

Management Plan for the Commercial Harvest and Export of Brush-tail Possums in Tasmania

ANNUAL REPORT 2012-2013

October 2013

Background

The Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) is responsible for the sustainable management and protection of the State's natural and cultural assets for the benefit of Tasmanian communities and the economy. This includes the management of wildlife populations under the *Nature Conservation Act 2002* and its associated Regulations.

Common brushtail possums (*Trichosurus vulpecula*) are taken in the wild in Tasmania for commercial purposes in areas where they are causing damage to crops. The commercial industry produces a variety of products, however these can only be exported overseas if the possums are taken under the conditions of a management plan approved under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Accordingly, a management plan has been developed by the Wildlife Management Branch (WMB) of the DPIPWE for the commercial harvest of the Tasmanian population of the common brushtail possum. The *Management Plan for the Commercial Harvest and Export of Brushtail Possums in Tasmania, 2010-2015* (the plan) outlines the management regime that applies to Brushtail Possums in Tasmania and has been written to meet the requirements of the EPBC Act for the purpose of commercial export.

One of the requirements of the plan is annual reporting of activity under the plan by the DPIPWE to the DSEWPC. This document fulfills that requirement.

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Introduction

The Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) is responsible for conservation and protection of the Tasmania's natural and cultural heritage for the benefit of the Tasmanian community. The management of wildlife is provided for by the *Nature Conservation Act 2002* and its associated Regulations.

Common brushtail possums (*Trichosurus vulpecula*) are taken in the wild in Tasmania for commercial purposes in areas where they are causing damage to crops. The commercial industry produces a variety of products, however these can be exported overseas only if the possums are taken under the conditions of a management plan approved under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Accordingly, a management plan was developed by the Wildlife Management Branch (WMB) of DPIPWE for the commercial harvest of the Tasmanian population of the common brushtail possum. The management plan outlines a management regime that satisfies the requirements of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) for the purposes of export.

The *Management Plan for the Commercial Harvest and Export of Brushtail Possums in Tasmania 2010-2015*, (the plan), relates to the commercial harvesting of brushtail possums that occurs under Commercial Brushtail Possum permits. The non-commercial culling of brushtail possums for crop protection is not managed under the plan however the number of possums taken non-commercially is taken into account in the management of the commercial harvest. The aim of the plan is to manage brushtail possum populations on a regional basis to ensure their conservation across their existing geographical range.

The plan requires an annual report to be provided to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) four months after the conclusion of the previous Quota Year. The plan specifies that the annual report is to provide statistics on take and details management actions undertaken during that previous Quota Year, including:

1. Details on the number of staff and the proportion of their time spent on compliance activities;
2. Instances of non-compliance with the requirements of the management plan;
3. Penalties imposed for non-compliance;
4. An update of operation against specified performance measures;
5. Final statistics on numbers of brushtail possums taken in the non-commercial harvest;
6. Final statistics on the amount of 1080 used and number of brushtail possum carcasses recovered following any poison operations;
7. Final statistics on numbers of brushtail possums harvested within the allocated commercial quota; and
8. Final statistics on the export of brushtail possum products.

This report fulfils this requirement and is presented as the Annual Report for the 2012-2013 Quota Year.

Required Information

The following sections list the various matters to be addressed and provide an update on each matter. Each heading relates to one of the points listed above, while the update on specified performance measures referred to at point 4 above is provided as Attachment A.

1. Details on the number of staff and the proportion of their time spent on compliance activities

This trade management plan was approved in October 2010 and only limited market development has occurred subsequent to that. Consequently, there continues to be a low level of activity under this plan in this reporting period.

Nevertheless, general wildlife compliance activities have been undertaken by Wildlife Enforcement Officers, across those parts of Tasmania where possums are harvested, at levels equal to that of previous years. In total, three fulltime Wildlife Rangers, two part time Wildlife Rangers are involved in regular wildlife compliance work, including for brushtail possum, across Tasmania. Enforcement and compliance activities are undertaken on an intelligence driven basis.

Only one (1) wild game meat processing plant was registered by the Australian Quarantine Inspection Service (AQIS) during 2012-2013. This was audited according to normal export Tier 1 accreditation requirements by AQIS; this included three (3) half-day audits in the reporting period.

2. Instances of non-compliance with the requirements of the management plan

There have been no instances identified of non-compliance with the requirements of this management plan.

