg.potlift^{-1} but remained above the target RP (2.5 kg.potlift^{-1}). FIS results in GSV show high variability from year to year, likely reflecting natural fluctuations in abundance and environmental conditions. This variability should be considered when interpreting short-term changes. Pre-recruit CPUE in 2024/25 also declined sharply (96% lower than 2023/24) but such low values are not unprecedented, with similar levels observed in 2016, reflecting natural variability.

The total commercial catch was 250 t, representing 93% of the TACC (270 t). In 2024/25, the commercial CPUE increased for the first time since 2019/20, reaching 426 kg.boat day^{-1}. This likely reflects reduced operational constraints which have been influencing catch rates for the past four seasons. In 2024/25, high survey densities were observed along the metropolitan and western coastlines, whereas commercial catches were concentrated off the metropolitan coast, with higher catches in southern and eastern blocks outside survey coverage.

Although the latter part of the 2024/25 season coincided with the onset of the harmful algal bloom in March 2025, commercial catch patterns in GSV remained broadly consistent with historical seasonal trends within the assessment period. Beyond the 2024/25 assessment period, commercial CPUE declined and the fishery was subsequently closed, with targeted algal bloom surveys recording low catch rates during the later part of 2025 (Appendix 2). Catch rates in targeted surveys increased to above-average levels by January–February 2026 (Appendix 2), followed by a record-high fishery-independent CPUE observed in March 2026 (Appendix 1). The fishery was re-opened from May 2026.

These results indicate that biomass is unlikely to be depleted, recruitment is unlikely to be impaired, and the current level of fishing mortality is unlikely to cause recruitment impairment. On this basis, the GSV Blue Crab stock is classified as **sustainable** for the 2024/25 assessment period.

4.3. Assessment uncertainties

Key uncertainties identified in previous stock assessment reports (Beckmann and Hooper 2021, 2022, 2023; Beckmann and Hanamseth 2024; Beckmann 2025) remain relevant to the interpretation of stock status and fishery PIs. Fishery-independent survey data continue to provide the most robust information for assessing relative biomass and size structure; however, uncertainty persists in the interpretation of FIS CPUE trends due to gaps in survey time series and changes in survey timing. In particular, the transition from June/July to March/April surveys complicates comparisons across years and introduces uncertainty in the relationship between FIS CPUE and underlying stock abundance.

Additional uncertainty arises from survey design changes implemented in 2022 to reduce Blue Crab mortality in research pots, whereby the number of pots per site was reduced from five to one. While desktop analyses indicate that long-term FIS CPUE trends have been preserved, the change increases the likelihood of missing data where pots are lost, damaged, or fail to fish effectively. Research pots nevertheless remain essential for monitoring pre-recruit and legal-size abundance, as research-pot FIS CPUE can differ systematically from commercial-pot FIS CPUE in some years and regions. Preliminary work suggests strong correspondence between research- and commercial-pot CPUE in Spencer Gulf, whereas more complex spatial and temporal modelling approaches may be required for Gulf St Vincent.

Uncertainty also exists around recreational harvest. Recreational catch of Blue Crabs has been estimated through infrequent State-wide surveys that adopt broadly consistent methodologies but provide limited spatial and temporal resolution and require interpolation between survey years. As a result, year-to-year trends in recreational catch and effort cannot be assessed outside these survey periods. The most recent 2021/22 survey indicated that recreational harvest was broadly consistent with allocated sectoral shares; however, changes between survey years remain uncertain. Improving the precision and frequency of recreational catch information would reduce uncertainty in stock assessment and management. Accordingly, the updated Management Plan (PIRSA 2024) identifies the development of more cost-effective approaches for estimating recreational catch and effort as a priority, including digital reporting tools and targeted interim surveys building on trials undertaken under FRDC project 2020-056 (Beckmann et al. 2024).

Recreational fisheries operate as complex social-ecological systems in which fishing activity responds dynamically to regulatory, environmental, and access constraints rather than declining proportionally with restrictions. Previous research demonstrates that recreational fishers commonly substitute effort across species, locations, or activities in response to management change, with implications for stock impacts and the interpretation of catch and CPUE trends (e.g. Gentner and Sutton 2008; Arlinghaus et al. 2013). Behavioural responses of this kind are increasingly recognised as integral components of fisheries systems and are particularly relevant during periods of rapid environmental disturbance, when assumptions about proportional effort reduction may not hold.

Management responses to the 2025 harmful algal bloom highlight the practical implications of this uncertainty. Following a decline in commercial CPUE, the commercial Blue Crab fishery in Gulf St Vincent was closed on 1 November 2025, while recreational fishing remained open under reduced bag and size limits. Precautionary reductions in recreational limits were also applied in Spencer Gulf based on assumptions regarding potential transfer of fishing effort (with restrictions for Blue Crab in this zone easing on 20 December 2025). Subsequent re-opening of the commercial fishery and relaxing of recreational restrictions on Blue Crab in the GSV on 1 May 2026 occurred in a context where restrictions on other fisheries remained in place, creating the potential for further displacement of recreational effort across regions and species even after the Blue Crab-specific restrictions had been lifted. In the absence of timely, spatially resolved recreational catch and effort information, it is not possible to evaluate whether these assumptions accurately reflected fishing behaviour or to assess cumulative effects of these management actions across sectors.

Broader environmental variability further complicates assessment and interpretation. Habitat condition, oceanographic variability, and longer-term climate trends may influence recruitment, growth, movement patterns, and catchability of Blue Crabs. Within this context, the assessment incorporates fishery-dependent and fishery-independent data up to 30 June 2025, and therefore, partially overlaps with the onset of the extensive harmful algal bloom that developed off the Fleurieu Peninsula in March 2025 and expanded into parts of Investigator Strait, Gulf St Vincent, and Spencer Gulf during April–July 2025. Within the 2024/25 assessment period, commercial catch and CPUE patterns in Gulf St Vincent remained broadly consistent with historical seasonal trends. Marked declines were observed beyond the assessment period from August 2025 onwards, followed by improving catch rates in targeted fishery-independent surveys by early 2026, including a record-high FIS CPUE observed in March 2026.

