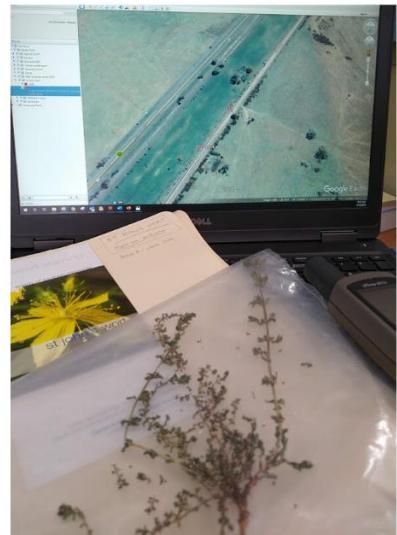


Southern Midlands Weed Management Strategy

2020 - 2025



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Southern Midlands Weed Management Strategy

First edition prepared by Melanie Kelly – November 1999

Revised and updated since that time with the current version endorsed by the Southern Midlands Council
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Front cover photos from top left: Boneseed seedling removed from Green Valley Rd (Bagdad), Vipers bugloss avoided by roadside slasher on Elderslie rd, State Growth inspecting St John's wort control on the Midlands Highway, Paterson's curse removed and bagged for disposal, SMC officers removing boneseed seedlings from Dysart, inspecting cumbungi control on Lake Dulverton, adding St John's wort to the weed database.

1. Introduction

There are a wide range of definitions for weeds and for clarity the *Australian Weeds Strategy 2017 – 2027*-definition has been adopted for this Strategy.

“A weed is considered to be a plant that requires some form of action to reduce its negative effects on the economy, the environment, human health or amenity”.

In the Australian Weeds Strategy, it noted that “of the approximately 3,207 species of introduced plants that have naturalised in Australia, about 500 taxa (species and genera) have been declared noxious or are under some form of legislative control in Australia. Most of the significant weeds in Australia have been introduced”. In addition, a large number of weeds in Tasmania were originally introduced as ornamental garden plants that ‘escaped’ into the landscape

In the Southern Midlands municipality the impact of well-established weeds such as Gorse (*Ulex europaeus*), Horehound (*Marrubium vulgare*), and Californian Thistle (*Cirsium arvense*) on agricultural systems, and the subsequent cost of control and loss of production is significant. More recently thistles, including cotton thistle (*Onopordum acanthium*), saffron thistle (*Carthamus lanatus*) and nodding thistle (*Carduus nutans*), as well as Paterson’s curse (*Echium plantagineum*) are also starting to have an impact across the landscape. These more recent arrivals came in with mainland feed grain purchased and fed out during drought years. Having learnt a serious lesson, many farmers have now reduced this weed risk by feeding pellets and growing their grain and fodder requirements on-farm with water made available from the Midlands Irrigation Scheme. The risk of further spread from isolated infestations of invasive grasses present in the municipality, such as serrated tussock (*Nassella trichotoma*) and African lovegrass (*Eragrostis curvula*), is also of concern. An extensive area of Chilean needle grass (*N. neesiana*) was discovered in Southern Midlands in 2018 and will need continued management to prevent further spread.

Strategic weed management actions are required to protect valuable remnant ecosystems. Along the riparian zone (the transitional area between land and water) invasive weeds such as Crack Willow (*Salix fragilis*), Gorse and Blackberry (*Rubus fruticosus*) readily establish if the ground has been disturbed and the nutrient levels are high. Weeds found along watercourses can readily spread downstream from one property to the other. This has occurred along many waterways within the Southern Midlands.

Many of the most valuable and vulnerable areas of remnant vegetation, in particular native grasslands, occur along the roadsides and railway verges in the Southern Midlands. They are vulnerable to weed infestation from surrounding properties, passing traffic and roadside maintenance operations. Weeds such as English and Canary Broom (*Cytisus scoparius* and *Genista monspessulana*), Blackberry and sweet briar (*Rosa rubiginosa*) are often found along roadsides in the Southern Midlands.

The Southern Midlands Weed Management Strategy (SMWMS) aims to tackle the many weed management issues facing all landholders within the Southern Midlands Municipality. The primary focus of the Strategy is on Education / Awareness and Training, Prevention and Early Intervention, and Integrated Weed Management. The priorities for coordinated on-ground action are along roads, rivers, railways and in areas of high conservation remnant vegetation as these are both significant areas of spread, and will generate the most community benefit.

The overall aim of the SMWMS is to ensure a coordinated cross land tenure, and cost-effective approach to weed management that involves all the community in partnership with Council.

2. Background

The increase in the spread of invasive weeds has been an issue of concern for the Southern Midlands Council (SMC) since its inception in 1993. In particular, SMC was concerned about the impact weeds were having on its road systems and other public spaces. The invasion of weeds such as Gorse and Broom along roadsides was becoming a dangerous and costly problem. Large bushes on the roadside verge were inhibiting sight lines making driving conditions dangerous. They also created difficulty for road maintenance due to their close proximity.

In 1994 the SMC initiated a roadside spraying program aimed at controlling key invasive weeds, particularly Gorse and Broom. This program has been continued since that time and has been very successful in reducing the impact of the weeds. It is unlikely that gorse and broom will be eradicated and SMC are therefore committed to long term control works along all roadsides. As the works have been effective, the budget can now include the control of other weeds on Council roads such as blackberry, Paterson's curse (*Echium plantagineum*) and Spanish heath (*Erica lusitanica*). In 2017 Council adopted the SMWMS and employed a part time Weeds Officer to implement strategy priorities. Weed locations are continually added to the weed database which is used to record control actions, weed distribution and assist with determining prioritisation of weed control. SMC are currently integrating weed data into systems to ensure all land managers are meeting requirements for weed control.

SMC continues to work in partnership with landholders, government and non-government organisations to achieve positive outcomes. SMC has previously worked in conjunction with the Australian Government and NRM South to deliver a range of weed control and landholder awareness raising projects.

Council's budget, new weed threats and alternative funding when available, combined with the level of landholder commitment determines the extent of activity from year to year.

2.1 Principles to underpin weed management in Australia

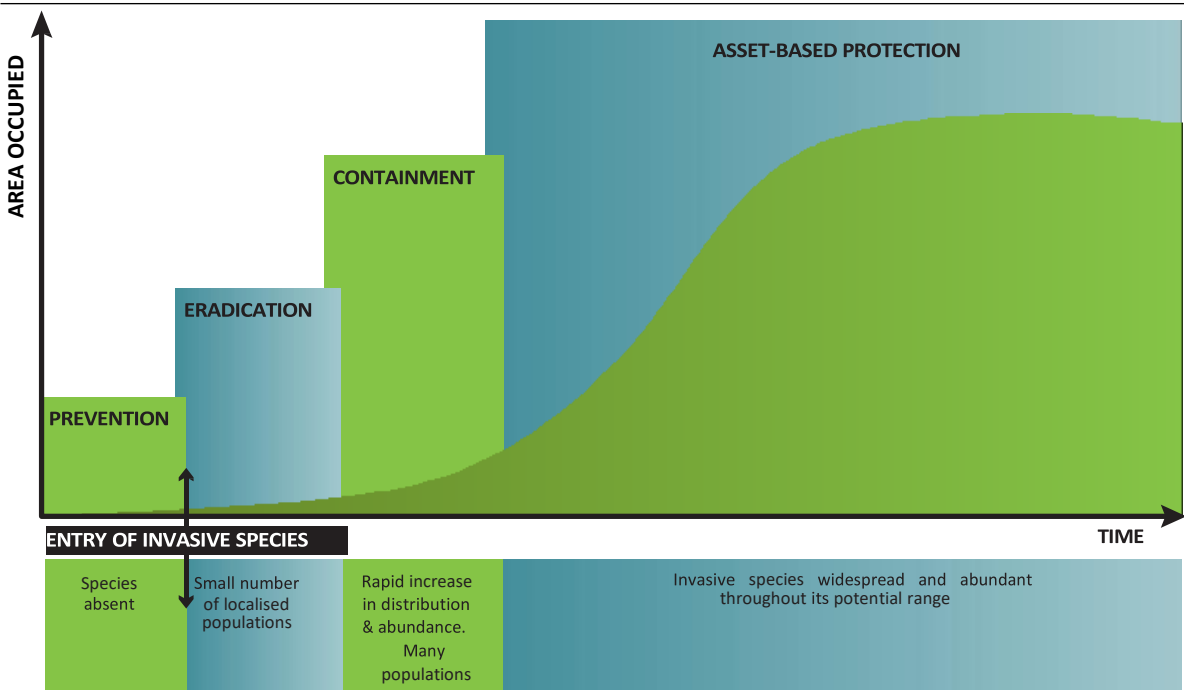
The *Australian Weeds Strategy 2017 - 2027* identifies seven principles that should underpin weed management in Australia and guide planning, investment and actions.

- 1) Effective weed management is a responsibility shared between landholders, community, industry and government.
- 2) Evidence-based decision-making should underpin the approach to weeds.
- 3) Risk-based prevention and early intervention is generally the most cost-effective approach for managing weeds.
- 4) Prioritisation of weed management must be informed by a risk based approach, considering feasibility, likelihood of success, impact and national significance.
- 5) Coordination amongst landholders, community, industry and government is necessary to manage weeds at a landscape scale.
- 6) Sustaining capability and capacity across landholders, community, industry and government is fundamental to effective weed management.
- 7) Individuals, organisations and industry groups that create risks that may result in a weed entering, emerging, establishing or spreading in Australia have a role in minimising the impacts and contributing to the costs of management.