3. Penalties imposed for non-compliance

There have been no convictions for non-compliance with the requirements of this management plan.

4. Final statistics on numbers of brushtail possums taken in the non-commercial harvest

Statistics on the number of brushtail possums taken in the non-commercial harvest are based on crop protection permit returns provided by permit holders to the DPIPW upon expiry of the permit. At the time of analysis, a significant proportion of crop protection permits issued during 2012/13 remain current and are therefore not due to be returned. In addition, landholders who may initially neglect to provide a return upon expiry of the permit are required to do so when they next request a permit, resulting in a lag effect. Because the return rate is less than 100% at the time of reporting an estimate of total take is calculated based on the average take per permit and included in the statistics provided below. Previous experience indicates that the estimated take will increase as more permits are returned.

To provide historical context to the take reported for this year, comparable figures are provided for the previous nine years. Table 1 provides the state-wide statistics, while Tables 2 to 5 provide estimates of the non-commercial take for each of the four quota regions.

Table 1: State-wide estimates of the number of brushtail possums taken by non-commercial shooting under crop protection (CPN) permit in Tasmania.

Year	Number of property permits	Reported take	Total estimated CPN take	% returns
2003-04	1529	136196	206386	66.0%
2004-05	1573	174662	262410	66.6%
2005-06	1572	216880	294927	73.5%
2006-07	1689	285653	338812	84.3%
2007-08	1974	296033	368920	80.2%
2008-09	1675	246956	299747	82.4%
2009-10	1584	171451	204041	84.0%
2010-11	1696	159808	209455	76.3%
2011-12	1824	145451	195795	74.3%
2012-13*	1669	28844	105341	27.4%

*Preliminary results as at end August 2013

Table 2: Estimates of number of brushtail possum taken by non-commercial shooting under crop protection (CPN) permit in Central Region.

Year	Number of property permits	Reported take	Total estimated CPN take	% returns
2003-04	198	41257	55951	73.7%
2004-05	168	33897	47064	72.0%
2005-06	179	39164	54344	72.1%
2006-07	189	49930	58252	85.7%
2007-08	221	49396	56271	87.8%
2008-09	195	31538	35344	89.2%
2009-10	212	31754	35808	88.7%
2010-11	222	38599	51933	74.3%
2011-12	204	34898	45930	76.0%
2012-13*	168	5288	22779	23.2%

*Preliminary results as at end August 2013

Table 3: Estimates of number of brushtail possum taken by non-commercial shooting under crop protection (CPN) permit in South East Region.

Year	Number of property permits	Reported take	Total estimated CPN take	% returns
2003-04	560	52871	67444	78.4%
2004-05	593	66881	82798	80.8%
2005-06	607	81401	100838	80.7%
2006-07	617	97299	115227	84.4%
2007-08	657	111498	130578	85.4%
2008-09	603	67935	79698	85.2%
2009-10	550	58866	67451	87.3%
2010-11	590	41059	49743	82.5%
2011-12	617	33337	41470	80.4%
2012-13*	533	10838	32822	33.0%

*Preliminary results as at end August 2013

Table 4: Estimates of number of brushtail possum taken by non-commercial shooting under crop protection (CPN) permit in North East Region.

Year	Number of property permits	Reported take	Total estimated CPN take	% returns
2003-04	534	37107	67170	55.2%
2004-05	518	63565	113540	56.0%
2005-06	499	85250	119494	71.3%
2006-07	561	120822	140625	85.9%
2007-08	614	113893	140141	81.3%
2008-09	584	131944	161204	81.8%
2009-10	575	65850	79713	82.6%
2010-11	614	71468	94776	75.4%
2011-12	654	70658	94500	74.8%
2012-13*	665	10160	41965	24.2%

*Preliminary results as at end August 2013

Table 5: Estimates of number of brushtail possum taken by non-commercial shooting under crop protection (CPN) permit in North West Region.

Year	Number of property permits	Reported take	Total estimated CPN take	% returns
2003-04	237	4961	9114	54.4%
2004-05	252	9569	16982	56.3%
2005-06	260	7546	11609	65.0%
2006-07	303	17302	20886	82.8%
2007-08	326	19168	23760	80.7%
2008-09	270	15085	19868	75.9%
2009-10	233	14808	18650	79.4%
2010-11	265	8336	12696	65.7%
2011-12	311	6252	9393	66.6%
2012-13*	292	2547	9297	27.4%

*Preliminary results as at end August 2013

5. Final statistics on the amount of 1080 used and number of brushtail possum carcasses recovered following any poison operations

The number of properties on which 1080 was used increased in the quota year, from 14 properties in 2011/12 to 31 in 2012/13. The amount of 1080 used increased from 0.42 kg to 1.21 kg (see Table 6). Both figures remain well below those seen prior to 2006-07.

