

ANNUAL QUOTA REPORT
for the
COMMERCIAL HARVEST OF
BRUSHTAIL POSSUM

Trichosurus vulpecula
in
Tasmania

1 July 2017 to 30 June 2018

Wildlife Management Branch

June 2017

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1.

1. Introduction

The commercial harvest and export of brushtail possum products in Tasmania is managed by a Commonwealth-approved trade management plan. This Quota Report sets the quota for the third year of the *Trade Management Plan for the Export of Brushtail Possum in Tasmania* (the plan) that covers the period 1 July 2015 to 30 June 2020.

Section 7.4.1 of the plan requires an annual quota to be determined for the maximum number of brushtail possums (*Trichosurus vulpecula*) that may be commercially harvested from each management region in Tasmania during the quota year. The quota year extends from 1 July to 30 June of the following year.

The quota for each management region is based on the trigger point density indices specified in section 7.4.1 of the plan and determined by the results of annual population monitoring. The trigger points and corresponding commercial harvest quotas determined for the quota period are described in Section 2 of this document. Quotas and management responses provide a safeguard against over-harvesting of the population and are set at levels unlikely to lead to a long-term decline of the species that would threaten its survival in any region of Tasmania. Appropriate management controls will be implemented in response to any change in brushtail possum numbers identified by annual population monitoring.

The non-commercial take of brushtail possums, including that from 1080 poisoning, is not considered a management control under the plan. However, as the non-commercial take currently accounts for more than 80% of the total brushtail possum take in Tasmania, it is taken into account when determining commercial quotas.

Information critical to determining the annual quota for each region in Tasmania is provided in this report and includes the following:

- The results of population monitoring;
- The density estimates for the year; and
- The size of the allocated commercial quota for brushtail possums, set in accordance with section 7.4 of the plan.

2 Commercial Quotas: Trigger Points and Management Responses

Trigger point density indices for the brushtail possum in Tasmania have been determined in the plan. Trigger points for initiating management changes in each region are given in Tables 1(a)-1(d). The commercial quotas are based on the estimated minimum total take (crop protection and commercial) and mean 3-year exponentially weighted moving average density (see Section 7.4.1) from the last 10 years in each management region. In developing these trigger points, conservative quotas have been determined based on the average of the three lowest annual total harvests. This quota has been allocated to the commercial sector at the 10-year mean density level (to the nearest 5/km²) in each region and a sliding linear scale determined from this point.

2.1 Additional Management Responses

Management aims to maintain possum densities at between 10 and 20/km². The plan provides for additional management responses to ensure the sustainability of the harvest.

At densities of 20/km² or below, commercial permits in that region may be restricted to properties holding crop-protection permits. Should the density level in a management region fall below 10 possums/km², the WMB will conduct property inspections for all properties in that region on which commercial hunters wish to take brushtail possum. These inspections will determine whether that property has a legitimate crop protection need before a commercial permit to take possums on that property will be granted. The Commonwealth Department of the Environment will be notified should commercial hunting permits be issued within a region that has a possum density below 10/km².

Where the density is above the levels at which crop damage is unacceptable in a management region (>20/km²), the intention is to drive possum populations down¹. Where the density is below that desired (<10/km²), the intention is to allow populations to recover. Where the density is at a sustainable long-term level (10-20/km²), the intention is to maintain populations in the prescribed range.

It should be noted that these trigger points assume that the annual crop protection take for specific possum population densities will be consistent with previous levels. Crop protection take is not managed under this plan and is based on the crop-protection needs of the landholder. There is therefore a possibility, however unlikely, that future crop protection take may exceed previous levels. This would not however influence the setting of a commercial quota unless density levels observed during annual spotlight surveys indicated an associated unacceptable level of decline in possum density.

The annual commercial quotas outlined in Tables 1(a)-(d) will be implemented when population density indices fall within the corresponding trigger point range.

¹ The intention to drive possum populations down applies to situations where there is a need for crop protection from high possum densities. Where populations are at densities greater than 20/km² but are having no impact on primary production there is no intention and likely to be no need to decrease possum numbers.

Tables 1a, b, c & d: Commercial quotas to be allocated to each management region based on specific possum densities[#].

