Final Report

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Analysis of Feed-base Audit

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1 Abstract

A feed base pasture audit was carried out throughout southern Australia commencing mid year 2011. The purpose of the audit was to map and analyse information obtained about the pasture feed base for livestock production by surveying Statistical Local Areas across the southern states. This collaborative project between the State DPI's and agricultural consultants collated opinions of experienced researchers and agronomists regarding the current status of pastures in Southern Australia. Information on pasture types, composition and associated attributes were collated on the 402 SLAs surveyed where an SLA formed the base geographical unit. This survey provides estimates of the percentage of each pasture type and distribution. These pasture types were then described in terms of species and varieties and including their botanical composition, sown cultivars, estimated carrying capacity, condition of pasture and details on whether in decline, stable or improving.

2 Executive Summary

The purpose of the Feed Base Audit was to survey the agricultural Statistical Local Areas (SLA) (Australian Bureau of Statistics, 2011) in NSW, Victoria, Tasmania, South Australia and southern Western Australia and map the content and distribution of significant pasture types and species. The study region encompasses the Feed-base Investment Plan (FBIP) Agro-ecological Southern Australian zone (Feed-Base Investment Plan, 2010). A collaborative project between the State DPI's and agricultural consultants was undertaken to assess the current status of temperate pastures in Southern Australia. Each State was assigned a coordinator who in turn provided information from district agronomists or agricultural consultants located across the States. This region supports approx. 10m cattle and 70m sheep (FBIP, 2010).

A survey that requested information on pasture types, their composition and associated attributes commenced throughout southern Australia in June 2011. The survey was based on 402 SLAs with the SLA as the base geographical unit. Data were based on "desk estimates" by trained agriculturalists. State coordination was conducted by Nigel Phillips (NSW), John Bowman (Victoria), Peter Ball (Tasmania), Tim Prance (SA) and Sue-Ellen Shaw (WA). A full list of the respondents is listed in Appendices (1, 2, 3, 4 and 5). Data from the completed survey database were transcribed into an MS Excel worksheet then into MS Access. Within and between data-tables were checked for consistency. Any outstanding or missing data were referred to the State coordinators for further comment. The survey provides estimates of the percentage each pasture types/class occupies within an SLA. These pasture types are then described in terms of species present, their botanical composition, sown cultivars, carrying capacity, condition of pasture, whether in decline, static or improving, contribution (Survey form, see Table 12). Once the State data were collated maps were produced outlining pasture species content and distribution, these were returned to the State coordinators for validation and a consensus opinion.

In 1993 a similar study, under the guidance of the National Pasture Improvement Committee (NPICC), an assessment of the actual and potential distribution of pasture species was prepared. This survey by Pearson (Pearson et al, 1999) and its subsequent data was compiled into a relational database with major significant pasture species subsequently mapped (Hill & Donald, 1997). These data were made available to MLA, GRDC, DA and AWI.

As part of the NPICC "Determination of Benefits from Pasture Improvement" (Hill, 1996, Hill & Donald 1997, 1999) there was an attempt to model potential zones of the major significant pasture species. These were validated by implementing higher resolution satellite information (Hill et al, 1997, 1999). These data were compiled implementing simple logistic models in response to long term mean climate.

This current report presents a summary of:-

- the structure of the survey audit database
- the information about the surveyed database and information available within this database
- a series of maps describing the distribution of significant pasture species.

The interpretation of the data acquired in this project and summarised here is for the user and reader to undertake. The survey data lend themselves to quite exhaustive analysis, and it is envisaged that they will be put to good use.

Any publication of information arising from this survey carries a caveat. Users of the surveyed database should be aware that errors may exist due to the nature a “desk based” audit. These data are subjective in nature however they have been formulated by professionally qualified agriculturalists with many years of expert and local knowledge of the respective SLAs. The database will be made available in Microsoft Access Win7.

The data constitute the informed opinions of professional agriculturalists but should not be mistaken for objective measurements.

3 Project Objectives

In this initial phase the Feed-Base pasture audit has been prepared with the following aims:-

1. Complete an analysis of the results of an audit (survey) of the feed base being undertaken across NSW, Victoria, Tasmania, South Australia and south-western Western Australia and southern QLD covering the temperate grasslands region of southern Australia. Provide estimates of the percentage of each SLA occupied by surveyed pasture types/classes. The pastures will be described in terms of the species present and botanical composition and included in data base system.

2. To present the results of this analysis in a Report which summarises the key findings in the format of a detailed spatial maps and summary tables. The report will present:-
   - a summary of the survey database,
   - tabled information available within the database,
   - maps describing the spatial distribution of major and economically significant species

3. Prepare a draft report on the findings of the audit for MLA.

4. From information obtained from this study prepare recommendations to MLA about prioritisation and future investment into the feed base across southern Australia

The following phases are suggested and after further discussion and consultation:-

1. Identify any significant changes or major differences where possible in the composition of this audit compared to the 1993 survey. Many of the 1993 SLA’s boundaries have altered and in many cases urbanisation has encroached into traditional farming regions. As a consequence of drought and more restrictive irrigation licensing NSW and Victoria will find an increase in volunteer grasses and weed infestation.

2. Prepare potential adaptation zone maps of significant pasture species. In the 1996 report on the 1993 survey long term climate average data were used in the models to determine pasture adaptation zones. With the more recent understanding of climate shift these zones will need to be recalculated using different climate data sets. The theory would be to compile 5 year climate averages since 1990 as a means to provide an assessment of pasture sustainability at the local and regional scale. It id of the utmost importance that before new pastures or cultivars are trialled a level of sustainability is determined over a range of contemporary local and regional climatic conditions. Pasture renovation is expensive and pasture management is integral in this introductory process.

3. Predict potential improved financial return to farmers from utilisation of adapted species. Much of the information that would be referred to has been prepared in the "Feed-Base Investment Plan", 2010.

4. Prepare recommendations to MLA.

402 SLA surveys were completed and transcribed into firstly an Excel spreadsheet. After which these data were transcribed into a database format (Win7 ACCESS) for further statistical evaluation and mapping.

4 Method

Initially a survey form was sent out to a few specialists for opinions on its design and integrity. The final version was sent onto NSW (Nigel Phillips), Victoria (John Bowman), Tasmania (John Bell), SA (Tim Prance) and WA (Sue-Ellen Shaw) for distribution to State District Agronomists and Agricultural consultants.

Once the completed forms were returned the information was then transcribed into a database design that was structured to allow full accessibility to all components of the information. These data were transcribed verbatim, and at a later stage a process of cross-referencing, simplification and error checking will be completed. The Feed Base Audit survey covered the 403 Statistical Local Areas (SLA) (Australian Bureau of Statistics, 2011) in NSW, Victoria, Tasmania, South Australia and southern Western Australia encompassing the Feed-base Investment Plan (FBIP) Agro-ecological Southern Australian zone (Feed-Base Investment Plan, 2010) (Figure 1.)

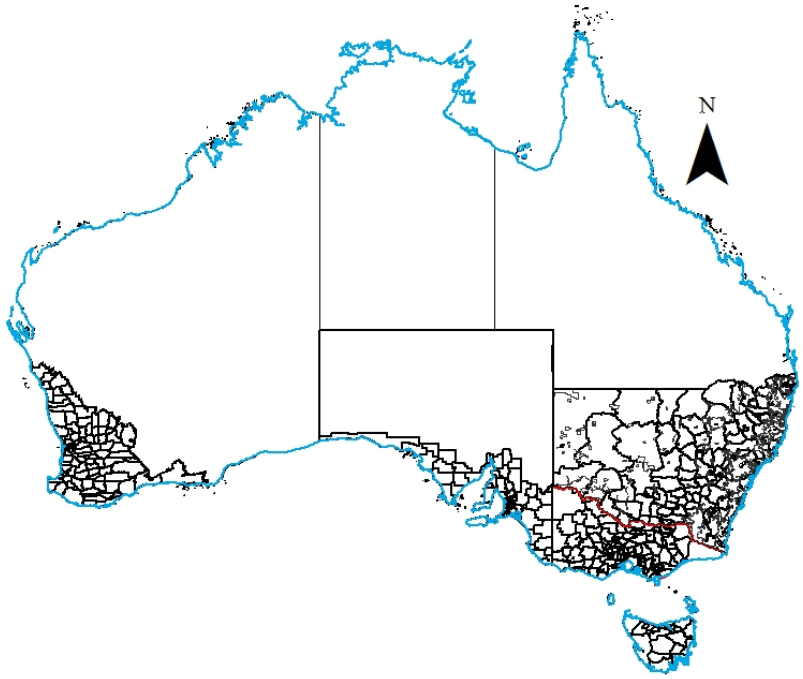


Figure 1. Agro-ecological Southern Australian zone Pasture feed base audit coverage.

The survey form required that the respondents provide estimates of the percent of pastures that occupied more than 1% of each SLA. A set of given dominant pastures types were provided with the understanding that this list would be broadened to encapsulate other prevalent pasture types. The respondent included as a percent the major botanical composition for each pastured area. Other information included some details on the pastured area such the health of the pasture and longevity, also some detail on stocking rates. The respondent provided details on the total area and an estimate on the area under pasture within each SLA (see Table 12).

The surveyed forms from each State were transcribed into 5 tables within MS Win 7 Excel and once completed introduced into a data base structure within MS Win7 Access. The database contains 387 SLAs and ~26,000 records in 5 database-tables.

Database Tables

Data base table 1:- Survey Grazing Areas, includes the SLA names, ABS relate codes and total SLA, grazing and < 1% grazing areas (ha) (see survey form Table 12)

Name	**Type**
State_code	*Number*
State	*Text*
ABS-SLA-code	*Number*
SLA-ID	*Number*
SLA-name	*Text*
Survey Total SLA area ha	*Number*
Survey Grazing area ha	*Number*
> 1% grazing area	*Number*

Example of Survey Grazing areas.

State code	**State**	**ABS SLA code**	**SLA ID**	**SLA name**	**SURVEY TOTAL AREA/ha**	**SURVEY GRAZING AREA/ha**	**>1% GRAZING AREA ha**
4	SA	435155120	45120	Northern Areas (DC)	298922	110271	1103
4	SA	435155400	45400	Orroroo/Carrieton (DC)	349672	298197	2982
4	SA	435155540	45540	Peterborough (DC)	277078	257752	2578
4	SA	435156454	46454	Port Pirie C Dists (M) Bal	159121	48682	1600

Data base table 2:- The Livestock Information, describes information relating to the various stocking rate for each Pasture type (see survey form Table 12).

Name	**Type**
State-code	*Number*
State	*Text*
SLA-ID	*Number*
SLA-Name	*Text*
Pasture-Types	*Text*
Pasture-ID	*Number*
Actual Carrying Capacity	*Text*
Range actual carrying capacity	*Text* **
Range in Actual carrying capacity	*Text* **
Range potential carrying capacity	*Text* **
Pasture condition	*Text**
Current pasture condition	*Text*

** entered as text as often the values were provided as a range ie 8-12.

State code	**State**	**SLA ID**	**SLA name**	**Pasture Types**	**Past. ID**	**Actual carrying capacity**	**Range actual carry. cap.**	**Actual potential carrying capacity**	**Range Pot carry Cap.**	**Past Condit.**	**Current Past. Cond.**
4	SA	45120	Northern Areas (DC)	Lucerne	1.01	4	3-10	8	5-10	S	8
4	SA	45120	Northern Areas (DC)	Vetch	2.06	5	3-10	10	8-15	I	8
4	SA	45120	Northern Areas (DC)	Annual medic / sub clover	2.07	5	4-15	10	8-15	D	6
4	SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	10	5-15	15	10-15	S	8
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	5	4-10	8	7-10	D	5
4	SA	45120	Northern Areas (DC)	Unimproved native pasture	6.01	2.5	2-6	5	4-7	S	3

Data base table 3:- Pasture Information, describes information relating to the management of pasture types (see survey form Table 12).

Name	Type
State-code	*Number*
State	*Text*
SLA-ID	*Number*
SLA-Name	*Text*
Pasture-Types	*Text*
Pasture-ID	*Number*
Pasture %	*Text*
If in rotation	*Text*
Years in pasture	*Text*
Years in crop	*Text*
Resowing interval	*Text*

State code	State	SLA ID	SLA name	Pasture Types	Pasture ID	Pasture%	If Rotation	Yrs in Pasture	Yrs in Crop	Resow interval /yrs
4	SA	45120	Northern Areas (DC)	Lucerne	1.01	2	Y	8	3	5-10
4	SA	45120	Northern Areas (DC)	Vetch	2.06	6	Y	1	5	1-2
4	SA	45120	Northern Areas (DC)	Annual medic / sub clover	2.07	2	Y	1-2	2	>10
4	SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	15	Y	1	4	NA
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	20	Y	1	4	NA
4	SA	45120	Northern Areas (DC)	Unimproved native pasture	6.01	55	N			NA

Data base table 4:- Pasture species Information, relating to the pasture species for individual SLA's, explains the composition of pastures within each pasture type and whether they are sown, volunteers or weeds; also see survey form Table 12.

Name	Type
State	*Text*
SLA-ID	*Number*
SLA-name	*Text*
Pasture-Type	*Text*
Pasture-ID	*Number*
Pasture species	*Text*
Composition%	*Number*
Pasture_type	*Text*

State	SLA ID	SLA name	Pasture Types	Pasture ID	Pasture Species	Composition%	Pasture type
SA	45120	Northern Areas (DC)	Lucerne	1.01	Lucerne	100	S
SA	45120	Northern Areas (DC)	Vetch	2.06	Vetch	100	S
SA	45120	Northern Areas (DC)	Annual medic / sub clover	2.07	Medic	70	V
SA	45120	Northern Areas (DC)	Annual medic / sub clover	2.07	Sub clover	30	V
SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	Sown cereals	95	S
SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	Weeds	5	V

Data base table 5:- Cultivars or varieties information relating to where known were recorded in database; Pastures cultivars-varieties. (see Survey form Table 12).

Name	Type
State-code	*Text*
State	*Number*
SLA-ID	*Number*
SLA-name	*Text*
Pasture-Types	*Text*
Pasture-ID	*Number*
Pasture-Species	*Text*
Pasture varieties/cultivars	Text

State code	State	SLA ID	SLA name	Pasture Types	Pasture ID	Pasture Species	Varieties
4	SA	45120	Northern Areas (DC)	Vetch	2.06	Vetch	Marava
4	SA	45120	Northern Areas (DC)	Vetch	2.06	Vetch	Blanchefleur
4	SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	Sown cereals	Oats
4	SA	45120	Northern Areas (DC)	Grazing cereals (winter)	5.04	Sown cereals	Barley
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Annual grasses	Volunteer cereal
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Annual grasses	Ryegrass
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Annual grasses	Barley grass
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Annual grasses	Silver grass
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Broadleaf	Capeweed
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Broadleaf	Gerenium
4	SA	45120	Northern Areas (DC)	Naturalised / volunteers / medics	5.07	Broadleaf	Salvation jane
4	SA	45120	Northern Areas (DC)	Unimproved Native pasture	6.01	Medic	Barrel
4	SA	45120	Northern Areas (DC)	Unimproved Native pasture	6.01	Medic	Burr
4	SA	45120	Northern Areas (DC)	Unimproved Native pasture	6.01	Native grass	Spear grass
4	SA	45120	Northern Areas (DC)	Unimproved Native pasture	6.01	Annual grasses	Wild oats

5 Results

Many of the significant attributes from the database were summarised in tables as a means to describe areas or percentages of major or significant pasture types and pasture species.

The relative significant pasture types that exist within each State at the time of the pasture audit in July 2011 are in Table 1. The associated DSE stocking rate is the average over each of the SLAs containing that pasture type. It is clear that there are significant differences reflecting climate trends, soil types and different production sectors that exist between these states. NSW appears to have suffered the affect of drought with a very much reduced content of improved pasture species. The high presence of winter

cereals does reflect that farmers are very risk adverse and hedge against seasonal and economic variability. The maps showing the spatial distribution and content of sown crops include winter and summer forage crops.

Tables 2-6 contains the total pasture species content and was calculated by applying a simple formula for each state.

Total area of pasture species (ha) = % composition of pasture type * area of grazing area (ha) * % pasture species content.

The areas were summed over SLA for each unique pasture species. Tables 2-6 describe the areas of each major pasture species by states. These data were produced from the livestock grazing area, pasture information and pasture species information tables.

The surveyed information, submitted by the states, often described the amount of weed, annual/perennial grass or weed/grass. These are not specific and may refer to many pasture species. Legumes were described and can loosely refer to many varieties; likewise medics refer to a number of select varieties. These were defined to a pasture or variety, where possible. A number of maps were produced to show the distribution of pasture content % across each State. Each state SLAs were mapped to describe their location with accompanied legend. SLA's total and grazing areas (Tables 2-6) were included in each State pasture content table. Pasture types was only included if it contributed more than 1% of the SLA. Pastures species were often mapped as not significant; however, these pastures could exist within the SLA.

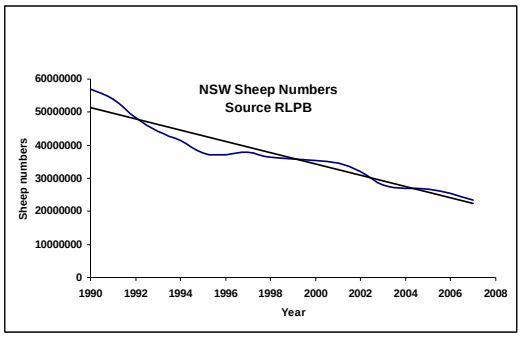
All pasture maps have had a land tenure map applied to mask out all non-agricultural land that is land not registered as free-hold lease-hold land. Also, those areas where there is extensive irrigation have been mapped. Also, for the eastern Victorian Gippsland region John Bowman provided maps of the McCalister irrigation area and this area was included into the system.

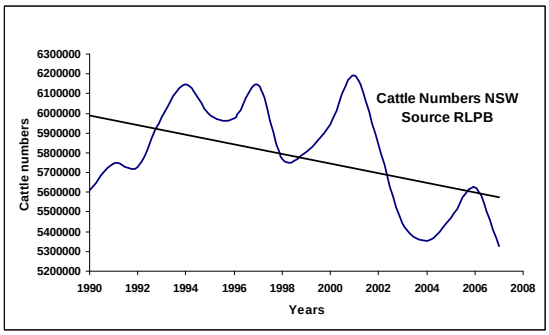
6 Discussion

For most Australian agricultural and rangeland the farmers' main objective is to produce high quality pasture. To this they then fit an appropriate livestock/cropping enterprise system within which there maybe a number of production sectors. If agriculture is significant to the Australian economy then so is pasture production and its sustainability. New Zealand researchers suggest that their perennial improved pastures make up a significant component of their National GDP (Parsons et al, 2011). There appears to be an international trend to withdraw funds from plant breeding for grass/pasture production (Parsons et al, 2011). Australia invests <$4m pa. for grass/pasture research with ~$1m pa on plant improvement (Parsons et al, 2011). With increasing demands on "food security", increasing climate variability this level of funding is far too inadequate.

In late January 2012 the United Nations released a communiqué stating the world's food, energy and water resources will no longer meet population growth; the Worlds food demands will exceed production. The application of fertiliser for farm production has declined since 2004 (Ryan, 2010). Single super fertilizer costs approx. $200/t with specialists compounds such as diammonium phosphate increasing 160% from 2007 - 2008 (Fertilizer Industry Federation of Australia, 2012). Most of the imported and Australian fertilizer is sourced from rock phosphate. There still remains the issue of unacceptable heavy metals in guano derived fertilizers making it inappropriate for clean meat production (Langlands, 1988).

From the survey results presented here there is clear evidence that farmers are planting excess crops creating an opportunity to switch production sectors from crop to livestock grazing depending on the availability of feed reserves, cereal and livestock commodities prices (Phillips per. comms, NSWII). Farmers are hedging between production sectors as a means to remain profitable and minimise expenses. This approach is necessary due to a decade of declining wool prices and a long term drought. This is exemplified by the unprecedented reduction in sheep and cattle numbers (graph1 & 2) reflected in NSW.





Graph 1. Sheep Numbers NSW **Graph 2. Cattle numbers NSW**
Source- Rural lands protection boards reports 1990-2007

Having the opportunity to switch from crop production to grazing livestock depending on commodity price and rainfall is a means to minimise financial risk. If this process is adopted there will be fewer resources available to maintain existing improved pastures. The decision to introduce new pasture species via plant breeding is difficult to support as the cost and risk of pasture renovation to farmers is high. Therefore, incremental improvement with new and maybe better adapted species may occur in unison with pasture management and fertiliser application regimes. As a consequence of the recent decade long drought the areas in eastern Australia volunteer grasses and weed infestation have appeared to increase. In both States there has been an increase in areas that are less then optimal (optimal is where pastures condition is improving).

7 Further Investigations

This project initially set out to collate, map and tabulate the distribution and content of pastures in southern Australia by SLAs. From this study it is clear that further synthesis of these data is required to gain a full understanding and of its impact on the livestock industry, including plant breeding and farm management practices. All further studies should include information deduced from the 1993 study (Pearson et al, 1997 and Hill & Donald, 1999). An intersection of these data with climate both contemporary and long term, including sustained rainfall events and the inclusion of available temporal soil water via a national spatial soil moisture value/index should be undertaken. Also, examine temporal satellite imagery to assess the temporal and spatial distribution of various improved pastures. In a current project Brehrendt (pers. Comm.) and Donald (Donald et al 2012) both discuss the impact of available soil water and fertilizer application together with management practices have on the sustainability of production of improved pastures. Donald et al 2009 integrated the National Livestock Identification Scheme cattle movements into a model showing that cattle movement in central QLD and northern NSW were highly correlated with pasture biomass, pasture growth rate and rainfall. To extend this model the pasture Feed base Audit does need to include more of Northern Australia to enable further understanding of the livestock – pasture establishment to production system.

With the development of the Australian National Database System (ANDS) in conjunction with eResearch Data Access Portals these data should be appropriately stored and made available in a similar process with public access, either within MLA or ANDS

8 Acknowledgements

We thank Cameron Allan of MLA for his continual support of this project and technical expertise in the construction of the Pasture Survey form. We were aware that there are demands on State District Agronomists and agricultural consultants so we thank those who were responsible for assisting with the collation and the individual respondents for providing SLA information based on their experience local knowledge and technical expertise.

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Table 1. The average and potential stocking rate (DSE) for significant pasture types for each State, stocking rate information provided by State respondents

State	*Pasture Type*	*Average Stocking rate DSE/ha*	*Potent stocking rate DSE/ha*	*Percentage of State total grazing area (%)*
NSW	Unimproved native pasture	3.0	4.4	45.3
	Fertilised and oversown native pasture	4.7	7.4	2.7
	Fertilised native pasture	5.0	7.8	2.1
	Lucerne	7.7	11.4	4.9
	Cocksfoot clover	6.2	8.5	0.8
	Phalaris/sub clover	8.5	11.3	1.3
	Perennial ryegrass/white clover	7.8	10.8	0.3
Victoria	Unimproved native pasture	2.8	5.2	5.1
	Fertilized native pasture	5.5	6.0	0.8
	Lucerne	7.9	11.3	3.1
	Cocksfoot/sub clover	10.2	12.5	2.4
	Phalaris/sub clover	9.4	12.6	16.9
	Perennial ryegrass/sub clover	12.1	14.9	10.5
	Perennial ryegrass/white clover	18.2	21.3	8.7
South Australia	Unimproved native pasture	0.8	2.5	23.0
	Fertilized native pasture	1.2	2.7	2.3
	Annual medic	2.3	3.8	9.5
	Lucerne	9.0	13.5	6.6
	Phalaris/sub clover	11.0	18.0	2.3
	Perennial ryegrass/sub clover	11.7	17.1	1.0
Western Australia	Annual medic	4.1	5.7	4.5
	Sub clover/annual grass	5.0	7.8	11.6
	Sub clover (T.subterraneum)	4.4	7.2	9.3
	Annual ryegrass/Sub clover	6.7	9.5	11.2
	Serradella	5.8	8.2	1.5
Tasmania	Unimproved native pasture	2.9	3.5	20.2
	Cocksfoot/sub clover	12.2	16.6	5.8
	Cocksfoot/white clover	17.2	21.9	4.0
	Perennial ryegrass/sub clover	12.8	15.2	11.4
	Perennial ryegrass/white clover	18.3	23.5	17.9
	Sown annual ryegrass	20.3	26.7	4.4

Table 2a:- Estimated areas of selected pasture species for all agricultural SLA's of NSW.

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
10050	Albury (C)	20074	16637	1082						125	1207				
10111	Armidale Dumaresq (A) - City	114	99			1				5	6				
10112	Armidale Dumaresq (A) Bal	281472	249844			5622	625			3748	9995	20612			
10250	Ballina (A)	31443	12090										2418		
10300	Balranald (A)	1727156	1584935												
10471	Bathurst Regional (A) - Pt A	18929	12153	1106		182					1288				
10473	Bathurst Regional (A) - Pt B	222576	180115	16391		2702					19093				
10550	Bega Valley (A)	97934	81027	810		689					1499				
10600	Bellingen (A)	43735	29881			6723					6723				
10650	Berrigan (A)	186647	90725												
10800	Bland (A)	787345	387146	27487						1549	29036	6194			4646
10850	Blayney (A)	140770	122635	15759		1839					17598				
10900	Blue Mountains (C)	2755	1585			3					3				
10950	Bogan (A)	1233906	813394												31722
11000	Bombala (A)	195138	160293	10258		481					10739	2885			
11050	Boorowa (A)	231595	198495	43073							43073				
11150	Bourke (A)	3924221	3789632												189482
11200	Brewarrina (A)	1368010	1302674												52107
11350	Byron (A)	20214	12503			1876					1876		1876		

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
11400	Cabonne (A)	511436	397586	31807		4771					36578				
11450	Camden (A)	6455	4023			20					20				
11600	Carrathool (A)	1825424	1375180												92824
11700	Central Darling (A)	5359555	5229986												
11720	Cessnock (C)	30960	19551			2102					2102				
11738	Clarence Valley (A) Bal	400743	332648			83162					83162				
11750	Cobar (A)	3500907	3125240												625048
11804	Coffs Harbour (C) - Pt B	16765	9932			993					993		2483		
11860	Conargo (A)	786207	651990	13040	13040	13040		91279			130399	136918			
12000	Coolamon (A)	241767	90664	26069							26069				
12050	Cooma-Monaro (A)	242682	207021	11386							11386				
12150	Coonamble (A)	897446	589479												2947
12200	Cootamundra (A)	135859	89172	7134							7134				
12300	Corowa Shire (A)	215564	96254	18047							18047				
12350	Cowra (A)	219955	144976	10873							10873	1450			
12500	Deniliquin (A)	7909	3348	167	34	17		552			770	552			
12601	Dubbo (C) - Pt A	29180	21878	2122							2122			493	
12604	Dubbo (C) - Pt B	181132	130741	10263	392	262					10917				
12700	Dungog (A)	122706	104536			3554					3554	5227			
12750	Eurobodalla (A)	34853	22995	207		501					708				
12900	Forbes (A)	410962	237256	26905	1067			1067			29039	3796			2372

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
12950	Gilgandra (A)	409904	263375	25679	3951						29630			2370	5531
13010	Glen Innes Severn (A)	374921	330949			16548	12907				29455	1655			
13050	Gloucester (A)	152365	124191			646					646	87	6706		
13311	Goulburn Mulwaree (A) - Goulburn	3497	3169												
13314	Goulburn Mulwaree (A) Bal	175096	143038	8153							8153				
13350	Greater Taree	163342	141825			497					497	142	7659		
13371	Greater Hume Shire (A) - Pt A	125548	78910	26829							26829				
13374	Greater Hume Shire (A) - Pt B	335206	227858	37483							37483	13216			
13400	Great Lakes (A)	73073	50643			1190	76				1266		9116		
13450	Griffith (C)	155256	43441	6516							6516	869			
13500	Gundagai (A)	209279	178381	58866							58866				5351
13550	Gunnedah (A)	434168	218735	2843		2187					5030			8749	
13650	Guyra (A)	331529	300550			9618	751			4207	14576	7664			
13660	Gwydir (A)	794672	505093							10102	10102				13890
13700	Harden (A)	171628	111915	32455							32455				
13800	Hawkesbury (C)	26339	18751			28					28				
13850	Hay (A)	1110728	1040494	2081	2081						4162	52025			
14201	Inverell (A) - Pt A	477981	365198	5295		5113			3214		13622				4921
14202	Inverell (A) - Pt B	124910	89579	1102		1989			1550		4641				1764

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
14300	Junee (A)	187126	96080	7686							7686				
14350	Kempsey (A)	149272	120799	242		532	73				847	3080	1450		
14400	Kiama (A)	9907	6851			836					836	1028			
14550	Kyogle (A)	188764	147769			26598					26598				
14600	Lachlan (A)	1431885	884970							212392	212392	7965			106196
14750	Leeton (A)	100527	43333	3683	217	217		217			4334	2167			
14851	Lismore (C) - Pt A	13940	6265			113					113		1861		
14854	Lismore (C) - Pt B	77323	57306			12607					12607		18911		
14870	Lithgow (C)	103612	82380	9473			824				10297				
14920	Liverpool Plains (A)	501759	321490	4179		3214					7393			12860	
14950	Lockhart (A)	283586	128582	13437	1929						15366	8358			
15050	Maitland (C)	35454	26349			1449				395	1844	2635			
15271	Mid-Western Regional (A) - Pt A	387639	324577	17852							17852	3246			
15274	Mid-Western Regional (A) - Pt B	134107	112981	9603							9603	1695			
15300	Moree Plains (A)	1749481	673964												33698
15500	Murray (A)	385675	246164	46771							46771	51694			
15550	Murrumbidgee (A) + Jerilderie (A)	176631	105328	8426						1264	9690				
15650	Muswellbrook (A)	121905	95446	1193		1956					3149	7636			
15700	Nambucca (A)	35715	24342			251	75				326	19624	1023		
15750	Narrabri (A)	790944	420090												

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
15800	Narrandera (A)	402773	185921	21567	372	372					22311				
15850	Narromine (A)	522225	286054	2861				1431			4292				25745
16100	Oberon (A)	171898	133644	17707		4009					21716				
16150	Orange (C)	18442	15156	1819		455					2274				
16181	Palerang (A) - Pt A	74548	56744	4256							4256	397			
16184	Palerang (A) - Pt B	168273	139806	10625		978					11603	2517			
16200	Parkes (A)	550718	305199	35067	1374			1374			37815	4883			3052
16385	Port Macquarie-Hastings (A) - Pt B	92475	64500			813	52				865	2193	1935		
16470	Queanbeyan ©	5239	4598	255							255	32			
16611	Richmond Valley (A) - Casino	8088	6813			1942					1942	341	1192		
16612	Richmond Valley (A) Bal	132442	102073			30622					30622		25008		
16900	Shellharbour (C)	5215	3536			318					318	35			
16951	Shoalhaven (C) - Pt A	7302	5892			460					460	1178			
16952	Shoalhaven (C) - Pt B	33938	24080			1686					1686	3612			
17000	Singleton (A)	156489	132631			8356					8356	10610			
17050	Snowy River (A)	265145	239735	15343		1438					16781	4315			
17311	Tamworth Regional (A) - Pt A	39902	30084	436							436				

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
17314	Tamworth Regional (A) - Pt B	737460	583735	9106		7063			6071		22240				6188
17350	Temora (A)	278385	126137	32038					1261		33299				378
17400	Tenterfield (A)	415565	371978			10415	3906				14321	2232			
17450	Tumbarumba (A)	185619	116090	6733							6733	1974			
17500	Tumut Shire (A)	125321	106808	6195							6195	1816			
17554	Tweed (A) - Tweed-Heads	3814	1814										880		
17556	Tweed (A) - Tweed Coast	4770	2323			17					17		296		
17558	Tweed (A) - Pt B	38366	23480										4989		
17620	Upper Hunter Shire (A)	646785	572198	42343							42343	13733			
17640	Upper Lachlan (A)	553249	494317	23480							23480				
17650	Uralla (A)	270927	246395			2685	247			3449	6381	6283			
17700	Urana (A)	331550	193236	41353	1932	773					44058	19324			
17754	Wagga Wagga (C) - Pt B	436569	307050	61257							61257	3071			
17800	Wakool (A)	620957	419815	73467				8396			81863	52477			
17850	Walcha (A)	386028	336991			6234	843			5055	12132	27802			
17900	Walgett (A)	2085852	1466374												29328
17950	Warren (A)	963184	708360												85004
18020	Warrumbungle Shire (A)	870885	640388	27217							27217			4483	
18100	Weddin (A)	294735	149428	18828	1494						20322	1494			
18150	Wellington (A)	395054	326999	5559		3270		3270			12099	3924		3270	

SLA ID	SLA Name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Red clover	Persian clover	Ball clover	Other Clovers	All clovers	Annual rye grass	Seteria	Serra-della	All Medics
18200	Wentworth (A)	2583829	2349070												
18350	Wingecarribee (A)	73255	55477	3884		555					4439	5548			
18400	Wollondilly (A)	28134	19242			58					58				
18454	Wollongong (C) Bal	3660	2461			320					320				
18710	Yass Valley (A)	287165	250296	19899							19899	1752			
18750	Young (A)	262456	154241	41954							41954				
18809	Unincorp. Far West	7972883	7896370												78963
	Total areas ha	**61738764**	**49749019**	**1127082**	**27883**	**296968**	**20379**	**107586**	**12096**	**242291**	**1834285**	**533960**	**87803**	**32225**	**1401157**
		Total SLA area ha	**Grazing area ha**	**Sub clover**	**Balansa clover**	**White clover**	**Red clover**	**Persian clover**	**Ball clover**	**Other Clovers**	**All clovers**	**Annual rye grass**	**Seteria**	**Serra-della**	**All Medics**
	Percent of State			**2.3**	**0.1**	**0.6**	**0.0**	**0.2**	**0.0**	**0.5**	**3.7**	**1.1**	**0.2**	**0.1**	**2.8**

Table 2b:- Estimated areas of selected pastures species and the distribution of native pasture types and including those in decline for NSW

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
10050	Albury (C)	20074	16637	582	790						832			
10111	Armidale Dumaresq (A) - City	114	99		3	1	1					94		94
10112	Armidale Dumaresq (A) Bal	281472	249844		8745	14241	11243	34978		24984	24984	49969	24984	124922
10250	Ballina (A)	31443	12090								2418			9672
10300	Balranald (A)	1727156	1584935							15057	554727			
10471	Bathurst Regional (A) - Pt A	18929	12153	608	1215	851	972	170		1215	2431	3403		10330
10473	Bathurst Regional (A) - Pt B	222576	180115	9006	18012	12608	14409	2522		18012	36023	50432		153098
10550	Bega Valley (A)	97934	81027		2431	1337	2431		16003	1621	26739	4051	12154	28359
10600	Bellingen (A)	43735	29881			5229			10458		7470			
10650	Berrigan (A)	186647	90725	4536						47177	13609			
10800	Bland (A)	787345	387146	69686	2710						81301			
10850	Blayney (A)	140770	122635	6132	14716	14103	9811	2943		14717	6132	42922		101787
10900	Blue Mountains (C)	2755	1585		32		31	32	208	12	793		396	412
10950	Bogan (A)	1233906	813394	9761						284689	244018			97607
11000	Bombala (A)	195138	160293	2725	11862	6171	1603			27410	43279	19235	32059	49691
11050	Boorowa (A)	231595	198495	5955	45852		8337			7940	41684		21834	25804
11150	Bourke (A)	3924221	3789632							378964	3221187			
11200	Brewarrina (A)	1368010	1302674							52107	651337			
11350	Byron (A)	20214	12503						3501		8752			12503

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
11400	Cabonne (A)	511436	397586	39759	19879	7157	35783	11928		39759	39759	39759	107348	318069
11450	Camden (A)	6455	4023	53	110		106	106	646	168	805		1287	1609
11600	Carrathool (A)	1825424	1375180	27504							1031385			
11700	Central Darling (A)	5359555	5229986							496849				
11720	Cessnock (C)	30960	19551						929	782	5865	2737	1955	11535
11738	Clarence Valley (A) Bal	400743	332648						83162		166324			
11750	Cobar (A)	3500907	3125240							625047	1250096			
11804	Coffs Harbour (C) - Pt B	16765	9932						3973		2483			
11860	Conargo (A)	786207	651990	39119		19560				325995				58679
12000	Coolamon (A)	241767	90664	25386	1269		635	1414		22666				
12050	Cooma-Monaro (A)	242682	207021	3519	11386	1139	2070			9834	82808	20702	51755	37264
12150	Coonamble (A	897446	589479	5895						22399	471583		5895	47158
12200	Cootamundra (A)	135859	89172	1783	21401					26752	26752			
12300	Corowa Shire (A)	215564	96254	34651	3369						19251			
12350	Cowra (A)	219955	144976	26386	9423		725			11598	28995			14498
12500	Deniliquin (A)	7909	3348	335		17				1674				234
12601	Dubbo (C) - Pt A	29180	21878	820						787	12252	875		19034
12604	Dubbo (C) - Pt B	181132	130741	15688			1830	392		2353	70600	3922	3922	121589
12700	Dungog (A)	122706	104536						7945	7320	26134	15680	10454	57495
12750	Eurobodalla (A)	34853	22995		621	304	621		8830	368	2300	1380	5519	9658
12900	Forbes (A)	410962	237256	56941	1661		1661			11862	14235	7118	4745	106765
12950	Gilgandra (A)	409904	263375	39506						7111	118519	13169		229136

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
13010	Glen Innes Severn (A)	374921	330949	2979	19857	28131	23166	43023		16548	43023	112523		23166
13050	Gloucester (A)	152365	124191	993		2111			14158	1327	18629			104320
13311	Goulburn Mulwaree (A) - Goulburn	3497	3169								3169			3169
13314	Goulburn Mulwaree (A) Bal	175096	143038		10298		25747			12588	42911	28608		128734
13350	Greater Taree (C)	163342	141825	1135					20352	1420	21274			124806
13371	Greater Hume Shire (A - Pt A	125548	78910	16571	9943	552		552			3946			
13374	Greater Hume Shire (A) - Pt B	335206	227858	23925	43293	7405	4557	7975		2279	22786	22786		
13400	Great Lakes (A)	73073	50643	1621		380			12154	1595	15193			30386
13450	Griffith (C)	155256	43441	10860						25196				17376
13500	Gundagai (A)	209279	178381	5351	13379	13379	13379	13379			26757		17838	
13550	Gunnedah (A)	434168	218735	15312	1531					52497	107180	6562	21874	
13650	Guyra (A)	331529	300550		12022	26749	13224	13858		45083	30055	54099	30055	114209
13660	Gwydir (A)	794672	505093	30306						222241	25255		50509	101019
13700	Harden (A)	171628	111915	16787	21823		7274			5596	2238		8953	39170
13800	Hawkesbury (C)	26339	18751	122	128		124	124	3137	393	5625		7500	8250
13850	Hay (A)	1110728	1040494							5203	520247			10405
14201	Inverell (A) - Pt A	477981	365198	46015	1826			1826		31553	160687	91300		98603
14202	Inverell (A) - Pt B	124910	89579	15676	4300			3762		7659	22395	21499		21499
14300	Junee (A)	187126	96080	1922	23059					28824	28824			

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
14350	Kempsey (A)	149272	120799	846					4349	1389	53152			
14400	Kiama (A)	9907	6851			206			3741	69	69			69
14550	Kyogle (A)	188764	147769						13299		36942	29554	29554	51719
14600	Lachlan (A)	1431885	884970	106196						86727	345138			345138
14750	Leeton (A)	100527	43333	5417		217				20584			1300	
14851	Lismore (C) - Pt A	13940	6265						1786		2506			2506
14854	Lismore (C) - Pt B	77323	57306						5158		25788			57306
14870	Lithgow (C)	103612	82380	824	27597		4119			4120	17300	12357		16476
14920	Liverpool Plains (A)	501759	321490	22504	2250					77157	157530	9645	32149	
14950	Lockhart (A)	283586	128582	49504	771		771	771		5143	3857			6429
15050	Maitland (C)	35454	26349	527					2503	2107	5270	3952	2635	13175
15271	Mid-Western Regional (A) - Pt A	387639	324577	17203	25966		6492	974		40897	142814	32458		197992
15274	Mid-Western Regional (A) - Pt B	134107	112981	5988	13558		1695	339		18078	46322	11298		65529
15300	Moree Plains (A)	1749481	673964							269584	336982			336982
15500	Murray (A)	385675	246164	24616						123081				12308
15550	Murrumbidgee (A) + Jerilderie (A)	176631	105328	10533						8427	52664			
15650	Muswellbrook (A)	121905	95446	1909	2386		1193		907	5727	28634	19089	7636	50586
15700	Nambucca (A)	35715	24342	195					5241	258	3651			
15750	Narrabri (A)	790944	420090							84018	294063			
15800	Narrandera (A)	402773	185921	22868		3346				63212			18592	100397

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
15850	Narromine (A)	522225	286054	22884	7151		2861			81525	85816			171632
16100	Oberon (A)	171898	133644	6682	17374	18710	11026	4677		13364	13364	26729		113597
16150	Orange (C)	18442	15156	758	1591	1591	1061	530		2274	3031	2273		12125
16181	Palerang (A) - Pt A	74548	56744	397	4596		1986	567		3065	13051	2837	14186	
16184	Palerang (A) - Pt B	168273	139806	2376	6990	8458	5592			10625	37748	44738		32155
16200	Parkes (A)	550718	305199	80115	2136		2136			4578	15260	9156	6104	143444
16385	Port Macquarie-Hastings (A) - Pt B	92475	64500	516		548			11417	129	16125	230	1344	31605
16470	Queanbeyan (C)	5239	4598	32	269		113	32		165	1609		1104	
16611	Richmond Valley (A) - Casino	8088	6813									3066		3407
16612	Richmond Valley (A) Bal	132442	102073								66347			102073
16900	Shellharbour (C)	5215	3536			71			1697		530	71	71	2970
16951	Shoalhaven (C) - Pt A	7302	5892			71		12	2398	353	295	59	59	
16952	Shoalhaven (C) - Pt B	33938	24080			482		241	7585	3612	2408	482	722	
17000	Singleton (A)	156489	132631	2652					928	7958	39789	26526	10610	70294
17050	Snowy River (A)	265145	239735	4076	17740	9230	2397			11388	95894	28768	47947	74318
17311	Tamworth Regional (A) - Pt A	39902	30084	2497	181					2106	19555	1504	1504	20156
17314	Tamworth Regional (A) - Pt B	737460	583735	87560	18971	4962	34148	3794		54871	297705	17512	5837	303542

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
17350	Temora (A)	278385	126137	42508	757		757			505	10091			
17400	Tenterfield (A)	415565	371978	2976		9671	15251	29758	5952	7440	130192	130192		14879
17450	Tumbarumba (A)	185619	116090	813	12538	6095	10796	906		1161	40632		23218	
17500	Tumut Shire (A)	125321	106808	748	14419	3471	8865	833		1068	37383		21362	20294
17554	Tweed (A) - Tweed-Heads	3814	1814						136		907			1814
17556	Tweed (A) - Tweed Coast	4770	2323								1975			348
17558	Tweed (A) - Pt B	38366	23480						2642		17610			23480
17620	Upper Hunter Shire (A)	646785	572198	114440	16022	40054		36621		114440	114440	57220		22888
17640	Upper Lachlan (A)	553249	494317	24716	79091		24716			21750	148295		123579	444885
17650	Uralla (A)	270927	246395		3696	7269	6406	21683		34495	32031	73919	24640	130589
17700	Urana (A)	331550	193236	51208						1933	9662	7729		9662
17754	Wagga Wagga (C) - Pt B	436569	307050	32240	64481		10747	19160		3070	46058		30705	
17800	Wakool (A)	620957	419815	20991						201511				356843
17850	Walcha (A)	386028	336991	3033	3370	20219	14491	56615		33699	33699	67398	33699	134796
17900	Walgett (A)	2085852	1466374							293274	659868			
17950	Warren (A)	963184	708360	28334						100941	425016			566688
18020	Warrumbungle Shire (A)	870885	640388	28177						57634	256155	108866	96058	461079
18100	Weddin (A)	294735	149428	26897	2092		1494				40346			
18150	Wellington (A)	395054	326999	266831	11118		4251		4251	6540	6540	3270		6540
18200	Wentworth (A)	2583829	2349070							28722	939628			
18350	Wingecarribee (A)	73255	55477		4993	4161	2496			3884	11095	4438	9986	

SLA ID	2005 SLA Name	Total SLA area ha	Grazing area ha	Lucerne	Phalaris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native	Over sown native	Fertilised native	Pastures in decline
18400	Wollondilly (A)	28134	19242	125	196		190	191	3221	673	4618		8659	9813
18454	Wollongong (C) Bal	3660	2461			25			665		492	123	246	1600
18710	Yass Valley (A)	287165	250296	1752	20274	5006	8760	2503		9008	62574	12515	62574	
18750	Young (A)	262456	154241	15424	26992		8175			15424	6170		9254	
18809	Unincorp. Far West	7972883	7896370								7817406			
	Total areas ha	**61738764**	**49749019**	**1756799**	**746512**	**305288**	**372727**	**319191**	**263332**	**4890994**	**22552146**	**1360798**	**1046371**	**7016248**
		Total SLA area ha	**Grazing area ha**	**Lucerne**	**Phalaris**	**Per rye-grass**	**Cocks-foot**	**Fescue**	**Kikuyu**	**Sown crops**	**Unimproved native**	**Over sown native**	**Fertilised native**	**Pastures in decline**
	Percent of State			3.5	1.5	0.6	0.7	0.6	0.5	9.8	45.3	2.7	2.1	14.1

Table 3a. ***Estimated areas of selected pastures for all agricultural SLAs for South Australia***

SLA ID	SLAname	Total SLA area ha	Grazing area ha	Sub clover	Strawberry clover	Legumes	Strand medic	Barrel medic	Burr medic	Woolly-burr medic	All Medics	Annual rye grass
40125	Adelaide Hills (DC) - North	15814	11160	2935								
40128	Adelaide Hills (DC) Bal	15561	10336	2786								
40221	Alexandrina (DC) - Coastal	28018	19752	4513				395	395		790	790
40224	Alexandrina (DC) - Strathalbyn	83826	44136	9180				1765	1765		3531	177
40311	Barossa (DC) - Angaston	20839	13614	3567							0	
40314	Barossa (DC) - Barossa	34840	23047	5969							0	
40315	Barossa (DC) - Tanunda	5551	3075	806							0	
40430	Barunga West (DC)	163808	24522				1324	4770	2244		8337	
41010	Ceduna (DC)	454183	226161				11466	24991	21553		58010	
41140	Clare and Gilbert Valleys (DC)	192422	72483	16309							0	
41190	Cleve (DC)	391004	127011			2032	20271	12193	10974		43438	
41560	Copper Coast (DC)	72769	5718					958	986		1944	
41750	Elliston (DC)	539030	362286	181			36410	22136	26411		84956	
41830	Flinders Ranges (DC)	573388	561185						56119		56119	
41960	Franklin Harbour (DC)	267881	119612				16925	10155	9461		36541	
42110	Goyder (DC)	690597	531305	1594				7651	64872		72523	
42250	Grant (DC)	126710	113307	15636	3342				1926		1926	6379
42750	Kangaroo Island (DC)	218691	154314	34551		617					0	28795
43080	Karoonda East Murray (DC)	361076	170769				26725	20322	16052	16052	79151	

SLA ID	SLAname	Total SLA area ha	Grazing area ha	Sub clover	Strawberry clover	Legumes	Strand medic	Barrel medic	Burr medic	Woolly-burr medic	All Medics	Annual rye grass
43220	Kimba (DC)	396444	160484				21874	13256	11571		46701	
43360	Kingston (DC)	268810	243337	42341	7178				4137		4137	13700
43570	Le Hunte (DC)	499428	171298	86			26671	16085	12745		55501	
43650	Light (RegC)	129248	42761	5131			1026	342	342		1710	
43710	Lower Eyre Peninsula (DC)	316914	106165	6370		2123	8663	2888	5436		16986	8493
43791	Loxton Waikerie (DC) - East	492399	195505				20528	10753	8798	8798	48876	
43794	Loxton Waikerie (DC) - West	219343	103777				10118	4929	3892	3892	22831	
43920	Mallala (DC)	77305	18495				2219	6658	2358		11236	
44210	Mid Murray (DC)	550417	400072				29005	14003	11002	11002	65012	
44554	Mount Barker (DC) Bal	30288	25754	6902							0	
44830	Mount Remarkable (DC)	289077	160036					2048	14115		16164	
45040	Murray Bridge (RC)	132559	72553	8452			2902	2031	2031	726	7691	1088
45090	Naracoorte and Lucindale (DC)	392652	315924	43598	9320				5371		5371	17787
45120	Northern Areas (DC)	298922	110271	6396				926	4863		6671	6616
45400	Orroroo/Carrieton (DC)	349672	298197					2863	29343		32205	12524
45540	Peterborough (DC)	277078	257752						50262		50262	
46454	Port Pirie C Dists (M) Bal	159121	48682				1168	3505	1412		6085	
46671	Renmark Paringa (DC) - Paringa	52847	13339				754	954	454	554	2714	
46860	Robe (DC)	79853	71220	9828	2101				1211		1211	4010
47290	Southern Mallee DC	394492	185304				17604	12971	8339	8339	57945	7412
47490	Streaky Bay (DC)	589481	280651				30731	18439	22817		71987	
47630	Tatiara (DC)	596566	407718	56265	12028				6931		6931	22955
47800	The Coorong (DC)	650261	425046	74596			8501	2125	41442	2125	54193	3400
47910	Tumby Bay (DC)	236182	62533	3752			8567	5140	3896		17697	2501

SLA ID	SLAname	Total SLA area ha	Grazing area ha	Sub clover	Strawberry clover	Legumes	Strand medic	Barrel medic	Burr medic	Woolly-burr medic	All Medics	Annual rye grass
48050	Victor Harbor (C)	27902	23900	3681			179	179			359	1912
48130	Wakefield (DC)	368494	89723	1615			13458	8075	6191		27724	1077
48341	Wattle Range (DC) - East	118441	88805	12255	2620				1510		1510	5000
48344	Wattle Range (DC) - West	161233	136697	18864	4033				2324		2324	7696
48750	Yankalilla (DC)	52122	44446	10045							0	3556
48831	Yorke Peninsula (DC) - North	348872	76443				15097	9058	6039		30195	2293
48834	Yorke Peninsula (DC) - South	184900	64523				12743	7646	5097		25487	1936
49249	Unincorp. West Coast	477935	280812				32153	19292	17073		68518	
	Total areas ha	**13475266**	**7576016**	**408203**	**40,622**	**4772**	**377085**	**269502**	**503757**		**1,213,500**	**160096**
		Total SLA area ha	**Grazing area ha**	**Sub clover**	**Strawberry clover**	**Legumes**	**Strand medic**	**Barrel medic**	**Burr medic**	**Woolly-burr medic**	**All Medics**	**Annual rye grass**
	Percent coverage of State			**5**	**0.5**	**0**	**5**	**4**	**7**		**16.0**	**2**

Table 3b. ***Estimated areas of selected pastures species and the distribution of native pasture types and including those in decline for SA***

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native pastures	Fertilised native Pastures	Pastures in decline
40125	Adelaide Hills (DC) - North	15814	11160		497	1027	84		34	318		1451	3125
40128	Adelaide Hills (DC) Bal	15561	10336		460	951	78		31	295		1344	2894
40221	Alexandrina (DC) - Coastal	28018	19752	741	1333	988	504		158	563			11654
40224	Alexandrina (DC) - Strathalbyn	83826	44136	1655	3090	2207	1457		177	839		2207	23833
40311	Barossa (DC) - Angaston	20839	13614		1457	613	286			388		1361	3404
40314	Barossa (DC) - Barossa	34840	23047		3100	484	588			657		2305	5762
40315	Barossa (DC) - Tanunda	5551	3075		329	138	65			88		308	769
40430	Barunga West (DC)	163808	24522							9318			7357
41010	Ceduna (DC)	454183	226161							64456		22616	151528
41140	Clare and Gilbert Valleys (DC)	192422	72483	725						8698			18121
41190	Cleve (DC)	391004	127011	1651						29340	7621	12701	80017
41560	Copper Coast (DC)	72769	5718							2173	286		1715
41750	Elliston (DC)	539030	362286	2717						68834	54343	36229	235486
41830	Flinders Ranges DC	573388	561185								533126		
41960	Franklin Harbour (DC)	267881	119612							22726	5981	11961	89709
42110	Goyder (DC)	690597	531305	5313						25237	265653		361287
42250	Grant (DC)	126710	113307	11331	19319	19829	1020	2606					67984
42750	Kangaroo Island DC	218691	154314	1389	18518	3086	4629	617	3086	7561	3086		10802
43080	Karoonda East Murray (DC)	361076	170769	1708						10674			162231
43220	Kimba (DC)	396444	160484							30492	8024	16048	125178
43360	Kingston (DC)	268810	243337	24334	41489		2190	5597					146002