Due to the mobility of wildlife following consumption of 1080 and prior to death, and the resulting difficulty in locating the carcasses of poisoned animals, the number of carcasses collected following the use of 1080 poison gives little indication of the number killed. Instead, figures on 1080 usage is provided below, as a more reliable indicator of trends in the potential impact on the population than is the number of carcasses collected.

Table 6: Annual Usage of 1080 Poison in Tasmania

Year	Number of property permits issued	1080 usage (kg)
2002-03	682	10.4
2003-04	436	6.1
2004-05	426	8.1
2005-06	287	5.0
2006-07	52	1.4
2007-08	49	0.7
2008-09	73	1.0
2009-10	46	0.7
2010-11	26	0.93
2011-12	14	0.42
2012-13	31	1.21

6. Final statistics on numbers of brushtail possums harvested within the allocated commercial quota

In this reporting period it has been identified that not all commercial shooters are complying with their permit requirement to provide regular harvest returns to the Department, consequently the harvest figures based on shooter returns (Table 7) do not correspond to the total commercial harvest as indicated by export numbers (Table 9). DPIPW is currently addressing this matter to ensure it is rectified as soon as possible.

Since the plan was approved in 2010 the export market has yet to be substantially developed, consequently, the commercial harvest has been considerably below the available quota in each of the years the plan has been in place. For the quota year 2012-13, quota utilisation ranged from 0.5% to 23.6% across the four management regions (see Table 7), with the state-wide total harvest being 8.4% of the total quota.

Table 7: Total number of brushtail possums harvested in each quota region under the commercial quota*

Quota Region	Male (or sex unknown)	Female	% Females are of harvest*	Total Harvest (Region's quota)	% of Available Quota Harvested
South East	64	44	40.7	108 (19 935)	0.5
Central	834	830	50	1664 (7 063)	23.6
North East	1538	1603	51	3141 (26 286)	11.9
North West	19	30	61.2	49 (5 845)	0.8
Tasmania (total)	2455	2507	50.5	4962 (59 138)	8.4

*based on commercial shooter returns

In May 2013 DSEWPaC requested that information be included in the Annual Report regarding the percentage of the harvest that comprised female animals. This is provided in Table 8. Note there has been a change in the method of data recording in 2012-13 that has resulted in an apparent increase in the proportion of females in the harvest; this is an artifact of a change in reporting method: Prior to 2012-13, when hunter returns did not record the sex of harvested animals, these 'unknowns' were recorded as "males and unknowns" effectively inflating the number of males; this has now changed so that all the 'unknowns' are divided between male and female on a proportional basis so as to reflect the proportions of the known harvest. Consequently there has been a rise in the percentage of animals taken that are *recorded* as females. There is no reason to indicate that there has been an *actual* increase in the proportion of females in the harvest.

Table 8: Percentage of the brushtail possum harvest that is female

Quota Region	% Females are of harvest*		
	2011-12	2011-12	2012-13*
South East	52	43	40.7
Central	29	25	50
North East	5	53	51
North West	-	29	61.2
Tasmania (total)	23	29	50.5

Final statistics on the export of brushtail possum products.

Table 9 highlights that, while the amount of possum fur and number of possum carcasses exported increased from the previous year, export activity is still well below the available quota.

Table 9: Total number of brushtail possums exported as either meat or fur

Year	Possoms Exported as Fur*	Possoms Exported as Meat
2010-11	491	0
2011-12	670	536
2012-13	9 180	0

*Note that fur and skins can be stockpiled from year to year consequently the number of possums exported as fur in a given year may differ significantly from the number of possums harvested for that year.

Attachment A: An update of operation against specified performance measures

The following table details the actions undertaken in relation to each of the Performance Measures specified in the plan.

