

Fisheries

Stock Status Report for the West Coast Prawn (*Penaeus (Melicertus) latisulcatus*) Fishery in 2025



V. Cipriani and K. A. Heldt

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July 2026

Report to PIRSA Fisheries and Aquaculture

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

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TABLE OF CONTENTS

TABLE OF CONTENTS	IV
LIST OF FIGURES	V
LIST OF TABLES.....	VI
ACKNOWLEDGMENTS	VII
EXECUTIVE SUMMARY	1
1. INTRODUCTION	3
1.1. Overview	3
1.2. Stock status classification and management arrangements	4
2. METHODS	7
3. RESULTS	9
3.1. Commercial catch and effort	9
3.1.1. Catch	9
3.1.2. Effort	9
3.1.3. CPUE	9
3.1.4. Prawn Size.....	10
3.2. Fishery-independent surveys	13
3.2.1. CPUE	13
3.2.2. Recruitment	15
4. HARVEST STRATEGY APPLICATION	16
4.1. Primary performance indicator	16
4.2. El Niño - Southern Oscillation (ENSO) status	17
5. SUMMARY.....	19
REFERENCES	22
APPENDIX A. SURVEY DETAILS.....	24
APPENDIX B. LENGTH FREQUENCY DATA	25
APPENDIX C. KEY DATA SUMMARY	29

LIST OF FIGURES

Figure 1.1. Commercial fishing blocks, regions, and fishery-independent survey shot locations (current and historic) of the West Coast Prawn Fishery.....	3
Figure 1.2. Stock status classification decision rules for the West Coast Prawn Fishery (PIRSA 2026).....	4
Figure 3.1. Annual commercial (a) catch (grey bars) and effort (black line), and (b) catch per unit effort (CPUE) for the West Coast Prawn Fishery from 1968–2025.....	10
Figure 3.2. Annual commercial catch during early spawning (November and December), late spawning (January–March) and non-spawning (April–October) periods for the West Coast Prawn Fishery from 1973–2025.....	11
Figure 3.3. Annual commercial catch (grey bars), effort (black line) and catch per unit effort (green line) for Ceduna (a, b), Corvisart Bay (c, d), Venus Bay (e, f) and Coffin Bay (g, h) regions of the West Coast Prawn Fishery from 1987–2025.....	12
Figure 3.4. Size composition of the annual commercial catch of the West Coast Prawn Fishery from 1996–2025.....	13
Figure 3.5. Fishery-independent survey (FIS) catch per unit effort (CPUE, mean $\pm$ SE) for Ceduna and Venus Bay during (a) February/March and (b) June/July from 1989–2025.....	14
Figure 3.6. Fishery-independent survey (FIS) catch per unit effort (CPUE, mean $\pm$ SE) of newly recruited prawns for Ceduna and Venus Bay during (a) February/March and (b) June/July from 2007–2025.....	15
Figure 4.1. Catch per unit effort (CPUE, mean $\pm$ SE) for commercial fishing (March–September) and fishery-independent surveys in Venus Bay (February/March and June/July) from 1987–2025.....	16
Figure 4.2. Average nominal catch per unit effort (CPUE), the primary performance indicator for the West Coast Prawn Fishery, from 1987–2025 relative to provisional stock status and reference points.....	17
Figure 4.3. Monthly El Niño–Southern Oscillation (ENSO) status (a) January 2022 – October 2024 (BOM 2024; noting data provision ceased in 2024) and (b) January 2022 – May 2026 (NOAA 2026).....	18
Figure B.1. Length-frequency distributions of male and female Western King Prawns from February/March fishery-independent surveys in Ceduna from 2006–2025	25
Figure B.2. Length-frequency distributions of male and female Western King Prawns from February/March fishery-independent surveys in Venus Bay from 2006–2025.....	26
Figure B.3. Length-frequency distributions of male and female Western King Prawns from June/July fishery-independent surveys in Venus Bay from 2006–2025.	27
Figure B.4. Length-frequency distributions of male and female Western King Prawns from October/November fishery-independent surveys in Venus Bay from 2006–2019.....	28

LIST OF TABLES

Table 1. Summary of fishery performance indicators and fleet metrics.....	2
Table 2.1. Size categories assigned to reported grades from commercial logbook data for the West Coast Prawn Fishery.....	8
Table A.1. Number of fishery-independent survey shots completed in Ceduna and Venus Bay during February/March, June/July and October/November from 1989–2025.....	24
Table C.1. Key data summary for the West Coast Prawn Fishery from 1968–2025	29

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EXECUTIVE SUMMARY

This report determines the status of the Western King Prawn (*Penaeus (Melicertus) latisulcatus*) stock targeted by the South Australian West Coast Prawn Fishery (WCPF) in the 2025 fishing season (March–December). It analyses data collected by several long-term monitoring programs. Stock status was determined using the new Harvest Strategy (HS) for the fishery that was developed in alignment with the National Fishery Status Reporting Framework (NFSRF) that is used to determine the status of all South Australian fish stocks (PIRSA 2026).

In 2025, the total commercial catch of Western King Prawn in the WCPF was 74 t. This was the highest catch since 2020 with 957 hours of fishing conducted over 39 nights. Catch in 2025 was more than six times that of 2024, while effort increased more than three times. This was likely due to increased stock availability in 2025 resulting from constrained fishing effort in 2024 combined with 2025 environmental conditions (i.e., La Niña) that promoted prawn abundance. The respective increases in catch and effort resulted in an increase in total catch per unit effort (CPUE) from 41 kg/hr in 2024 to 77 kg/hr in 2025 (by 88%). The total catch in 2025 was largely taken in Venus Bay (76%), with the remainder from Coffin Bay (23%) and Corvisart Bay (1%).

Recruitment dynamics in the WCPF are strongly influenced by environmental conditions such as El Niño–Southern Oscillation (ENSO) processes. El Niño conditions from June 2023 to May 2024 potentially had a negative effect on the abundance and distribution of the Western King Prawn stock (Carrick 2008) in both 2023 and 2024. In 2025, recruitment levels recorded during the March fishery-independent survey (FIS) were the lowest on record; however, higher recruit catch rates were observed in Venus Bay during the June FIS. The shift to La Niña or neutral conditions from late 2024 to 2026 may explain the increased prawn abundance (CPUE) observed from late 2024 through 2025.

Catch rate estimates from commercial fishing and surveys increased between 2024 and 2025. Commercial CPUE (ComCPUE), measured from at least three months between March and September, increased by 77%; and Venus Bay FIS CPUE (VBCPUE), obtained from March and June surveys combined, increased by 65%, primarily due to high June FIS CPUE. As a result, in 2025, the primary PI, average nominal catch rate (calculated as the mean of ComCPUE and VBCPUE), was 53.49 kg/hr and above the trigger reference point of 45.00 kg/hr. Thus, the WCPF stock is classified as **‘sustainable’** in 2025. Whilst this reflects a change in status from 2024 when the fishery was classified as ‘Environmentally Limited’, it uses survey data that are predominantly from Venus Bay and therefore has higher uncertainty than recent assessments.

Table 1. Summary of fishery performance indicators and fleet metrics from 2022 to 2025.

Indicator	2022	2023	2024	2025
Catch	54 t	43 t	11 t	74 t
Effort	1,230 h (45 nights)	793 h (30 nights)	262 h (13 nights)	957 h (39 nights)
Total commercial CPUE	44.01 kg/hr	53.75 kg/hr	40.99 kg/hr	76.84 kg/hr
ComCPUE (March-September)	43.67 kg/hr	55.24 kg/hr	42.71 kg/hr	75.73 kg/hr
VBCPUE	25.34 kg/hr	28.38 kg/hr	18.91 kg/hr	31.24 kg/hr
Average nominal catch rate (PI)	34.50 kg/hr	41.81 kg/hr	30.81 kg/hr	53.49 kg/hr
Stock status	Depleted	Depleting	Environmentally Limited	Sustainable

Keywords: Western King Prawn, fishery-independent survey, catch per unit effort, harvest strategy (HS), stock status.

1. INTRODUCTION

1.1. Overview

This report updates previous stock status reports for the West Coast Prawn Fishery (WCPF) for Western King Prawn (WKP) (*Penaeus (Melicertus) latisulcatus*) (e.g. Heldt 2024) and is part of the South Australian Research and Development Institute (SARDI) Aquatic and Livestock Sciences ongoing assessment program for the fishery. The WCPF targets WKP using demersal otter trawls at night between March and December in waters along the west coast of South Australia (Fig. 1.1). This report presents data from 1968 to the end of 2025. The aim of the report is to: (1) provide a synopsis of information available for the WCPF, with a focus on the 2025 fishing season; (2) assess the status of the WKP resource; and (3) document future research needs for the fishery.

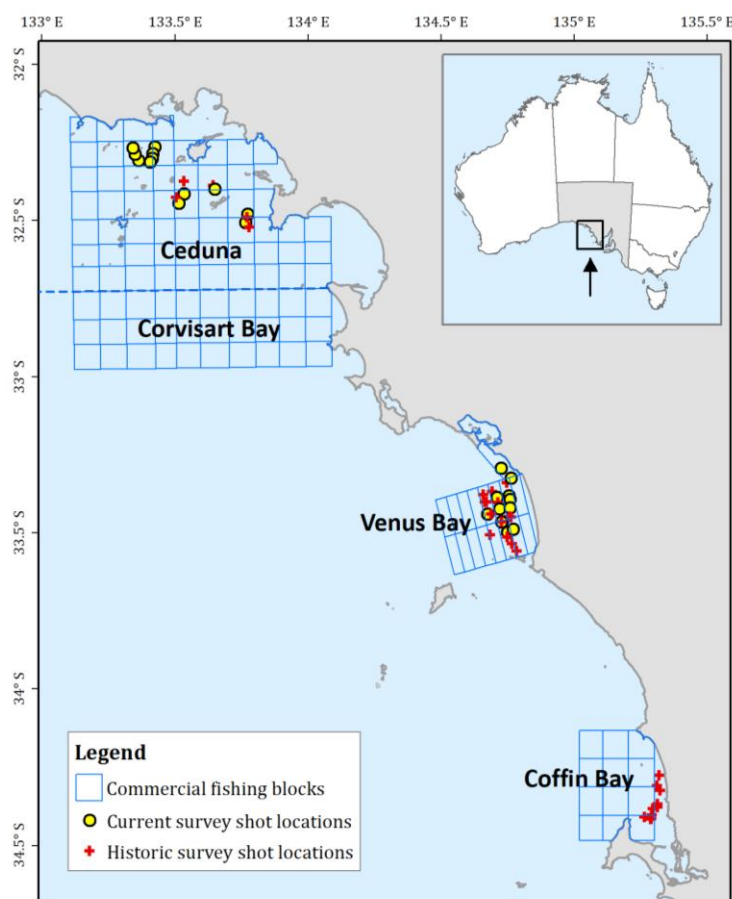


Figure 1.1. Commercial fishing blocks, regions, and fishery-independent survey shot locations (current and historic) of the West Coast Prawn Fishery.

