

Greenlip Abalone (2018)

Haliotis laevis



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	Western Australia Area 2 Fishery	AMF	Depleting	Catch, CPUE, length-frequency data, fishery-independent surveys
Western Australia	Western Australia Area 3 Fishery	AMF	Depleting	Catch, CPUE, length-frequency data, fishery-independent surveys
Victoria	Victoria Central Zone Fishery	VCZF	Undefined	Catch
Victoria	Victoria Western Zone Fishery	VWZF	Undefined	Catch
Tasmania	Tasmania Greenlip Abalone Fishery	TGAF	Depleting	CPUE
South Australia	South Australia Central Zone Fishery	SACZF	Sustainable	CPUE, fishery-independent surveys
South Australia	South Australia Southern Zone Fishery	SASZF	Undefined	Catch
South Australia	South Australia	SAWZF	Depleting	CPUE, fishery-independent surveys

	Western Zone Fishery			
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SACZF South Australian Central Zone Fishery (SA), SASZF South Australian Southern Zone Fishery (SA), SAWZF South Australia Western Zone Fishery (SA), TGAF Tasmanian Greenlip Abalone Fishery (TAS), VCZF Victorian Central Zone Fishery (VIC), VWZF Victorian Western Zone Fishery (VIC), AMF Abalone Managed Fishery (WA)

STOCK STRUCTURE

Greenlip Abalone is distributed across southern mainland Australia and northern Tasmania. The biological stock structure of Greenlip Abalone has recently been examined [Mayfield et al. 2014, Miller et al. 2014]. Genetic evidence has confirmed that Greenlip Abalone comprise numerous independent biological stocks, but at a spatially broader scale than the biological stock structure evident for Blacklip Abalone [Mayfield et al. 2014, Miller et al. 2009, Miller et al. 2014]. There are many biological stocks across Western Australia, Tasmania, Victoria and South Australia. Given the large number of biological stocks, it is not practical to assess each separately.

Here, assessment of stock status is presented at the management unit level—Western Australia Area 2 Fishery, Western Australia Area 3 Fishery (Western Australia); Victoria Central Zone Fishery, Victoria Western Zone Fishery (Victoria); Tasmania Greenlip Abalone Fishery (Tasmania); South Australia Central Zone Fishery, South Australia Southern Zone Fishery and South Australia Western Zone Fishery (South Australia).

STOCK STATUS

South Australia Central Zone Fishery

Total Greenlip Abalone catches in the South Australia Central Zone Fishery (SACZF) have been near the total allowable commercial catch (TACC; currently 46 t meat weight) since the introduction of a TACC in 1990. The most recent assessment report for the SACZF was completed in 2018 and reported up to the conclusion of the 2017 season [Burnell et al. 2018]. Determining the stock status for 2017 was challenging because the data show conflicting trends among spatial assessment units (SAUs), further complicated by the small fleet size, diver changeover and the effects of weather conditions on fishing behaviour.

The primary measures for biomass and fishing mortality are commercial catch rate (CPUE), fishery-independent survey estimates of legal-sized density and derived estimates of harvestable biomass. CPUE was stable during the 1990s at a relatively low level (average of 21.0 kg per hour) before rising sharply to 30.0 kg per hour in 2000. Following the highest recorded level of 31 kg per hour in 2001, the zonal catch rate has generally followed a declining trend but has stabilised since 2011. The estimated CPUE of 22.8 kg per hour in 2017 was 10 per cent above the long-term mean CPUE from 1979 to 1998 (20.9 kg per hour [Burnell et al. 2018]). Over the history of the fishery, most of the catch (> 70 per cent) has been harvested from two SAUs: Tiparra Reef and West Yorke Peninsula. The CPUE from Tiparra Reef showed a similar temporal pattern to that for the SACZF, whilst in the West Yorke Peninsula SAU, the CPUE in 2017 was near the highest on record. For the majority of the remaining SAUs in the SACZF, the CPUE declined, with 2017 values being at or near record low levels.