Despite these indications, the scale, duration, and longer-term stock-level consequences of the harmful algal bloom remain uncertain. As this assessment is restricted to the 2024/25 period, potential impacts on survival, recruitment, and future availability remain key sources of uncertainty and will require continued monitoring and targeted post-bloom analyses.

In addition to biological and monitoring uncertainty, economic and operational factors influence the capacity and responsiveness of the fishery to changing stock and environmental conditions.

Recent indicators show declining profitability alongside rising input costs, with increases in fuel prices, labour costs, interest rates, and inflation contributing to higher operating costs in 2023/24 (BDO 2025). Together, these biological, environmental, and economic uncertainties may influence decisions about when and where to fish, effort distribution between seasons and zones, and the capacity of operators to adapt to short-term disruption.

4.4. Future research needs

In summary, future research should focus on maintaining and refining FIS programs, particularly to address gaps in survey time series and improve confidence in the interpretation of CPUE trends across changes in survey timing and design. Reducing uncertainty in recreational catch and effort estimation remains a priority, especially at finer spatial scales, through the development of cost-effective approaches to supplement infrequent State-wide surveys. Improved integration of environmental and oceanographic information with fishery and survey data would support interpretation of variability in recruitment, availability and catchability, particularly during periods of rapid environmental change. While the fishery is effectively managed within an existing quota framework and has a small number of licence holders, targeted assessment of stock productivity and habitat use in currently unfished or lightly fished areas may inform longer-term strategic planning. Further work is also needed to better understand differences between commercial and research pot data, including standardisation of CPUE and catch composition, to improve comparability and interpretation of trends. Collectively, these research priorities support the adaptive, risk-based and ecosystem-focused objectives outlined in the Management Plan.

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6. APPENDIX

APPENDIX 1

2026 Fishery-independent survey advice note summary

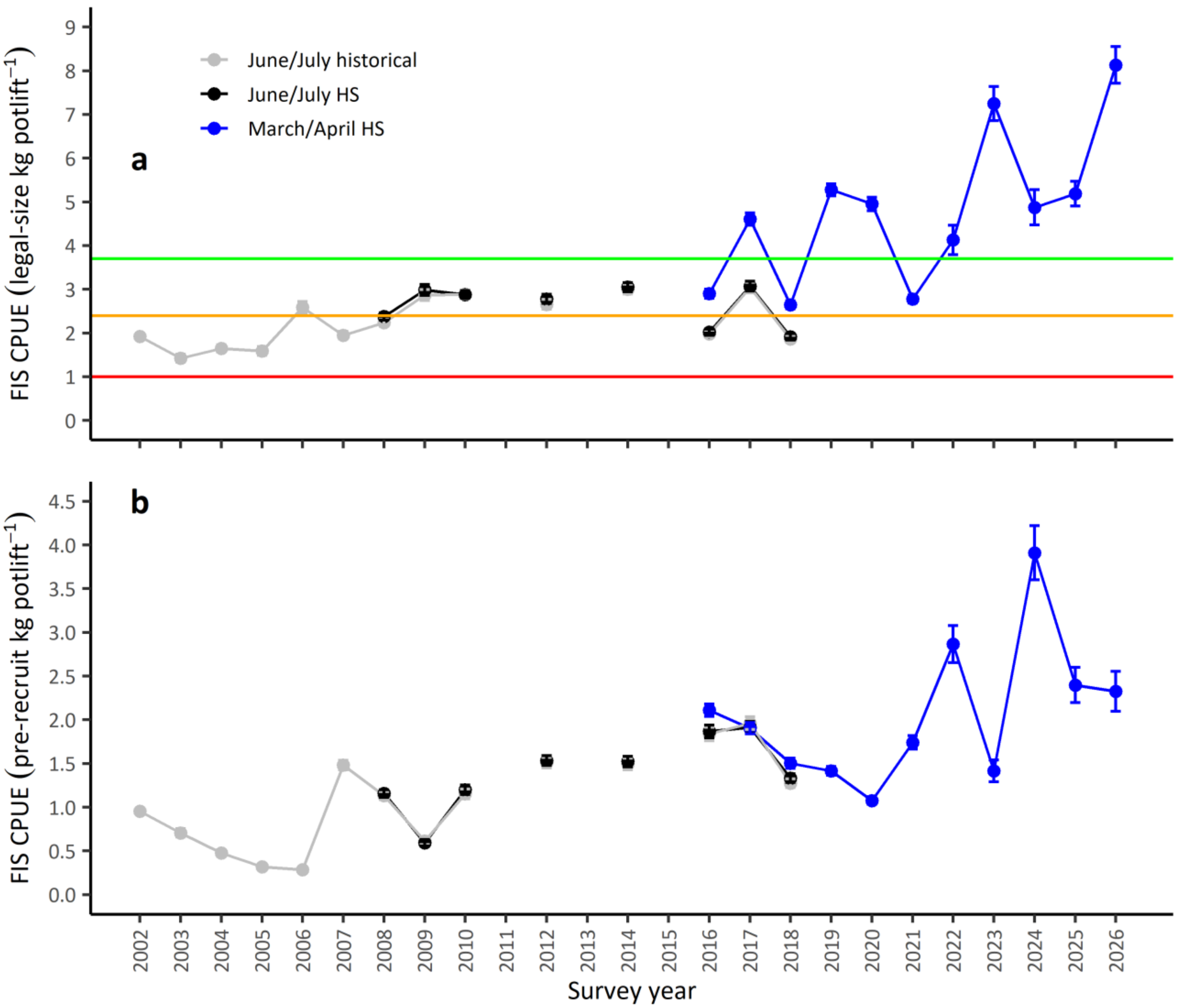
- The latest fishery-independent surveys (FIS) for the Blue Crab Fishery (BCF) were conducted in Spencer Gulf (SG) and Gulf St Vincent (GSV) during March 2026.
- A total of 540 commercial pots and 60 research pots were sampled in each gulf, noting 3 commercial pots malfunctioned in GSV so were excluded from the analysis
- For SG, the performance indicator of research pot catch per unit effort (CPUE) of legal-size crabs was 8.1 ± 0.4 (SE) kg.potlift^{-1}.
- For GSV, the research pot CPUE of legal-size crabs was 5.6 ± 0.4 (SE) kg.potlift^{-1} in 2026.