Stages of weed management

The *Australian Weeds Strategy 2017 - 2027* is a national strategy encompassing principles, goals and priorities across the four stages of weed management: prevention, eradication, containment and asset protection.

Over time, a weed invasion consists of sequential phases of introduction, establishment and spread until, in the absence of control, the population can fill its entire potential range. Some species spread slowly, while others spread rapidly. The full range of weed management options generally fall into four categories, depending on the stage of invasion: (1) prevention, (2) eradication, (3) containment and (4) asset protection. This helps to demonstrate the wide range of tactics, management approaches and people required to successfully respond to weed challenges. The four types of management are illustrated on the generalised invasion curve below.



Source: Victorian Government (2010) *Invasive Plants and Animals Policy Framework*, DPI Victoria

Prevention stage:

There are a number of ways to prevent the spread of weeds and these will vary according to different situations. Ways may include-

- Adopt hygiene protocols to prevent the movement of weeds eg vehicle and machinery washdown procedures. Check and clean before moving to another area.
- Avoid buying in stock feed including grain, hay and straw.
- Purchase shorn sheep rather than long-wool sheep or shear as soon as possible upon arrival.
- Hold newly returned stock or stock returned from agistment and hand-feed in one paddock or a small localised area for 4 days. Remove stock, monitor and control weeds prior to flowering.



Eradication stage:

Isolated and small scale weed infestations give an excellent return on investment (32:1). This category includes weeds that have only been present for a short time as well as species that occur in small, isolated areas or have a limited distribution.

Weeds in this category for the Southern Midlands include (but not limited to) the highly invasive grasses - serrated tussock, and African lovegrass as well as St John's wort (*Hypericum perforatum*), nodding thistle, stemless thistle (*Onopordum acaulon*), boneseed (*Chrysanthemoides monilifera*), ragwort (*Senecio jacobaea*) and pampas grass (*Cortaderia* spp.).



Above - Left to right: serrated tussock, nodding thistle, boneseed and African Lovegrass
Below - Left to right: St John's wort, pampas and stemless thistle



Containment stage:

When responding to extensive areas of weed infestations, measures to reduce or limit their spread are to be the focus. These are broadly referred to as 'containment' actions. There are many pathways for weed spread that need to be managed such as along waterways, roads and other transport corridors. When weeds have infested large areas, all affected landholders need to work together to contain these infestations.

Asset based protection stage:

When a weed species is widespread and the cost / resources required to eradicate or undertake significant containment works is no longer financially viable then asset-based protection becomes important. Assets may include built infrastructure, native vegetation, pastures, waterways, neighbouring properties and field crops. Prioritisation of control is based on the relative importance / value of each asset and any relevant legislative requirement.

3. Vision

The *Southern Midlands Weed Management Strategy* (SMWMS) will ensure a coordinated, and cost-effective approach to weed management within the Southern Midlands Municipality, involving the community in partnership with Council.

4. Framework

Goal A

To increase the efficiency and cost-effectiveness of weed management through the **cooperation** and **coordination** of the activities, and the **resources** of land and water managers and users, policy makers and other stakeholders within the Southern Midlands Municipality.

Goal A will be achieved by addressing the following three key areas:

- Coordination and Cooperation;
- Policy and Legislation; and
- Resources.

4.1 Coordination and Cooperation

Aim:

To provide a framework to ensure a *cooperative, coordinated and cost-effective* approach to the implementation of the *Southern Midlands Weed Management Strategy* (SMWMS).

Objective 1:

To ensure a *cooperative* approach to the SMWMS by understanding the roles and responsibilities of individuals and organisations, and creating and maintaining effective communication channels.

Strategic Actions to achieve Objective 1:

CONTEXT

The SMWMS needs to involve a wide variety of individuals and organisations both within and beyond the Municipality. It is necessary to not only determine the stakeholders in weed management in the Southern Midlands, but also their roles and responsibilities during the long term implementation of the SMWMS.

The following are examples of the many organisations and their roles and responsibilities in assisting Southern Midlands with weed management:

- ◆ SMC financial and / or in-kind support and management of the SMWMS. Authorised inspectors under the *Weed Management Act 1999* and weed management of Council roadsides, reserves and properties.
- ◆ Landholder participation; weed management of weeds on private property and reporting weed observations.
- ◆ State and Federal Government research and technical support for control programs;
- ◆ Machinery operators across all industries undertaking vehicle hygiene practices to minimise weed spread.
- ◆ State Government weed management of State-owned roads and overseeing of weed hygiene practices of contractors. Authority for managing the *Weed Management Act 1999* which defines the declaring of weed species and preparation of Statutory Weed Management Plans.
- ◆ School participation in educating young people about the impacts of weeds, and what they can do; and
- ◆ Landcare group participation in undertaking weed management activities.

To ensure that the SMWMS continues to be relevant and encourages participation, by the many different stakeholders, it remains important to maintain a number of effective communication channels.

These communication channels allow different elements of the community to have an opportunity for involvement, and therefore ensure a *cooperative* approach to the continued implementation of the SMWMS.

Action No.	<u>Action</u>	Whom	By When
4.1.1	Continue to employ a Weeds Officer, with weed strategy coordination and implementation responsibilities, including overseeing the involvement of relevant stakeholders.	Southern Midlands Council (SMC)	Ongoing
4.1.2	Maintain contact information for relevant stakeholders.	SMC Weeds Officer	Ongoing
4.1.3	Use the Council rates newsletter, website and other relevant publications to inform landholders about ongoing actions, strategy progress and inviting feedback / participation.	SMC Weeds Officer	On an as needs basis
4.1.4	Contact and visit landholders to discuss weed issues relevant to the property and encourage control of priority weeds as appropriate.	SMC Weeds Officer	On an as needs basis
4.1.5	Maintain ongoing liaison with relevant agencies and individuals with an interest / involvement in the SMWMS and / or general weed management issues.	SMC Weeds Officer	Ongoing
4.1.6	Work in conjunction with landholders, government representatives and non-government organisations to ensure cooperative approaches to weed management activities.	SMC Weeds Officer	Ongoing

Objective 2:

Utilise weed infestation location information and record weed management activities.

Strategic Actions to achieve Objective 2:

CONTEXT

The Department of Primary Industries, Parks, Water and Environment (DPIPWE) Natural Values Atlas www.naturalvaluesatlas.tas.gov.au, contains location records of many significant weed infestations. It is important that the SMC continue to work with stakeholders to capture new or emerging weed infestations.

Monitoring what is happening on a Regional, State-wide and National level will ensure that any actions implemented complement and contribute to existing systems, rather than duplicating any already in place.

Action No.	Action	Whom	By When
4.1.7	Continue to record weed infestations and management activities in the Southern Midlands. Notify DPIPWE of any new weed management issues.	SMC Weeds Officer	Ongoing
4.1.8	Liase with the Council Works and Technical Service Officers in regard to on-ground roadside management projects and the capture of weed management data.	SMC Weeds Officer / Council Works Dept. Officers	Ongoing
4.1.9	Add weed data to the Natural Values Atlas	SMC Weeds Officer	Every 6 months

4.2 Policy and Legislation

Aim:

To ensure that the *Southern Midlands Weed Management Strategy (SMWMS)* is coordinated with, and integrated into, relevant national, state, regional and local legislation, policy, strategic plans and programs.

Objective 1:

Ensure that the SMWMS remains consistent with and complimentary to Tasmanian weed management legislation (currently the *Weed Management Act 1999*) and other national, state and local policy and strategies relevant to weed management issues.

Strategic Actions to achieve Objective 1:

CONTEXT

A large number of *state* and *national* policies, strategies, plans and programs related to natural resource management are both directly and indirectly relevant to any regional strategy addressing weed management issues. Any actions resulting from the SMWMS will endeavour to be consistent with and complimentary to policies and strategies at the state and national levels.

It will therefore be important to monitor policies, strategies, programs and actions that may arise to ensure that the SMWMS remains relevant. The SMWMS will also play a role in raising awareness about local government related initiatives; state and national weed management policy and legislation.

Action No.	Action	Whom	By When
4.2.1	Maintain communication with representatives from appropriate organisations responsible for the ongoing implementation of relevant weed management legislation, policy and strategies.	SMC Weeds Officer	Ongoing
4.2.2	Provide input into appropriate forums relevant to weed management issues.	SMC Weeds Officer	As arises
4.2.3	Initiate - when appropriate – and support cooperative ventures within and between other organisations and individuals involved in weed management activities around Tasmania, and throughout Australia.	SMC Weeds Officer	On-going
4.2.4	Review, when required, actions arising from the SMWMS to ensure that it remains consistent and complimentary to any new and revised relevant state and national legislation, policy, strategies and programs/plans.	SMC Weeds Officer	On-going

Objective 2:

Ensure that the SMWMS remains consistent and complimentary to Council's policies and programs, including the *Southern Midlands Council Strategic Plan 2014-2023*, and where relevant other community plans, programs and activities relating to weed management issues.