Biennial fishery-independent survey estimates of legal density and derived biomass were available for the Tiparra Reef and West Yorke Peninsula SAUs. At Tiparra Reef, the density of legal sized Greenlip Abalone has increased over the last two surveys following a period of low density between 2011 and 2013. As a result, the harvestable biomass at Tiparra Reef was estimated to have increased from approximately 38 t to approximately 67 t from 2013 to 2017. There was also clear evidence of recent recruitment at Tiparra Reef in the 2017 survey, with the sub-legal sized Greenlip Abalone density increasing from previous surveys. The estimated harvestable biomass increased in the West Yorke Peninsula SAU from 180 t to 223 t between 2015 and 2017. The above evidence indicates that biomass in the SACZF is unlikely to be depleted, that recruitment

is unlikely to be impaired and that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, the South Australia Central Zone Fishery management unit is classified as a **sustainable** stock.

**South
Australia
Southern
Zone
Fishery**

The most recent assessment report for the South Australia Southern Zone Fishery (SASZF) was completed in 2018 and reported up to the conclusion of the 2016–17 season [Ferguson et al. 2018]. The season in this fishery extends from 1 October to 30 September of the following year, and this species is typically harvested as a bycatch even though there is a separate Greenlip Abalone TACC. The maximum catch of Greenlip Abalone in the SASZF was 19 t (whole weight) in 1968–69, but recent Greenlip Abalone catches have generally been small, being < 5 t per season from 2013–14. This reflects the low density and patchy distribution of Greenlip Abalone in the SASZF. The low catches and limited data on Greenlip Abalone in the southern zone prevent assessment of current stock size or fishing pressure. In addition, there is no information on recruitment and there are no defined target or limit reference levels. Consequently, there is insufficient information available to confidently classify the status of this stock.

On the basis of the evidence provided above, the South Australia Southern Zone Fishery management unit is classified as an **undefined** stock.

**South
Australia
Western
Zone
Fishery**

The total commercial catches for Greenlip Abalone have declined by 12 per cent from the stable catches over the decade ending 2009 (which averaged 81 t) and the current TACC is 73 t meat weight. This decline in catches was the combined effect of a TACC reduction and the removal of one licence during the removal of displaced catch/effort as part of the implementation of state marine parks. The total catch was further decreased by voluntary reductions in catch by the commercial sector in 2015 and 2016 [Stobart et al. 2017].

The most recent assessment report for the South Australia Western Zone Fishery (SAWZF) was completed in 2018 and reported up to the conclusion of the 2017 season [Stobart et al. 2018]. The primary measures for biomass and fishing mortality are CPUE and fishery-independent surveys of legal-sized density. The CPUE for Greenlip Abalone in the SAWZF remained relatively stable between 1979 and 1999 and then increased rapidly, reaching a peak of 30 kg per hour in 2006. From 2006, CPUE decreased substantially to 20 kg per hour in 2014, the sixth lowest value on record. The CPUE then increased to 23 kg per hour in 2015, attributed to a combination of changing spatial and temporal fishing patterns and an increase in stock abundance [Stobart and Mayfield 2016]. However, this increase was not sustained, with the CPUE decreasing again between 2015 and 2016 and again between 2016 and 2017 [Stobart et al. 2018]. The CPUE in 2017 was the tenth lowest value on record for the SAWZF [Stobart et al. 2018].

The recent decline in CPUE observed for the SAWFZ was widespread across fishing grounds and resulted in CPUE values that were amongst the lowest on record at the three most important SAUs – Anxious Bay, The Gap and Avoid Bay – from which 26 per cent of the Greenlip Abalone catch was obtained in 2017. Of the remaining SAUs, most had relatively low CPUE values in 2017. These recent declines in CPUE occurred despite a 5 per cent reduction in catch in 2015 and 2016 and the change from fishing primarily in summer, when fish of a given shell length weigh least, to autumn when abalone of an equivalent shell length weigh more [Stobart et al. 2013]. Fishery-independent surveys at Anxious Bay and The Gap also indicated that the density of legal-sized Greenlip Abalone at these two locations was relatively low in 2016, while at Avoid Bay it was

relatively high. With few exceptions, CPUE was lower in 2017 than it was in 2016.