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native pastures	Fertilised native Pastures	Pastures in decline
43570	Le Hunte (DC)	499428	171298	1285						45394	8565	8565	128474
43650	Light (RegC)	129248	42761	2138						7597	12828		12828
43710	Lower Eyre Peninsula (DC)	316914	106165	4512	1327		265			18048	6370	10617	52021
43791	Loxton Waikerie (DC) - East	492399	195505							23460			97753
43794	Loxton Waikerie (DC) - West	219343	103777							18940			57077
43920	Mallala (DC)	77305	18495							879	925		4624
44210	Mid Murray (DC)	550417	400072							74014			160029
44554	Mount Barker (DC) Bal	30288	25754		1648	2138	309		77	734	3863	2575	6439
44830	Mount Remarkable (DC)	289077	160036							8002	104023		139231
45040	Murray Bridge (RC)	132559	72553	5441	2503		544		290	4825	7255	3628	60945
45090	Naracoorte and Lucindale (DC)	392652	315924	31592	53865		2843	7266					189554
45120	Northern Areas (DC)	298922	110271	2205						22330	60649		24260
45400	Orroroo/Carrieton (DC)	349672	298197							2982	250485		292233
45540	Peterborough (DC)	277078	257752								244864		257752
46454	Port Pirie C Dists (M) Bal	159121	48682							4868	2434		7302
46671	Renmark Paringa (DC) - Paringa	52847	13339							2128			9071
46860	Robe (DC)	79853	71220	8012	12143		641	1638					42732
47290	Southern Mallee DC	394492	185304	9265						31733			83387
47490	Streaky Bay (DC)	589481	280651							74372	42098	28065	117873
47630	Tatiara (DC)	596566	407718	45868	69516		3669	9378					244631
47800	The Coorong (DC)	650261	425046	79696					8500	28266	21252		314534
47910	Tumby Bay (DC)	236182	62533	2345	782		156			14258	3127	625	30016
48050	Victor Harbor (C)	27902	23900	167	2151	2868	717	24	956	191	1195	956	4541
48130	Wakefield (DC)	368494	89723							25571	16150		61012

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Fescue	Kikuyu	Sown crops	Unimproved native pastures	Fertilised native Pastures	Pastures in decline
48341	Wattle Range (DC) - East	118441	88805	8881	15141	1776	799	2043					53283
48344	Wattle Range (DC) - West	161233	136697	13670	23307	2734	1231	3144					82018
48750	Yankalilla (DC)	52122	44446	267	2222	9111	1333	178	889	1423	444	889	19556
48831	Yorke Peninsula (DC) - North	348872	76443							13760	7644		22933
48834	Yorke Peninsula (DC) - South	184900	64523							11614	6452		19357
49249	Unincorp. West Coast	477935	280812							26677	70203	28081	244306
	Total areas ha	**13475266**	**7576016**	**266908**	**274,197**	**47949**	**23,408**	**32490**		**744,723**	**1748947**	**192531**	**4348627**
		Total SLA area ha	**Grazing area ha**	**Luc-erne**	**Phal-aris**	**Per rye-grass**	**Cocks-foot**	**Fescue**	**Kikuyu**	**Sown crops**	**Unimproved native pastures**	**Fertilised native Pastures**	**Pastures in decline**
	Percent coverage of State			**4**	**3.6**	**0.6**	**0.3**	**0**		**9.8**	**23**	**3**	**57**

Table 4:- ***Estimated areas of selected pastures for all agricultural SLAs, including areas and the distribution of native pasture types and those in decline for Tasmania***

SLA ID	SLA name	Total SLA area ha	Grazing area ha	annual ryegrass	cockfoot	fescue	Lucerne	Per rye grass	Phalaris	Sub clover	White clover	Unimproved native pasture	Pastures in decline
60210	Break ODay (M)	60006	38563	1735	8869			12147		2931	1774	1157	4628
60612	Burnie (C) - Pt B	7378	5577	106	1380	42	53	1662		315	527	56	725
60812	Central Coast (M) - Pt B	23610	16055	1525	2866	120	153	3099		241	1646	161	1766
61010	Central Highlands (M)	209593	162555	7315	6340		1300	20238	975	10485		91031	149551
61210	Circular Head (M)	103291	75386	5729	6219	3015	716	34678		4712	1508	754	8292
61512	Derwent Valley (M) - Pt B	16354	10227	460	409		82	2122	102	685			9204
61810	Dorset (M)	125623	76228	3430	12196		610	24545		3964	6251		15246
62010	Flinders (M)	67720	45746		3660		686	16926		1830		6862	
62212	George Town (M) - Pt B	20051	13633	613	1022		20	3442		1295	102	682	4772
62410	Glamorgan/Spring Bay (M)	103768	71296	642	4919		570	7771	713	5062		27805	39926
63010	Huon Valley (M)	27917	17748	426	887	44		3993		186	1278	177	2307
63210	Kentish (M)	24211	18756	356	3751	141	178	4089		309	2148	188	563
63410	King Island (M)	68977	59591		2384	7449	477	26488			10130		35755
63611	Kingborough (M) - Pt A	7462	4007										
63612	Kingborough (M) - Pt B	6093	3357		252	8		663		60	426	168	504
63812	Latrobe (M) - Pt B	13584	7105									71	711
64012	Launceston (C) - Pt B	16436	14362	259	574		72	2434		1221	359	144	4021
64013	Launceston (C) - Pt C	23647	16507	297	660		83	2798		1403	413	165	4622
64212	Meander Valley (M) - Pt B	103901	76810	1459	11368	2880	584	21315		1344	7835	3841	1536
64612	Northern Midlands (M) - Pt B	352332	256011	21761	19201	2816	4608	46082	3840	18689	1280	51202	66563
64812	Sorell (M) - Pt B	13374	8107									1135	2513
65010	Southern Midlands (M)	206876	159890	1599	13191		1279	24383	5596	13031		52764	86341

SLA ID	SLA name	Total SLA area ha	Grazing area ha	annual ryegrass	cockfoot	fescue	Lucerne	Per rye grass	Phalaris	Sub clover	White clover	Unimproved native pasture	Pastures in decline
65210	Tasman (M)	17530	12690		952	32		3001		482	1047	1269	1904
65412	Waratah/Wynyard (M) - Pt B	14124	10229	194	2481	77	97	3048		578	967	102	1330
65812	West Tamar (M) - Pt B	8626	5978	108	239		30	1013		508	149	60	1674
	Total areas	**1642484**	**1186414**	**48016**	**103822**	**16625**	**11598**	**265939**	**11227**	**69332**	**37839**	**239792**	**444451**
		Total SLA area ha	**Grazing area ha**	**annual ryegrass**	**cockfoot**	**fescue**	**Lucerne**	**Per Rye grass**	**Phalaris**	**Sub clover**	**White clover**	**Unimproved native pasture**	**Pastures in decline**
	Pasture %			**4.0**	**8.8**	**1.4**	**1.0**	**22.4**	**0.9**	**5.8**	**3.2**	**20.2**	**37.5**

Table 5a. Estimated areas of selected pastures species for all agricultural SLAs for Victoria

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub-clover	White clover	Annual ryegrass	Luc-erne	Phal-aris	Per rye-grass	Fescue
20111	Alpine (S) - East	29186	23278	1164	116	815	116	3026	931	233
20112	Alpine (S) - West	41695	30830	1542	154	1079	154	4008	1233	308
20260	Ararat (RC)	320306	210203	25352	5030	17706	7042	48289	30180	3219
20572	Ballarat (C) - Inner North	12825	9926	476	417	526	347	893	1807	179
20573	Ballarat (C) - North	23144	17384	834	782	921	608	1565	3477	313
20574	Ballarat (C) - South	1945	1746	73	65	77	37	157	306	52
20741	Bass Coast (S) - Phillip Is.	4446	3806	105	209	240	34	137	1028	69
28529	Bass Coast (S) - French Is.	2950	2370	109	97	171	19	71	680	1434
20744	Bass Coast (S) Bal	57261	47799	1362	3011	2151	765	1434	15774	
20831	Baw Baw (S) - Pt A	16470	11933	626	597	215	95	1074	2924	358
20834	Baw Baw (S) - Pt B East	37089	28893	1228	1502	520	231	2600	8379	867
20835	Baw Baw (S) - Pt B West	68756	57511	2444	3566	2070	460	3451	19554	1725
21011	Benalla (RC) - Benalla	1998	1887	132	11	19	66	292	170	
21014	Benalla (RC) Bal	134864	99731	6981	598	997	3491	15458	8976	
21271	Buloke (S) - North	513033	133387	2668	667	20675	6002	2001	667	
21272	Buloke (S) - South	218634	67979	1530	340	8837	3059	1020	340	
21371	Campaspe (S) - Echuca	3235	2227	200	102	401	78	178	178	
21374	Campaspe (S) - Kyabram	77654	59494	5354	2737	10709	2082	4760	4760	
21375	Campaspe (S) - Rochester	152861	94424	8498	4344	16996	3305	7554	7554	
21376	Campaspe (S) - South	93223	62579	5632	2879	11264	2190	5006	5006	
21452	Cardinia (S) - North	25605	19272	906	1580	809	96	1060	4163	578
21453	Cardinia (S) - Pakenham	8473	7186	323	388	216	93	216	2048	129
21454	Cardinia (S) - South	26286	21594	1123	1252	691	281	648	6953	648

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub-clover	White clover	Annual ryegrass	Luc-erne	Phal-aris	Per rye-grass	Fescue
21618	Casey (C) - South	9929	6030	314	350	193	78	181	1869	181
21674	C. Goldfields (S) Bal	100210	59914	3954	599	7969	2097	19772	3595	1438
21754	Colac-Otway (S) - North	134519	110539	7461	9949	1382	1105	6632	39241	1105
21755	Colac-Otway (S) - South	22992	16575	912	2238	207	332	912	5553	166
21831	Corangamite (S) - North	205017	149039	6707	14904	2236	373	7452	40241	745
21832	Corangamite (S) - South	140511	121324	5460	17592	3033	607	5460	41250	1213
22111	E. Gippsland (S) - Bairnsdale	20078	17625	1022	370	282	282	529	2115	317
22113	E. Gippsland (S) - Orbost	117204	95545	4586	2484	1529	764	2866	17198	1720
22115	E. Gippsland (S) - South-West	88766	78358	4937	1646	1254	1254	4701	9403	1410
22117	E. Gippsland (S) Bal	213671	179606	11315	3772	2874	2874	10776	21553	3233
22250	Gannawarra (S)	328875	165574	1656	2484	18793	10597	3725	1242	
22411	Glenelg (S) - Heywood	130412	109754	12567	8232	7683	494	20304	27658	
22412	Glenelg (S) - North	160276	136695	15515	4784	13943	6151	29253	12029	547
22413	Glenelg (S) - Portland	3769	3192	239	383	16	41	48	1213	16
22491	Golden Plains (S) - North-West	54215	38614	965	290	1158	290	3475	193	
22492	Golden Plains (S) - South-East	128264	83980	1470	630	2519	630	7558	420	
22625	Gr. Bendigo (C) - Inner West	10143	3593	190	90	413	126	862	539	86
22626	Gr. Bendigo (C) - Ssaye	1808	1543	85	39	177	54	370	231	37
22628	Gr. Bendigo (C) - Pt B	145649	102222	5418	2556	11756	4804	24533	15333	1636
22752	Corio - Inner	6113	3225	56	24	97	24	266	16	
22756	South Barwon - Inner	5512	4523	215	321	163	95	543	23	
22757	Greater Geelong (C) - Pt B	12284	7341	327	477	147	206	881	932	

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub-clover	White clover	Annual ryegrass	Luc-erne	Phal-aris	Per rye-grass	Fescue
22758	Greater Geelong (C) - Pt C	24422	11818	295	89	355	89	975	59	
22831	Gr Shepparton (C) - Pt A	28767	18518	2130	1463	1481	648	1481	1389	
22834	Gr. Shepparton (C) - Pt B East	85079	53036	6099	4190	4243	1856	4243	3978	
22835	Gr. Shepparton (C) - Pt B West	77150	55045	6330	4349	4404	1927	4404	4128	
22911	Hepburn (S) - East	22058	16786	755	890	739	353	1561	2938	504
22912	Hepburn (S) - West	47476	35837	1613	1433	1577	753	3225	6271	1075
22980	Hindmarsh (S)	421352	119324	895		1074	1671	895	1969	
23194	Horsham (RC) Bal	321944	121111	18893	1042	19983	1696	30883	2422	
23274	Hume (C) - Craigieburn	9468	6897	234	421	97	207	414	1552	331
23275	Hume (C) - Sunbury	7131	5494	187	335	77	69	330	1236	264
23351	Indigo (S) - Pt A	71129	59089	4136	295	739	1654	9159	4727	
23352	Indigo (S) - Pt B	42015	28223	1976	212	353	988	4375	2258	
23811	Latrobe (C) - Moe	3951	3007	153	147	96	24	90	722	90
23814	Latrobe (C) - Morwell	12804	10884	555	533	348	87	327	2612	327
23815	Latrobe (C) - Traralgon	18383	15629	906	813	500	125	469	3470	469
23818	Latrobe (C) Bal	11512	9570	507	450	306	77	287	2297	287
23943	Loddon (S) - North	289927	159896	8315	3997	16789	5596	38375	23984	3838
23945	Loddon (S) - South	242416	149664	9429	2245	15715	5238	44899	13470	3592
24131	Macedon Ranges (S) - Kyneton	36742	31416	1979	628	3299	314	8482	3770	565
24134	Macedon Ranges (S) - Romsey	145649	31556	1988	631	3313	316	8520	3787	568
24135	Macedon Ranges (S) Bal	13485	10533	611	211	1106	105	2844	1264	190
24250	Mansfield (S)	84571	71173	3559	356	712	2491	9252	2135	712
24654	Melton (S) Bal	12730	7862	267	480	110	98	472	1769	377
24782	Mildura (RC) - Pt B	904906	332856			2496	1997			
24851	Mitchell (S) - North	90427	78023	5462	468	780	4369	11157	5930	1560
24854	Mitchell (S) - South	36216	32541	2278	195	325	1822	5044	3124	651
24901	Moira (S) - East	134017	55685	5234	891	4455	2339	8631	891	223

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub-clover	White clover	Annual ryegrass	Luc-erne	Phal-aris	Per rye-grass	Fescue
24904	Moira (S) - West	183063	113419	10661	1815	9074	4764	17580	1815	454
25151	Moorabool (S) - Bacchus Marsh	28467	13552	440	813	542	474	1626	68	
25154	Moorabool (S) - Ballan	42601	34127	1365	2048	1365	1194	4095	171	
25155	Moorabool (S) - West	34131	24903	809	1494	996	872	2988	3860	
25341	Mornington Psula (S) - East	16304	6870	385	295	220	220	330	1876	206
25344	Mornington Psula (S) - South	9691	6602	383	330	304	158	198	1730	198
25434	Mount Alexander (S) Bal	80225	64734	4078	1295	6797	647	17478	7768	971
25491	Moyne (S) - North-East	149880	120732	4709	16178	12073	241	1690	16057	
25493	Moyne (S) - North-West	174113	120732	6750	21001	1500	750	3000	55504	
25496	Moyne (S) - South	135414	118073	4723	16530	3542	590	2361	41326	590
25621	Murrindindi (S) - East	53370	46186	3002	139	485	1940	7159	2633	693
25622	Murrindindi (S) - West	91522	76591	4978	345	804	3217	11642	3447	1149
25718	Nillumbik (S) Bal	5749	4715	160	288	66	24	283	1061	226
25811	N. Grampians (S) - St Arnaud	178798	96352	11948	482	15561	1349	9442	2312	
25814	N. Grampians (S) - Stawell	178502	114535	13744	687	19070	1603	16035	2291	
25991	Pyrenees (S) - North	119271	85128	6895	2128	11322	2979	20431	12769	1362
25994	Pyrenees (S) - South	116872	76381	3895	1910	10082	2673	18331	11457	1222
26171	South Gippsland (S) - Central	105575	91835	3306	5877	4133	735	3306	31224	2755
26174	South Gippsland (S) - East	65646	57904	2085	3706	2606	463	2085	19687	1737
26175	South Gippsland (S) - West	47290	40638	1463	2601	1829	325	1463	13817	1219
26264	S. Grampians (S) - Wannon	157639	142100	16839	6110	12789	4974	31120	29557	284
26265	S. Grampians (S) Bal	308549	256864	26971	17980	20549	10275	55868	68069	1284
26430	Strathbogie (S)	231593	180028	12602	1080	1800	6301	27904	14402	3601

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub-clover	White clover	Annual ryegrass	Luc-erne	Phal-aris	Per rye-grass	Fescue
26493	Surf Coast (S) - East	21283	15106	680	1208	453	604	1360	3097	
26495	Surf Coast (S) - West	54390	36225	1540	2898	1087	1449	3260	7426	
26614	Swan Hill (RC) - Robinvale	43483	7802	78	117	714	499	78	176	
26616	Swan Hill (RC) Bal	443351	112653	1127	1127	11941	7210	1127	2816	
26671	Towong (S) - Pt A	39241	33426	2540	134	334	468	5682	2674	
26672	Towong (S) - Pt B	131159	111534	8477	1115	1115	1561	18961	8923	
26704	Wangaratta (RC) - North	71034	56471	3953	282	1412	1694	8753	4518	
26705	Wangaratta (RC) - South	95873	77494	5425	194	775	2712	12012	6200	
26730	Warrnambool (C)	8316	6898	310	1000	69	69	207	2552	34
26811	Wellington (S) - Alberton	76530	66644	3665	3266	2133	1066	1999	20993	1999
26812	Wellington (S) - Avon	75710	53270	3196	852	852	426	3196	7458	639
26813	Wellington (S) - Maffra	82324	51941	2545	2493	1662	416	1558	10492	1558
26814	Wellington (S) - Rosedale	109482	86822	4602	4081	2778	695	2605	25786	2605
26890	West Wimmera (S)	739691	542410	68344	2170	80005	37426	124212	4339	1085
27071	Whittlesea (C) - North	12001	10736	365	655	150	54	644	2416	515
27170	Wodonga (RC)	25462	23605	1652	177	295	826	3659	236	472
27261	Wyndham (C) - North	6446	3221	81	24	97	48	242	16	
27264	Wyndham (C) - South	22222	15469	1005	2320	77	186	155	1330	6033
27267	Wyndham (C) - West	13608	8623	151	65	237	129	711	43	
27451	Yarra Ranges (S) - Central	6384	3760	128	229	53	19	226	846	180
27454	Yarra Ranges (S) - North	8856	5381	183	328	75	27	323	1211	258
27456	Yarra Ranges (S) - Seville	12591	7322	249	447	103	37	439	1647	351
27458	Yarra Ranges (S) - Pt B	594	424	17	21	14	1	25	107	20
27631	Yarriambiack (S) - North	319052	68911	551		758	1930	620	2205	

27632	Yarriambiack (S) - South	324511	50535	3537	202	5054	1061	7075	3032	
SLA ID	**SLA name**	**Total SLA area ha**	**Grazing area ha**	**Sub-clover**	**White clover**	**Annual ryegrass**	**Luc-erne**	**Phal-aris**	**Per rye-grass**	**Fescue**
	Total areas ha	**12365742**	**7391407**	**495415**	**261957**	**511150**	**208221**	**912337**	**934521**	**73288**
		Total SLA area ha	**Grazing area ha**	**Sub-clover**	**White clover**	**Annual ryegrass**	**Luc-erne**	**Phal-aris**	**Per rye-grass**	**Fescue**
	Percent of State			**6.7**	**3.5**	**6.9**	**2.8**	**12.3**	**12.6**	**1.0**

Table 5b. Estimated areas of selected pastures species and the distribution of native pasture types and including those in decline for Victoria

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Cocks-foot	Kikuyu	Sown crops	Fertilized natives	Unimproved native	Pastures in decline
20111	Alpine (S) - East	29186	23278	466		163		5820	
20112	Alpine (S) - West	41695	30830	617		216		7708	
20260	Ararat (RC)	320306	210203	12072		1577	4204	4204	4204
20572	Ballarat (C) - Inner North	12825	9926	596		199	397	298	496
20573	Ballarat (C) - North	23144	17384	1043		348	348	348	869
20574	Ballarat (C) - South	1945	1746	105		42	52	52	175
20741	Bass Coast (S) - Phillip Is.	4446	3806	160	160	61	114	266	
28529	Bass Coast (S) - French Is.	2950	2370	71		38	95	119	
20744	Bass Coast (S) Bal	57261	47799	2008	1434	382	1434	2390	
20831	Baw Baw (S) - Pt A	16470	11933	1074	358	191	119	835	
20834	Baw Baw (S) - Pt B East	37089	28893	2600	347	520	289	1445	
20835	Baw Baw (S) - Pt B West	68756	57511	3451	690	1438	575	1725	
21011	Benalla (RC) - Benalla	1998	1887	75		11		283	
21014	Benalla (RC) Bal	134864	99731	3989		598		14960	
21271	Buloke (S) - North	513033	133387	667		6669			
21272	Buloke (S) - South	218634	67979	1360		3399			
21371	Campaspe (S) - Echuca	3235	2227	9		111		223	
21374	Campaspe (S) - Kyabram	77654	59494	238		2975		5949	
21375	Campaspe (S) - Rochester	152861	94424	378		4721		9442	
21376	Campaspe (S) - South	93223	62579	250		3129		6258	
21452	Cardinia (S) - North	25605	19272	578	482	58	193	2505	
21453	Cardinia (S) - Pakenham	8473	7186	172	259	57	72	359	
21454	Cardinia (S) - South	26286	21594	648	777	389	216	432	

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Cocks-foot	Kikuyu	Sown crops	Fertilized natives	Unimproved native	Pastures in decline
21618	Casey (C) - South	9929	6030	181	217	48	60	121	
21674	C. Goldfields (S) Bal	100210	59914	2996		539	1198	1198	1198
21754	Colac-Otway (S) - North	134519	110539	8843	3316	884			
21755	Colac-Otway (S) - South	22992	16575	2321	497	41			
21831	Corangamite (S) - North	205017	149039	10433	5216	373		7452	59616
21832	Corangamite (S) - South	140511	121324	16379	4246	607			
22111	E. Gippsland (S) - Bairnsdale	20078	17625	1586	2468	282	529	529	
22113	E. Gippsland (S) - Orbost	117204	95545	5733	7644	1529	1911	9555	
22115	E. Gippsland (S) - South-West	88766	78358	7052	8228	1254	2351	2351	
22117	E. Gippsland (S) Bal	213671	179606	16165	18859	2874	5388	5388	
22250	Gannawarra (S)	328875	165574	828		16557			
22411	Glenelg (S) - Heywood	130412	109754	8561	1317	110		4390	
22412	Glenelg (S) - North	160276	136695	6151	1640	137		16403	
22413	Glenelg (S) - Portland	3769	3192	447	96	8			
22491	Golden Plains (S) - North-West	54215	38614	1158		97	1931		30891
22492	Golden Plains (S) - South-East	128264	83980	2519		210	4199		67184
22625	Gr. Bendigo (C) - Inner West	10143	3593	216		38	72	72	72
22626	Gr. Bendigo (C) - Ssaye	1808	1543	93		16		62	62
22628	Gr. Bendigo (C) - Pt B	145649	102222	6133		1278	2044	4089	4089
22752	Corio - Inner	6113	3225	121		8			2580
22756	South Barwon - Inner	5512	4523	351	163	11	452	271	905
22757	Greater Geelong (C) - Pt B	12284	7341	569	220	7	734	661	1835

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Cocks-foot	Kikuyu	Sown crops	Fertilized natives	Unimproved native	Pastures in decline
22758	Greater Geelong (C) - Pt C	24422	11818	355		30			9454
22831	GrShepparton (C) - Pt A	28767	18518	111		926		1852	
22834	Gr. Shepparton (C) - Pt B East	85079	53036	318		2652		5304	
22835	Gr. Shepparton (C) - Pt B West	77150	55045	330		2752		5505	
22911	Hepburn (S) - East	22058	16786	1007		42	504	504	1679
22912	Hepburn (S) - West	47476	35837	2150		179	1075	1075	3584
22980	Hindmarsh (S)	421352	119324	1193		5429		5966	71594
23194	Horsham (RC) Bal	321944	121111	2422		5450		6056	48444
23274	Hume (C) - Craigieburn	9468	6897	207	207	7	69	759	
23275	Hume (C) - Sunbury	7131	5494	165	165	5	55	604	
23351	Indigo (S) - Pt A	71129	59089	2836		355		8863	
23352	Indigo (S) - Pt B	42015	28223	1411		226		4233	
23811	Latrobe (C) - Moe	3951	3007	90	424	48	30	30	
23814	Latrobe (C) - Morwell	12804	10884	327	1535	174	109	109	
23815	Latrobe (C) - Traralgon	18383	15629	469	2876	250	156	156	
23818	Latrobe (C) Bal	11512	9570	574	1062	153	96	96	
23943	Loddon (S) - North	289927	159896	9594		1679	4797	4797	4797
23945	Loddon (S) - South	242416	149664	7483		1571	2993	5987	5987
24131	Macedon Ranges (S) - Kyneton	36742	31416	2513		236	628	1571	1571
24134	Macedon Ranges (S) - Romsey	145649	31556	2524		237	631	1578	1578
24135	Macedon Ranges (S) Bal	13485	10533	843		79	211	527	527
24250	Mansfield (S)	84571	71173	1423		356		17793	
24654	Melton (S) Bal	12730	7862	236	236	8	79	865	
24782	Mildura (RC) - Pt B	904906	332856			6657			
24851	Mitchell (S) - North	90427	78023	3121		390		5462	7802
24854	Mitchell (S) - South	36216	32541	651		114		1627	2278
24901	Moira (S) - East	134017	55685	557		111		5569	

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Cocks-foot	Kikuyu	Sown crops	Fertilized natives	Unimproved native	Pastures in decline
24904	Moira (S) - West	183063	113419	1134		227		11342	
25151	Moorabool (S) - Bacchus Marsh	28467	13552	813		68	678	678	4743
25154	Moorabool (S) - Ballan	42601	34127	1792		85	1706	1706	11944
25155	Moorabool (S) - West	34131	24903	1494		125	1245	1245	8716
25341	Mornington Psula (S) - East	16304	6870	206	577	55	137	275	
25344	Mornington Psula (S) - South	9691	6602	198	713	123	198	132	
25434	Mount Alexander (S) Bal	80225	64734	5179		486	1295	3237	3237
25491	Moyne (S) - North-East	149880	120732	11530	7244	302			
25493	Moyne (S) - North-West	174113	120732	19501	9001	302			
25496	Moyne (S) - South	135414	118073	13874	7084	295			
25621	Murrindindi (S) - East	53370	46186	1386		185		2771	3695
25622	Murrindindi (S) - West	91522	76591	2298		268		6127	5361
25718	Nillumbik (S) Bal	5749	4715	141	141	5	47	519	
25811	N. Grampians (S) - St Arnaud	178798	96352	2312		4625		4818	65519
25814	N. Grampians (S) - Stawell	178502	114535	2291		7788		5727	68721
25991	Pyrenees (S) - North	119271	85128	5108		638	1703	1703	1703
25994	Pyrenees (S) - South	116872	76381	4583		76	1528	1528	1528
26171	South Gippsland (S) - Central	105575	91835	5510	2204	1286	1837	2755	
26174	South Gippsland (S) - East	65646	57904	3474	1390	811	1158	1737	
26175	South Gippsland (S) - West	47290	40638	2438	975	366	813	1219	
26264	S. Grampians (S) - Wannon	157639	142100	7816		711		8526	
26265	S. Grampians (S) Bal	308549	256864	21191		642			
26430	Strathbogie (S)	231593	180028	7201		1080		27004	

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Cocks-foot	Kikuyu	Sown crops	Fertilized natives	Unimproved native	Pastures in decline
26493	Surf Coast (S) - East	21283	15106	1360		38	755		4532
26495	Surf Coast (S) - West	54390	36225	3260		91	1811		10868
26614	Swan Hill (RC) - Robinvale	43483	7802	20		780			
26616	Swan Hill (RC) Bal	443351	112653	563		4506			
26671	Towong (S) - Pt A	39241	33426	1471		201		5014	
26672	Towong (S) - Pt B	131159	111534	4907		669		16730	
26704	Wangaratta (RC) - North	71034	56471	2824		282		8471	
26705	Wangaratta (RC) - South	95873	77494	3875		775		11624	
26730	Warrnambool (C)	8316	6898	1017	172	17			
26811	Wellington (S) - Alberton	76530	66644	3999	3999	1066	666	666	
26812	Wellington (S) - Avon	75710	53270	4794	3196	852	2664	2664	
26813	Wellington (S) - Maffra	82324	51941	1558	3116	519	519	1558	
26814	Wellington (S) - Rosedale	109482	86822	2605	7293	1389	868	868	
26890	West Wimmera (S)	739691	542410	16272		23052		32545	195268
27071	Whittlesea (C) - North	12001	10736	322	322	11	107	1181	
27170	Wodonga (RC)	25462	23605	944		118		3541	3541
27261	Wyndham (C) - North	6446	3221	97		8			2577
27264	Wyndham (C) - South	22222	15469	186		77			2320
27267	Wyndham (C) - West	13608	8623	259		22			6898
27451	Yarra Ranges (S) - Central	6384	3760	113	113	4	38	414	
27454	Yarra Ranges (S) - North	8856	5381	161	161	5	54	592	
27456	Yarra Ranges (S) - Seville	12591	7322	220	220	7	73	805	
27458	Yarra Ranges (S) - Pt B	594	424	13	13	4	4	47	
27631	Yarriambiack (S) - North	319052	68911	1378	199	8545		2067	43414

27632	Yarriambiack (S) - South	324511	50535	1011		4978		2021	27289
	Total areas ha	**12365742**	**7391407**	**349068**	**113272**	**152879**	**60314**	**378902**	**805343**
		Total SLA area ha	**Grazing area ha**	**Cocks-foot**	**Kikuyu**	**Sown crops**	**Fertilized natives**	**Unimproved native**	**Pastures in decline**
	Percent of State			**4.7**	**1.5**	**2.1**	**0.8**	**5.1**	**10.9**

Table 6a:- Estimated areas of selected pastures species for all agricultural SLAs of south-west Western Australia.

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Barrel medic	Burr medic	All medics	Annual rye grass	Serra-della	Biserrula
50084	Albany (C) Bal > 600mm	289155	94514	32702	2835					26936	2835	
50085	Albany (C) Bal < 600mm	142420	46551	13733	466				6517	13034	931	
50280	Augusta-Margaret River (S)	225027	45905	11384	459	688				24284		
50560	Beverley (S)	236935	86836	22708	521					14762		695
50630	Boddington (S)	191025	38442	16146						11148		
50770	Boyup Brook (S)	282542	102616	21857						67111		
50840	Bridgetown-Greenbushes (S)	133761	35025	7618						23453		
50910	Brookton (S)	159958	74217	20224	891			742	742	3711	1336	2375
51080	Broomehill-Tambellup (S)	260728	148544	38027						48277	2971	
51120	Bruce Rock (S)	272329	89347	10632			3395	3395	6790	7148	893	1206
51260	Busselton (S)	145519	52633	14027	526					27817		
51404	Capel (S) - Pt B	55727	26215	6331	524	274				14012		
51470	Carnamah (S)	287294	89993	7739						12599	1080	
51610	Chapman Valley (S)	397895	113628	2841					1704	8522		
51680	Chittering (S)	121714	42832	5011						5140	899	
51890	Collie (S)	170585	9519	1628						6749		
52030	Coorow (S)	418593	131299	11686						18382	1182	
52100	Corrigin (S)	267983	99024	10596			3763	3763	7526	7922	990	1337
52240	Cranbrook (S)	357299	118309	25141	1715				17746	26679	2366	
52310	Cuballing (S)	119397	42156	13616						2023		
52450	Cunderdin (S)	186097	68963	9827	414		690	690	1380	7517	2069	2207
52520	Dalwallinu (S)	722004	167635	14249						23469	4191	
52590	Dandaragan (S)	671031	277866	83360						16672		
52664	Dardanup (S) - Pt B	52809	17721	4714		133				9640		
52730	Denmark (S)	190719	24723	5686	247	247				6131	247	

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Barrel medic	Burr medic	All medics	Annual rye grass	Serra-della	Biserrula
52870	Donnybrook-Balingup (S)	155817	33868	8653		203				18780		
52940	Dowerin (S)	186141	76087	10842			380	380	760	3804	4109	1217
53010	Dumbleyung (S)	253705	104654	23233					2093	39245		
53290	Esperance (S)	4252066	414282	108749		4143			12428	103571	33143	
53526	Greenough - Pt B	175133	115231	2996					4609	2996		
53570	Gingin (S)	320788	96897	3198	484					5668		
53640	Gnowangerup (S)	426174	192105	47834						46105	1921	
53710	Goomalling (S)	183430	68157	14756						3408	1636	1091
53994	Harvey (S) - Pt B	172948	50632	4051	1013					17341		
54060	Irwin (S)	237055	77626	1358								
54130	Jerramungup (S)	651948	201937	23223						82794	10097	
54340	Katanning (S)	151732	73932	19074						24471		
54410	Kellerberrin (S)	191399	56376	6709			2142	2142	4284	3946	1409	761
54480	Kent (S)	562443	159922	31505							1599	
54550	Kojonup (S)	292913	177775	52977						38044		
54620	Kondinin (S)	737185	145773	17493			6560	3280	9840	10496		
54690	Koorda (S)	282940	81518	14469			1223	1223	6522	5910	1956	1712
54760	Kulin (S)	470974	171005	10260			7695	3848	11543	11628		
54900	Lake Grace (S)	1038154	295786	71284				20705	20705	34163	4141	
55180	Manjimup (S)	702527	54505	14117		491				30577		
55460	Merredin (S)	329244	106069	7160			4773	2387	7160	7637		
55530	Mingenew (S)	193465	76666	3642					1342	6900		
55600	Moora (S)	375981	168606	9105	30349					8430	8093	
55670	Morawa (S)	350790	126754							29470		
55880	Mount Marshall (S)	1015646	419698	25182			18886	9443	28329	30218		
55950	Mukinbudin (S)	342582	119738	8082			5388	2694	8082	8621		
56020	Mullewa (S)	1074514	387947							91168		
56230	Murray (S)	178486	44983	8457	1349					15209		
56300	Nannup (S)	293212	21466	5860		129				11957		
56370	Narembeen (S)	382999	131860	8901			5934	2967	8901	9494		

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Barrel medic	Burr medic	All medics	Annual rye grass	Serra-della	Biserrula
56510	Narrogin (S)	161635	82809	26747								
56732	Northam	140369	61169	20706	367					3058	2936	979
56790	Northampton (S)	1365887	489234	29843					35225	35225		
56860	Nungarin (S)	116160	12358	1483			556	278	834	890		
57000	Perenjori (S)	829921	336411							63918		
57140	Pingelly (S)	129326	59638	18070						16013		
57210	Plantagenet (S) > 600mm	292340	83384	24390					4169	20846		
57211	Plantagenet (S) < 600mm	194489	55589	14286	611				8338	19150	1112	
57350	Quairading (S)	201509	93394	24609	560		2335	2335	4670	4670	2802	1868
57420	Ravensthorpe (S)	1354408	175025	30104					28004	15752	17503	
57700	Serpentine-Jarrahdale (S)	90239	18847	1432	565					7426		
58190	Tammin (S)	110106	38599	5500			1737	869	2606	2007		
58260	Three Springs (S)	265736	91462	8140						12805	823	
58330	Toodyay (S)	169139	48600	9914						3645		
58400	Trayning (S)	165061	36843	4421			1658	829	2487	2653		
58540	Victoria Plains (S)	254880	101863	9066						14261	917	
58610	Wagin (S)	194600	95480	24634						29026		
58680	Wandering (S)	189826	53361	22038						10219		
58820	Waroona (S)	83130	22894	2747	687					8265		
58890	West Arthur (S)	282952	145975	43501						14598		
59030	Westonia (S)	334258	70252	8430			3161	1581	4742	4918		
59100	Wickepin (S)	203838	108637	32971						25584	1086	
59170	Williams (S)	230269	120846	50514						20725		
59310	Wongan-Ballidu (S)	336316	110340	1655								
59380	Woodanilling (S)	112800	56555	14591						17193		
59450	Wyalkatchem (S)	159402	59953	3597			2978	1349	4327	4197		
59660	Yilgarn (S)	3042034	468780	31643			21095	10548	31643	32815		
59730	York (S)	212916	67669	15868	406					3383		541

SLA ID	SLA name	Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Barrel medic	Burr medic	All medics	Annual rye grass	Serra-della	Biserrula
	Total area ha	33564483	9462335	1455555	44992	6308	94349	75448	296050	1528430	117274	15989
		Total SLA area ha	Grazing area ha	Sub clover	Balansa clover	White clover	Barrel medic	Burr medic	All medics	Annual rye grass	Serra-della	Biserrula
	Pecent of State			15.4	0.5	0.1	1.0	0.8	3.1	16.2	1.2	0.2

Table 6b:- Estimated areas of selected pastures and including those in decline for all agricultural SLAs in south-west Western Australia

SLA ID	2011 SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Pucinellia	Fescue	Kikuyu	Sown crops	Pastures in decline
50084	Albany (C) Bal > 600mm	289155	94514		567	1323	567		1418	19848	473	
50085	Albany (C) Bal < 600mm	142420	46551	931						1629		
50280	Augusta-Margaret River (S)	225027	45905			3902				1377	918	3213
50560	Beverley (S)	236935	86836									42550
50630	Boddington (S)	191025	38442									7688
50770	Boyup Brook (S)	282542	102616		1231			616	718			13340
50840	Bridgetown-Greenbushes (S)	133761	35025					70		788		4203
50910	Brookton (S)	159958	74217	742								45272
51080	Broomehill-Tambellup (S)	260728	148544					891				44563
51120	Bruce Rock (S)	272329	89347									37526
51260	Busselton (S)	145519	52633			4473				1053	2107	2632
51404	Capel (S) - Pt B	55727	26215			1560				1049	1049	1573
51470	Carnamah (S)	287294	89993								12635	
51610	Chapman Valley (S)	397895	113628									
51680	Chittering (S)	121714	42832								2604	
51890	Collie (S)	170585	9519		114			86	67			1237
52030	Coorow (S)	418593	131299								18434	
52100	Corrigin (S)	267983	99024									41590
52240	Cranbrook (S)	357299	118309	1183				1183		1065		
52310	Cuballing (S)	119397	42156								422	18549
52450	Cunderdin (S)	186097	68963									34482
52520	Dalwallinu (S)	722004	167635								1678	
52590	Dandaragan (S)	671031	277866								13338	
52664	Dardanup (S) - Pt B	52809	17721			753				532	531	1418
52730	Denmark (S)	190719	24723			742			247	5934	247	9642

SLA ID	2011 SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Pucinellia	Fescue	Kikuyu	Sown crops	Pastures in decline
52870	Donnybrook-Balingup (S)	155817	33868			1152				1016	677	3387
52940	Dowerin (S)	186141	76087	761								13696
53010	Dumbleyung (S)	253705	104654					209				20931
53290	Esperance (S)	4252066	414282	20714	10357		24857		9321	57999	8246	
53526	Greenough - Pt B	175133	115231								864	
53570	Gingin (S)	320788	96897							2326	7849	89145
53640	Gnowangerup (S)	426174	192105					768				53789
53710	Goomalling (S)	183430	68157									36805
53994	Harvey (S) - Pt B	172948	50632			8658				12658		33923
54060	Irwin (S)	237055	77626								5046	
54130	Jerramungup (S)	651948	201937	6058						18174		175685
54340	Katanning (S)	151732	73932					444				22180
54410	Kellerberrin (S)	191399	56376									22550
54480	Kent (S)	562443	159922					320				46377
54550	Kojonup (S)	292913	177775					1422				32000
54620	Kondinin (S)	737185	145773									49563
54690	Koorda (S)	282940	81518									42389
54760	Kulin (S)	470974	171005									58142
54900	Lake Grace (S)	1038154	295786								2958	183387
55180	Manjimup (S)	702527	54505			2780				1635	1090	3815
55460	Merredin (S)	329244	106069									38185
55530	Mingenew (S)	193465	76666								1342	
55600	Moora (S)	375981	168606								1854	84303
55670	Morawa (S)	350790	126754								6338	117881
55880	Mount Marshall (S)	1015646	419698									151091
55950	Mukinbudin (S)	342582	119738									43106
56020	Mullewa (S)	1074514	387947								19397	364670
56230	Murray (S)	178486	44983							4498		37336
56300	Nannup (S)	293212	21466			730				644		2147
56370	Narembeen (S)	382999	131860									47470

SLA ID	2011 SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Pucinellia	Fescue	Kikuyu	Sown crops	Pastures in decline
56510	Narrogin (S)	161635	82809								828	36436
56732	Northam	140369	61169									34255
56790	Northampton (S)	1365887	489234								13699	474557
56860	Nungarin (S)	116160	12358									4449
57000	Perenjori (S)	829921	336411								16821	
57140	Pingelly (S)	129326	59638								447	32205
57210	Plantagenet (S) > 600mm	292340	83384			2918				9381		
57211	Plantagenet (S) < 600mm	194489	55589	1112						500		
57350	Quairading (S)	201509	93394	1868								65376
57420	Ravensthorpe (S)	1354408	175025		8751	8751				1750	15925	
57700	Serpentine-Jarrahdale (S)	90239	18847							2639		10366
58190	Tammin (S)	110106	38599									10036
58260	Three Springs (S)	265736	91462								26176	
58330	Toodyay (S)	169139	48600									24300
58400	Trayning (S)	165061	36843									13263
58540	Victoria Plains (S)	254880	101863								7171	
58610	Wagin (S)	194600	95480					573				28644
58680	Wandering (S)	189826	53361								531	10672
58820	Waroona (S)	83130	22894							6868		16713
58890	West Arthur (S)	282952	145975					1168				
59030	Westonia (S)	334258	70252									24588
59100	Wickepin (S)	203838	108637								1084	52146
59170	Williams (S)	230269	120846								966	24169
59310	Wongan-Ballidu (S)	336316	110340								37516	4414
59380	Woodanilling (S)	112800	56555					339				16967
59450	Wyalkatchem (S)	159402	59953									20984
59660	Yilgarn (S)	3042034	468780									164073
59730	York (S)	212916	67669									34511

SLA ID	2011 SLA name	Total SLA area ha	Grazing area ha	Luc-erne	Phal-aris	Per rye-grass	Cocks-foot	Pucinellia	Fescue	Kikuyu	Sown crops	Pastures in decline
	Total area ha	**33564483**	**9462335**	**33369**	**21020**	**37742**	**25424**	**8089**	**11771**	**153362**	**231261**	**3186552**
		Total SLA area ha	**Grazing area ha**	**Luc-erne**	**Phal-aris**	**Per rye-grass**	**Cocks-foot**	**Pucinellia**	**Fescue**	**Kikuyu**	**Sown crops**	**Pastures in decline**
	Pecent of State			**0.4**	**0.2**	**0.4**	**0.3**	**0.1**	**0.1**	**1.6**	**2.4**	**33.7**

Table 7. NSW Statistical Local Areas (SLA)

ID	SLA-code	SLA-name		ID	SLA-code	SLA-name
1	10050	Albury (C)		67	14854	Lismore (C) - Pt B
2	10111	Armidale Dumaresq (A) - City		68	14870	Lithgow (C)
3	10112	Armidale Dumaresq (A) Bal		69	14920	Liverpool Plains (A)
4	10250	Ballina (A)		70	14950	Lockhart (A)
5	10300	Balranald (A)		71	15050	Maitland (C)
6	10471	Bathurst Regional (A) - Pt A		72	15271	Mid-Western Regional (A) - Pt A
7	10473	Bathurst Regional (A) - Pt B		73	15274	Mid-Western Regional (A) - Pt B
8	10550	Bega Valley (A)		74	15300	Moree Plains (A)
9	10600	Bellingen (A)		75	15500	Murray (A)
10	10650	Berrigan (A)		76	15550	Murrumbidgee (A) + Jerilderie (A)
11	10800	Bland (A)		77	15650	Muswellbrook (A)
12	10850	Blayney (A)		78	15700	Nambucca (A)
13	10900	Blue Mountains (C)		79	15750	Narrabri (A)
14	10950	Bogan (A)		80	15800	Narrandera (A)
15	11000	Bombala (A)		81	15850	Narromine (A)
16	11050	Boorowa (A)		82	16100	Oberon (A)
17	11150	Bourke (A)		83	16150	Orange (C)
18	11200	Brewarrina (A)		84	16181	Palerang (A) - Pt A
19	11350	Byron (A)		85	16184	Palerang (A) - Pt B
20	11400	Cabonne (A)		86	16200	Parkes (A)
21	11450	Camden (A)		87	16385	Port Macquarie-Hastings (A) - Pt B
22	11600	Carrathool (A)		88	16470	Queanbeyan (C)
23	11700	Central Darling (A)		89	16611	Richmond Valley (A) - Casino
24	11720	Cessnock (C)		90	16612	Richmond Valley (A) Bal
25	11738	Clarence Valley (A) Bal		91	16900	Shellharbour (C)
26	11750	Cobar (A)		92	16951	Shoalhaven (C) - Pt A
27	11804	Coffs Harbour (C) - Pt B		93	16952	Shoalhaven (C) - Pt B
28	11860	Conargo (A)		94	17000	Singleton (A)
29	12000	Coolamon (A)		95	17050	Snowy River (A)
30	12050	Cooma-Monaro (A)		96	17311	Tamworth Regional (A) - Pt A
31	12150	Coonamble (A)		97	17314	Tamworth Regional (A) - Pt B
32	12200	Cootamundra (A)		98	17350	Temora (A)
33	12300	Corowa Shire (A)		99	17400	Tenterfield (A)
34	12350	Cowra (A)		100	17450	Tumbarumba (A)
35	12500	Deniliquin (A)		101	17500	Tumut Shire (A)
36	12601	Dubbo (C) - Pt A		102	17554	Tweed (A) - Tweed-Heads
37	12604	Dubbo (C) - Pt B		103	17556	Tweed (A) - Tweed Coast
38	12700	Dungog (A)		104	17558	Tweed (A) - Pt B
39	12750	Eurobodalla (A)		105	17620	Upper Hunter Shire (A)
40	12900	Forbes (A)		106	17640	Upper Lachlan (A)
41	12950	Gilgandra (A)		107	17650	Uralla (A)
42	13010	Glen Innes Severn (A)		108	17700	Urana (A)
43	13050	Gloucester (A)		109	17754	Wagga Wagga (C) - Pt B
44	13311	Goulburn Mulwaree (A) - Goulburn		110	17800	Wakool (A)
45	13314	Goulburn Mulwaree (A) Bal		111	17850	Walcha (A)
46	13350	Greater Taree (C)		112	17900	Walgett (A)
47	13371	Greater Hume Shire (A) - Pt A		113	17950	Warren (A)
48	13374	Greater Hume Shire (A) - Pt B		114	18020	Warrumbungle Shire (A)
49	13400	Great Lakes (A)		115	18100	Weddin (A)
50	13450	Griffith (C)		116	18150	Wellington (A)
51	13500	Gundagai (A)		117	18200	Wentworth (A)
52	13550	Gunnedah (A)		118	18350	Wingecarribee (A)
53	13650	Guyra (A)		119	18400	Wollondilly (A)
54	13660	Gwydir (A)		120	18454	Wollongong (C) Bal
55	13700	Harden (A)		121	18710	Yass Valley (A)
56	13800	Hawkesbury (C)		122	18750	Young (A)
57	13850	Hay (A)		123	18809	Unincorp. Far West
58	14201	Inverell (A) - Pt A				
59	14202	Inverell (A) - Pt B				
60	14300	Junee (A)				
61	14350	Kempsey (A)				
62	14400	Kiama (A)				
63	14550	Kyogle (A)				
64	14600	Lachlan (A)				
65	14750	Leeton (A)				
66	14851	Lismore (C) - Pt A				

Figure 2. SLA boundaries (2011) used for NSW mapping in this report.

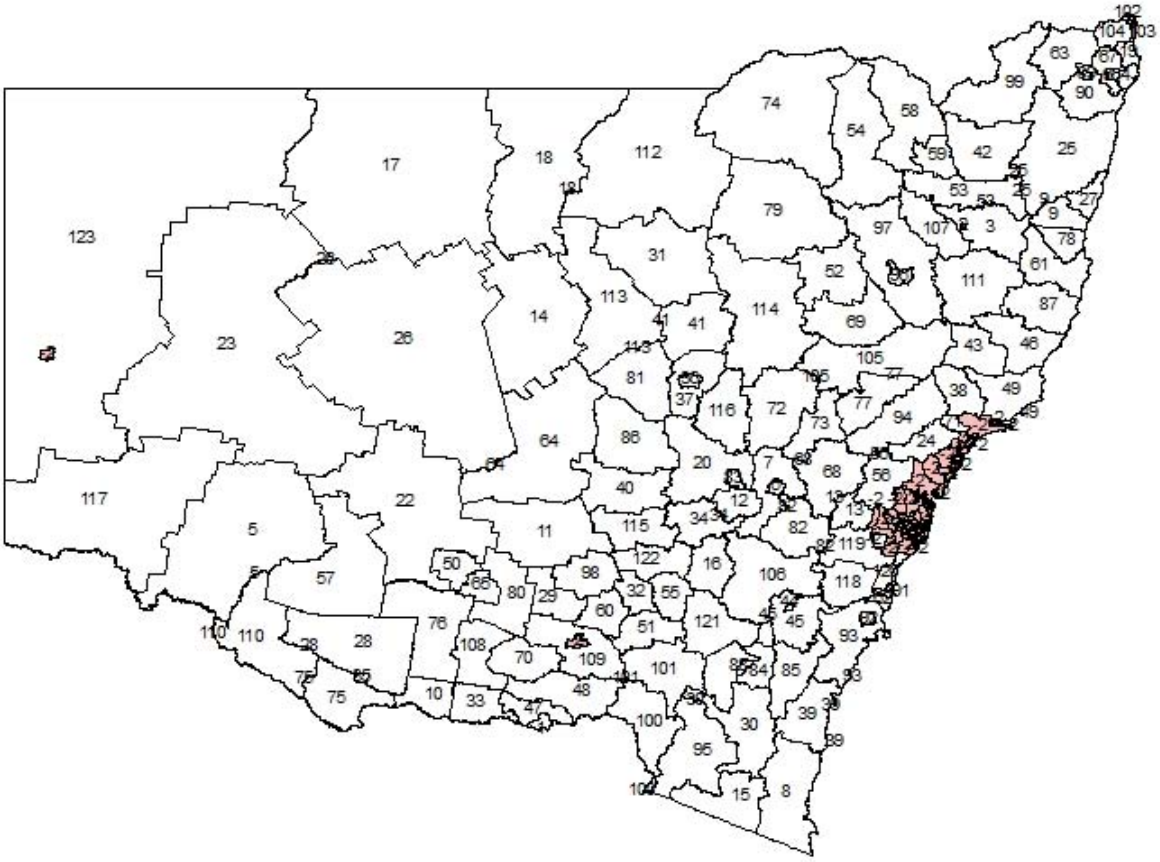


Table 8. Victorian Statistical Local Areas (SLA)

ID	SLA-code	SLA-name		ID	SLA-code	SLA-name
1	20111	Alpine (S) - East		67	24250	Mansfield (S)
2	20112	Alpine (S) - West		68	24654	Melton (S) Bal
3	20260	Ararat (RC)		69	24782	Mildura (RC) - Pt B
4	20572	Ballarat (C) - Inner North		70	24851	Mitchell (S) - North
5	20573	Ballarat (C) - North		71	24854	Mitchell (S) - South
6	20574	Ballarat (C) - South		72	24901	Moira (S) - East
7	20741	Bass Coast (S) - Phillip Is.		73	24904	Moira (S) - West
8	20742	French Island		74	25151	Moorabool (S) - Bacchus Marsh
9	20744	Bass Coast (S) Bal		75	25154	Moorabool (S) - Ballan
10	20831	Baw Baw (S) - Pt A		76	25155	Moorabool (S) - West
11	20834	Baw Baw (S) - Pt B East		77	25341	Mornington Psula (S) - East
12	20835	Baw Baw (S) - Pt B West		78	25344	Mornington Psula (S) - South
13	21011	Benalla (RC) - Benalla		79	25434	Mount Alexander (S) Bal
14	21014	Benalla (RC) Bal		80	25491	Moyne (S) - North-East
15	21271	Buloke (S) - North		81	25493	Moyne (S) - North-West
16	21272	Buloke (S) - South		82	25496	Moyne (S) - South
17	21371	Campaspe (S) - Echuca		83	25621	Murrindindi (S) - East
18	21374	Campaspe (S) - Kyabram		84	25622	Murrindindi (S) - West
19	21375	Campaspe (S) - Rochester		85	25718	Nillumbik (S) Bal
20	21376	Campaspe (S) - South		86	25811	N. Grampians (S) - St Arnaud
21	21452	Cardinia (S) - North		87	25814	N. Grampians (S) - Stawell
22	21453	Cardinia (S) - Pakenham		88	25991	Pyrenees (S) - North
23	21454	Cardinia (S) - South		89	25994	Pyrenees (S) - South
24	21618	Casey (C) - South		90	26171	South Gippsland (S) - Central
25	21674	C. Goldfields (S) Bal		91	26174	South Gippsland (S) - East
26	21754	Colac-Otway (S) - North		92	26175	South Gippsland (S) - West
27	21755	Colac-Otway (S) - South		93	26264	S. Grampians (S) - Wannon
28	21831	Corangamite (S) - North		94	26265	S. Grampians (S) Bal
29	21832	Corangamite (S) - South		95	26430	Strathbogie (S)
30	22111	E. Gippsland (S) - Bairnsdale		96	26493	Surf Coast (S) - East
31	22113	E. Gippsland (S) - Orbost		97	26495	Surf Coast (S) - West
32	22115	E. Gippsland (S) - South-West		98	26614	Swan Hill (RC) - Robinvale
33	22117	E. Gippsland (S) Bal		99	26616	Swan Hill (RC) Bal
34	22250	Gannawarra (S)		100	26671	Towong (S) - Pt A
35	22411	Glenelg (S) - Heywood		101	26672	Towong (S) - Pt B
36	22412	Glenelg (S) - North		102	26704	Wangaratta (RC) - North
37	22413	Glenelg (S) - Portland		103	26705	Wangaratta (RC) - South
38	22491	Golden Plains (S) - North-West		104	26730	Warrnambool (C)
39	22492	Golden Plains (S) - South-East		105	26811	Wellington (S) - Alberton
40	22625	Gr. Bendigo (C) - Inner West		106	26812	Wellington (S) - Avon
41	22626	Gr. Bendigo (C) - Ssaye		107	26813	Wellington (S) - Maffra
42	22628	Gr. Bendigo (C) - Pt B		108	26814	Wellington (S) - Rosedale
43	22752	Corio - Inner		109	26890	West Wimmera (S)
44	22756	South Barwon - Inner		110	27071	Whittlesea (C) - North
45	22757	Greater Geelong (C) - Pt B		111	27170	Wodonga (RC)
46	22758	Greater Geelong (C) - Pt C		112	27261	Wyndham (C) - North
47	22831	Gr. Shepparton (C) - Pt A		113	27264	Wyndham (C) - South
48	22834	Gr. Shepparton (C) - Pt B East		114	27267	Wyndham (C) - West
49	22835	Gr. Shepparton (C) - Pt B West		115	27451	Yarra Ranges (S) - Central
50	22911	Hepburn (S) - East		116	27454	Yarra Ranges (S) - North
51	22912	Hepburn (S) – West		117	27456	Yarra Ranges (S) - Seville
52	22980	Hindmarsh (S)		118	27458	Yarra Ranges (S) - Pt B
53	23194	Horsham (RC) Bal		119	27631	Yarriambiack (S) - North
54	23274	Hume (C) - Craigieburn		120	27632	Yarriambiack (S) - South
55	23275	Hume (C) - Sunbury				
56	23351	Indigo (S) - Pt A				
57	23352	Indigo (S) - Pt B				
58	23811	Latrobe (C) - Moe				
59	23814	Latrobe (C) - Morwell				
60	23815	Latrobe (C) - Traralgon				
61	23818	Latrobe (C) Bal				
62	23943	Loddon (S) - North				
63	23945	Loddon (S) - South				
64	24131	Macedon Ranges (S) - Kyneton				
65	24134	Macedon Ranges (S) Bal				
66	24135	Macedon Ranges (S) Bal				

Figure 3. SLA boundaries (2011) used for Victoria mapping in this report.