Strategic Actions to achieve Objective 2:

CONTEXT

To ensure that the SMWMS continues to reflect the current needs of the community and maintains continuity and relevance it should be reviewed on a regular basis.

Numerous different natural resource management / weed related activities continue to be undertaken within the Southern Midlands Municipality by a variety of organisations. Some of these activities are a part of state-wide and national programs, and reflect various broader policies and strategies. Other activities are the day-to-day activities of landholders and community members, and may not be officially linked in with other programs and strategies, yet play an important role in both their process and outcomes.

Any strategic actions arising from the SMWMS must compliment and be coordinated with local and regional programs and activities whenever possible and appropriate.

Action No.	Action	Whom	By When
4.2.5	Create regular feedback procedures to the SMC.	SMC Weeds Officer	Ongoing
4.2.6	Ensure weed management priorities compliment regional, state and national strategies where appropriate.	SMC Weeds Officer	Ongoing
4.2.7	Identify weed management programs and investigate opportunities to participate.	SMC Weeds Officer	Ongoing
4.2.8	Ensure council programs are meeting legislative requirements for weed management - e.g. roadside slashing, spraying programs, fire abatements and information for Development Applications	SMC Weeds Officer / Council Works Dept. Officers / SMC Environment and Development Services	Ongoing

4.3 Resources to implement the SMWMS

Aim:

To ensure the successful implementation of the SMWMS through the availability of adequate resources at all levels.

Objective:

To source and maximise *financial and in-kind resources* to implement the SMWMS.

Strategic Actions to achieve Objective:

CONTEXT

Determining Resources Required

A fundamental component of the SMWMS is to ensure that adequate resources are available to *coordinate* and *implement* strategic actions outlined within the SMWMS. Resources may be provided through a range of providers including grant programs, Council and /or individuals.

The costs of specific strategic actions need to be determined to ensure successful sourcing of appropriate financial and in-kind resources. This will be an ongoing process and will require the collection and evaluation of records.

Action No.	Action	Whom	By When
4.3.1	Annually determine strategic weed management priorities.	SMC Weeds Officer	Ongoing
4.3.2	Identify and apply for funding when opportunities arise.	SMC Weeds Officer	Ongoing

4.3.3	Maintain a list of the resources available for weed management e.g. accredited spraying contractors.	SMC Weeds Officer	Ongoing
4.3.4	Continue to advocate for local priorities to be incorporated into management actions of land managers in Southern Midlands such as State roadsides, Parks and wildlife and Crown Land Services.	SMC Weeds Officer / Council Works Dept. Officers	ongoing

5. Implementation

Goal B

In the Southern Midlands:-

- ◆ raise the awareness and acceptance of the **roles and responsibilities** in weed management by all stakeholders in the Southern Midlands.
- ◆ prevent the introduction and spread of **new weeds** within the Southern Midlands.
- ◆ work in partnership with landholders to implement appropriate **weed management programs** within the Southern Midlands.

Goal B will be achieved by addressing the following three key areas:

- Education / Awareness / Training;
- Prevention and Early Intervention; and
- Integrated Weed Management.

5.1 Education / Awareness / Training

Aim:

- **To supply appropriate weed management information and increase awareness of weed issues in the wider community; and**
- **To highlight the roles and responsibilities within the wider community in weed management.**

Objective:

To promote weed managements issues within the Southern Midlands.

Strategic Actions to achieve Objective:

CONTEXT

The SMC has a long history of working with landholders on weed management issues. The Council has a role in ensuring that landholders are provided with appropriate weed management information. In the past the Council has distributed information, identified weeds or linked landholders to specialised advice.

The Council also actively promotes any opportunities available for landholders to participate and support actions that address weed management problems. Council also recognises that it has a responsibility to train relevant employees involved in maintenance activities about weed hygiene and techniques to reduce the spread of weeds.

Action No.	Action	Whom	By When
5.1.1	Continue to provide weed management information and training opportunities for the wider community within the Southern Midlands Municipality.	SMC Weeds Officer	Ongoing
5.1.2	Promote projects that support landholders to undertake weed management activities on their properties.	SMC Weeds Officer	Ongoing
5.1.3	Organise field days to sites demonstrating different weed management techniques and results.	SMC Weeds Officer	Ongoing

5.2 Prevention and Early Intervention

Aim:

To prevent new weed incursions from becoming established within the Southern Midlands;

Objective:

To assist and support regional, State and National actions *preventing* new weeds from becoming established within the Southern Midlands.

Strategic Actions to achieve Objective:

CONTEXT

Preventing new weeds from entering Tasmania and / or becoming established needs to be tackled on a regional scale. Although National and State quarantine provisions play an important role, a surveillance program and an associated education strategy at the local level is also relevant.

The *Weed Management Act 1999*, identified a number of weeds as potential threats, to Tasmania. The associated Statutory Weed Management Plans specify notification procedures to follow if a new weed infestation is located.

Preventing the spread of known weeds to new “clean” areas is a vital component of this Strategy. Often the spread of weeds occurs as a result of other activities, such as the everyday movement of machinery, goods, stock and people from an infested area to an uninfested one, particularly along roadsides, rivers, and railways. Putting in place actions to prevent the unnecessary spread of weeds will reduce future damage and costs.

Action No.	Action	Whom	By When
5.2.1	Encourage and support the community in recording observations of unusual plants, and then reporting them to Council.	SMC Weeds Officer	Ongoing

5.2.2	Work with the Council Works Supervisor to ensure that roadside maintenance activities minimise the risk of weed spread into new areas.	SMC Weeds Officer, Council Works Supervisor	Ongoing
5.2.3	Notify Biosecurity Tasmania of any unidentified weed occurrences. Biosecurity Tasmania will then check the identity of the plant and, if appropriate, a weed incursion response will be initiated.	SMC Weeds Officer	Ongoing
5.2.4	Promote effective weed hygiene measures that prevent weed spread throughout the Southern Midlands.	SMC Weeds Officer	Ongoing

5.3 Integrated Weed Management

Aim:

- To ensure weed management activities are not addressed in isolation of other relevant land management and community issues;
- To achieve the most economically, socially and environmentally effective weed management through the *integration* of a variety of land management practices and control methods.

Objective:

To continue to support the wider community in the use of integrated weed management techniques, which reflect and complement sustainable land management practices.

Strategic Actions to achieve Objective:

BACKGROUND

Addressing weed issues in isolation is likely to only ever be a very short-term solution to the problem. Weed management actions need to be integrated into other sustainable land and water management activities being undertaken within the Southern Midlands.

Action No.	Action	Whom	By When
5.3.1	Investigate and monitor relevant land management programs and projects being undertaken in the Southern Midlands.	SMC Weeds Officer	Ongoing
5.3.2	Provide input into regional natural resource management developments in relation to weed management.	SMC Weeds Officer	Ongoing
5.3.3	Continue to monitor the distribution of weeds on roadsides and railway reserves within the Municipality.	SMC Weeds Officer Council Works Dept. Officers	Ongoing
5.3.4	Encourage collaboration with neighbouring councils to manage priority weeds	SMC Weeds Officer	Ongoing
5.3.5	Work with State Growth and land managers adjacent to roadsides to enhance roadside weed management priorities.	SMC Weeds Officer/stakeholders	Ongoing

Objective 2:

To continue to implement on-ground weed management activities, reflecting identified priorities and utilising a combination of *control methods*.

Strategic Actions to achieve Objective 2:

BACKGROUND

Integrated Weed Management combines site-appropriate weed control options including physical removal, chemical control, biological control and cultivation to achieve effective long-term control. In addition, once primary control has been carried out, annual or biannual follow-up control is essential to successful manage of weeds.

Herbicide resistance in weeds is known to occur in the municipality. Herbicide resistance is the inherent ability of weeds to survive a herbicide that would normally control them. Herbicide resistant plants are present in weed populations at low frequencies even before herbicides are applied. These resistant individuals do not become apparent until a herbicide with the same mode of action is used repeatedly and the resistant weeds are allowed to survive, set seed and multiply while susceptible plants are killed. If herbicide resistance develops, other herbicides (with a different mode of action) or other control methods (non-chemical) will need to be used. Once herbicide resistance occurs it will persist for many years. To minimise the chance of herbicide resistance it is important to use a range of weed control methods and alternate between different herbicide groups.

The selection of the most appropriate method or combination of methods is an essential component of managing weeds strategically. Many factors must be taken into consideration including the;

- Type of weed;
- Location and size of infestation;
- Available resources (financial, labour, equipment etc); and
- Scheduling annual follow-up.

Action No.	Action	Whom	By When
5.3.6	As appropriate work with organisations/ authorities and landholders on the redistribution of existing biological control agents and development of future agents.	SMC Weeds Officer	Ongoing
5.3.7	Continue investigation of alternative non-chemical methods of weed control.	SMC Weeds Officer	Ongoing
5.3.8	Seek opportunities for landholders to participate in research trials of alternative and integrated methods of weed control and management.	SMC Weeds Officer in conjunction with landholders and relevant research and government organisations.	As the opportunities arise.
5.3.9	If funding becomes available, undertake further weed mapping in areas identified as missing necessary data.	SMC Weeds Officer	Ongoing
5.3.10	Educate land managers on minimising herbicide resistance.	SMC Weeds Officer	Ongoing

6. Evaluation, Monitoring and Review

Goal C

To develop and implement appropriate systems and mechanisms to **monitor, evaluate and review** weed management activities within the Southern Midlands Municipality.