The above evidence indicates that, for the period from 2006–17, the biomass declined and that the current level of fishing mortality is likely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, the South Australia Western Zone Fishery management unit is classified as a **depleting** stock.

**Tasmania
Greenlip
Abalone
Fishery**

The Tasmanian abalone fishery has been quota managed with an annual TACC since 1985. Since 2000, separate TACCs for Greenlip Abalone and Blacklip Abalone have been implemented, with catch limits within the Greenlip Abalone TACC applied to four regions within the Greenlip Abalone zone. Size limits vary with a legal minimum length (LML) of 132 mm, 145 mm or 150 mm depending on growth rates, size at maturity and maximum size of populations in different regions. An annual fishery assessment is conducted using fishery-dependent CPUE data, and until 2014 the TACC was determined by an *ad-hoc* approach using trends in CPUE and industry perceptions on the state of the resource. In the 2012 and 2014 Status of Australian Fish Stocks editions, this fishery was classified as undefined due to the complexities of reporting and apportioning of effort to Greenlip Abalone, and hence understanding CPUE, in this mixed species fishery. The fishery-dependent data time series has since been reviewed and revised and a formal process for assigning effort in mixed species fishing events established [Mundy and McAllister 2018], enabling the development of separate CPUE indices for Greenlip and Blacklip Abalone.

In 2014–15, an empirical harvest strategy (HS) was developed [Mundy and McAllister 2018] and tested by Management Strategy Evaluation (MSE) [Buxton et al. 2015, Haddon et al. 2014, Haddon and Mundy 2016]. This HS was applied in the 2017 annual fishery assessment [Mundy and McAllister 2018]. The HS assesses fishery performance against target reference points for three performance measures (PM) derived from standardised CPUE (SCPUE) data: 1) current CPUE relative to an agreed target (55th percentile of the annual standardised mean CPUE within the reference period); 2) the 4-year gradient of CPUE (target gradient is zero); and 3) the per cent change in SCPUE in the past year (target change is zero). The reference period for the 2017 assessment spans fishery data between 1992 and 2017. A scoring function is applied to the three PMs, resulting in a score between zero and 10, where five is the target score and zero and 10 are the zone-wide lowest and highest values for that PM within the reference period. Weightings are applied to the three PMs 0.65:0.25:0.1 to provide a combined final score used in the Control Rule. The HS is applied individually to each statistical reporting block, and a zone score is obtained from the mean block score weighted by block catch.

The zone target CPUE PM score is used as a proxy for biomass and the zone gradient CPUE PM score is used as a proxy for fishing mortality, *F*. A target CPUE score of one is the limit reference point (LRP) defining the boundary between recruitment overfished and transitional–depleting for all Tasmanian management units. This LRP is typically five per cent above the lowest SCPUE observed within the zone during the reference period. A negative zone gradient score gives evidence that fishing mortality is increasing and the magnitude of the gradient provides some information on the magnitude of *F*. The gradient four PM score ranges from negative five to positive five, where the target reference point is zero and defines the boundary between sustainable and depleting classifications, but also between the classifications of recovering and depleted. The combination of a negative CPUE gradient and near record low CPUE score represents a cautious proxy for the true depleted reference point. No reporting blocks have become depleted under this harvest strategy within the reference period, providing confidence that maintaining stocks above the LRP will prevent stock depletion, as predicted by MSE testing of the HS [Haddon and

Mundy 2016].

The TACC for the Tasmania Greenlip Abalone Fishery has been stable at around 140 t since 2000, with only minor variation in the proportion of the TACC harvested annually from each of the four regions (King Island, North West, North East and Furneaux). Catch-weighted mean standardised CPUE (SCPUE_{ew}) has declined slowly since 2010 [Mundy and McAllister 2018]. In 2017, the zone-wide SCPUE_{ew} was 59.2 kg per hour and roughly unchanged from 2016. The regional SCPUE is close to the target SCPUE in two of the four regions; the Furneaux Group region is above the target and the King Island region is below the target but above the limit. The zone-wide proxy for abundance has declined from 4.2 in 2016 to 3.6 in 2017, although remains above the LRP. The above evidence indicates that biomass is unlikely to be depleted and that recruitment is unlikely to be impaired.