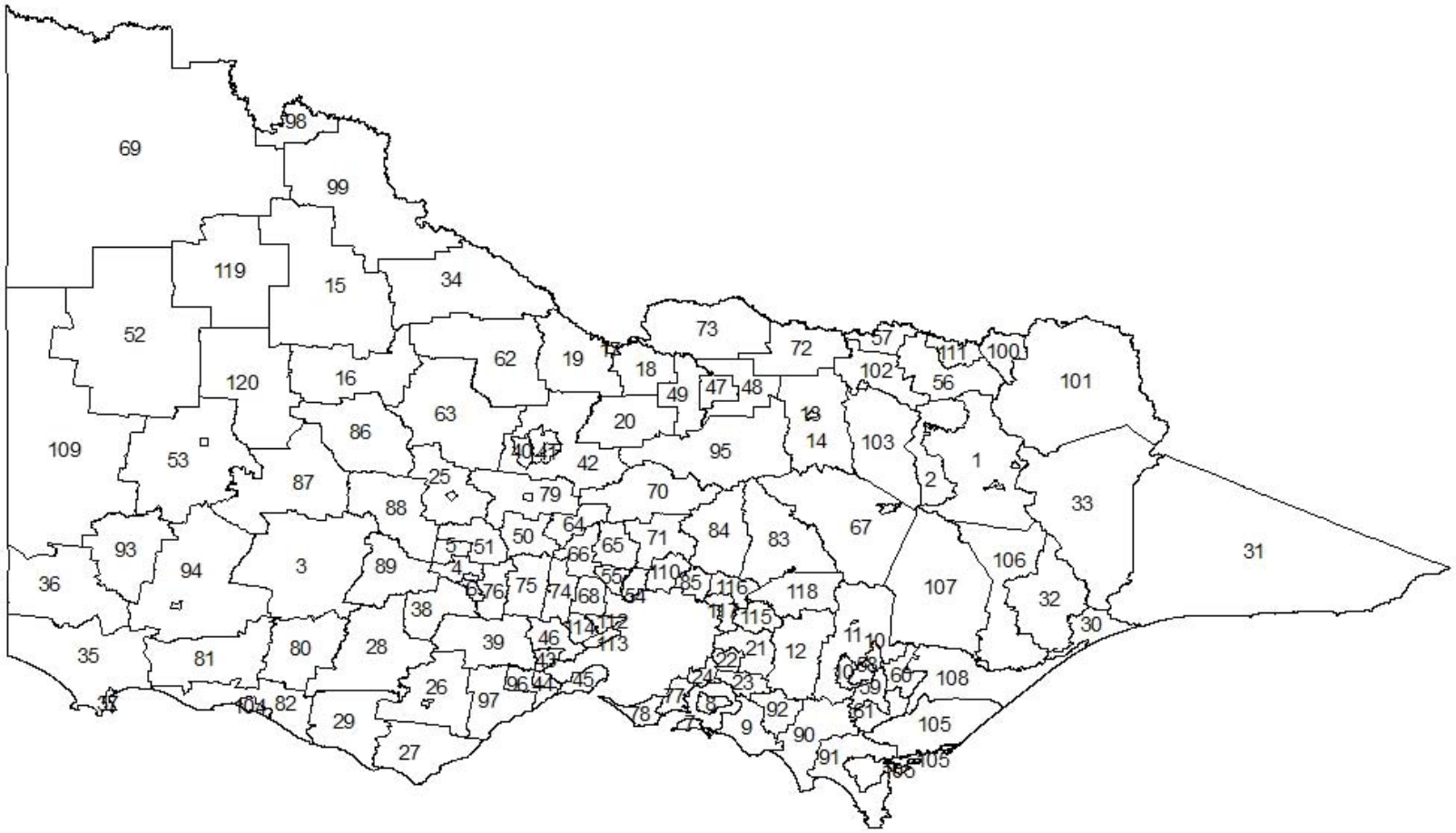


Table 9. South Australian Statistical Local Areas (SLA)

ID	SLA-code	SLA-name
1	40125	Adelaide Hills (DC) - North
2	40128	Adelaide Hills (DC) Bal
3	40221	Alexandrina (DC) - Coastal
4	40224	Alexandrina (DC) - Strathalbyn
5	40311	Barossa (DC) - Angaston
6	40314	Barossa (DC) - Barossa
7	40315	Barossa (DC) - Tanunda
8	40430	Barunga West (DC)
9	41010	Ceduna (DC)
10	41140	Clare and Gilbert Valleys (DC)
11	41190	Cleve (DC)
12	41560	Copper Coast (DC)
13	41750	Elliston (DC)
14	41830	Flinders Ranges (DC)
15	41960	Franklin Harbour (DC)
16	42110	Goyder (DC)
17	42250	Grant (DC)
18	42750	Kangaroo Island (DC)
19	43080	Karoonda East Murray (DC)
20	43220	Kimba (DC)
21	43360	Kingston (DC)
22	43570	Le Hunte (DC)
23	43650	Light (RegC)
24	43710	Lower Eyre Peninsula (DC)
25	43791	Loxton Waikerie (DC) - East
26	43794	Loxton Waikerie (DC) - West
27	43920	Mallala (DC)
28	44210	Mid Murray (DC)
29	44554	Mount Barker (DC) Bal
30	44830	Mount Remarkable (DC)
31	45040	Murray Bridge (RC)
32	45090	Naracoorte and Lucindale (DC)
33	45120	Northern Areas (DC)
34	45400	Orroroo/Carrieton (DC)
35	45540	Peterborough (DC)
36	46454	Port Pirie C Dists (M) Bal
37	46671	Renmark Paringa (DC) - Paringa
38	46860	Robe (DC)
39	47290	Southern Mallee (DC)
40	47490	Streaky Bay (DC)
41	47630	Tatiara (DC)
42	47800	The Coorong (DC)
43	47910	Tumby Bay (DC)
44	48050	Victor Harbor (C)
45	48130	Wakefield (DC)
46	48341	Wattle Range (DC) - East
47	48344	Wattle Range (DC) - West
48	48750	Yankalilla (DC)
49	48831	Yorke Peninsula (DC) - North
50	48834	Yorke Peninsula (DC) - South
51	49249	Unincorp. West Coast

Figure 4. SLA boundaries (2011) used for South Australia mapping in this report.

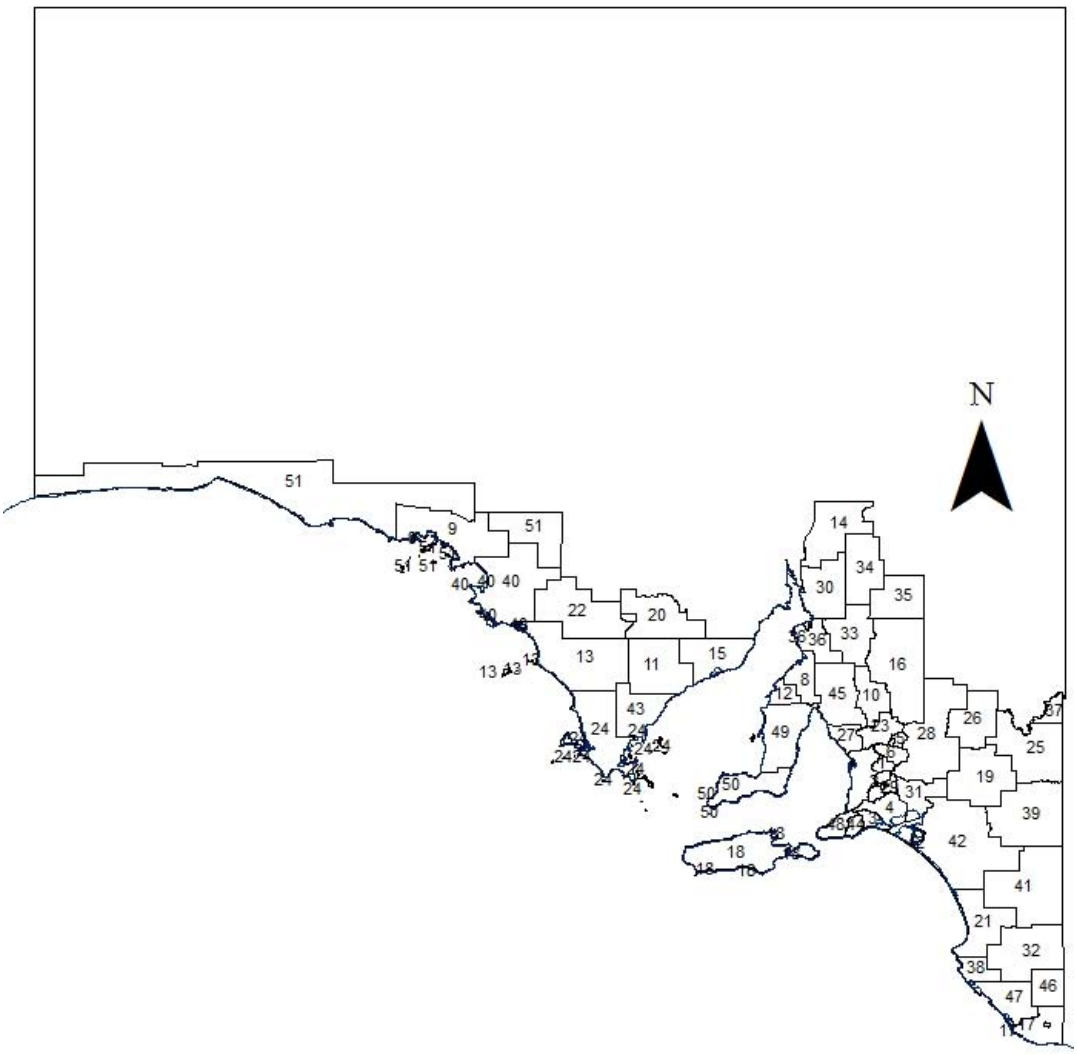


Table 10. Western Australian Statistical Local Areas (SLA)

ID	SLA-code	SLA-name		ID	SLA-code	SLA-name
1	50081	Albany (C) - Central		56	56370	Narembeen (S)
2	50084	Albany (C) Bal > 600mm		57	56510	Narrogin (S)
3	50082	Albany (C) Bal < 600mm		58	56732	Northam
4	50280	Augusta-Margaret River (S		59	56790	Northampton (S)
5	50560	Beverley (S)		60	56860	Nungarin (S)
6	50630	Boddington (S)		61	57000	Perenjori (S)
7	50770	Boyup Brook (S)		62	57140	Pingelly (S)
8	50840	Bridgetown-Greenbushes (S		63	57210	Plantagenet (S) > 600mm
9	50910	Brookton (S)		64	57211	Plantagenet (S) < 600mm
10	51080	Broomehill-Tambellup (S)		65	57350	Quairading (S)
11	51120	Bruce Rock (S)		66	57420	Ravensthorpe (S)
12	51260	Busselton (S)		67	57700	Serpentine-Jarrahdale (S)
13	51404	Capel (S) - Pt B		68	58190	Tammin (S)
14	51470	Carnamah (S)		69	58260	Three Springs (S)
15	51610	Chapman Valley (S)		70	58330	Toodyay (S)
16	51680	Chittering (S)		71	58400	Trayning (S)
17	51890	Collie (S)		72	58540	Victoria Plains (S)
18	52030	Coorow (S)		73	58610	Wagin (S)
19	52100	Corrigin (S)		74	58680	Wandering (S)
20	52240	Cranbrook (S)		75	58820	Waroona (S)
21	52310	Cuballing (S)		76	58890	West Arthur (S)
22	52450	Cunderdin (S)		77	59030	Westonia (S)
23	52520	Dalwallinu (S)		78	59100	Wickepin (S)
24	52590	Dandaragan (S)		79	59170	Williams (S)
25	52664	Dardanup (S) - Pt B		80	59310	Wongan-Ballidu (S)
26	52730	Denmark (S)		81	59380	Woodanilling (S)
27	52870	Donnybrook-Balingup (S)		82	59450	Wyalkatchem (S)
28	52940	Dowerin (S)		83	59660	Yilgarn (S)
29	53010	Dumbleyung (S)		84	59730	York (S)
30	53290	Esperance (S)				
31	53526	Greenough - Pt B				
32	53570	Gingin (S)				
33	53640	Gnowangerup (S)				
34	53710	Goomalling (S)				
35	53994	Harvey (S) - Pt B				
36	54060	Irwin (S)				
37	54130	Jerramungup (S)				
38	54340	Katanning (S)				
39	54410	Kellerberrin (S)				
40	54480	Kent (S)				
41	54550	Kojonup (S)				
42	54620	Kondinin (S)				
43	54690	Koorda (S)				
44	54760	Kulin (S)				
45	54900	Lake Grace (S)				
46	55180	Manjimup (S)				
47	55460	Merredin (S)				
48	55530	Mingenew (S)				
49	55600	Moora (S)				
50	55670	Morawa (S)				
51	55880	Mount Marshall (S)				
52	55950	Mukinbudin (S)				
53	56020	Mullewa (S)				
54	56230	Murray (S)				

55	56300	Nannup (S)				

Figure 5. SLA boundaries (2011) used for Western Australia mapping in this report.

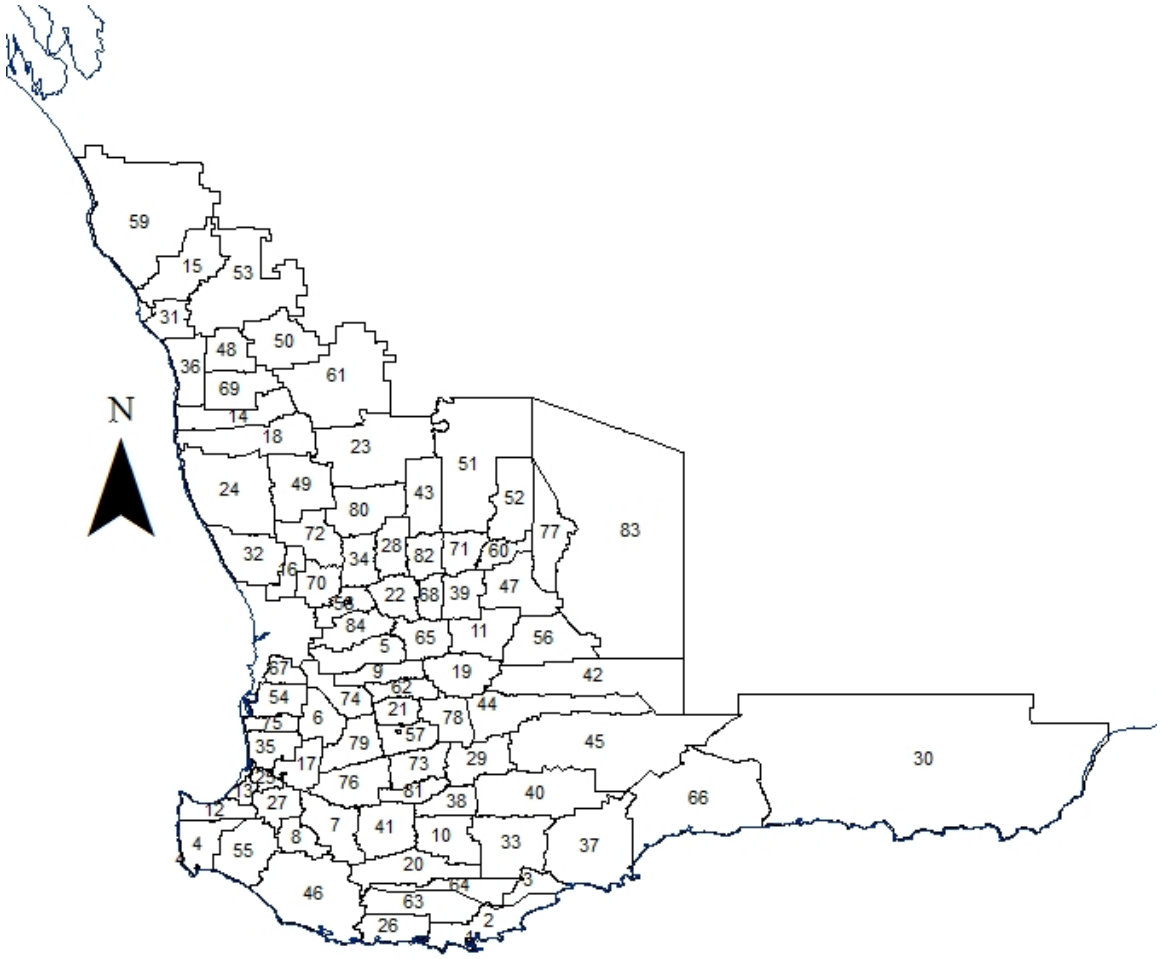


Table 11.Tasmanian Statistical Local Areas (SLA)

ID	SLA-CODE	SLA_name
1	60210	Break ODay (M)
2	60612	Burnie (C) - Pt B
3	60812	Central Coast (M) - Pt B
4	61010	Central Highlands (M)
5	61210	Circular Head (M)
6	61512	Derwent Valley (M) - Pt B
7	61810	Dorset (M)
8	62010	Flinders (M)
9	62212	George Town (M) - Pt B
10	62410	Glamorgan/Spring Bay (M)
11	63010	Huon Valley (M)
12	63210	Kentish (M)
13	63410	King Island (M)
14	63611	Kingborough (M) - Pt A
15	63612	Kingborough (M) - Pt B
16	63812	Latrobe (M) - Pt B
17	64012	Launceston (C) - Pt B
18	64013	Launceston (C) - Pt C
19	64212	Meander Valley (M) - Pt B
20	64612	Northern Midlands (M) - Pt B
21	64812	Sorell (M) - Pt B
22	65010	Southern Midlands (M)
23	65210	Tasman (M)
24	65412	Waratah/Wynyard (M) - Pt B
25	65812	West Tamar (M) - Pt B
26	65610	West Coast

Figure 6. SLA boundaries (2011) used for Tasmania mapping in this report.

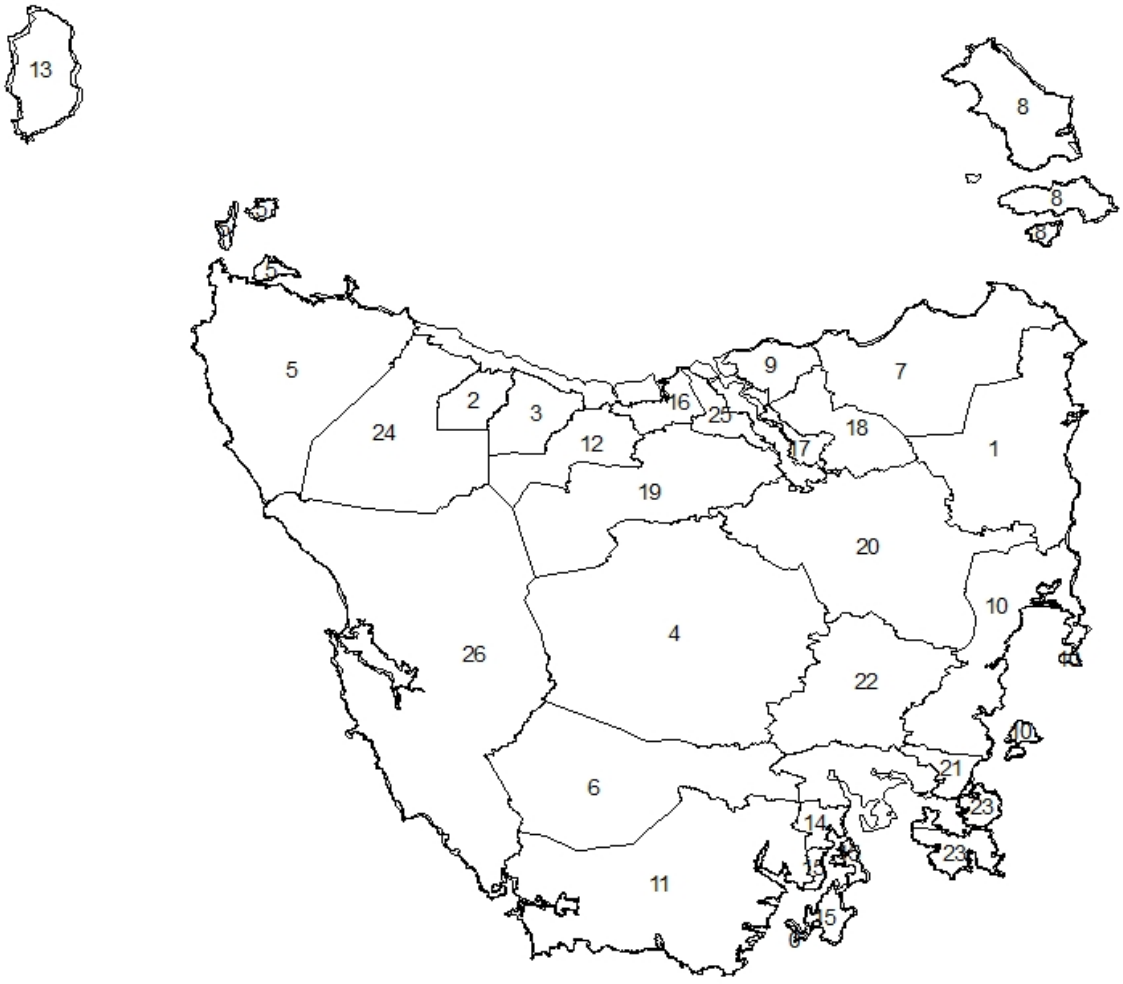
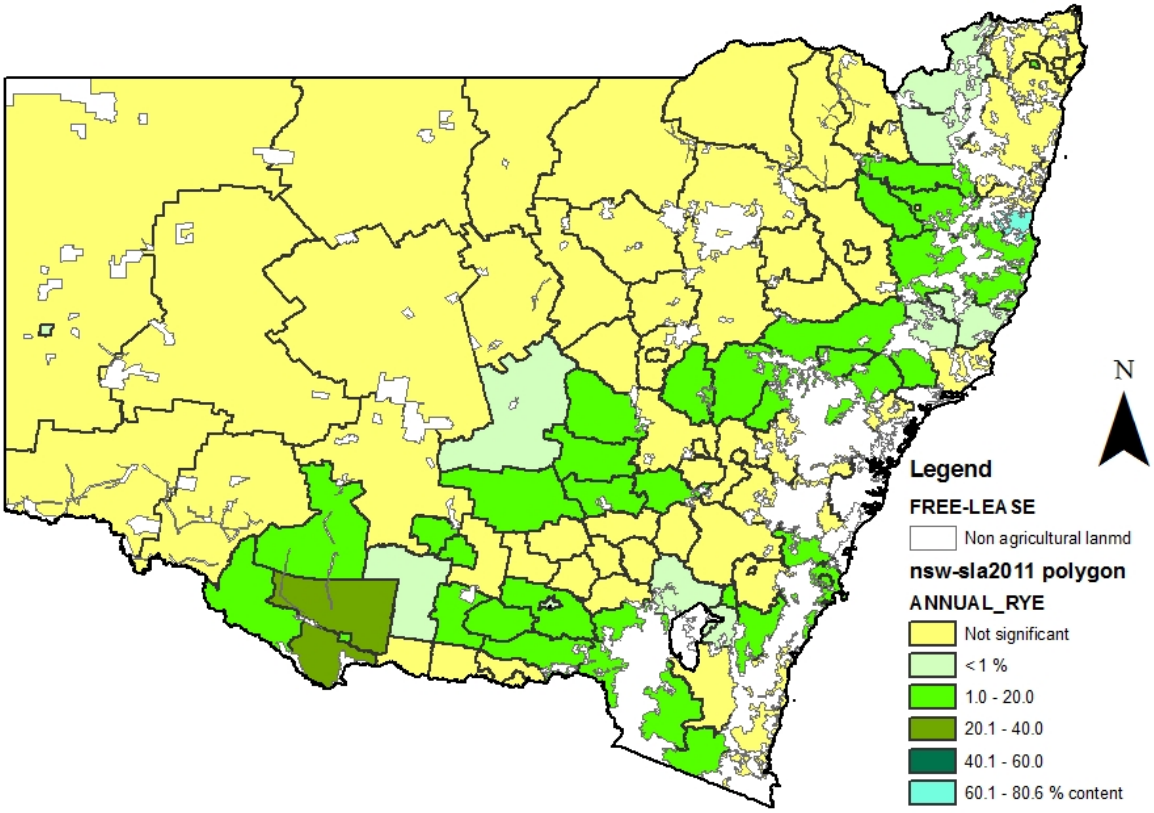
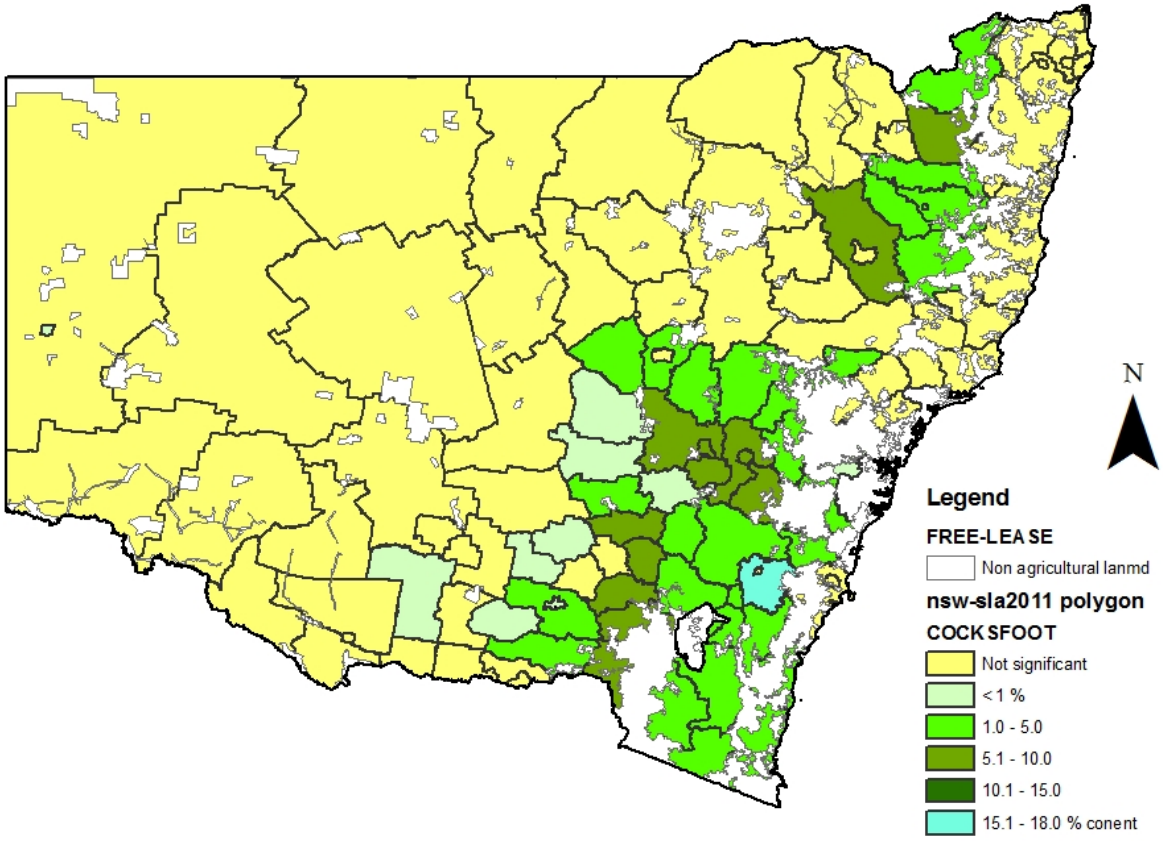


Figure 7. Distribution of pasture containing Annual Ryegrass in NSW



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 8. Distribution of pasture containing Cocksfoot in NSW



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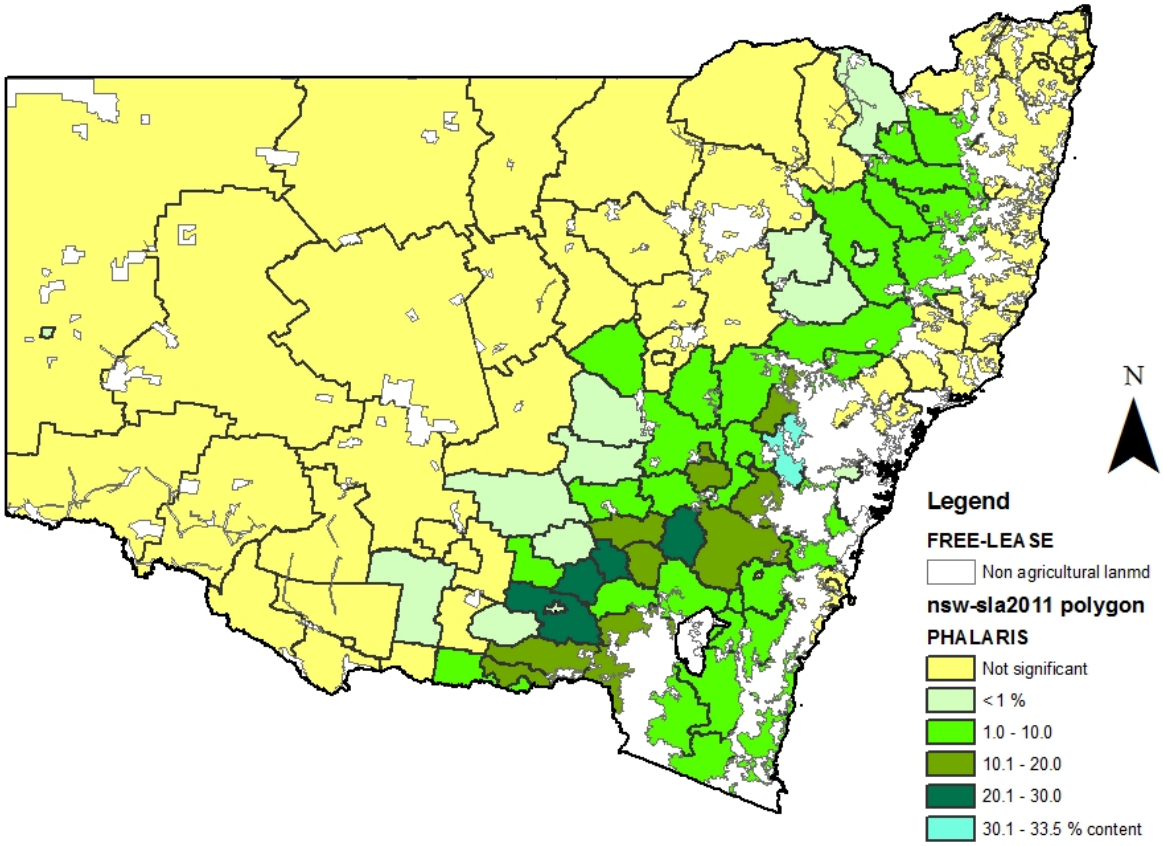
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 9. Distribution of pasture containing Phalaris in NSW



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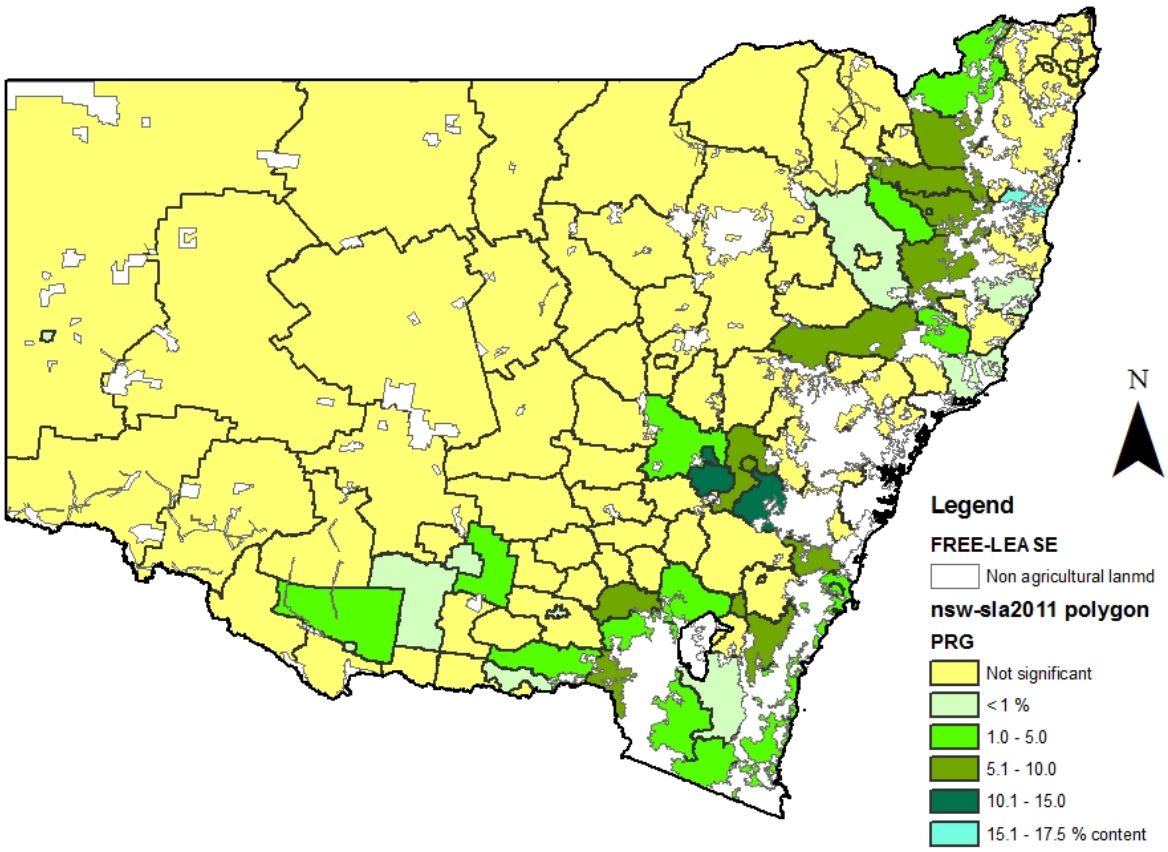
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

***Figure 10. Distribution of pasture containing Perennial Ryegrass in* NSW**



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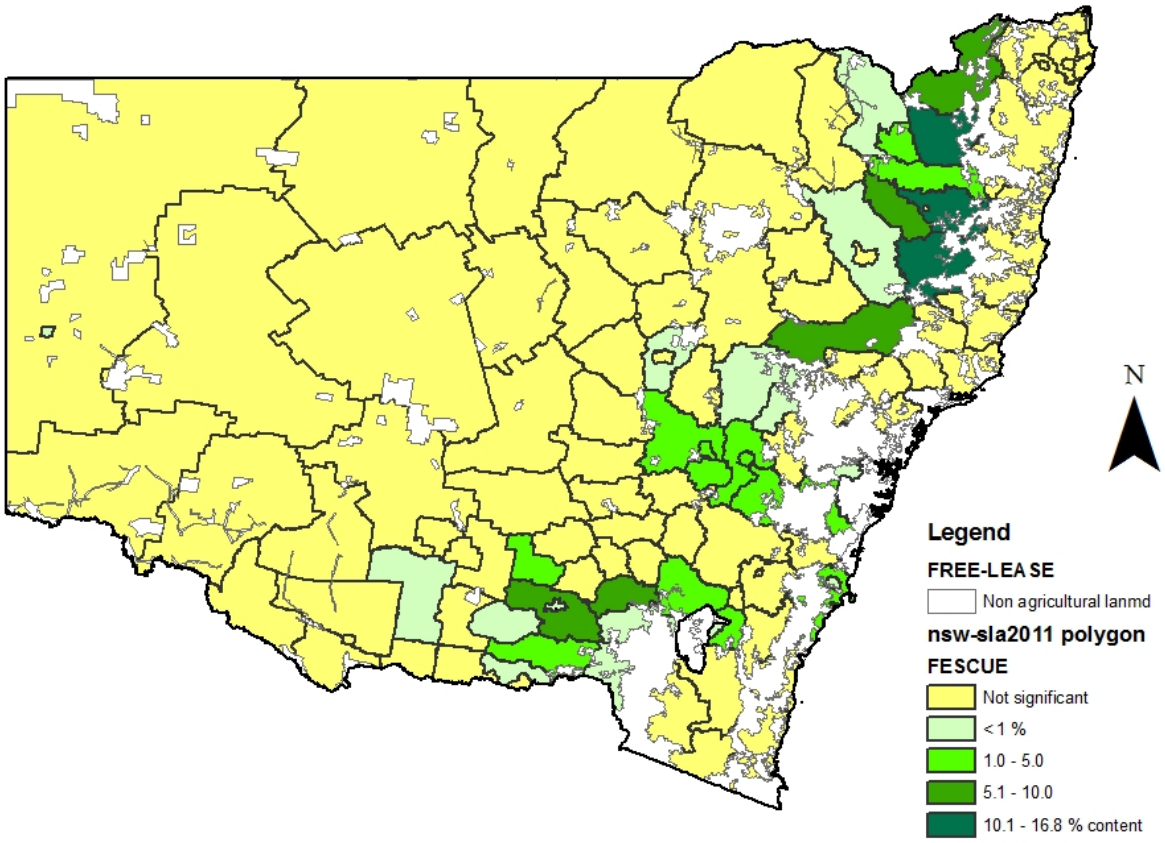
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 11. Distribution of pasture containing Fescue in NSW



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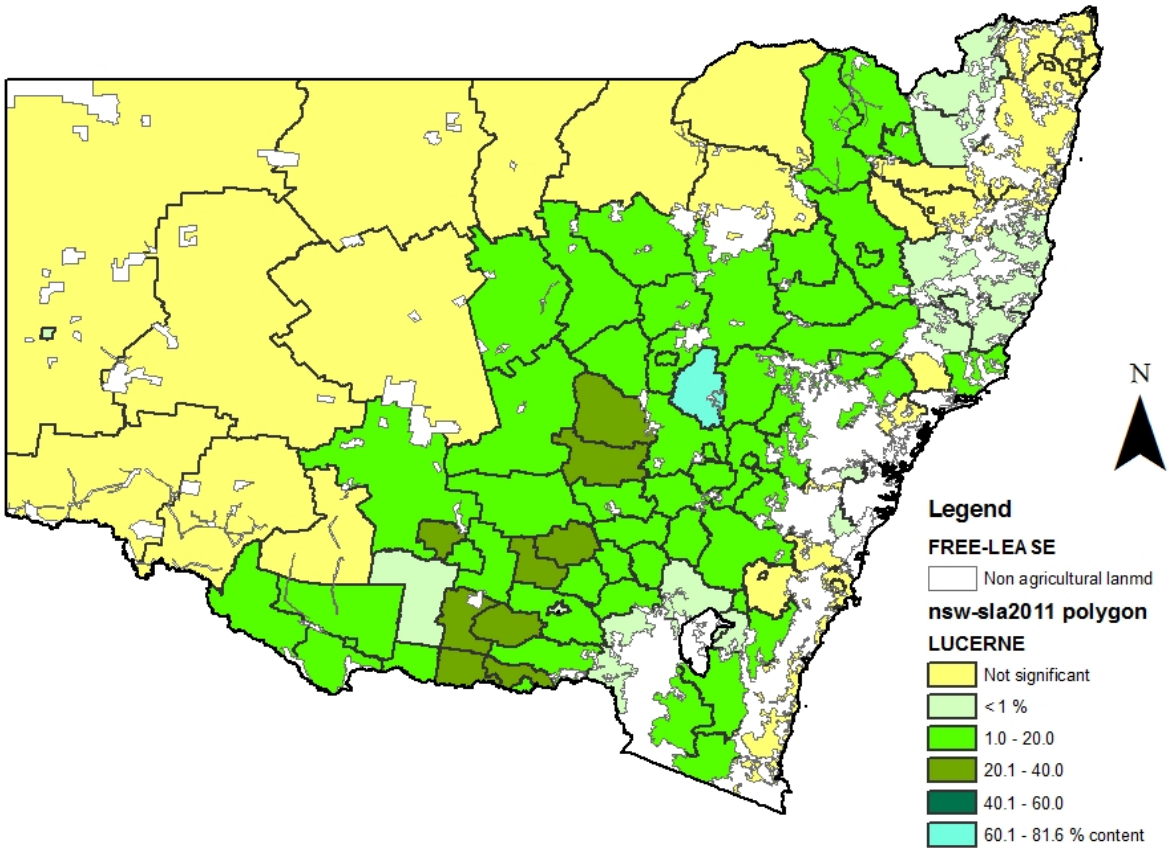
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 12. Distribution of pasture containing Lucerne in NSW



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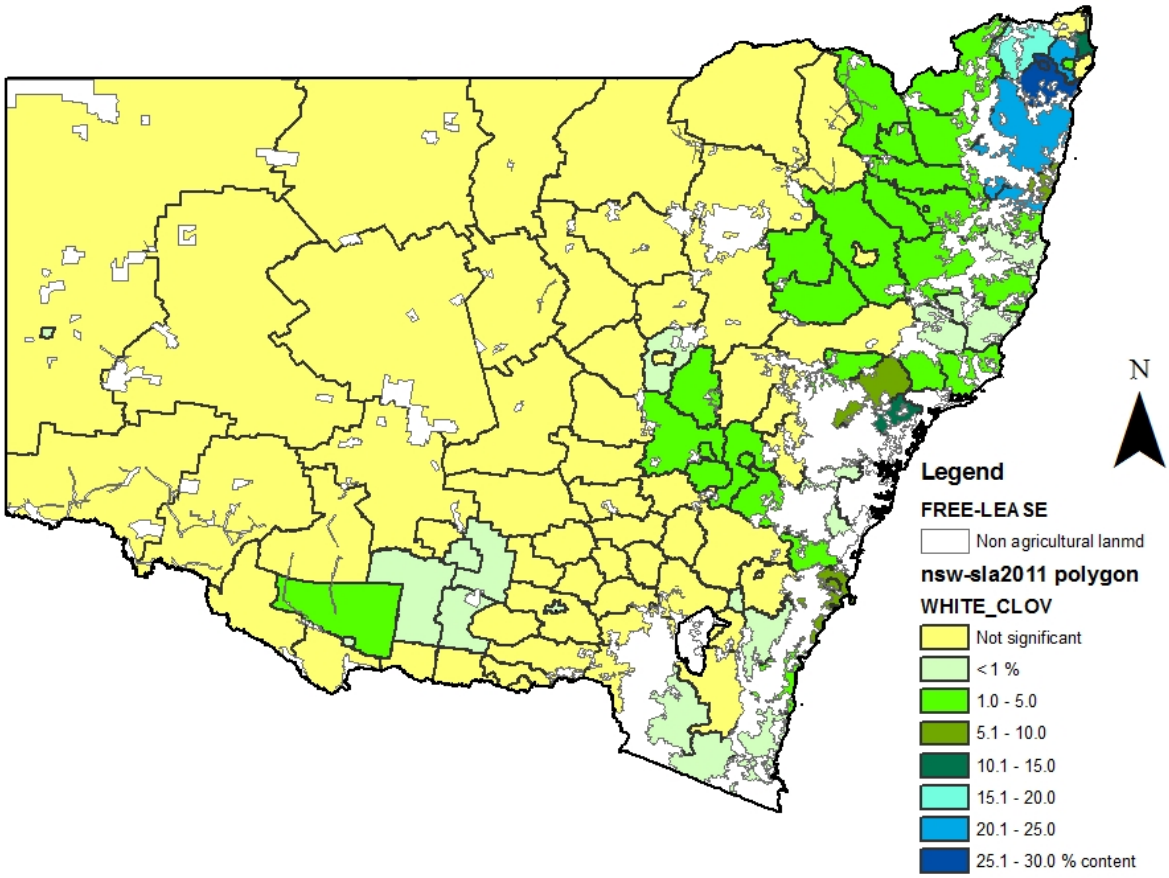
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 13. Distribution of pasture containing White clover in NSW



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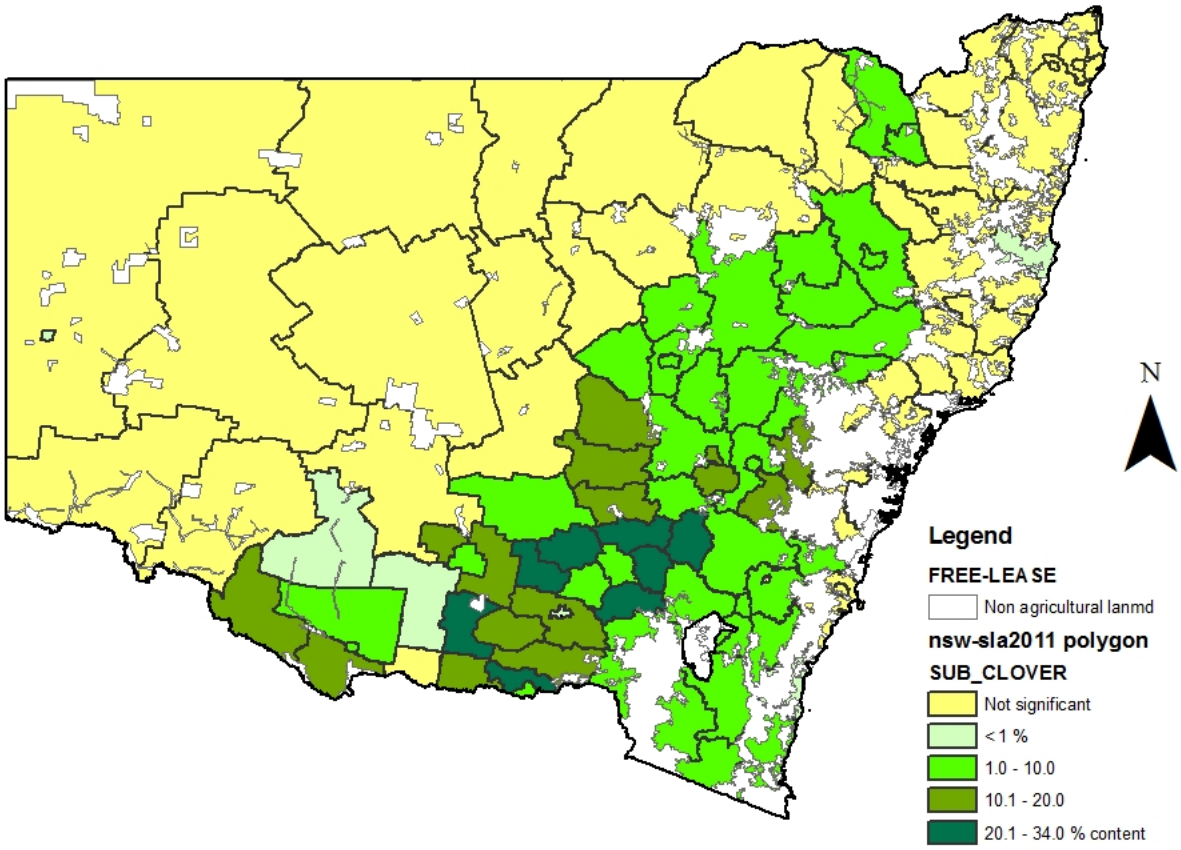
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 14. Distribution of pasture containing Subterranean clover in NSW



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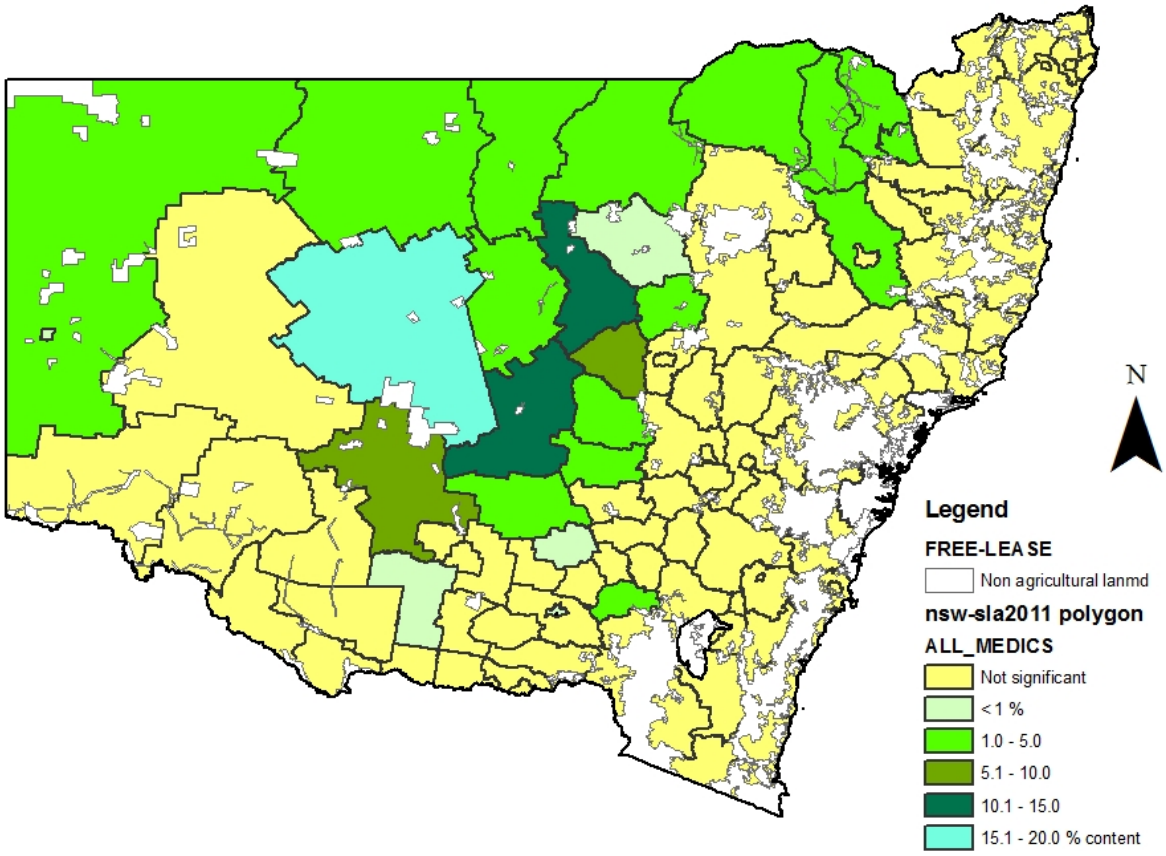
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 15. Distribution of pasture containing Medics in NSW