1.2. Stock status classification and management arrangements

The status of the Western King Prawn resource is determined according to the WCPF harvest strategy (HS) (PIRSA 2026), which comprises a suite of reference points (RPs), biological performance indicators (PIs) and harvest decision rules. Development of the WCPF HS and stock status classification decision rules (Fig. 1.2) aimed for consistency with the National Fishery Status Reporting Framework (NFSRF; Roelofs et al. 2024), which is used to determine the status of all fish stocks in South Australia.

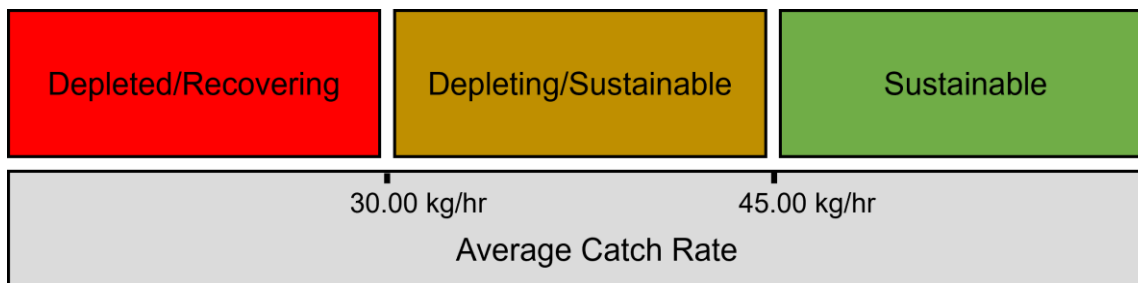


Figure 1.2. Stock status classification decision rules for the West Coast Prawn Fishery (PIRSA 2026). Average catch rate refers to the Harvest Strategy Performance Indicator as a weighted (50/50) average of catch rate from 1) fishery-independent survey Venus Bay catch per unit effort (CPUE) (February/March and June/July) and 2) commercial fishing CPUE (March-September).

The performance of the WCPF is assessed using estimates of catch rate as a proxy for prawn abundance. The primary performance indicator (PI), average nominal catch rate, is the mean of: (1) Commercial CPUE (ComCPUE) obtained from at least three months of fishing between March and September; and (2) Venus Bay CPUE (VBCPUE), which is the mean fishery-independent survey (FIS) CPUE obtained from the February/March and June/July surveys in Venus Bay. These two PI have equal weighting (50/50) in the primary PI.

The decision rules in the HS relate to trigger and limit RPs relevant to the average nominal catch rate PI (Fig. 1.2). The Western King Prawn stock is classified as 'sustainable' when the PI is above the trigger RP (≥ 45.00 kg/hr). Dependent on the trajectory of the PI compared to previous years, and consideration of external environmental factors, the stock is classified as 'sustainable' or 'depleting' when the PI is between the trigger RP and limit RP (≥ 30.00 to < 45.00 kg/hr), and 'depleted' or 'recovering' when below the limit RP (< 30.00 kg/hr). Where the PI is between the Limit RP and Trigger RP (≥ 30.00 to < 45.00 kg/hr), the maximum number of fishing nights and areas available to the fleet each month are reduced to prevent the stock from becoming recruitment impaired or to promote stock recovery when recruitment impairment has occurred. Where the PI is below the Limit RP (≤ 30 kg/hr) the fishery is closed.

A review of the HS (PIRSA 2026) RPs for the WCPF was undertaken following a request from PIRSA Fisheries and Aquaculture, in response to industry concerns that the previous PI threshold used to calculate the Target RP based on years (1987-2019) when commercial CPUE exceeded 59 kg/hr ($n = 10$), was overly conservative and restricted fishing opportunities. This review provided recalculated RPs based on an alternative threshold based on years (1987-2025) when commercial CPUE exceeded 43 kg/hr and met VBCPUE & Commercial CPUE inclusion criteria ($n = 20$) (PIRSA 2026) and is considered by industry to represent an economically viable level of CPUE. This resulted in a lower Target RP of 60.00 kg/hr (compared to the previous 72.00 kg/hr), with corresponding Trigger (45.00 kg/hr) and Limit (30.00 kg/hr) RPs set at 75% and 50% of the Target, respectively. Application of these revised RPs to historical data (39 years) provided less conservative HS outcomes, with one stock status changing from 'depleted' to 'depleting' and four shifting to 'sustainable' (two from 'depleting' and two from 'environmentally limited'; Cipriani and Heldt 2026). In addition, fewer years fell below the Limit RP (21% vs 31% under the 2022 HS) in the revised strategy. While the recalculated RPs may provide increased fishing opportunities, the earlier threshold was intentionally precautionary to allow for environmental variability and data limitations.

For consistency with the national Status of Australian Fish Stocks (SAFS) framework, the classification approach was updated to allow stock status between the Limit and Trigger RPs to be assigned as either 'depleting' or 'sustainable', based on temporal trends in the relative abundance of prawns measured through CPUE and including additional information under a weight-of-evidence approach (e.g. upwelling events, prevailing currents, and changes in fishing practices). The term 'environmentally limited', which was a stock status classification in the former HS (PIRSA 2022), has been removed in the new HS. However, environmental conditions associated with El Niño conditions are recognised to negatively influence prawn abundance in the WCPF. These conditions are: enhanced upwelling, lowered sea level and a raised thermocline, reduced wintertime shelf-edge currents, and a reduced warm Leeuwin Current that flows from north-west to south-east along the SA west coast (Carrick and Ostendorf 2005, Middleton and Bye 2007, Caputi 2008, Carrick 2008). These associated El Niño conditions have been incorporated into the meta-rules used to determine management arrangements (PIRSA 2026).

Data from the Bureau of Meteorology (BoM), which were previously used to inform the ENSO Outlook status PI, are no longer available, and this component is now informed by the El Niño Advisory issued by the National Oceanic and Atmospheric Administration (NOAA). When the El

Niño–Southern Oscillation (ENSO) outlook indicates an El Niño event for three or more consecutive months within the 24-month period prior to 30 September of the assessment year, alternative decision rules are applied to manage the fishery (PIRSA 2026). In the first year of an El Niño event, the previous year’s management arrangements are adopted (with limited fishing in the recruitment area), and if there are two or more consecutive years of an El Niño event, management arrangements follow decision rules that consider the PIs in relation to Limit, Trigger or Target RPs.

The updated HS applies to fishing seasons from 2026 onwards and was used to guide stock status assignment in this report.

2. METHODS

Information on data presented in this report is described in detail in Beckmann and Hooper (2016). In summary, there are two main data sources: (1) FIS data; and (2) fishery-dependent catch and effort data. Fishery-independent surveys are undertaken using industry vessels and crews with SARDI observers and have been undertaken in most years since 1989 (Table A.1, Appendix A). Surveys from 2003 have a greater consistency in shot locations and the number of shots completed. Each survey comprised 30-minute trawl shots along a predetermined path at fixed locations in Ceduna during February/March (no survey in 2025) and Venus Bay in February/March and June/July (Fig. 1.1). Data collected at each location included total catch, catch of small or '20+' grade prawns (i.e., more than 20 prawns per pound), number of nets used, trawl duration, tide direction, and the number of prawns in a 7-kg bucket (known as a 'bucket count' which provides a simple measure of average prawn size). In addition, a random sample of 100 prawns from each shot is sampled, and these data are used to obtain length-frequency distributions and estimates of recruitment (Figs B.1–B.4, Appendix B).

For each FIS, mean CPUE ($\pm$ standard error, SE) was determined for total catch (in kg/h) and recruits (recruits/h). 'Recruits' are defined here as prawns ≤ 32 mm carapace length (CL) for males and ≤ 34 mm CL for females. Estimates of recruit CPUE were scaled according to sample weight and total catch. Where data on sample weights were unavailable, length-weight relationships developed for the Spencer Gulf Prawn Fishery were used to estimate sample weight (Noell and Hooper 2019).

Fishery-dependent commercial catch and effort data were obtained from the mandatory daily logbook program administered by PIRSA. Nominal estimates of catch, effort and CPUE are presented at a fishery-wide level (Table C.1, Appendix C) and by region. Temporal patterns in catch are also presented for the WCPF during early spawning (November and December), late spawning (January–March) and non-spawning (April–October) periods. Prawn grade weights were allocated to five size categories (Table 2.1) and presented as a percentage of the total catch.

Table 2.1. Size categories assigned to reported grades from commercial logbook data for the West Coast Prawn Fishery. Numeric grades denote the number of prawns per pound (e.g. 'U10' = under 10 prawns per pound).

Extra-large	'U6', 'XL', 'U8', 'U10', 'L'
Large	'9/12', 'U12', 'LM', '10/15', '13/15', '10/20' (50%), '12/18' (50%)
Medium	'10/20' (50%), '12/18' (50%), 'M', '16/20'
Small	'SM', '19/25', '21/25', 'S', '20+', '21/30', '26+', '30+', '31/40', '41/50'
Soft and broken	'S&B', 'B&D', 'MIX', 'REJ', 'SMS', 'ERR', (<i>blank</i>)

The primary PI for the fishery, average nominal catch rate, was calculated as the average of commercial CPUE (ComCPUE) obtained from at least three months of fishing between March and September) and VBCPUE (the mean FIS CPUE obtained from the Venus Bay surveys conducted in February/March and June/July), with equal weighting (50:50). The ENSO outlook status (BOM 2024) is presented, with an 'El Niño event' identified when three or more consecutive months are declared as El Niño by the BoM in the 24 months prior to 30 September of the assessment year (the assessment period). Monthly ENSO outlooks from the NOAA for the period November 2024 – September 2025 are provided, since the BOM climate model outlooks ceased in October 2024 (NOAA 2026). However, the monthly ENSO outlook is used to inform management arrangements in line with SAFS but is no longer used as a PI to determine the stock status of the fishery (PIRSA 2026).

3. RESULTS

3.1. Commercial catch and effort

3.1.1. Catch

In 2025, the total commercial catch, across the whole fishing season, was 74 t (Fig. 3.1a) and is below the previous 10-year (2015-2024) mean (96 ± 19 t). This represents a sixfold increase from 2024 (11 t), which was the lowest annual catch since 2007 (12 t). During the 2025 season, 76% of the total catch (56 t) was landed during the non-spawning period (April-October), 23% (17 t) during the early spawning period (November and December), and <1% (<1 t) during the late spawning period (January–March; Fig. 3.2). Venus Bay continues to be the most productive region since 2007, with 76% of the total catch (56 t) landed in 2025 from this region (Fig. 3.3e). The remaining 2025 catch was harvested from Coffin Bay (17 t; Fig. 3.3g) and Corvisart Bay (<1 t; Fig. 3.3c), with no catch from Ceduna (Figs 3.3a).