Section	Performance measures	Response
5. Conservation of brushtail possums in Tasmania	<ul style="list-style-type: none"> • Brushtail possums are not elevated to a higher conservation status due to factors attributed to the commercial harvest; • Management is modified should the conservation status or distribution of brushtail possums in Tasmania change through factors not attributable to the commercial harvest; • The system of reserves in Tasmania where brushtail possums cannot be harvested continues to be identified and managed as an important refuge for this commercially harvested species. 	<ul style="list-style-type: none"> • Commercial harvesting of brushtail possums in the reporting period had no detectable impact on the conservation status of the species; the commercial harvest is consistently less than 5 % of the total estimated harvest (i.e. commercial + crop protection harvest). • No modifications required. • The proportion of Tasmanian land reserved and not subject to possum harvesting remains stable (as at 30th June 2013 it was 45.4% of the state).
6. Non commercial culling of possums	<ul style="list-style-type: none"> • Records are entered into a database system in a timely manner and analysed quarterly; and • At least 70% of take returns from expired crop protection permits are entered within four months of the end of the financial year. If the percentage drops below 70% then additional steps will be undertaken to correct the situation. 	<ul style="list-style-type: none"> • Records of 1080 use were entered and analysed monthly. • As at end September 2013 the following percentages of permits had been returned and the reported take entered. Most permits not returned were still current and therefore not required to be returned. All returns are entered within one week of receipt.

		<p>Central – 23.2%</p> <p>North east – 24.2%</p> <p>North west – 27.4%</p> <p>South east – 33.0%</p> <ul style="list-style-type: none"> •Less than 70% of returns are typically received by the end of the annual reporting period. However, over 70% of returns are received for all regions by the subsequent year (except NW this year). The lag partly reflects that some permits are current across financial years and reporting periods. The lower returns rate in this report may partly reflect that the annual report has been completed a little earlier than usual due to staffing constraints. •Obtaining more rapid take return rates has been an ongoing issue for DPIPW. New permits are generally not issued until outstanding returns are provided. •The permit database is currently being redeveloped to enable more timely returns to be obtained.
7. Management strategies	<ul style="list-style-type: none"> •The extent of hunter compliance with brushtail possum harvesting and licensing requirements is measured at or near 100%. 	<ul style="list-style-type: none"> •Routine wildlife compliance activities were maintained across the possum harvest region. No instances of any landowner or hunter failing to comply with harvesting and licensing requirements were detected, with the exception of harvest returns not being provided by all operators. This matter is currently being addressed by DPIPW.
7.2 Control of the trade in	<ul style="list-style-type: none"> •At least two periodic inspections, to ensure compliance, of each licensed 	<ul style="list-style-type: none"> •Audits have been undertaken by AQIS and the Food Safety Branch

<p>brushtail possum products.</p>	<p>dealer and processor per annum;</p> <ul style="list-style-type: none"> •The extent of compliance with brushtail possum processing and trading requirements is measured at or near 100%; and •Focus of compliance efforts on areas in which past breaches have been recorded. 	<p>of DPIPWE as required (this included three half-day audits in the reporting period).</p> <ul style="list-style-type: none"> •No instances of failing to comply with processing and trading requirements were detected. •Compliance efforts continue to focus on compliance with permit conditions.
<p>7.4.4 Special quotas</p>	<ul style="list-style-type: none"> •Annual regional commercial quotas are set in accordance with the provisions of this management plan; •DSEWPC is advised of the commercial harvest quotas for the following financial year by 1 June; and •Special commercial quotas are set and utilised in accordance with the provisions of this management plan and DSEWPC is notified if and when any special quotas are issued. 	<ul style="list-style-type: none"> •Annual regional commercial quotas were set in accordance with the provisions of this management plan and reported to DSEWPC in June 2013. •DSEWPC was advised of the commercial harvest quota for 2013-14 prior in June 2013. A quota report was submitted to DSEWPC in June 2013. •No special quotas were required in the reporting period as the trigger point which requires special quotas to be set was not reached in any region.
<p>7.5 Monitoring of brushtail possum take</p>	<ul style="list-style-type: none"> •Records entered into database system and analysed quarterly, with monthly analysis carried out once quotas are approached within 85%; •Maintain an up-to-date database to inform quota management as required; and •The annual number of commercially-harvested possums is within the allocated commercial quota issued for 	<ul style="list-style-type: none"> •Records are entered into database system as they are submitted by permit holders and analysed quarterly. Monthly analysis has not yet been required due to the harvest not having reached 85% of total quotas. •An up-to-date database is maintained by DPIPWE and used to inform quota management. •The number of commercially harvested possums for which returns were provided was within the allocated commercial quota