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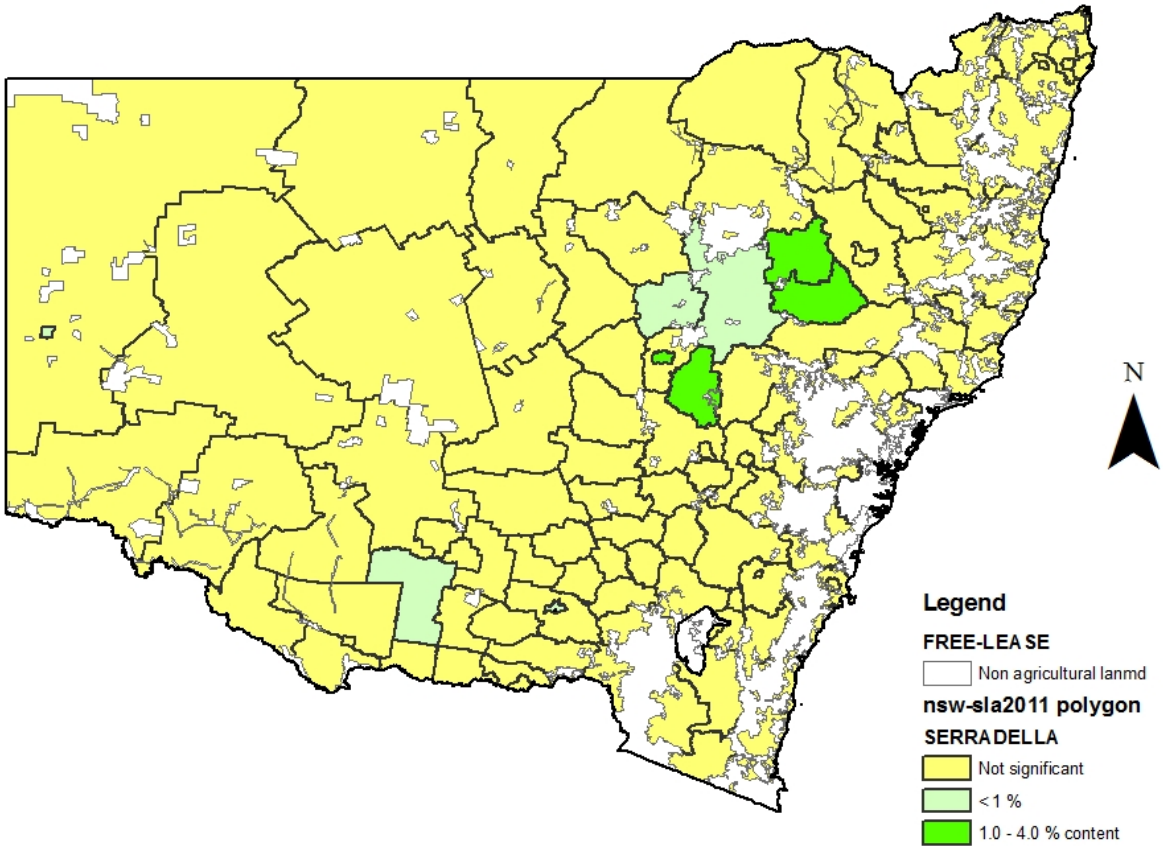
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 16. Distribution of pasture containing Serradella in NSW



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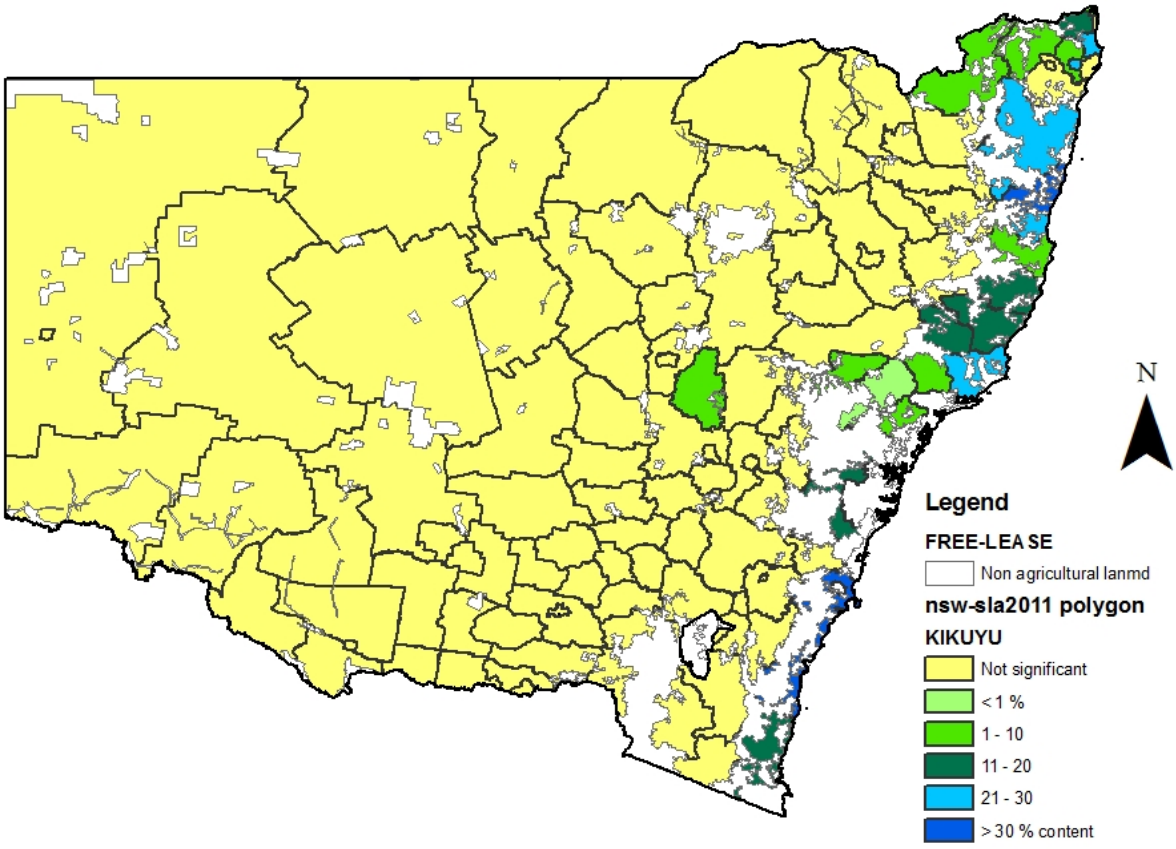
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 17. Distribution of pasture containing Kikuyu in NSW



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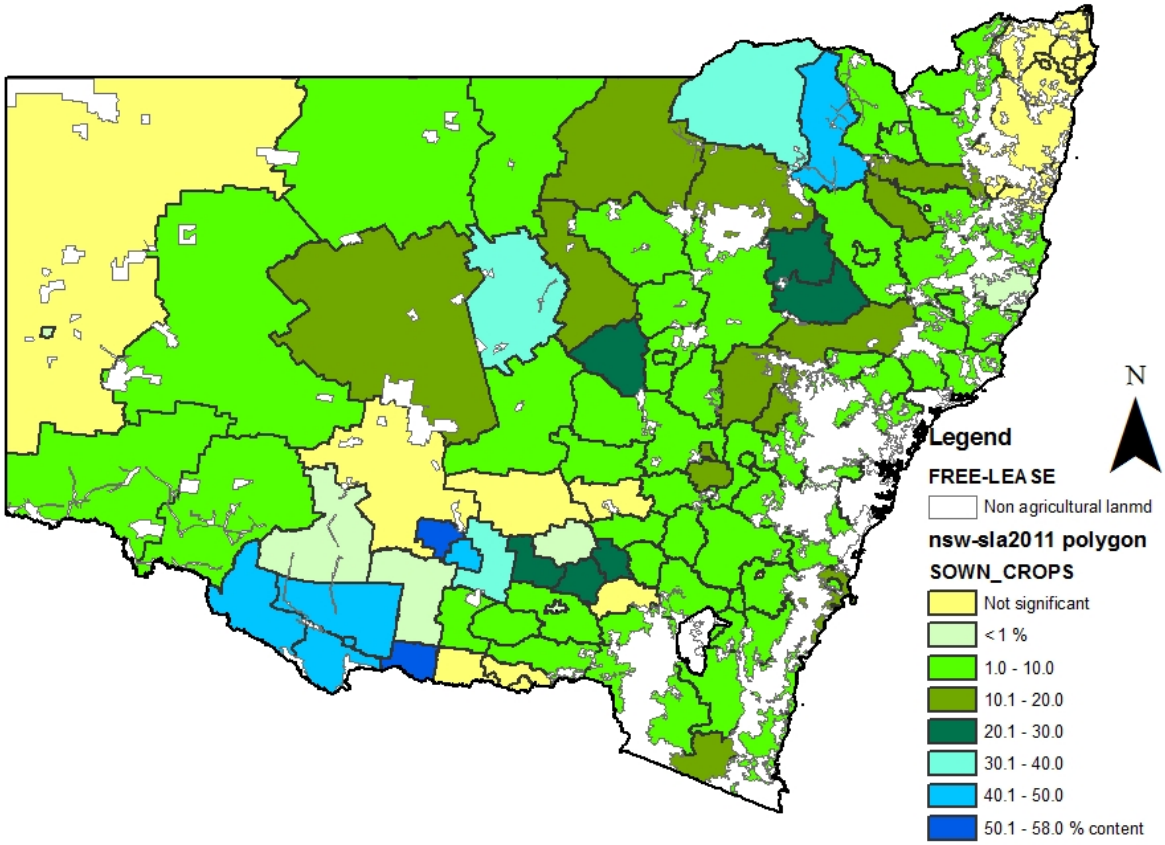
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 18. Distribution of pasture containing Sown Crops for livestock in NSW



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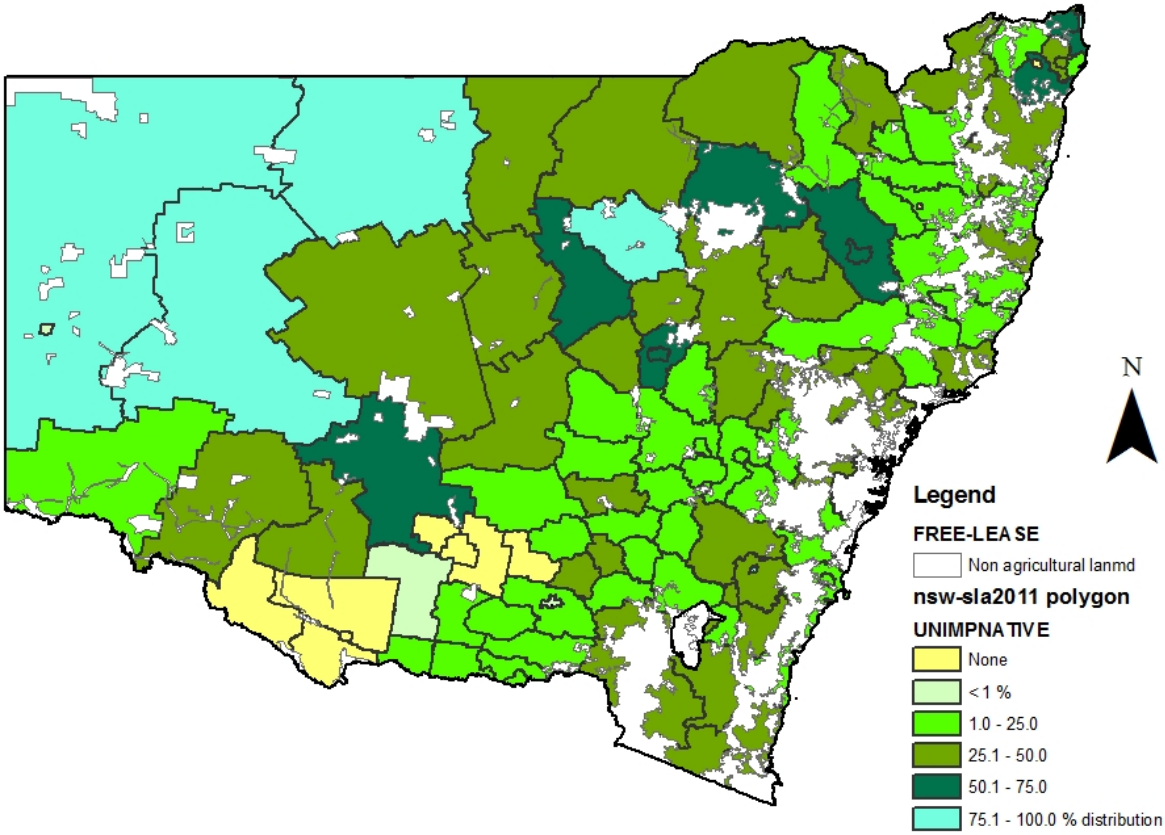
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 19. Distribution of unimproved native pasture in NSW



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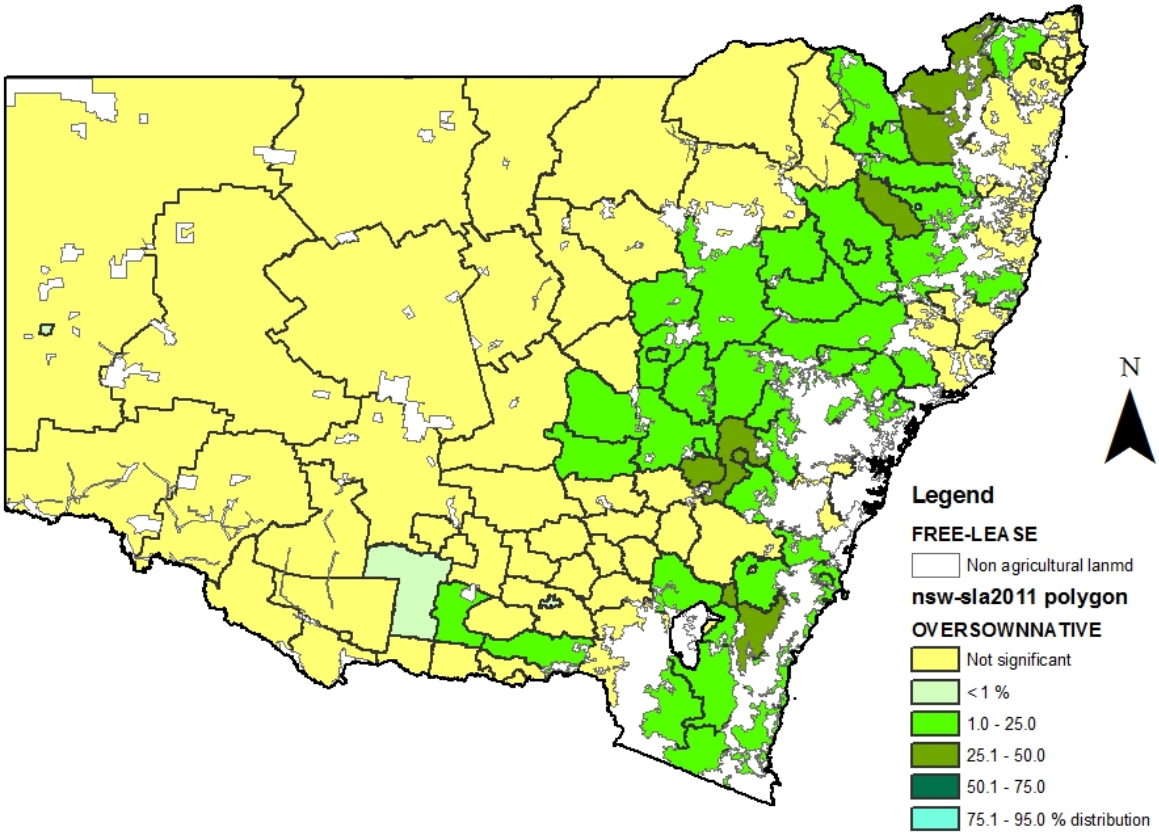
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 20. Distribution of over-sown native pasture in NSW



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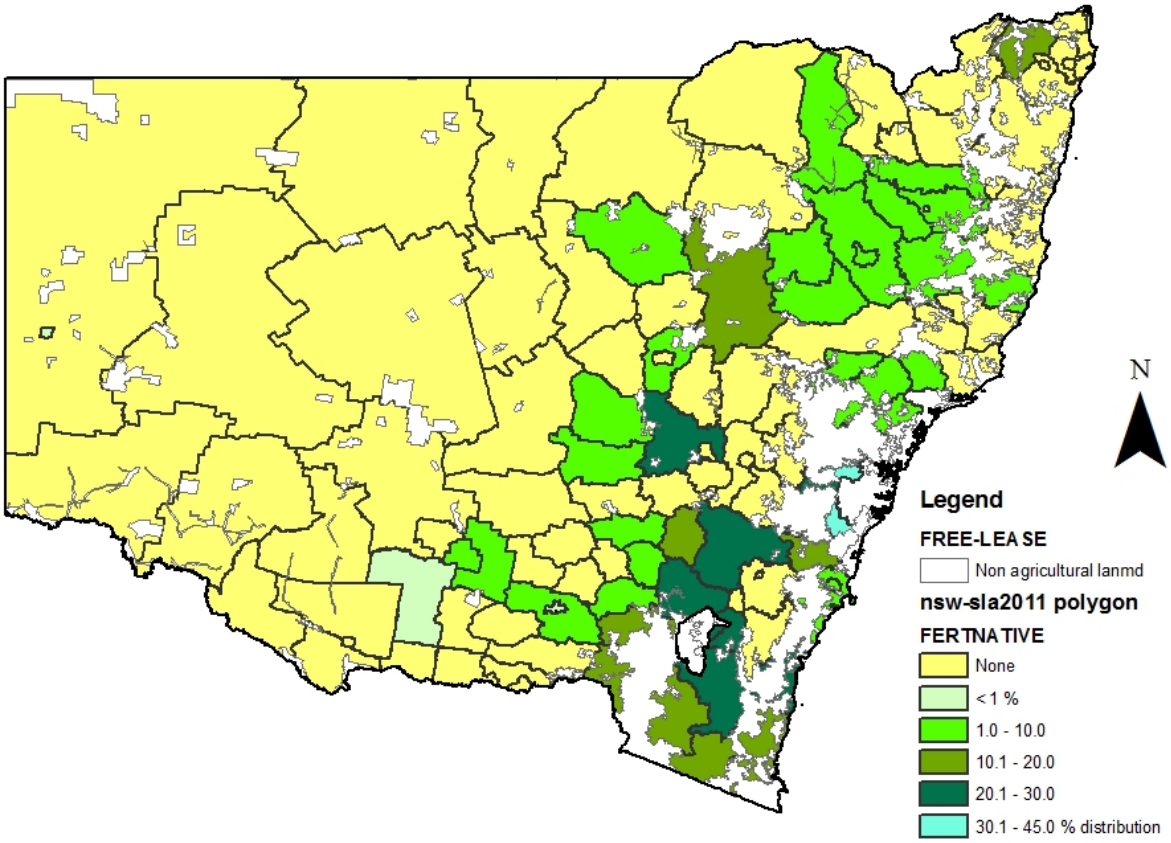
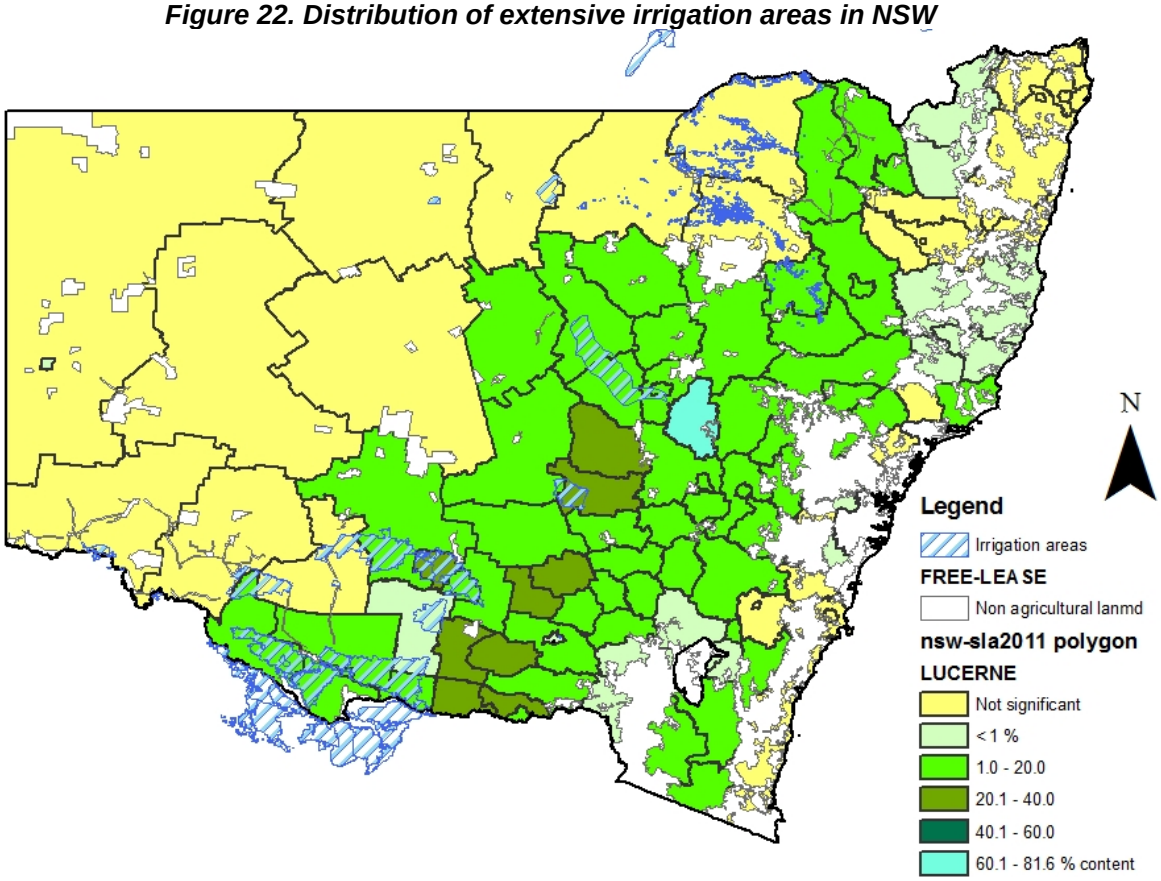
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 21. Distribution of fertilized native pasture in NSW



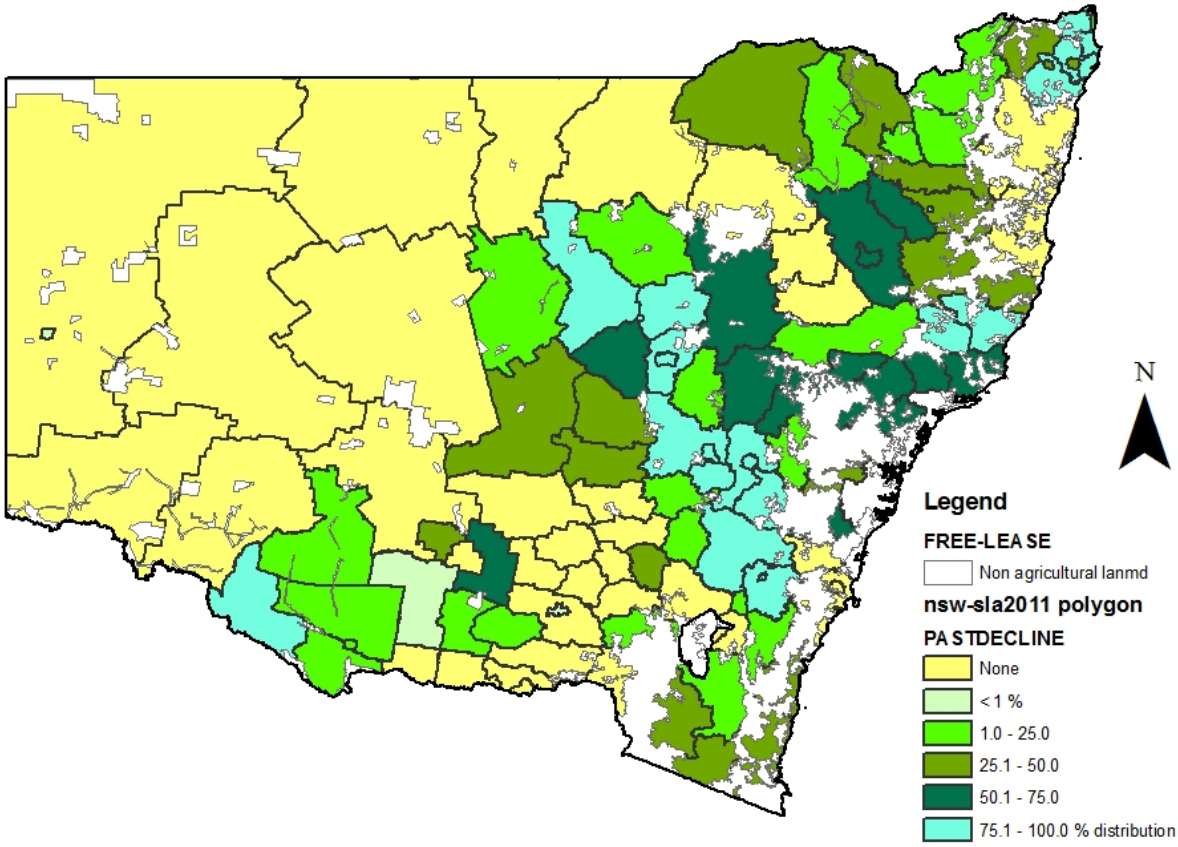
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 22. Distribution of extensive irrigation areas in NSW



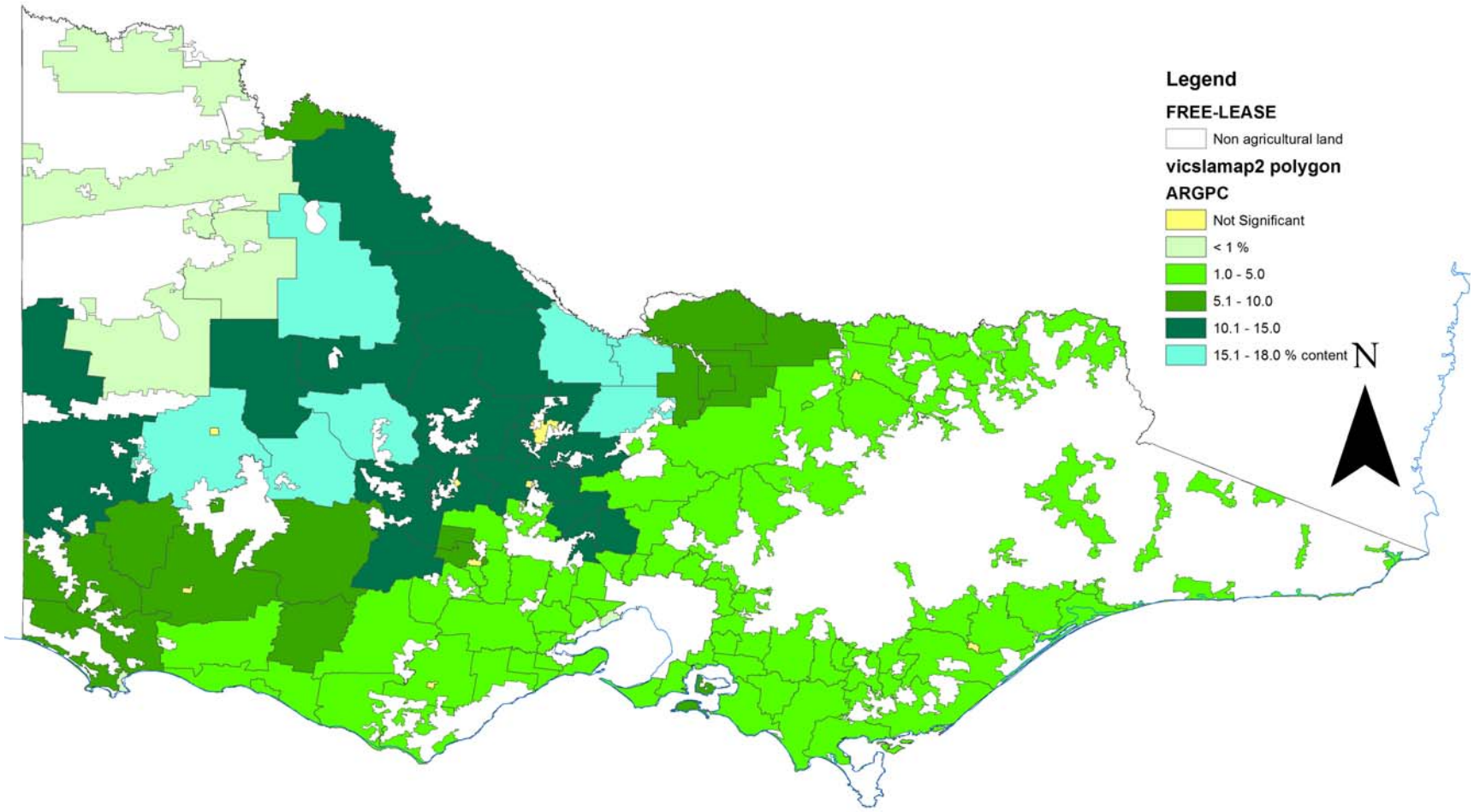
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July. Australian Irrigation areas, National Land and Water Resource Audit, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science

Figure 23. Distribution of pastures in decline in NSW



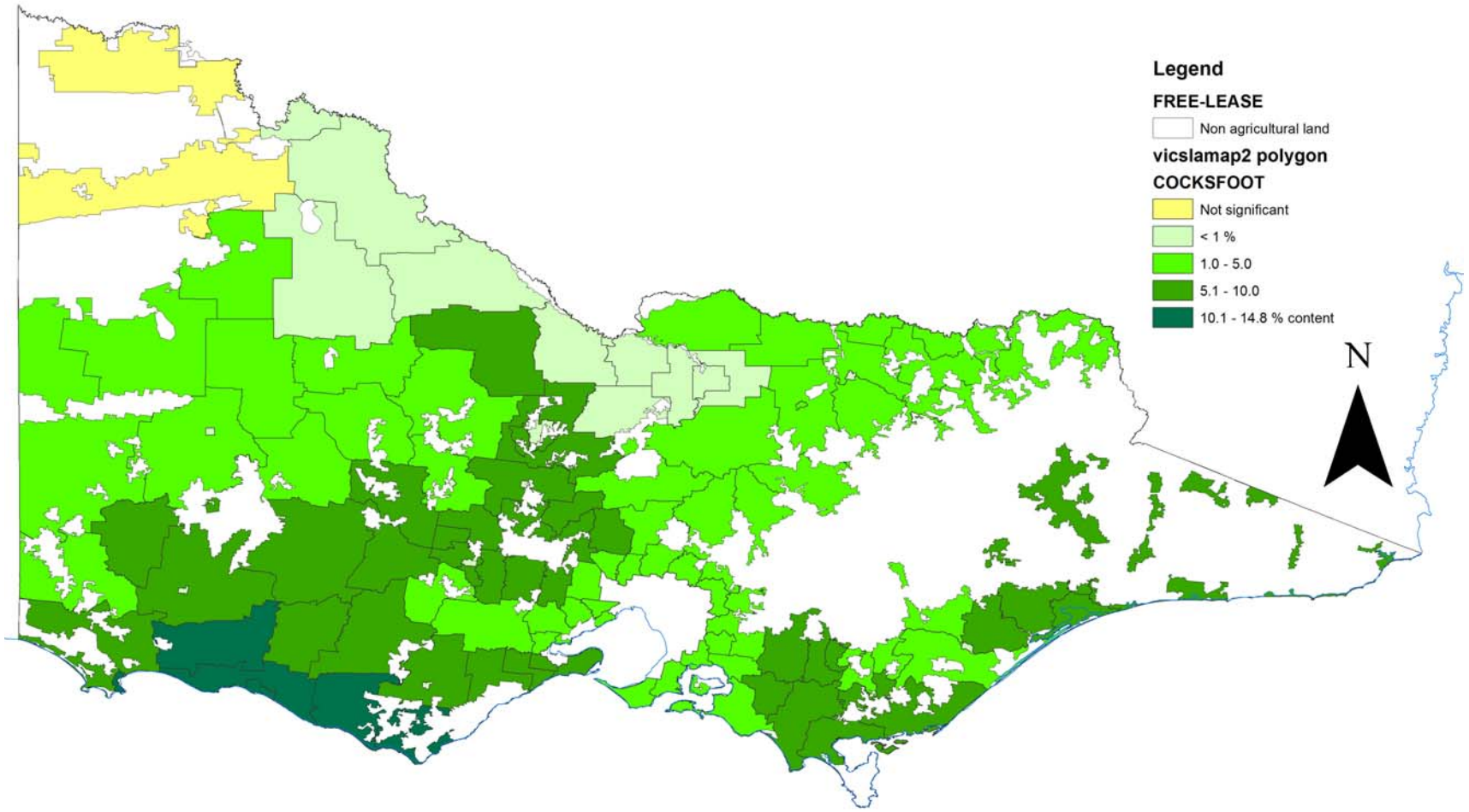
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 24. Distribution of pasture containing Annual Ryegrass in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

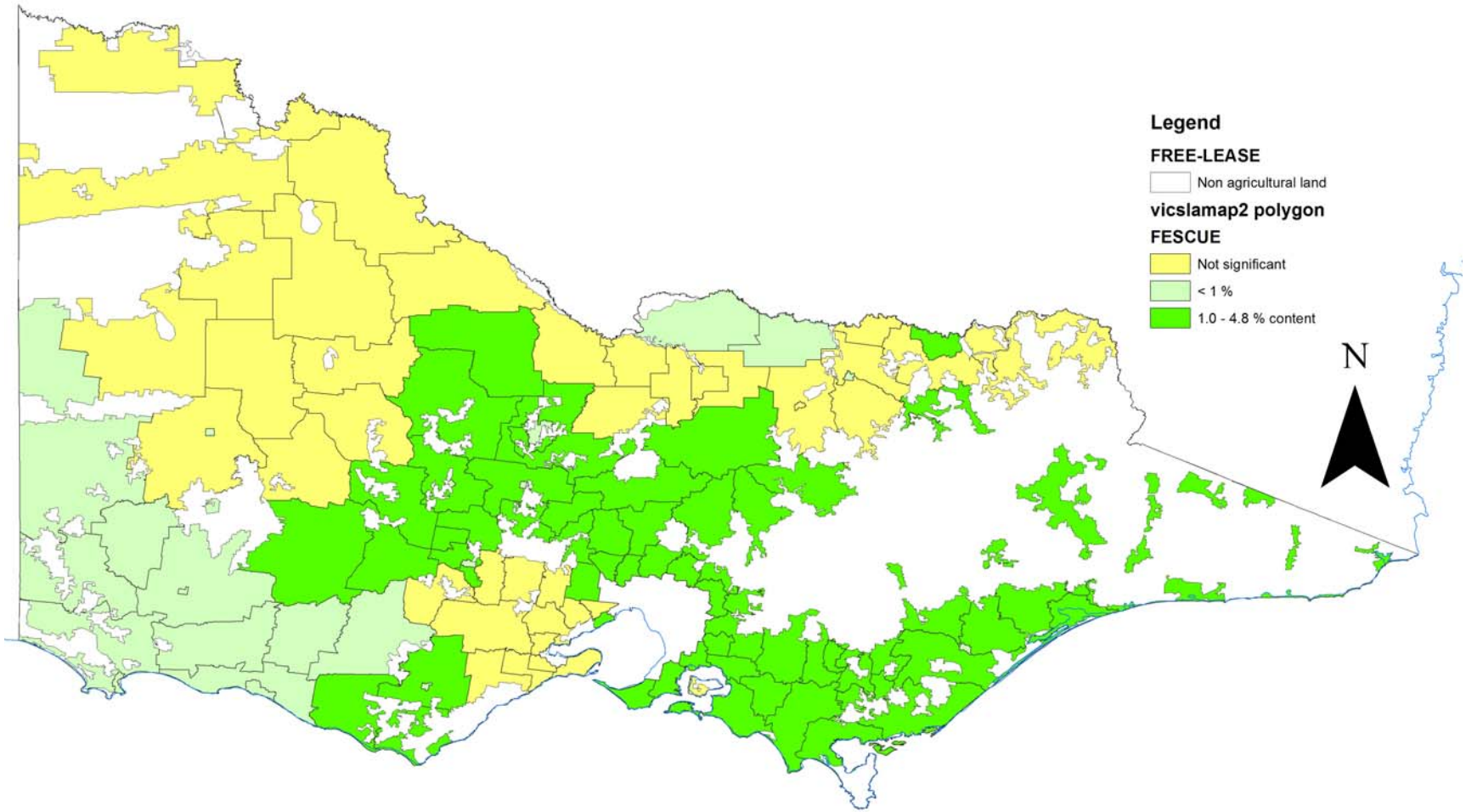
Figure 25. Distribution of pasture containing Cocksfoot in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

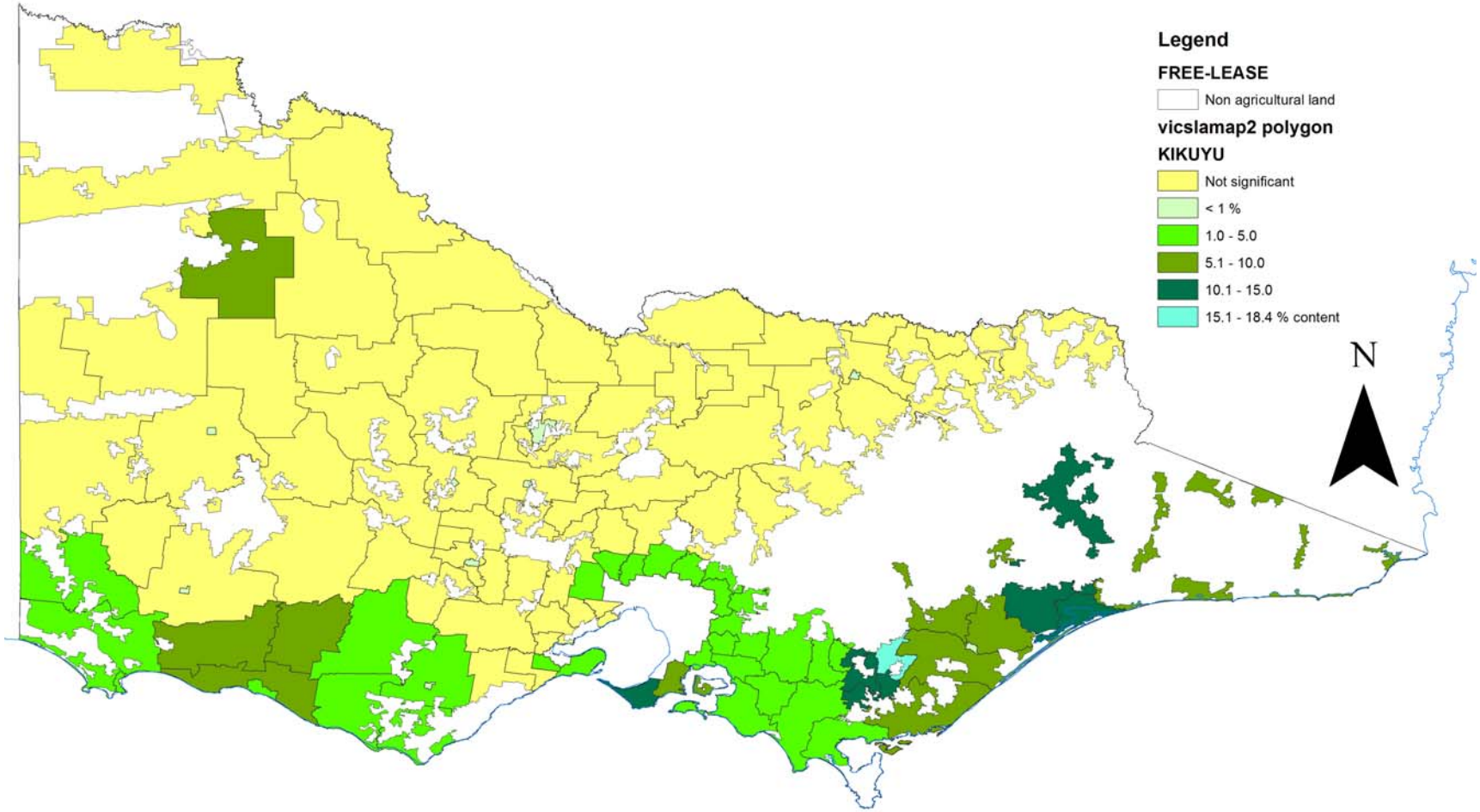
Figure 26. Distribution of pasture containing Fescue in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

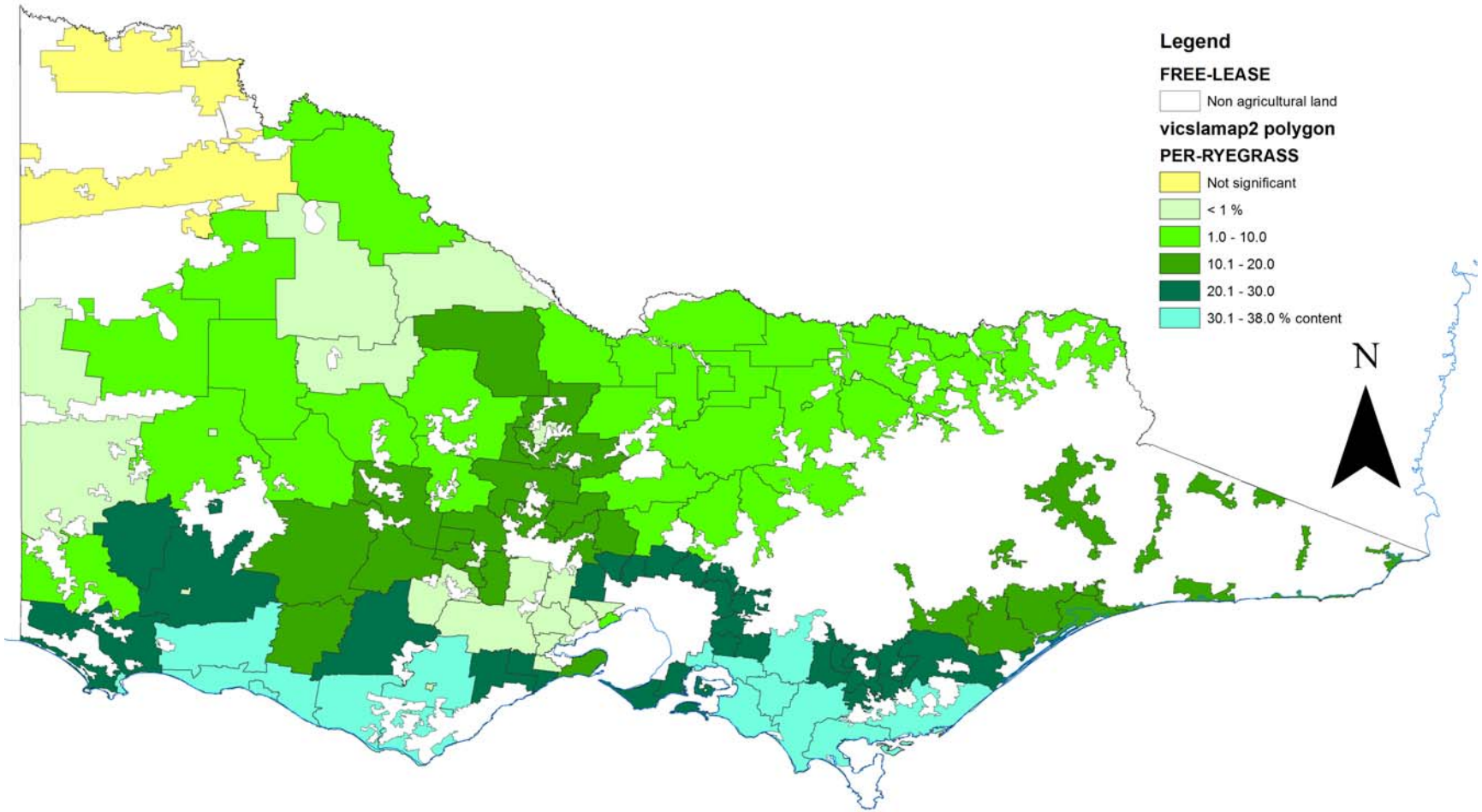
Figure 27. Distribution of pasture containing Kikuyu in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

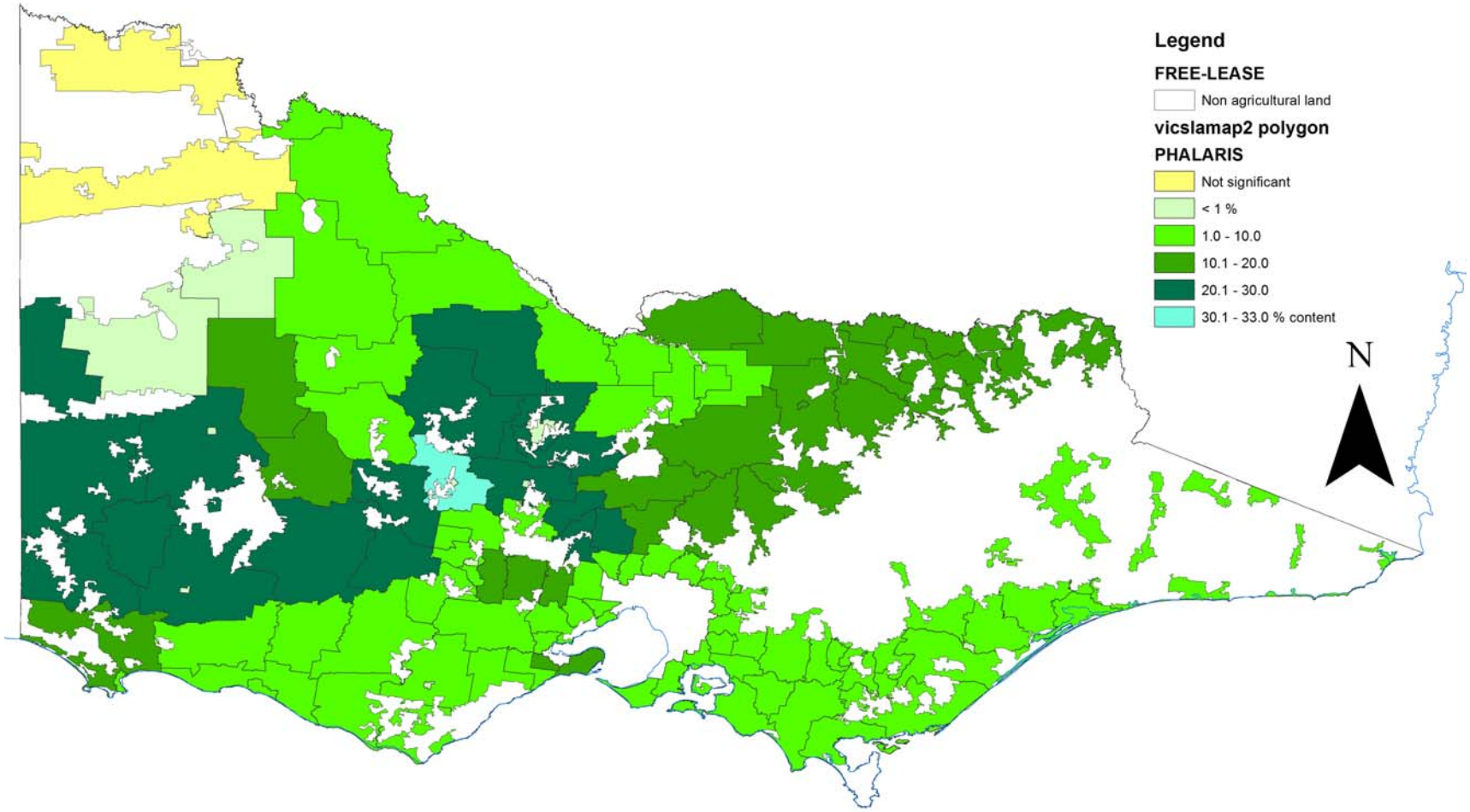
Figure 28. Distribution of pasture containing Perennial ryegrass in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

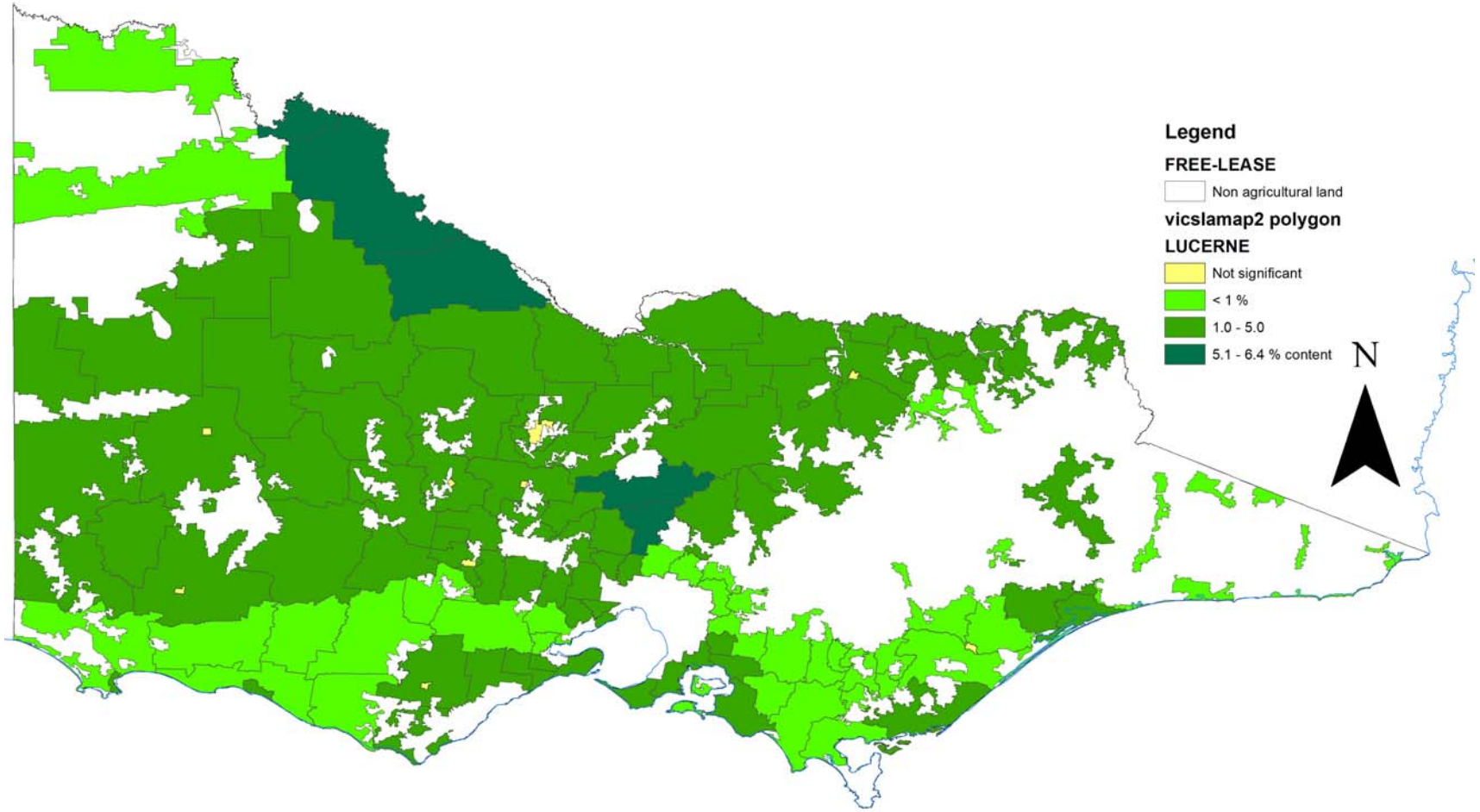
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 29. Distribution of pasture containing Phalaris in Victoria