Summary of CPUE statistics for the March 2026 GSV and SG fishery-independent surveys (FISs) using research and commercial pots. SE, Standard error.

Gulf	Pot type	Potlifts	CPUE (legal-size crabs, kg.potlift^{-1})
SG	Research	60	8.1 ± 0.4 (SE)
	Commercial	540	11.7 ± 0.2 (SE)
GSV	Research	60	5.6 ± 0.4 (SE)
	Commercial	537	5.8 ± 0.1 (SE)

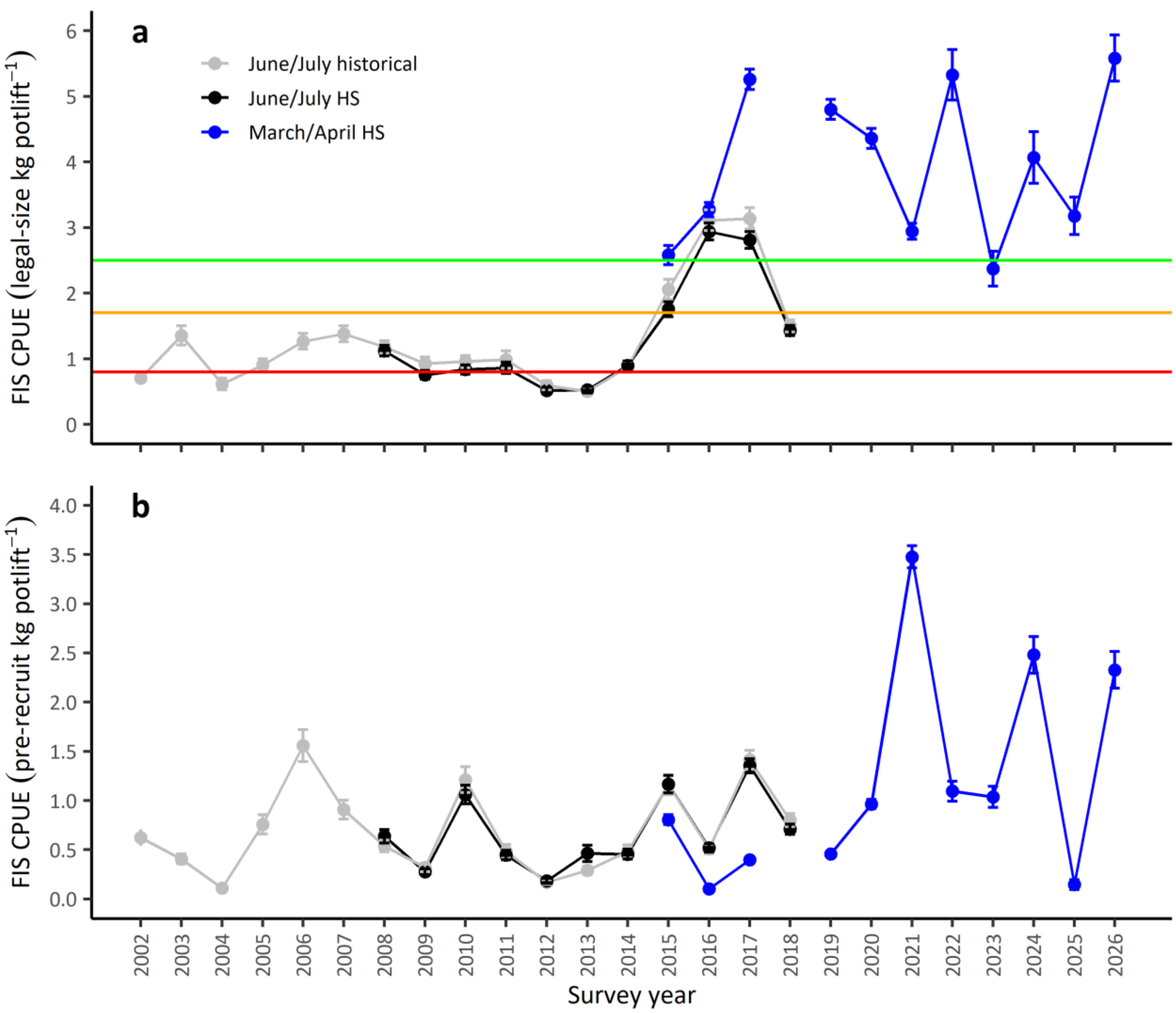
APPENDIX 1 (cont.)

Annual FIS CPUE from research pots in SG by weight of (a) legal-size crabs (kg.potlift-1) from, and (b) pre-recruit crabs (kg.potlift-1). Historical sites refer to the 52 sites which have not changed since 2003 (excludes new sites) and harvest strategy (HS) sites refer to the subset of 60 sites sampled since 2008 (includes new sites). Green, yellow, and red lines represent the target, trigger and limit reference points (RPs) for March/April identified in the HS. Error bars, standard error. Note. June/July FIS were not conducted in 2011, 2013, 2015, or from 2019.



APPENDIX 1 (cont.)

Annual FIS CPUE from research pots in GSV by weight of (a) legal-size crabs (kg.potlift^{-1}) from, and (b) pre-recruit crabs (kg.potlift^{-1}). Historical sites refer to 37 sites which have not changed since 2003 (excludes new sites) and harvest strategy (HS) sites refer to the subset of 60 sites sampled since 2008 (includes new sites). Green, yellow, and red lines represent the target, trigger and limit RPs for March/April identified in the HS. Error bars, standard error. Note: no FIS was conducted in March/April 2018 or from June/July 2019.