	that quota year.	for the 2012-13 quota year. The quota was 59 138 possums and the harvest reported by shooters was 4 962 possums, or 8.4% of the available quota. DPIPWE has become aware that there may be an issue with regard to the consistent and timely provision of harvest returns by some commercial shooters. This is being addressed.
7.6 Monitoring of regional brushtail possum populations	<ul style="list-style-type: none"> •Population surveys are conducted in accordance with the management plan and between November and February or April and May each Quota Year throughout the life of this plan; •Population trends determined and monitored; •Sudden or acute changes in the sex ratio of harvested possums, as ascertained from permit returns, are investigated to determine where practicable the cause of the change; and •Monitoring results published in the Annual Quota Report to DSEWPC. 	<ul style="list-style-type: none"> •Population surveys were conducted in accordance with the management plan between November 2012 and January 2013. •Population trends were determined and monitored (see Appendix 1: Current brushtail possum population trends). •No sudden or acute changes in the sex ratio of harvested possums have been detected. •Monitoring results are provided as Appendix 1 in this annual report and were also provided in the Annual Quota Report in June 2013.
8. Animal welfare	<ul style="list-style-type: none"> •The extent of compliance with the requirements of commercial brushtail possum hunting permits determined through compliance activities and is at or near 100%; 	<ul style="list-style-type: none"> •Routine wildlife compliance activities were maintained across the possum harvest region. No instances of failing to comply with animal welfare requirements were

	<ul style="list-style-type: none"> •All harvesters operating under a commercial brushtail possum permit and selling carcasses for meat processing are accredited for competence in shooting; and •A code of practice for the humane shooting of brushtail possums for commercial or crop-protection in Tasmania is developed within the first year of this plan. 	<p>detected.</p> <ul style="list-style-type: none"> •Processors are required to obtain possums carcasses only from accredited shooters. •A '<i>Code of Practice for Shooting Brushtail Possums in the Field in Tasmania</i>' has been accepted by the Tasmanian Animal Welfare Advisory Committee and approved by the Minister as an Animal Welfare Guideline under Section 44B of the <i>Animal Welfare Act 1993</i>.
<p>9. Compliance and enforcement</p>	<ul style="list-style-type: none"> •Details on the number of staff and the proportion of their time spent on compliance activities are recorded in the annual report to DSEWPC; •All human consumption and pet food premises inspected by the food safety branch at least once annually; •Instances of non-compliance with the requirements of the Management Plan are monitored and acted upon; and •Reports of unlicensed activities and activities in breach of licence conditions are investigated to the fullest extent possible, and where sufficient evidence is available offenders are issued with a corrective action request or prosecuted as appropriate. 	<ul style="list-style-type: none"> •Three fulltime Wildlife Rangers, two part time Wildlife Rangers are involved in regular wildlife compliance work across Tasmania. Enforcement and compliance activities are undertaken on an intelligence driven basis. •All meat processing premises have been audited as required. Domestic game meat works licensed to process possum audited twice per year (7 sites), pet food works audited 1 per year (4 sites). •There have been no instances of non-compliance detected. •There have been no breaches of licences or unlicensed activities detected.

<p>10. Community awareness</p>	<ul style="list-style-type: none"> • Landholders, commercial possum industry members, interested groups, government and the public have adequate opportunity to comment on possum management in Tasmania through placement of monitoring results and quotas on the DPIPWE and DSEWPC websites; and • Publicly available information on possum management is distributed to interested parties as soon as practicable after such a request. 	<ul style="list-style-type: none"> • Prior to October 2010, government, stakeholders and the public had opportunity to comment on possum management in Tasmania through placement of the Management Plan, including recent monitoring results, on the DSEWPC website. Current quotas are also available on the DSEWPC website. Annual Reports are also available on the DPIPWE web site after they have been accepted by DSEWPC • DPIPWE complies with the Tasmanian <i>Right to Information Act 2010</i> with information on possum management being distributed to interested parties upon request.
<p>11.2 Annual Report</p>	<ul style="list-style-type: none"> • An Annual Quota Report is provided to DSEWPC by 1st June; and • An annual report is provided to DSEWPC by 31st October. 	<ul style="list-style-type: none"> • An Annual Quota Report for the 2013-14 quota year was provided to DSEWPC prior to 1st June 2013. • This report fulfils this requirement for the 2012/13 quota year.
<p>11.3 Review</p>	<p>A review of this plan has commenced by 1st July 2014.</p>	<ul style="list-style-type: none"> • A review in accordance with this performance indicator is scheduled to be commenced as required.