Goal C will be achieved by undertaking the strategic actions outlined below.

Aim:

To monitor and evaluate the progress and outcomes of the SMWMS to ensure that the stated objectives are being achieved.

Objective:

To monitor and evaluate procedures and to record activities undertaken in the process of implementing the SMWMS.

Strategic Actions to achieve Objective:

BACKGROUND

Monitoring and evaluation is an essential component of weed management activities. Although there is often the temptation just to get on with the job, unless records of actions are kept it is difficult to determine what has actually been done. This can also make it difficult to determine whether the outcomes of any actions achieve the initial objectives.

The information obtained during the monitoring process can be used to evaluate the progress and outcomes of the SMWMS as it is implemented, which may be useful in making important adjustments to future operations.

Action No.	Action	Whom	By When
6.1	Continue to monitor and evaluate the progress of works undertaken as a result of the SMWMS.	SMC Weeds Officer	Ongoing
6.2	Undertake an annual review of the weed management priorities in the Southern Midlands and adjust actions accordingly.	SMC Weeds Officer	Annually

7. Future Directions:

It is vital that the Southern Midlands Weed Management Strategy remains current, relevant and useful to the variety of individuals and organisations responsible and interested in sustainable land management within the Southern Midlands Municipality.

To ensure this it will be necessary to:

- ◆ remain vigilant about the on-going review process;
- ◆ promote weed management activities throughout the wider community;
- ◆ provide opportunities for feedback to ensure that the Council is aware of concerns and suggestions from the wider community;
- ◆ continually investigate and utilise opportunities for the integration of weed management activities into all areas of sustainable land and water management;

These crucial elements of the Strategy will be necessary to ensure an evolving Strategy, which continues to provide direction and focus for integrated weed management activities within the Southern Midlands Municipality into the future.

8. Web resources

www.thelaw.tas.gov.au - online copy of the *Weed Management Act 1999*

www.dpipwe.tas.gov.au - go to Invasive Species and then Weeds for comprehensive information on Tasmanian weeds and weed hygiene issues

www.nrmsouth.org.au - NRM South Natural Resource Management Strategy (Resources > Brochures etc)

www.naturalvaluesatlas.tas.gov.au - Natural Values Atlas

www.weeds.gov.au – Australian Government weed information

9. Appendices

APPENDIX 1:

Criteria for Determining Weed Management Priorities in the Southern Midlands

A combination of the following factors are to be considered when determining on-ground weed management activities in the Southern Midlands Municipality. These criteria have been utilised to classify weeds in the Southern Midlands into Priorities 1,2,3 and 4 and determine control works and actions.

- Status of weed in accordance with Weeds of National Significance, Tasmanian weed legislation (currently the *Weed Management Act 1999*) and relevant Statutory Weed Management Plans;
- NRM South Natural Resource Management Strategy;
- Control small and / or isolated outlying infestations first;
- Infestations that are likely to spread rapidly (and infest new areas);
- Size of the infestation (it is often better to control smaller, more manageable infestations than to tackle larger ones);
- Council roadside reserve weed control program.
- Infestations threatening significant areas of high conservation value remnant vegetation;
- Impacting negatively upon any community or flora or fauna species listed under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* and/or the *Tasmanian Threatened Species Protection Act 1995*.
- Infestations in and around urban/rural residential areas that pose a threat to surrounding remnant vegetation and agricultural land; and

Other factors to be taken into account include:

- Local knowledge of the site (including information regarding usage and values of the site);
- Past history of the site (including previous control attempts);
- Available resources;
- Level of landholder support and commitment

Prioritisation of weed control in Southern Midlands

Some weeds may fall into more than one priority category depending on the above factors and may over time move progress to a higher classification.

Priority 1 – Objective: *for all Priority 1 weeds to be controlled, prevent any seeding or movement of the weed. Regulatory action could be undertaken on properties who fail to undertake appropriate weed control for Priority 1 weeds in line with their Statutory Weed Management Plan.*

- Any declared weed listed as zone A (appendix 3) that is not yet in Southern Midlands.
- Isolated occurrences of zone A weeds being managed for eradication.

- Declared weeds located in areas where soil or landscaping material is sold (i.e. mulch, quarries, gravel etc).
- Specific roadside weeds

Priority 1 weeds as of Dec 2019 (including but not limited to):

Amsinckia	Opuntiod cacti
African Lovegrass	Pampas
Boneseed	Ragwort
Datura	Serrated tussock
Elisha's tears	Stemless thistle
Mouse ear hawkweed	St John's wort

All Zone A weeds listed declared weed not yet found in the municipality (see appendix 3)

Weeds in the roadside corridors which are managed as Priority 1.

Chilean needle grass	Paterson's curse
Cotton thistle	Saffron thistle
Nodding thistle	Spanish heath

Priority 2 – Objective: *Control all priority 2 weeds in site specific areas (where eradication can be a strategic aim). Actively manage larger weed infestations to reduce size and prevent further spread and control. Next to properties free of the weed, or properties actively managing the weed, require buffer zones. Regulatory action could be undertaken on properties who fail to undertake appropriate weed control for Priority 2 weeds in line with their Statutory Weed Management Plan.*

- Zone A weeds that are well established and may need reclassification to Zone B.
- Weeds located in areas of a high risk of spread – particularly roadways or on property adjacent to roadsides.
- Zone B weeds which have limited distribution.
- Zone A and B weed outliers on roadsides and/or where active weed management is being implemented on adjacent land.

Priority 2 weeds as of Dec 2019 (including but not limited to):

Paterson's curse
Spanish heath
Chilean needle grass
Cotton thistle
Saffron thistle
Nodding thistle
White weed

Weeds in the roadways which are managed as Priority 2

Broom sp.
Gorse
Blackberry

Priority 3 - Objective: *Site specific weeds. These may be impacting conservation areas or areas of high community interest and can be feasibly controlled or contained where resources allow. Regulatory action could be applied in line with their Statutory Weed Management Plan.*

Priority 3 weeds and site-specific area including but not limited to:

Cumbungi – within 3km radius of Lake Dulverton Conservation area

Chauncy Vale Wildlife Sanctuary

Any declared weed – if assessed as a significant threat to site specific area and in need of control in line with Statutory Weed Management Plans.

Priority 4 – Objective: *to raise awareness of impacts the of these weeds and encourage weed management as required.*

Priority 4 weeds in SM as of Dec 2019

Non declared and environmental weeds

Any weed not already addressed in priority 1-3.

APPENDIX 2:

Southern Midlands Council Weed Management Actions 2020-2025

The following is a list of specific management actions and projects to be led by SMC to meet the weed prioritisation objectives.

- Control all boneseed in August/ early September when flowering. Inspect known sites and remove any plants at Dysart, Bagdad and Levendale. Discuss control with landowners. Monitor the spread of boneseed in surrounding municipalities.
- Continue mapping roadside weeds. Undertake annual Priority weed control work on all Council roads in the municipality and Council land as appropriate within the constraints of the Council's annual weed control budget. Assess need to add new weeds to this list.
- Increase Paterson's curse awareness raising activities e.g. and conduct annual site visits. Work with DPIPWE and invest the resources to issue requirement notices to landholders who are not undertaking required control (in accordance with Zone B requirements). Follow up non-compliance issues. Encourage collaboration with Brighton Council and State Growth to control infestations across all land tenures.
- Increase the number of specific thistle awareness raising activities (specifically for priority weeds: cotton, saffron, nodding and stemless thistle). Work with DPIPWE and invest the resources to issue requirement notices to landholders to contain or eradicate (depending on zoning). Follow up non-compliance issues.
- Work with the Woodsdale and Levendale Community to increase awareness of Spanish heath and its potential impact in the area. Control all roadside Spanish heath and work with landowners to contain Spanish heath and prevent flowering. Aim to have zoning changed from Zone B to Zone A and work towards eradication targets.
- Work with DPIPWE officers to control and raise awareness of Nassella species, mainly comprising Serrated tussock, Chilean needle grass (Tea Tree and Campania) and Texan needle grass (not present). Site visits to all affected landholders in September each year. Support the Coal Valley Products Association to progress containment and control of Chilean needle grass in the Campania area. Collaborate with Brighton Council to ensure all Chilean needle grass at Tea tree is controlled annually.
- Weed control works in the area surrounding Lake Dulverton and in the Dulverton Walkway Corridor. Control Cumbungi infestations when they occur in Lake Dulverton.
- Work with the State Government to encourage strategic management of weeds along the Tunnack Road, Midland Highway and Mud Walls Road (e.g. St John's wort along Midlands Highway, gorse and broom along Mud Walls Road and Tunnack Road). Advocate for improved weed management actions on Tunnack Road.
- Undertake weed control work at the Chauncy Vale Wildlife Sanctuary in consultation with the Management Committee and other relevant parties.
- Liaise with Parks and Wildlife to undertake weed control works at the 'old Tunnack tip site' and the Tunbridge Lagoon Nature Reserve.
- The Landcare Office continue to provide information and advice to assist landholders identify and manage weeds (working with DPIPWE officers, when appropriate).