APPENDIX 2

Summary of potlifts, catch, CPUE, size composition, and sex structure from research (R; smaller-mesh) and commercial (C) pots across three sampling trips in Gulf St Vincent. Monthly 10-year average commercial CPUE is included for context.

Metric	**Trip 1 (Aug/Sep)**		**Trip 2 (Sep/Oct)**		**Trip 3 (Jan/Feb)**	
	R	**C**	**R**	**C**	**R**	**C**
Pot lifts	39	389	39	387	39	350
Legal-size (number)	22	216	161	1,155	604	6,778
Legal-size (kg)	5	54	42	312	190	2,244
CPUE – legal (crabs/pot)	0.6	0.6	4.1	3	15.5	19.4
CPUE – legal (kg/pot)	0.1	0.1	1.1	0.8	4.9	6.4
Undersize (number)	7	32	43	47	317	151
Undersize (kg)	1	5	7	8	46	25
% Female	62%	74%	60%	51%	13%	8%
% Berried	0%	0%	0%	0%	26%	50%
10-year mean CPUE (kg/pot)	NA	3.4 ± 0.3 (Sep)	NA	2.8 ± 0.3 (Oct)	NA	3.1 ± 0.4 (Jan)

APPENDIX 3

Bycatch from March/April surveys in Spencer Gulf, presented as catch (C) and catch rate (CR), from research pots.

GROUP	COMMON NAME	SCIENTIFIC NAME	2016		2017		2018		2019		2020		2021		2022		2023		2024		2025	
			Lifts=300		Lifts=297		Lifts=298		Lifts=298		Lifts=298		Lifts=268		Lifts=60		Lifts=60		Lifts=56		Lifts=60	
			C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR
Ascidians	Ascidian	Unidentified so,	-	-	-	-	8	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustaceans	Balmain bug	*Ibacus peronii*	1	0.0	-	-	1	0.0	1	0.0	1	0.0	1	0.0	-	-	-	-	-	-	-	-
	Hermit crab	*Paguristes spp.*	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rock crab	*Nectocarcinus integrifrons*	236	0.8	186	0.6	153	0.5	120	0.4	220	0.7	166	0.6	136	2.3	105	1.8	129	2.3	61	1.0
	Sand crab	*Ovalipes australiensis*	-	-	-	-	-	-	-	-	2	0.0	-	-	-	-	1	0.0	-	-	-	-
	Spider crab	*Leptomithrax gaimardii*	5	0.0	3	0.0	1	0.0	1	0.0	4	0.0	10	0.0	14	0.2	-	-	68	1.2	13	0.2
	Seaweed crab	*Naxia spp.*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
	Western king prawn	*Melicertus latisculatus*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
Echinoderms	Brittle star	*Ophiuroidea spp.*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-
	Sea cucumber	*Holothuroidea spp.*	-	-	2	0.0	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
	Starfish	*Asteroidea spp.*	-	-	-	-	3	0.0	2	0.0	2	0.0	-	-	-	-	-	-	-	-	-	-
Elasmobranchs	Fiddler ray	*Trygonorrhina dumerilii*	1	0.0	-	-	-	-	1	0.0	-	-	-	-	1	0.0	1	0.0	2	0.0	-	-
	Port Jackson shark	*Heterodontus portusjacksoni*	15	0.1	5	0.0	6	0.0	1	0.0	-	-	5	0.0	-	-	3	0.1	2	0.0	-	-
	Shovelnose ray	*Aptychotrema vincentiana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0
	Smooth stingray	*Dasyatis brevicaudata*	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Wobbegong	*Orectolobus spp.*	1	0.0	1	0.0	2	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fishes	Catfish	*Cnidoglanis macrocephalus*	1	0.0	2	0.0	3	0.0	1	0.0	2	0.0	1	0.0	-	-	1	0.0	-	-	-	-
	Cowfish	*Aracana spp.*	-	-	-	-	-	-	1	0.0	1	0.0	-	-	-	-	-	-	-	-	-	-
	Sand flathead	*Platycephalus bassensis*	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-
	Gurnard perch	*Neosebastes spp.*	-	-	-	-	3	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Leatherjacket	*Acanthaluteres spp.*	3	0.0	11	0.0	17	0.1	16	0.1	16	0.1	15	0.1	1	0.0	2	0.0	1	0.0	1	0.0
	Numbfish	*Hypnos monopterygium*	-	-	-	-	-	-	-	-	2	0.0	-	-	-	-	-	-	-	-	-	-
	Puffer fish	*Torquigener pleurogramma*	-	-	2	0.0	4	0.0	2	0.0	1	0.0	-	-	-	-	1	0.0	1	0.0	-	-
	Red mullet	*Upeneichthys vlamingii*	8	0.0	3	0.0	16	0.1	6	0.0	11	0.0	9	0.0	1	0.0	-	-	-	-	3	0.1
	Rough leatherjacket	*Thamnaconus degeni*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.0	-	-
	Scorpionfish	*Maxillicosta meridianus*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
	Snapper	*Pagrus auratus*	2	0.0	-	-	1	0.0	1	0.0	1	0.0	-	-	3	0.1	6	0.1	5	0.1	5	0.1
	Soldier fish	*Gymnapistes marmoratus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-
	Western talma	*Chelmonops curiosus*	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Skipjack trevally	*Pseudocaranx wrighti*	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trumpeter	*Helotes octolineatus*	150	0.5	507	1.7	336	1.1	161	0.5	305	1.0	47	0.2	24	0.4	38	0.6	54	1.0	33	0.6
Molluscs	Cuttlefish	*Sepia apama*	4	0.0	4	0.0	1	0.0	-	-	2	0.0	2	0.0	-	-	-	-	-	-	-	-
	Dog whelk	*Neogastropoda spp.*	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	1	0.0	-	-
	Nudibranch	Unidentified sp.	-	-	-	-	8	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Scallop	*Pecten fumatus*	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	1	0.0
	Turban shell	*Lunella torquata*	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL			428	1.4	728	2.5	565	1.9	316	1.1	574	1.9	256	1.0	181	3.0	160	2.7	265	4.7	118	2.0

APPENDIX 3 (cont.)