The current North West (excluding Perkins Bay) SCPUE has continued to decline and in 2017 was 48.4 kg per hour and well below the target SCPUE of 73 Kg/Hr. Catch rates in the North West Greenlip Abalone region have been declining rapidly since the 2012 level of 91 Kg/Hr. Mean SCPUE in the Perkins Bay area in 2017 was 75.5 Kg/Hr and below the target SCPUE of 89 Kg/Hr for that area. With an increasing beach price offered for larger Greenlip Abalone, selective fishing for larger animals in Perkins Bay is increasing, resulting in reduced catch rates due to greater handling and search time, potentially distorting SCPUE trends in this region. The King Island SCPUE has been declining for several years, although in 2016 SCPUE remained at 50 Kg/Hr. Changes from a winter to late-summer (when abalone show a lower weight/length relationship) fishing season in recent years, and increased selective fishing (for larger abalone), are thought to have had more influence on the SCPUE trend than changes in biomass [Mundy and McAllister, 2018]. However, until these factors are included in the CPUE standardisation, as a precautionary approach this stock is considered to be declining. The zone-wide proxy for F has improved from -1.2 to 0.5 but remains below the TRP for sustainability. The above evidence indicates that, for the period from 2010–17, the biomass declined and that the current level of fishing mortality is likely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, the Tasmania Greenlip Abalone Fishery management unit is classified as a **depleting** stock.

**Victoria
Central
Zone
Fishery**

Greenlip Abalone comprises a small (1 per cent) component of the total commercial abalone catch in the Victoria Central Zone Fishery management unit. The TACC has remained at 3.4 t since 2009 with catches typically below the TACC. While recent catches are lower than historical catch estimates (which were up to 100 t per year in the 1960s–70s), it is thought that some fishers choose not to take or trade their catch allocation, in part because fishing for Greenlip Abalone in the Victoria Central Zone Fishery management unit is less profitable than fishing for Blacklip Abalone which accounts for most of the total catch. The low current catch and very high LMLs of 145 mm and 150 mm west and east of Point Nepean, respectively, minimise the impact of fishing on the stock and ensure that a large proportion of abalone are protected from fishing for a number of years after they have attained maturity.

The low catches and resulting limited data on Greenlip Abalone in the mixed species Victoria Central Zone Fishery management unit makes CPUE unreliable for this species, and prevents direct (or by proxy) assessment of current stock size or fishing pressure. In addition, there is little information about recruitment, no survey data during the past decade and the Victorian Wild Harvest Abalone Fishery Management Plan [Department of Economic Development, Jobs, Transport and Resources 2014] does not identify a performance indicator or a reference point below which the fishery would be defined as being depleted. Consequently, there is insufficient information available to confidently classify

the status of this stock.

Based on the evidence provided above, the Victoria Central Zone Fishery management unit is classified as an **undefined** stock.

**Victoria
Western
Zone
Fishery**

Greenlip Abalone comprises a small (2 per cent) component of the total commercial abalone catch in the Victoria Western Zone Fishery management unit. The TACC is currently 1.4 t, reflecting a relatively lower level than in past years when Greenlip Abalone TACCs were increased to compensate for the reduction in Blacklip Abalone catches due to the occurrence of abalone viral ganglioneuritis (AVG) and in response to a population survey of Greenlip Abalone on Minerva and Hospital reefs [Prince 2008]. These catches were not sustained, and the TACC was set at zero from 2014 [Victorian Government 2013] until a TACC of 1.4 t was set in 2017. Previous concerns for stock status were based on low catches and declining catch rates [Stewardson et al. 2016]. However, (1) the decline in catch rates from 2008 to 2013 [Gorfine et al. 2018] reflected fishing on a resource that was essentially unfished and catch rate exceeded 40 kg per hour in 2013 when fishing ceased; and (2) the declines in catch are now considered to reflect a return to targeting the recovering Blacklip Abalone stocks and a shift away from targeting Greenlip Abalone because the low beach price and high cost of harvest made fishing for Greenlip Abalone unprofitable [Gorfine et al. 2018].