3.1.2. Effort

Total effort in 2025 was 957 trawl hours (39 nights across 7 months), which was nearly three times higher than in 2024 (262 trawl hours, or 13 nights across 4 months) (Fig. 3.1a) and remained well below the previous 10-year mean ($1,400 \pm 189$ h). In Venus Bay, effort increased by 196%, from 249 h (11 nights) in 2024 to 738 h (28 nights) in 2025 (Fig. 3.3e). In 2025, 213 h (10 nights) were fished in Coffin Bay, which was 15 times greater than effort in 2024 (14 h, or 2 nights) and higher than the previous 10-year mean (141 ± 26 h; Fig. 3.3g). Near-zero or negligible effort has been recorded in Ceduna since 2009, and in Corvisart Bay since 2018; this pattern continued in 2025 (Figs 3.3a, c).

3.1.3. CPUE

Total commercial CPUE, measured from all months of data in the season, generally declined from 102 kg/hr in 2015 to 41 kg/hr in 2024 (Fig. 3.1b). In 2025, total commercial CPUE increased to 77 kg/hr, which was higher than the previous 10-year mean of 63 ± 6 kg/h. An increase in CPUE occurred at the regional scale from 2024 to 2025: 77% in Venus Bay (43 to 76 kg/hr) and by a factor of almost 20 times in Coffin Bay (4 to 81 kg/hr) with only 2 nights fished in Coffin Bay in 2024 (Figs 3.3f, h). Catch rates from both regions in 2025 were above their respective 10-year mean (65 ± 7 and 43 ± 7 kg/hr). Given the zero or negligible catches and/or effort in Ceduna and Corvisart Bay in recent years, estimates of CPUE for these regions are considered unreliable.

3.1.4. Prawn Size

The 2025 commercial catch comprised 21% small prawns, 32% medium prawns, 24% large prawns, and 19% extra-large prawns, with soft and broken prawns making up the remaining 4% (Figure 3.4). Since 2022, the proportion of medium prawns has increased each year (from 21% in 2022 to 32% in 2025), while the proportion of extra-large prawns has decreased over the same period (from 30% to 19%). In 2025, the proportion of medium prawns was the highest since 2012 (32%), while the proportion of extra-large prawns was the lowest since 2021.

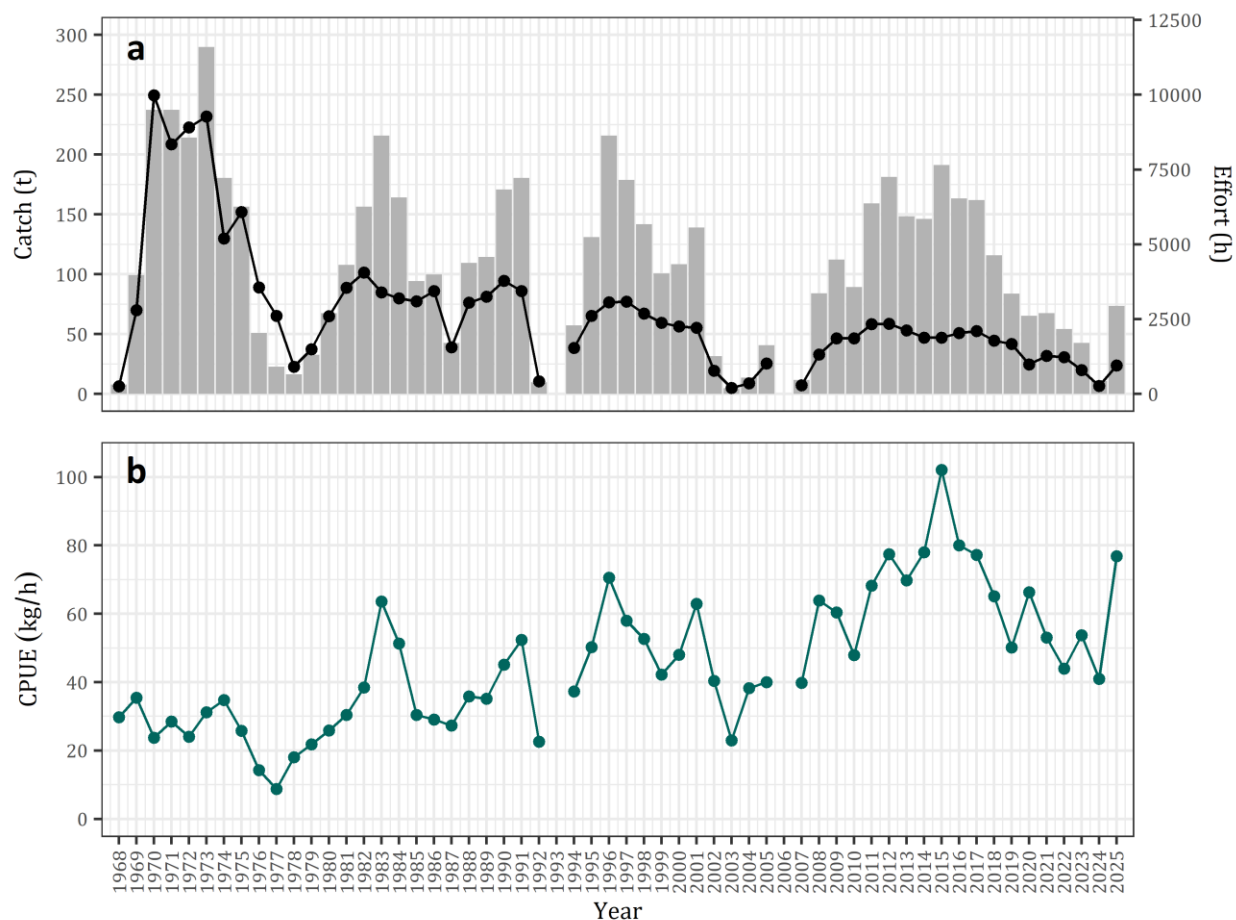


Figure 3.1. Annual commercial (a) catch (grey bars) and effort (black line), and (b) catch per unit effort (CPUE) for the West Coast Prawn Fishery from 1968–2025.

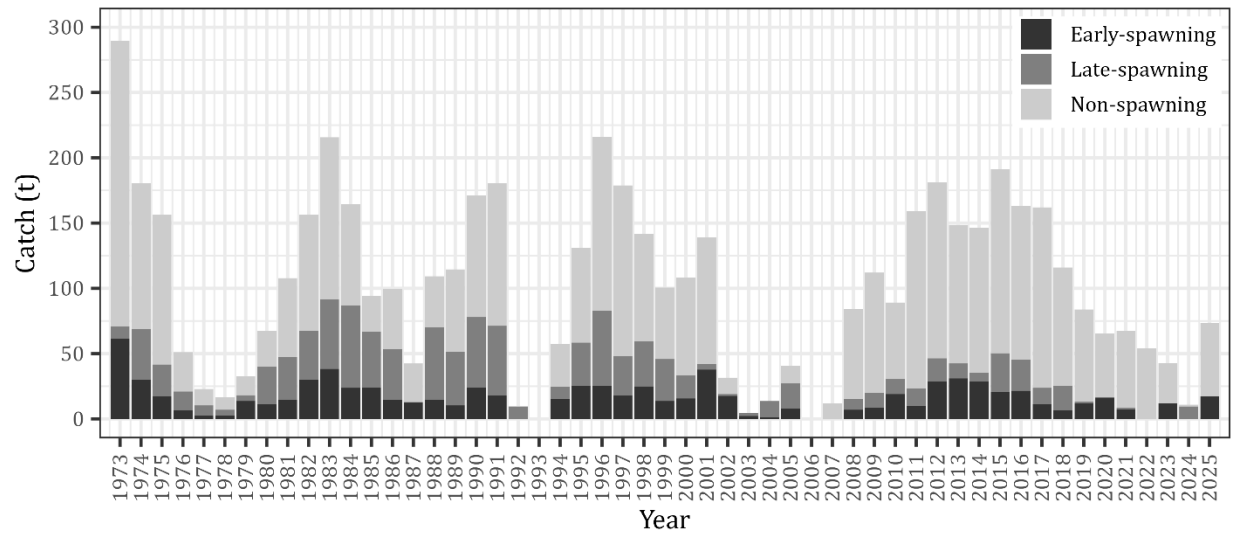


Figure 3.2. Annual commercial catch during early spawning (November and December), late spawning (January–March) and non-spawning (April–October) periods for the West Coast Prawn Fishery from 1973–2025.