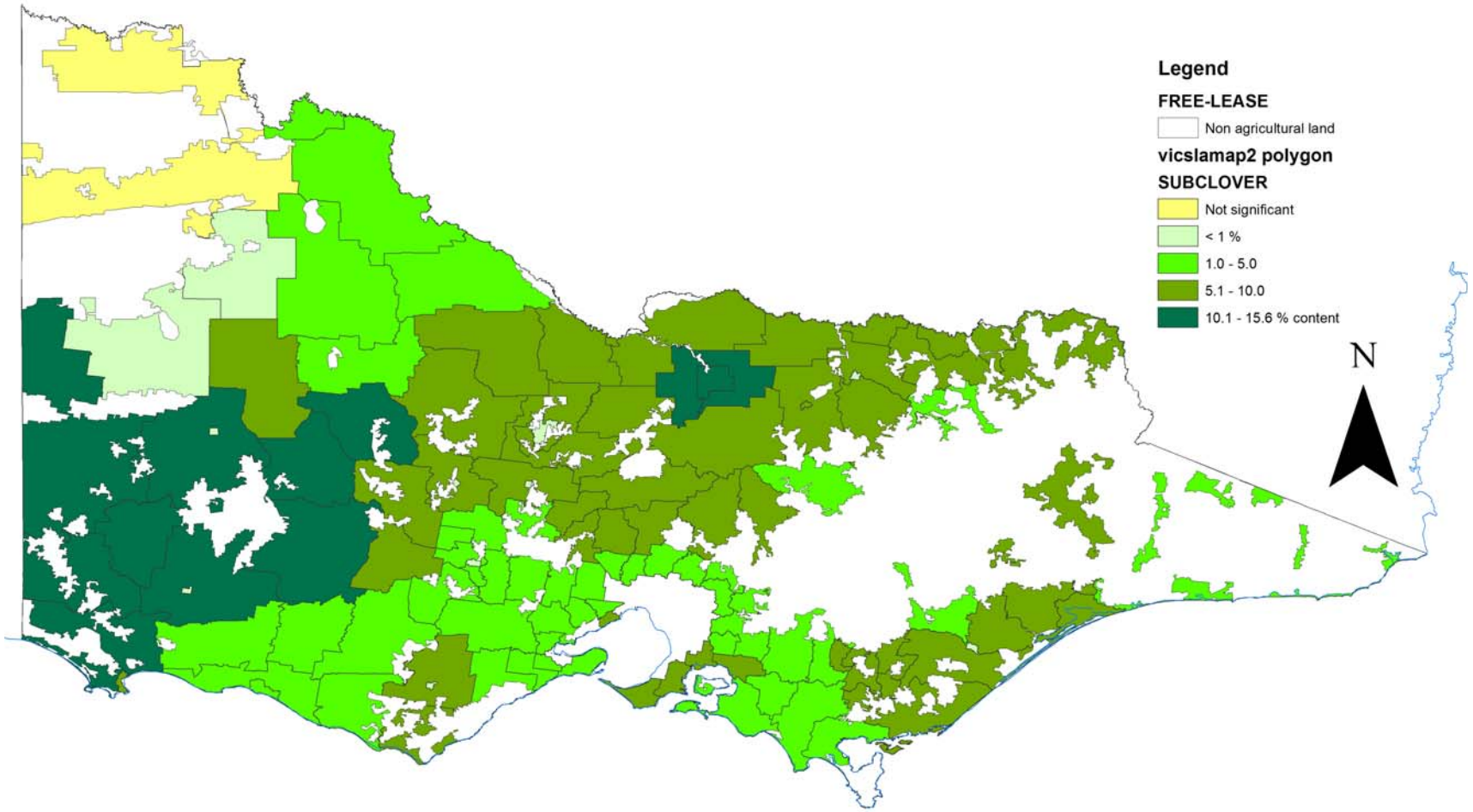
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 30. Distribution of pasture containing Lucerne in Victoria



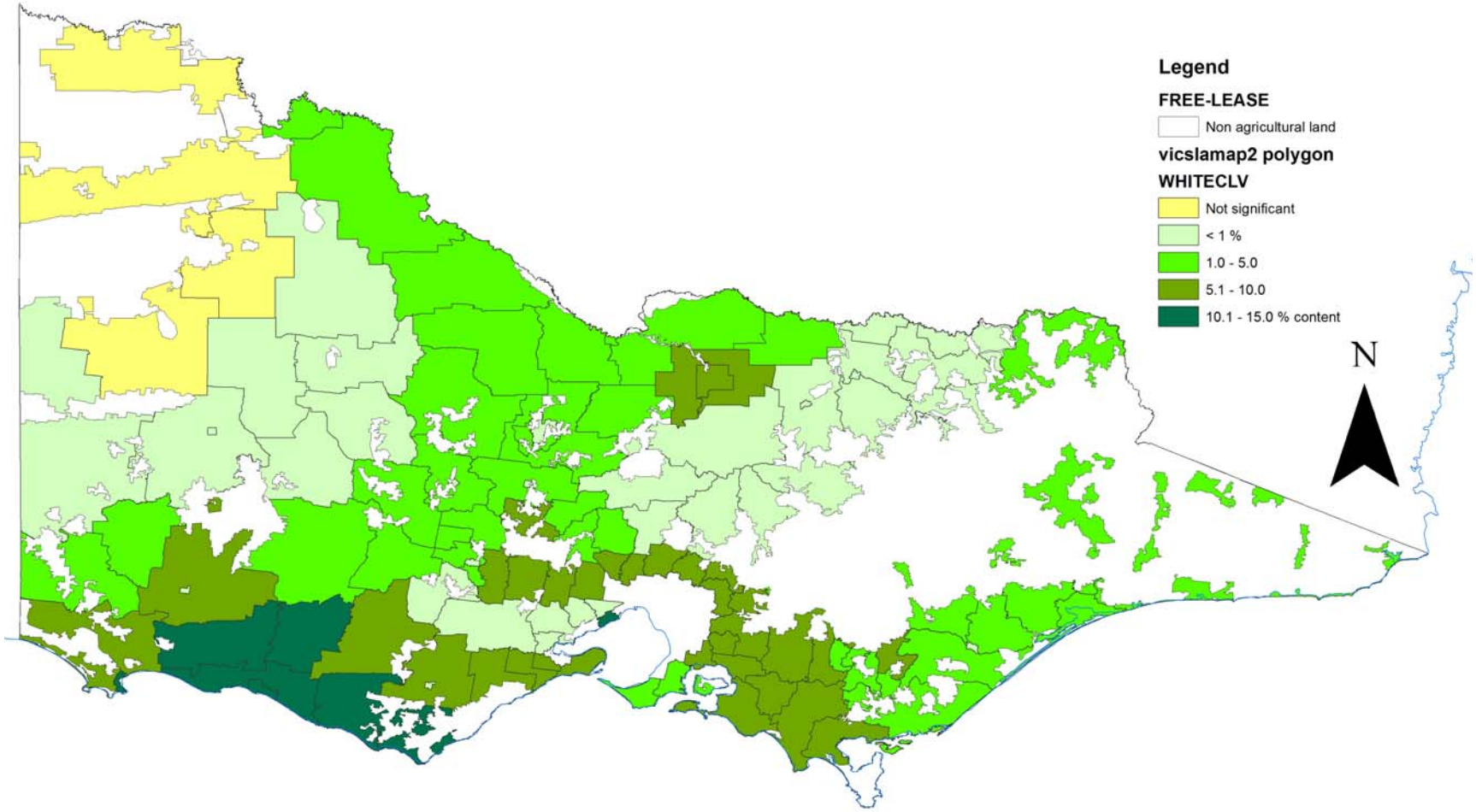
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 31. Distribution of pasture containing Subterranean Clover in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

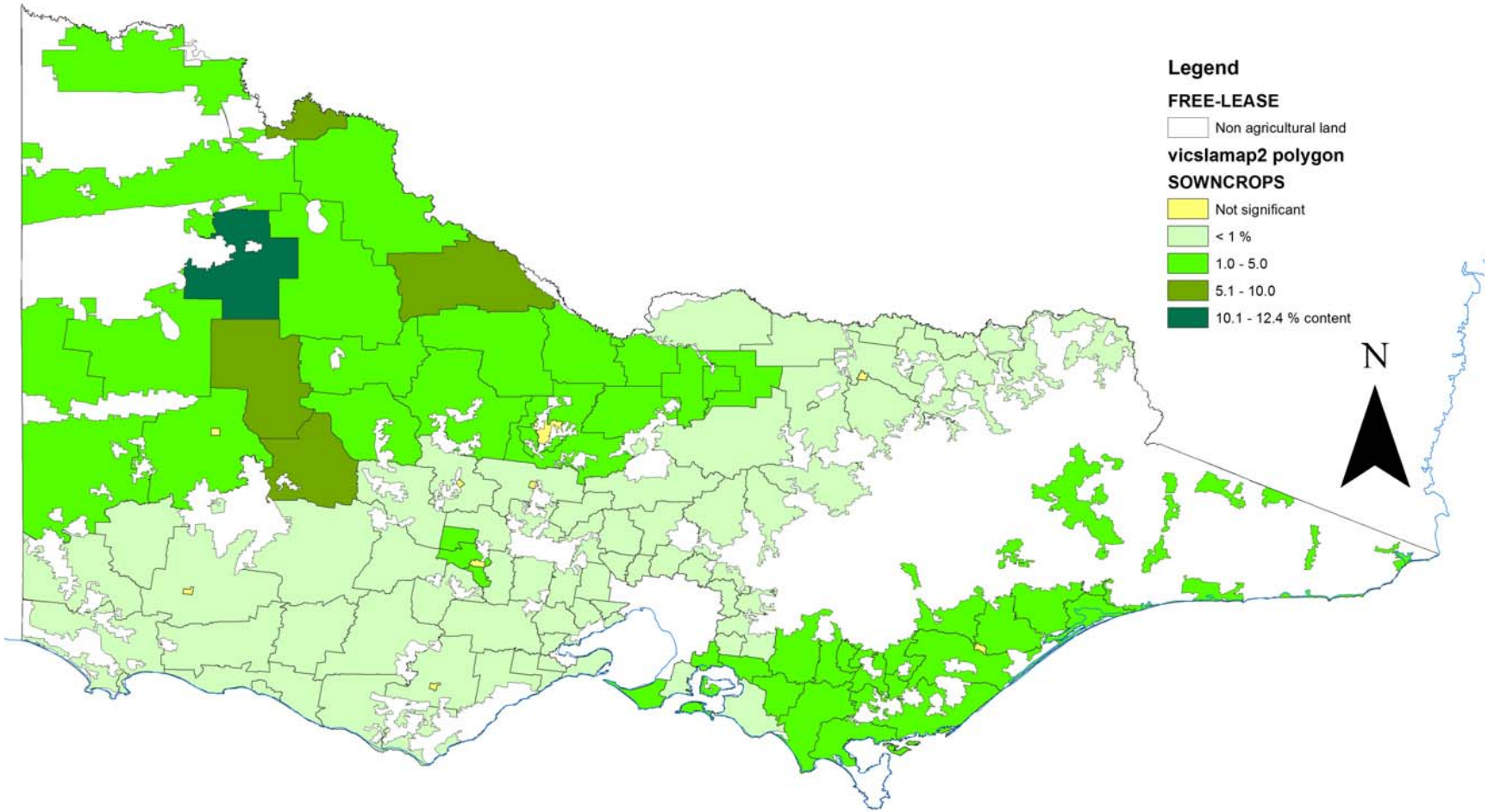
Figure 32. Distribution of pasture containing White Clover in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

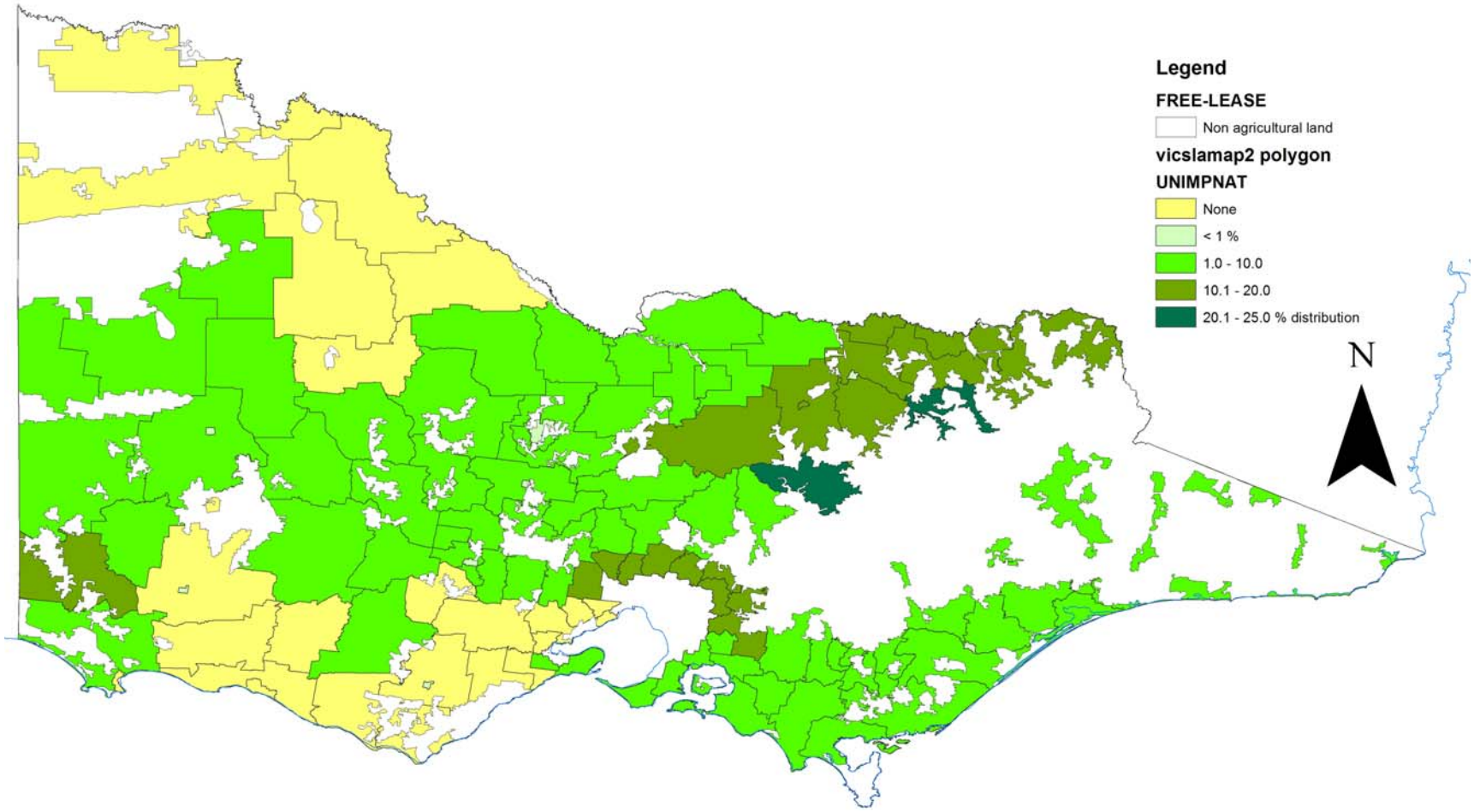
Figure 33. Distribution of pasture containing Sown Crops for livestock in Victoria



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,

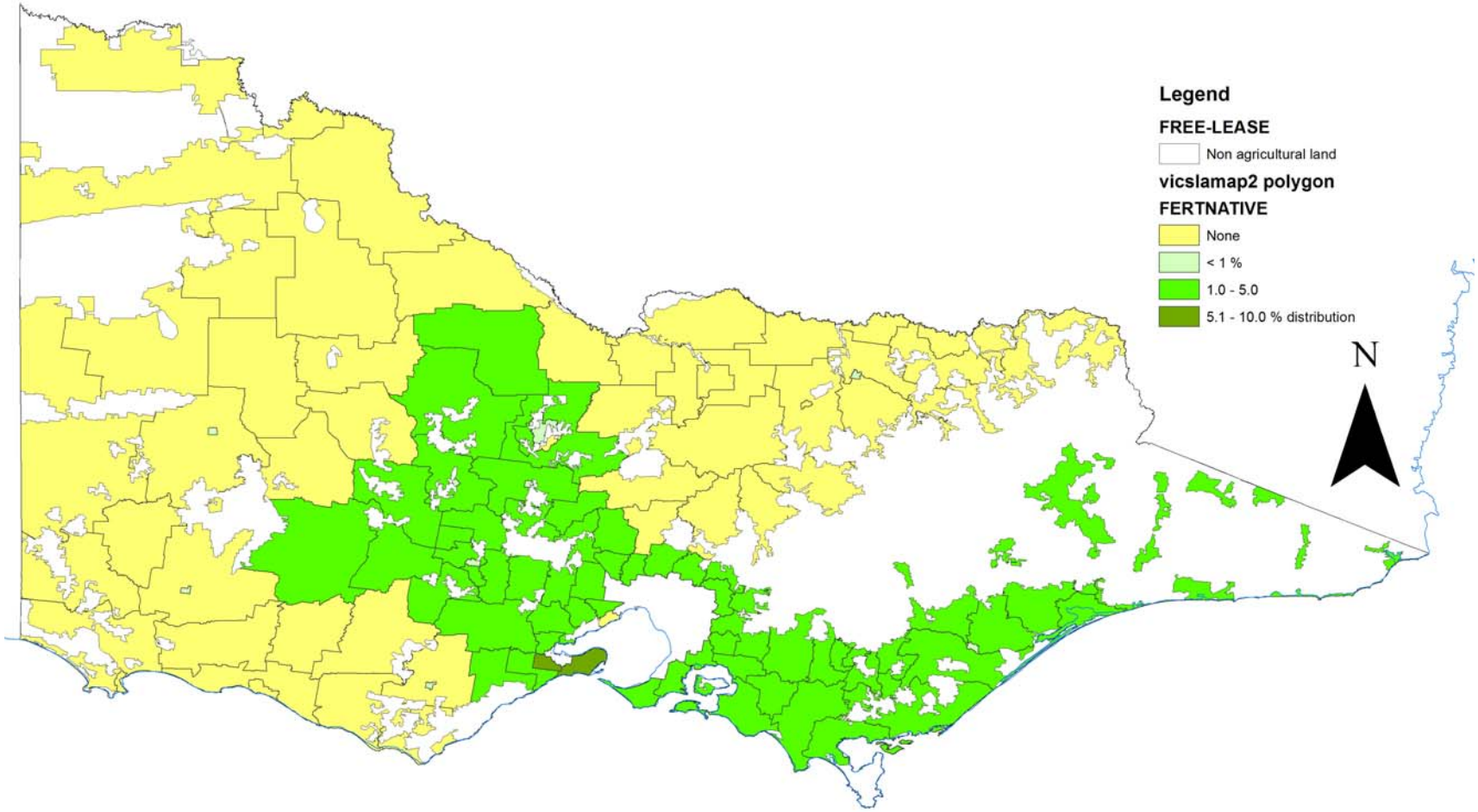
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 34. Distribution of unimproved native pasture in Victoria



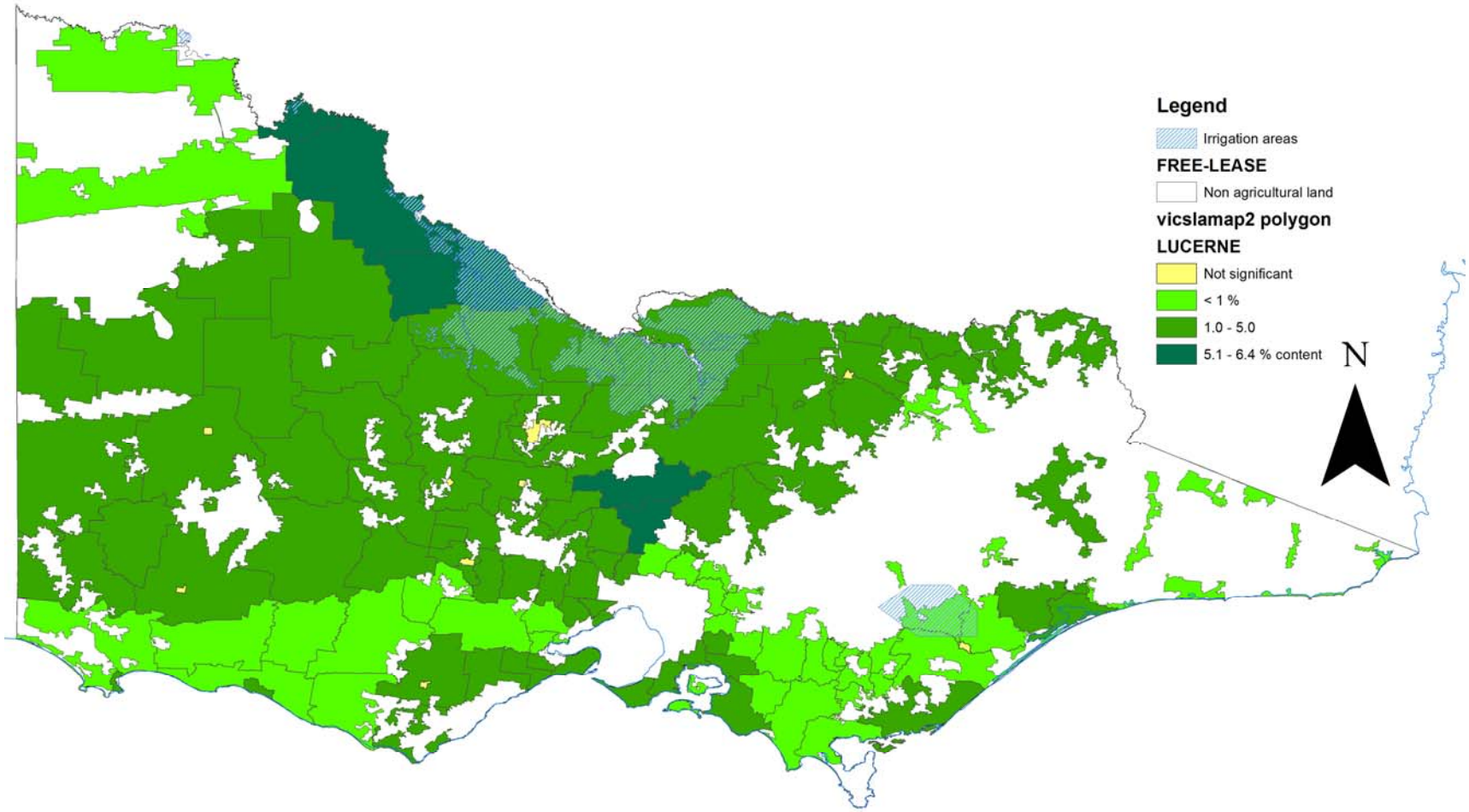
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 35. Distribution of fertilized native pasture in Victoria



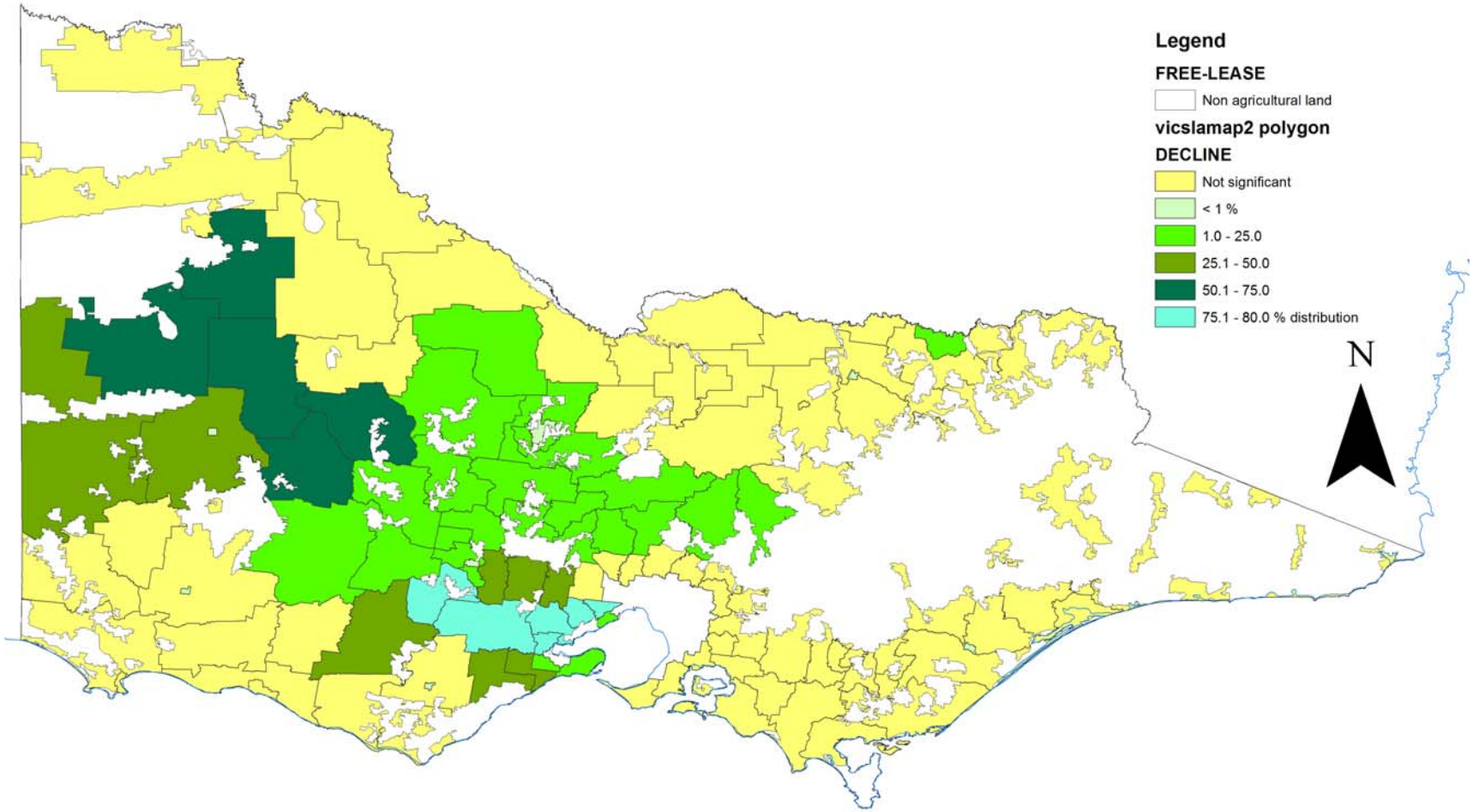
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 36. Distribution of extensive irrigation areas in Victoria



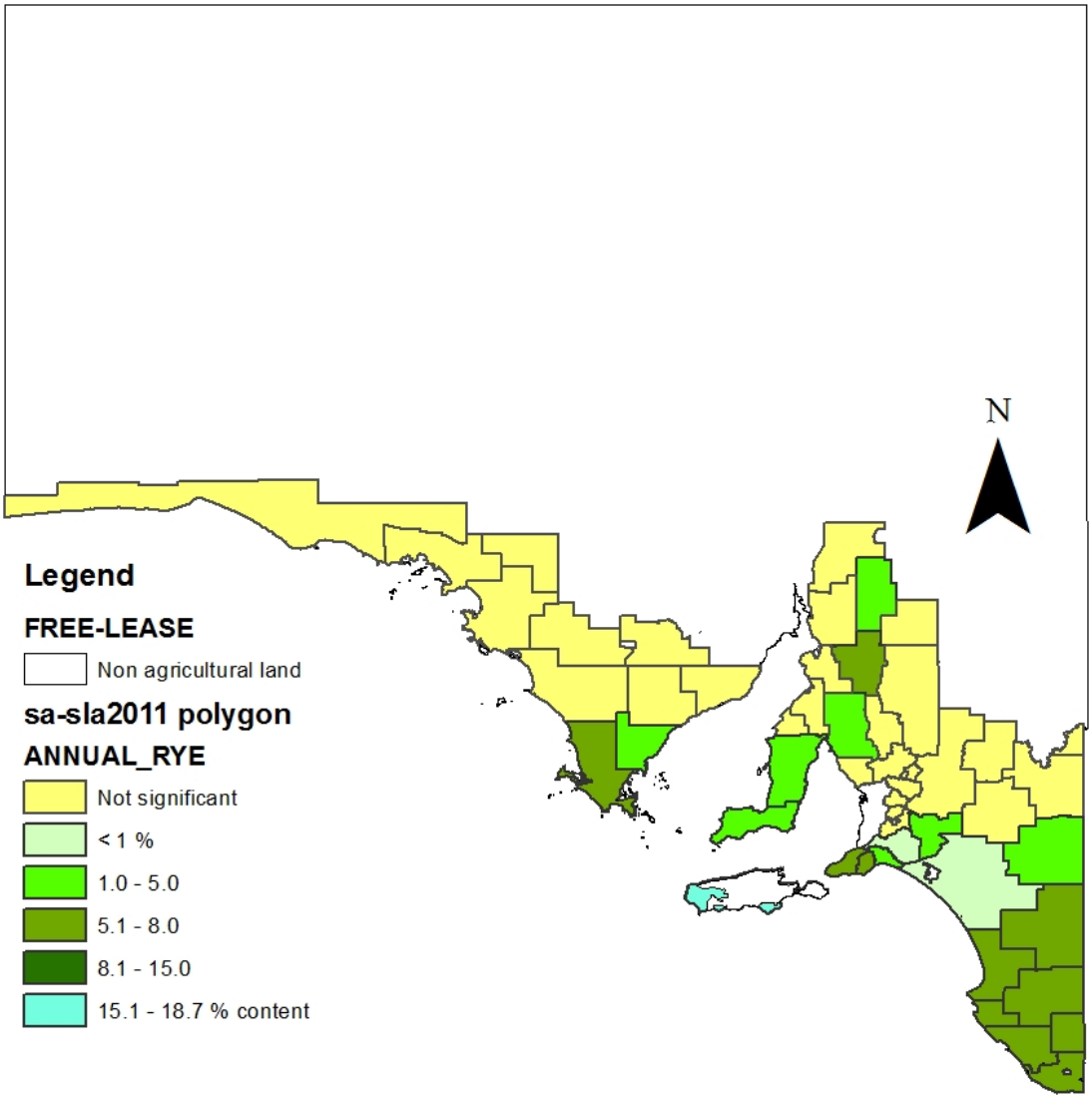
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science, SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July. Australian Irrigation areas, National Land and Water Resource Audit, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science. McCalister irrigation area in the east Gippsland provided by John Bowman VDPI.

Figure 37. Distribution of pastures in decline inVictoria



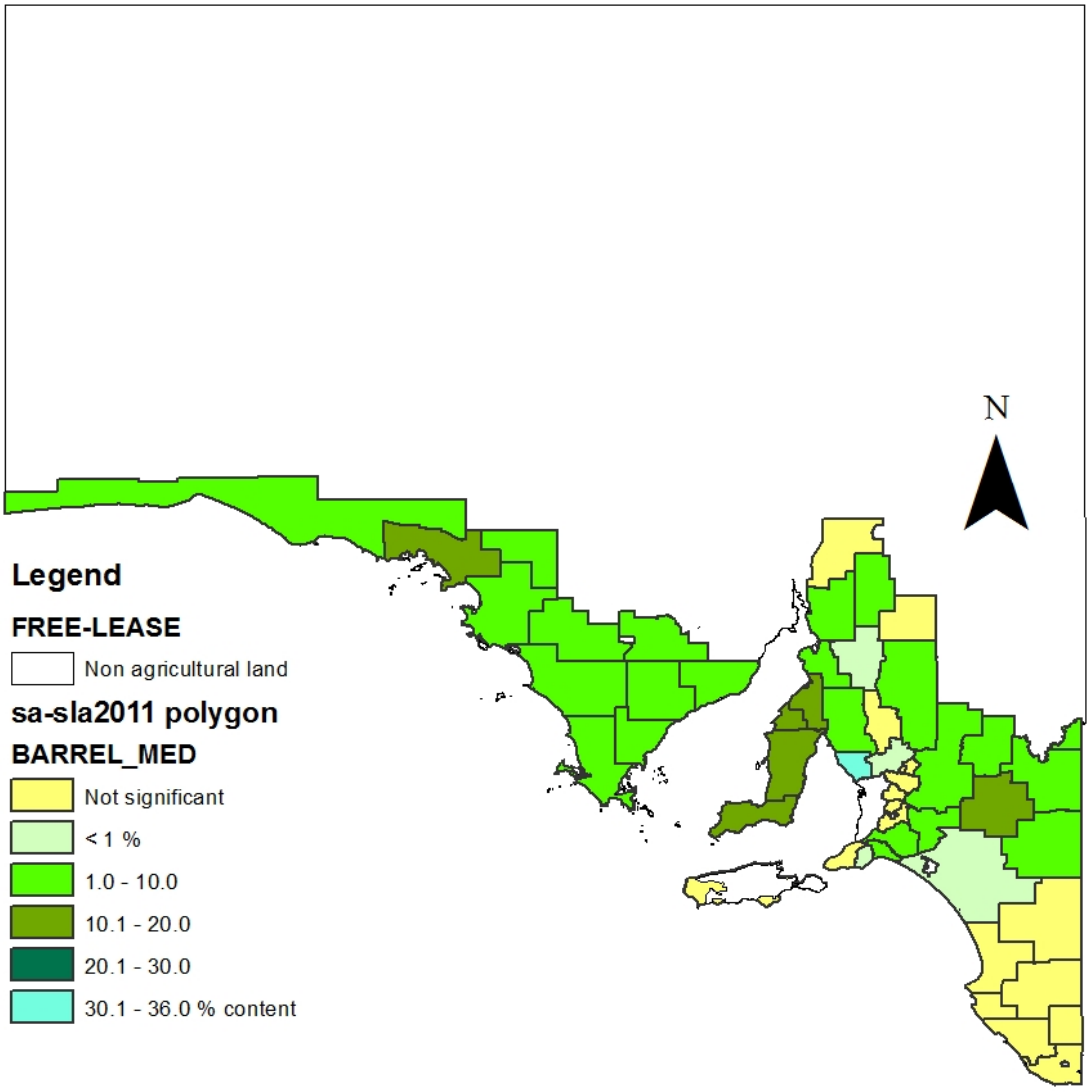
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 38. Distribution of pasture containing Annual Ryegrass in SA



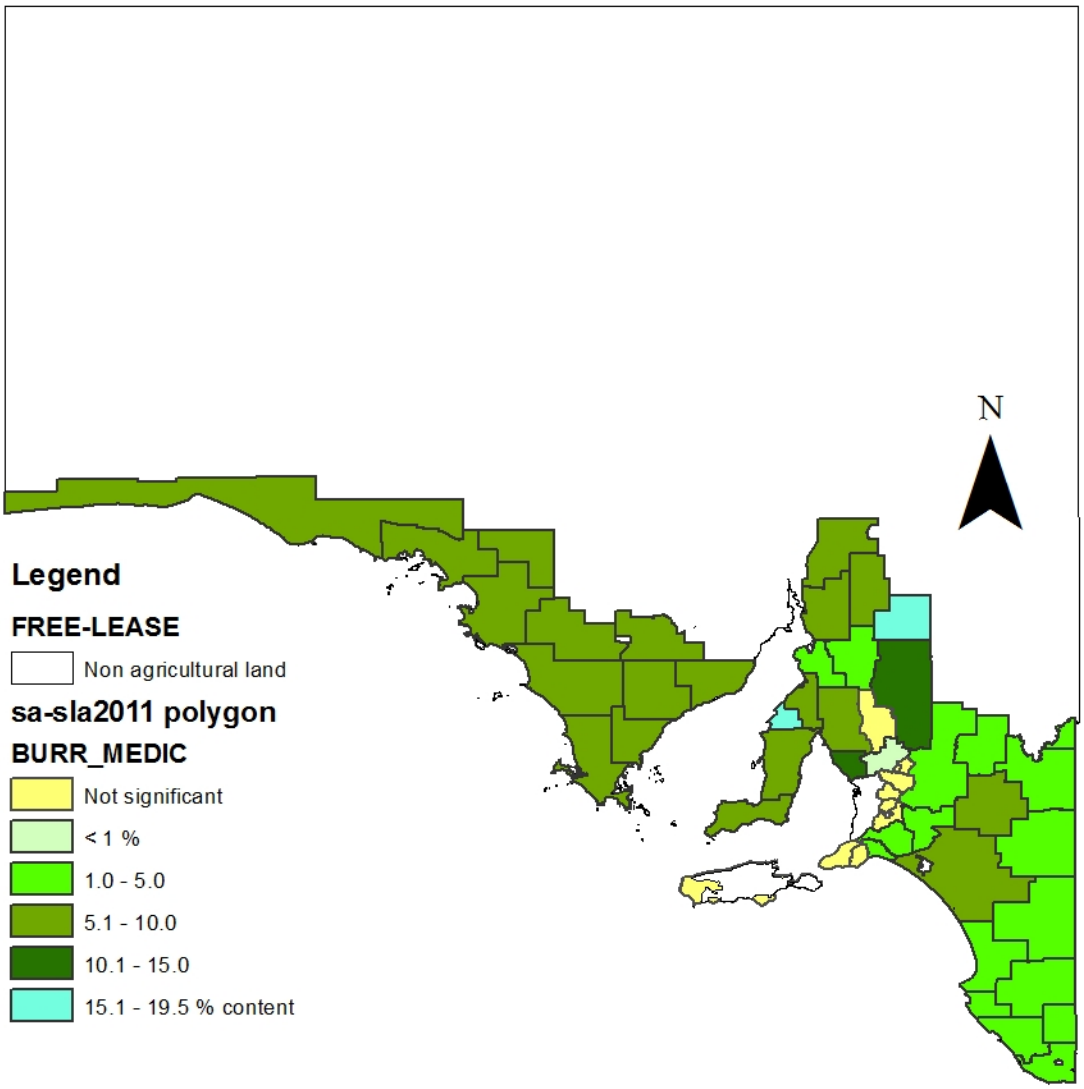
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 39. Distribution of pasture containing Barrel Medic in SA



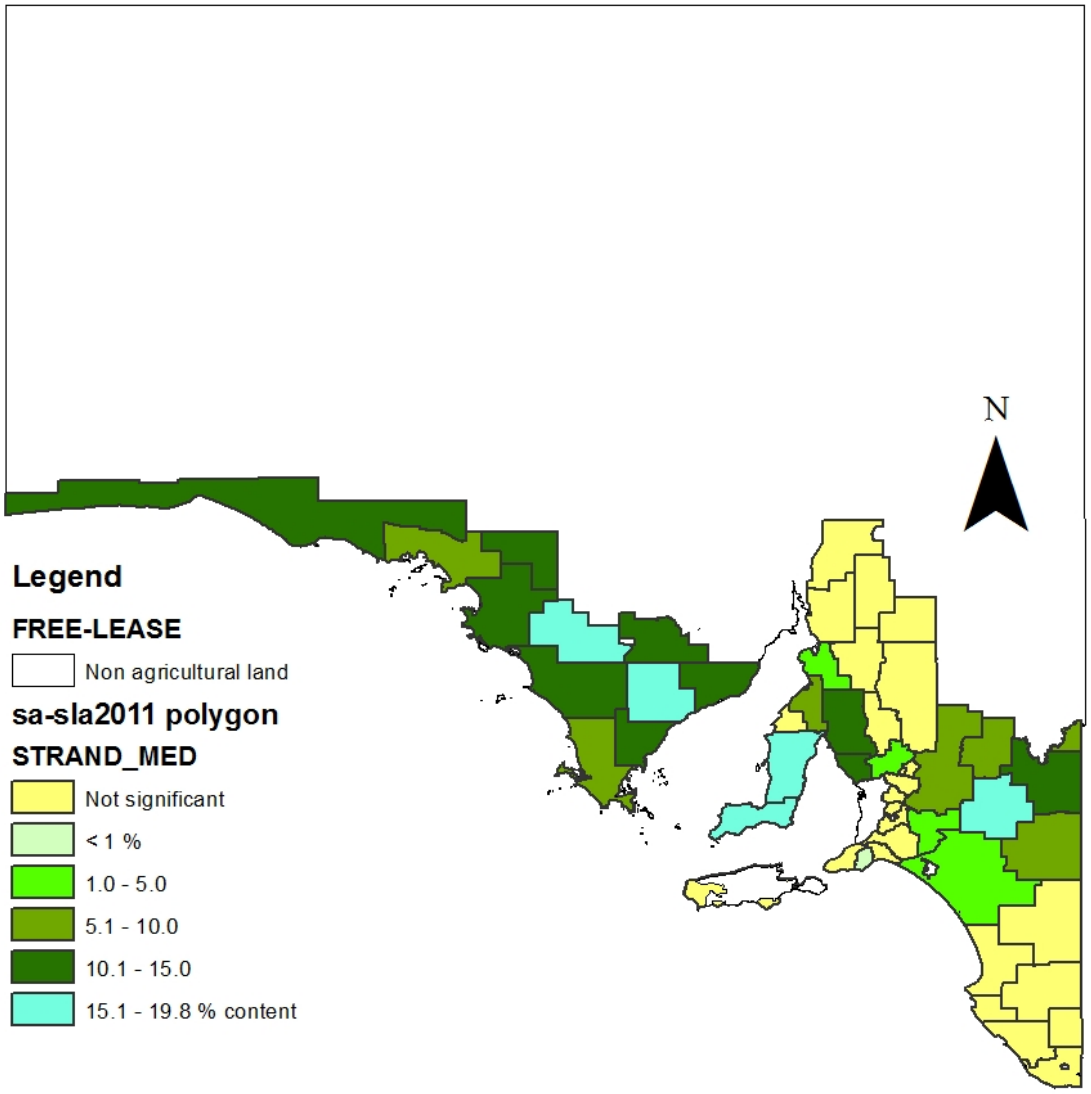
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 40. Distribution of pasture containing Burr Medic in SA



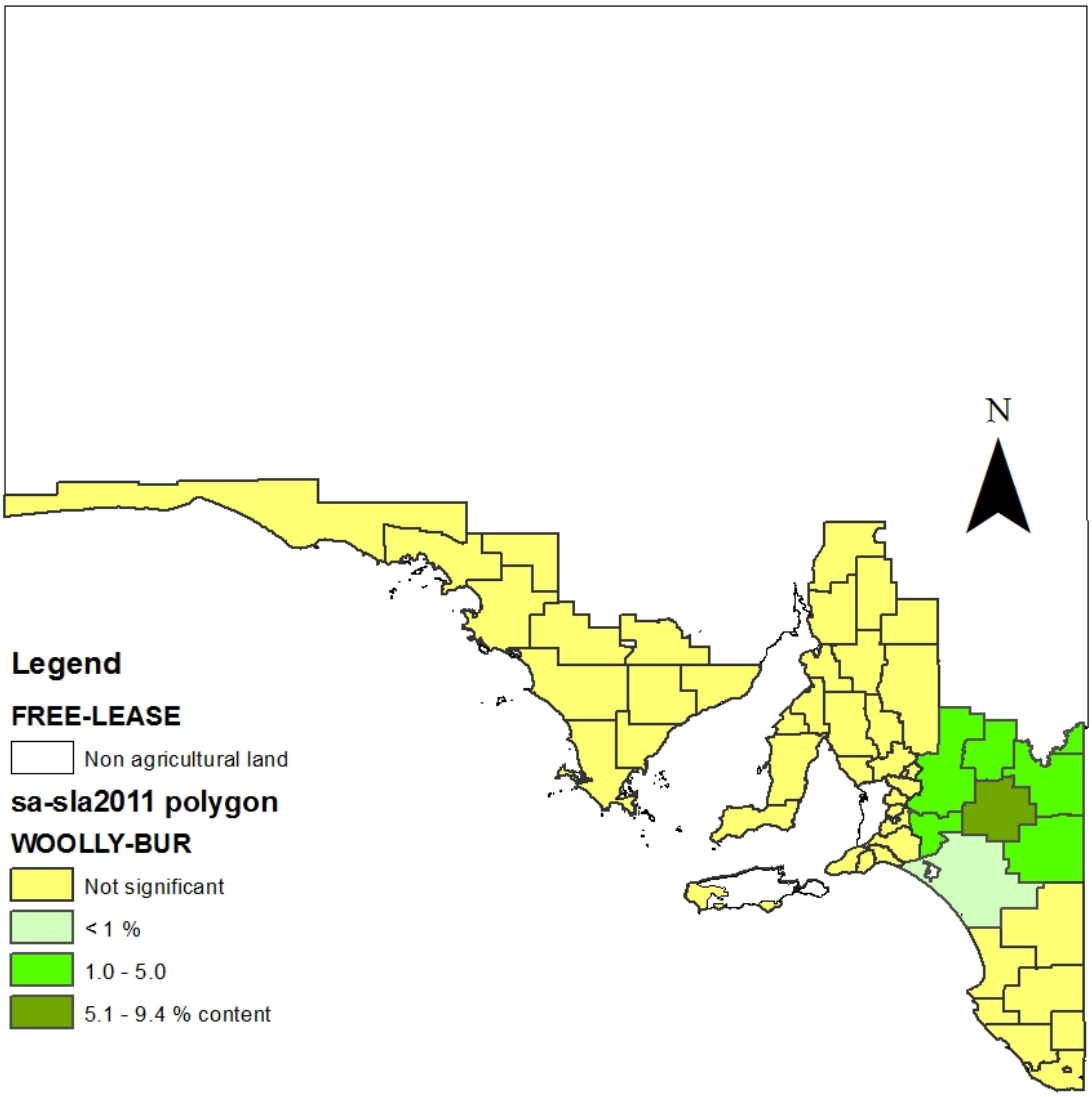
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 41. Distribution of pasture containing Strand Medic in SA



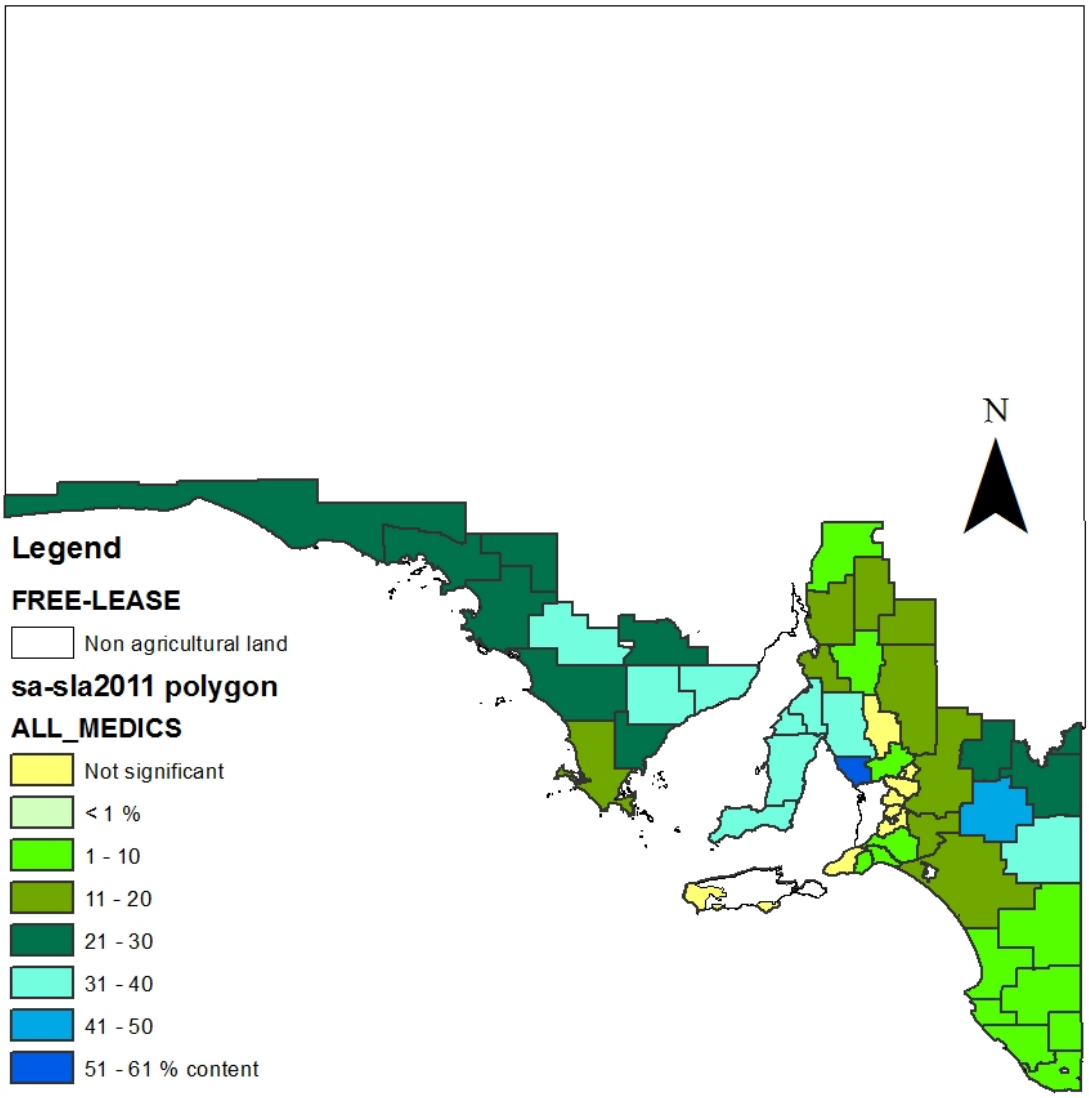
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 42. Distribution of pasture containing Woolly Burr Medic in SA



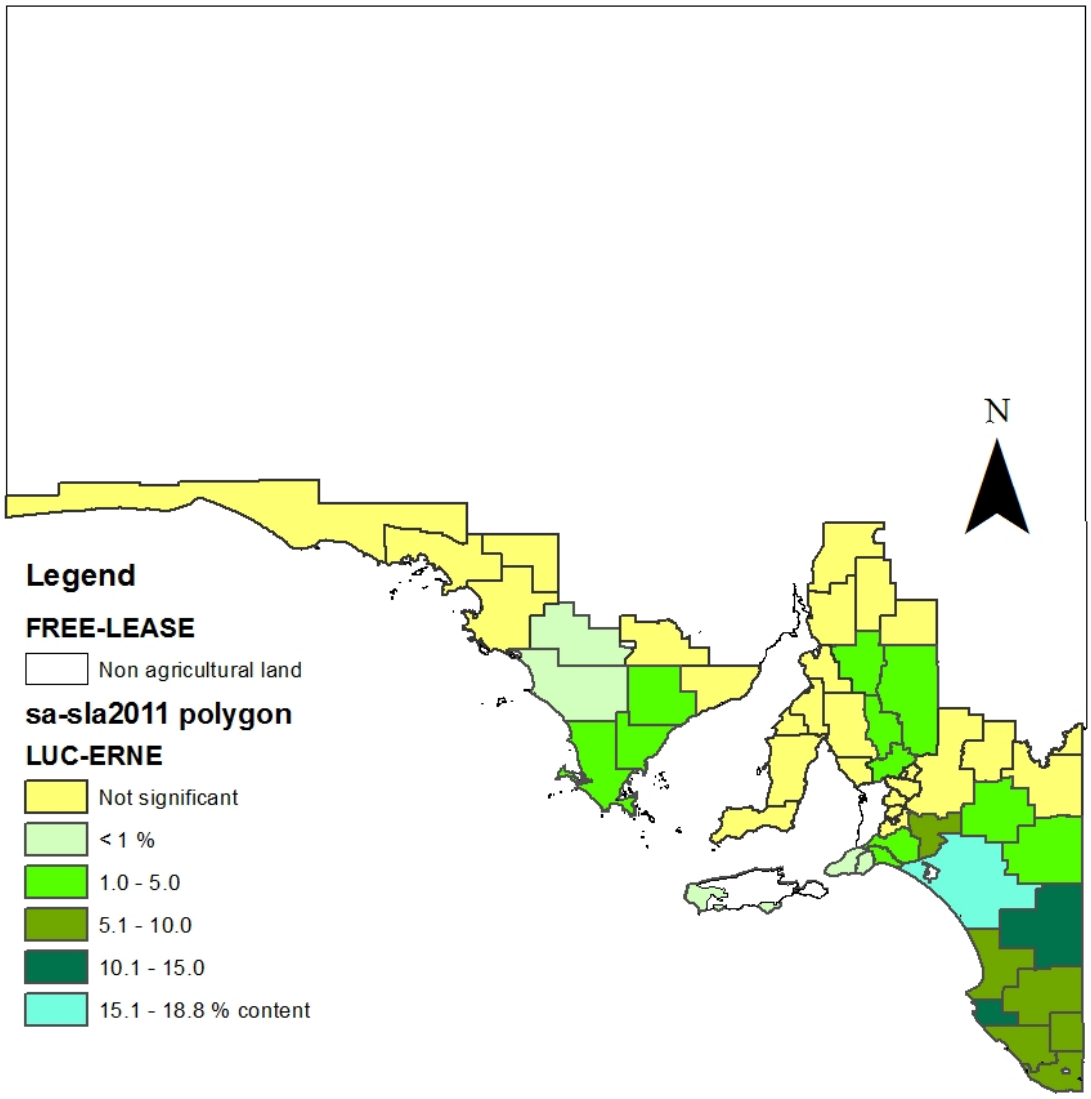
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 43. Distribution of pasture containing ALL Medics in SA