The current TACC supports the collection of some data on the fishery, but these data are insufficient to support a formal assessment. Fishing for Greenlip Abalone in the Victoria Western Zone Fishery management unit is less profitable than fishing for Blacklip Abalone, which accounts for most of the total catch, limiting the potential for increased catches of Greenlip Abalone under present circumstances. The low current catch and high LML of 135 mm minimise the impact of fishing on the stock and ensure that a large proportion of abalone are protected from fishing for a number of years after they have attained maturity.

The low catches and resulting limited data on Greenlip Abalone in the mixed species Victoria Western Zone Fishery management unit makes CPUE unreliable for this species and prevents direct (or by proxy) assessment of current stock size or fishing pressure. In addition, there is little information about recruitment, no survey data during the past decade and the Victorian Wild Harvest Abalone Fishery Management Plan [Department of Economic Development, Jobs, Transport and Resources 2014] does not identify a performance indicator or a reference point below which the fishery would be defined as depleted. Consequently, there is insufficient information available to confidently classify the status of this stock.

Based on the evidence provided above, the Victoria Western Zone Fishery management unit is classified as an **undefined** stock.

**Western
Australia
Area 2
Fishery**

Catches in the Western Australia Area 2 and Area 3 Abalone Fisheries are controlled by a TACC, set annually in accordance with the harvest control rule defined in the Abalone Resource of Western Australia Harvest Strategy 2016–21 [Department of Fisheries 2017]. The harvest control rule uses a three-year moving average of standardised CPUE (SCPUE) as the key performance indicator (PI) against specified limit, threshold and target reference levels. The threshold is a level at which additional management action should be considered to prevent decline towards the limit. The fishery is defined as depleted if the PI is below the limit reference level, which is set at two-thirds of the lowest annual SCPUE observed (threshold level) in each management area during the specified reference period (1992–2006) of recruitment stability in the commercial fishery [Department of Fisheries 2017].

In the Western Australia Area 2 Fishery (WAA2F), the annual SCPUE for Greenlip Abalone oscillated between the target and threshold reference levels from 1995

to 2013. A declining trend in SCPUE has been observed since 2010–11, resulting in SCPUE being below the threshold for the last four years, but above the limit reference level. Sub-area analysis of raw catch rate, average meat weight per individual and length-frequency distributions from catch sampling are consistent with the recent decline in the SCPUE trend [Hart et al. 2013, Hart et al. 2017]. Fishery-independent surveys in the Cape Arid sub-area (which provides 32 per cent of WAA2F catch) show total and juvenile (40–80 mm) densities have been stable since 2008. There is evidence of a slight decline in recruit (≥ 145 mm) density post 2013 but not outside of historical ranges [Hart et al. 2017]. The fishery has a legal minimum length of 140 mm, which allows 2–5 years of spawning to occur before recruitment to the fishery. Above-average water temperatures since 2011 (extreme marine heatwave in the 2010–11 summer) are thought to have had negative effects on abalone growth or recruitment, but the degree of impact needs to be assessed further. The above evidence indicates that the biomass has declined, but the stock is not yet considered to be depleted. Furthermore, the above evidence indicates that the current level of fishing mortality is likely to cause the stock to become recruitment impaired.

The harvest control rule and reference levels in the Western Australian abalone fisheries were recently reviewed and so the current Harvest Strategy [Department of Fisheries 2017] has only been in operation since the start of 2017. Under this Harvest Strategy, management action was implemented in the WAA2F to bring the TACC in line with the harvest control rule. Application of the harvest control rule resulted in the TACC being set at 60 per cent of long-term, target commercial sustainable harvest level. The reductions in quota under the Harvest Strategy have reduced the fishing mortality, and the effect of these will be monitored annually to determine if the reductions are enough to prevent the stock from becoming depleted.

Based on the evidence provided above, the Western Australia Area 2 Fishery management unit is classified as a **depleting** stock.