- Landcare Office to continue to work with DPIPWE in relation to all declared weeds in Southern Midlands.
- In partnership with the State Government examine the issue of reserved roads (in the areas surrounding Oatlands and other townships) and their impact on weed and fire management.
- Assess feasibility of annual control of white weed on roadsides.
- Focus on further reducing weeds in corridors of spread, particularly roadsides. Encourage or apply priority actions for properties adjacent to sites of active management, e.g. gorse adjacent to roadsides or properties free of the weed.

APPENDIX 3

Weed Management Act 1999

Statutory Weed Management Plans have been developed by DPIPWE for all declared weeds in Tasmania.

The plan for each weed is separated into two zones. Each Municipality is categorised into one of two zones, being Eradication for Zone A municipalities, whereby eradication is the principle management objective, OR Containment for Zone B municipalities, whereby containment is the principle management objective.

In relation to the **Southern Midlands**, the following have been listed as Zone A or B weeds.

Zone A (eradication - principle objective) recorded in Southern Midlands

Common Name	Botanical Name	Type of Weed	Distribution
African lovegrass	<i>Eragrostis curvula</i>	Roadside/ Agricultural	Previously recorded, none known now
Isolated infestations along Midland Highway between Kempton and Tunbridge. See North Barker Ecosystems Services African lovegrass report to Department of State Growth 2016 (see Map 1).			
Amsinckia	<i>Amsinckia calycina</i>	Agricultural	Isolated
Amsinckia infestations have been found near Kempton. On-going control is being undertaken by landholders. Eradication remains an appropriate aim.			
Boneseed (WoNS)	<i>Chrysanthemoides monilifera</i>	Environmental	Isolated
Isolated infestations at Levendale, Dysart and Bagdad are under annual control by Landcare staff and landholders (since 2009) (see Map 2).			
Chilean needle grass (WoNS)	<i>Nassella neesiana</i>	Agricultural/ Environmental/ Roadside	None recorded
Isolated infestation off Matzoo Lane Tea Tree (Rekuna) in recent subdivision. Under DPIPWE / landholder annual management (see Map 3).			
Cotton thistle	<i>Onopordum acanthium</i>	Agricultural	Localised
There are localised infestations in the Tunbridge/ Woodbury/ Antill Ponds area as well as smaller areas at York Plains, Jericho and Lower Marshes (see Map 11)			
Elisha's tears	<i>Leycesteria formos</i>	Riparian/ Environmental	Isolated
Reports but no records			
Datura	<i>Datura</i> species	Roadside/ Agricultural	Isolated
Garden plants exist at unknown locations, also reported growing in gravel at Kempton in 2017.			
No record - monitor Lake Dulverton			
Heath species			
Tree heath	<i>Erica aborea</i>	Garden plant	Isolated
Water heath	<i>Erica caffra</i>	Garden plant	Isolated
	<i>Erica holosericea</i>	Garden plant	Isolated
Mouse ear hawkweed	<i>Hieracium pilosella</i>	Roadside/ Environmental	Previously recorded, none known now
Original record from Jan 2001 at St Peters Pass along the Midland Highway (see Map 4).			
Nodding thistle	<i>Carduus nutans</i>	Agricultural	Localised

Localised infestations on properties near Jericho and isolated infestations near Oatlands, Kempton and Tunbridge (see Map 5).			
Common Name	Botanical Name	Type of Weed	Distribution
Opuntoid cacti	<i>Opuntia</i> species (excluding <i>Opuntia ficus-indica</i>)	Environmental	Isolated
Pampas (white, pink & NZ toe toe)	<i>Cortaderia selloana</i> , <i>C. jubata</i> , <i>C. richardii</i>	Environmental/ Agricultural	Isolated
Concerted landholder engagement and eradication effort for over 20 years. New reports during 2017, 2018 with most plants destroyed (see Map 6).			
Ragwort	<i>Senecio jacobaea</i>	Agricultural	Isolated
From time to time reports of single to a few plants, however no established infestations are known to occur in the municipality. Easily mistaken for St John's wort along roadsides especially along the Midland Highway.			
Saffron thistle	<i>Carthamus lanatus</i>	Agricultural	Isolated
There are localised infestations in the Tunbridge, Woodbury and Jericho areas and isolated infestations in the York Plains, Lower Marshes, Melton Mowbray and Kempton areas (see Map 7)			
Serrated tussock	<i>Nassella trichotoma</i>	Agricultural/ Environmental	Isolated
One isolated infestation at Spring Hill scattered across 47 Ha (see Map 8). Landholder implementing annual plan developed by DPIPWE. One roadside plant found in 2019 on Eldon rd.			
Stemless thistle	<i>Onopordum acaulon</i>	Agriculture	Previously recorded, none known now
Old record from 6/12/2002 incorrectly mapped. 2018 recorded scattered plants across approximately 2 acres on neighbouring property. Biannual control by land manager from 2017 onwards is reducing the infestation (see Map 9)			
St John's wort	<i>Hypericum perforatum</i>	Agricultural	Localised
Isolated infestations at five Midland Hwy locations and one along Little Plains road, Woodbury (see Map 10)			
White weed	<i>Cardaria draba</i>	Agricultural/ Roadside	Localised
Since the declaration as a Zone A weed, the distribution has progressed from isolated to localised (and quite extensive), particularly in the Mangalore and Bagdad areas.			

Zone B (containment – principle objective)

Common Name	Botanical Name	Type of Weed	Distribution
African boxthorn (WoNS)	<i>Lycium ferocissimum</i>	Agricultural	Widespread
Localised infestations			
Blackberry (WoNS)	<i>Rubus fruticosus</i> aggregate	Agricultural/ Environmental	Localised
Brooms (WoNS)			
English broom	<i>Cytisus scoparius</i>	Agricultural/ Environmental	Widespread
Montpellier broom	<i>Genista monspessulana</i>	Agricultural/ Environmental	Localised
Californian thistle	<i>Cirsium arvense</i>	Agricultural/ Environmental	Localised
Fennel	<i>Foeniculum vulgare</i>	Agricultural/ Roadside	Widespread
Isolated infestations along roadsides			
Gorse (WoNS)	<i>Ulex europaeus</i>	Agricultural/ Environmental	Widespread
Horehound	<i>Marrubium vulgare</i>	Agricultural	Widespread
Paterson's curse	<i>Echium plantagineum</i>	Agricultural/ Roadside	Localised

Localised infestations in the Mangalore/ Bagdad, Broadmarsh, Melton Mowbray and Lower Marshes areas. Isolated infestations in the Dysart, Jericho and Oatlands areas (see Map 12)			
Slender thistles	<i>Carduus pycnocephalus, C. tenuiflorus</i>	Agricultural	Widespread
Spanish heath	<i>Erica lusitanica</i>	Agricultural/ Environmental	Localised
Localised infestations in the Woodsdale/ Levendale and Runnymede areas (see Map 13)			
Willows (WoNS)	<i>Salix species, excluding S. babylonica, S. x calodendron and S. x reichardtii</i>	Riparian	Localised

Zone A – not yet recorded in Southern Midlands

Common Name	Botanical Name	Type of Weed	Distribution
African feather grass	<i>Pennisetum macrourum</i>	Riparian, roadsides	None recorded
African thistle	<i>Berkbeya rigida</i>	Agricultural/ Environmental	None recorded
Alligator weed (WoNS)	<i>Alternanthera philoxeroides</i>	Aquatic	None recorded
Apple-of-Sodum	<i>Solanum linnaeanum</i>	Agricultural/ Environmental	None recorded
Arrowhead	<i>Sagittaria montevidensis</i>	Aquatic	None recorded
Artichoke thistle	<i>Cynara cardunculus</i>	Agricultural	None recorded
Asparagus weeds (WoNS)			
Ground asparagus	<i>Asparagus aethiopicus</i>	Environmental	None recorded
Climbing asparagus	<i>Asparagus africanus</i>	Environmental	None recorded
Bridal creeper	<i>Asparagus asparagoides</i>	Environmental	None recorded
Western Cape form Western Cape bridal creeper	<i>Asparagus asparagoides</i>	Environmental	None recorded
Bridal veil	<i>Asparagus declinatus</i>	Environmental	None recorded
Climbing asparagus fern	<i>Asparagus plumosus</i>	Environmental	None recorded
Asparagus fern	<i>Asparagus scandens</i>	Environmental	None recorded
Athel pine (WoNS)	<i>Tamarix aphylla</i>	Riparian/ Environmental	None recorded
Bathurst burr	<i>Xanthium spinosum</i>	Agricultural	None recorded
Bear-skin fescue	<i>Festuca gautieri</i>	Agricultural	None recorded
Bifora	<i>Bifora testiculata</i>	Agricultural (feed grain)	None recorded
Flax-leaf broom (WoNS)	<i>Genista linifolia</i>	Agricultural/ Environmental	None recorded
Broomrape	<i>Orobanche species, excluding O. minor and O. cernua var. australiana</i>	Agricultural	None recorded
Burrgrass (innocent weed & spiny burrgrass)	<i>Cenchrus longispinus and C. incertus</i>	Agricultural	None recorded
Cabomba (fanwort) (WoNS)	<i>Cabomba caroliniana</i>	Aquatic	None recorded
Caltrop	<i>Tribulus terrestris</i>	Agricultural	None recorded
Canadian pondweed	<i>Elodea canadensis</i>	Aquatic	None recorded
No record - monitor Lake Dulverton			
Cane needle grass (Alert List)	<i>Nassella hyalina</i>	Agricultural/ Environmental	None recorded