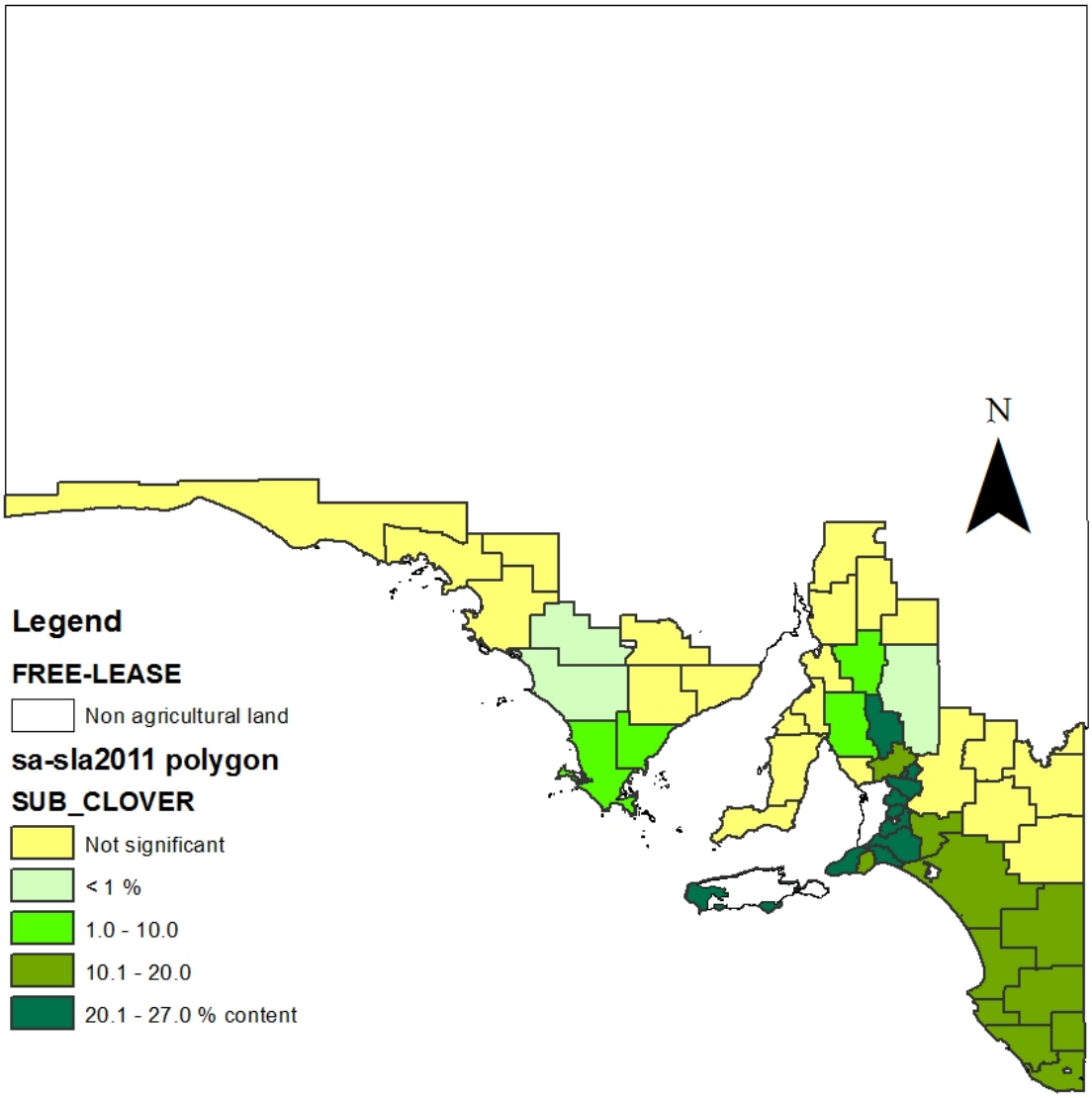
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 44. Distribution of pasture containing Lucerne in SA



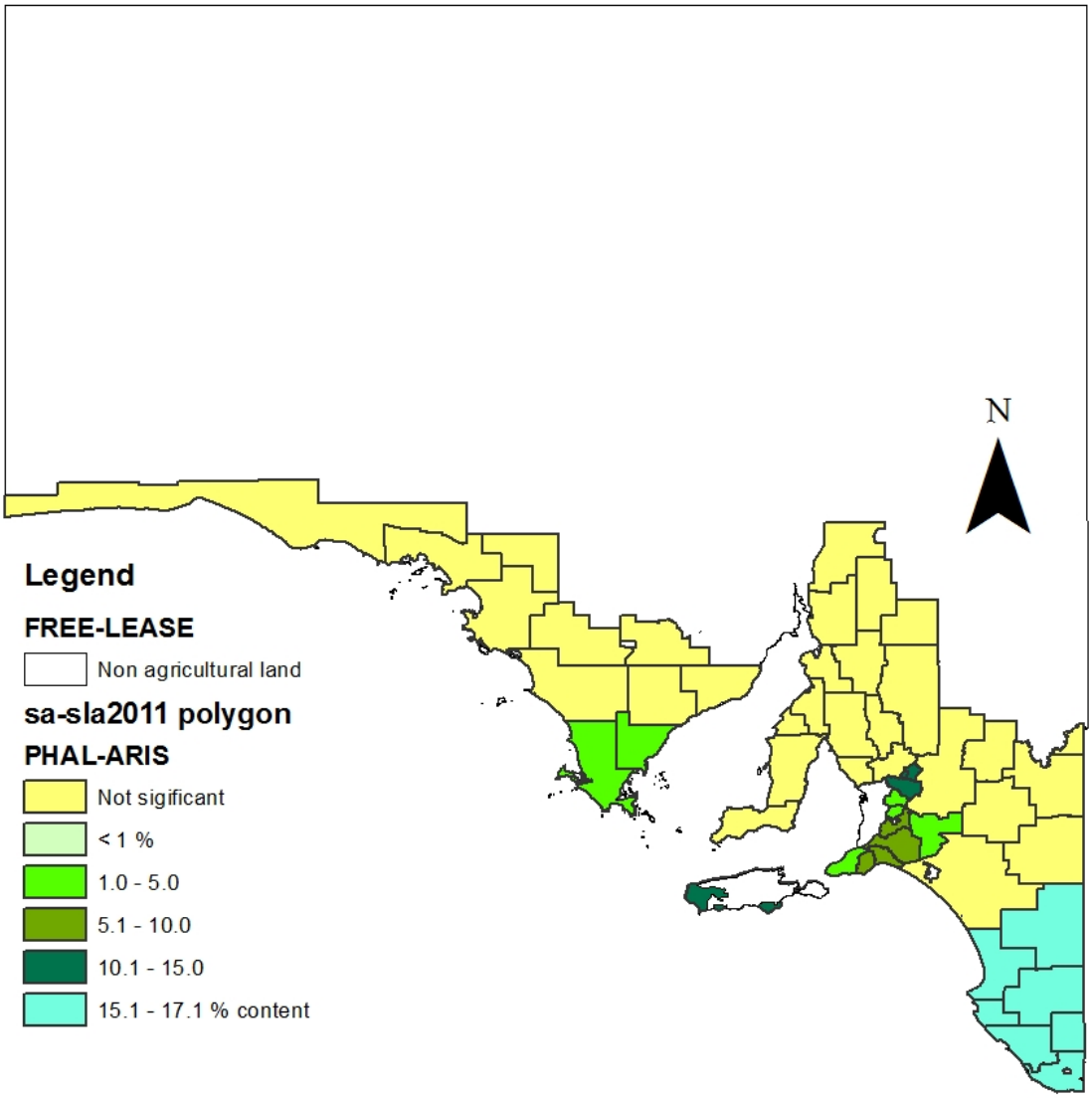
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 45. Distribution of pasture containing Subterranean clover in SA



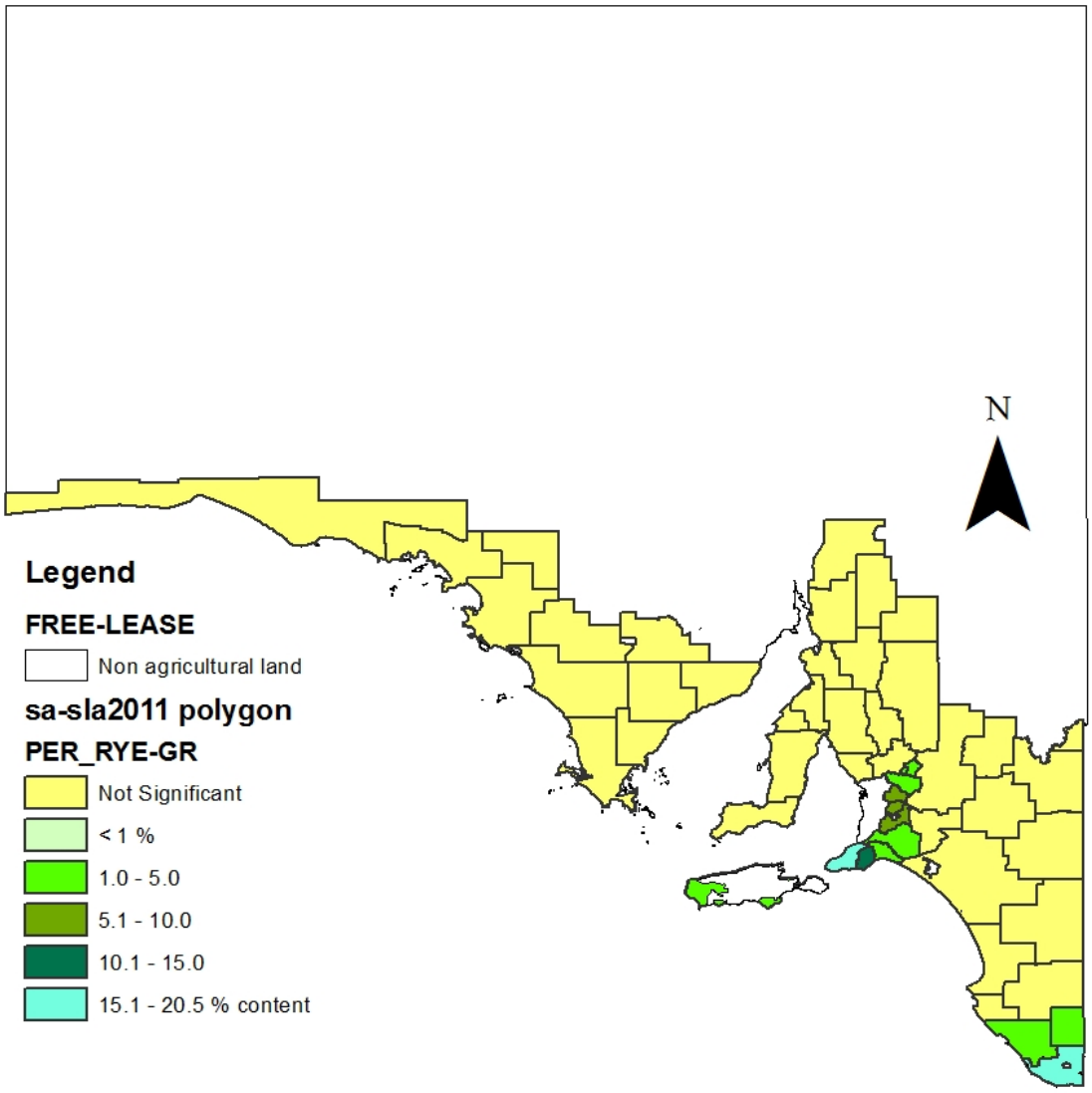
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 46. Distribution of pasture containing Phalaris in SA



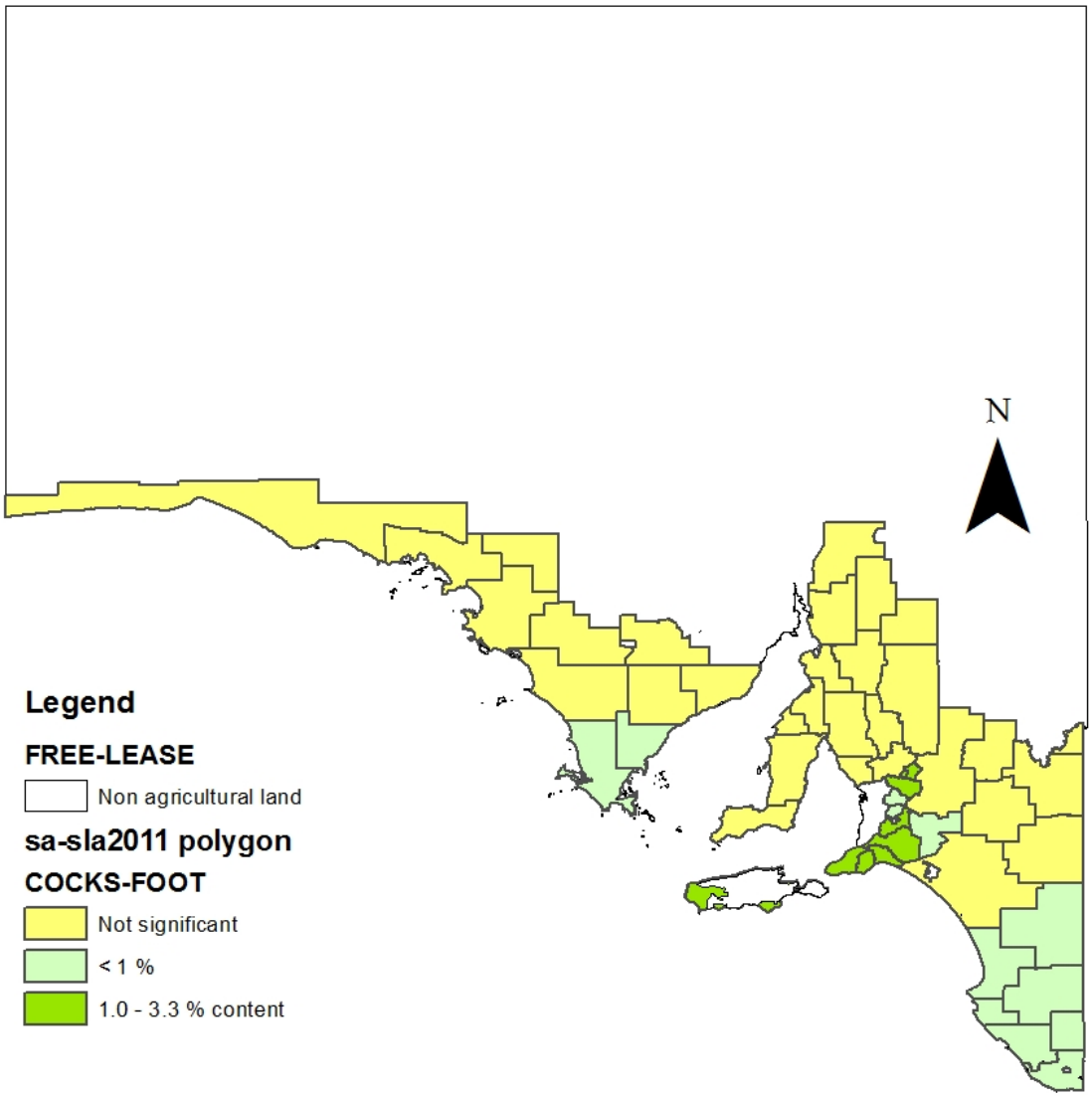
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 47. Distribution of pasture containing Perennial Ryegrass in SA



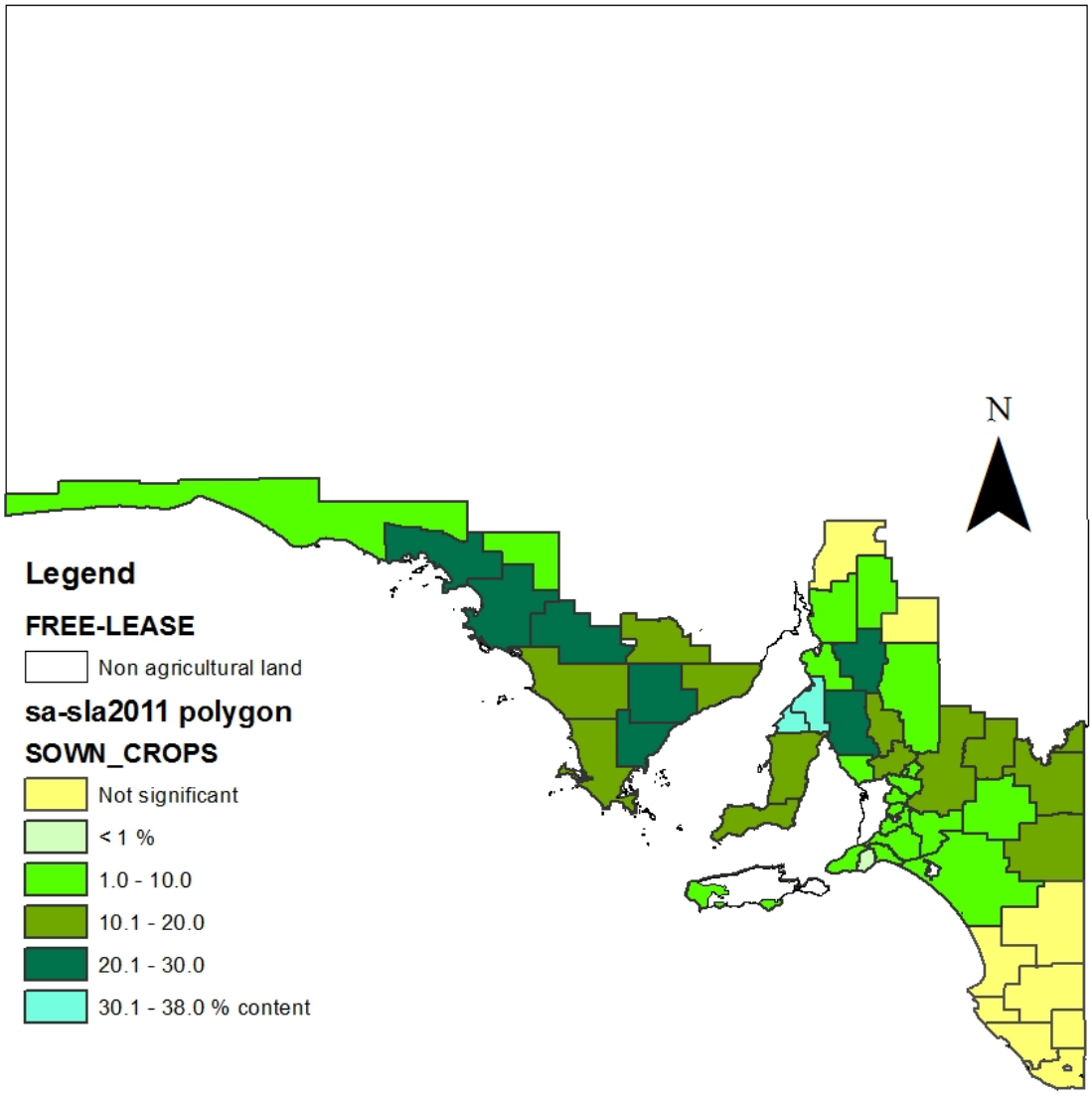
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 48. Distribution of pasture containing Cocksfoot in SA



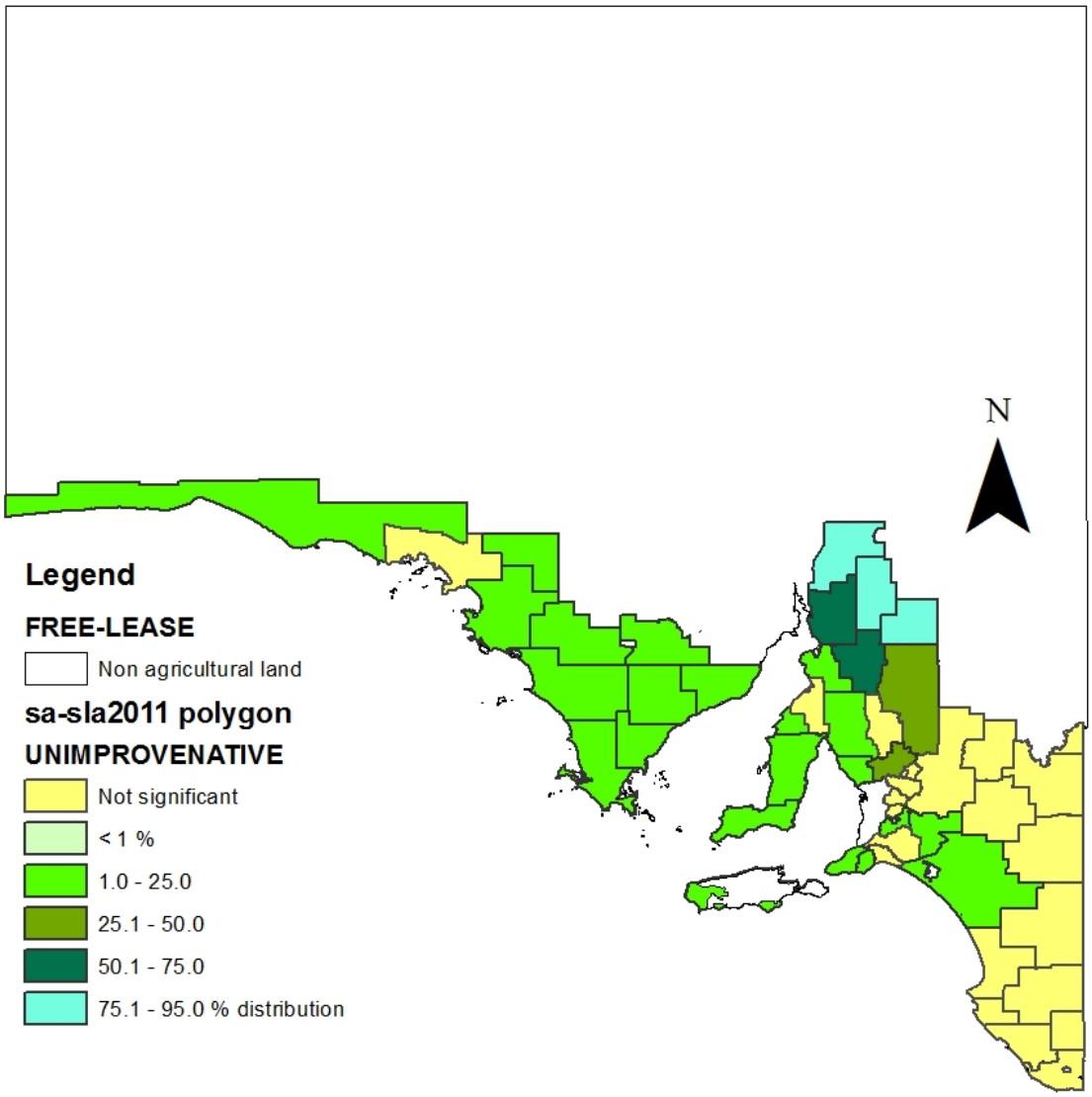
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 49. Distribution of pasture containing Sown Crops for livestock in SA



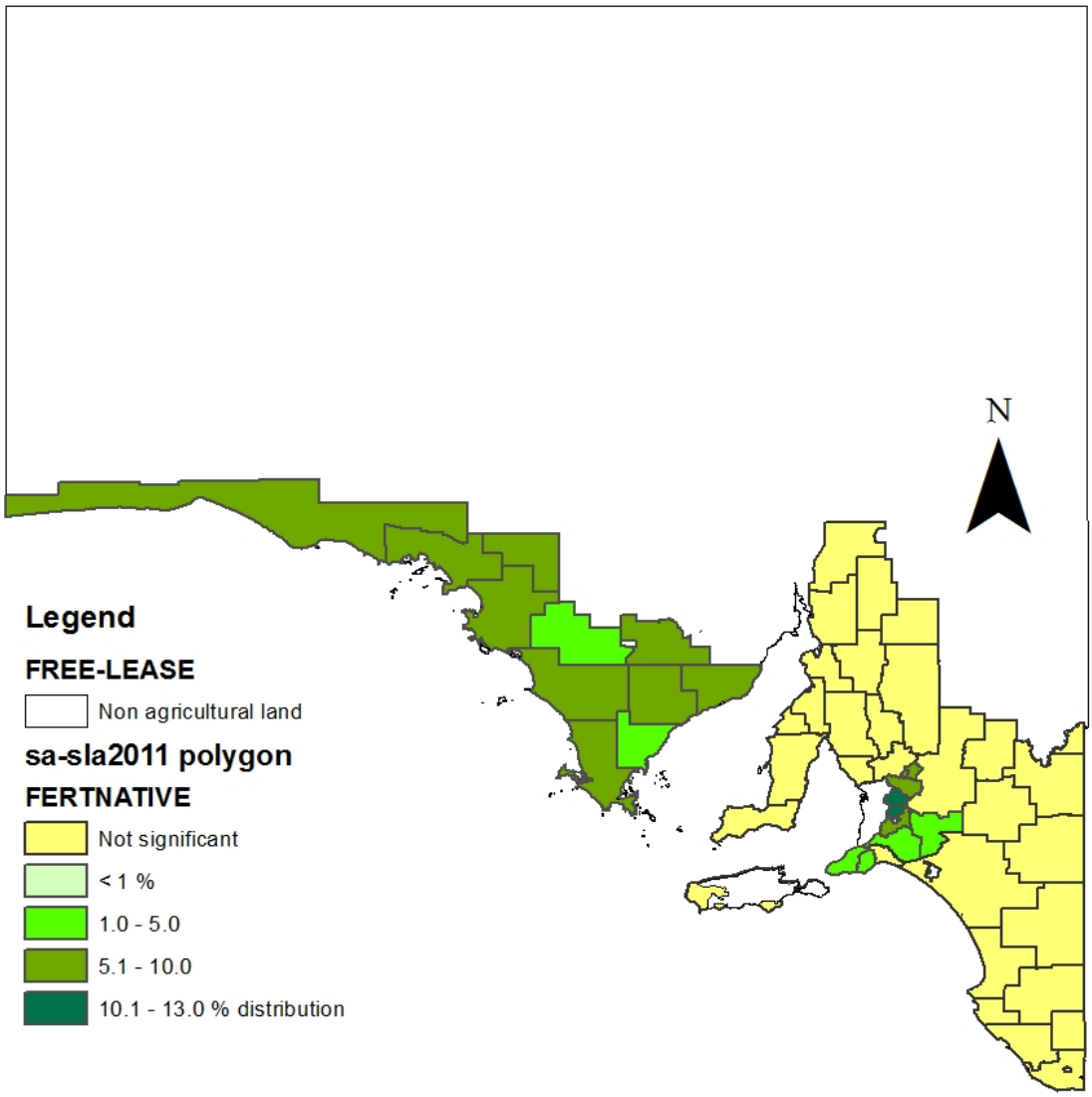
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 50. Distribution of Unimproved Native pasture in SA



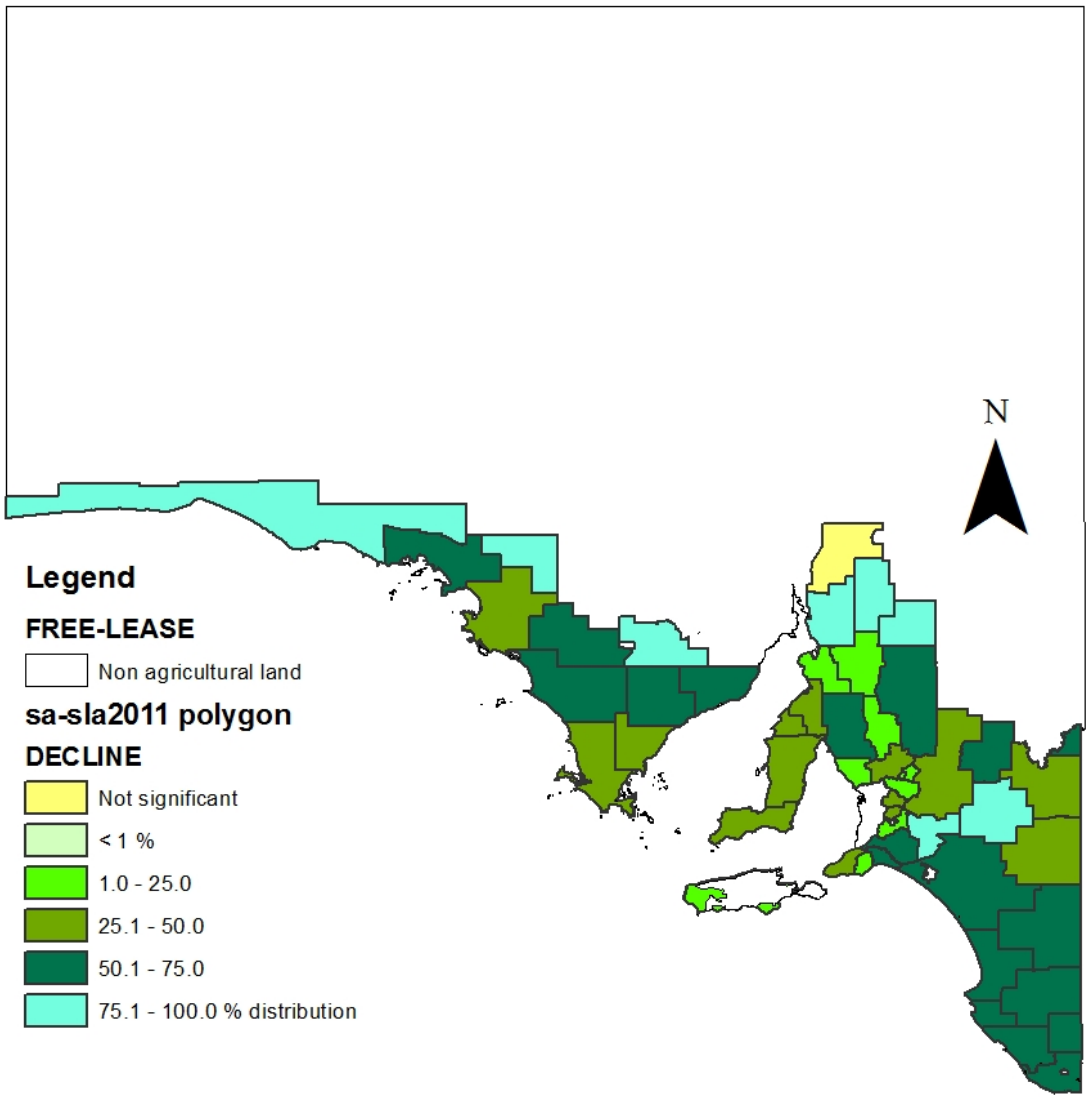
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 51. Distribution of fertilized native pasture in SA



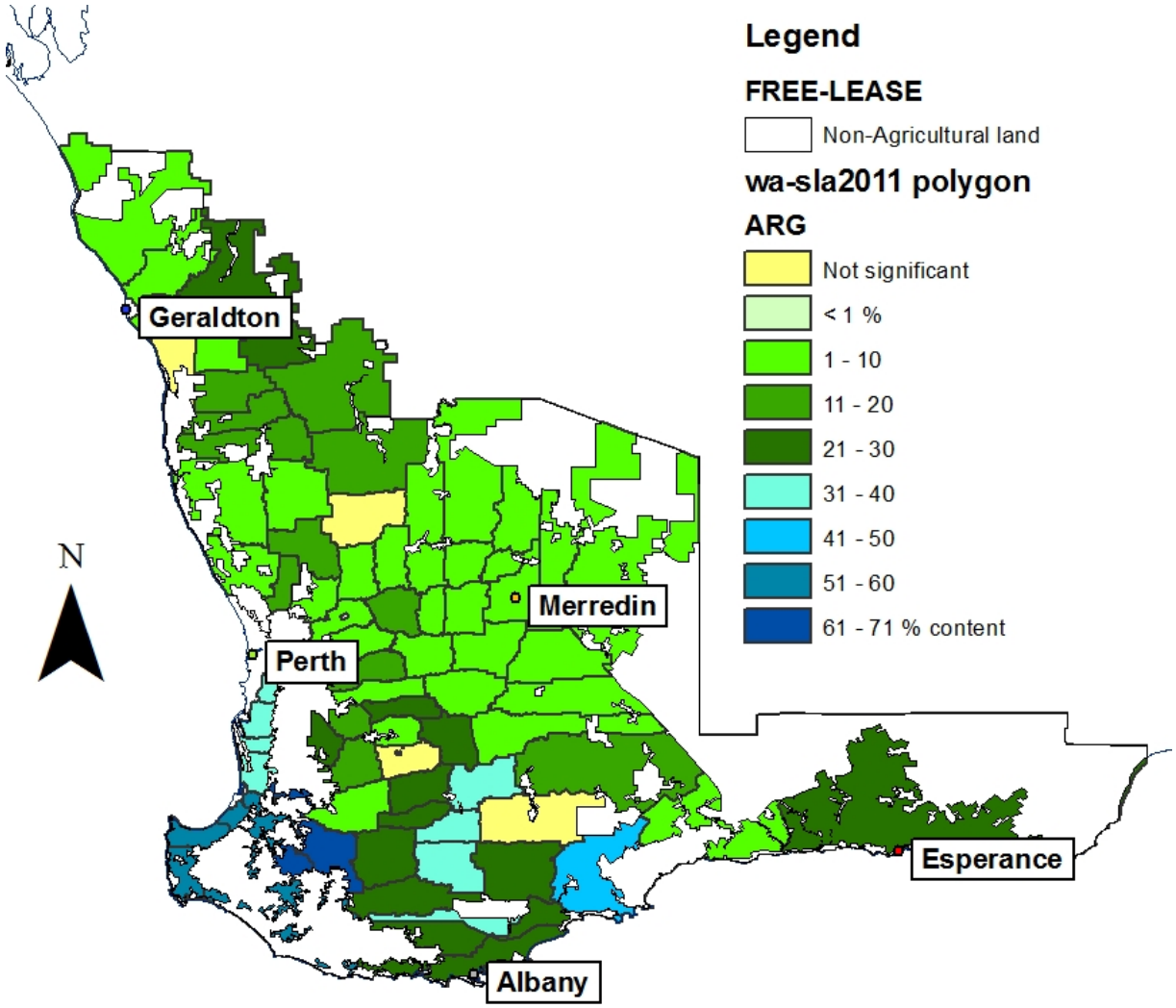
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 52. Distribution of pastures in decline in SA



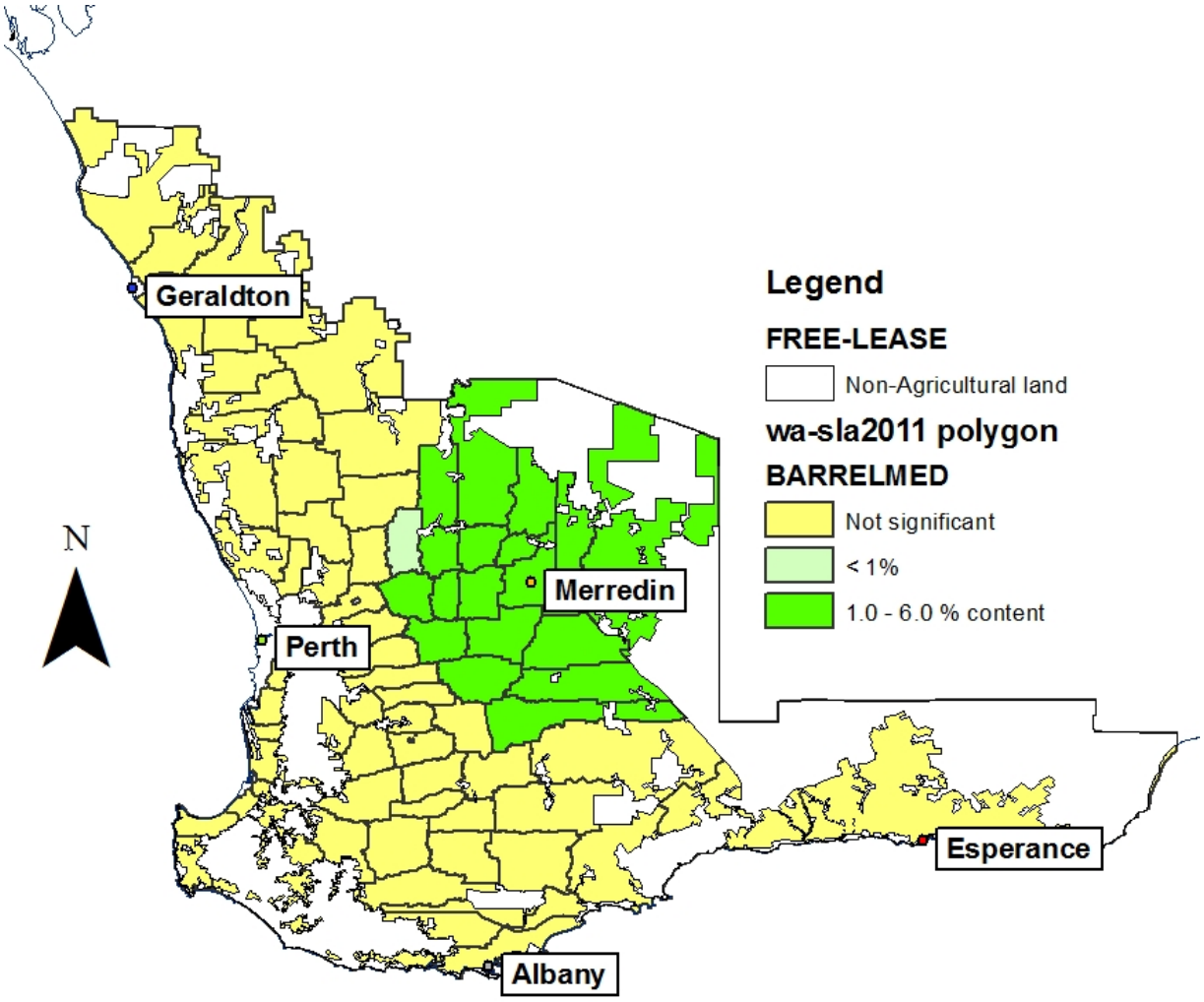
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 53. Distribution of pasture containing Annual Ryegrass in WA



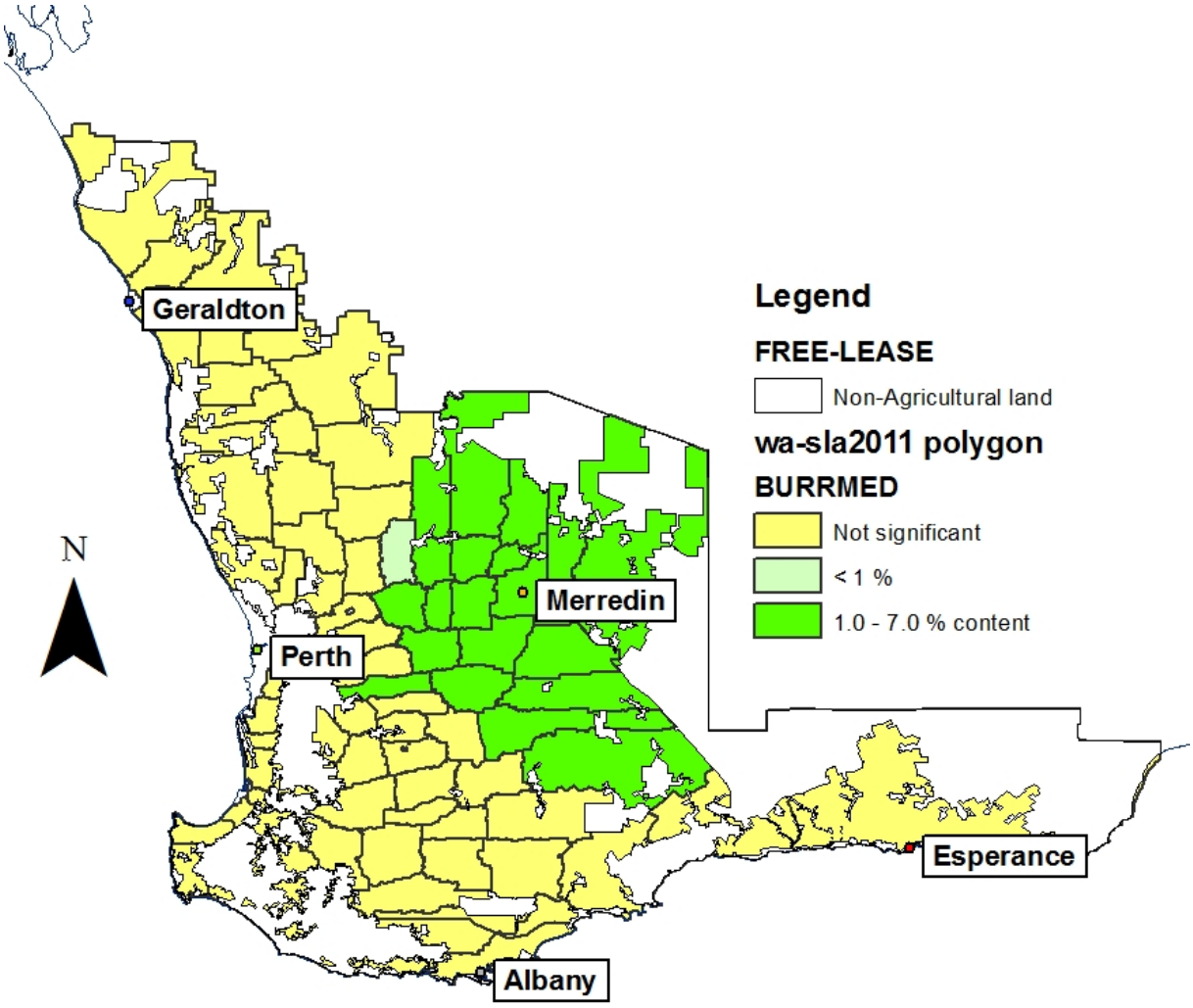
Areas of non-agricultural lands provided by the Land Tenure Map, 2010,Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science, SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 54. Distribution of pasture containing Barrel Medic in WA



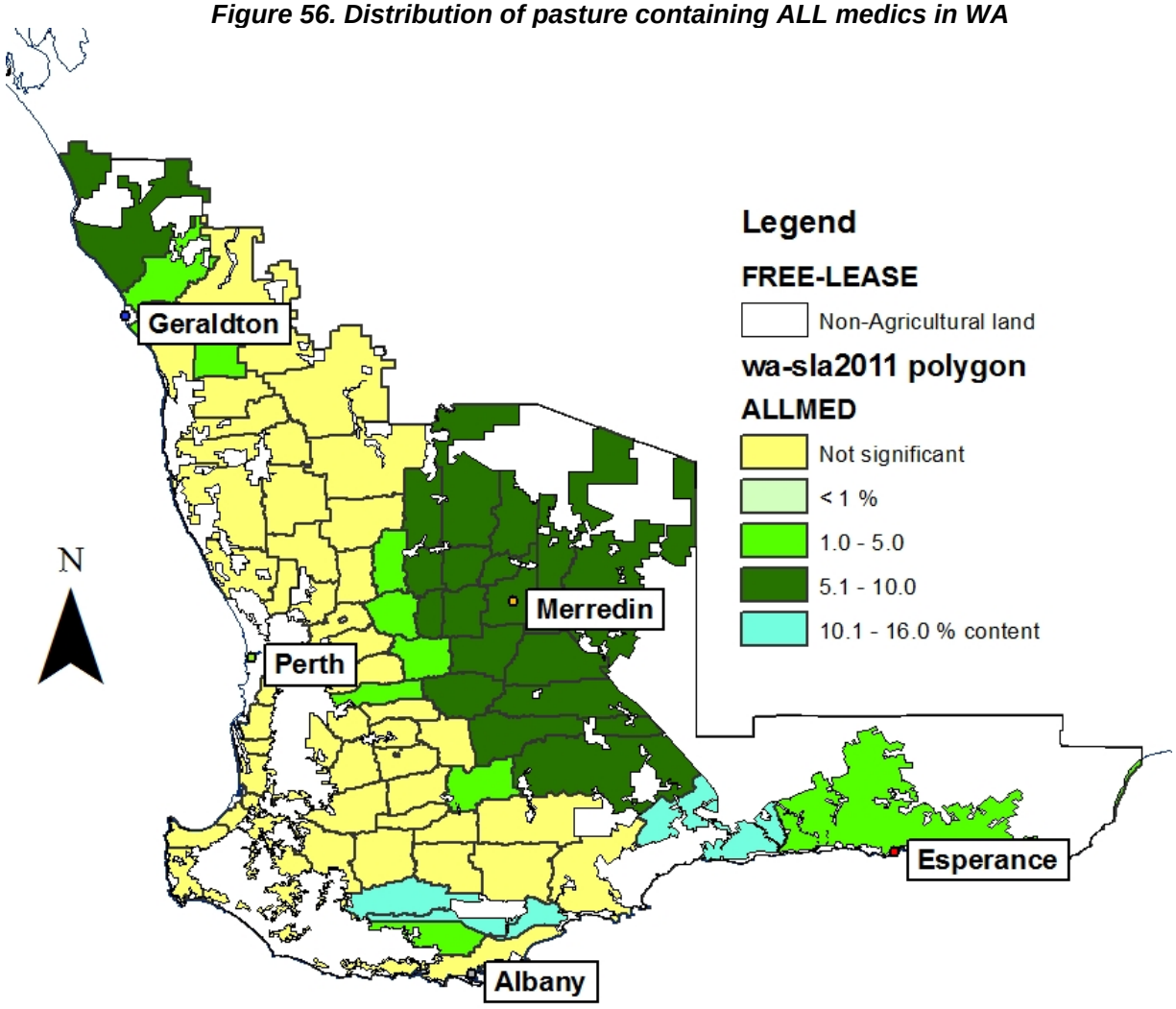
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 55. Distribution of pasture containing Burr Medic in WA



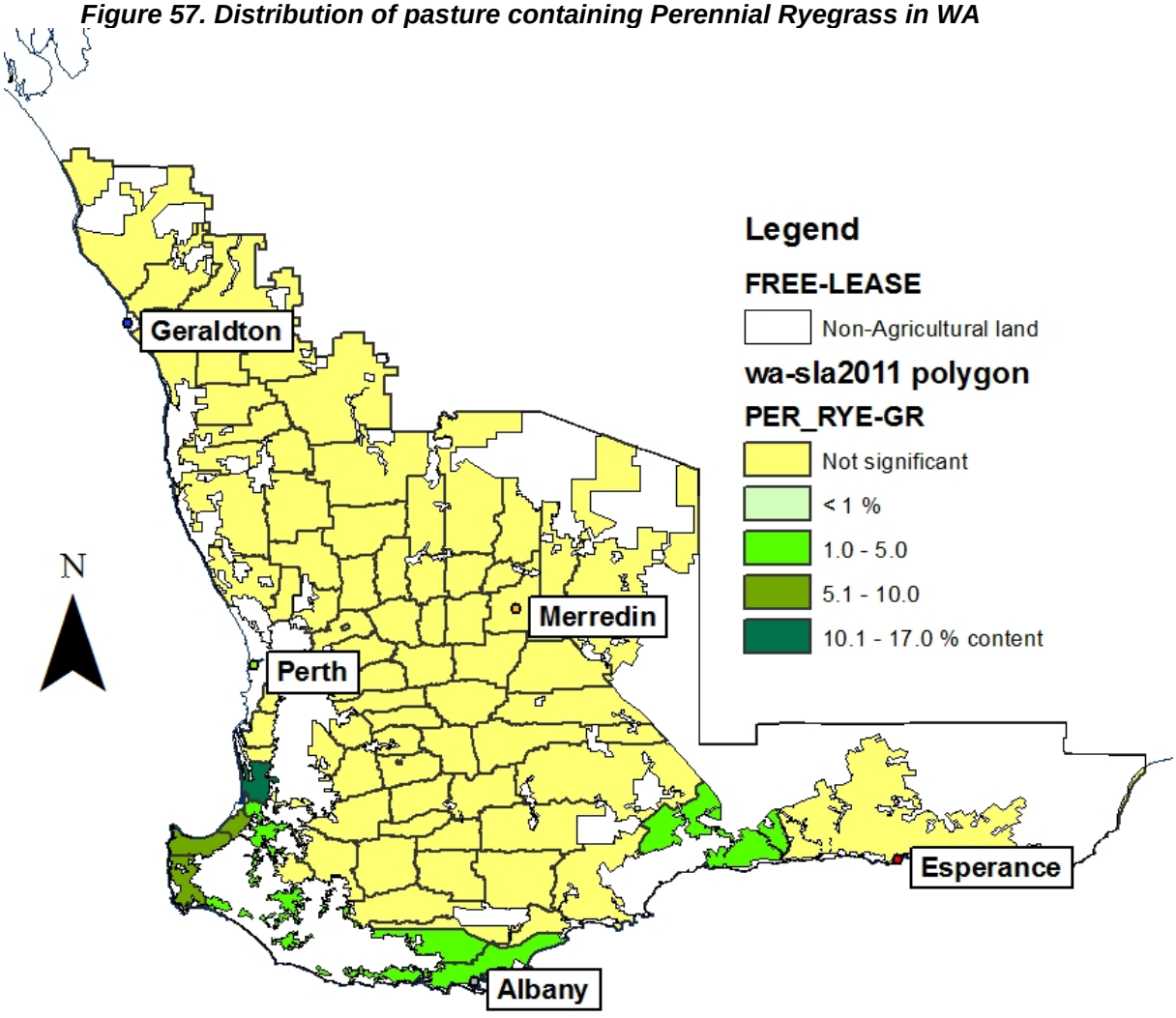
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July.