Bycatch from March/April surveys in Spencer Gulf, presented as catch (C) and catch rate (CR), from commercial pots.

GROUP	COMMON NAME	SCIENTIFIC NAME	2016		2017		2018		2019		2020		2021		2022		2023		2024		2025	
			Lifts=300		Lifts=300		Lifts=298		Lifts=298		Lifts=299		Lifts=270		Lifts=535		Lifts=539		Lifts=539		Lifts = 539	
			C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR
Ascidians	Ascidian	Unidentified sp.	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	3	0.0	-	0.0	-	0.0
Cnidarians	Jellyfish	Unidentified sp.	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Crustaceans	Balmain bug	*Ibacus peronii*	27	0.1	24	0.1	28	0.1	7	0.0	34	0.1	20	0.1	121	0.2	116	0.2	63	0.1	12	0.0
	Hermit crab	*Paguristes spp.*	4	0.0	4	0.0	6	0.0	2	0.0	3	0.0	11	0.0	225	0.4	33	0.1	757	1.4	169	0.3
	Bait crab	*Portunidae spp.*	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	1	0.0	3	0.0	-	0.0	-	0.0	-	0.0
	Rock crab	*Nectocarcinus integrifrons*	1	0.0	1	0.0	1	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	1	0.0	-	0.0
	Sand crab	*Ovalipes australiensis*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0
	Spider crab	*Leptomithrax gaimardii*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	1	0.0
Echinoderms	Brittle star	*Ophiuroidea spp.*	-	0.0	1	0.0	-	0.0	1	0.0	-	0.0	2	0.0	1	0.0	-	0.0	4	0.0	3	0.0
	Sea cucumber	*Holothuroidea spp.*	-	0.0	-	0.0	3	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0
	Starfish	*Asteroidea spp.*	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Elasmobranchs	Fiddler ray	*Trygonorrhina dumerilii*	44	0.1	31	0.1	34	0.1	4	0.0	26	0.1	13	0.0	83	0.2	11	0.0	36	0.1	10	0.0
	Port Jackson shark	*Heterodontus portusjacksoni*	2	0.0	7	0.0	-	0.0	1	0.0	-	0.0	2	0.0	9	0.0	6	0.0	21	0.0	10	0.0
	Smooth stingray	*Dasyatis brevicaudata*	2	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0
	Wobbegong	*Orectolobus spp.*	-	0.0	1	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Fishes	Catfish	*Cnidoglanis macrocephalus*	7	0.0	2	0.0	5	0.0	10	0.0	23	0.1	6	0.0	5	0.0	-	0.0	8	0.0	-	0.0
	Cowfish	*Aracana spp.*	3	0.0	1	0.0	-	0.0	2	0.0	1	0.0	-	0.0	3	0.0	26	0.0	87	0.2	49	0.1
	Gurnard perch	*Neosebastes spp.*	3	0.0	1	0.0	3	0.0	1	0.0	4	0.0	1	0.0	2	0.0	2	0.0	2	0.0	2	0.0
	Leatherjacket	*Acanthaluteres spp.*	1	0.0	-	0.0	-	0.0	-	0.0	2	0.0	1	0.0	1	0.0	3	0.0	-	0.0	1	0.0
	Six-spined leatherjacket	*Meuschenia freycineti*	1	0.0	-	0.0	2	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Moonlighter	*Tilodon sexfasciatus*	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Numbfish	*Hypnos monopterygium*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Puffer fish	*Torquigener pleurogramma*	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Red mullet	*Upeneichthys vlamingii*	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Rough leatherjacket	*Thamnaconus degeni*	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Silverbelly	*Parequula melbournensis*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0
	Snapper	*Pagrus auratus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0
	Soldier fish	*Gymnapistes marmoratus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Western talma	*Chelmonops curiosus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
Molluscs	Toothbrush leatherjacket	*Acanthaluteres vittiger*	2	0.0	2	0.0	1	0.0	-	0.0	2	0.0	2	0.0	4	0.0	-	0.0	5	0.0	3	0.0
	Trumpeter	*Helotes octolineatus*	-	0.0	-	0.0	4	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Blue-ringed octopus	*Hapalochlaena spp.*	-	0.0	-	0.0	3	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Dog cockle	*Glycymeris radians*	1	0.0	-	0.0	-	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0	2	0.0	1	0.0
	Clam	Unidentified bivalve	-	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Cone shell	Unidentified sp.	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Cuttlefish	*Sepia apama*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
TOTAL			98	0.3	81	0.3	95	0.3	34	0.1	97	0.3	63	0.2	460	0.9	202	0.4	993	1.8	266	0.5

APPENDIX 3 (cont.)

Bycatch from March/April surveys in Gulf St Vincent, presented as catch (C) and catch rate (CR), from research pots.

