

Assessment of abalone stocks in Western Zone Victoria

Submission to the TAC setting process for 2026-27

Western Abalone Divers Association

March, 2026



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ISBN 978-0-9870470-7-6 (revise when allocated)

Assessment of abalone stocks in Western Zone, Victoria: Submission to the TAC setting process for 2026-27

March 2026 (this document printed to pdf on March 13, 2026)

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Western Abalone Divers Association, 2026, Assessment of abalone stocks in Western Zone Victoria: Submission to the TAC setting process for 2026-27, Port Fairy.

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Background

This report provides an assessment of abalone stocks for the Western Zone (WZ) of the Victorian Abalone Fishery. The report provides an easily understood summary of the fishery and its performance, by reporting on the Primary and Secondary Performance Indicators and Reference Points of the fishery's Harvest Strategy, for use at the March 2026 TAC Workshop. This report should be considered in conjunction with the fishery's Harvest Strategy and Management Plan, referring to Objectives and interpretations, previous Assessment reports and separate documents describing Technical Methods and Reefcode Reports.

Since AVG was first confirmed in 2006, the Western Abalone Divers Association (WADA) and Victorian Fisheries Authority (VFA) have worked together to implement conservative management and demonstrate rebuilding in the WZ Abalone Fishery. A Harvest Strategy was developed to continue recovery of abalone stocks in WZ with rebuilding targets from 2016-2021, through a combination of conservative catch and minimum size limits, spatial management of fishing and catch, and a combination of fishery-independent and fishery-dependent data collection to demonstrate ongoing recovery and guide future TAC setting. In early 2021, there was considerable optimism about the state of the stocks and their ongoing recovery, consistent with high fishery Performance Indicators.

On 1 May 2021, AVG was again observed to be impacting abalone stocks at Cape Nelson, near Portland. WADA and VFA worked together to manage the fishery with other stakeholders, while collecting information about the spread and impacts of AVG. Reefcodes near Cape Nelson, Cape Bridgewater and Lawrence Rocks were gradually closed to fishing as AVG spread and abalone stocks were impacted. WADA recommended no commercial catch from the Portland SMU in the subsequent 2 fishing periods to encourage recovery, and commenced development of an improved fishery-independent survey methodology for the Portland reefs, before restarting limited commercial fishing from the Portland SMU from 2024-25, to collect data about stocks and inform further management. No AVG has been found in the remaining parts of the fishery where commercial fishing has continued.

Fishery Performance Indicators have remained high at Port Fairy, Warrnambool and Lady Julia Percy. Some encouraging indicators have also been recorded in the Portland SMU, and particularly from Cape Bridgewater. Productive reefcodes (e.g. Craggs, Killarney) have retained high fishery performance indicators and target catches, which are quickly landed early in the year following opening of the reefcode, allowing strong recovery from fishing before the following season. Despite that, some other areas (e.g. Lighthouse) have been less productive in recent years with declining performance indicators and target catch, which is reached later in the fishing period. Ongoing catch planning has already tailored catch targets to differences among reefcodes in fishery indicators and broad productivity, with greater precaution and more conservative catch targets in some reefcodes to encourage further recovery of stock. Maintaining recovery in productive reefcodes, and encouraging greater recovery elsewhere and particularly where no commercial fishing current occurs, remains a key challenge for the fishery and stock.

WADA and VFA have also worked together to commence review and update of the fishery Harvest Strategy and Monitoring program, by extending and improving on the existing Harvest Strategy, and with the intent to update rebuilding targets in an extended Harvest Strategy as soon as

possible. Perhaps most importantly, this includes the establishment of a new fishery-independent abalone abundance survey, and an approach to continue the intent of the existing Harvest Strategy while the new survey was developed and implemented. Continued development of the new abundance survey is a priority for the fishery, including particularly coordination with all 3 fishing zones on the approach to stratification and analysis of all available data.

A review of the old Fishery Independent Survey was completed with WADA, VFA and MRAG, and suggested sites have not been representative of fished areas, and are often in marginal parts of the current and historic fishery (i.e. often to enable easier access by survey divers), in WZ and throughout much of Victoria. Particularly by avoiding shallow and more productive high-density areas, the old abundance survey sites are likely to have provided a biased assessment of the broader abalone population (i.e. greater decline in less productive areas, and similarly reduced recovery). Such habitat-related, density-dependent differences among abalone populations appear quite common in many fished species, including abalone, and stratified sampling designs are commonly used to reduce the potential bias from sampling unrepresentative parts of the population. The old abundance survey has not been repeated since 2020, but new FIS sites have been established from 2021-2025, and together with some old sites, have been surveyed with a new fixed-transect methodology in a stratified-design being developed in WZ by WADA and VFA. The joint FIS Review recommended further development of the survey approach already commenced in WZ, to establish a more consistent and representative approach to abalone FIS in Victoria, and this is being progressed across all 3 fishing zones.

Currently, WADA has established new fixed sites in productive areas of the fishery, within a plan for a stratified design of productive, intermediate and marginal sites (i.e. high to low abalone density). At each site, 2 permanent markers are drilled into the rock, and a 1 m transect is sampled between them. Transects are established across a range of abalone densities, from highly productive areas to adjacent less dense areas. Under-sized and Legal-sized abalone are counted in 5 m sections of the Transect, and estimates of the density of abalone have been 4-10 times higher than within the old FIS sites in more marginal habitat. Resampling of old FIS sites demonstrated concerns about fine spatial scale variation in habitat (e.g. old survey sites could estimate very low abundance, while being near to productive abalone reef with very high densities of abalone) with the very low abundance of abalone, and particularly legal-sized abalone. The new FIS design is still being extended with new sites being added and coordinated across the 3 fishing zones, with the ultimate stratified-design to include all sites from both surveys, and a more pragmatic approach to sampling.

This assessment will again continue the approach of the existing Harvest Strategy, as modified in the WADA Strategic Plan for Stock Assessment and Harvest Strategy development in the WZ Abalone Fishery, agreed with VFA. Information from both the historic FIS, and the new FIS approach, is used to inform estimates of abalone abundance and biomass. Secondary Performance Indicators from the commercial fishery, including standardised catch rates and lengths of landed abalone (i.e. presented here up to February 2026), is used to provide the best available information about stocks. This approach is consistent with the Harvest Strategy and will continue to estimate biomass at the scale of SMU with Primary Performance Indicators, and Primary and Secondary Performance Indicators used to guide Workshop discussions and TAC advice. Perhaps most importantly, in summary, evidence from the new abundance survey and commercial fishery

suggests the Mature and Legal-sized biomass (i.e. as used in the Harvest Strategy) has at least been maintained, if not increased, for several years. In addition, the assessment will also present application of the current Harvest Strategy used in CZ and EZ, involving trends in commercial catch rate, to the standardised catch rates available in WZ. Reefcode-scale reports are also provided for interpretation of Secondary Performance Indicators at the TAC Workshop.

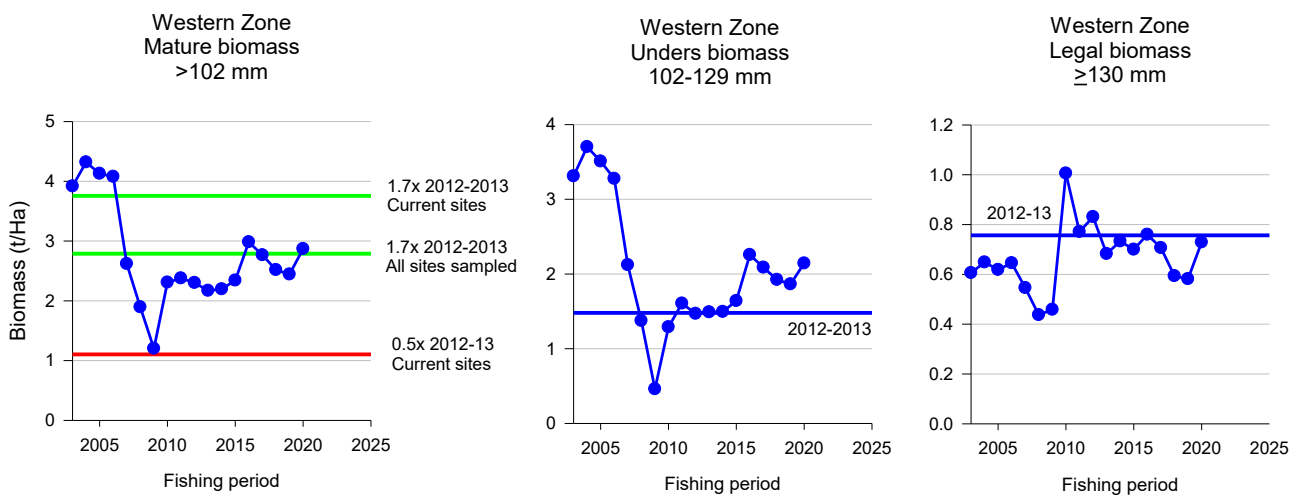
Primary Performance Indicators and Reference Points from the Harvest Strategy are based on a fishery-independent survey of abalone abundance and biomass. These include estimates of the Legal-sized and Mature biomass, and the number of Under-sized abalone, with the WZ-scale indicators used to assess overall status of the stock (i.e. consistent with the operational objectives and reference points in the Harvest Strategy), while the SMU-scale indicators are used in guidance for TAC setting. Secondary Indicators include Commercial catch and its spatial distribution, catch rate and the lengths of abalone landed, and are interpreted at various spatial scales. This assessment presents the Primary Indicators from the 2020 survey, and the new FIS particularly in 2024 and 2025, compared to the Target and Limit Reference Points at the scale of WZ (i.e. and SMU to help interpretation), and presents Primary and Secondary Indicators for each SMU.