Figure 56. Distribution of pasture containing ALL medics in WA



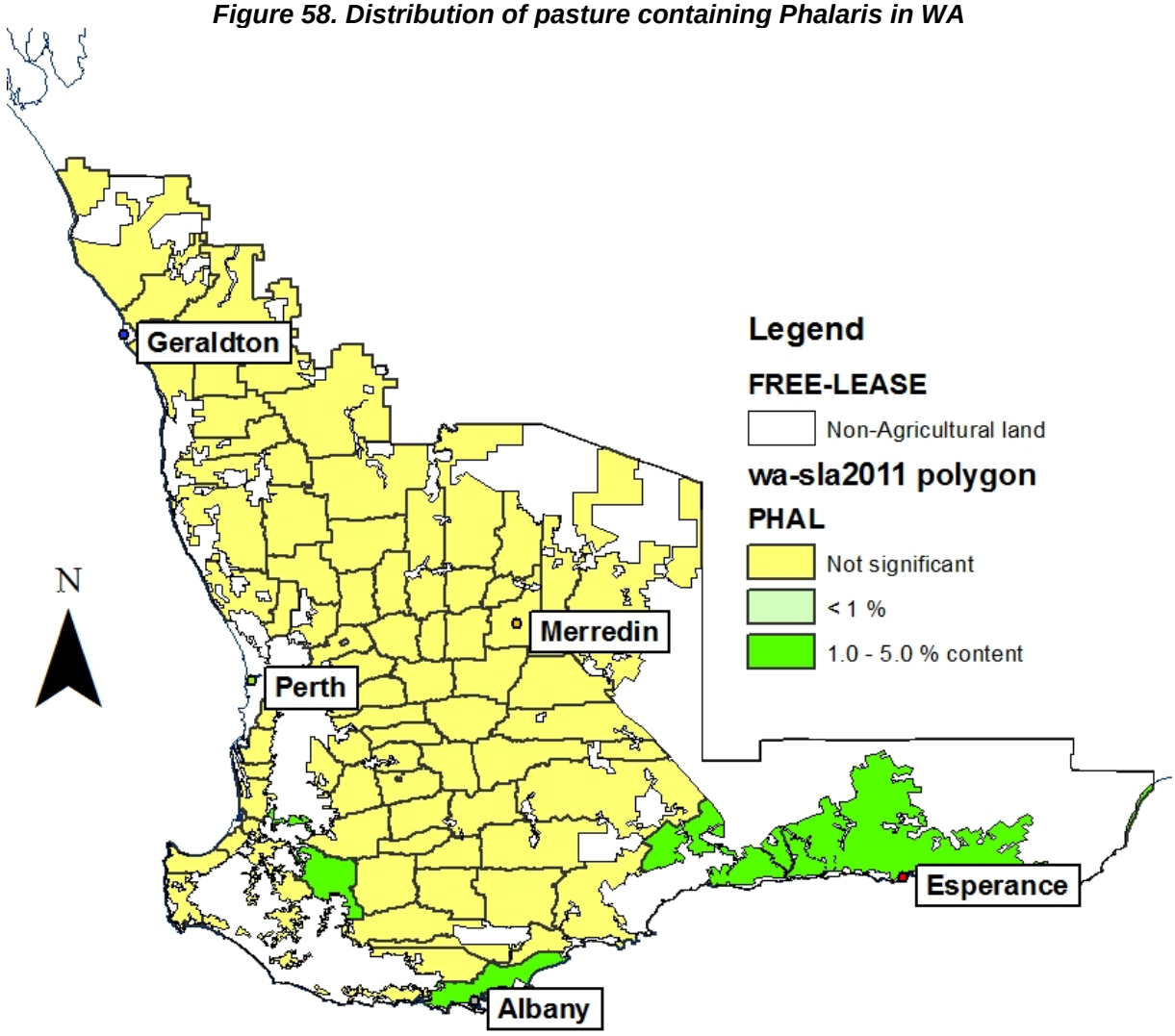
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 57. Distribution of pasture containing Perennial Ryegrass in WA



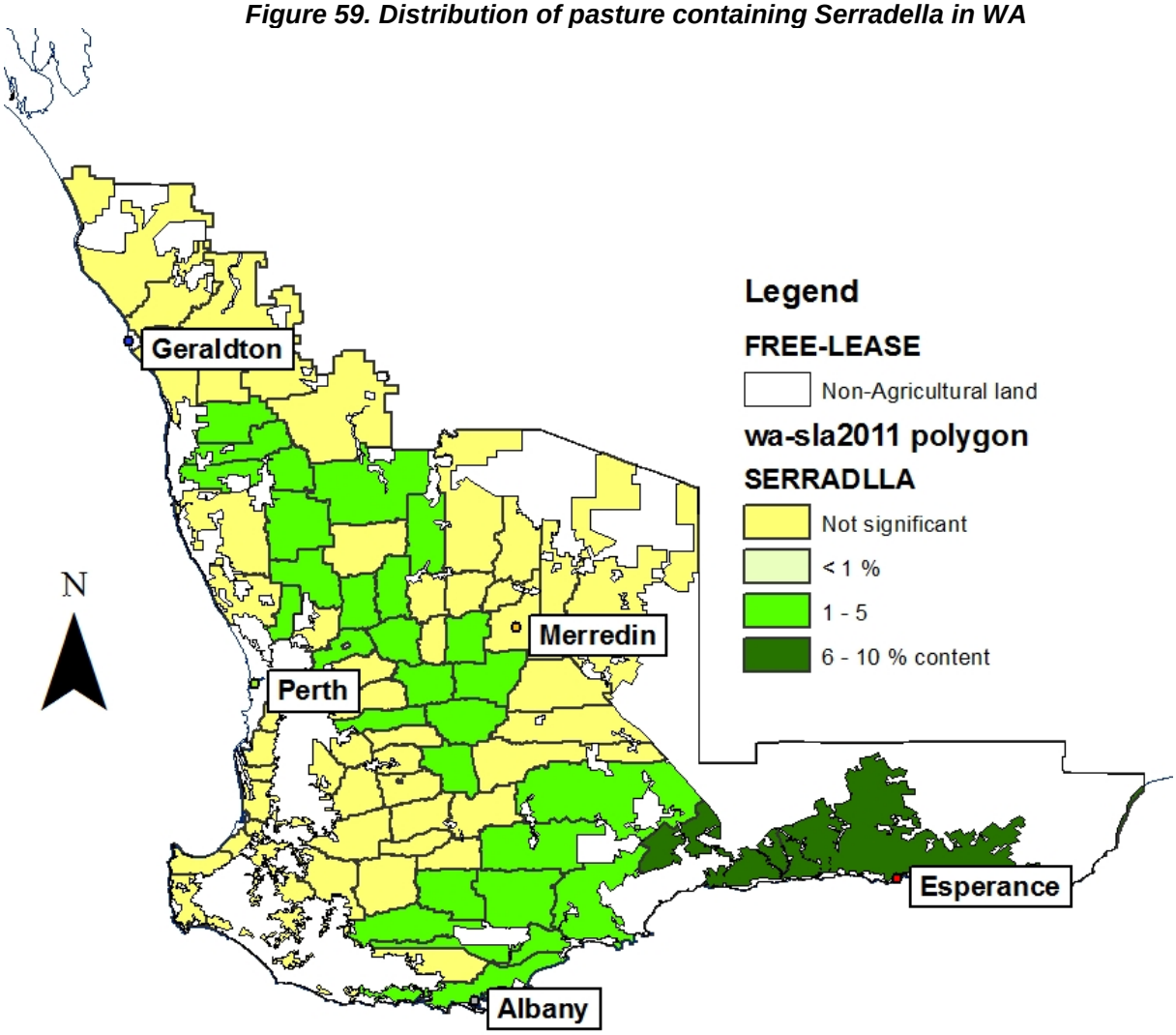
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 58. Distribution of pasture containing Phalaris in WA



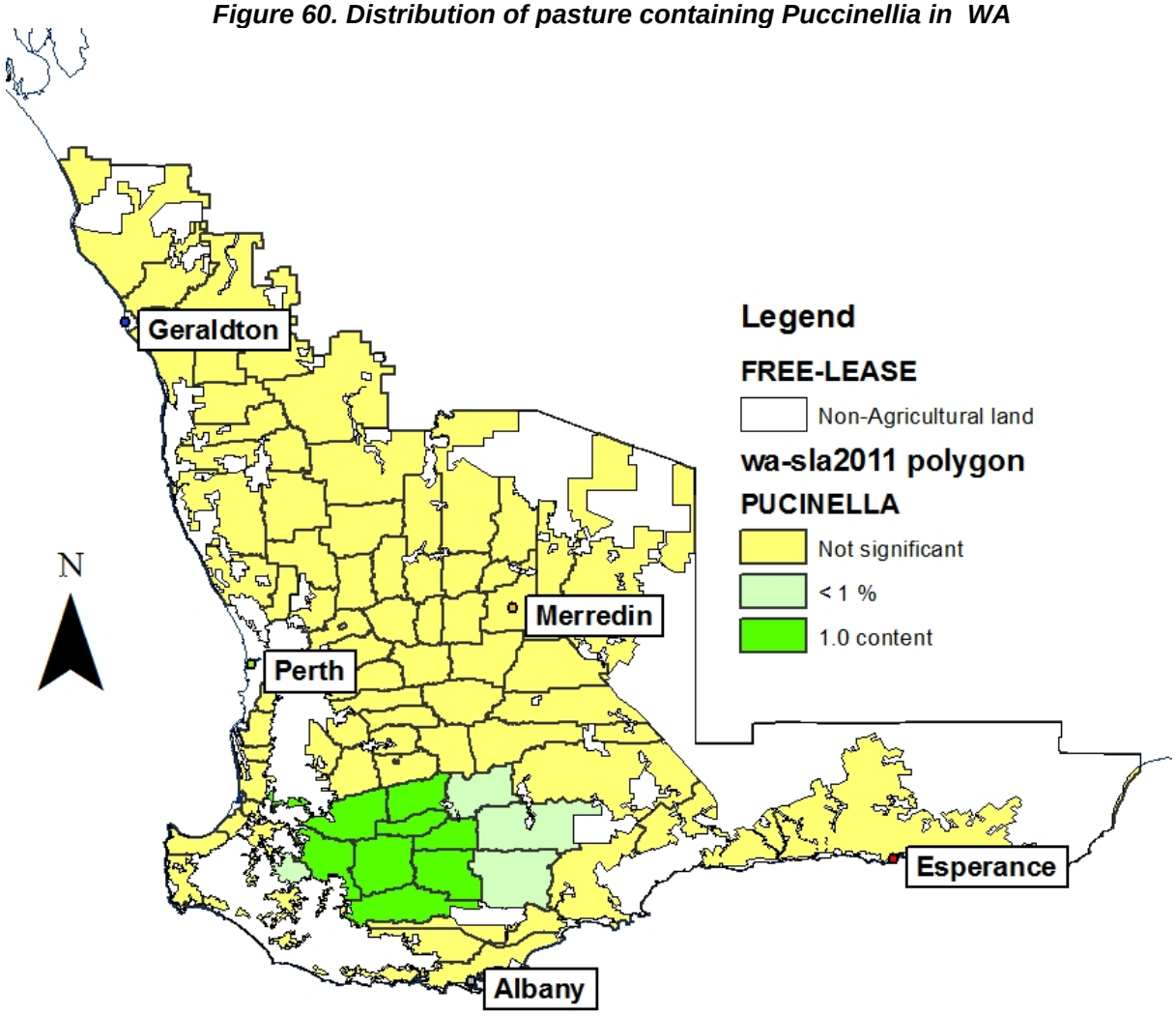
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 59. Distribution of pasture containing Serradella in WA



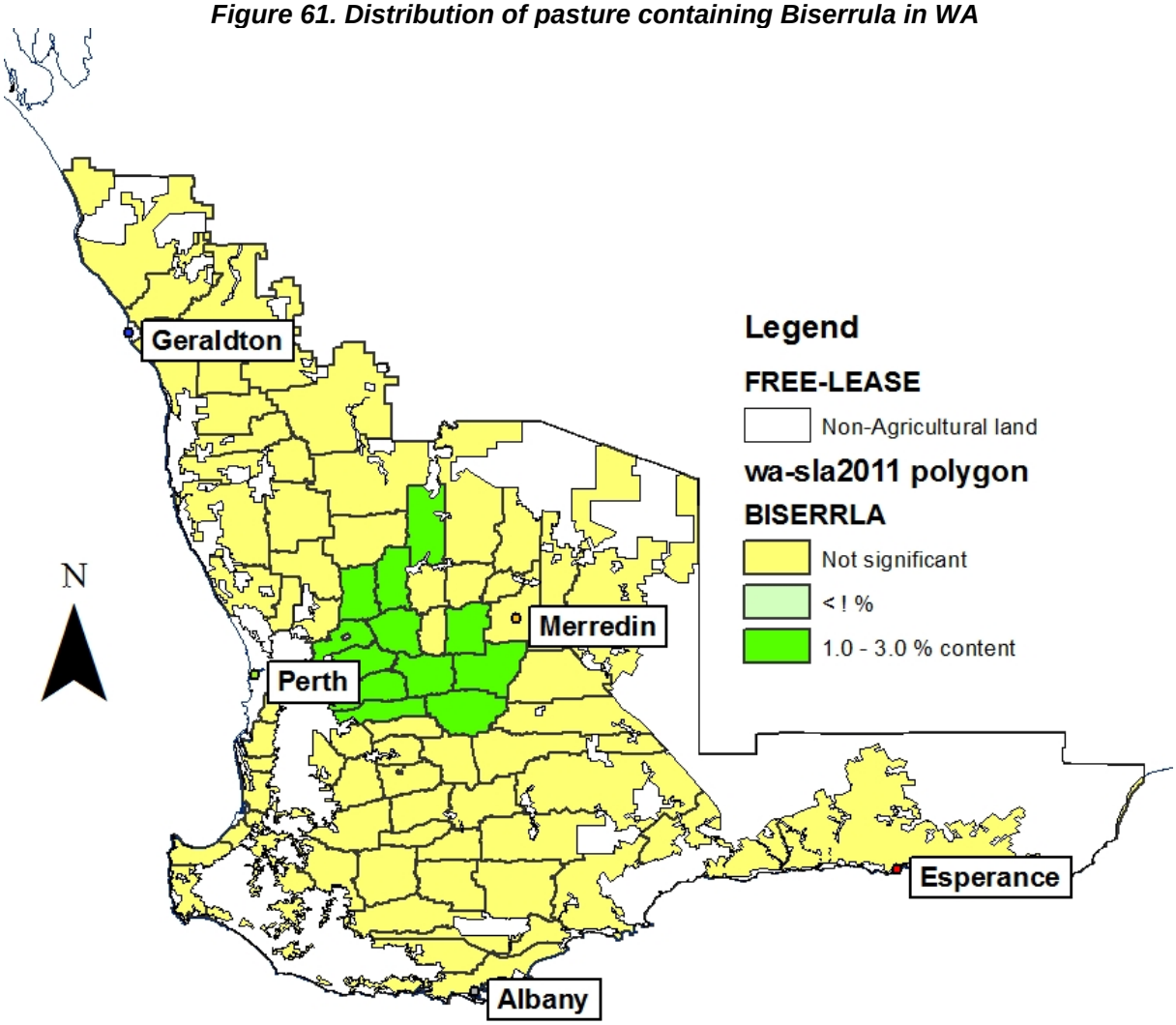
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 60. Distribution of pasture containing Puccinellia in WA



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 61. Distribution of pasture containing Biserrula in WA



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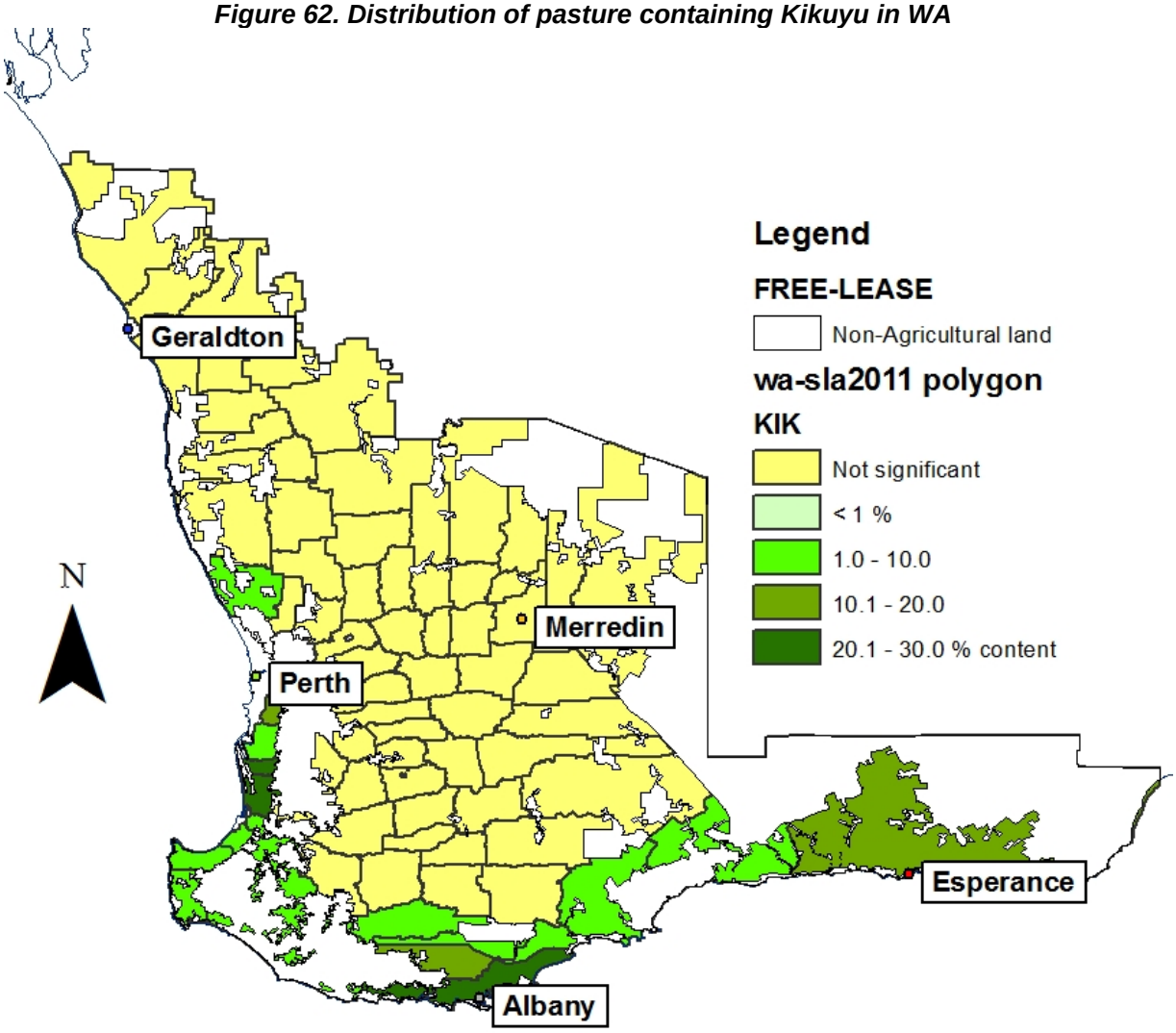
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 62. Distribution of pasture containing Kikuyu in WA



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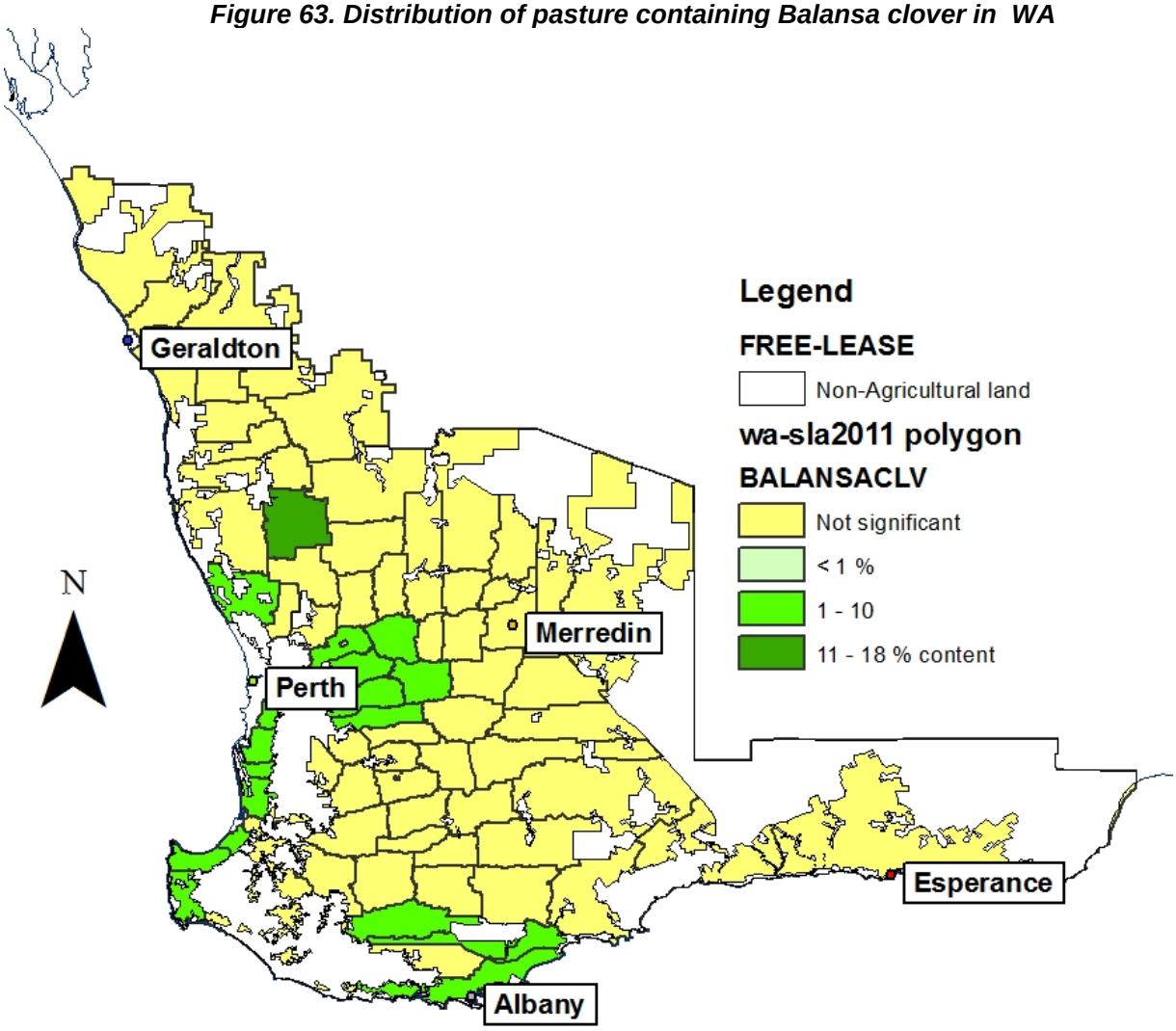
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 63. Distribution of pasture containing Balansa clover in WA



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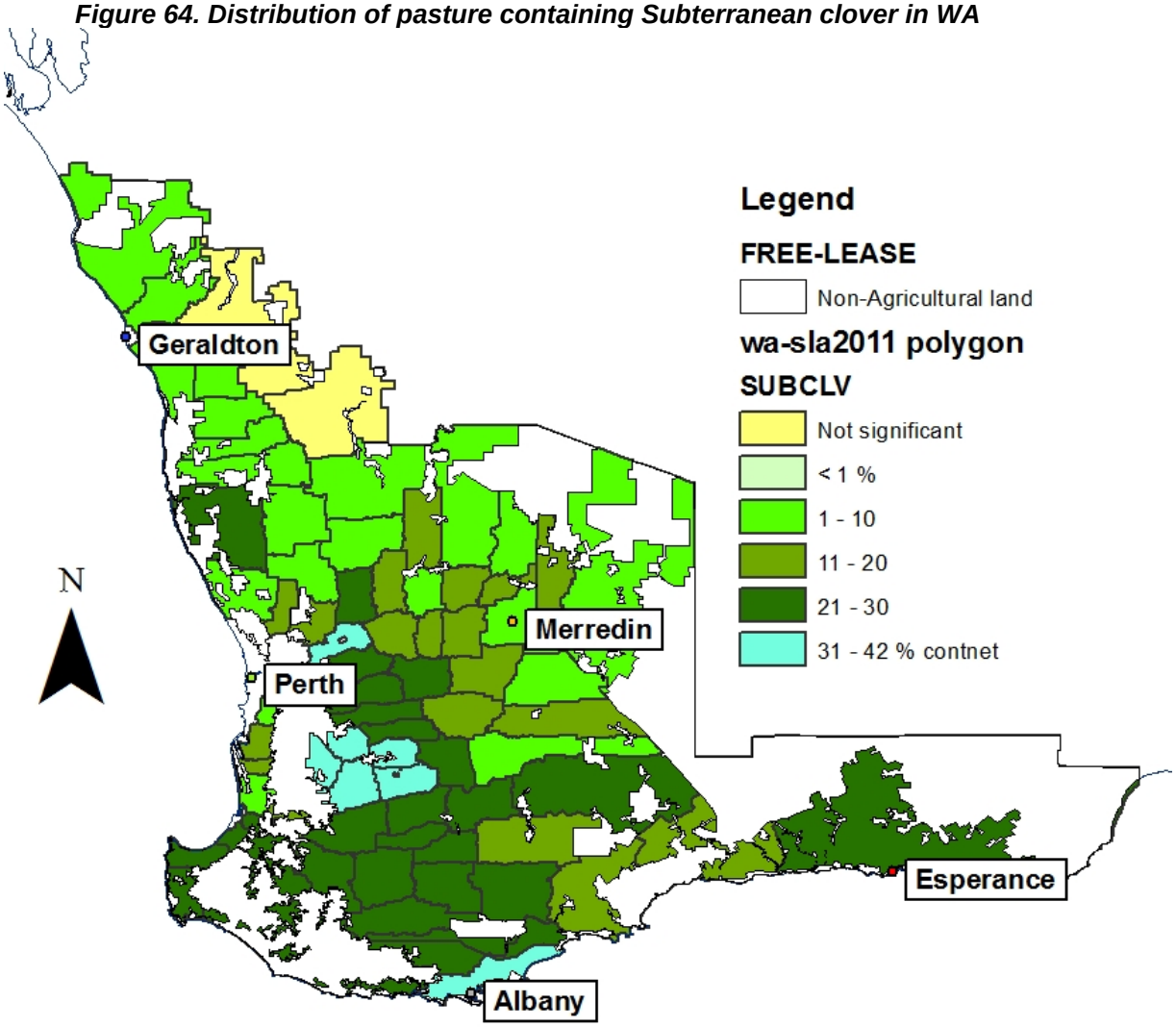
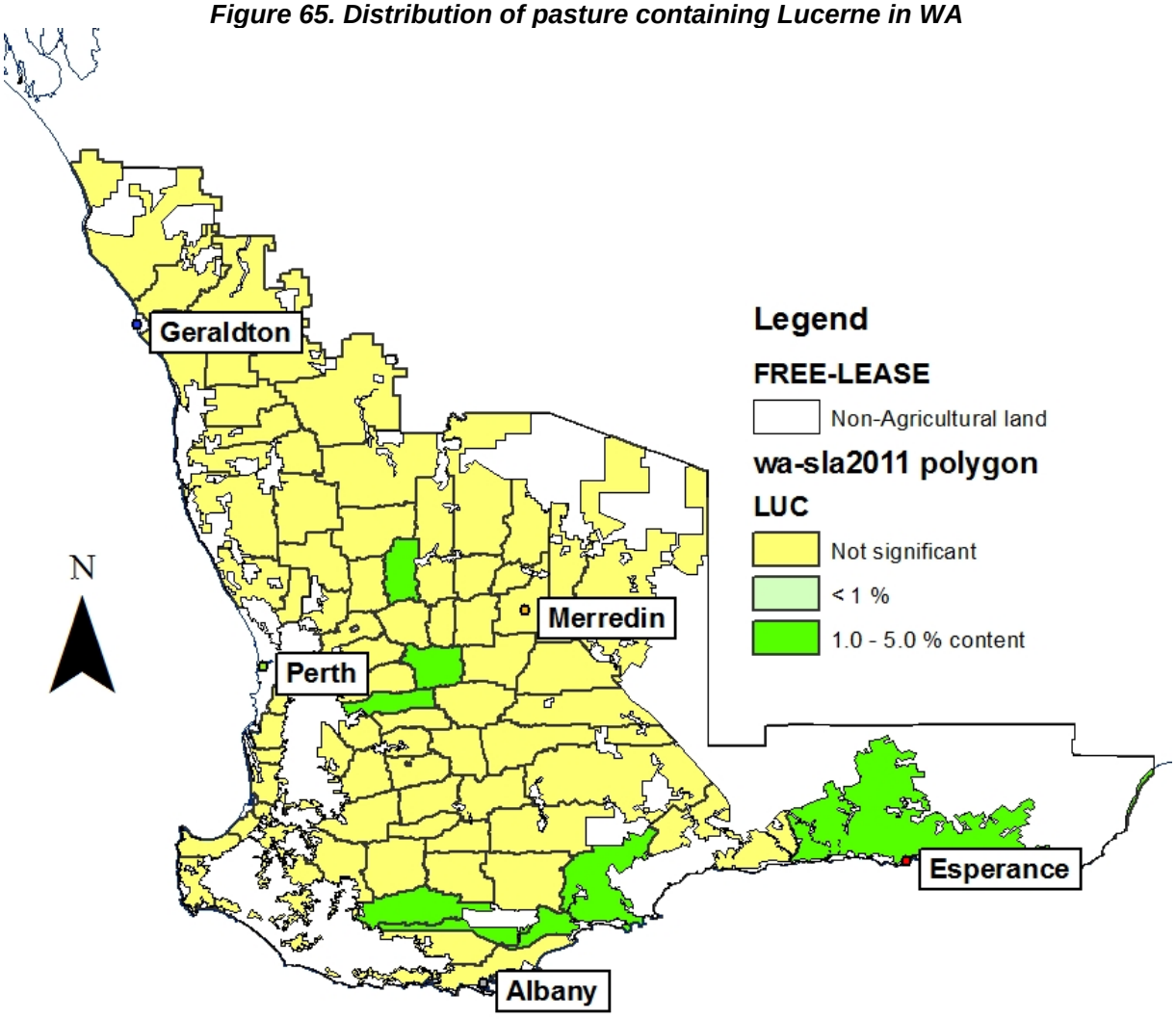
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 64. Distribution of pasture containing Subterranean clover in WA



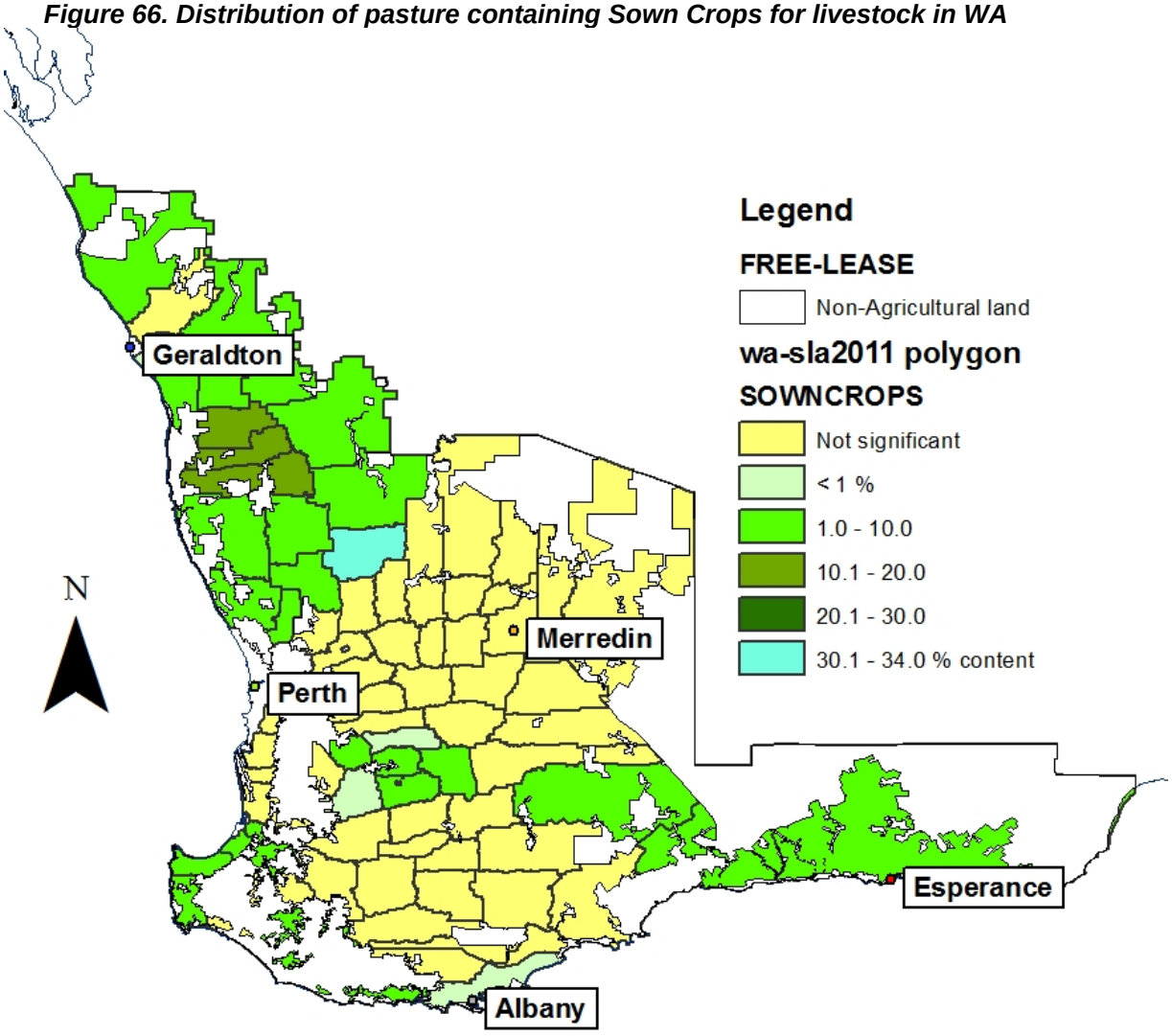
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 65. Distribution of pasture containing Lucerne in WA



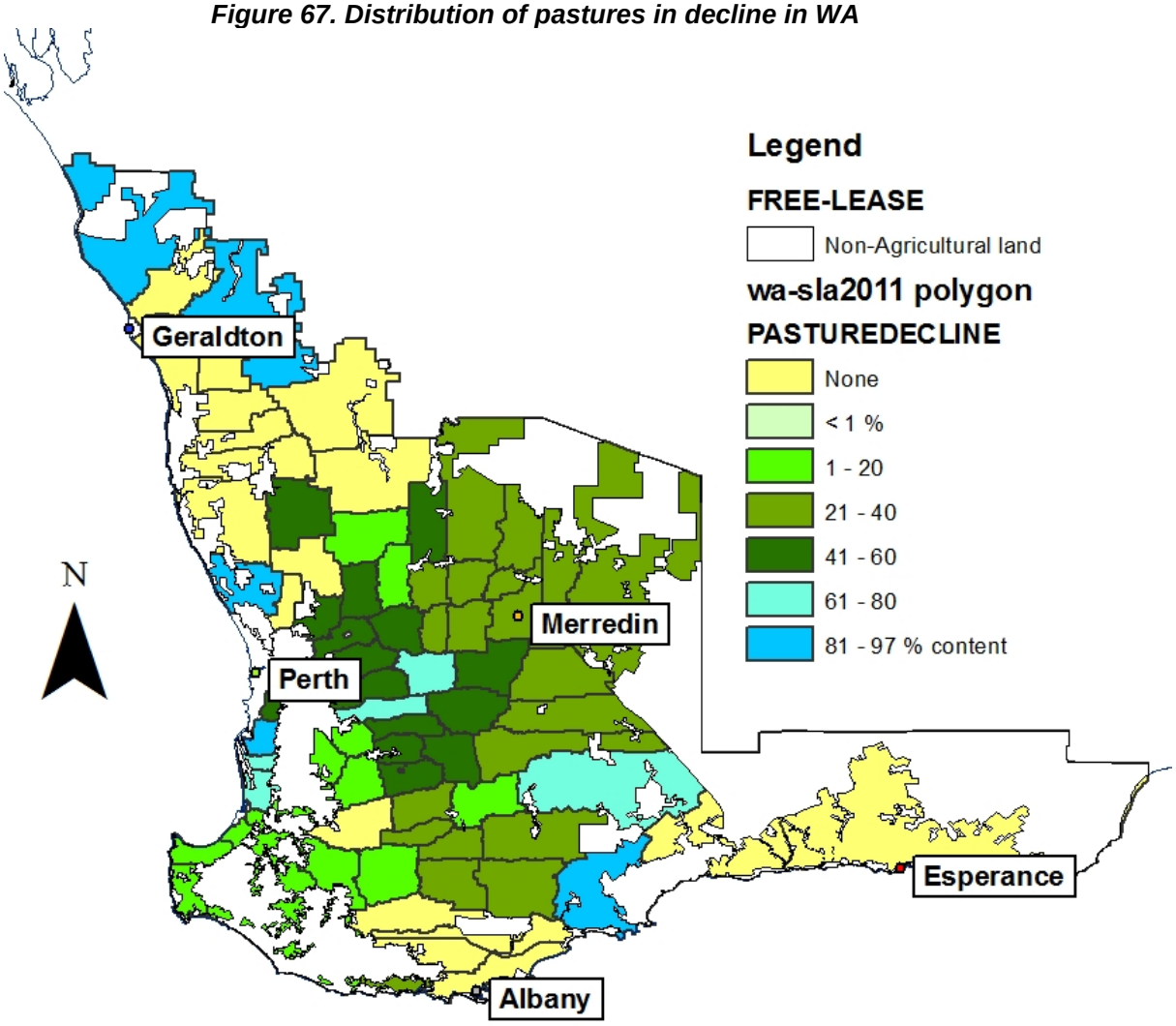
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 66. Distribution of pasture containing Sown Crops for livestock in WA



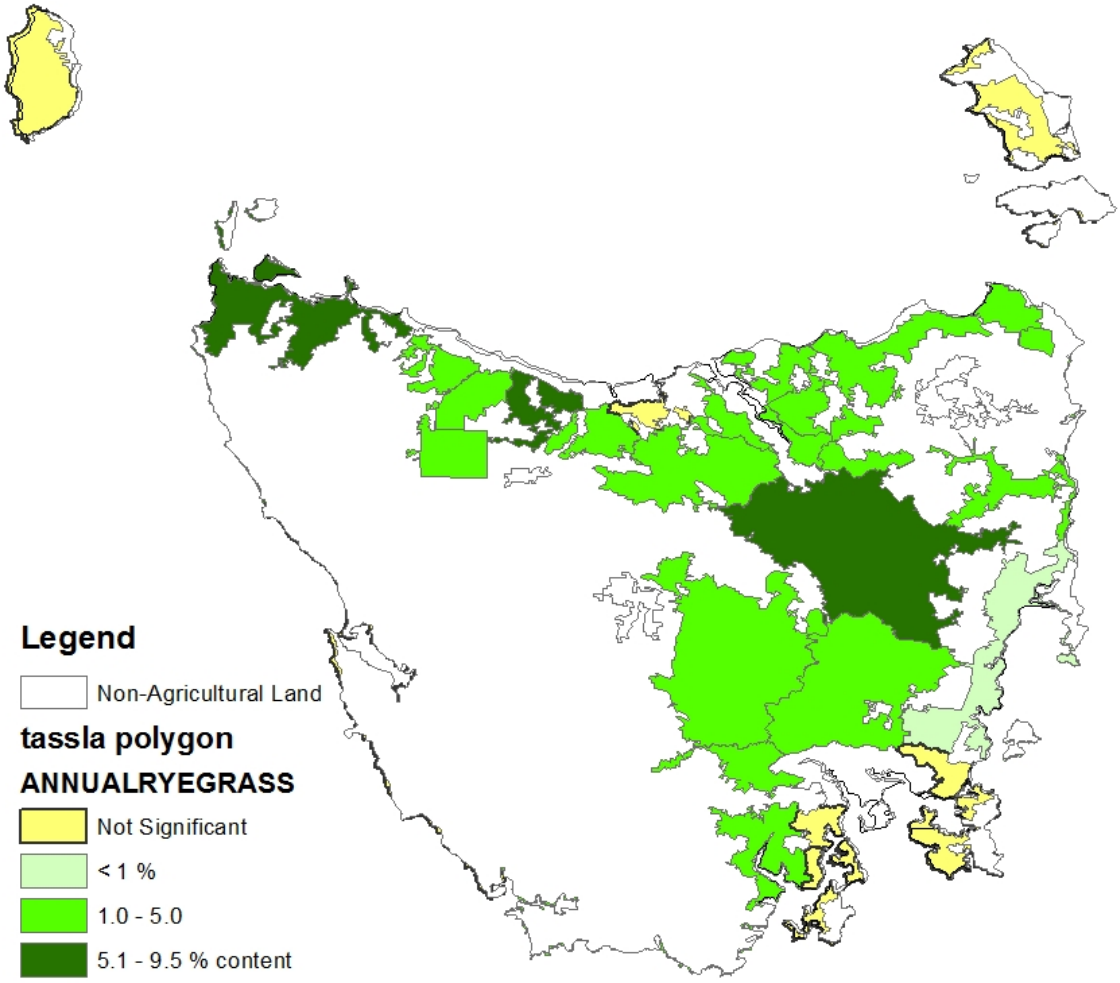
Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 67. Distribution of pastures in decline in WA



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 68. Distribution of pastures containing Annual ryegrass in TAS



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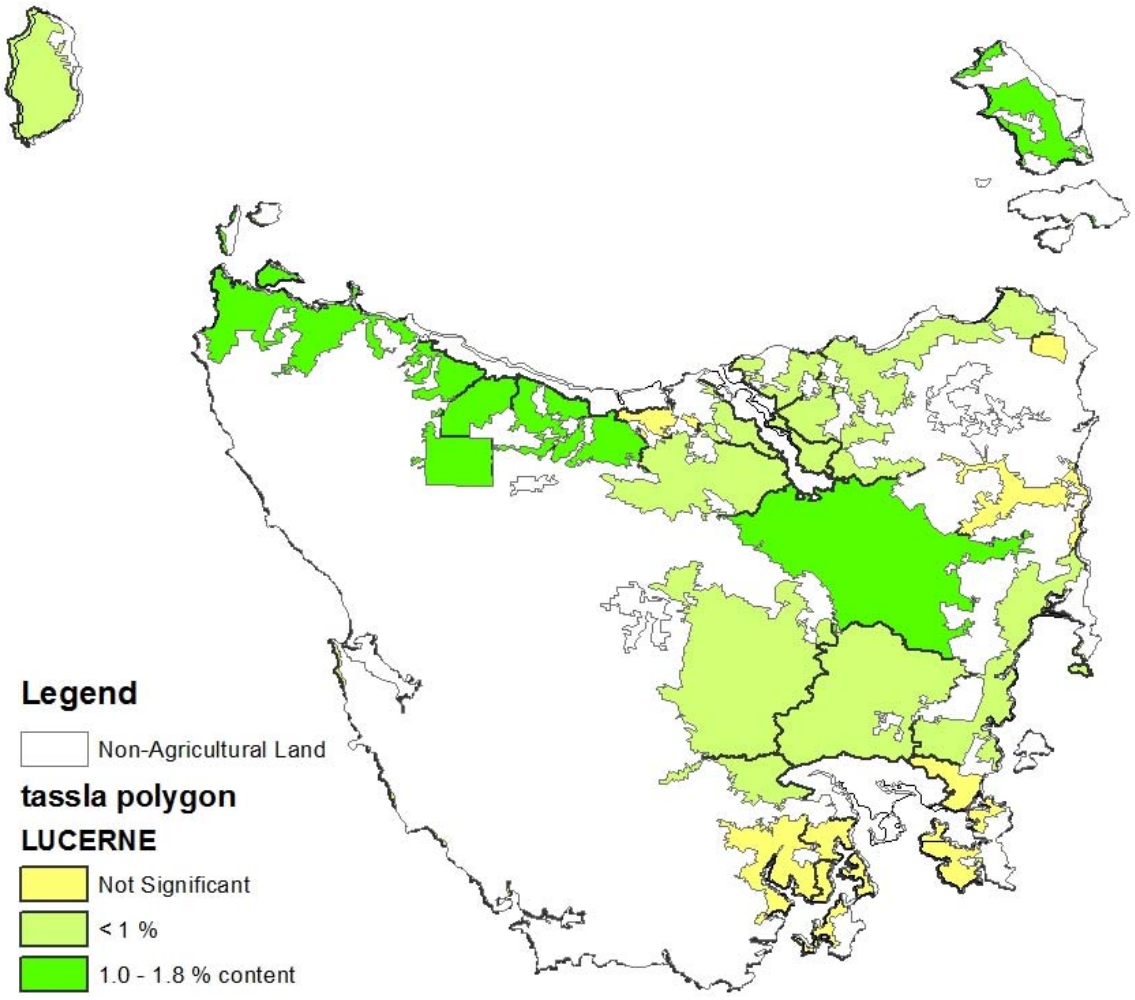
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 69. Distribution of pastures containing Lucerne in TAS



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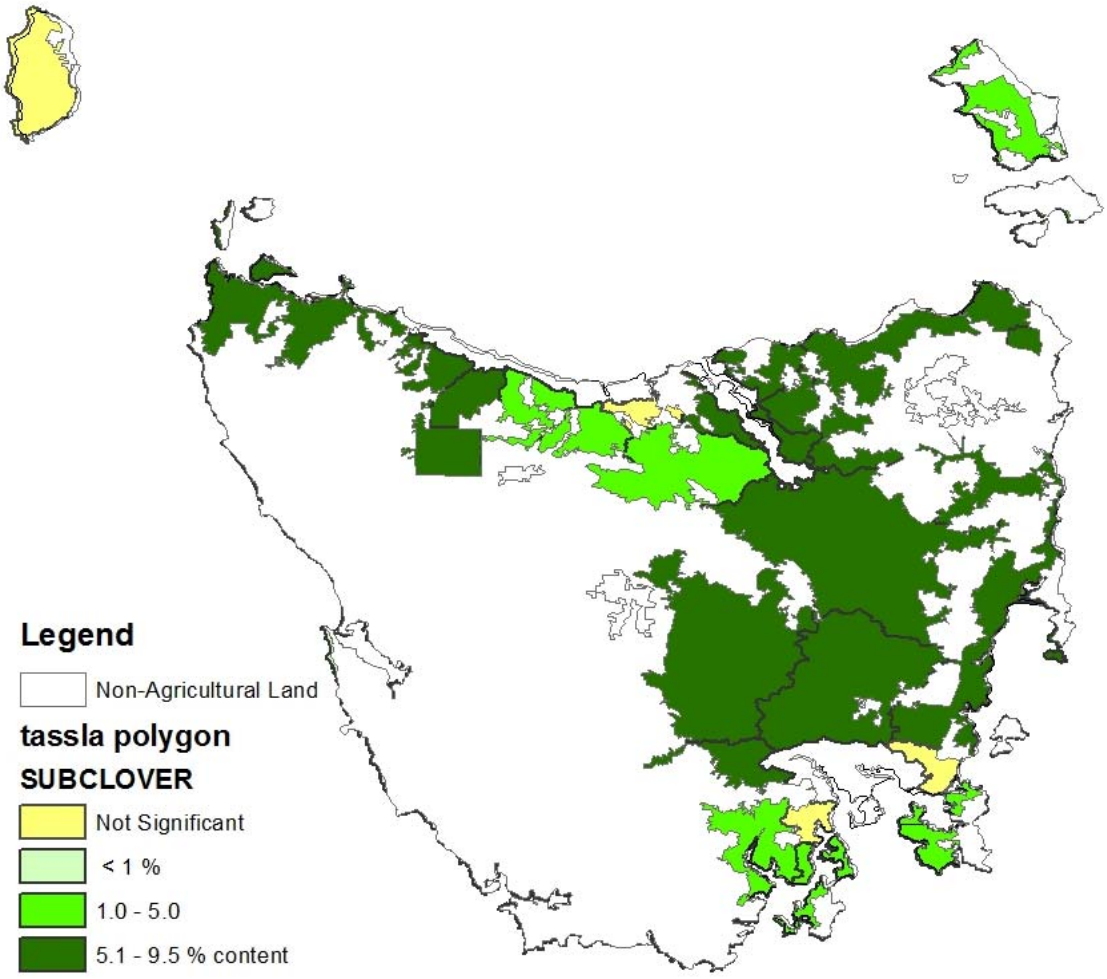
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 70. Distribution of pastures containing Subterranean clover in TAS



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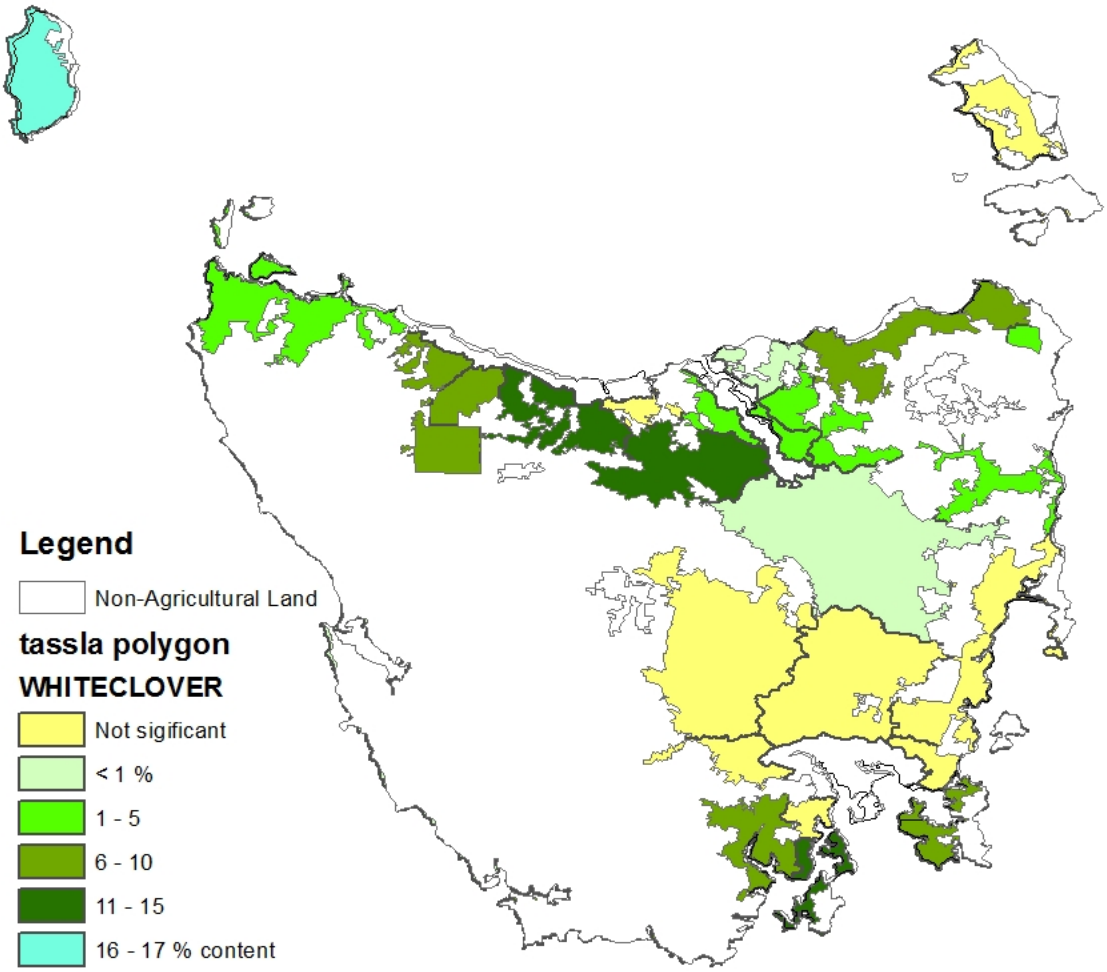
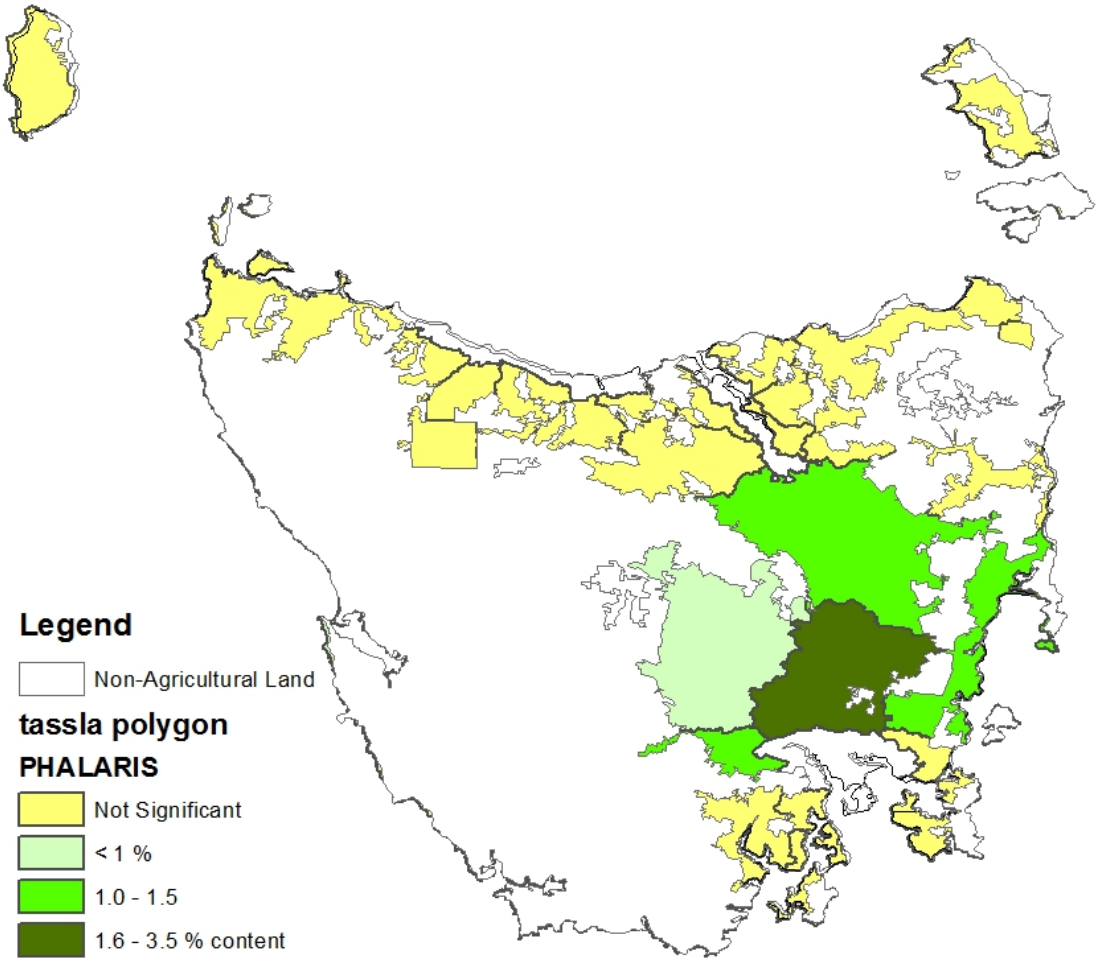
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 71. Distribution of pastures containing White clover in TAS



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 72. Distribution of pastures containing Phalaris in TAS



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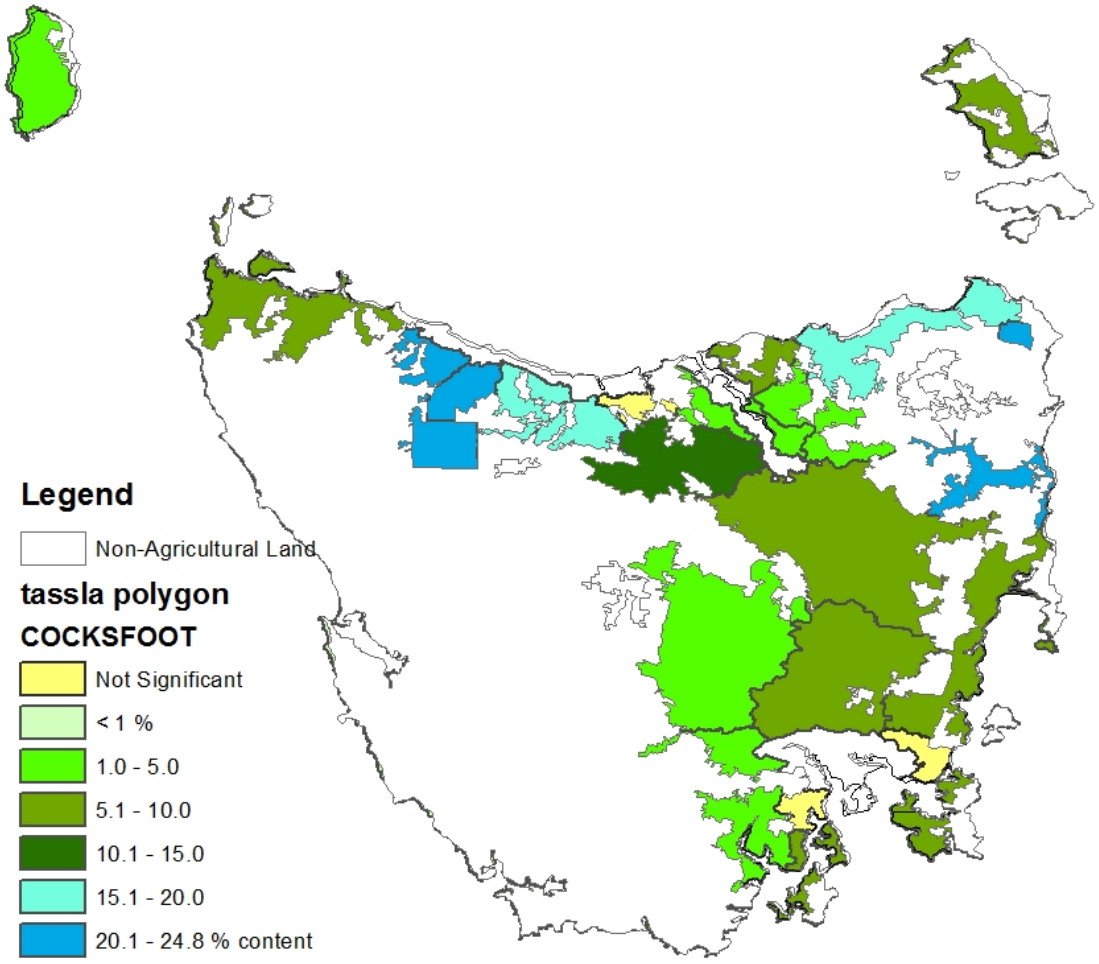
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 73. Distribution of pastures containing Cocksfoot in TAS