Densities listed refer to the 3-year exponentially weighted moving average density. Shaded rows show the likely annual quotas for each region based on long-term average densities.

a. Central Region	
10-year average density = 64.3/km ²	
c. North East Region	
10-year average density = 28.8/km ²	
Average 3-yrs lowest take = 76,040	
Density (possums/km ²)	Commercial quota
95	56,075
90	59,467
>100	75,462
85	240,789
80	428,576
75	42,055
85	215,443
80	39,251
80	202,770
75	390,007
70	377,274
65	30,839
65	184,751
60	28,035
60	152,078
55	239,205
50	22,437
50	176,732
45	19,623
45	174,059
40	16,819
40	101,386
35	88,713
30	11,511
30	76,040
25	85,827
25	63,367
<10*	Up to 25,603
20	50,634
15*	38,021
<10*	0
<10*	Up to 25,348
b. South East Region	
10-year average density = 39.2/km ²	
d. North West Region	
10-year average density = 22.4/km ²	
Average 3-yrs lowest take = 10,231	
Density (possums/km ²)	Commercial quota
95	121,003
90	108,903
>100	40,971
85	182,853
80	38,873
80	38,893
75	30,753
85	34,783
80	84,793
80	32,737
75	38,897
70	22,003
70	28,893
65	66,553
65	26,599
60	60,503
60	24,553
55	31,807
50	48,403
50	30,487
45	42,353
45	18,415
40	38,389
40	18,369
35	29,333
35	29,333
30	21,277
25	16,155
25	10,231
20*	8,185
15*	6,139
>100	121,003
<10*	Up to 4,093
5	0
0	0

3 Current Population Trends and Quotas

As required by the plan, regional brushtail possum population trends were monitored through the annual program of statewide spotlight surveys. Referred to as the 2016 surveys, the most recent set of surveys were undertaken during the period November 2016 to March 2017.

Monitoring of trends in regional brushtail possum populations is undertaken through a system of standardised spotlight survey counts performed annually on mainland Tasmania. The standardised surveys are carried out in accordance with the method set out in the Tasmanian Spotlight Survey Manual (Hocking & Driessen 1992) and analysed in accordance with the methods described in section 7.6 of the plan. The results of these surveys provide the basis for determining the regional commercial quotas set in the document. Normally quotas are set annually in June based on data from the previous surveys. Analysis of the current population trend for each region (with the exception of South West Region, due to the absence of commercial activity in this region) is provided below.

As stipulated in the plan, commercial quotas are to be determined annually for the maximum number of brushtail possums that may be commercially harvested in each region during the quota period. These quotas are based on the sliding scale provided for each management region (see Tables 1(a)-(d)). In this quota report the quota is being determined for the period 1 July 2017 to 30 June 2018.

The commercial quotas for the four management regions are based on the 3-year

[#] Tabled quotas show a sliding density scale in 5/km² increments as a simple guide. Actual quotas are set using the exact density estimate.

* Commercial take may be restricted to properties covered by existing crop protection permits.

exponentially weighted moving average (EWMA) density for each region and the predetermined sliding scale of quotas for each region as stipulated in the plan (Tables 1(a)-(d)). The quotas determined by that process, for each region, are described below and summarised in Table 2.

Table 2. Regional commercial harvest quotas for brushtail possum for the period 1 July 2017 – 30 June 2018 based on mean 3-year EWMA density.

Region	Quota for July 2015- June '16	Quota for July 2017-June '18
Central	26 633	29 101
South East	36 303	26 502
North East	69 704	61 086
North West	10 722	10 313
Total	143 362	127 002

3.1 Central Region

In the spotlight surveys undertaken in the Central Region in 2016-17, the observed density of brushtail possums increased from 37.1/km² to 56.3/km², while the three-year Exponentially Weighted Moving Average (EWMA) increased from 47.5/km² to 51.9/km². The three-year EWMA remains considerably higher than the trigger point (density = 20/km² or below) that initiates consideration of additional management controls (section 2.1).

Reference to Table 1(a) indicates the appropriate quota for this region at this density is **29 101** possums for the quota year 2016-17.