Secondary Performance Indicators from the commercial fishery are calculated from several main data sources. Catch and catch rate are calculated from commercial logbook data that is released by VFA to WADA, while sizes of abalone landed are from GPS loggers operated by WADA, and both include data until February 2026. Average length of abalone landed through GPS-enabled loggers are shown as raw (i.e. above the minimum size limit used at the time) and standardised for abalone ≥ 135 mm (i.e. to allow comparison with years where a 135 mm size limit was used in the fishery), and the proportion of abalone < 135 mm in the Reefcode Reports (i.e. to help identify effects of recruitment to the fishery from Under-size abalone, by comparing change in the frequency and size of smaller and larger abalone). Primary Performance Indicators are calculated from raw, annual abundance survey data for Prerecruits (80-119 mm) and Recruits (≥ 120 mm) from 2003 to 2020 released by VFA to WADA, and combined with length-frequency data to estimate biomass of Legal (≥ 130 mm), Mature (≥ 102 mm) and Under-sized (102-129 mm) abalone, and calculate standardised estimates of abundance. Similar methods are also used with the new FIS data in 2024 and 2025, including estimates of biomass for Unders (i.e. Mature but under LML) and Overs (i.e. Legal).

Despite the challenges of the old abundance survey, estimates of biomass from the survey sites across WZ provide evidence for the substantial recovery of abalone stocks since the impacts of AVG in 2005 (Figure 1), and are not inconsistent with broader recovery of the fishery (e.g. including more productive areas, Figure 2-6). Recovery of Mature biomass (Figure 1 left) was encouraged by leaving areas of the fishery closed for 3-5 years following AVG impacts, and restarting fishing at levels consistent with conservative guidance from an approach using extensive additional abundance survey information and a larger minimum size limit of 130-135 mm. Conservative catch guided by structured fishing and independent survey information, followed by planned spatial management of catch among and within Reefcodes, contributed to estimates of the Legal biomass (≥ 130 mm) being maintained at or above that prior to AVG (Figure 1 right), while waiting for the recovery of Mature biomass (Figure 1 left) to again supply greater numbers of juvenile abalone and Under-size abalone biomass (Figure 1 middle) and their growth in to the mature stock and fishery. Preliminary estimates from the new FIS in 2024 and 2025 already provide similar estimates of

biomass to 2020 (i.e. with sensitivity tests bounding previous estimates and their uncertainty), although final stratified analysis and calibration with the previous survey will remain until enough data and sites have been established and sampled, and analysis is coordinated among the 3 fishing zones. Previous assessments noted the similarity of observed recovery of abalone in WZ, and some predictions made by CSIRO modelling in 2014. This includes the observed decade-long recovery of Mature abalone, and then particularly from 2016, further recovery in Under-size abalone, while the fishery was managed to maintain the Legal-sized biomass.

Figure 1. Estimates of the biomass of Mature (left), Under-size (center) and Legal (right) abalone in WZ from VFA abundance surveys from 2003 to 2020. Horizontal lines show Target and Limit Reference Points for Mature biomass, and average 2012-13 biomass for Under-size and Legal. Note, a recent review found survey sites were not likely to be representative of fished areas.



The Harvest Strategy provides a framework for guidance about future Total Allowable Commercial Catch (TACC) based on change in estimates of the total Legal biomass of abalone within each SMU, and an agreed range of Harvest Fractions (see Table 1). This approach was developed in the Western Zone fishery from 2009, as fishing restarted following AVG, and has been applied each year and interpreted during the TAC Workshops. Estimates of Legal biomass are calculated from abundance surveys (i.e. both VFA and WADA fishery-independent abundance surveys have been used), and fishery-dependent data including abalone measuring and GPS loggers are used to provide guidance on change in Legal biomass. In this report, estimates of total Legal biomass are calculated from density in the VFA abundance survey at sites during 2020, and data from the new abundance survey during 2024-2025. Estimates of density from the surveys extrapolated to estimates of historically-productive areas of reef, compared with estimates of productive reef from GPS loggers used while fishing, and various Harvest Fractions are applied to estimate catch. More detailed comparisons of sensitivity of biomass estimates to key uncertainties and alternative calculations can be found in previous year's assessments.

The Harvest Strategy also describes a Reefcode and local-scale assessment process completed with divers at the annual TAC Workshop, to provide interpretation and guidance in addition to Primary and Secondary Indicators. Observations by commercial divers, and their interpretation of available data, assessment of stock and habitat conditions, and appropriate future catch, are an important part of the Harvest Strategy and considered in detail at the TAC Workshop. A summary of those observations and comments will be provided in the Workshop Minutes.

Ongoing development of approaches to update the existing Harvest Strategy include several strategic directions. Fishery-independent surveys of abalone populations will remain an important component of the new Harvest Strategy. WADA will continue to develop a new fixed site, fishery-independent survey involving a stratified design focusing on productive abalone populations, to provide greater information about recovery of stocks from AVG at Portland, together with ongoing change in fished stocks for management of the fishery. The survey design developed by WADA responds directly to many of the recommendations made by the Hart Independent Review of abalone surveys in Victoria, and the joint Abalone Council of Victoria (ACV) and VFA review of the previous survey, which has now recommended the WZ-approach be extended throughout Victoria. Historic WADA and VFA survey sites will also be included in the stratified design and sampled when appropriate to provide additional information, such as about currently less productive areas (e.g. deeper sites, or AVG impacted). Estimates of biomass and change through time, from a broad and representative new abundance survey that continues to develop (i.e. more data, more sites and development of the stratified design, analysis and interpretation coordinated among zones), and rebuilding targets for fished (i.e. productive and less productive) and currently unfished areas, will be developed and used to update the Harvest Strategy.

The Harvest Strategy, and several independent reviews, also encouraged development and use of additional data sources in TAC setting, including particularly information from GPS-enabled loggers and related data (e.g. boat location, dive footprint, abalone length, video, diver observation survey) collected while fishing. WADA has developed the use of GPS-enabled loggers for several years, and the current Succorfish loggers are enabled as part of the VFA legislated requirements for Vessel Monitoring Systems (VMS) in the WZ. ACV has also recently invested in extending this technology to all boats in the CZ and EZ fishery, with the intent to develop another coordinated approach to stock assessment across Victoria. Detailed data from all WADA loggers go directly to an ACV cloud site, where the data are stored, analysed and can be presented in online dashboards being developed, allowing the extension of near real-time reporting to divers and other stakeholders as part of an ongoing Stock Assessment process through the fishing year. This allows greater assessment and decision making by Industry and VFA through the year, and its further development will also enable greater automation and improve annual assessments.

[Assessment of Primary Indicators relative to Reference Points](#)

The Harvest Strategy will continue to be applied using the 2020 VFA abundance survey data, and analysis from the new abundance survey in 2024 and 2025. The Harvest Strategy has a Target Reference Point for planned recovery, and two Limit Reference Points that relate to rules for breakout and review of the Harvest Strategy. These reference points were developed from CSIRO modelling of the WZ abalone population and likely recovery scenarios, and assessment of data against these reference points are based only on abundance survey data at the scale of the WZ

fishery. The Target Reference Point refers to the target for Mature biomass in the fishery by 2020, and is measured relative to the Mature biomass in 2012-13. The Target Reference Point is a Mature biomass in 2020 that is 1.7x or 70% higher than that in 2012-13. One of the Limit Reference Points is also related to a Mature biomass of 0.5x or 50% lower than that in 2012-13. A further Limit Reference Point is related to estimates of the number of Prerecruit abalone in the abundance surveys (80-119 mm, and averaged over two years), and is measured relative to 0.44x or 44% of Prerecruits in 2003-06 prior to AVG.

The change in design (i.e. from 2017) of the VFA abundance survey has implications for the Reference Points and interpretation of the data within the Harvest Strategy framework. The Harvest Strategy Reference Points refer to estimates of density at survey sites during specific time periods (i.e. Mature Biomass 2012-13, and Prerecruit 2003-06), and were derived during development of the Harvest Strategy using all sites sampled at the time. The VFA abundance survey was revised in 2017 and dropped sites using three criteria, and that were lower in abalone density than those that were retained. Calculation of Reference Points and Indicators using 2020 (i.e. higher density) sites only, rather than all site sampled at the time, increased the Reference Points and Indicators above that identified in the Harvest Strategy. Here, we present the Mature biomass Performance Indicator for 2020 from the sites currently surveyed relative to the Reference Points calculated from just the current sites surveyed (i.e. not all sites surveyed as described in the Harvest Strategy, Figure 2 left top), and note the comment in the Harvest Strategy on the need for consideration of any changes in survey design on application of the Reference Points. Both the original survey design, and the design maintaining some sites after 2017, will be considered during calibration of the old survey with the new survey design.