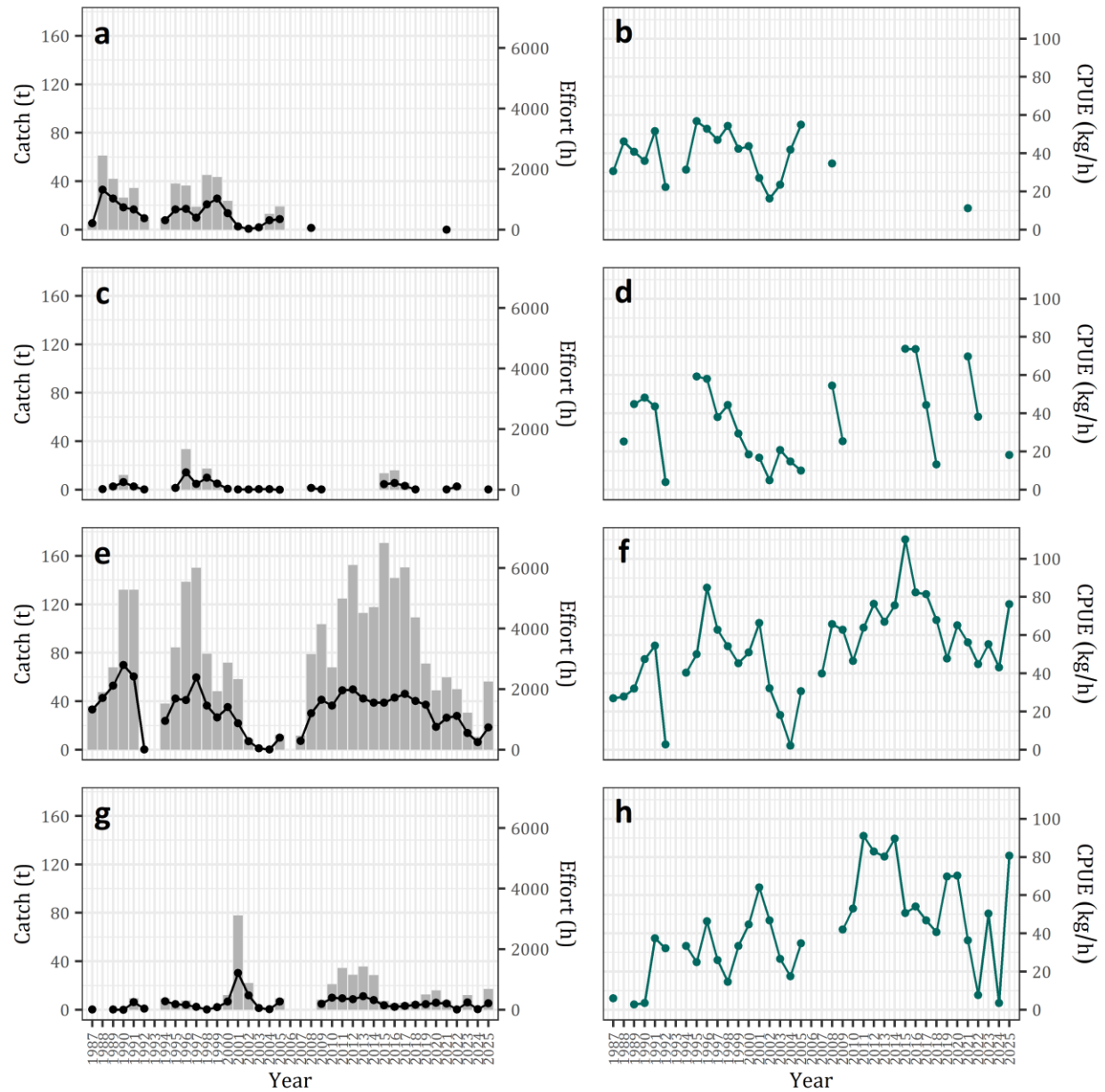


Figure 3.3. Annual commercial catch (grey bars), effort (black line) and catch per unit effort (green line) for Ceduna (a, b), Corvisart Bay (c, d), Venus Bay (e, f) and Coffin Bay (g, h) regions of the West Coast Prawn Fishery from 1987–2025.

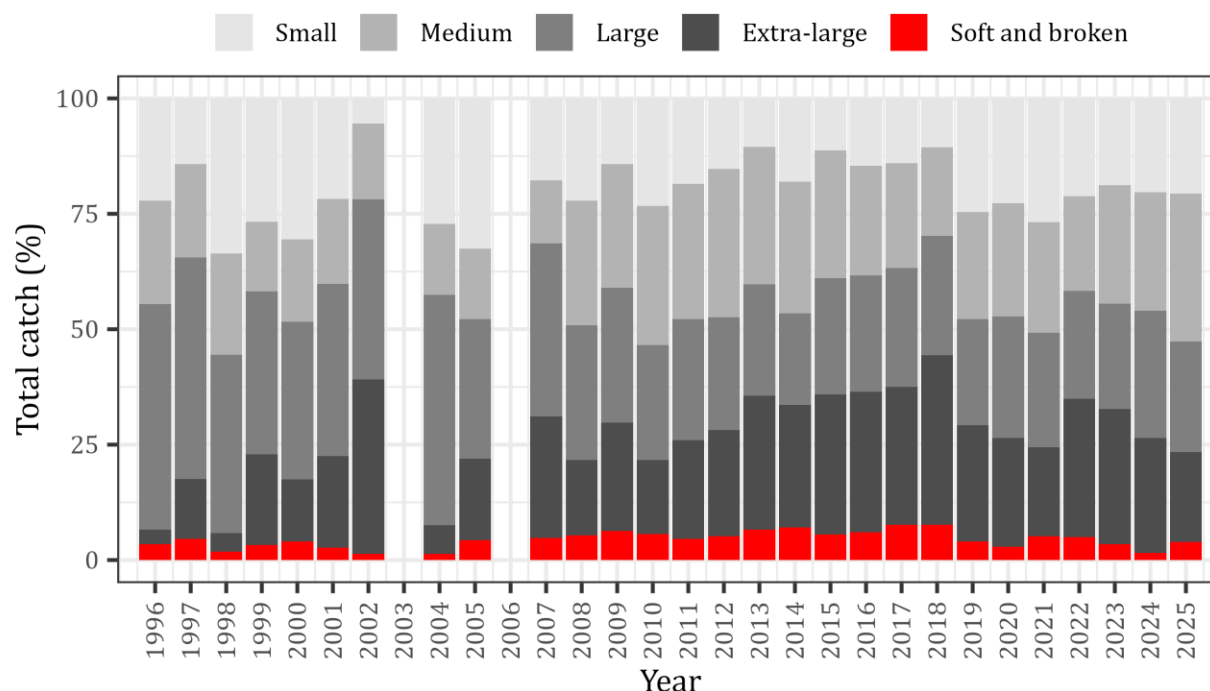


Figure 3.4. Size composition of the annual commercial catch of the West Coast Prawn Fishery from 1996–2025.

3.2. Fishery-independent surveys

3.2.1. CPUE

In 2025, FIS were undertaken in Venus Bay on 27-28 March (10 shots) and on 20-21 June (10 shots) (Table A.1, Appendix A). FIS was not undertaken in Ceduna in 2025. For Venus Bay, the mean FIS CPUE for the March survey was 3.68 ± 0.82 kg/hr (Fig. 3.5a), which was 88% lower than in 2024 (31.18 ± 20.03 kg/hr), below the previous 10-year mean (36.84 ± 8.33 kg/hr), and one of the lowest values on record. The mean FIS CPUE for the June survey was 58.80 ± 6.88 kg/hr (Fig. 3.5b), which was more than ten times higher than the value in 2024 (5.29 ± 2.00 kg/hr) and 40% above the previous 10-year mean (42.11 ± 5.37 kg/hr). The 2024 mean FIS CPUE for Ceduna was 47.8 ± 10.4 kg/hr (7 survey shots) (Fig. 3.5a), which was 25% greater than 2021 (35.9 ± 6.4 kg/hr; 12 survey shots) and similar to the previous 10-year mean (42.1 ± 5.4 kg/hr).

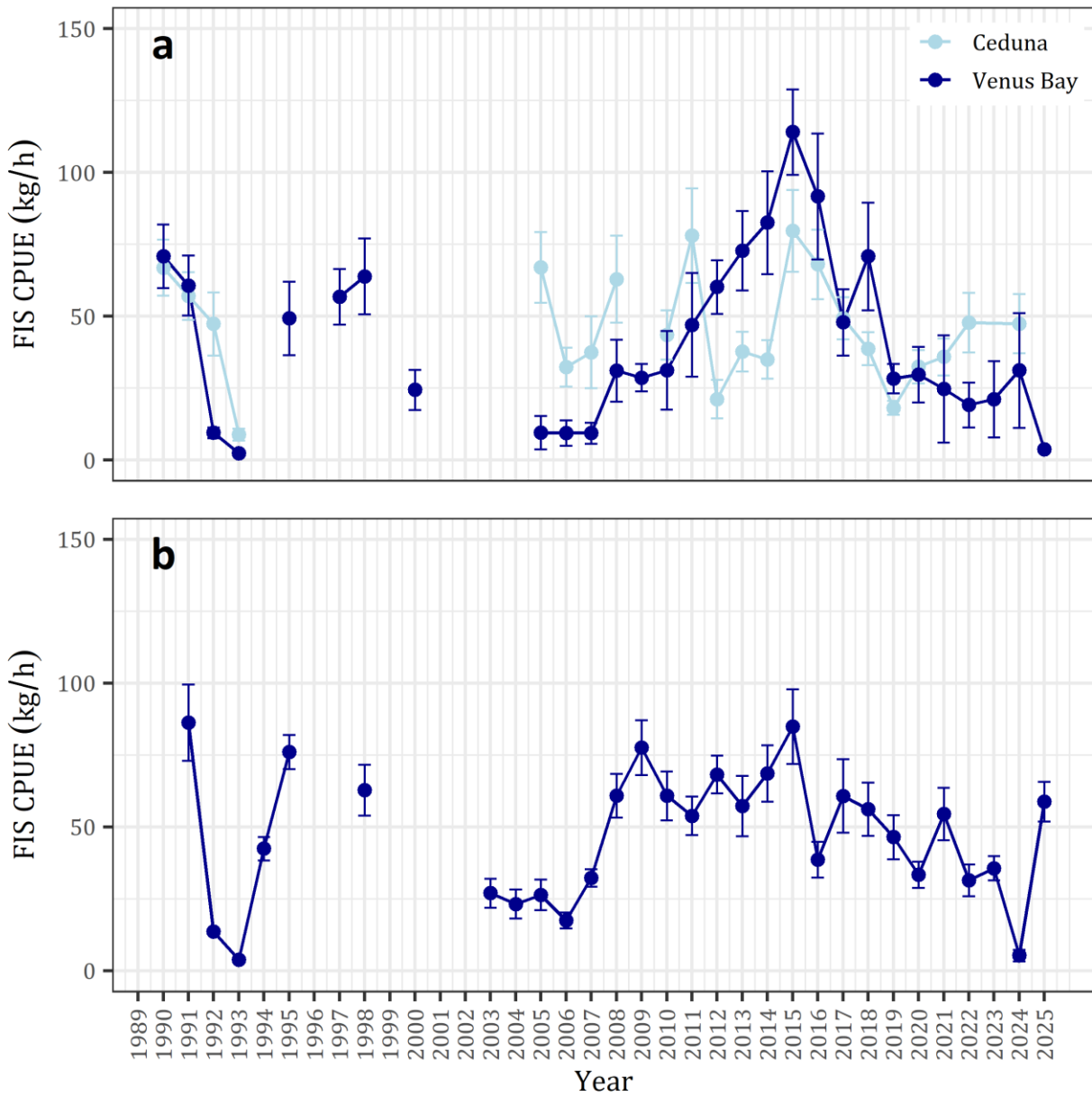


Figure 3.5. Fishery-independent survey (FIS) catch per unit effort (CPUE, mean $\pm$ SE) for Ceduna and Venus Bay during (a) February/March and (b) June/July from 1989–2025.

3.2.2. Recruitment

At Venus Bay, FIS CPUE for recruits in March 2025 was 64 ± 19 recruits/h, a 69% decrease since 2024 (206 ± 158 recruits/h), and the lowest value on record (Fig. 3.6a). The March 2025 recruit CPUE estimate was ~60% lower than the previous low in 2021 (157 ± 87 recruits/h) and 2022 (167 ± 56 recruits/h). In contrast, the Venus Bay FIS CPUE for recruits in June 2025 (755 ± 113 recruits/h) was almost five times higher than the value in 2024 (126 ± 34 recruits/h) and among the higher historical estimates for June (Fig. 3.6b). The latest estimate of CPUE for recruits in Ceduna was among the highest for this location (March 2024; $1,289 \pm 315$ recruits/h) and similar to that recorded in March 2022 ($1,284 \pm 397$ recruits/h; Fig. 3.6a).