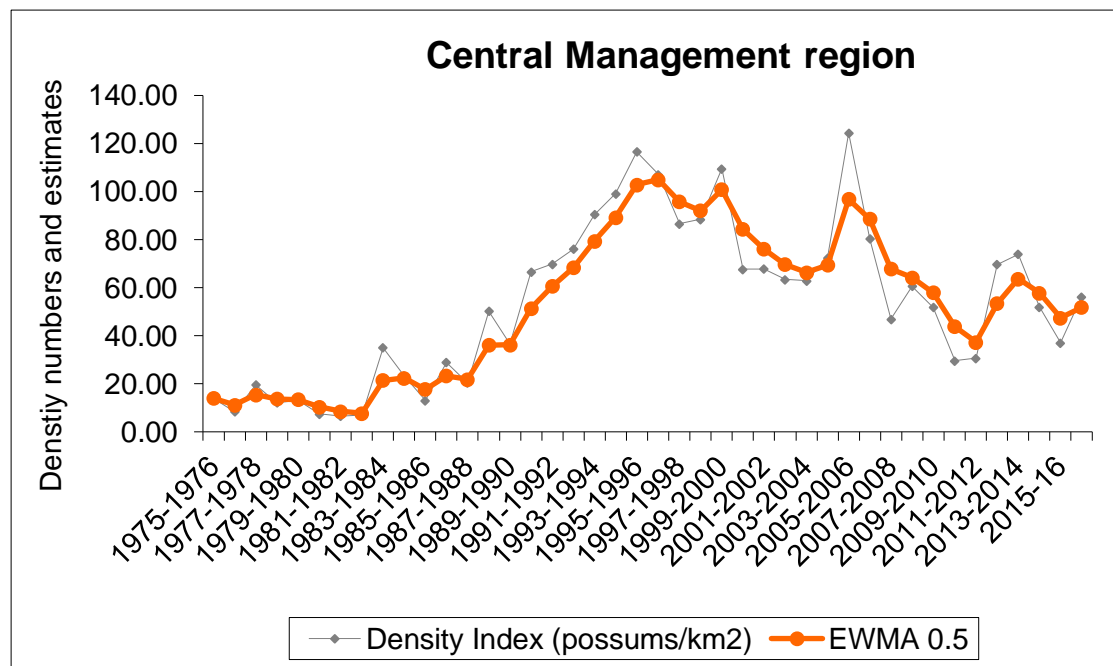


Figure 1 Central Region historical and current Density Index and three-year density trend

3.2 South East Region

In the South East Region the observed density of brushtail possums in 2016-17, decreased from 31.1/km² to 13.7/km², and the three-year Exponentially Weighted Moving Average (EWMA) decreased from 30.0/km² to 21.9/km². The EWMA remains above the trigger point (density = 20/km² or below) that initiates consideration of additional management controls (section 2.1).

Reference to Table 1(b) indicates the appropriate quota for this region at this density is **26 502** possums for the quota year 2017-18.