The Target Reference Point, and one of the Limit Reference Points, relate to estimates of Mature Biomass from the abundance surveys. Change in Mature biomass prior to 2020 was summarised in previous stock assessments. Limited sampling at old survey sites, using the new fixed transect method, and at new sites (i.e. with calibration), suggest Mature biomass has been maintained or increased since 2020, in 2024 and 2025 within the Port Fairy and Warrnambool SMU, and by extension WZ more broadly (i.e. see Unders plus Overs which equals Mature biomass in Table 1). The second Limit Reference Point refers to the number of Prerecruit (80-119 mm) abalone in the abundance surveys, and is measured relative to the Prerecruits in 2003-06 prior to AVG. Similar sampling at both old and new sites also suggest Prerecruit numbers have been maintained or increased since 2020, in 2024 and 2025 within the Port Fairy and Warrnambool SMU, and by extension WZ more broadly (i.e. see Unders numbers which are equivalent to Prerecruit numbers in Table 1). Further, the review of the FIS has suggested old FIS sites were not broadly representative of fished areas, and particularly by avoiding shallow and more productive areas, may have provided a negatively-biased assessment of the broader abalone population in WZ (i.e. old sites measured greater decline in less productive areas, and similarly measured reduced recovery).

The Harvest Strategy also details an approach to determine the status of the WZ fishery and stock, relevant to the assessment for the Status of Australian Fish Stocks (SAFS). The fishery and stock are determined to be Sustainable when the Mature biomass is above the Limit Reference Point from the Harvest Strategy, and the calculated Harvest Fraction of the Legal biomass is below 15%. Estimates of the Mature biomass in 2020 were well above the Limit Reference Point, with increases

observed at old FIS sites sampled using new methods, and Harvest Fractions estimated at the 2025 TAC Workshop ranged around 10% among SMU, and have been relatively stable for several years. Further, fishery-dependent indicators (e.g. catch rates) suggest legal biomass (i.e. which is a substantial component of mature biomass) at the scale of WZ has increased since early 2020. Consequently, the approach described in the Harvest Strategy determines the WZ fishery and stock of blacklip abalone as **Sustainable**.

Summary of Primary and Secondary Indicators

Portland

Fishing re-started at Portland in 2012 and increased from 9 t with Structured Fishing, to 28-32 t from 2014 to 2020. AVG was again detected in May 2021, and led to the gradual closing of reefcodes as AVG spread west through the SMU (Figure 2). Fishing re-started again in 2024-25, with 5 t landed from a 7.5 t cap, and 3 t landed from a 6.5 t cap by February 2026.

At the April 2022 TAC Workshop, observations of the impact of AVG were discussed, and included heavy mortality in some areas, while other areas had much lower impacts. WADA and the Workshop recommended closure of the Portland SMU with no catch. This recommendation of no catch was repeated at the 2023 TAC Workshop, together with a need to collect greater information about stocks to advise future management of the area. New FIS sites were installed in the Portland SMU in 2021. Further impacts of AVG on a population still recovering from previous AVG impacts, suggest the population is heavily depleted in many areas. Subsequent observations by several commercial divers have confirmed AVG appears not to have been active for some time, but impacts still included heavy depletion in some areas, while other areas have much lower impacts, leaving patchy stocks of abalone that are recovering strongly in some areas. A 7.5 t catch target was agreed for 2024-25, reduced to 6.5 t for 2025-26, and distributed among reefcodes to help collect further information about stocks and inform management decisions.

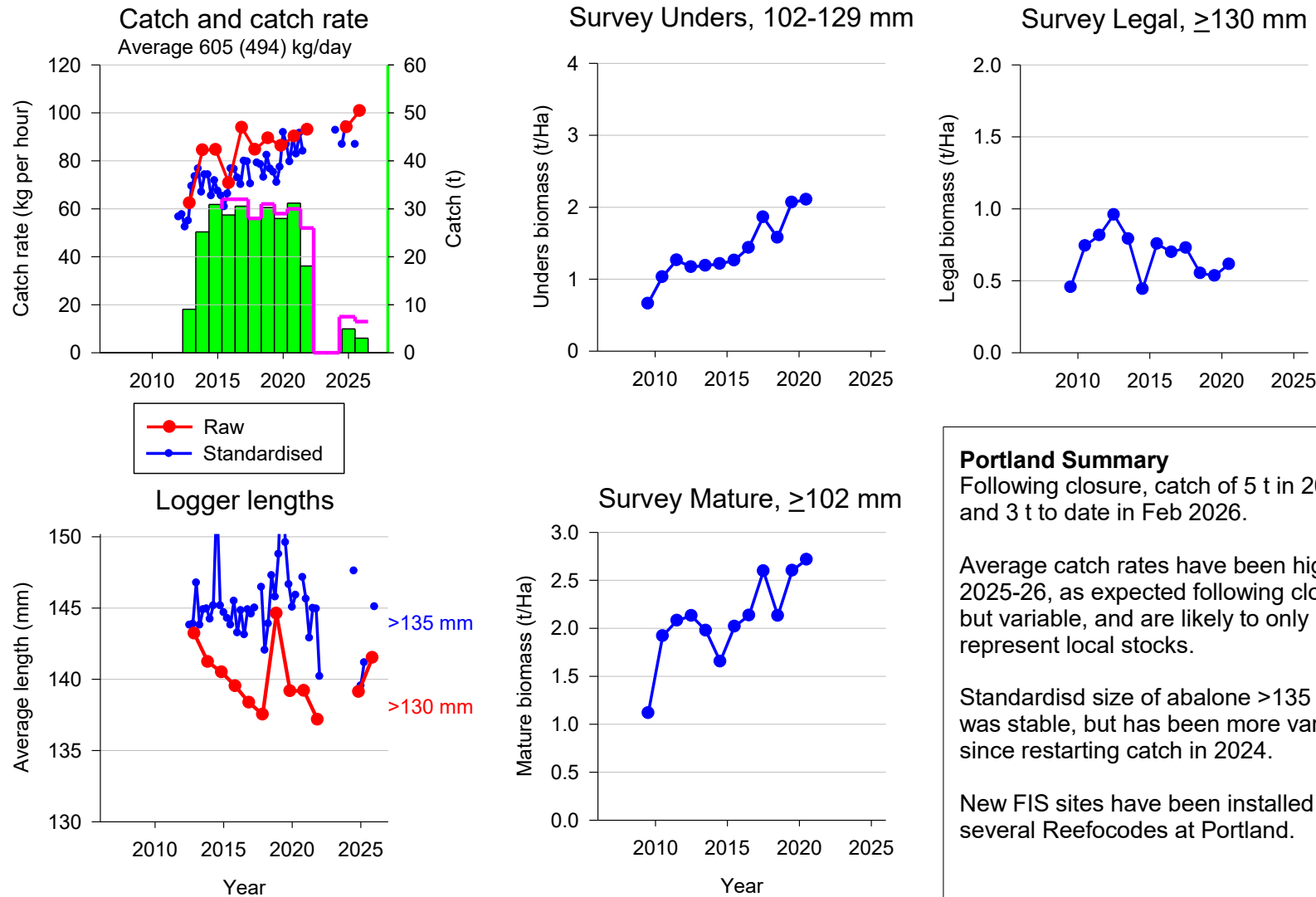
Since reopening in July 2024, there have been 16 days fished, averaging 500 kg per day and just under 100 kg/h. A total of 8.0 t has been landed from 8 reefcodes, with most landed from Watersprings and Tits, where catch rates have averaged 60-100 kg/h. Some lower catch rates (e.g. 40-60 kg/h) have also been landed in South Bridgewater and Outside Nelson, consistent with previous observations of variable mortality and depletion from AVG.

The standardised average length of abalone ≥ 135 mm has been mostly stable up to the impacts of AVG in 2021 (e.g. just above 145 mm). Since July 2024, the average length of abalone landed has become more variable among sites, including both lower and higher average lengths (e.g. under 140 mm and well above 145 mm), consistent with likely variable impacts of AVG on abalone population length structure.

The historic abundance survey suggested that under-size abalone recovered strongly (i.e. biomass more than doubled) at sites after the earlier AVG impacts from 2009 to 2020. Abundance survey sites were historically mostly in deeper water, with some adjacent to productive shallow water populations, but sites were not representative of fished populations (i.e. few VMS points while fishing over FIS sites) or their recovery. New fixed abundance survey sites have been placed in more productive areas of several reefcodes, particularly around Cape Bridgewater.

No biomass estimates are currently calculated for Portland, because of the large and variable impact of AVG, and difficulty of interpreting limited fishery-independent and fishery-dependent data. WADA has developed an ongoing approach for increasing collection of both fishery-independent abundance data, and indicators from commercial fishing, to provide a basis for estimates of biomass, broader assessment of stocks, and management of fishing at Portland.

Figure 2. Fishery performance indicators for the Portland SMU. Actual catch is shown to February 2026 (green bar, and average catch per day above) with full year Targets (pink line), raw (red) and standardised (blue ±SE) catch rate and length of abalone logged (i.e. Raw ≥130 mm and Standardised ≥135 mm). Abundance survey figures show estimates of biomass of Unders, Mature and Legal-sized abalone at sites last surveyed in 2020.



Portland Summary
 Following closure, catch of 5 t in 2025 and 3 t to date in Feb 2026.

Average catch rates have been high in 2025-26, as expected following closure, but variable, and are likely to only represent local stocks.

Standardised size of abalone >135 mm was stable, but has been more variable since restarting catch in 2024.

New FIS sites have been installed in several Reefocodes at Portland.