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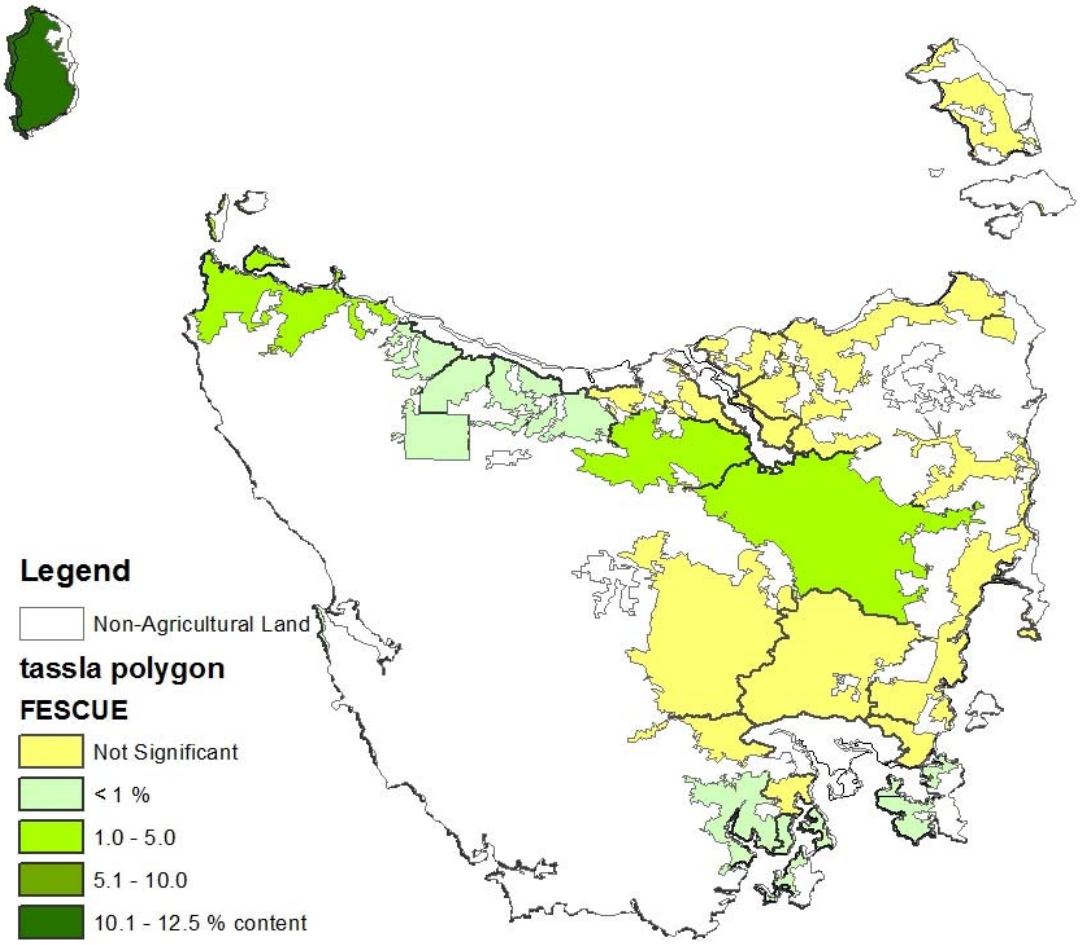
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 74. Distribution of pastures containing Fescue in TAS



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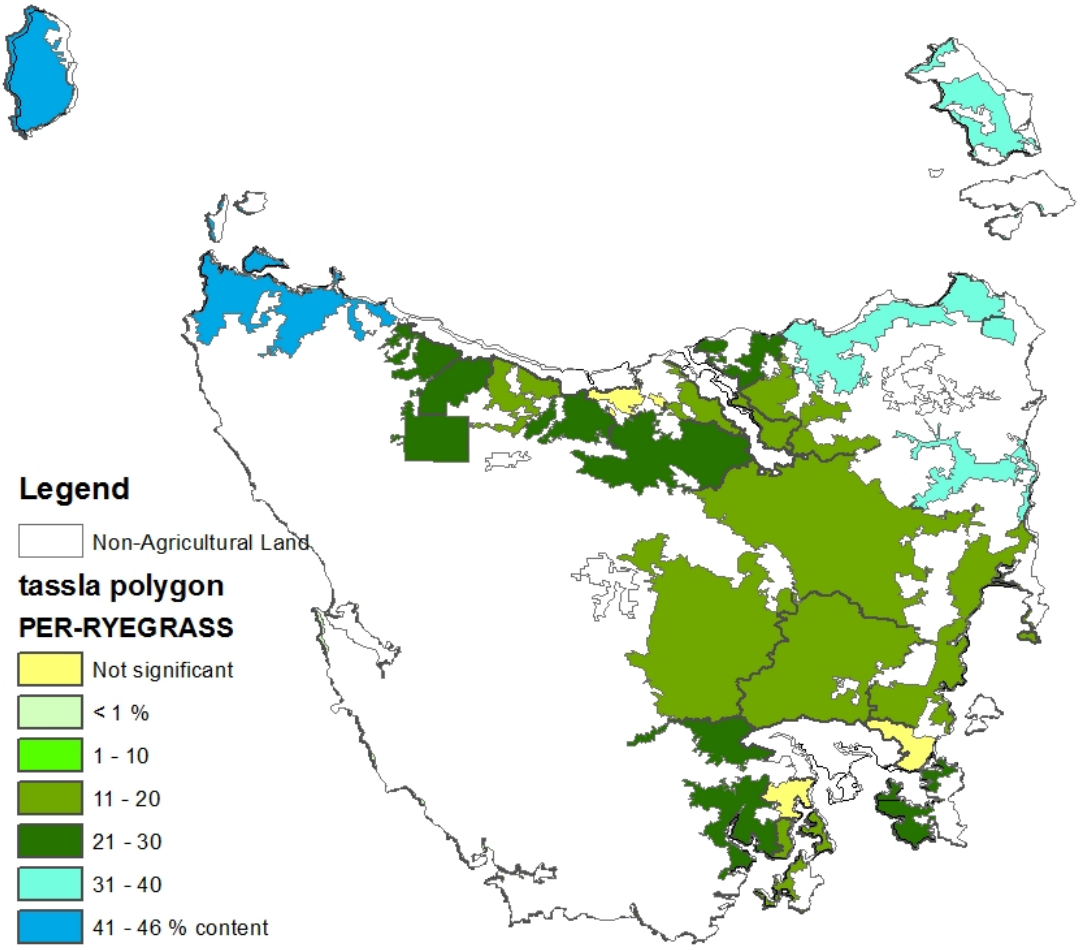
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 75. Distribution of pastures containing Perennial ryegrass in TAS



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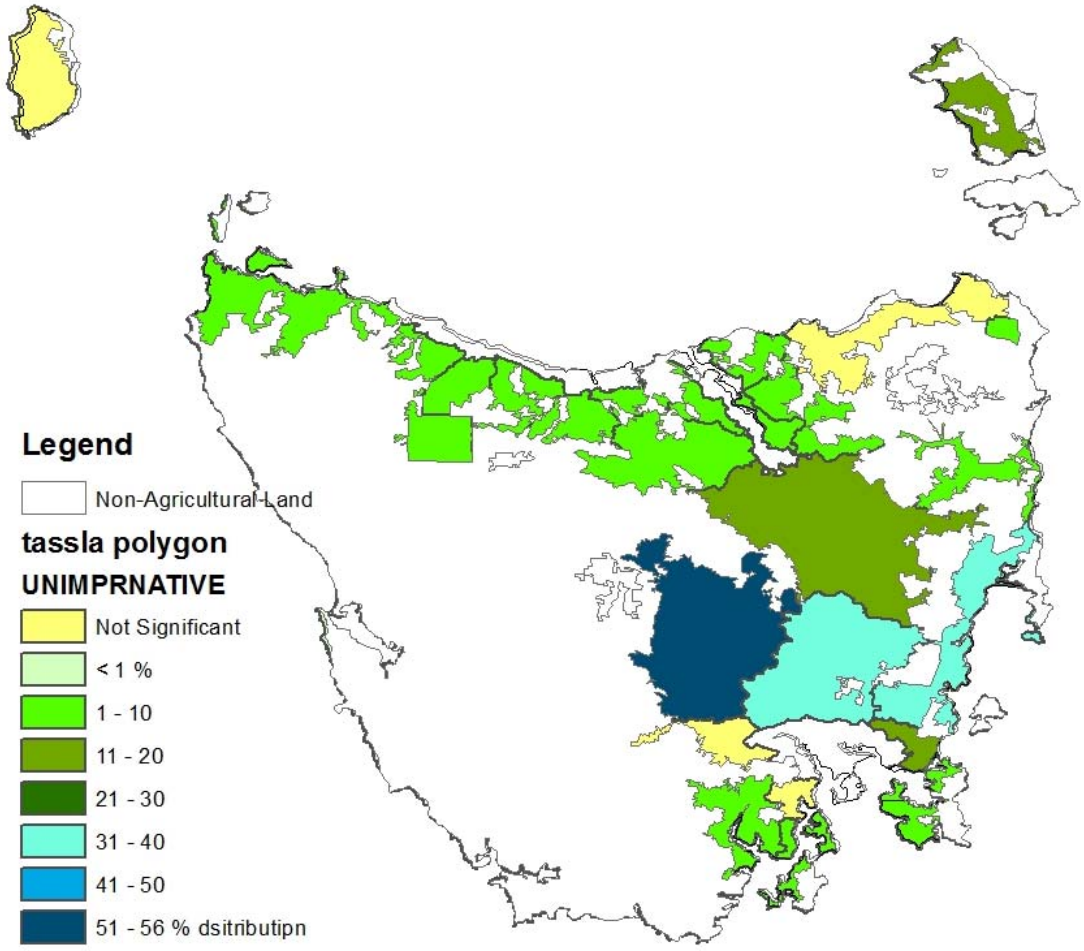
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 76. Distribution of unimproved native pastures in TAS



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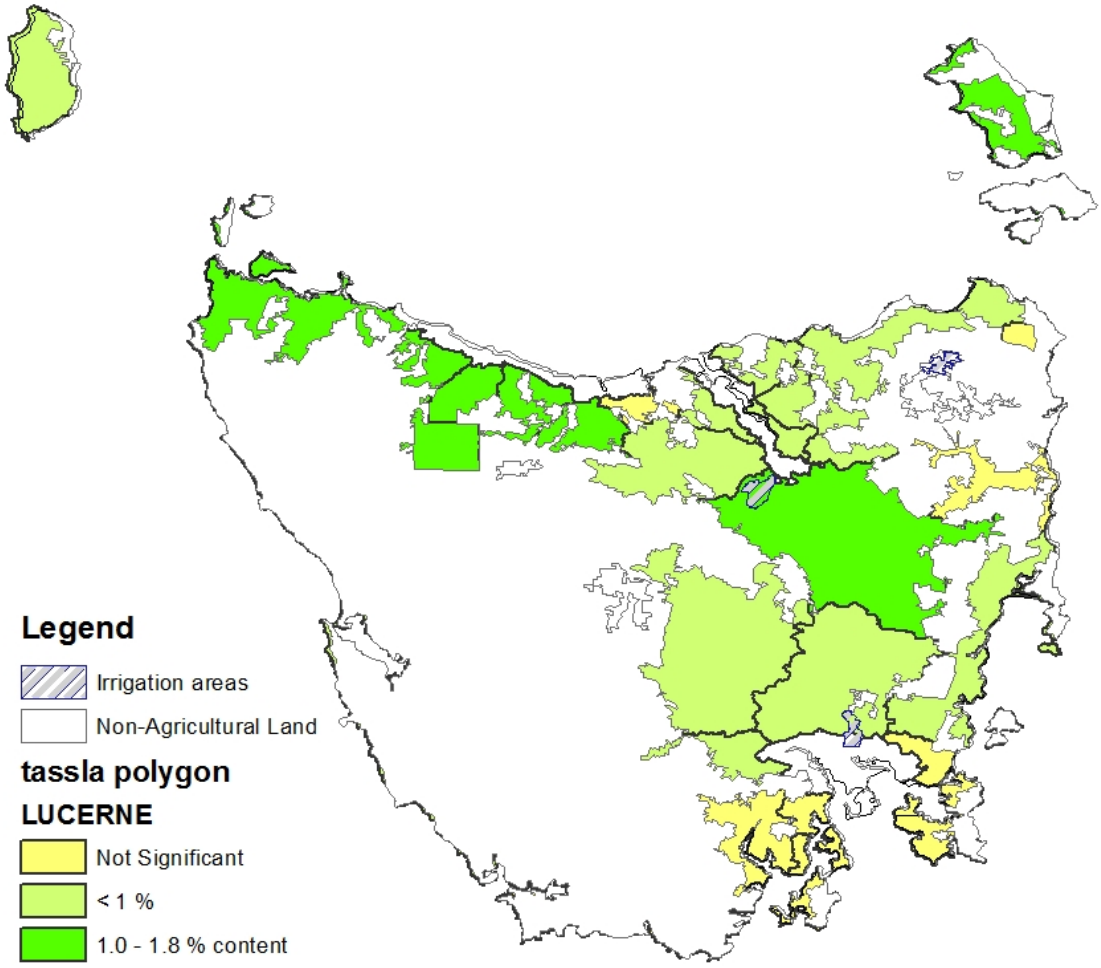
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 77. Distribution of extensive irrigation areas in TAS



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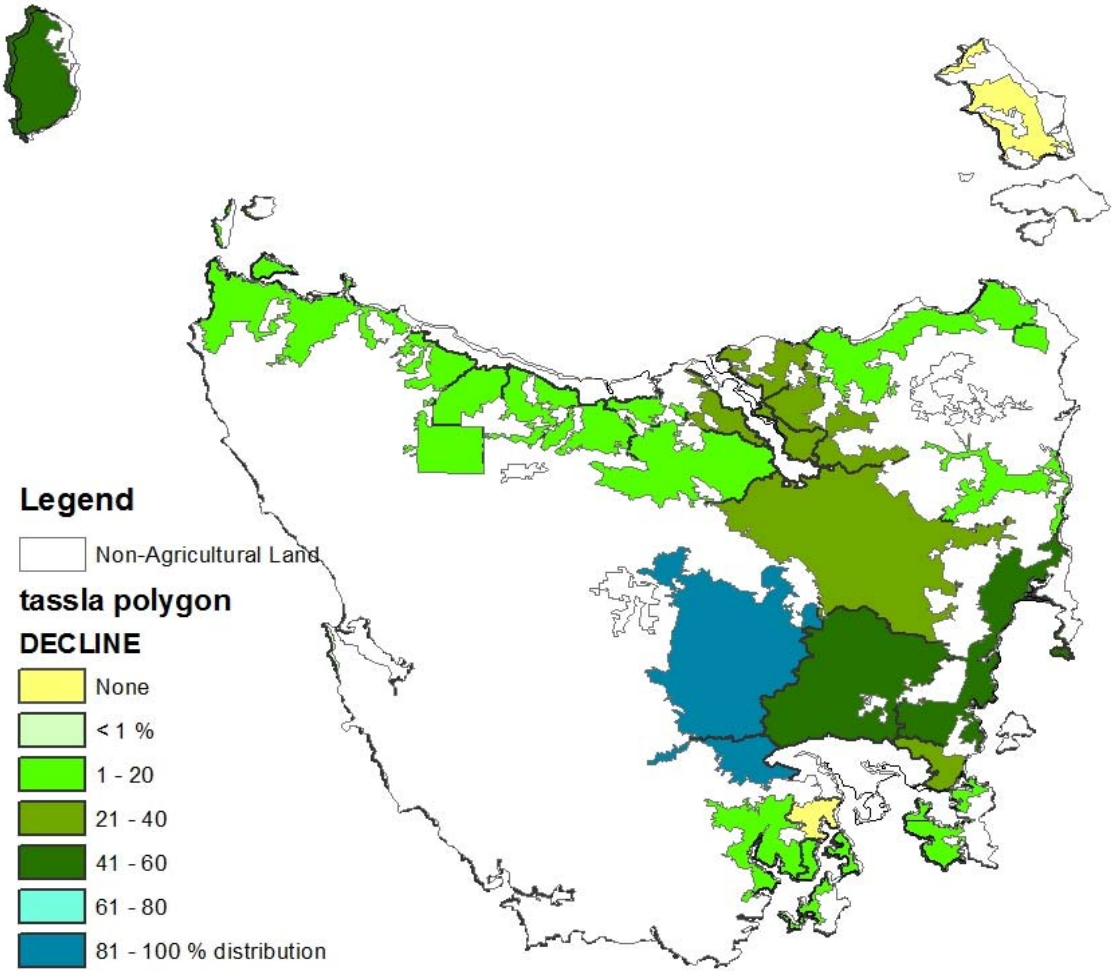
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Figure 78. Distribution of pastures in decline in TAS



Areas of non-agricultural lands provided by the Land Tenure Map, 2010, Dept. of Agriculture Fisheries and Forestry, Australian Bureau of Agriculture and Resource Economics and Science,
SLA boundaries provided by Australian Bureau of Statistics, 2011, SLA, Statistical Local Areas, 1270.0.55.001-Australian Bureau of Statistics boundary files, July

Table 12. Feed base survey form

Your Name:- **Statistical Local Area:-** **State:-**	**1. Pasture Types** List as (%) of the pasture area within SLA	**2. Pasture Species** List in order the main pasture species present Indicate whether sown (S), volunteer (V), or weed (W)	**3. Pasture varieties/ cultivars present**	**4. Is this pasture used in crop rotations** Enter Yes or No	**5. If used in crop rotation give rotation sequence** Years in Pasture	Years in Crop	**6. What is the normal "stand-life" or typical re-sowing interval for this pasture?** Enter range of years for sown pasture or N/A for natives Range in years:- 1-2	3-4	5-10	>10	NA	**7. What is the average annual carrying capacity (dse/ha)** M=Mean R=Range Actual M	R	Potential M	R	**8. Is this pasture type: Stable (S) Deteriorating (D) Improving (I) in pasture condition** Enter S, D or I	**9. What is the current pasture condition** rank from 1 to 10 where 1 is 10% and 10 is 100% Rank from 1 to 10
1. PASTURE TYPES (Add if not listed)																	
Perennial legume based pastures																	
Lucerne																	
White clover																	
Red clover																	
Strawberry clover																	
Other(s) - specify																	

Annual Legume based pastures																	
Sub clover (T.subterraneum)																	
Sub.clover (T.brachycalycinum or yanninicum – specify)																	
Annual medic																	
Serradella																	
Balansa clover																	
Other(s) - specify																	
Sown perennial grass based pastures with or without perennial or annual legumes																	
Phalaris/sub clover																	
Fescue/sub clover																	
Perennial ryegrass/sub clover																	
Perennial ryegrass/white clover																	
Cocksfoot/sub																	

clover																	
Kikuyu																	
Other(s) - specify																	
As above ie. with a mixture of perennial grasses or legumes																	
Phalaris/cocksfoot /sub clover																	
Phalaris/ native grasses/sub clover																	
Fescue/ryegrass/sub clover																	
Other(s) - specify																	
Annual or short lived pastures & forage crops																	
Sown annual ryegrasses																	
Sown annual ryegrass/sub clover																	
Naturalised annual grasses																	

Annual grasses / sub clover																	
Winter forage crops (including cereals)																	
Summer forage crops																	
Chicory																	
Other(s) specify																	
Native or natural pastures or grasslands																	
Unimproved native pasture																	
Fertilised native pasture																	
Fertilised & oversown native pasture																	
Shrub lands																	
Other(s) specify																	
Total	**100%**																

10 Appendix 1.

Pasture Feed Audit HELP! Guide

Prepared by Stuart Burge

Here below is a list of instructions about how best to complete the Audit Form.

Methodology

The feed audit will be undertaken using the following approach:
The state has been divided into statistical local areas (SLA) and you will have been allocated one or a number of these to survey. You will be provided with their total area as well as the area of pasture.

If this SLA area is reasonably uniform in terms of its pasture base (as influenced by geography, topography, climate, land use) then regard it as a whole. However if it is NOT, then it is advisable to further subdivide it accordingly.

For example, if say 40 % of the SLA could be described as “tablelands” grazing where perennial pastures dominate while the remaining 60 % is “slopes” with more cropping and maybe shorter lived annual pastures then subdivide into two on this basis.

Similarly if there is a significant area of irrigation amongst predominantly dryland grazing then these too should be differentiated.

Describe this area of the SLA in the top left corner of the Form so that it can be identified in the future eg “irrigation area” or “west of the Newell highway”. You will also need to estimate the area of land this represents.

Survey Form Completion Process

You have been provided with one Form (only) for each SLA (or part thereof, as above). It is in a spreadsheet format to allow for ease and flexibility of data entry, including especially the inclusion of additional pasture types.

It is suggested that the Survey Form is completed using the following staged approach:

Step 1

The first step is to describe or define the various “pasture types” which are *most commonly* found or represented within the designated SLA. In order to assist with completing the Form these have been assigned within the Survey Form into a number (five) of broad categories under which you are to be more specific about describing the actual “pasture type” itself. *You will be required to allocate the percentage of the SLA into each specific pasture type.*

For example under the broad category of “*sown perennial pasture with or without perennial or annual legume”* this comprises and can be further differentiated into the following pasture types: perennial ryegrass / white clover; or, perennial ryegrass /

sub clover; or Phalaris / sub clover and so on.

NOTE: Within each pasture category you will be presented with a number of the more common *examples*. It is stressed that these are *examples only*. You can use these but you are also required / encouraged to enter your own pasture types ("other(s) - specify") and these can be as many and as varied as you need to include for that particular SLA. It is essential that you describe and specify each pasture type.
(Having said, when completing the Survey we are not looking for every obscure pasture type but rather those more significant pasture types which occupy a "reasonable area" within the SLA. As a guide it is suggested that only include pasture types which represent a *minimum of 1 % of the SLA*.)

It is suggested that you first work your way down the Form describing each individual pasture type within each pasture category and then allocate the percentage of the SLA to each.

Note: The actual pasture categories are in themselves not important, they are merely provided as guide to assist with describing or differentiating the various *pasture types* which comprise the SLA.

The important thing is to describe the pasture type based upon the dominant species within the pasture. By dominant we mean the species or pasture type which occupies the greatest % ground cover during the main growing season.

For example a pasture which comprises mostly sub clover and annual grasses may be described as one of two two distinct "pasture types" according to which of these pasture types or species is dominant (occupies the most ground during the principal growing season which in this case is winter). Where sub clover is the dominant plant type then it will be a 'sub clover / annual grass' pasture type (within the annual legume category). Alternatively where the annual grasses are the more ubiquitous then it will be an annual grass / sub clover pasture within the annual grass category.

(Again by way of example if there were also a high percentage of lucerne – and this pasture type occupied a significant area of the SLA - then you may add an additional pasture type as lucerne / sub clover / annual grass within the perennial legume category).
Note: I repeat again however that in completing this Survey Form we are not looking for every obscure pasture type but rather those pasture types which occupy a "reasonable area" within the SLA ie as a guide or > 1 %.

The broad pasture categories are as follows with a description and comments for each:

- ***Perennial* Legume Based Pastures**

  Comments: This is straightforward in describing or differentiating the various perennial legume pastures. If they are monocultures (eg straight lucerne, red clover etc) then indicate so. If it is a mixed legume pasture where the *perennial legume is dominant* then describe this accordingly. For example lucerne / sub clover becomes a separate pasture type. (Note: If the pasture is dominated by annual legumes eg sub clover, with a minority of perennial

legumes eg lucerne, then allocate this to the annual legume based pasture category (below).

- ***Annual* Legume Based Pastures**

  Comments: These are *annual legume based pastures with or without annual grasses and broadleaf species.*

  Include multiple annual legumes or mixes if appropriate into their own pasture type eg sub clover / balansa

  For example a straight sub clover pasture is a different pasture type to sub clover / medic which is different again to sub clover / annual grass.
  (Note: This category is for where the annual legumes are the dominant pasture species present. If the pasture is dominated by annual grasses (with some annual legumes) then this is should be included under the (naturalised) annual grasses category below

- **Sown Perennial grass based pastures**

  Comments: These are *sown perennial grass based pastures with or without perennial or annual legumes.* Again the same comments apply as above ie describe the pasture type according to the dominant perennial grass as well as associated species which occupy a significant component of the pasture sward eg Phalaris / sub clover

  As above but with a mixture of perennial grasses and legumes

  Comments: This is effectively the same as above (ie as a sub category) but is for those pasture types which involve *mixes of perennial grasses*. These may be sown eg ryegrass / fescue / white clover or includes those pastures which may have been sown but have subsequently become been colonised or naturalised with other perennial grasses – either sown or sown or native. Again it may include a range of legumes.

- **Annual or short–lived pastures and forage crops**

  Comments: Within “sown annual grasses” include all annual grasses including annual, diploid, hexaploid. These can be further described or differentiated within Steps 2 &/or 3. If these are sown as monocultures then indicate so. If sown with sub clover or white clover (or some other species) then allocate these as separate pasture types.

  “Naturalised / volunteer annual grasses” includes Vulpia (silver grass), Barley grass, annual ryegrass, Brome grass etc dominant pastures. Where these also include a substantial amount of sub clover or medic then include another pasture type(s) eg annual grass / sub clover or annual grass / medic or even annual grass / sub clover / medic if there is a significant area of this pasture type. If one species dominates (and this accounts for greater than 1 % of the

SLA) then be specific in describing the pasture type eg Vulpia / sub clover

Short lived perennial forbs / herbs such as chicory and plantain should be included here as a pasture type where these are the major plant species (otherwise they may be included as a minor species in another category eg lucerne / chicory within perennial legumes.

Winter forage crops (including cereals) is included specifically for those crops (including oats, winter wheats, grazing triticale, Brassicas etc) which are planted *primarily for the purpose of grazing.* If a crop is planted primarily for grain but which may be grazed for a short period opportunistically then *do not include it.*
(Note: there is no need here to differentiate individual crops – lump them all in together under the same "pasture type". This differs between all of the other pasture types where we require you to be as specific as possible in describing the individual pasture types).

Summer forage crops (like winter forage crops) includes all those crops which are sown primarily to provide grazing for animals during summer. Again you can put them all together under the one "pasture type" ie no need to differentiate between grazing sorghums or millets or Brassicas.

- **Native or natural pastures or grasslands**

The different pasture types as described within the Form will most probably adequately cover most native pasture types. Include additional pasture types if appropriate.

Unimproved native pastures are effectively native grasslands which have not been modified substantially (except by grazing).
Fertilised native pasture have received fertiliser "intermittently" in order to increase productivity.
Fertilised and oversown refers to those pastures which have been oversown with legumes and also receive more frequent (but not necessarily regular) applications of fertiliser in order to increase productivity.
"Shrublands" are refers to those "pastures" where shrubs – of various types – contribute significantly to grazing. Probably more relevant to the rangelands.

Note: If there is a significant area of "planted forage tree crops" such as Tagasaste then include them within this category under a specific pasture type eg Tagasaste.

Having completed Step 1 the next thing to do is progressively work your way through steps 2 to 7. This needs to be undertaken for each and every pasture type.

Step 2 (Pasture Species)

For each pasture type (above) what are the main pasture *species* present? List the various components or composition of that pasture type in order of their relative

abundance or % composition and indicate whether they are sown (s), volunteer (v) or a weed (w).

For example the “pasture type” may be Phalaris / sub clover but such pastures in your SLA commonly include a range of “other species” as well then list the more common or frequent of these. eg Phalaris (s), sub clover (s) perennial ryegrass (s) Vulpia (v) onion grass (w) capeweed (w)

Step 3 (Pasture Cultivars)

Describe the main cultivars present *within the pasture type of this SLA*. Again, just as with the different species, list in terms of their frequency or abundance. For instance, in the Phalaris / sub clover pasture type above then list the more common cultivars of each eg Phalaris – Australian, Uneta, Sirosa, Landmark; sub clover – Woogenellup, Mount Barker, Goulburn, Seaton Park; perennial ryegrass - Victorian
Note: we are only describing the cultivars – and species - within *this particular pasture type.* Not those across the whole SLA, just this specific pasture type.

Question 4 (Role in Crop Rotations):

Is this pasture type used in crop rotations: yes / no
If used in crop rotations give rotation sequence: years in pasture / years in crop

Step 4 (Stand life / re-sowing interval)

What is the normal “stand life” or typical re-sowing interval for this pasture type (in years for sown pastures or N/A for natives)?
Range: 1-2 years; 3-4 years; 5-10 years; greater than 10 years; N/A

Step 5 (Productivity)

What is the average annual carrying capacity (dse/ha) – *including mean and range*

- Actual
- Potential

Note: In this Survey we define a dse as a *50 kg wether (maintaining weight)*.
For cattle a 450 kg dry cow has a dse rating of 6.0 and a 450 kg cow in early lactation is 13.2 dse equivalents.

Step 6 (Current status)

At the present time and in their current state is this pasture type: stable (S), deteriorating (D) or improving (I) in pasture condition?

Step 7 (Pasture Condition)

Compared with the potential for this pasture type how would you describe its current status / present condition
Please rank from 1 to 10 where 1 is 10% of its potential and 10 is 100 %.

11 Appendix 2.

NSW – prepared by Nigel Philips with the assistance of Patricia O'Keefe, NSWII.

Neil Griffiths (Cessnock, Dungog, Maitland, Port Stephens, Singleton, Muswellbrook):

The attached returns are from desk top exercise only and give broad idea of pasture types. Many minor species are grown but not specifically mentioned. No attempt has been made to quantify native species proportion

Other comments:

Invasion of perennial grass weeds such as Giant Parramatta Grass, Coolattai Grass, and African Lovegrass is significant and would be a separate "pasture category" in most shires. Have not mentioned carpet grass and couch grass which are also significant

Pasture type and production is highly variable depending on soil type (alluvial vs other) and industry (dairy/ intensive beef vs other)

only legumes mentioned are lucerne and white clover however others are widely grown especially sub clover in Singleton and Musswellbrook shires

Minor species include Rhodes grass, setaria, lotus, red clover, fescue, perennial ryegrass, annual ryegrass (Wimmera). annual forage clovers

Peter Jessop (Wentworth, Balranald, Central Darling):

we almost entirely rangelands or cereal cropping. There is some lucerne and vetch but would be less than 1% of the region by a long way.

Nathan Ferguson (Tumbarumba, Tumut Shire):

Please take note that this survey is reflecting one of, if not the best season in living memory, and should be used with this in mind. Had this survey been undertaken at anytime in the last 3 or 4 years the survey would reflect pastures much lower than they currently are, plus the potential would probably be lower given the drier climate.

Ian Menz (Lachlan):

A large portion of the region to the north - North West of Condo is unimproved pasture (rangeland), so stocking number are low within this region.

Carol Rose (Hastings- Pt A, Hastings- Pt B, Nambucca Kempsey):

I had to make some assumptions as to the intent of the questions. For instance the survey asked you to list the species in proportion. I assumed that meant to

production and not to diversity. When asked about the pasture condition I assumed that it meant proportion desirable species /ground cover etc condition and not production (as it is winter and all my tropical pastures are producing nothing and would then have to score 0). I also qualified the last section on condition with flood damage. Don't want somebody to think the farmers here don't know how to manage.

Also with the stats, I only used the grazing area. Yet we don't have a lot of crop or fallow that isn't pasture related so that could be put in. But again farmers may list horticulture as crops, so I excluded it. I did not include the stats on wetlands (non grazing), into the grazing land as assumed our grazing wetlands would be counted as grazing land. This wetland area was all listed in poor condition due to the flood, but will probably be fine next summer. But bad next time we have a drought and we get Acid Sulphate scalds.

I combined Hastings A&B. A is the tea tree country that has wetland and low land grazing, so should be included.

Clare Edwards (Armidale Dumaresq- City, Armidale Dumaresq Bal, Guyra, Uralla, Walcha):

Please note - I have a problem with the' productivity level' of native pastures especially if some of these pastures have a high conservation/biodiversity value.
You will also notice I have add naturalised weed species these include Chilean Needle grass, African lovegrass/Coolati dominated pastures which are increasing in the area.

Tim McNee (Bogan, Bourke, Cobar, Unincorp. Far West):

Note - I haven't been in the Cobar or Bourke areas for 4 years and have never been to the unincorporated area ever so information should be viewed in light of my inexperience in these locations.
I also have had practically no training in pastures - exception being a prograze presenters course in 2002!

Rachael Whitworth (Griffith):

'I have not had a lot to do with pastures in the district . Pasture types and percentages are best estimates (guestimates). I have based the Griffith SLA data on mainly irrigated pastures (to avoid confusion and complication). There could be some dry area pastures in the SLA as well. After the drought it is very hard to get a good idea of what is really out there as things have declined - particularly compared to the statistics of 2005/2006 ABS. A lot is now dual purpose oats and wheat - with some volunteers as well. The perennial pastures are in variable conditions which is hard to reflect in this report as well.'

John Fowler (Conargo, Berrigan, Deniliquin, Murray):

There has been a dramatic change to pastures in the Murray Valley (including Berrigan, Conargo, Deniliquin & Murray Shires) over the past decade due to the drought and low irrigation allocations. The situation is still changing substantially each year.
During the height of the drought, there were virtually no pastures in the district. If you look at Murray Irrigations watering statistics, you will get some idea of how drastic the change has been. In 2005-06, they used 250,000 Ml on annual pastures, this fell to 12,000 2 years later. Similarly, the fall for water use on permanent pastures was

from 118,000 Ml back to 3,000 within 2 years. Most of these dried off pastures did not survive as they not only received no irrigation water, they suffered very low rainfall. sub-clover almost disappeared out of the district.
Pastures are gradually being re-established, the continued rate of this will depend on water allocations over the next few years.
Hence, the snap shot I have tried to give is from a changing scenario. It does not reflect what the situation was about three years ago and will not represent the situation within a few years from now (hopefully).

Amanda Britton (Kiama, Shellharbour, Wollongong- Inner, Wollongong Bal, Shoalhaven- Pt A, Shoalhaven- Pt B, Wingecarribee):

Some of the questions were not relevant to the coast but I have tried to answer them as best I can. I did have a chat with Nigel to clarify some points.

The carrying capacity was hardest one, as in the dairy industry they don't talk DSE of which most of the sown annual's and improved pastures are used in. I have taken some info and put it in. Also the range can vary from 0 to something huge (due to overstocking on small properties).

Overall, the improved pastures are in a stable condition but are currently being poorly managed through over stocking and/or understocking, most is industry specific, but many of the properties on the coast are currently being very poorly managed for a number of reasons. Hence the huge range in the current carrying capacity's.

I used the data from the ABS and for Wollongong Inner I'm really not sure where the 68 ha's are. As this data is quiet old I suspect it may not even be under grazing any more, but have answered the questions making assumptions on what should be there.

Wollongong and Shellharbour LGA's are facing a ferocious urban expansion which meaning agricultural pursuits are declining and not being supported through the council.

I don't actually cover much of the Wingecarribbee LGA area, but have answered as best I could, if you need more info I will need to talk with Jo Powells (acting DA Goulburn). Lori and I shared this area, she covered most of it being under natives / temperate grass species and I concentrated on the dairies and higher rainfall (east of the Hume Highway).

Many properties have a small amount of native pastures but on a property will never make up one paddock or grazing area, they are usually found on the margin of bushland to paddock/grazing are, but on a whole of LGA can make up a small area hence I have tried to represent this in column 1.

Mary-Anne Lattimore (Narrandera, Leeton):

I am particularly doubtful that the ABS stats are applicable now after the drought. I'm sure pasture area would be much less (half that stated?) but had a real problem quantifying it, so have gone with the stats for 2005-6.

PASTURE SURVEY 2011

LEETON SHIRE NOTES:- Leeton Shire is an irrigated cropping district, so sown pastures are mainly irrigated lucerne and subclover for hay and grazing, with only a

small area of dryland annual pasture. Irrigated sub clover pastures used to be an important part of rice crop rotations but intensification of cropping, a decline in rice area and a decline in livestock due to drought, and increasing reliance on bag fertilisers, have lead to a decrease in pastures in the last 10 years. As with Narrandera there is more emphasis on cropping to generate cash flow this year. Again, the latest ABS figures (2005-6) used here are probably an overestimate of current pasture area. Very little pasture has been sown/established in the last 10 years due to drought. Pasture base for this area is an annual one (sub clover/ annual ryegrass; annual grasses) with a considerable feed gap in autumn. In recent years there has been a swing towards grazing cereals to provide feed in autumn rather than subclover. Farmers are spending money on weed control and winter crops rather than sowing pasture. It is difficult to estimate an annual stocking rates for pastures as they change during the year depending on temperature and timing of rainfall and irrigation, which affects plant growth. Estimates are very big guesses due to lack of reliable recent statistical data being available.

NARRANDERA SHIRE NOTES:- Narrandera shire is mixed dryland farming, with some sheep and cattle grazing, but stock numbers are greatly reduced due to drought and there is more emphasis on cropping to generate cash flow this year. Pasture areas and condition have declined due to drought, so the latest ABS figures (2005-6) are probably an overestimate of current pasture area. Very little pasture has been sown/established in the last 10 years due to drought. Pasture base for this area is an annual one (sub clover/ annual ryegrass; annual grasses) with a considerable feed gap in autumn. In recent years there has been a swing towards grazing cereals to provide feed in autumn rather than subclover. This year farmers are relying on grazing cereals and natural regeneration after the wet summer, and spending money on weed control and winter crops rather than sowing pasture. A few have tried forage sorghum (irrigated) and forage brassicas (irrigated & dryland). Some new species (e.g. balansa, arrowleaf, gland clovers) have been thrown into mixed sowings but are not being widely adopted. Lucerne and clovers are often still sown under cereal crops at end of cropping phase. Pastures have declined in drought (thinner - perennials; low seed bank-annuals and more weeds). Annual pastures have germinated well this year but need rain to continue growth. Root rots are appearing in clover, mice are have eaten seed reserves. It is difficult to estimate annual stocking rates for pastures as they change during the year depending on temperature and timing of rainfall and irrigation. Estimates are very big guesses due to lack of reliable recent statistical data being available.

Greg Brooke (Wellington):

Basically here at Wellington on the mixed cropping country around 80% of all pasture sowings would be lucerne with subclover and in around half would include cocksfoot or phalaris. other annual legumes such as balansa, persian, medics, serradella feature in many mixes but are the first things to be dropped when things are a bit tight.

Lucerne is the standby and very few pastures are sown without it except in acid soils more to the south and east of the district which tend to be grass/subclover.
Much of the red grass hill country to the east of the district is unfertilised and not improved with subclover due to problems in the 50's with sub and super and good springs choking out native grasses when feed could not be utilised leaving hillsides prone to erosion and later weed infestation. Some graziers are still reluctant to do any improvement now as a result.

There is a swing towards subtropical grasses in some parts of the district esp in the Yeoval area where it is now becoming a regular part of the farm with some properties growing greater than half of their pasture improved area to subtropicals. These grasses are a great hope for longer term productivity on the lighter soils in particular where lucerne struggles to persist for more than 4 years and where a greater level of ground cover is required.

12 Appendix 3.

Prepared by Sue-Ellen Shaw, DAFWA

Please find attached the figures I used for WA.

The total area per LGA came from WALIS figures provided by Tim Overheu. We then transposed the grazing area figures from the ABS 2005-6 Reissue figures circulated by Stuart Burge to provide us with the list attached. I have identified the coordinator for each of the areas on the file and hope that this provides the information that you require.

Our 1% was calculated on Grazing Area figures from ABS data not the overall shire area. I do notice that the ABS figure for Land total per LGA must refer to arable area rather than total LGA area as some of our WALIS figures are considerably more than what is recorded in the ABS data.

13 Appendix 4.

Victorian Feedbase Audit, for MLA

Final Report, 16th September 2011

Prepared by John Bowman, DPI, Gippsland,

Introduction

The Department of Primary Industries was contracted by Meat & Livestock Australia to undertake a desk top survey of regional Victorias pastoral grazing areas. The Victorian Feedbase Audit provides Meat & Livestock Australia (MLA) with a summary of available pasture grazing areas within Victoria.

The Victorian Feedbase Audit consisted of a desk top audit of each relevant statistical Local Area (SLA) covering the description of various pastures types, percentage of pasture species, dry sheep equivalents (dse) stock carrying capacity, assessment of pasture condition and current status of pasture sward.

The reporting mechanism was the completion of excel spread sheets for each relevant Statistical Local Areas (SLA) within each of the nine Victorian Statistical Divisions. Completed Excel spreadsheets have been forwarded to Stuart Burge and Graham Donald.

Summary of the process.

Information was gathered from each of the Statistical divisions of:

Barwon Division	Central highlands Division
East Gippsland Division	Gippsland Division
Goulburn Division	Loddon Division
Mallee Division	Melbourne Division
Ovens - Murray Division	Western Victorian division.
Wimmera Division	

Note some SLA's (approximately 90 in total) located around the fringe of Melbourne or the major regional centres such as Bendigo, Ballarat. Mildura, Wodonga and Geelong have been excluded as there is very little pasture within these SLA's. The Spreadsheets (excel template supplied by MLA) has been completed for each relevant Statistical Local Area within each Victorian Division. The data interpretation and data entry was completed by DPI, Meat & Wool project officers John Bowman, Leongatha and Stuart White, Maffra

Overview of Victoria's grazing pasture areas

Grazing areas or farms with increased pasture production and increased carrying capacity

As expected the introduction of new pasture species such as improved diploid, tetraploid and perennial ryegrass, fescue, Lucerne, sub clover and Persian clover varieties have boosted the genetic potential of the Victorian pastures. In addition higher and more strategic fertiliser usage on some high input farms or high rainfall areas has increased pasture production over the last 20 years. The improved transport system allowing B-double transports to efficiently transport feed grain, straw and brought in hay for stock fodder to the southern areas of the state has increased livestock dse carrying capacity plus increasing soil fertility via brought in nutrient. The recycling of on-farm nutrients and smaller paddocks with rotational grazing has improved the utilisation and distribution of nutrients across the more intensive farming operations.

Purchased fodder has boosted pasture production on some farms by filling winter and summer feed gaps allowing more stock to be carried to better utilise the spring and autumn flush of feed production. The divisions which have improved nutrient, species and carry capacities are generally the southern higher rainfall areas, including central highlands, South Western Victoria, South & West Gippsland and Victorias irrigation areas (on farms in the where water entitlements or water transfer has not impacted such as the Macalister Irrigation District)

Grazing areas or farms with decreased pasture production and decreased carrying capacity.

Surprisingly there are considerable areas of the state in which the pastures have deteriorated or have been made unavailable for grazing due to various reasons or climatic events. Some of these are the obvious one such as drought, urban encroachment and expansion of the cropping area but there is also some less obvious impacts.

Urban expansion is not only evident on the fringe of Melbourne but also extends along the growth and freeway corridors towards Ballarat, Bendigo, Geelong,

Warragul, Mornington, Yarra Valley and Wodonga. This is evident with the loss of some very good horticultural & grazing lands around Cranbourne, Werribee, Gembrook, Melton and Ballarat.

The vegetable and fruit growing industries have moved further out along the urban fringe along with hobby farms, hobby / horse blocks and semi intensive horticulture and vine growers encroaching onto land which was once prime grazing areas. This has segregated farms, increased municipal rates, impacted on production systems, and made it difficult to expand businesses due to high land values. As a result less beef, sheep and dairy livestock now exist in these areas.

The drought has reduced the pasture quality in some areas, (north east and central Victoria) increased annual weeds and less desirable pasture species in addition to the reduced overall stock numbers throughout Victoria. Breeding sheep numbers have reduced from what was present 15 years ago particularly in the northern grain growing areas and in Gippsland.

Increased cropping within the North, West and South West of the state due to the drier soil conditions in the south and newer varieties of crops making it more attractive to grow broad acre crops in non-traditional cropping regions.

In the northern areas the drought reduced stock numbers and grain crops have been seen as a quicker return on investment thus large areas of grazing land have been planted to crop in recent years aided by direct drilling techniques and precision planting technology. The need for larger paddocks has seen fencing and other grazing infrastructure deteriorate and disappear.

The grain crop option with improved cereal, legumes, pulses and canola varieties is seen as easier and quicker return and has resulted in over 80% of the Mallee private ownership area sown to grain crop and only 20 % of the area in grazing and other land uses.

Increased grain cropping has been evident in the Wimmera, South West and Central Gippsland.

Blue gum plantations have taken valuable grazing land in the Casterton, Hamilton, Edenhope and Ararat areas in addition to the expansion within the traditional forestry areas in the North East, Ballarat, Latrobe valley and Strzelecki rangers.

Floods, bush fire and drought has destroyed pastures, fences, infrastructure and livestock in various parts of Victoria in recent years, with huge workload and cash needed to restore the infrastructure and fences on grazing properties. Most properties have rebuilt boundary fences but have not completed the internal fencing thus making effective grazing difficult and therefore stocking rates are reduced. The fire affected areas are along the rangers, North East Victoria parts of Gippsland and Yarra Rangers.

The flood damaged pastures are along the major river valleys, the Murray Valley, and Central Victoria, and the Kerang region

There are substantial areas of weed proliferation, mainly with the perennial grass weeds species which are more drought tolerant but unfortunately less palatable than our pervious grass species. Recently introduced grasses such Chilean needle grass and African love grass have posed similar weed impact as some of the longer term weeds such as Serrated tussock and Rats tail grass. These non-palatable grass

weeds have expanded there range either by the drought opening up existing pastures, the transfer of seeds within drought fodder or possible adaptation within species. Being perennial grasses they are difficult to eradicate from a pasture base of desirable perennial grass species, as often the chemical control options only reduces the competition allowing the new weed species to establish in the wake of the chemical application. Chilean needle grass has expanded its range into East Gippsland and to dryer areas west and north of Melbourne. African love grass enjoys the sandy coastal areas, Rat tail grass is expanding into the higher rainfall areas and Serrated tussock is well established in the dryer 300 to 400 mm rainfall hilly areas of Ballan, Bacchus Marsh, Melton, Balliang and Anakie

The reduced availability of irrigation water due to drought, restructure of the water resources and transfer of water entitlement has reduced the area of irrigated pastures for beef, dairy & sheep production within Victoria. For example a well managed northern irrigation pasture is capable of running 20 to 25 dse but without water the same land would only support 5 to 8 dse depending on soil type and location.

Low equity in agricultural areas and high cost of pasture enterprise inputs such as fertiliser, fencing material, seed and fuel is leading graziers towards low input farming. This has reduced stocking rate potential and overall grazing potential in some of the more marginal and isolated areas of the state. Graziers have responded to the high costs of inputs and the increasing transport costs by reducing inputs into the farm. This is evident in far East Gippsland, North East Victoria, areas affected by Serrated tussock and the Omeo valley area.

Summary

In general the observation is that there is less pasture feed available to Victorian livestock than was present in the 1980's and 1990's, but it is difficult to put an actual figure or percentage of the reduction as the land is still recovering from drought, weed proliferation and change of species within some pastures. There is less land area available for grazing due to urban fringe expansion, increase in blue gum plantations, increase in crop area and the range in which crops are now grown. The reduced irrigation water entitlement, transfer of water allocation and the higher cost of irrigation water has made it less viable to produce pasture for beef and sheep production from irrigated land.

Sources of information and references.
The project officers have sourced technical information and local knowledge from key strategically based DPI pasture specialists throughout Victoria. Those who have contributed information and knowledge are Department of Primary Industries officers:

Rob Sonogan Swan Hill,
Steve Clark, Hamilton,
Anita Morant, Hamilton
Alison Desmond, Benalla.
Gary Hallam, Horsham
Ferrier, Wodonga
Lisa Miller, Geelong
Fiona Baker, Ellinbank,
Neil James, Ballarat
Robert O'Conner, Echuca
Tim Hollier, Rutherglen Greg
Stuart White, Maffra

Service providers who contributed information and knowledge.

Michael Grant, Stephen Pasture Seeds, Ballarat
Geoff Saul, Hamilton

Additional information was derived from the DPI Victorian Resources Online web site www.dpi.vic.gov.au/vro the information used was the historical rainfall data, Ecological Vegetation Classes EVC's, regional plant lists, land use maps, plus satellite imagery for the determination of extend of the current cropping areas in the Northern Victorian and Victorian Mallee areas.

John Bowman,
DPI, Meat and Wool Services
16th September 2011

14 Appendix 5.

Prepared by Tim Prance
Consultant, Pastures and Grazing Systems

Milestone report Project B.PAS.0279
Update Temperate Pastures database

Milestone 1 – update 28/5/11

The final survey (in a word.doc) along with the survey audit help form and SA SLA details, was received May 23rd and forwarded to SA consultants nominated by T Prance Rural Consulting.

7 nominated consultants from across SA met May 24th in Adelaide to undertake the pasture data base audit.

The following SLA audits were completed

- Outer Adelaide – except for Light and Mallala
- Murray Lands
- South East
- Eyre
- Northam

We opted not to survey any northern SA pastoral areas and unincorporated areas, with the exception of West Coast unincorporated as this area includes farming country. Township corporations, mainly with < 1000ha pasture were also excluded. Adelaide division was excluded as there were insignificant pasture areas (mostly <1000ha).

Yorke and Lower north will be completed by June 8th, along with Light and Mallala
We reformatted the data entry sheet in an .xls format, and most data entry was entered into the excel spread sheet, although two consultants opted to stick with the supplied word.doc format.

Consultants took their completed surveys home to review, along with colleague's surveys, for quality control.
I have reviewed and completed surveys for Outer Adelaide (except Light and Mallala), South East and Eyre. These are ready for analysis.

I have sent the following comments to Stuart Burge on May 25th 2011.

Regarding yesterday (data completion day) – a few dot points

- *Definitely worked well doing the work as a group. I reckon we achieved about 14 man days work in 7.*
- *We still have some mopping up to do, but that will only be 3 days in total, and it will be beneficial to allow time to review our data (and each other's) after a couple of days away from the data base. I am going to circulate all the data to those in the group, as a "quality control" and have allowed time for this*
- *There were 7 of us in the group - an ideal number.*
- *We helped each other, where we weren't sure about parts of each SLA, and where SLA's overlapped agriculturally.*
- *We were able to reach consensus on definitions, and I was the final adjudicator. Any errors with data entry/survey interpretation are mine!*
- *We ran an issues white board*

Issues raised

- *Your information sheet was good, and most queries could be answered within. Hence I didn't have to ring you! Having said that, keep in mind we made a few executive decisions as a group – being independent types!*
- *1% cut off for pasture types – we based on 1% of grazing area*
- *Mixed pastures of perennial grasses, clovers/medics and weeds – we recorded only one mix of annual grasses/weeds and not have heaps of different mixes ie we recorded phalaris/sub clover/annual grasses/annual weeds rather than phalaris/annual ryegrass, phalaris/capeweed, phalaris/silver grass, phalaris/turnip etc*
- *Definition of sown vs volunteer? Recently sown –how recent? Is kikuyu sown in 1930 a volunteer or sown? Generally, I used the system if it was a new/recognised variety, it was sown eg Trikkala/Mt Barker. Even Yarloop was sown in 1950!*
- *Are pasture seed crops defined as crops or grazing in ABS data? If a seed crop was grazed at any stage we included it.*
- *Use spread sheet for data entry*
- *Nominating pasture cultivars – impossible. There are 50 lucerne cv alone. In addition, there are 300 naturalised sub clover hybrids along with the 50 or so recent cv. + as you know from Jim Virgona's work, what you sow is not what you get!*
- *Estimating dse's. Another way of estimating carrying dse/ha, especially for irrigation/forage crops is (Expected annual dm production x % utilisation) ÷ 400 eg irrigated pasture produces 16000 kg/ha dm/year x 70% ÷ 400 = 28 dse/ha*

May 28th 2011

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