GROUP	COMMON NAME	SCIENTIFIC NAME	2015		2016		2017		2019		2020		2021		2022		2023		2024		2025	
			Lifts=247		Lifts=299		Lifts=299		Lifts=299		Lifts=291		Lifts=294		Lifts=59		Lifts=60		Lifts=60		Lifts=60	
			C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR
Ascidians	Ascidian	Unidentified sp.	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
Crustaceans	Balmain bug	*Ibacus peronii*	10	0.0	1	0.0	7	0.0	-	-	5	0.0	1	0.0	-	-	-	-	-	-	-	-
	Rock crab	*Nectocarcinus integrifrons*	821	3.3	635	2.1	79	1.6	94	0.6	60	2.3	684	2.3	03	1.7	132	2.3	53	0.9	75	1.3
	Sand crab	*Ovalipes australiensis*	19	0.1	2	0.0	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-
	Spider crab	*Leptomithrax gaimardii*	14	0.1	10	0.0	1	0.0	4	0.0	6	0.0	-	-	1	0.0	2	0.0	1	0.0	1	0.0
	Seaweed crab	*Naxia spp.*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.0	-	-	-	-
Echinoderms	Brittle star	*Ophiuroidea spp.*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.0
	Sea cucumber	*Holothuroidea spp.*	-	-	1	0.0	2	0.0	-	-	1	0.0	1	0.0	1	0.0	2	0.0	-	-	2	0.0
	Starfish	*Asteroidea spp.*	-	-	-	-	-	-	-	-	3	0.0	1	0.0	-	-	-	-	1	0.0	2	0.0
Elasmobranchs	Fiddler ray	*Trygonorrhina dumerilii*	3	0.0	1	0.0	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Port Jackson shark	*Heterodontus portusjacksoni*	11	0.0	-	-	1	0.0	-	-	1	0.0	6	0.0	-	-	-	-	-	-	-	-
Fishes	Catfish	*Cnidoglanis macrocephalus*	-	-	-	-	-	-	-	-	-	-	2	0.0	-	-	-	-	-	-	-	-
	Cowfish	*Aracana spp.*	1	0.0	-	-	1	0.0	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Crested weedfish	*Cristiceps australis*	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Sand flathead	*Platycephalus bassensis*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
	Gurnard perch	*Neosebastes spp.*	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Leatherjacket	*Acanthaluteres spp.*	31	0.1	65	0.2	15	0.1	13	0.0	20	0.1	47	0.2	3	0.1	3	0.1	6	0.1	6	0.1
	Puffer fish	*Torquigener pleurogramma*	-	-	2	0.0	-	-	-	-	1	0.0	-	-	-	-	-	-	1	0.0	-	-
	Red mullet	*Upeneichthys vlamingii*	24	0.1	11	0.0	28	0.1	7	0.0	3	0.0	4	0.0	-	-	2	0.0	2	0.0	15	0.3
	Snapper	*Pagrus auratus*	4	0.0	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Soldier fish	*Gymnapistes marmoratus*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	1	0.0	-	-	-	-
	Trumpeter	*Helotes octolineatus*	18	0.1	20	0.1	32	0.1	60	0.2	15	0.1	14	0.0	4	0.1	2	0.0	5	0.1	27	0.5
Molluscs	Abalone	*Haliotis sp.*	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-
	Dog cockle	*Glycymeris radians*	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-
	Cuttlefish	*Sepia apama*	2	0.0	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Dog whelk	*Neogastropoda spp.*	6	0.0	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-	-	-
	Hammer oyster	*Malleus meridianus*	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0	-	-	-	-	-	-
	Turban shell	*Lunella torquata*	-	-	5	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL			964	3.9	753	2.5	567	1.9	279	0.9	718	2.5	767	2.6	113	1.9	147	2.5	69	1.2	130	2.2

APPENDIX 3 (cont.)

Bycatch from March/April surveys in Gulf St Vincent, presented as catch (C) and catch rate (CR), from commercial pots.

GROUP	COMMON NAME	SCIENTIFIC NAME	2015		2016		2017		2019		2020		2021		2022		2023		2024		2025	
			Lifts=300		Lifts=300		Lifts=300		Lifts=300		Lifts=300		Lifts=300		Lifts=540		Lifts=540		Lifts=540		Lifts=540	
			C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR	C	CR
Crustaceans	Balmain bug	*Ibacus peronii*	3	0.0	2	0.0	5	0.0	-	0.0	1	0.0	-	0.0	-	0.0	2	0.0	-	0.0	2	0.0
	Hermit crab	*Paguristes spp.*	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Rock crab	*Nectocarcinus integrifrons*	56	0.2	65	0.2	29	0.1	10	0.0	64	0.2	47	0.2	28	0.1	60	0.1	18	0.0	10	0.0
	Sand crab	*Ovalipes australiensis*	16	0.1	-	0.0	3	0.0	-	0.0	-	0.0	2	0.0	-	0.0	5	0.0	1	0.0	2	0.0
	Shrimp	*Metapenaeopsis lindae*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Spider crab	*Leptomithrax gaimardii*	27	0.1	2	0.0	4	0.0	3	0.0	6	0.0	1	0.0	13	0.0	23	0.0	15	0.0	1	0.0
	Seaweed crab	*Naxia spp.*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Echinoderms	Brittle star	*Ophiuroidea spp.*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Sea cucumber	*Holothuroidea spp.*	1	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0	2	0.0	4	0.0	-	0.0	8	0.0
	Sea urchin	*Echinoidea spp.*	3	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Starfish	*Asteroidea spp.*	-	0.0	-	0.0	-	0.0	-	0.0	2	0.0	1	0.0	-	0.0	1	0.0	1	0.0	3	0.0
Elasmobranchs	Fiddler ray	*Trygonorrhina dumerilii*	4	0.0	1	0.0	1	0.0	-	0.0	-	0.0	3	0.0	1	0.0	7	0.0	3	0.0	-	0.0
	Gummy shark	*Mustelus antarcticus*	3	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0	-	0.0	-	0.0
	Port Jackson shark	*Heterodontus portusjacksoni*	60	0.2	3	0.0	2	0.0	-	0.0	2	0.0	14	0.0	12	0.0	62	0.1	3	0.0	4	0.0
	Skate	*Raja spp.*	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Smooth stingray	*Dasyatis brevicaudata*	1	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Wobbegong	*Orectolobus spp.*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0	-	0.0
Fishes	Longsnout boarfish	*Pentaceropsis recurvirostris*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	7	0.0	-	0.0	-	0.0
	Catfish	*Cnidoglanis macrocephalus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	2	0.0	-	0.0
	Cod	*Pseudophycis bachus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Cowfish	*Aracana spp.*	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	5	0.0	8	0.0	1	0.0	-	0.0
	Leatherjacket	*Acanthaluteres spp.*	24	0.1	10	0.0	2	0.0	6	0.0	4	0.0	6	0.0	8	0.0	7	0.0	16	0.0	5	0.0
	Six-spined leatherjacket	*Meuschenia freycineti*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0
	Mosaic leatherjacket	*Eubalichthys mosaicus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	2	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Moonlighter	*Tilodon sexfasciatus*	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Numbfish	*Hypnos monopterygium*	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0
	Puffer fish	*Torquigener pleurogramma*	3	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Red mullet	*Upeneichthys vlamingii*	2	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Rock ling	*Genypterus tigerinus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Snapper	*Pagrus auratus*	3	0.0	-	0.0	1	0.0	-	0.0	-	0.0	2	0.0	11	0.0	4	0.0	4	0.0	-	0.0
	Soldier fish	*Gymnapistes marmoratus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	1	0.0
	Trumpeter	*Helotes octolineatus*	1	0.0	1	0.0	1	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	2	0.0	1	0.0
Molluscs	Abalone	*Haliotis sp.*	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Dog cockle	*Glycymeris radians*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0
	Cone shell	*unidentified*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0
	Cuttlefish	*Sepia apama*	6	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Dog whelk	*Neogastropoda spp.*	-	0.0	-	0.0	-	0.0	4	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Hairy mussel	*Musculus nanus*	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Octopus	*Octopus maorum*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0
	Razorfish	*Pinna bicolor*	1	0.0	-	0.0	-	0.0	-	0.0	1	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Scallop	*Pecten fumatus*	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1	0.0	-	0.0
	Turban shell	*Lunella torquata*	-	0.0	1	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
TOTAL			221	0.7	221	0.7	85	0.3	49	0.2	25	0.1	85	0.3	83	0.3	84	0.2	195	0.4	68	0.1