Lady Julia Percy (LJP)

Catch at LJP average >15 t from 2006-11, declined to 3.7 t all from Prop Bay in 2012, and was closed to fishing in 2013 to encourage recovery (Figure 3). Catch then increased from 2.3 t in 2014 to 5.0 t in 2017-18, and peaking at 7.5 t in 2020-21. Reefcode catch targets were then reduced to a total of 4.8 t and have remained stable to 2025-26. Catch has historically been concentrated in Prop Bay, with about 70% of the island catch in most years, and the target at Prop Bay reduced from 4.9 t to 3 t in recent years. Only 6 days fishing averaging about 500 kg per day were completed in 2024-25 and 2 days fishing in 2025-26 averaging 600 kg per day.

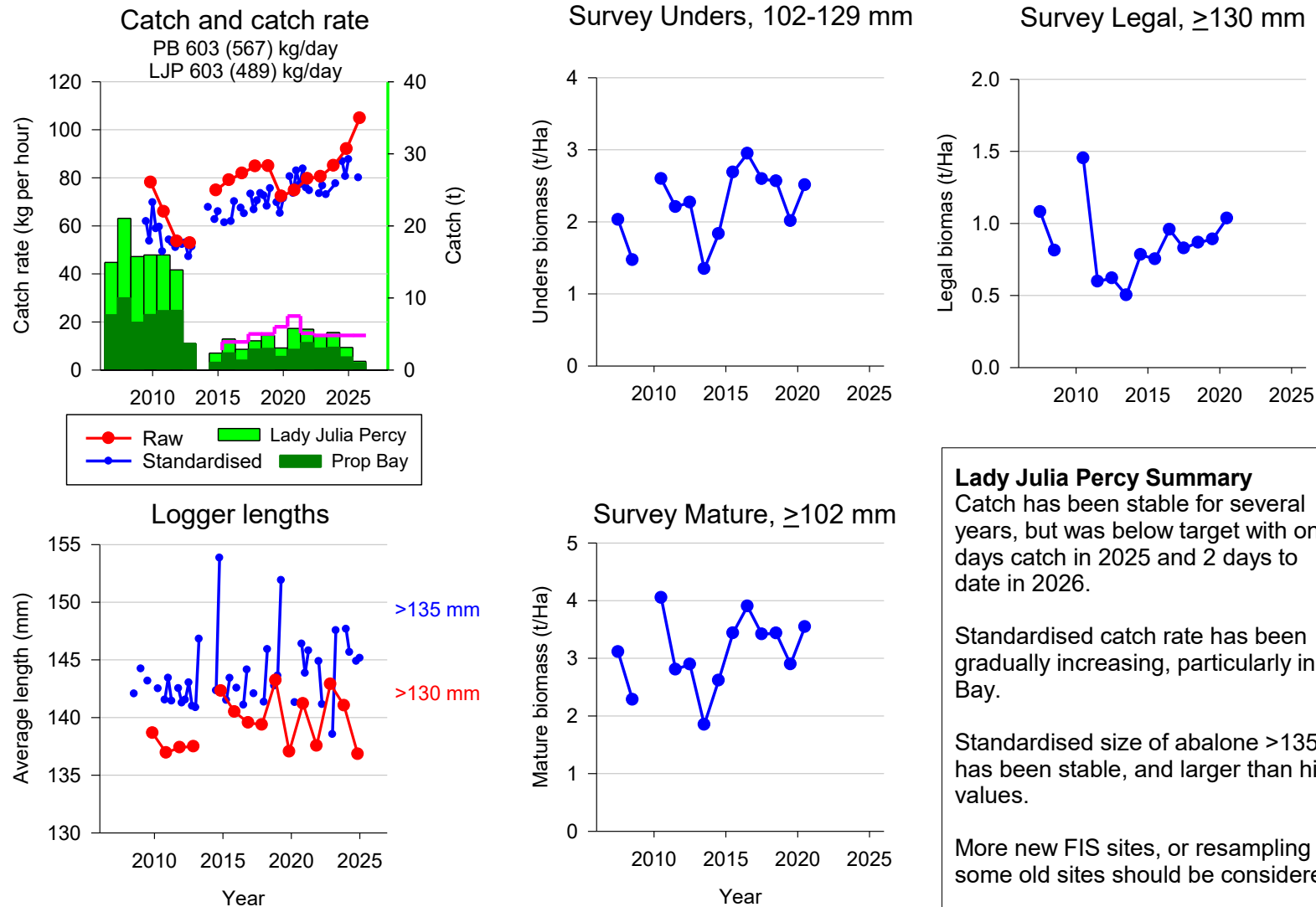
Raw and standardised catch rates declined to about 50-60 kg/h before closure in 2013, but following reduced catch, increased to above 80 kg/h on the higher 130 mm size limit from 2015, and have gradually continued to increase in subsequent years (Figure 3). Catch rates have averaged about 100 kg per h in recent years, particularly in Prop Bay.

Both the raw and standardised length of abalone increased from 2009-2012 to 2014, following the closure and reduced catch, and higher size limit. In recent years, both raw and standardised length of abalone have been variable but stable (Figure 3). Increases in length have occurred mostly at Prop Bay, although smaller increases also occurred at reefcodes on the northside.

Under-size and legal-sized abalone increased at historic abundance survey sites after the closure from 2014 to 2020. One abundance survey site sample from 1992 to 2020 (i.e. JPE) suggested Prerecruits (<120 mm) in 2020 were 50% of those in 1992, while Recruits (>120 mm) in 2020 were 200% of 1992.

Estimates of biomass are calculated from the density of Legal abalone on survey sites in 2020, which is extrapolated to the area of historically-productive reef (Table 1). Estimates of density are assumed to be conservative considering the increase in indicators from the commercial fishery since 2020. The area of historically-productive reef was estimated at 59 Ha from GPS logger data during the period of higher catch prior to 2013. More recent logger estimates of the active area of reef fished at LJP are lower with the lower catch (i.e. 25-47 Ha, Table 1). Using the upper estimate of productive reef area (i.e. because of reduced fishing in recent years, and as now do not include areas of lower abalone density), the current estimate of total Legal biomass in the SMU is 45 t (i.e. noting estimates of biomass density have not been changed since 2020, despite higher Secondary Performance Indicators), and the 2025-26 target catch of 4.5 t is a 10% Harvest Fraction (Table 1).

Figure 3. Fishery performance indicators for the Lady Julia Percy SMU. Actual catch is shown to February 2026 (green bar, and average catch per day above) with full year Targets (pink line), raw (red) and standardised (blue \pm SE) catch rate and length of abalone logged (i.e. Raw ≥ 130 mm and Standardised ≥ 135 mm). Abundance survey figures show estimates of biomass of Unders, Mature and Legal-sized abalone at sites last surveyed in 2020.



Lady Julia Percy Summary
 Catch has been stable for several years, but was below target with only 6 days catch in 2025 and 2 days to date in 2026.

Standardised catch rate has been gradually increasing, particularly in Prop Bay.

Standardised size of abalone >135 mm has been stable, and larger than historic values.

More new FIS sites, or resampling of some old sites should be considered.

Port Fairy

Fishing restarted at Port Fairy in late 2009, with catch of 7 t during Structured Fishing, that increased to over 21 t in 2012, reduced to 13-14 t for 2 years, and then increased over several years to 22 t in 2018, and gradually reduced to 13.5 t in 2023, and 15.2 t in 2025-26 (Figure 4). Catch has been stable at the Craggs about 8-9 t in recent years, but has declined with catch targets particularly at the Lighthouse where target catch was reduced from 3.5 t to 1 t, and Watertower was reduced from catch of 5.9 t to 2 t, both since 2023-24.