APPENDIX 1: Current Brushtail Possum Population Trends

As required by the *Management Plan for the Commercial Harvest and Export of Brushtail Possums* (the plan), regional brushtail possum population trends continued to be monitored through the annual program of statewide spotlight surveys. Referred to as the 2012 surveys, the most recent set of surveys were undertaken during the period November 2012 to January 2013.

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 1992) and analysed in accordance with section 7.6 of the plan. The results of these surveys provide the basis for the regional commercial quotas set under the plan. Analysis of the current population trend for each region (with the exception of South West Region due to the limited data available and the absence of commercial activity in this region) is provided below.

As required by the Plan, regional brushtail possum population trends were monitored through the annual program of statewide spotlight surveys.

Central Region

In the spotlight surveys undertaken in the Central Region in 2012, the observed density of brushtail possums more than doubled from 30.7/km² to 69.6/km², while the three-year Exponentially Weighted Moving Average (EWMA) increased from 37.2/km² to 53.4/km². This significantly reverses a trend of declining density evident over several years (see Figure 1). The three-year EWMA remains considerably higher than the trigger point (density = 20/km² or below) that initiates additional management controls (section 2.1).

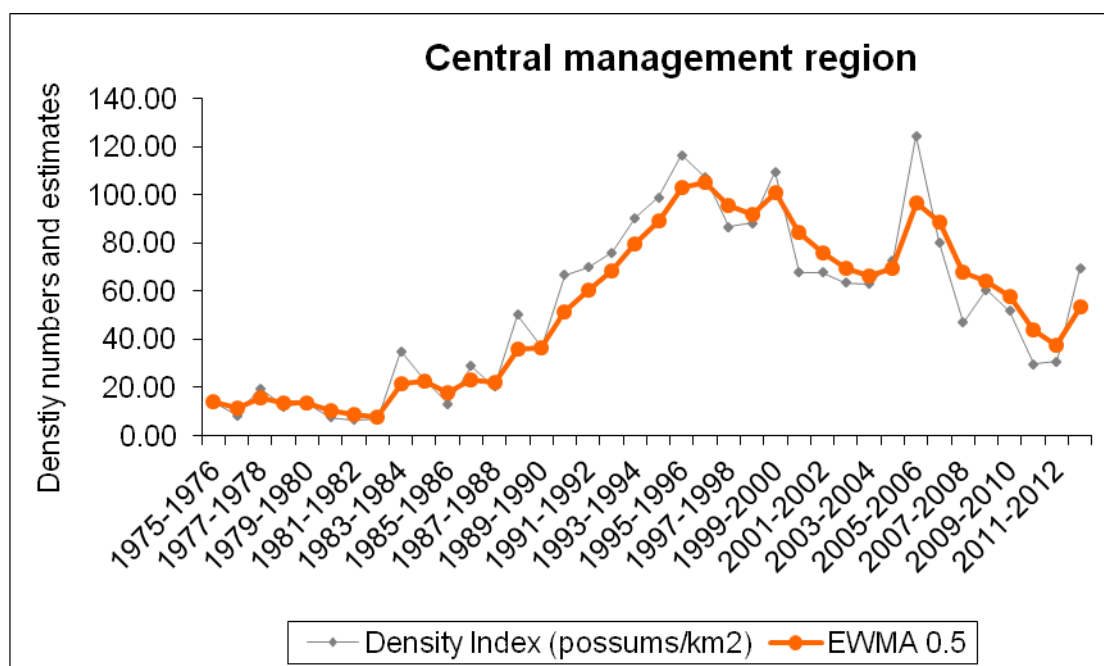


Figure 1 Central Region historical and current Density Index and three-year density trend

South East Region

In the South East Region the observed density of brushtail possums increased from 36.8/km² to 39.5/km², and the three-year Exponentially Weighted Moving Average (EWMA) increased from 30.2/km² to 34.8/km². This continues a trend of increasing density evident over the last two years (see Figure 2). The EWMA is well above the trigger point (density = 20/km² or below) that initiates additional management controls (section 2.1).