APPENDIX 4.

Key Blue Crab statistics for the Spencer Gulf zone of the Blue Crab Fishery

Season	Catch (t)	Effort (potlifts)	Effort (days)	PF CPUE (kg.potlift^{-1})	CPUE (kg.boat day^{-1})	Mar/Apr	Jun/Jul
						FIS CPUE (legal-size kg.potlift^{-1})	FIS CPUE (legal-size kg.potlift^{-1})
1983/84	5	NA	90	NA	30	NA	NA
1984/85	29	NA	527	NA	50	NA	NA
1985/86	113	NA	1201	NA	91	NA	NA
1986/87	126	NA	1141	NA	107	NA	NA
1987/88	146	NA	1113	NA	130	NA	NA
1988/89	240	NA	1071	NA	224	NA	NA
1989/90	264	NA	1079	NA	244	NA	NA
1990/91	288	NA	1170	NA	246	NA	NA
1991/92	300	NA	1206	NA	248	NA	NA
1992/93	305	NA	1243	NA	245	NA	NA
1993/94	305	NA	1365	NA	223	NA	NA
1994/95	336	NA	1256	NA	268	NA	NA
1995/96	367	NA	1317	NA	279	NA	NA
1996/97	297	NA	1264	NA	235	NA	NA
1997/98	287	102,039	1183	2.7	243	NA	NA
1998/99	324	122,729	1313	2.4	247	NA	NA
1999/00	327	114,946	1364	2.7	240	NA	NA
2000/01	334	113,897	1218	2.7	274	NA	NA
2001/02	340	99,305	1064	3.3	319	NA	NA
2002/03	340	129,337	1180	2.7	288	NA	NA
2003/04	375	137,848	1269	2.7	295	NA	NA
2004/05	381	130,660	1171	3.0	325	NA	NA
2005/06	378	134,774	1096	2.9	345	NA	NA
2006/07	378	132,667	903	2.9	418	NA	NA
2007/08	382	160,555	1050	2.4	364	NA	2.4
2008/09	381	147,666	895	2.6	426	NA	3.0
2009/10	381	139,340	762	2.7	499	NA	2.9
2010/11	382	103,866	663	3.8	576	NA	NA
2011/12	377	84,756	672	4.4	561	NA	2.8
2012/13	382	99,513	748	3.8	511	NA	NA
2013/14	380	93,492	709	4.0	536	NA	3.0
2014/15	380	104,832	779	3.6	488	NA	NA
2015/16	380	105,497	779	3.5	488	2.9	2.0
2016/17	382	100,038	763	3.7	501	4.6	3.1
2017/18	359	87,372	674	4.1	533	2.6	1.9
2018/19	371	96,084	703	3.9	528	5.3	NA
2019/20	380	90,325	666	4.2	571	5.0	NA
2020/21	418	100,422	740	4.1	564	2.8	NA
2021/22	326	86,329	680	3.7	480	4.1	NA
2022/23	385	107,963	833	3.6	462	7.3	NA
2023/24	414	118,998	904	3.4	457	4.9	NA
2024/25	411	125,808	871	3.5	472	5.2	NA