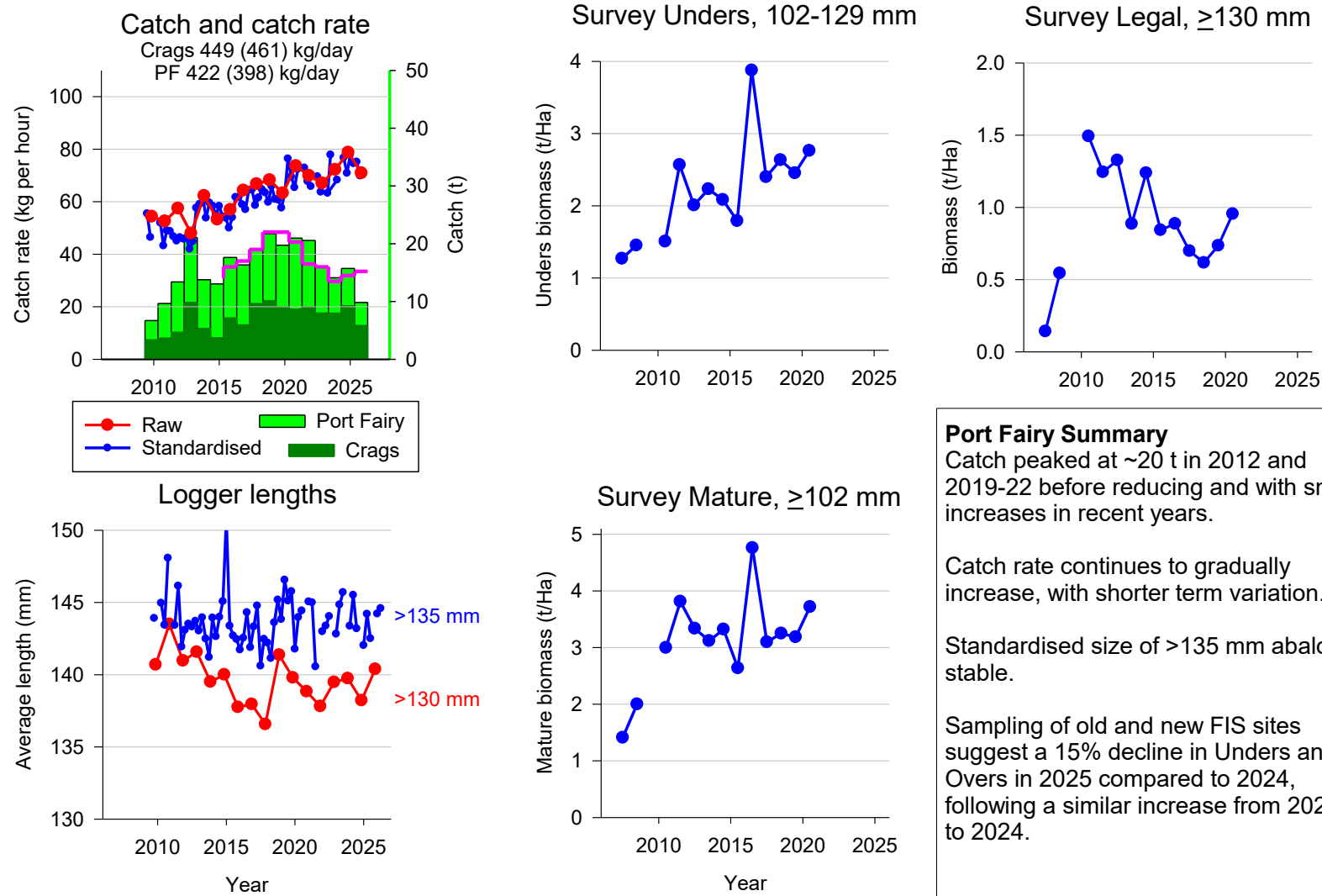
Raw and standardised catch rates have gradually increased from 40-50 kg/h to over 60 kg/h on a 130 mm size limit, before gradually increasing to an average of almost 80 kg/h (Figure 4). Raw catch rates are influenced by the increased proportion of catch coming from Craggs, where catch rates are higher and generally landed earlier in the year, compared to Lighthouse and Watertower where catch rates are lower. Catch rates have been lower at the Craggs during 2025-26, averaging about 80 kg/h with 5.8 t landed to February 2026.

The average length of abalone landed decreased from 143.5 mm soon after the recommencement of fishing in 2010 (i.e. 135 mm size limit), but has remained mostly stable although variable, on the 130 mm size limit (Figure 4). Standardised length of abalone ≥ 135 mm, has been more stable and with abalone lengths ≥ 135 mm in recent years similar to those soon after restarting fishing. There was a small reduction in the length of abalone ≥ 135 mm, and the frequency of smaller abalone increased at Craggs in 2024-25 (see Reefcode Report), although this appears to have reversed in 2025-26.

The historic abundance survey suggested under-size abalone increased substantially at 6 historic abundance survey sites from 2009 to 2020. New fixed-transect sites have been installed at Craggs, including some at historical sites and nearby, and in other reefcodes at Port Fairy. Surveys of abalone at Craggs in 2022 and 2024, suggested a 17% increase in the abundance of mostly under-sized abalone in 2024, while comparison of 2024 to 2025 suggested a 15% decline in Unders and Legal-sized abalone, consistent with reduced catch rate in 2025-26.

Legal biomass is estimated from the density of Legal-sized abalone on survey sites, which is extrapolated to the area of historically-productive reef (Table 1). Estimates of Legal-sized abalone density in 2020 of 0.845 t per Ha were extrapolated to 215 Ha of productive reef, to estimate a total biomass of 182 t. Higher estimates of density from the new abundance survey in 2025 were extrapolated to revised lower estimates of the productive area of reef (i.e. so now do not include areas of lower abalone density), based on logger data in recent years, to estimate a total biomass of 137-157 t (i.e. noting biomass at old survey sites are higher than 2020). Using the midpoint biomass estimate, the 2025-26 target catch of 15.2 t is a 10.3% Harvest Fraction (Table 1).

Figure 4. Fishery performance indicators for the Port Fairy SMU. Actual catch is shown to February 2026 (green bar, and average catch per day above) with full year Targets (pink line), raw (red) and standardised (blue ±SE) catch rate and length of abalone logged (i.e. Raw ≥130 mm and Standardised ≥135 mm). Abundance survey figures show estimates of biomass of Unders, Mature and Legal-sized abalone at sites last surveyed in 2020.



Warrnambool

Fishing restarted at Warrnambool in 2011 at 4.2 t during Structured Fishing, with catch increasing to 10-15 t from 2013. Catch during the early years was concentrated on the inshore areas at Killarney and Mills, and despite some good daily catches comparatively little was caught towards Warrnambool. This changed particularly from 2016, with less catch from Mills and Killarney, and greater catch from Levys and Thunder Point. Catch then increased to 12-13 t during 2016-2023, with catch and catch rates particularly increasing at Killarney and Levys, before the catch target increasing to 16 t in 2024-25. Increased catch targets in 2024-25 were associated with size limit reductions from 130 to 125 mm to spread catch within Mills, Killarney and Cutting (Figure 5). Catch has been below target at Thunder Pt in recent years.

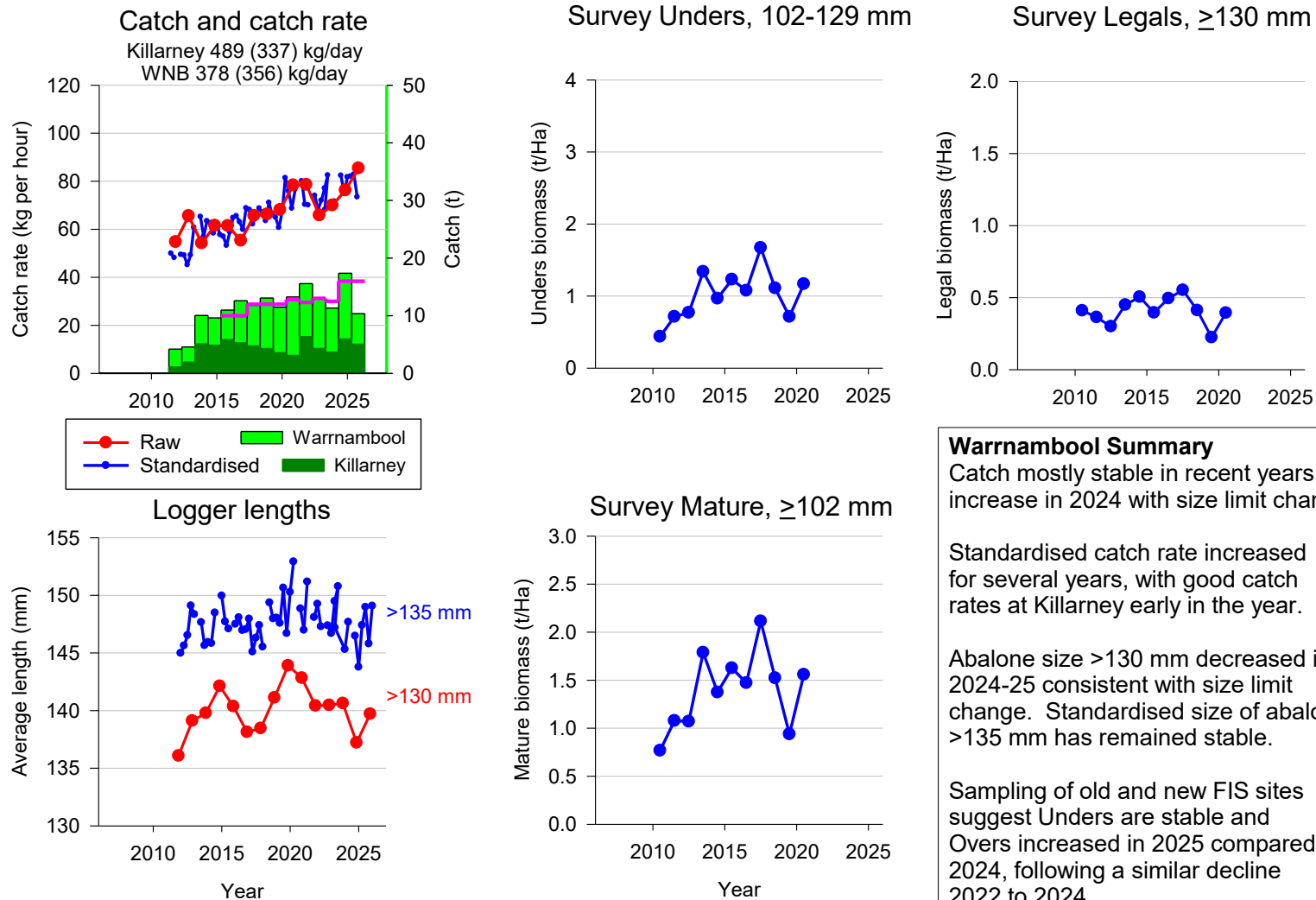
Raw and standardised catch rates gradually increased from below 60 kg/h to above 80 kg/h in recent years, with more catch from high catch rate reefcodes (Figure 5). Standardised catch rates have also increased, particularly driven by higher catch rates at Killarney and Levys, and the reduced size limit at Mills, Killarney and Cutting.