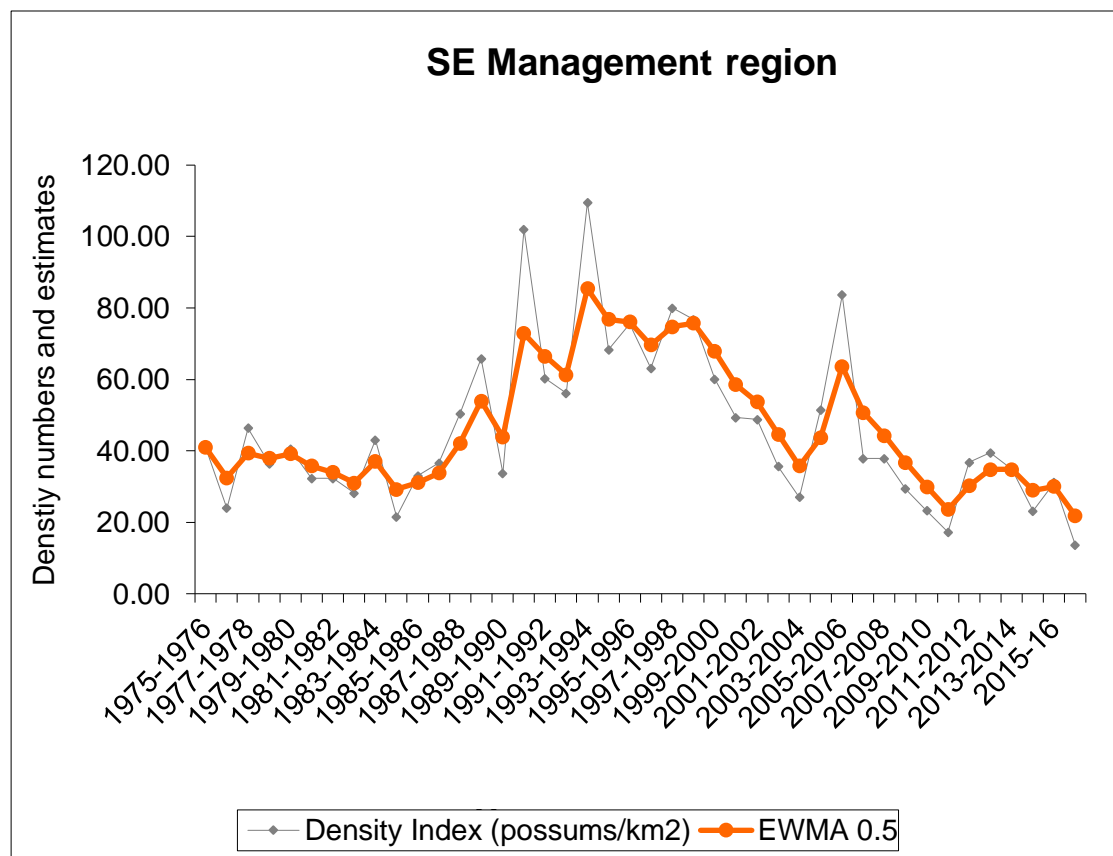


Figure 2 South East Region historical and current Density Index and three-year density trend

3.3 North East Region

In the North East Region the observed density of brushtail possums in 2016-17, has declined from 27.8/km² to 20.7/km². The three-year Exponentially Weighted Moving Average (EWMA) also decreased from 27.5/km² to 24.1/km² (see Figure 3) and remains above the trigger point (density = 20/km² or below) that initiates consideration of additional management controls (section 2.1).

Reference to Table 1(c) indicates the appropriate quota for this region at this density is **61 086** possums for the quota year 2017-18.