Common Name	Botanical Name	Type of Weed	Distribution
Cape tulip	<i>Moraea</i> species	Agricultural/ Environmental	None recorded
Common crupina	<i>Crupina vulgaris</i>	Agricultural/ Roadside	None recorded
Common heliotrope	<i>Heliotropium europaeum</i>	Agricultural	None recorded
Creeping knapweed	<i>Acroptilon repens</i>	Agricultural (feed grain)	None recorded
Creeping yellowcress (Alert List)	<i>Rorippa sylvestris</i>	Agricultural/ Environmental	None recorded
Crow garlic	<i>Allium vineale</i>	Agricultural/ Roadside	None recorded
Cut-leaf nightshade	<i>Solanum triflorum</i>	Agricultural	None recorded
Darwin's barberry	<i>Berberis darwinii</i>	Riparian/ Agricultural/ Environmental	None recorded
Dodder	<i>Cuscuta</i> species	Environmental	None recorded
Egeria	<i>Egeria densa</i>	Aquatic	None recorded
No record - monitor Lake Dulverton			
Espartillo	<i>Amelichloa caudata</i>	Agricultural/ Environmental	None recorded
False cleavers	<i>Galium spurium</i>	Agricultural (feed grain)	None recorded
False yellowhead	<i>Dittrichia viscosa</i>	Agricultural/ Environmental	None recorded
Feathertop	<i>Pennisetum villosum</i>	Agricultural/ Roadside	None recorded
Floating water chestnut	<i>Trapa</i> species	Aquatic	None recorded
Gamba grass (WoNS)	<i>Andropogon gayanus</i>	Agricultural	None recorded
Giant hogweed	<i>Heracleum mantegazzianum</i>	Environmental	None recorded
Hawkweeds (Alert List)			
Orange hawkweed	<i>Hieracium aurantiacum</i>	Roadside/ Environmental	None recorded
Heather (Alert List)	<i>Calluna vulgaris</i>	Environmental/ Roadside	None recorded
Holly-leaved senecio (Alert List)	<i>Senecio glastifolius</i>	Environmental	None recorded
Hornwort	<i>Ceratophyllum demersum</i>	Aquatic	None recorded
Horsetail (Alert List)	<i>Equisetum</i> species	Agricultural/ Environmental	None recorded
Hydrilla	<i>Hydrilla verticillata</i>	Aquatic	None recorded
Hymenachne (WoNS)	<i>Hymenachne amplexicaulis</i>	Aquatic	None recorded
Japanese knotweed	<i>Fallopia japonica</i>	Environmental/ Riparian	None recorded
Karamu	<i>Coprosma robusta</i>	Environmental/ Riparian	None recorded
Kochia	<i>Bassia scoparia</i>	Agricultural	None recorded
Lagarosiphon (Alert List)	<i>Lagarosiphon major</i>	Aquatic	None recorded
Lantana (WoNS)	<i>Lantana camara</i>	Environmental	None recorded
Lobed needle grass (Alert List)	<i>Nassella charruana</i>	Agricultural	None recorded
Madeira vine (WoNS)	<i>Anredera cordifolia</i>	Environmental	None recorded
Mallee cocksbur	<i>Centaurea eriophora</i>	Agricultural	None recorded
Meadow parsley	<i>Oenanthe pimpinelloides</i>	Agricultural/ Plantations	None recorded

Common Name	Botanical Name	Type of Weed	Distribution
Mediterranean daisy	<i>Urospermum dalechampii</i>	Environmental	None recorded
Mesquite (WoNS)	<i>Prosopis</i> species	Agricultural/ Environmental	None recorded
Mexican feather grass	<i>Nassella tenuissima</i>	Agricultural	None recorded
Miconia (WoNS)	<i>Miconia</i> species	Environmental	None recorded
Mimosa	<i>Mimosa pigra</i>	Riparian/ Agricultural/ Environmental	None recorded
New Zealand sedges	<i>Carex albula</i> , <i>C. buchananii</i> , <i>C. flagellifera</i> and <i>C. testace</i>	Agricultural/ Environmental	None recorded
Onion weed	<i>Asphodelus fistulosus</i>	Agricultural/ Roadside	None recorded
Pampas lily-of-the-valley	<i>Salpichroa origanifolia</i>	Roadsides/ Neglected areas	None recorded
Parkinsonia (WoNS)	<i>Parkinsonia aculeata</i>	Agricultural	None recorded
Parodi	<i>Eleocharis parodi</i>	Aquatic	None recorded
Parrots feather	<i>Myriophyllum aquaticum</i>	Aquatic	None recorded
Pampas lily-of-the-valley	<i>Salpichroa origanifolia</i>	Roadsides/ Neglected areas	
Parkinsonia (WoNS)	<i>Parkinsonia aculeata</i>	Agricultural	
Parodi	<i>Eleocharis parodi</i>	Aquatic	
Parrots feather	<i>Myriophyllum aquaticum</i>	Aquatic	
No record - monitor Lake Dulverton			
Pampas lily-of-the-valley	<i>Salpichroa origanifolia</i>	Roadsides/ Neglected areas	None recorded
Parkinsonia (WoNS)	<i>Parkinsonia aculeata</i>	Agricultural	None recorded
Parodi	<i>Eleocharis parodi</i>	Aquatic	None recorded
Parrots feather	<i>Myriophyllum aquaticum</i>	Aquatic	None recorded
No record - monitor Lake Dulverton			
Parthenium weed (WoNS)	<i>Parthenium hysterophorus</i>	Agricultural	None recorded
Pond apple (WoNS)	<i>Annona glabra</i>	Environmental/ Riparian	None recorded
Prickly acacia (WoNS)	<i>Acacia nilotica</i> ssp. <i>indica</i>	Agricultural/ Environmental	None recorded
Purple nut grass	<i>Cyperus rotundus</i>	Agricultural	None recorded
Rubber vine (WoNS)	<i>Cryptostegia grandiflora</i>	Agriculture/ Environmental/ Riparian	None recorded
Sagittaria (WoNS)	<i>Sagittaria platyphylla</i>	Aquatic	None recorded
Salvinia (WoNS)	<i>Salvinia molesta</i>	Aquatic	None recorded
Senegal tea plant	<i>Gynocoronis spilanthisoides</i>	Aquatic	None recorded
Silver-leaf nightshade	<i>Solanum elaeagnifolium</i>	Agricultural (feed grain)	None recorded
Skeleton weed	<i>Chondrilla juncea</i>	Agricultural	None recorded
Spiny emex	<i>Emex australis</i>	Agricultural	None recorded
Square-stemmed St John's wort	<i>Hypericum tetrapterum</i>	Agricultural	None recorded
Star thistle	<i>Centaurea calcitrapa</i>	Agriculture	None recorded
Stinking mayweed	<i>Anthemis cotula</i>	Agriculture/ Roadside	None recorded

Common Name	Botanical Name	Type of Weed	Distribution
Texas needle grass	<i>Nassella leucotricha</i>	Agricultural	None recorded
Three-horned bedstraw	<i>Galium tricornutum</i>	Agricultural (feed grain)	None recorded
Tumbleweed	<i>Amaranthus albus</i>	Railway/ Agricultural	None recorded
Vipers bugloss	<i>Echium vulgare</i>	Agricultural/ Roadside	None recorded
Water hyacinth	<i>Eichbornia crassipes</i>	Aquatic	None recorded
White Spanish broom	<i>Cytisus multiflorus</i>	Environmental	None recorded
White-edged nightshade	<i>Solanum marginatum</i>	Roadside	None recorded
Wild rice	<i>Zizania</i> species	Aquatic	None recorded
Witch hazel	<i>Striga</i> species	Agricultural	None recorded
Yellow nut grass	<i>Cyperus esculentus</i>	Agricultural	None recorded