The average length of abalone landed increased from 136.1 mm after the recommencement of fishing in 2011-12, and reached a peak during 2014 at 142.1 mm, coincident with the first of larger catches at Levys, before declining to a low in 2024-25 co-incident with the size limit reduction in 3 reefcodes, where average lengths have declined particularly in Mills and Killarney (Figure 5 and Reefcode Report). In contrast, the standardised length of abalone ≥ 135 mm has been more stable.

Under-size abalone doubled at 5 historic abundance survey sites from 2009 to 2020. New fixed-transect sites targeting productive areas of reef have been installed at Mills, Killarney and Cutting, including some at historical sites and nearby. Surveys of abalone at Killarney between 2022 and 2024, suggested a 34.6% decrease in the abundance of mostly under-sized abalone, while comparisons between 2024 and 2025 suggest Unders have remained stable while Legal-sized abalone increased more than 80%.

Legal biomass is estimated from the density of Legal-sized abalone on survey sites, which is extrapolated to the area of historically-productive reef (Table 1). Estimates of Legal-sized abalone density in 2020 of 0.309 t per Ha were extrapolated to 343 Ha of productive reef, to estimate a total biomass of 106 t. Estimates of density from previous WADA surveys suggested this estimate of density was likely to be biased low, while estimates of productive reef area, from loggers while fishing in recent years, suggest the reef area estimate used is biased high. Higher estimates of density from the new abundance survey in 2025 were extrapolated to revised lower estimates of the productive area of reef (i.e. so now do not include areas of lower abalone density), based on logger data in recent years, to estimate a total biomass of 83-155 t (i.e. noting biomass at old survey sites are higher than 2020). Using the midpoint biomass estimate, the 2025-26 target catch of 16.0 t is a 13% Harvest Fraction (Table 1).

Figure 5. Fishery performance indicators for the Warrnambool SMU. Actual catch is shown to February 2026 (green bar, and average catch per day above) with full year Targets (pink line), raw (red) and standardised (blue ±SE) catch rate and length of abalone logged (i.e. Raw ≥130 mm and Standardised ≥135 mm). Abundance survey figures show estimates of biomass of Unders, Mature and Legal-sized abalone at sites currently surveyed.



Estimates of Legal-sized biomass and development of new Fishery Independent Survey

The historical fishery-independent abundance survey sites were last sampled in 2020. A subsequent review involving VFA, MRAG and WADA, confirmed the sites were not representative of fished areas leading to the potential for considerable bias in estimates of abundance and their change through time. The review also supported the extension of an approach developed by WADA, to use GPS logger data collected while fishing to guide selection of sites representative of fishing, and particularly sites often in shallow water with a high density of abalone that were not included in the previous survey design, and to install fixed transects to provide estimates of abalone abundance. This new fishery-independent abundance survey approach commenced in WZ during 2021, and is now being extended across all 3 of Victoria's fishing zones, with the support of the joint Working Group in a consistent approach to FIS with Victoria's abalone fishery.

The 2016-2020 Harvest Strategy requires estimates of Under-size abalone and Mature biomass to remain above Reference Points, and estimates of Legal biomass to apply appropriate Harvest Fractions to guide TAC advice. During development of the new FIS approach, VFA and WADA agreed to rely on the 2020 survey (i.e. biomass density), interpretation of secondary indicators from the commercial fishery (i.e. change in Legal-sized biomass density), and ongoing development of the new FIS approach as data became available, to estimate biomass within an improved stratified-design. Preliminary estimates of biomass were completed in the 2025 stock assessment, and included much higher estimates of Legal biomass density than the historical survey (i.e. as were expected), and were extrapolated to much lower areas of reef than the historical survey (i.e. estimated from the use of loggers while fishing in recent years, and not including lower density reef). A similar method is used in this year's assessment to further improve estimates of biomass from the new abundance survey.

Legal biomass is estimated from the density of Legal-sized abalone observed on abundance survey sites, which are then extrapolated to the area of historically-productive reef (i.e. for lower density old FIS) and recent-productive reef (i.e. for higher density new FIS). Estimates of the density of Under-sized and Legal-sized abalone during 2020 and 2025 are presented in Table 1, together with estimates of historically-productive reef, and recent reef coverage from loggers. Estimates of biomass are calculated from methods used in 2020 (i.e. including biomass density), and using new data and approaches for estimating abalone abundance in 2025. Catch at different Harvest Fractions are then calculated for the 2025 Legal biomass estimates.

The historical abundance survey was completed in 2020, with ongoing development of a new abundance survey approach from 2021-2026. While preliminary data and estimates of biomass, and its change through time, are possible from the new survey approach (Table 1), calibration of data from the two abundance survey designs is limited (i.e. new methods are applied at some old sites at Port Fairy and Warrnambool) until more data is available from the new survey design. More sites were added in 2024-25, and more are proposed in areas with current limited coverage, and a consistent approach to design and analysis will be coordinated and developed in conjunction with development of the new survey approach in the other fishing Zones. Interpretation of the Harvest Strategy Secondary Indicators relevant to Legal-sized biomass, such as commercial catch, catch rate and length of landed abalone, with extensive recent data since 2020, help to reduce the uncertainty about ongoing use of the 2020 biomass estimate and its calibration with estimates from

the new survey approach. For example, catch has declined and catch rates have increased from 2020 to 2026 at Port Fairy and Lady Julia Percy (Table 2), and catch rates have also increased at Warrnambool, while in all 3 SMU standardised lengths of abalone landed have generally been stable or increased. This provides some evidence of increased biomass, particularly in productive reefcodes, and little evidence for any broad decline in biomass across the SMU since 2020. Alternatively, there have also been declines in indicators in some less productive reefcodes (e.g. Lighthouse), and including declines (i.e. mostly Unders) in preliminary data from the new abundance survey at Killarney from 2022 to 2024, followed by increase in 2025 (i.e. Overs). This spatial variation and potential uncertainty in estimates of biomass since 2020 provide emphasis on the need for continued development of the new abundance survey.

Table 1. Estimates of biomass density of Under- and Legal-sized abalone from abundance surveys within each SMU in 2020 and 2025. Estimates of the area of productive reef, including historically-used estimates and recent estimates from logger coverage presented in 2024. Legal-sized biomass is calculated by extrapolating Legal-sized density to the productive reef area. Catch at different Harvest Fractions is also calculated for the 2025 Legal biomass estimates.

	SMU Reefcode	Portland 1.02-2.10	Julia Percy 3.01-3.04	Port Fairy 3.05-3.08	Warrnambool 3.09-3.14
FIS UNDERS DENSITY		All sites			
2020 old FIS	t/Ha	0.070-1.000		2.760	0.560
2025 FIS Preliminary	t/Ha	10-12		10-12	10-11
FIS LEGAL DENSITY					
2020 old FIS	t/Ha	0.575	0.963	0.845	0.309
Calibration to WADA	t/Ha	0.524	-	0.677	0.462
2025 new FIS	t/Ha	-	-	2.420	1.870
AREA PRODUCTIVE	Ha				
Historic Reef area		376	59	215	343
2024 revision		97-264	25-47	113-222	83-210
BIOMASS LEGAL					
2020 FIS and Historic	t	216	57	182	106
2025 FIS Preliminary		-	24-45	137-157	83-155
CATCH per	HF				
HARVEST FRACTION	5% t	-	1.2-2.2	7-8	4-8
	10% t	-	2.4-4.5	14-16	8-15
	15% t	-	3.6-6.7	20-24	12-23

Table 2. Change in Harvest Strategy Secondary Indicators for each SMU between 2020 and 2026, consistent with the timing of 2020 abundance survey estimates and recent estimates of Legal-size biomass. Catch targets from 2019-20 to 2025-26.

SMU Reefcode	Portland 1.02-2.10	Julia Percy 3.01-3.04	Port Fairy 3.05-3.08	Warrnambool 3.09-3.14
Secondary indicators				
CPUE 2024-5/2019-20	-	123%	126%	124%
CPUE 2025-6/2019-20	-	123%	118%	125%
Catch 2025-6/2019-20	-	80%	70%	133%
Length 2025-6/2019-20	-	-	100%	98%
Catch Targets (t)				
April 2019-June 2020	29.0	6.0	22.0	12.0
2020-21	30.0	7.5	20.3	12.8
2021-22	26.0	5.1	16.5	12.3
2022-23	0	4.8	16.0	13.0
2023-24	0	4.8	13.5	12.5
2024-25	7.5	4.8	14.5	16.0
2025-26	6.5	4.8	15.2	16.0

In last year’s assessment, the Victorian Eastern (EZ) and Central Zone (CZ) Harvest Strategy was applied to data from WZ, to provide an alternative assessment of likely biomass change during the transition to development of the new abundance survey approach from 2020-2026. The Victorian Eastern (EZ) and Central Zone (CZ) Harvest Strategy estimates change in biomass over 4 years using trends in standardised catch rates, and classify 4 year and 1 year trends into a broad categorization of Increasing, Stable or Decreasing. This approach has again been applied to WZ, with application of the EZ and CZ Harvest Strategy to data available from WZ in 2025 and 2026 for 3 SMU (i.e. excluding Portland). During 2025 and 2026, all 3 SMU had an increasing 4-year trend in standardised catch rate (i.e. below the 5% per year needed for an Increasing classification), suggesting a Stable and gradually increasing biomass, consistent with the interpretation provided by interpretation of Secondary Indicators (such as standardised catch rate and abalone lengths) consistent with the WZ Harvest Strategy.