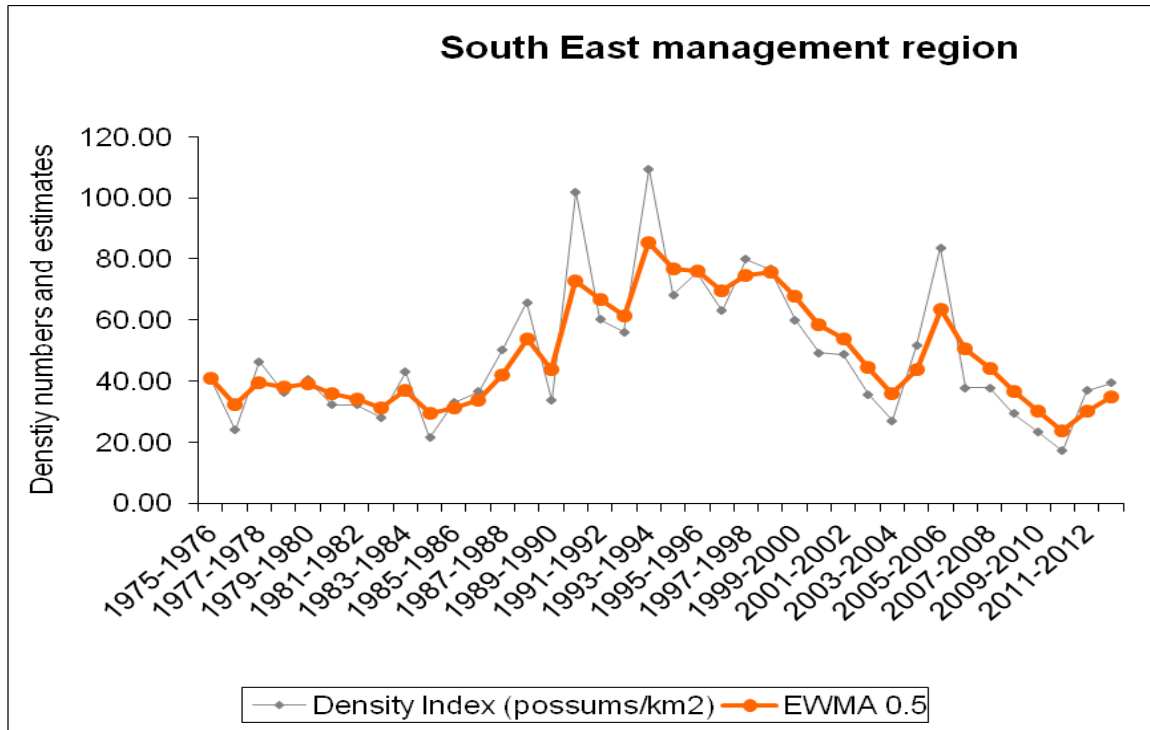


Figure 2 South East Region historical and current Density Index and three-year density trend

North East Region

In the North East Region the observed density of brushtail possums has declined slightly from 24.5/km² to 23.8/km². There was little change in the three-year Exponentially Weighted Moving Average (EWMA) (see Figure 3), which was 23.4/km² (previously 23.0/km²) and remains above the trigger point (density = 20/km² or below) that initiates additional management controls (section 2.1).