APPENDIX 4

Zone A Declared Weed Maps

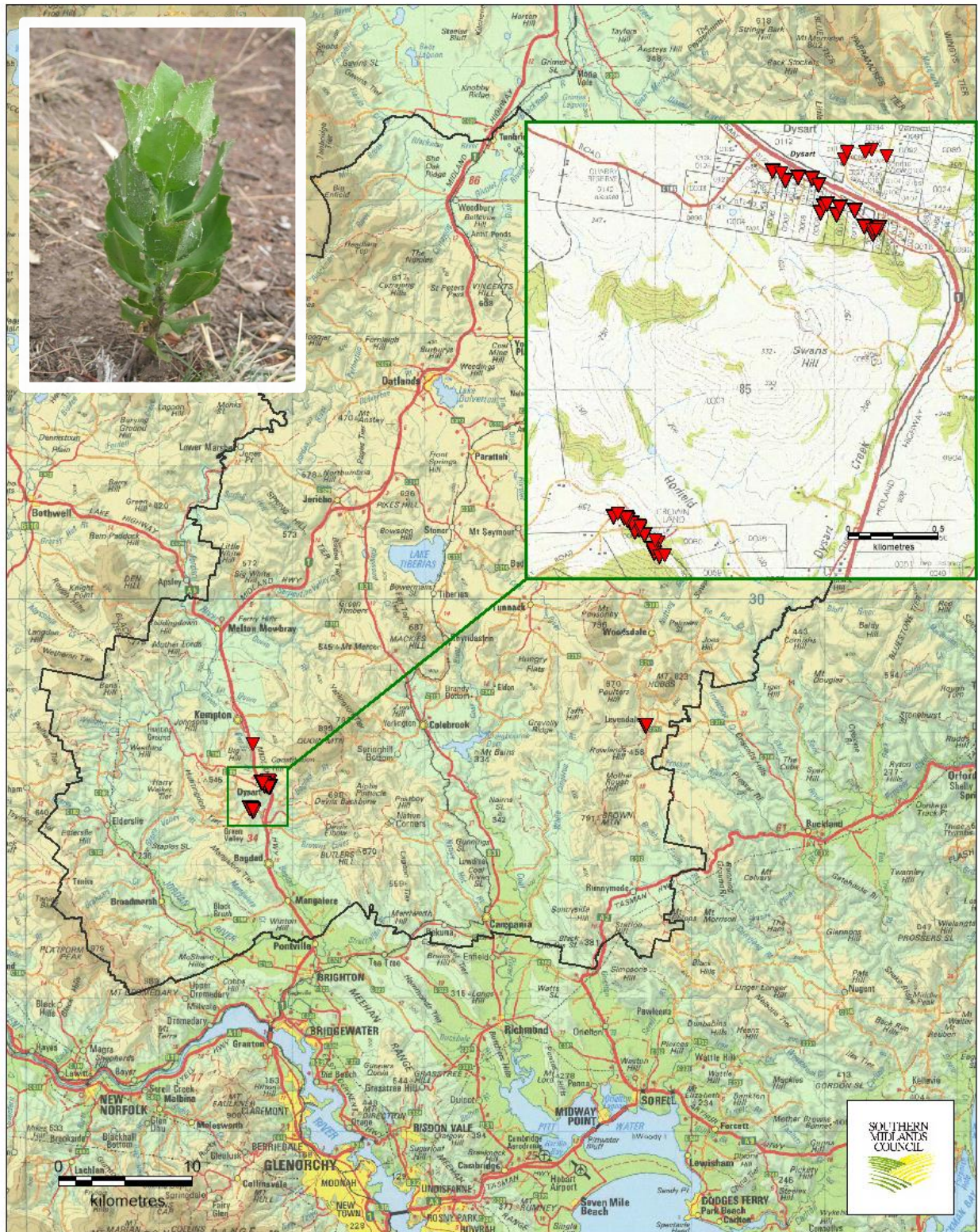
Map 1

African Lovegrass (*Eragrostis curvula*) records June 2018

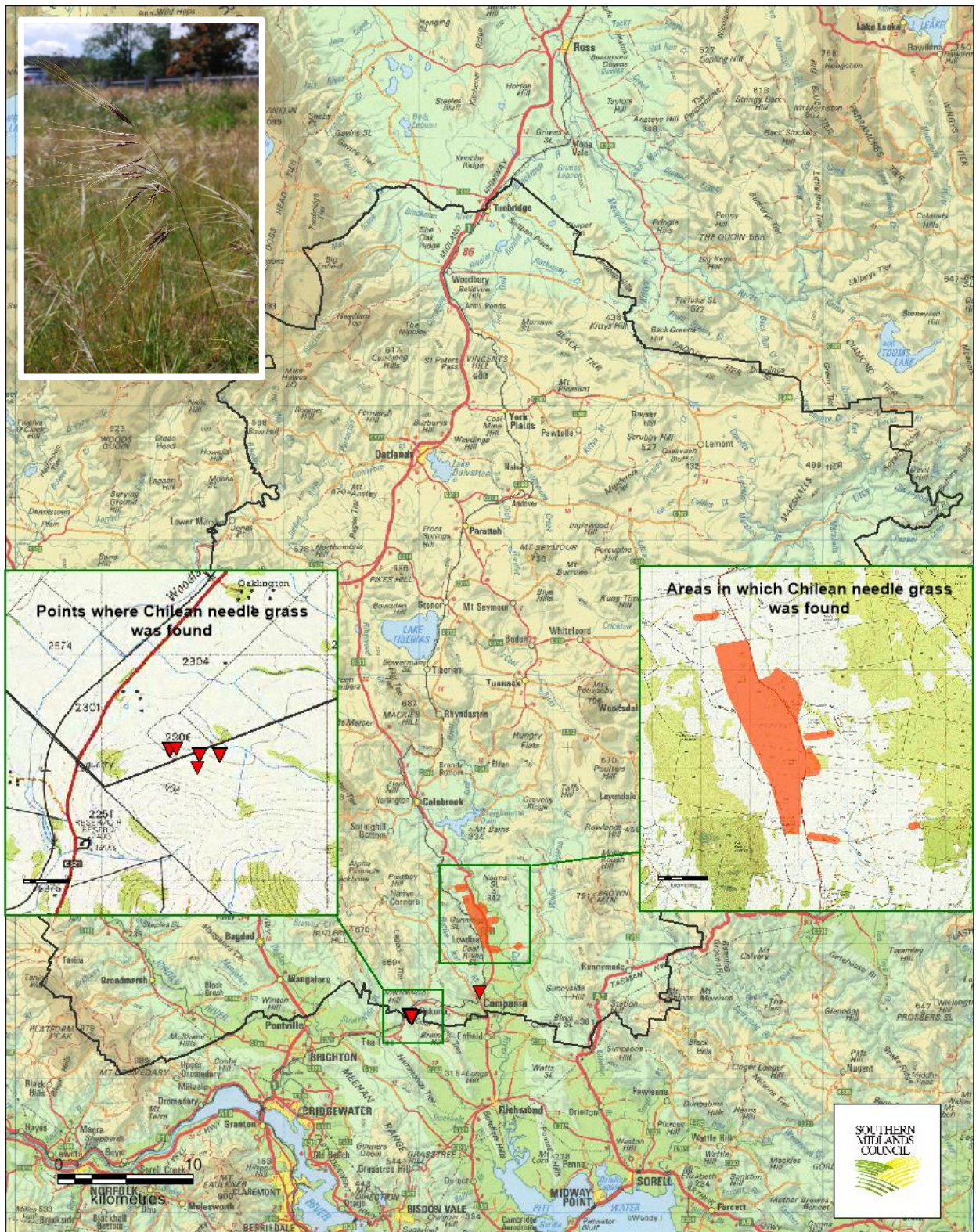


Map 2

Boneseed (*Chrysanthemoides monilifera*) records, November 2019

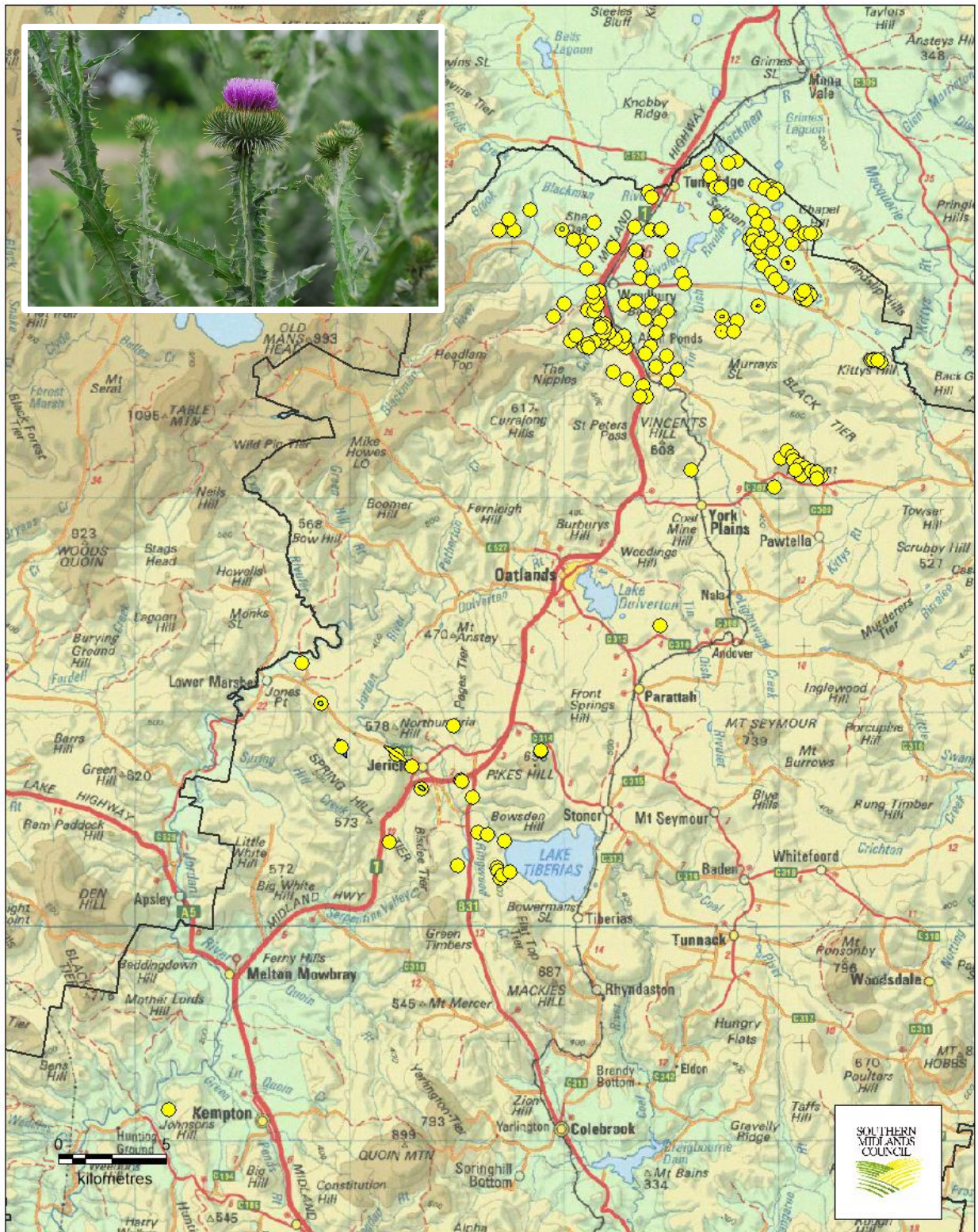