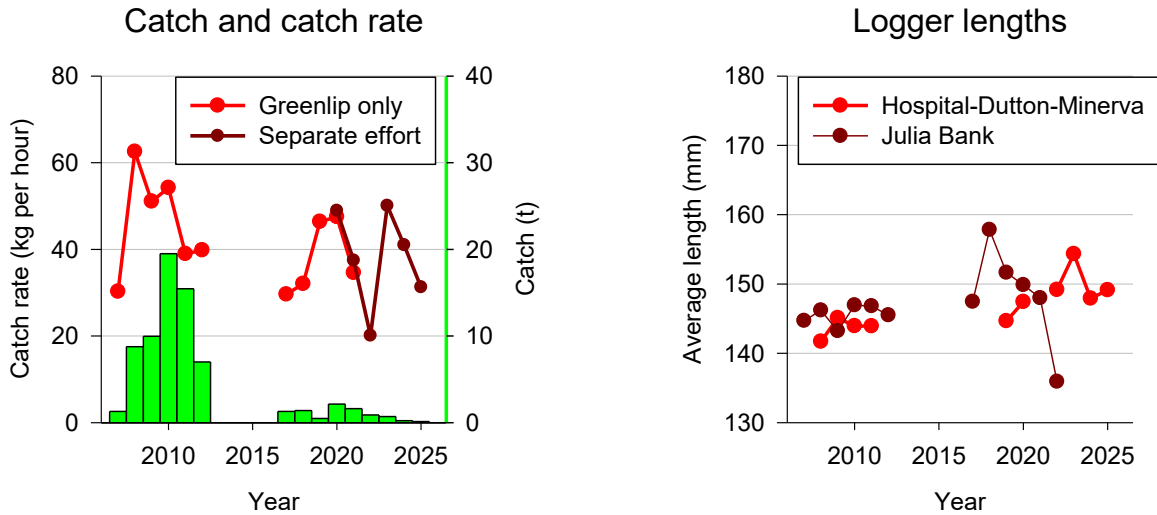
Greenlip abalone

Historical catch of greenlip in WZ has been small, with a total of 41.6 t reported landed from 1965-2005, including 37.6 t from 1969-1980 and only 850 kg from 1981-2005. The report by Prince (2008) described “Dutton Way and Hospital Reef reefcodes that were fished regularly during the 1970s, but landings fell to virtually zero during the 1980s. WADA members attribute this decline in catches to the principal abalone reefs being covered up by sand, the westward flow of which was disrupted by the construction of the deep-water port. According to older WADA members, what was left was “a broader area of scattered reef that traditionally was considered to hold fairly sparse ‘stunted’ greenlip stocks which were of relatively little interest”. The report concluded that with a 7 t catch from Hospital and Dutton, “and considering the conservative nature of the LML recommended and the recent history of light exploitation, will pose no risk to the long-term sustainability of the resource on these reefs.”

Catch of greenlip recommenced in 2006-07 with a 4.2 t TAC. With increased interest in the greenlip fishery, a research survey of a small part of Julia Bank (Gorfine, 2007), and a small permit-based research catch survey of Hospital and Dutton/Minerva reefs were completed in May 2008 (Prince, 2008). Following this research, a TAC of 7 t was implemented for the 2008-09 fishing period. During 2007-2012, a total of 32.8 t was landed from Julia Bank, mostly from inshore reefs, and 28.5 t from the adjacent Hospital-Dutton-Minerva reefs (Figure 6). Gorfine (2007) described greenlip on Julia Bank as being ‘seldom fished’ particularly as it was considered stunted with few individuals above the 130 mm size limit. More recent Industry comments suggest the Julia Bank greenlip stock was not fished prior to 2007, and no information is available to confirm any commercial fishing prior to 2007. GPS logger data distributed across localised fishing areas across a large area of offshore Julia Bank has now also demonstrated many lower-density but larger-sized greenlip populations (e.g. often averaging >160 mm), interspersed with extensive areas of deeper reef that are likely to support such populations and with little or no past fishing. Re-fishing of inshore reefs on Julia Bank in recent years suggest little recovery of populations from the 2007-2012 fishing.

In recent years, greenlip catch has remained low (i.e. <2.1 t per year, Figure 6) compared to previous years, and 0.136 t has been landed in the current fishing period to February 2026. Compared to earlier catch, which were dominated by Hospital, Dutton and Minerva reefs, and then inshore on Julia Bank, catch in recent years has been dominated by Hospital and Cutting reefcodes (Table 3). Catch rates have ranged from about 20 kg/h to 60 kg/h, with higher catch rates at Hospital and Cutting, and have been influenced by different size limits (i.e. regulated and voluntary) and the gradual shift of catch among different areas. Fishing effort has been reported separately for greenlip since 2020-21, and catch rates estimated on days with greenlip-only and with blacklip (i.e. and separate effort reported) are very similar (Figure 6 left). Following a period of relatively stable average lengths from 2007 to 2012 (i.e. mostly from inshore Julia Bank), average lengths of greenlip landed increased significantly to near 160 mm in 2018, and are likely to be related to the shift of catch among different areas and particularly to further offshore on Julia Bank mostly by one diver. In recent years, catch has returned to the Hospital-Dutton and average lengths have been increasing to ~150 mm, well above lengths landed at Hospital-Dutton during 2007-2015 (Figure 6).

Figure 6. Catch (green, t) and catch Target (grey), with catch rate (red, kg/h where no blacklip catch, and where greenlip effort reported separately) and average length (red, ≥ 135 mm) of greenlip logged. This includes about 27000 greenlip abalone measured on 99 diver days within Reefcodes near Portland, and since 2017, 3000 greenlip measured on 15 diver days.



In the 2021 TAC Workshop, WADA recommended movement from zonal to reefcode specific catch limits for greenlip. WADA has been successful at managing blacklip catch targets and limits, so greenlip catch limits for specific reefcodes should provide significant spatial catch control. In the April 2022 TAC Workshop, it was agreed WADA would implement greenlip catch limits of 0 kg at the Cutting, 100 kg at Dutton and Minerva, 200 kg at Hospital and 1.5 t at Julia Bank (i.e. for a 1.9 t TAC allocation for 2022-23), that was revised at the 2023 to 2025 Workshops by reducing the reefcode targets to 300 kg (except Cutting to remain 0 kg) and a 1.05 t TAC at a voluntary 140 mm size limit.

Table 3. Catch (kg) of greenlip by Reefcode or SMU from April 2017 until February 2026. Reefcodes with catch were Killarney and the Cutting at Warrnambool, Burnets, Watertower and Lighthouse at Port Fairy, Blowholes at Portland, and Eastside at Lady Julia Percy.

Fishing Period	Reefcode or SMU						Total (kg)
	Julia Bank	Hospital Dutton Minerva	Warrnambool	Port Fairy	Portland	Lady Julia Percy	
2018-19	1018	112	263	2	0	0	1395
2019-20	423	0	64	0	0	0	487
2020-21	280	1348	389	0	0	0	2016
2021-22	100	670	798	5	0	0	1601
2022-23	220	644	25	0	0	0	890
2023-24	0	684	0	12	0	0	696
2024-25	0	226	0	0	0	0	226
2025-26	0	0	136	0	0	0	136

Summary

The Harvest Strategy for the Western Zone abalone fishery was developed, consistent with the Victorian Wild Harvest Abalone Management Plan, and based on the approach developed and used for TAC advice from 2009-2015 as the fishery rebuilt following AVG. The Harvest Strategy describes an assessment of Primary Performance Indicators against specific Target and Limit Reference Points, and when above Limit Reference Points, a Workshop process involving consideration of Primary and Secondary Performance Indicators, particularly including commercial diver observations, interpretation and assessment. Guidance on the TAC is provided to the Workshop by estimates of change in Legal biomass for each SMU, and the application of a range of Harvest Fractions.

WADA and VFA have worked together to review and update the fishery's Harvest Strategy and Monitoring program, while maintaining the intent of the Harvest Strategy. Perhaps most importantly, this has included the establishment of a new fishery-independent abalone abundance survey, and an approach to continue to apply the intent of the Harvest Strategy in the interim, while the new abundance survey was developed and implemented, and as adequate new data was collected to guide new rebuilding targets. The new approach to the abundance survey involves the establishment of new fixed survey sites in shallow and more productive abalone populations, and stratification of all established surveys sites to provide better estimates of stocks (i.e. lower variance and bias). While WADA have established new sites with fixed transects, and preliminary data is available from the new fishery-independent abundance survey, it will be several years before more detailed information about changes in the stock are available across the fishery. In the interim, the stock assessment will continue an agreed approach to application of the intent of the existing Harvest Strategy using the latest available fishery-independent abundance survey data, from both the VFA survey in 2020 and new abundance survey sites from 2021-2025, together with the data available from Secondary Indicators in the Harvest Strategy, including fishery-dependent monitoring.

In this assessment, estimates of biomass derived from the 2020 VFA abundance survey, and new preliminary estimates from the new abundance survey sites in 2025, are used as Primary Indicators, including interpretation relative to the Harvest Strategy Target and Limit Reference Points. Estimates of Legal biomass density from the new survey sites in 2025 are also used to calculate total biomass and Harvest Fractions for future catch recommendations consistent with the Harvest Strategy. Fishery-dependent Secondary Indicators from the Harvest Strategy are also used to help interpret change in Legal-biomass from 2020 to 2025, between the different fishery-independent surveys.