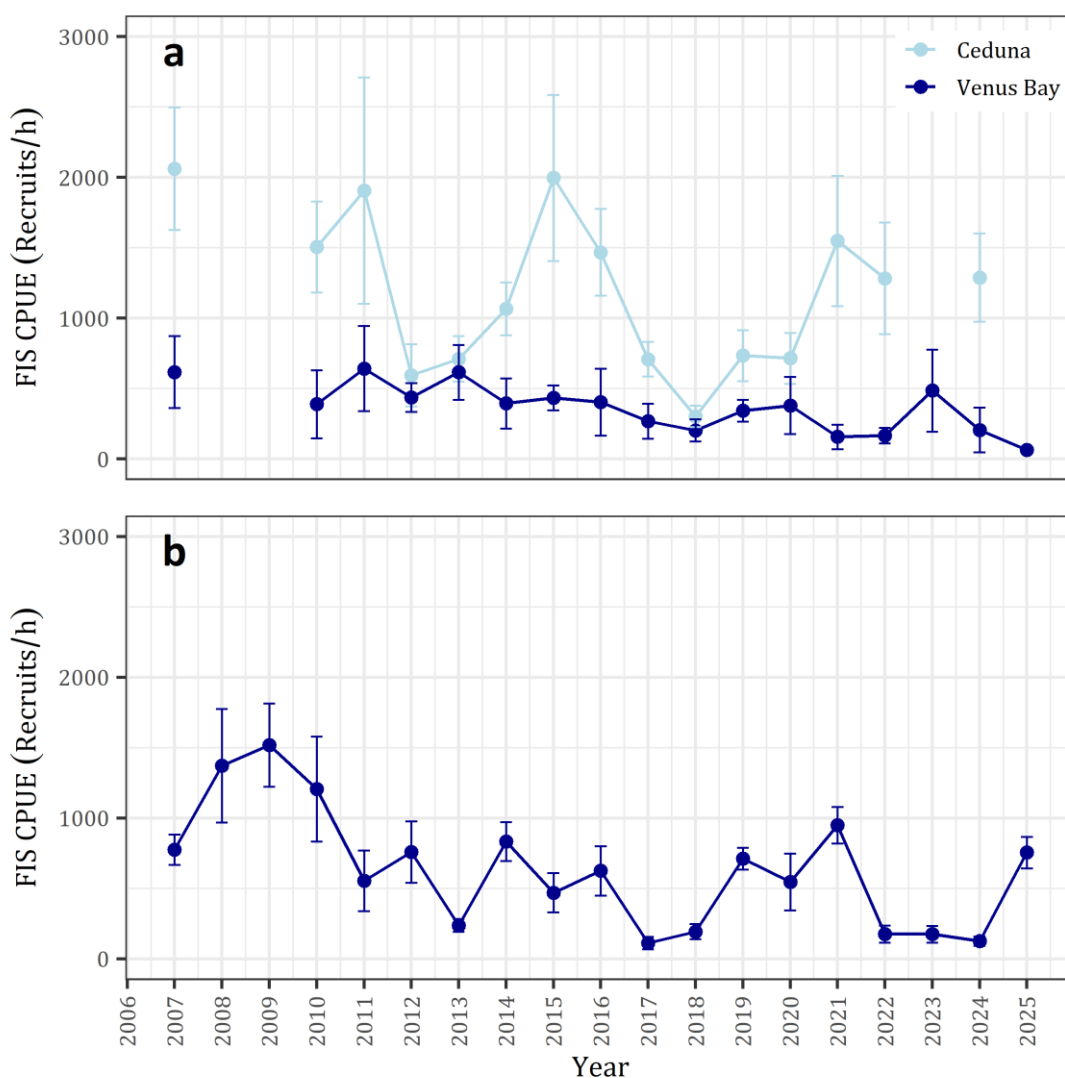


Figure 3.6. Fishery-independent survey (FIS) catch per unit effort (CPUE, mean $\pm$ SE) of newly recruited prawns for Ceduna and Venus Bay during (a) February/March and (b) June/July from 2007–2025.

4. APPLICATION OF THE HARVEST STRATEGY

4.1. Primary performance indicator

The estimate of commercial CPUE (ComCPUE) in 2025 was 75.73 kg/hr, an increase of 77% since 2024 (42.71 kg/hr) (Fig. 4.1), which was above the previous 10-year mean (65.63 ± 6.73 kg/hr). The mean VBCPUE, calculated from surveys in March and June 2025 ($n = 20$ shots) in Venus Bay was 31.24 ± 7.17 kg/hr. This was a 65% increase from 2024 (18.92 ± 10.76 kg/hr) but remains well below the previous 10-year mean (46.50 ± 7.77 kg/hr) (Fig. 4.1). Annual trends in ComCPUE and VBCPUE are similar, with annual estimates of ComCPUE similar or greater than VBCPUE since 2009. However, since 2019 there has been an increasing divergence between ComCPUE and VBCPUE, with the greatest divergence occurring in 2025. The mean of ComCPUE and VBCPUE is used to calculate the PI, average nominal catch rate for the HS. In 2025, the PI was 53.49 kg/hr, which was a 74% increase from 2024 (30.81 kg/hr) (Fig. 4.2) and between the Trigger (45 kg/hr) and Target (60 kg/hr) RPs.

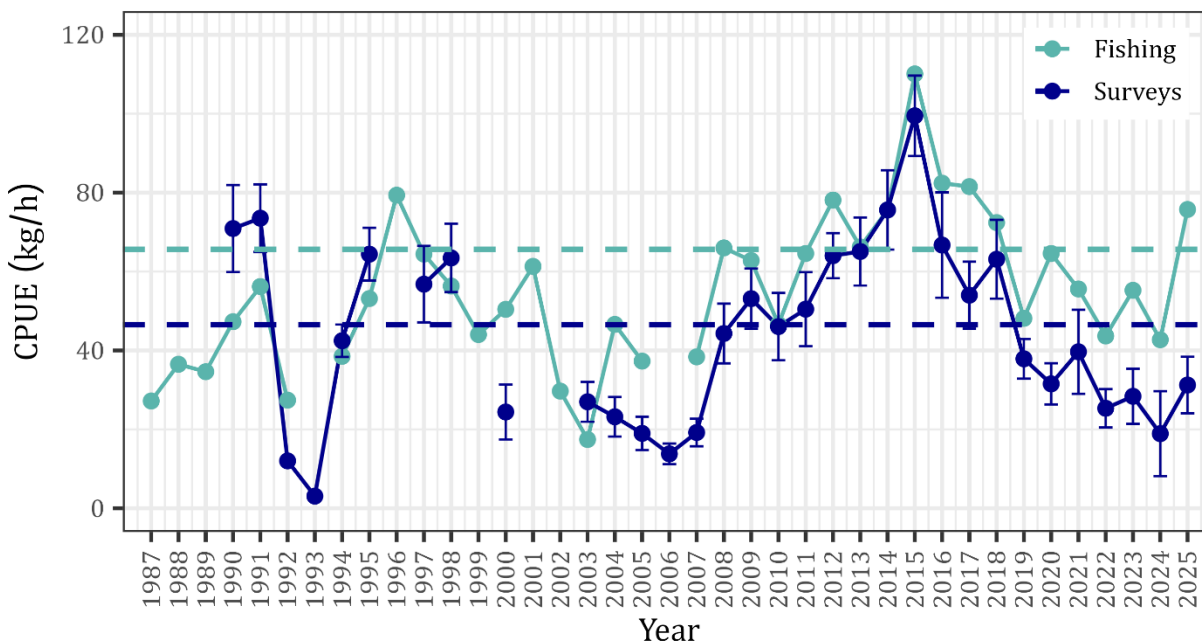


Figure 4.1. Catch per unit effort (CPUE, mean $\pm$ SE) for commercial fishing (ComCPUE) (March–September) and fishery-independent surveys in Venus Bay (VBCPUE) (February/March and June/July) from 1987–2025. Dashed lines indicate the previous 10-years mean CPUE (2015–2024) for each series.

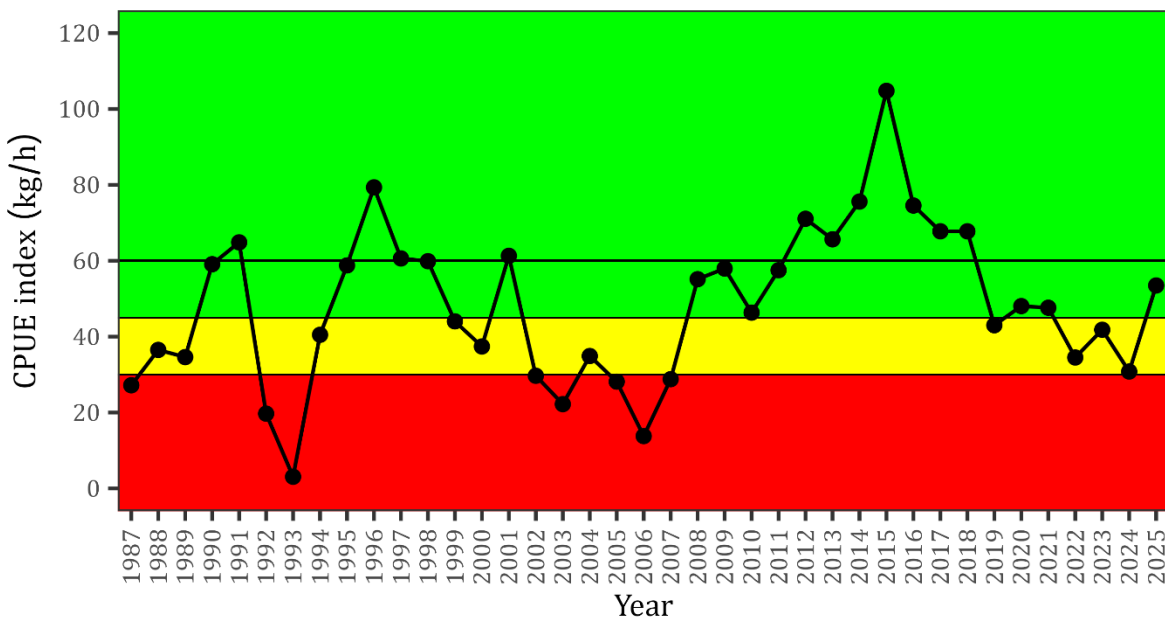


Figure 4.2. Average nominal catch per unit effort (CPUE), the primary performance indicator (PI) for the West Coast Prawn Fishery, from 1987–2025 relative to provisional stock status (red: ‘depleted’/‘recovering’, yellow: ‘depleting’/ ‘sustainable’; green: ‘sustainable’) and reference points (horizontal lines, in ascending order: Limit, Trigger and Target reference points).