**Western
Australia
Area 3
Fishery**

Catches in the Western Australia Area 3 Fishery are managed by the same Harvest Strategy and TACC setting process as described above for the Western Australia Area 2 Abalone Fishery, as defined in the Abalone Resource of Western Australia Harvest Strategy 2016–21 [Department of Fisheries 2017]. The annual SCPUE for Greenlip Abalone in the WAA3F exhibited a declining trend from above the target reference level in 2000 to the threshold in 2005. A steady increase in annual SCPUE then occurred until 2010 but over the last seven years it has steadily declined to a point where, in 2017, it was below the limit reference level. The key Performance Indicator (PI) is the three-year running mean of annual SCPUE and in 2017, this PI was above the limit reference level. Sub-area analysis of raw catch rate, average meat weight per individual and length-frequency distributions from catch sampling, support the decline seen in the SCPUE trend [Hart et al. 2013, Hart et al. 2017].

Fishery-independent surveys in the Augusta sub-area (which provides 53 per cent of WAA3F catch) indicate that the total density of Greenlip Abalone has declined since 2014 and is at the lowest level since the survey's inception in 2004, while the densities of juvenile animals (40–80 mm shell length) over the last four years have been at low levels [Hart et al. 2017]. The fishery has a legal minimum length of 140 mm which allows 2–5 years of spawning to occur before recruitment to the fishery. The effect of above-average water temperatures on the abalone stocks since 2011 (extreme marine heatwave in the 2010–11 summer) may have reduced recruitment and/or growth and needs to be assessed further. The above evidence indicates that the biomass has declined, but the stock is not yet considered to be depleted. Furthermore, the above evidence indicates that the current level of fishing mortality is likely to cause the stock to become recruitment impaired.

The harvest control rule and reference levels in the Western Australian abalone fisheries were recently reviewed and so the current Harvest Strategy

[Department of Fisheries 2017] has only been in operation since the start of 2017. Under this Harvest Strategy, management action was implemented in the WAA3F to bring the TACC in line with the harvest control rule. Application of the harvest control rule resulted in the TACC being set at 70 per cent of long-term, target commercial sustainable harvest level. The reductions in quota under the Harvest Strategy have reduced the fishing mortality, and the effect of these will be monitored annually to determine if the reductions are enough to prevent the stock from becoming depleted.

Based on the evidence provided above, the Western Australia Area 3 Fishery management unit is classified as a **depleting** stock.

BIOLOGY

Greenlip Abalone biology [Burnell et al. 2016, Haddon and Mundy 2016]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Greenlip Abalone	20 years, 200 mm SL	3–5 years, 70-120 mm SL

DISTRIBUTION



Distribution of reported commercial catch of Greenlip Abalone

TABLES

Commercial Catch Methods	South Australia	Tasmania	Victoria	Western Australia
Diving	✓	✓	✓	✓

Fishing methods	South Australia	Tasmania	Victoria	Western Australia
Commercial				
Diving	✓	✓	✓	✓

Indigenous				
Diving	✓	✓	✓	✓
Recreational				
Diving	✓	✓	✓	✓
Management Methods				
	South Australia	Tasmania	Victoria	Western Australia
Charter				
Bag limits			✓	
Gear restrictions			✓	
Licence			✓	
Size limit			✓	
Spatial closures			✓	
Temporal closures			✓	
Commercial				
Effort limits			✓	
Gear restrictions			✓	
Limited entry	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial closures			✓	
Total allowable catch	✓	✓	✓	✓
Indigenous				
Bag limits	✓	✓		✓
Size limit	✓	✓		✓
Recreational				
Bag limits	✓	✓	✓	✓
Gear restrictions			✓	
Licence			✓	✓
Size limit	✓	✓	✓	✓
Spatial closures			✓	
Temporal closures			✓	
Active Vessels				
	South Australia	Victoria	Western Australia	
	6 Licences in SASZF. 22	34 Licence Holders in	19 in AMF,	

	Licences in SAWZF,	VCZF, 23 Licence Holders in VEZF, 14 Licence Holders in VWZF,	
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SASZF South Australian Southern Zone Fishery(SA)

SAWZF South Australia Western Zone Fishery(SA)