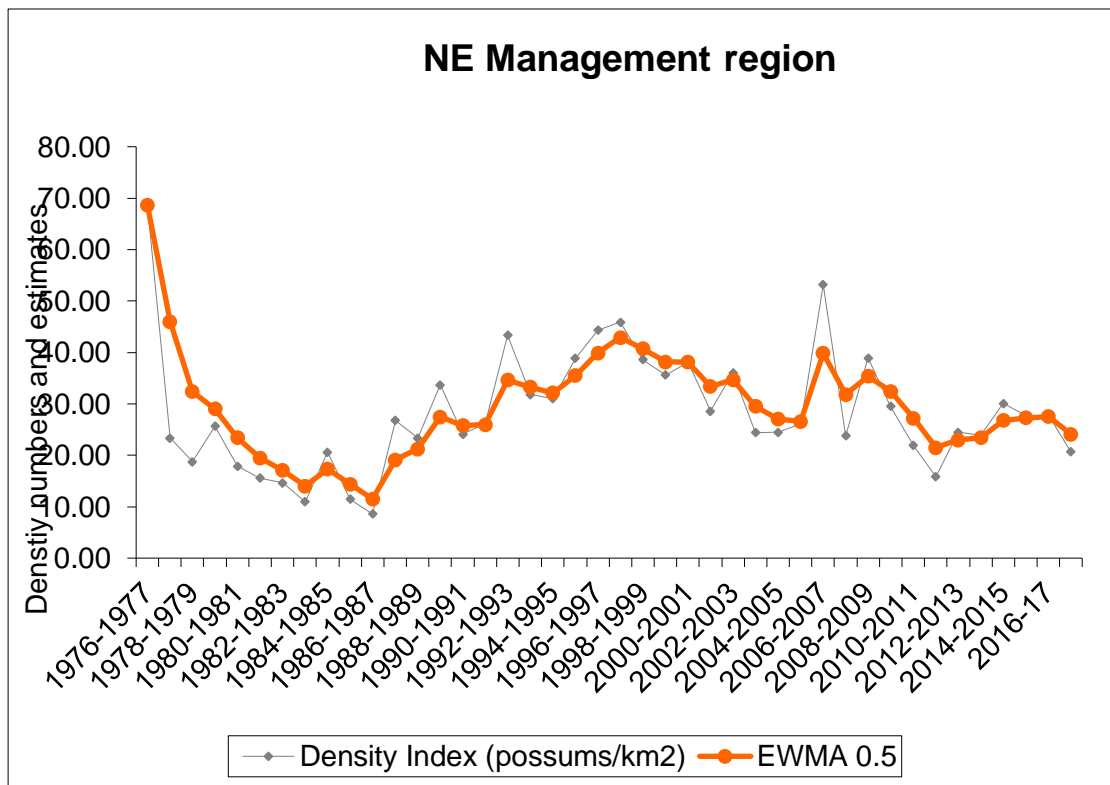


Figure 3 North East Region historical and current Density Index and three-year density trend

3.4 North West Region

In the North West Region the observed density of brushtail possums in 2016-17, decreased from 33.3/km² to 24.3/km², and the three-year Exponentially Weighted Moving Average (EWMA) also decreased from 26.2/km² to 25.2/km² (see Figure 4). The EWMA remains above the trigger point (density = 20/km² or below) that initiates consideration of additional management controls (section 2.1).

Reference to Table I(d) indicates the appropriate quota for this region at this density is **10 313** possums for the quota year 2017-18.

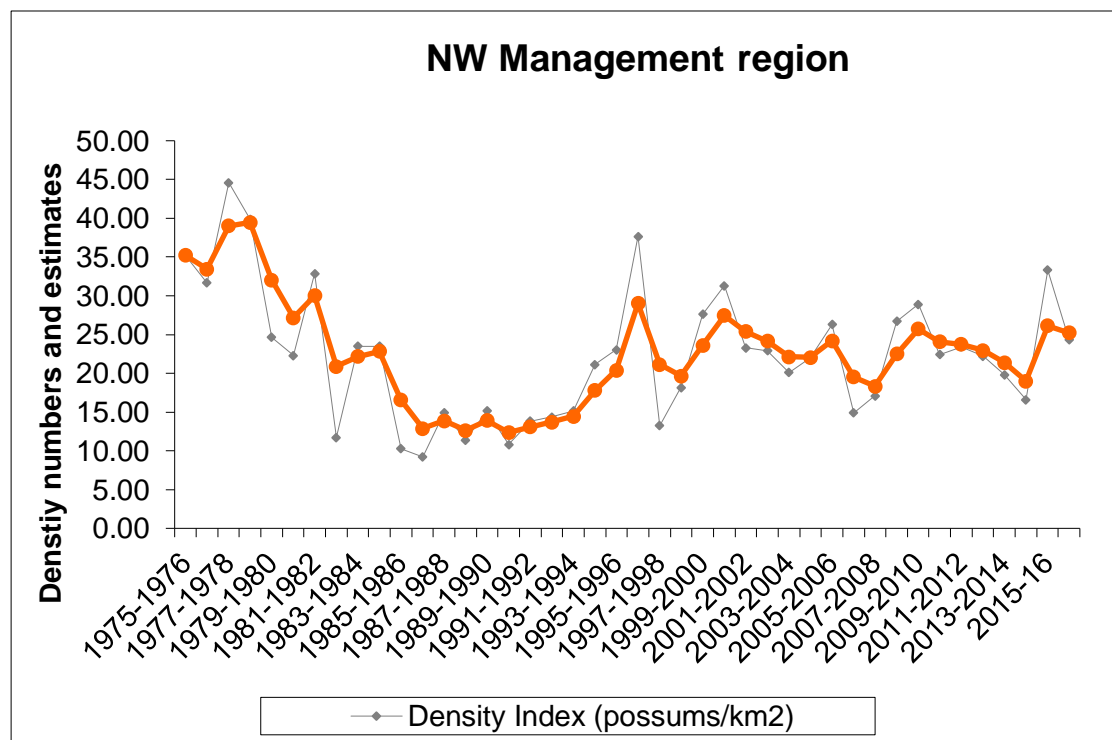


Figure 4 North West Region historical and current Density Index and three-year density trend