4.2. El Niño - Southern Oscillation (ENSO) status

The assessment period was October 2023 to September 2025. BoM data on ENSO was available until November 2024. During this period El Niño occurred from June 2023 to April 2024 across six consecutive months in the assessment period, and La Niña or inactive conditions occurred from April to October 2024 (Fig. 4.3a; BOM 2024). For the remainder of the period from November 2024 to September 2025, NOAA ENSO outlooks indicated continuation of La Niña or inactive conditions (Fig. 4.3b; NOAA 2026). There are general similarities and broad agreement between the two data sources over their overlapping period (Figure 4.3).

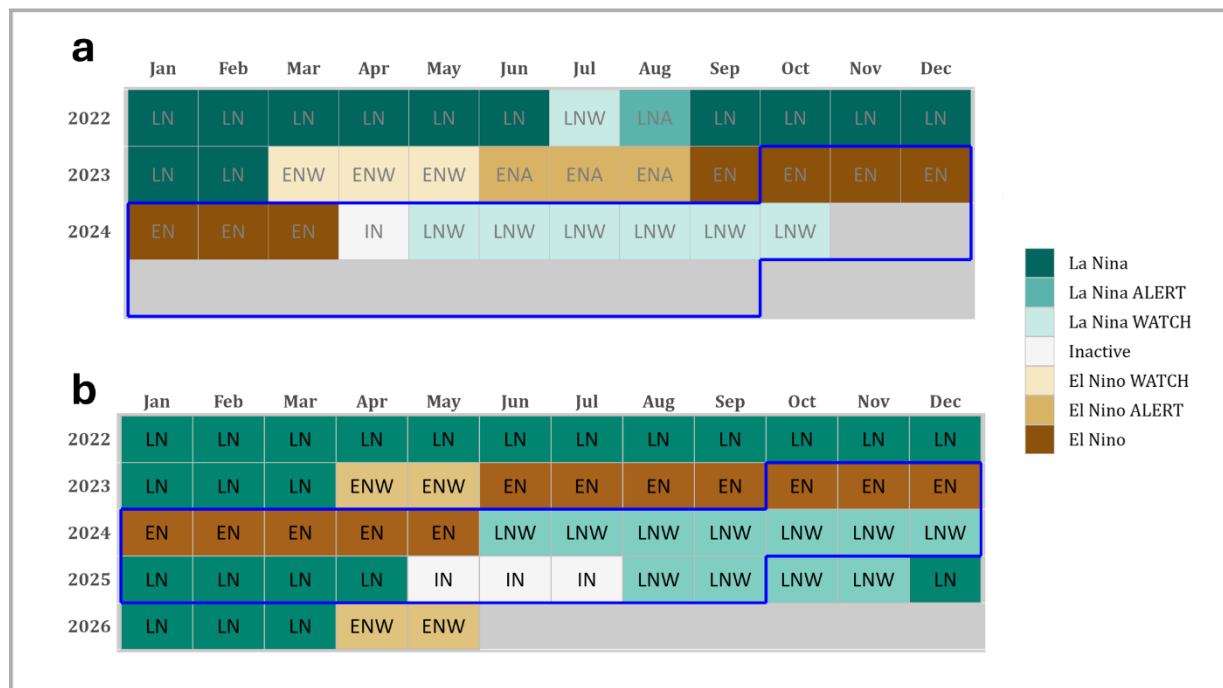


Figure 4.3. Monthly El Niño–Southern Oscillation (ENSO) status (a) January 2022 – October 2024 (BOM 2024; noting data provision ceased in 2024) and (b) January 2022 – May 2026 (NOAA 2026).

5. SUMMARY

Information available for the assessment of Western King Prawn stock in the waters of the WCPF, as defined in the Fisheries Management (Prawn) Regulations 2017, includes fishery-independent survey data from 1989 to 2025, and fishery-dependent commercial catch and effort data since 1968. These datasets are combined to estimate the primary PI, average nominal catch rate (i.e. the mean of ComCPUE and VBCPUE), thereby integrating the strengths (and limitations) of both data sources (Morison 2023; PIRSA 2026).

The new HS for the WCPF (PIRSA 2026) describes Limit, Trigger and Target RPs defined for the primary PI, average nominal catch rate. During the review of the WCPF HS, the RPs were also updated in response to industry concerns that the existing settings were too conservative and limited fishing opportunities. The RPs were subsequently re-calculated based on industry-proposed threshold values considered to be more economically viable, resulting in lower Target and proportionally reduced Trigger and Limit RP levels. The new HS more closely reflects the national SAFS framework, including removal of the 'environmentally limited' stock status, while still accounting for environmental conditions. ENSO conditions continue to inform management through meta-rules, now based on NOAA advisories rather than the BoM.

In 2025, the March FIS CPUE and mean VBCPUE were well-below their respective previous 10-year means, while June FIS CPUE and commercial CPUE remained above their respective previous 10-year means. Commercial fishing was limited from March to November, with increased effort occurring during the latter half of the year, which coincided with improvements in CPUE. The large relative increase in CPUE in the June FIS CPUE and commercial CPUE (ComCPUE) in 2025 resulted in an increase in the estimate of the primary PI, average nominal catch rate, relative to 2024. In 2024, the PI was below the existing Limit RP (Heldt 2024a). However, the resulting fishery stock status was classified 'environmentally limited' in 2024 (under the previous HS, PIRSA 2022) due to seven consecutive months of El Niño occurring during the assessment period (PIRSA 2026). The 74% increase in the average nominal catch rate PI from 30.81 kg/h in 2024 to 53.49 kg/h in 2025 is a positive sign for the fishery, with lower exploitation rates in previous years combined with 2025 environmental conditions (i.e., La Niña) likely facilitating stock recovery.

Stock recruitment relationships remain unpredictable in the WCPF but are acknowledged as likely linked to environmental conditions (Carrick 2008). In 2024, CPUE of recruits in Ceduna, the fishery's primary recruitment grounds, during the March FIS was relatively high and similar to values from 2021 and 2022. However, these high relative recruitment levels did not result in a

significant increase in harvestable stock abundance from 2022 to 2024 (Heldt 2024b). This was likely due to: 1) environmental conditions being unfavorable for growth and survival of recruits (i.e. due to El Niño conditions in 2023 and 2024); 2) these prawns not remaining in the main fishing grounds (i.e. moving); and/or 3) fishing effort and/or natural mortality being high. More recently, no recruitment survey has been undertaken in Ceduna since 2024, and it remains uncertain whether recruitment levels have been sufficient to support continued stock recovery into 2026.

In Venus Bay, a key spawning ground for WKP, the CPUE of recruits and total catches of prawns remained low in 2024 and the first half of 2025 before increasing in June 2025. This increase may have been associated with the more favorable La Niña environmental conditions observed in the latter half of 2024 and 2025. While environmental conditions are acknowledged to affect stock recruitment and availability in the WCPF, more research is required to understand the link between finer scale oceanographic and environmental conditions resulting from ENSO and WKP population processes across the entire fished area.

During the assessment period (October 2023–September 2025), the stock was likely influenced by an El Niño event (NOAA 2026). The return to El Niño conditions is of potential concern for future fishery performance with strong, frequent or prolonged El Niño events having the potential to: 1) hinder or reverse the recent upward trend in FIS and commercial CPUEs; and 2) have a greater influence on stocks with relatively low levels of biomass and reduced resilience (Beckmann and Hooper 2018, Cheung et al. 2022).

In 2024, the average nominal catch rate PI fell below the existing Limit RP (36.00 kg/hr). However, in 2025, this primary PI increased to 53.49 kg/h, indicating an improvement in stock abundance relative to 2024. While this represents a positive outcome for the fishery, ongoing uncertainty around recruitment processes and environmental influences highlight the need for continued monitoring and adaptive management.

Based on the evidence provided above, the status of the WKP stock targeted by the WCPF is classified as **‘sustainable’** for 2025. Whilst this is the first sustainable classification since 2018 (Beckman and Hooper 2019; PIRSA 2026), it is based on data which are predominantly from Venus Bay and has higher uncertainty than other recent assessments.

The assessment is subject to key uncertainties, particularly the limited understanding of recruitment dynamics and the influence of environmental variability on stock abundance. The most critical research needs are: 1) a refinement of the recruitment index and closer examination

of the link between oceanographic and environmental conditions resulting from ENSO or other climate processes and Western King Prawn population dynamics; and 2) investigation of potential environmental triggers such as sea level (i.e. a proxy for Leeuwin current strength), sea surface temperature anomalies, or potential climatic drivers that interact with ENSO such as the Indian Ocean Dipole or Southern Annular Mode, both of which may inform future HS development. In addition, CPUE standardisation is also a priority, given the continued divergence between FIS and commercial CPUE (Morison 2023).

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APPENDIX A. SURVEY DETAILS

Table A.1. Number of fishery-independent survey shots completed in Ceduna and Venus Bay during February/March, June/July and October/November from 1989–2025. Note: October/November surveys were discontinued in 2020. Abbreviation: -, no survey/data.