VCZF Victorian Central Zone Fishery(VIC)

VEZF Victorian Eastern Zone Fishery(VIC)

VWZF Victorian Western Zone Fishery(VIC)

AMF Abalone Managed Fishery(WA)

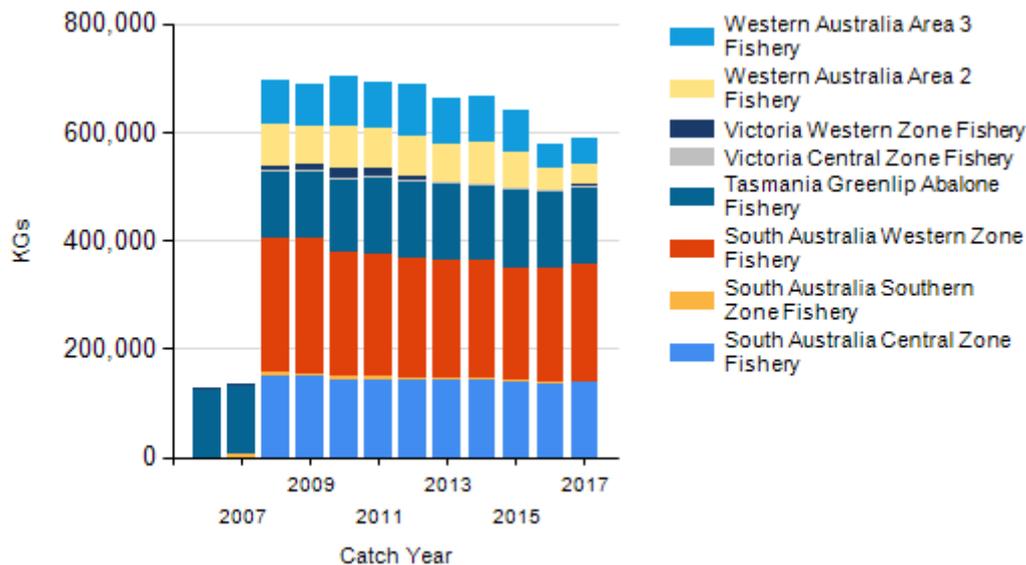
Catch	South Australia	Tasmania	Victoria	Western Australia
Commercial	138.172t in SACZF, 217.901t in SAWZF,	141.282t in TGAF,	4.22343t in VCZF, 0.95258t in VWZF,	86.3168t in AMF,
Indigenous	Unknown	Unknown	Unknown	Unknown
Recreational	Unknown	2.2 t	Unknown	8 t

SACZF South Australian Central Zone Fishery (SA), SASZF South Australian Southern Zone Fishery (SA), SAWZF South Australia Western Zone Fishery (SA), TGAF Tasmanian Greenlip Abalone Fishery (TAS), VCZF Victorian Central Zone Fishery (VIC), VWZF Victorian Western Zone Fishery (VIC), AMF Abalone Managed Fishery (WA),

Victoria – Indigenous (Management Methods) In Victoria, regulations for managing recreational fishing may not apply to fishing activities by Indigenous people. Victorian traditional owners may have rights under the Commonwealth's *Native Title Act 1993* to hunt, fish, gather and conduct other cultural activities for their personal, domestic or non-commercial communal needs, without the need to obtain a licence. Traditional Owners that have agreements under the *Traditional Owner Settlement Act 2010* (Vic) may also be authorised to fish without the requirement to hold a recreational fishing licence. Outside of these arrangements, Indigenous Victorians can apply for permits under the *Fisheries Act 1995* (Vic) that authorise customary fishing (for example, different catch and size limits or equipment).

Commonwealth – Indigenous (Management Methods) Subject to the defence that applies under Section 211 of the *Native Title Act 1993* (Cth), and the exemption from a requirement to hold a recreational fishing licence, the non-commercial take by Indigenous fishers is covered by the same arrangements as that for recreational fishing.

CATCH CHART



Commercial catch of Greenlip Abalone - note confidential catch not shown.

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

ENVIRONMENTAL EFFECTS on Greenlip Abalone

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