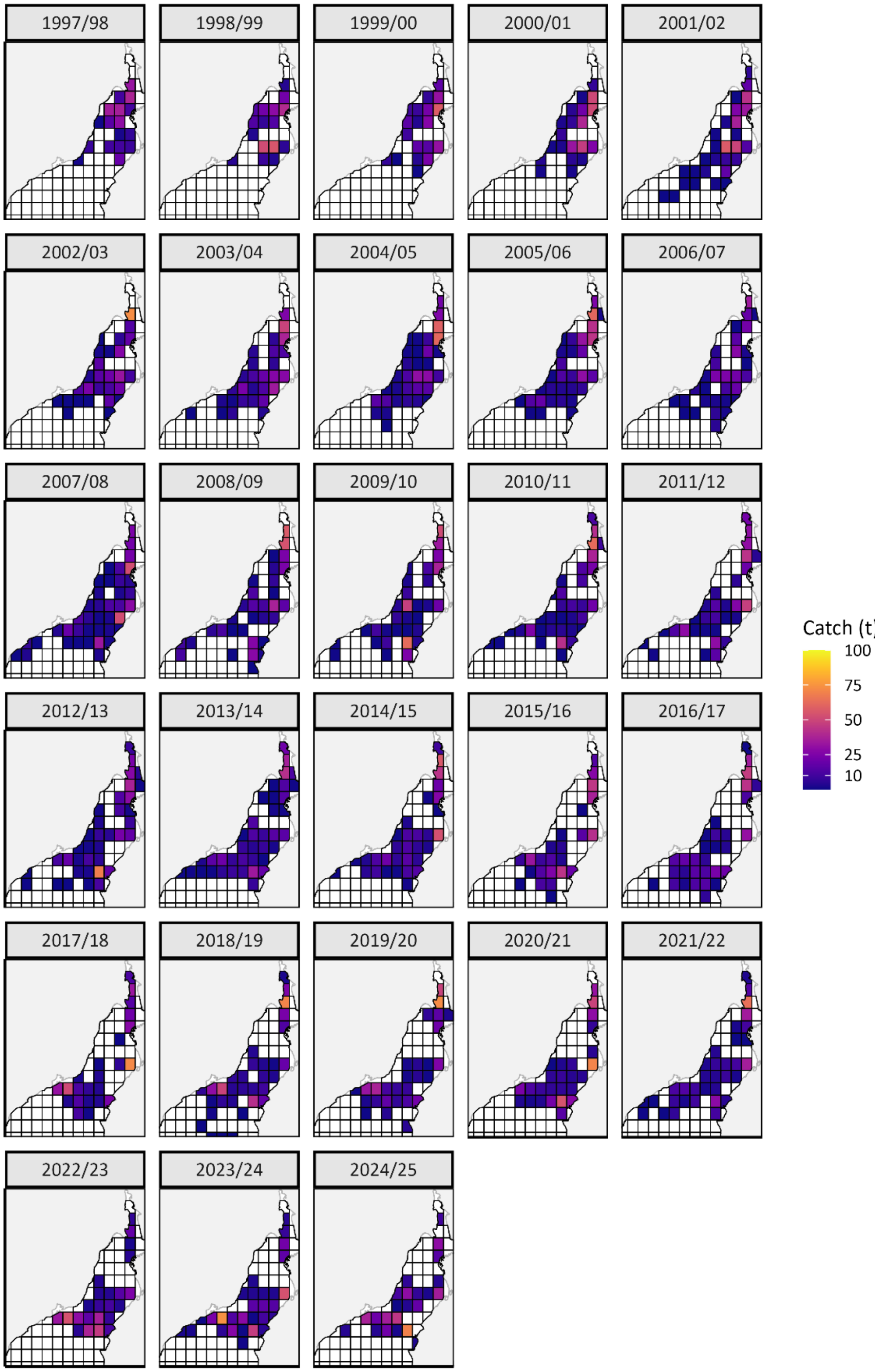
APPENDIX 4 (cont.)

Key Blue Crab statistics for the Gulf St. Vincent zone of the Blue Crab Fishery

Season	Catch (t)	Effort (potlifts)	Effort (days)	PF CPUE (kg.potlift^{-1})	CPUE (kg.boat day^{-1})	Mar/Apr FIS CPUE (legal-size kg.potlift^{-1})	Jun/Jul FIS CPUE (legal-size kg.potlift^{-1})
1983/84	22	NA	444	NA	35	NA	NA
1984/85	24	NA	435	NA	39	NA	NA
1985/86	27	NA	430	NA	49	NA	NA
1986/87	28	NA	544	NA	46	NA	NA
1987/88	37	NA	799	NA	42	NA	NA
1988/89	42	NA	551	NA	68	NA	NA
1989/90	92	NA	1002	NA	82	NA	NA
1990/91	137	NA	1139	NA	109	NA	NA
1991/92	115	NA	1201	NA	89	NA	NA
1992/93	204	NA	1630	NA	118	NA	NA
1993/94	239	NA	1999	NA	117	NA	NA
1994/95	265	NA	2109	NA	123	NA	NA
1995/96	285	NA	2114	NA	133	NA	NA
1996/97	165	NA	964	NA	169	NA	NA
1997/98	183	49,452	1088	2.6	167	NA	NA
1998/99	207	50,826	1076	2.9	192	NA	NA
1999/00	213	53,740	1027	2.9	206	NA	NA
2000/01	209	57,343	970	2.7	213	NA	NA
2001/02	194	54,137	898	2.8	216	NA	NA
2002/03	217	66,407	933	2.7	232	NA	NA
2003/04	223	64,056	845	3.0	263	NA	NA
2004/05	232	66,053	814	3.1	286	NA	NA
2005/06	241	75,508	735	3.0	328	NA	NA
2006/07	239	71,392	714	3.1	334	NA	NA
2007/08	243	71,368	628	3.3	386	NA	1.1
2008/09	223	65,796	471	3.3	473	NA	0.8
2009/10	159	66,435	454	2.4	349	NA	0.8
2010/11	209	66,416	446	3.2	469	NA	0.9
2011/12	234	73,085	478	3.4	490	NA	0.5
2012/13	129	56,373	315	2.3	409	NA	0.5
2013/14	191	47,677	404	3.9	472	NA	0.9
2014/15	196	56,264	492	3.3	399	2.6	1.8
2015/16	245	65,903	568	3.5	432	3.3	2.9
2016/17	246	61,133	466	3.9	527	5.3	2.8
2017/18	244	69,028	515	3.5	474	NA	1.4
2018/19	245	60,613	457	3.9	536	4.8	NA
2019/20	240	61,709	419	3.8	573	4.4	NA
2020/21	174	64,917	401	2.7	435	2.9	NA
2021/22	195	65,266	502	2.9	389	5.4	NA
2022/23	212	74,068	555	2.8	382	2.4	NA
2023/24	122	58,205	432	2.1	283	4.1	NA
2024/25	250	77,537	586	3.2	426	3.2	NA

APPENDIX 5.

Commercial catch (t) reported by block for the Spencer Gulf zone of the Blue Crab Fishery pot fishing sector from 1997/98 to 2024/25.



APPENDIX 5. (cont.)

Commercial catch (t) reported by block for the Spencer Gulf zone of the Blue Crab Fishery pot fishing sector from 1997/98 to 2024/25.