Year	Month	Ceduna	Venus Bay	Total	Year	Month	Ceduna	Venus Bay	Total
1989	Nov	7	19	26	2010	Jun	-	10	10
1990	Feb	6	20	26	2010	Nov	6	10	16
1990	Jun	6	-	6	2011	Mar	7	10	17
1990	Nov	7	20	27	2011	Jul	-	10	10
1991	Feb	17	20	37	2011	Nov	6	10	16
1991	Jun	17	20	37	2012	Mar	6	10	16
1991	Nov	16	11	27	2012	Jun	-	9	9
1992	Feb	17	20	37	2012	Nov	6	9	15
1992	Jun	17	20	37	2013	Mar	7	9	16
1992	Jul	9	12	21	2013	Jun	-	9	9
1992	Oct	16	20	36	2013	Oct	6	9	15
1993	Feb	17	20	37	2014	Mar	6	9	15
1993	Jun	17	20	37	2014	Jun	-	9	9
1994	Jun	-	20	20	2014	Oct	-	10	10
1995	Feb	-	20	20	2015	Mar	7	10	17
1995	Jul	-	26	26	2015	Jun	-	10	10
1997	Feb	-	22	22	2015	Nov	-	9	9
1998	Mar	-	19	19	2016	Mar	12	9	21
1998	Jun	-	12	12	2016	Jul	-	8	8
2000	Feb	-	6	6	2016	Nov	-	9	9
2003	Jul	-	14	14	2017	Mar	12	10	22
2003	Oct	9	10	19	2017	Jun	-	9	9
2003	Nov	7	9	16	2017	Nov	-	9	9
2004	Jun	9	13	22	2018	Mar	12	9	21
2004	Oct	9	11	20	2018	Jun	-	10	10
2005	Feb	8	11	19	2018	Oct	-	9	9
2005	Jun	-	14	14	2019	Mar	12	9	21
2005	Nov	6	10	16	2019	Jun	-	10	10
2006	Feb	8	11	19	2019	Nov	-	9	9
2006	Jun	-	13	13	2020	Mar	12	10	22
2006	Nov	7	11	18	2020	Jul	-	10	10
2007	Mar	9	12	21	2021	Mar	12	10	22
2007	Jun	-	9	9	2021	Jun	-	12	12
2007	Nov	6	10	16	2022	Mar	7	10	17
2008	Mar	7	10	17	2022	Jun	-	12	12
2008	Jun	-	8	8	2023	Mar	-	10	10
2008	Oct	7	10	17	2023	Jun	-	10	10
2009	Mar	-	10	10	2024	Mar	12	10	22
2009	Jun	-	10	10	2024	Jun	-	10	10
2009	Nov	6	10	16	2025	Mar	-	10	10
2010	Mar	7	10	17	2025	Jun	-	10	10

APPENDIX B. LENGTH FREQUENCY DATA

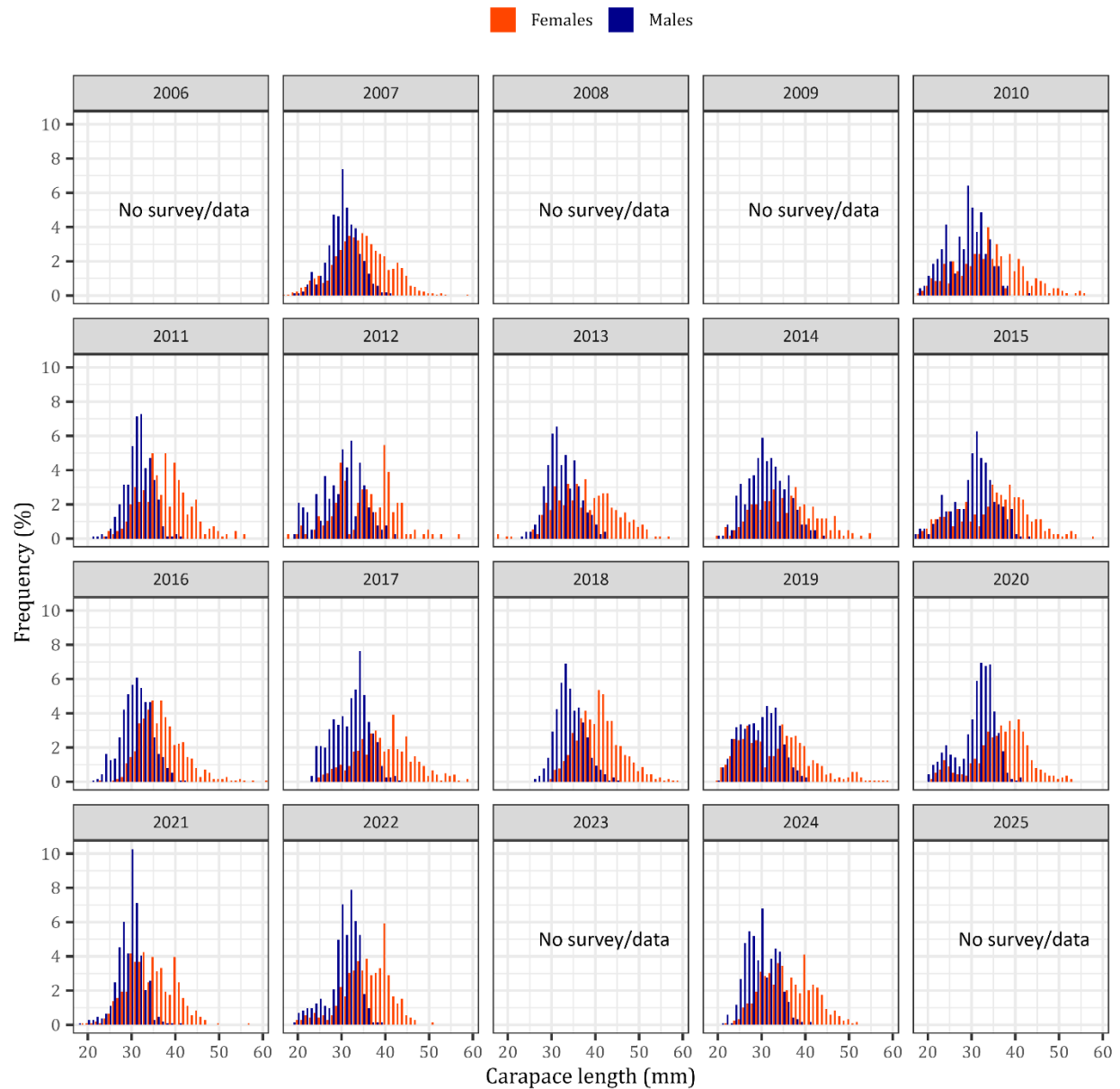


Figure B.1. Length-frequency distributions of male and female Western King Prawns from February/March fishery-independent surveys in Ceduna from 2006–2025.

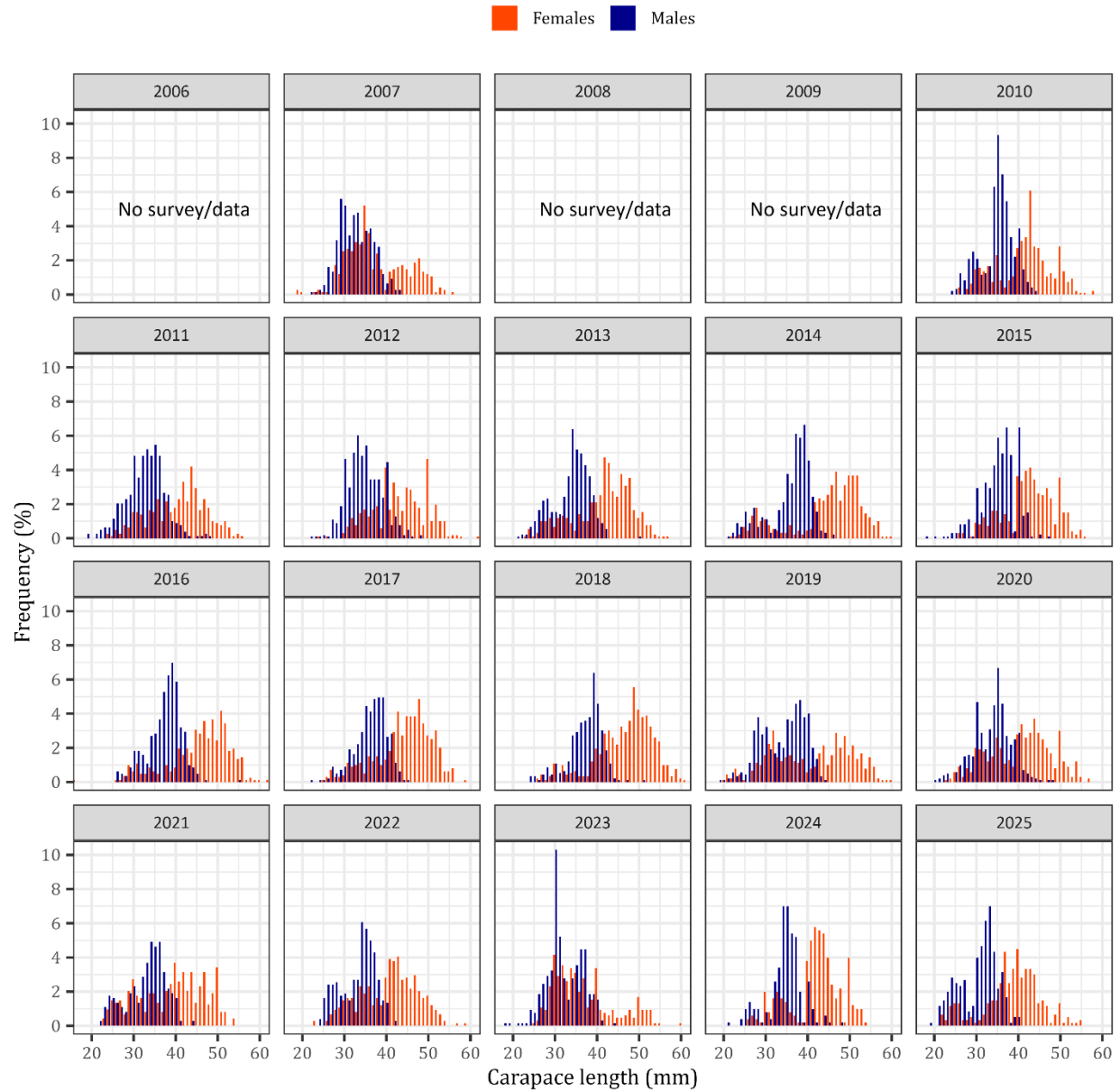


Figure B.2. Length-frequency distributions of male and female Western King Prawns from February/March fishery-independent surveys in Venus Bay from 2006–2025.