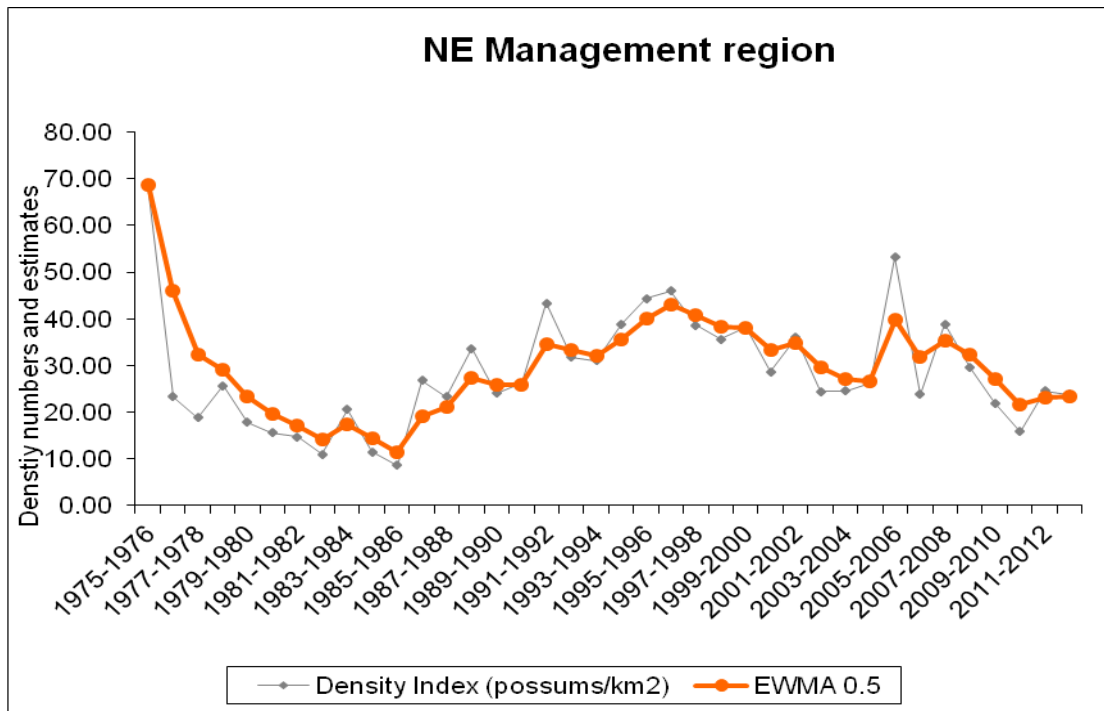


Figure 3 North East Region historical and current Density Index and three-year density trend

North West Region

In the North West Region the observed density of brushtail possums decreased from 23.4/km² to 22.4/km², and the three-year Exponentially Weighted Moving Average (EWMA) decreased slightly to 23.0/km² (see Figure 4). The EWMA remains above the trigger point (density = 20/km² or below) that initiates additional management controls (section 2.1).

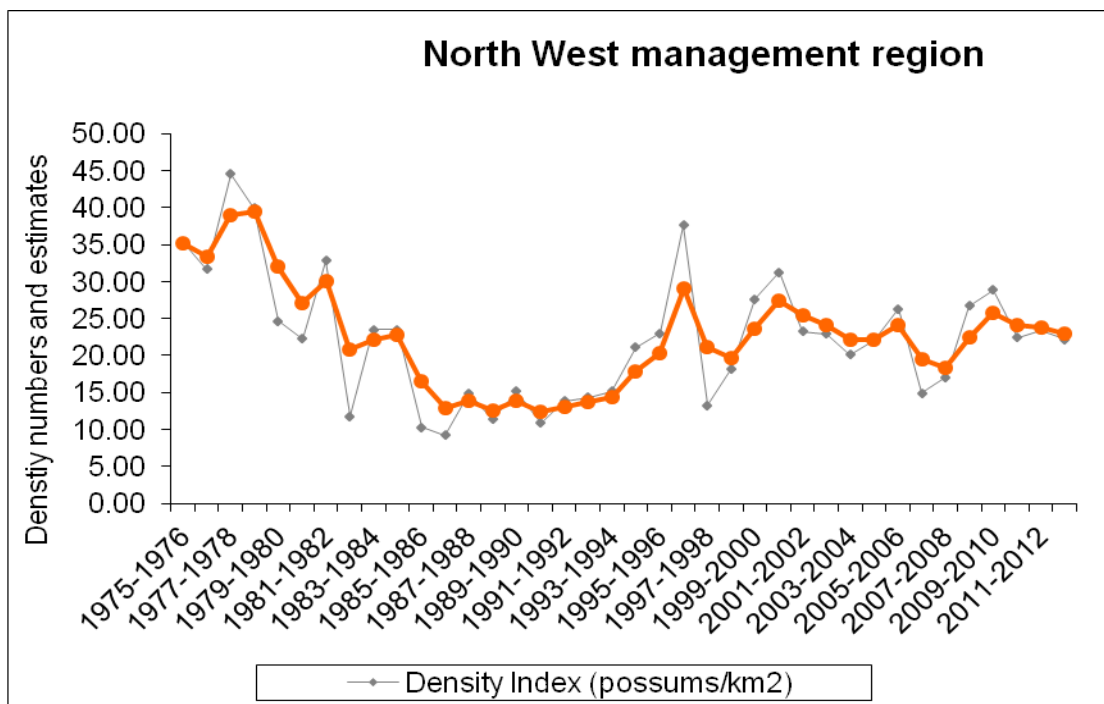


Figure 4 North West Region historical and current Density Index and three-year density trend