The Harvest Strategy Primary Indicator of Mature biomass in 2020 and 2025 was well above the Limit Reference Point across WZ and in each SMU. The Primary Indicator of the number of Prerecruit abalone (80-119 mm) in 2020 was also above the 2018-2020 Limit Reference Point across WZ and in each SMU, except Warrnambool (i.e. noting it was above in Warrnambool in 2018). Maintenance of the stock in WZ above these Reference Points is supported by more recent data from both the new abundance survey in 2025 (i.e. Under-sized plus Legal-sized = Mature biomass), and gradual ongoing increases in standardised catch rate in the commercial fishery and maintenance of landed abalone lengths (i.e. Legal-sized is a large component of Mature biomass).

The Harvest Strategy details breakout rules if Primary Indicators are below Limit Reference Points at the scale of WZ, but both Primary Indicators are considered above Limit Reference Points at this scale.

In addition to the zonal-scale assessment, this report also provides a summary of Primary and Secondary Indicators within each SMU to provide guidance for future TAC and help interpretation, particularly by divers, during the TAC Workshop process. These indicators suggest that stocks of Mature and Under-sized abalone have been well-protected by the increased 130 mm size limit, and the biomass of Under-sized abalone has been increasing strongly (i.e. more than doubled over 10 years), particularly in some but not all areas previously impacted by AVG. These increases are consistent with predictions of timing for recruitment and growth of Under-sized abalone from the CSIRO modelling. The CSIRO report also noted the likely impacts of spatially variable recruitment, and potential for very slow recovery in some areas with heavy depletion from AVG. Despite broad and ongoing recovery across the stock and fishery, with abalone ≥ 130 mm generally being maintained across the fishery, at levels well above that prior to AVG on a 120 mm LML, some reefcode and areas within reefcodes are recovering more slowly (e.g. Lighthouse, deeper reefs). Better approaches to protect and encourage recovery in these less productive areas, together with maintenance of a strong recovery of stocks where fishing is taking place, provide the basis for strong recruitment to continue the rebuilding of abalone stocks and the fishery over the long-term. Together, these observations of change can be summarised in the context of the WZ stock and fishery continuing to recover from the impacts of AVG over the last >10 years, while experiencing shorter-term fluctuations in productivity, particularly from recruitment, environmental influences and fishing. With the impact of such fluctuations, TAC should continue to be set conservatively to encourage ongoing recovery, consistent with the long-term recovery predicted in the CSIRO modelling.

The Harvest Strategy notes the time required to enable recovery of the Mature biomass following AVG, and then allow increased successful reproduction, followed by the growth of newly recruited abalone to be fully visible in an abundance survey (i.e. 100-110 mm), and then to grow further to above the 130 mm size limit to be available to the fishery. CSIRO modelling estimated an increase in the Mature biomass following AVG would increase successful reproduction from about 2011 (i.e. from 19% to 28% R/RO), leading to an increase in recruitment to be visible in the abundance survey from 2017 (i.e. 6-7 years old, 100-110 mm). The growth used in the CSIRO modelling also estimated a further 3-4 years before the 2011 year-class would then reach the fishery at 130 mm. If this timing is correct, with increased recruitment and growth of abalone born after some recovery of the Mature biomass from AVG, then the 2011 year-class would be expected to reach 130 mm and be available to the fishery after 9-11 years, or from 2020-2022. If this increase in average recruitment occurs, the increase Under-size biomass, should translate to increasing recovery of the Legal-sized biomass and fishery in the WZ in the years ahead.

WADA continues to work with Abalone Council Victoria (ACV) and VFA, to develop an approach to using loggers and real-time digital data to assess fishery performance. This approach was highlighted in the 2019 National Abalone Assessment and Management Workshop supported by FRDC, where the benefits of bringing together real-time digital data (e.g. catch reporting, VMS and fishing and habitat maps, abalone measuring, diver observations) to enable more frequent

monitoring and assessment (e.g. monthly by Industry within reference points), including within season management responses by Industry (e.g. adjusting catch planning), and in turn improve annual assessments and management responses. WADA continues to work with ACV and VFA to extend an online, shared-dashboard to enable access to data summary for this approach. For example, a detailed spatial map of recent fishing effort over different times (e.g. 1-2 weeks , months and years) for comparison with the current and past fishing periods, is now available to divers. This is also currently being extended to link related catch and abalone measuring information. The current Harvest Strategy describes ongoing development actions and timeframes, including revision of the Harvest Strategy itself, to ensure the opportunity for improvement in fishery Performance Indicators are incorporated quickly into management of the fishery.

The Harvest Strategy also details an approach to determine the status of the WZ fishery and stock, relevant to the assessment for the Status of Australian Fish Stocks (SAFS). The fishery and stock are determined to be Sustainable when the Mature biomass is above the Limit Reference Point from the Harvest Strategy, and the calculated Harvest Fraction of the Legal biomass is below 15%. The approach described in the Harvest Strategy determines the WZ fishery and stock of blacklip abalone as **Sustainable**.

AVG has impacted stocks of abalone in the Portland SMU, which were all gradually closed to fishing during 2021-22, and no catch was allocated for 2 years. WADA continues to collect about the impacts of AVG, the subsequent recovery of stocks, and a data-based approach to rebuild Portland stocks and the fishery while demonstrating sustainability. Most importantly this includes the resampling of new fishery-independent survey sites at Portland, and the comparison of new logger data, collected while fishing, with historic data. Away from Portland, the WZ stocks and fishery continue to recover from the impacts of AVG over the last >15 years. Expected rates of growth suggest increases Under-sized biomass observed in recent years, should lead to the ongoing recovery of the Mature and Legal biomass, consistent with recent increases in the commercial fishery. Estimates of the Harvest Fraction of current catches generally remain around 10%, which is also consistent with ongoing recovery of the abalone stocks in Western Zone. Despite that, several challenges and improvements remain to encourage further recovery of the stocks and fishery. While some reefcodes are performing well, other reefcodes have declined or remained low even with limited fishing (e.g. Lighthouse, Thunder Point). Increasing stocks and production from these reefcodes, to levels more consistent with reefcodes currently with greater stocks and production (e.g. Craggs, Killarney), will be a key challenge for further recovery of stocks and the fishery. Looking further ahead, ongoing development and coordination of the broader monitoring program, with recalibration of Harvest Strategy rebuilding targets, need to be completed and incorporated into plans for future management of the fishery.

Appendix 1. Map of WZ and its SMU.

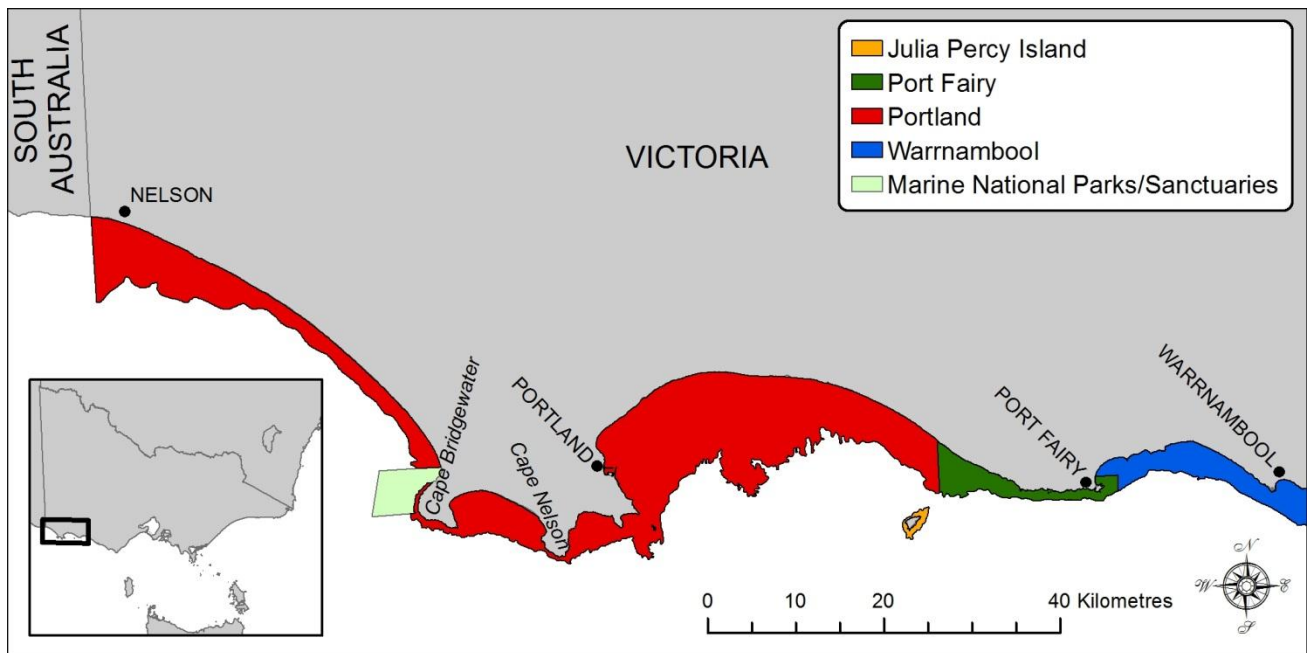


Figure 7. Map of the Western Zone Abalone Fishery, showing Spatial Management Units.

Appendix 2. Reefcode Reports.

Reefcode Reports produced by WADA are referred to here, but are available in a separate document produced immediately prior to the TAC Workshop to include the latest data.