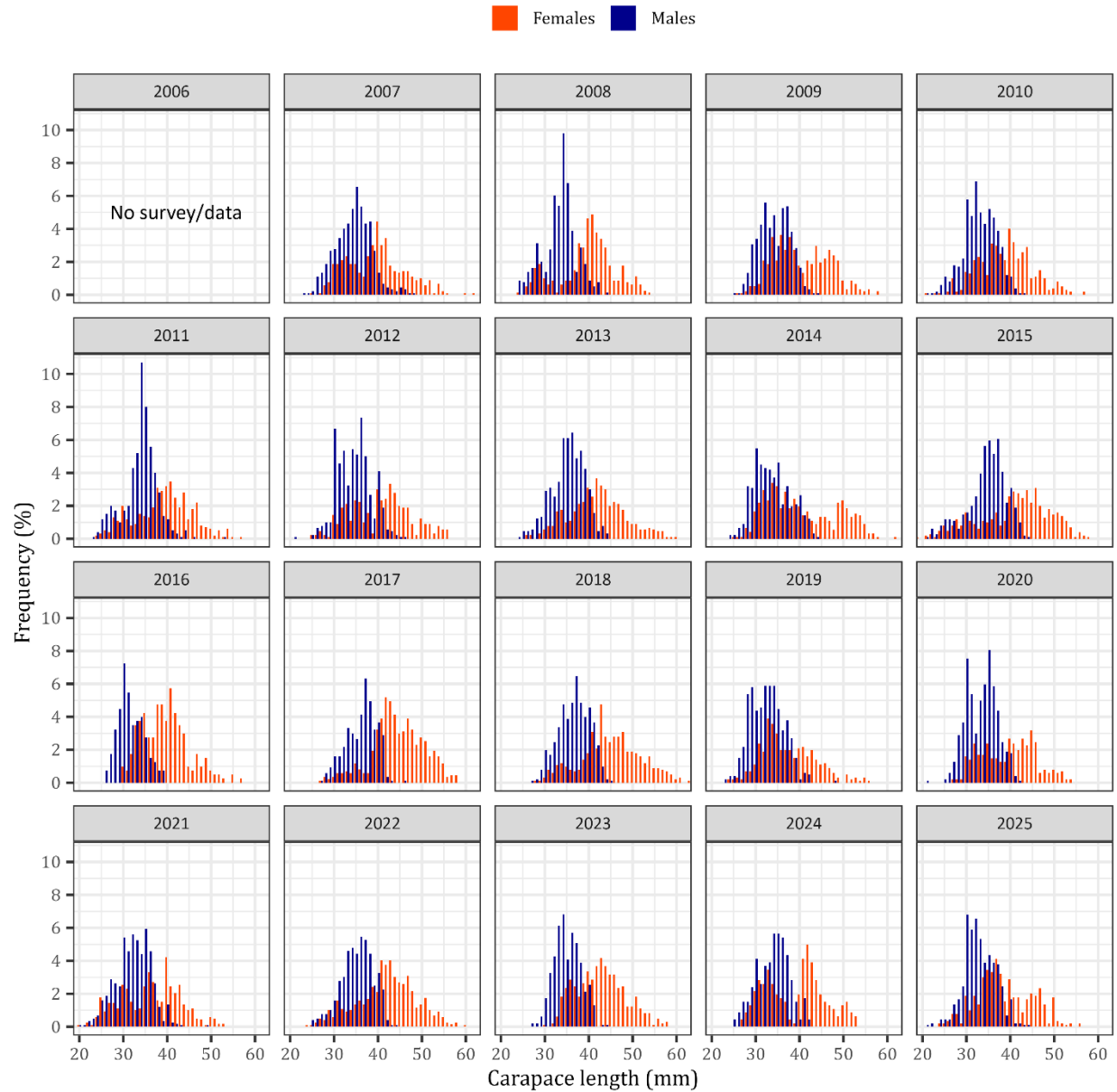


Figure B.3. Length-frequency distributions of male and female Western King Prawns from June/July fishery-independent surveys in Venus Bay from 2006–2025.

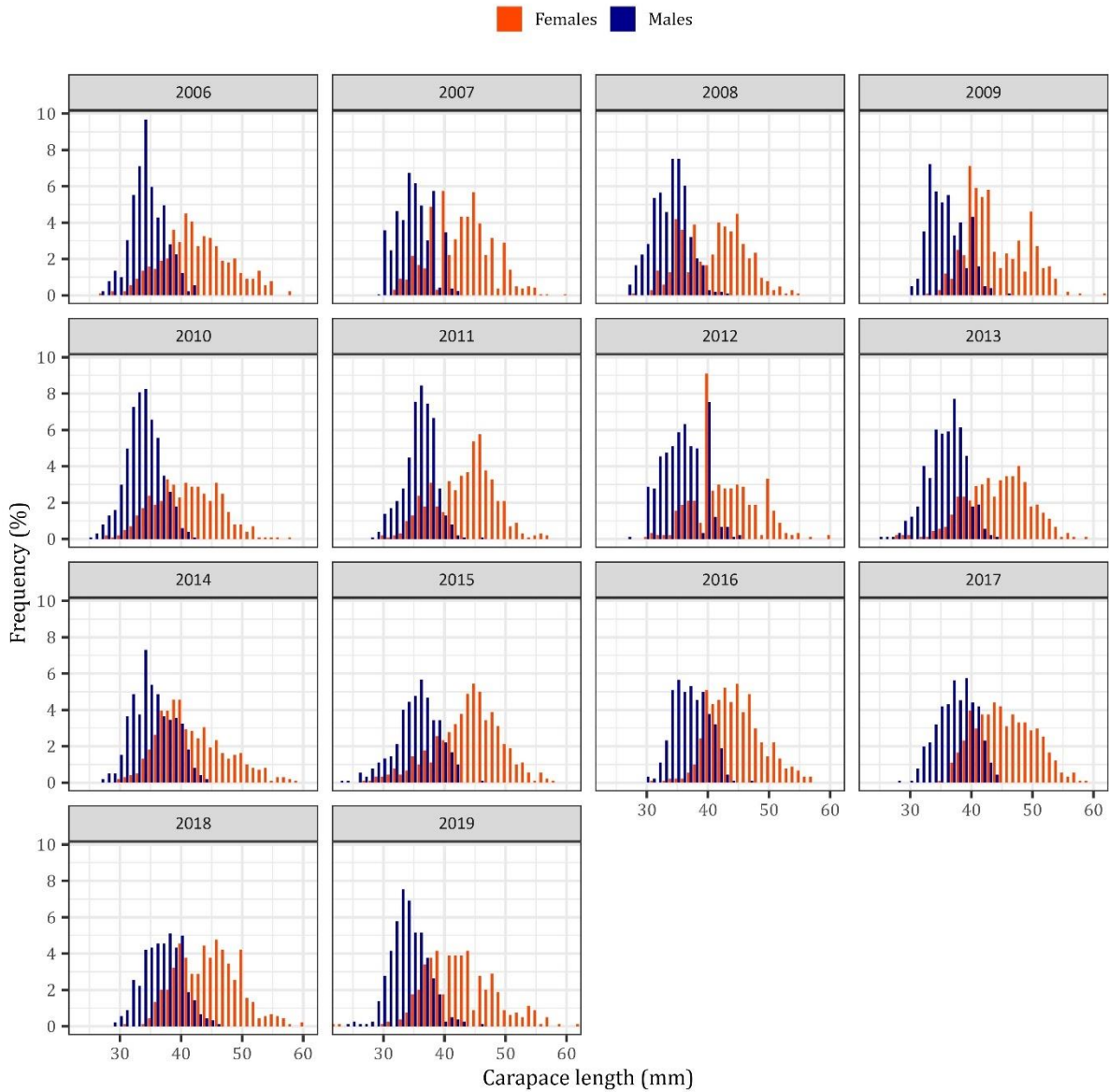


Figure B.4. Length-frequency distributions of male and female Western King Prawns from October/November fishery-independent surveys in Venus Bay from 2006–2019. The October/November survey was discontinued in 2020.

APPENDIX C. KEY DATA SUMMARY

Table C.1. Key data summary for the West Coast Prawn Fishery from 1968–2025, including total commercial catch, effort and catch per unit effort (CPUE), mean commercial CPUE from March–September (ComCPUE), mean fishery-independent survey CPUE for Venus Bay during February/March and June/July (VBCPUE), and the average nominal catch rate (i.e., mean of ComCPUE and VBCPUE). Abbreviations: -, no fishing/survey/data.

Year	Catch (t)	Effort (h)	Effort (nights)	Total commercial CPUE (kg/h)	ComCPUE (kg/h)	VBCPUE (kg/h)	Average nominal catch rate (kg/h)
1968	8	257	-	29.75	-	-	-
1969	99	2800	-	35.43	-	-	-
1970	237	9987	-	23.77	-	-	-
1971	238	8345	-	28.46	-	-	-
1972	214	8907	-	24.04	-	-	-
1973	290	9276	-	31.25	-	-	-
1974	181	5192	-	34.78	-	-	-
1975	157	6081	-	25.74	-	-	-
1976	51	3562	-	14.31	-	-	-
1977	23	2605	-	8.74	-	-	-
1978	16	907	-	18.03	-	-	-
1979	33	1491	-	21.82	-	-	-
1980	67	2601	-	25.88	-	-	-
1981	108	3548	-	30.40	-	-	-
1982	156	4061	-	38.51	-	-	-
1983	216	3392	-	63.60	-	-	-
1984	164	3197	-	51.36	-	-	-
1985	94	3091	-	30.47	-	-	-
1986	100	3433	-	29.04	-	-	-
1987	42	1555	66	27.31	27.19	-	27.19
1988	109	3051	138	35.84	36.50	-	36.50
1989	114	3252	132	35.21	34.61	-	34.61
1990	171	3784	136	45.16	47.28	70.9	59.09
1991	180	3442	124	52.41	56.19	73.52	64.86
1992	10	426	23	22.60	27.41	12.01	19.71
1993	-	-	-	-	-	3.08	3.08
1994	57	1536	68	37.30	38.51	42.46	40.49
1995	131	2608	101	50.23	53.15	64.4	58.78
1996	216	3061	118	70.55	79.35	-	79.35
1997	179	3082	111	58.04	64.43	56.8	60.61
1998	142	2692	97	52.66	56.32	63.45	59.89
1999	101	2381	92	42.22	44.03	-	44.03
2000	108	2256	87	48.03	50.42	24.4	37.41
2001	139	2210	84	62.93	61.30	-	61.30
2002	31	778	35	40.39	29.69	-	29.69
2003	5	200	14	22.95	17.43	26.99	22.21
2004	14	356	17	38.31	46.60	23.19	34.90
2005	41	1014	38	40.04	37.30	18.98	28.14
2006	-	-	-	-	-	13.79	13.79
2007	12	294	11	39.83	38.38	19.2	28.79

Continued.

Year	Catch (t)	Effort (h)	Effort (nights)	Total commercial CPUE (kg/h)	ComCPUE (kg/h)	VBCPUE (kg/h)	Average nominal catch rate (kg/h)
2008	84	1314	50	63.94	65.99	44.3	55.15
2009	112	1857	64	60.37	62.78	53.13	57.96
2010	89	1860	65	47.94	46.61	46.05	46.33
2011	159	2335	80	68.24	64.57	50.47	57.52
2012	181	2341	81	77.41	78.11	64.02	71.07
2013	148	2128	73	69.79	66.24	65.08	65.66
2014	146	1876	63	77.98	75.60	75.61	75.60
2015	191	1875	63	102.06	110.09	99.47	104.78
2016	163	2039	70	80.07	82.40	66.71	74.55
2017	162	2099	69	77.21	81.53	54.01	67.77
2018	116	1778	58	65.18	72.40	63.12	67.76
2019	84	1668	53	50.16	48.13	37.88	43.01
2020	65	984	36	66.35	64.57	31.53	48.05
2021	68	1272	43	53.08	55.58	39.66	47.62
2022	54	1230	45	44.01	43.67	25.34	34.50
2023	43	793	30	53.75	55.24	28.38	41.81
2024	11	262	13	40.99	42.71	18.91	30.81
2025	74	957	39	76.84	75.73	31.24	53.49