Chilean Needle Grass (*Nassella neesiana*) - November 2019



Map 4

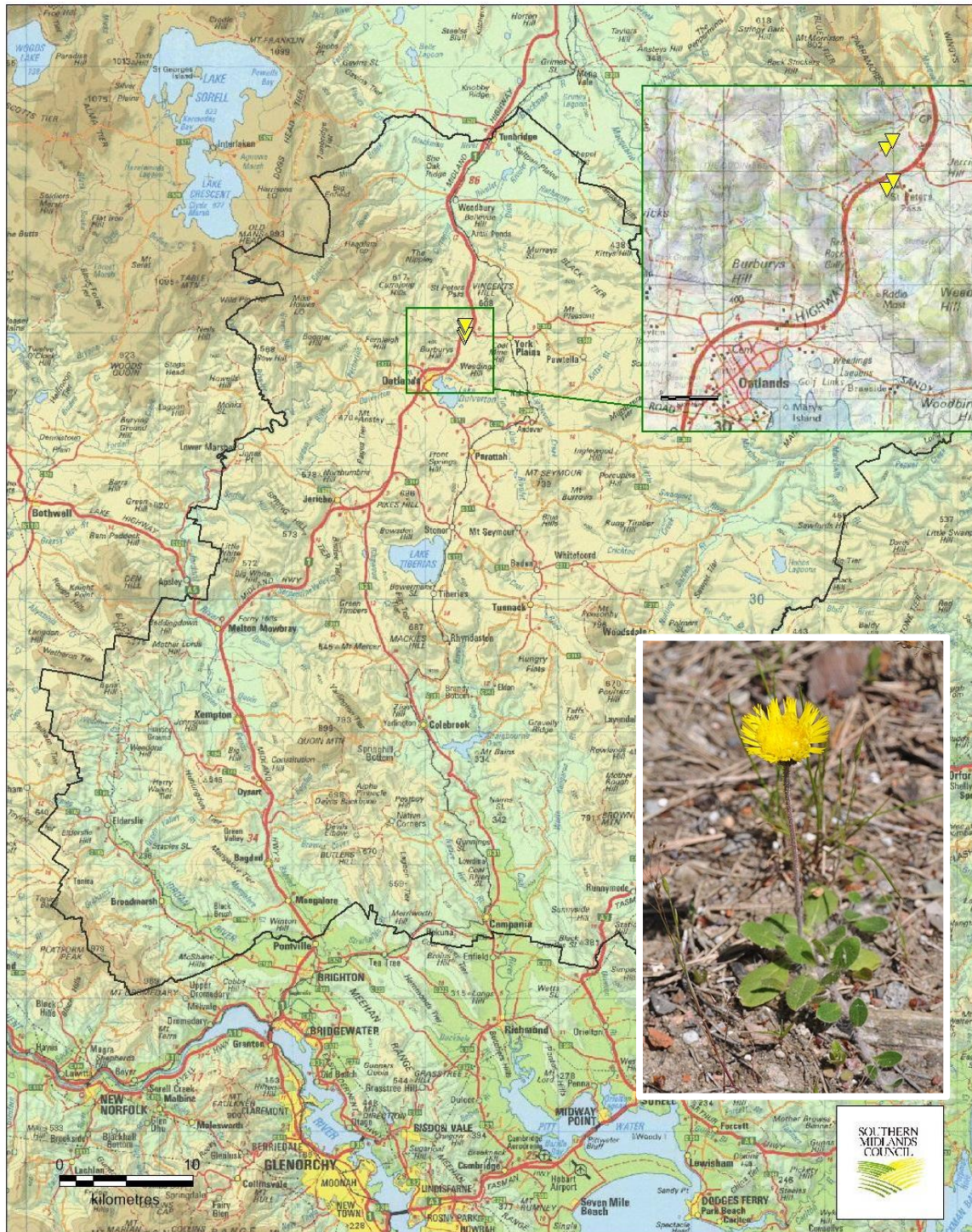
Cotton Thistle (Onopordum sp) records July 2018



Map 5

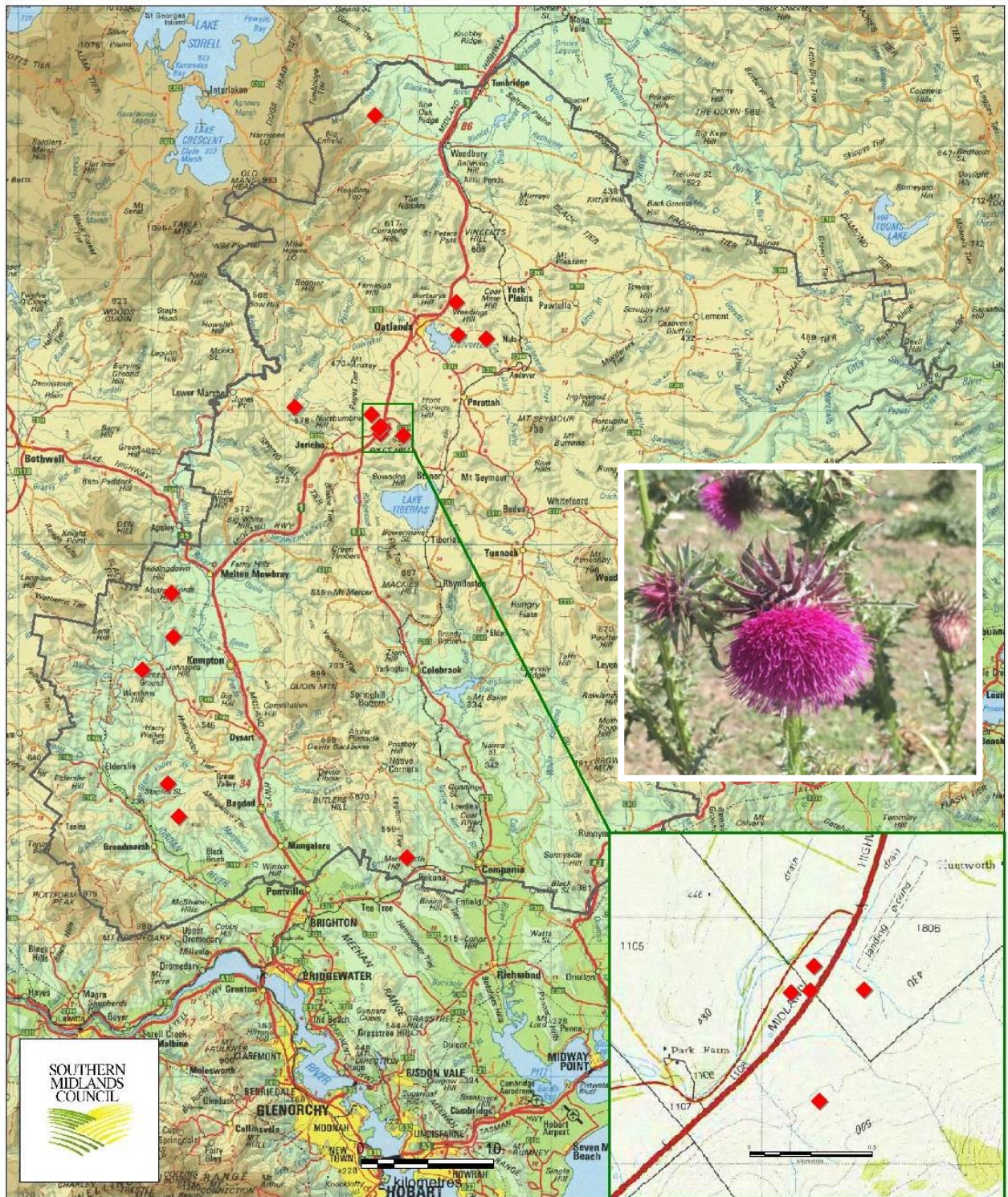
NOTE: 2001 records only, no longer present.

Mouse-ear Hawkweed (*Hieracium pilosella*) as at 2001



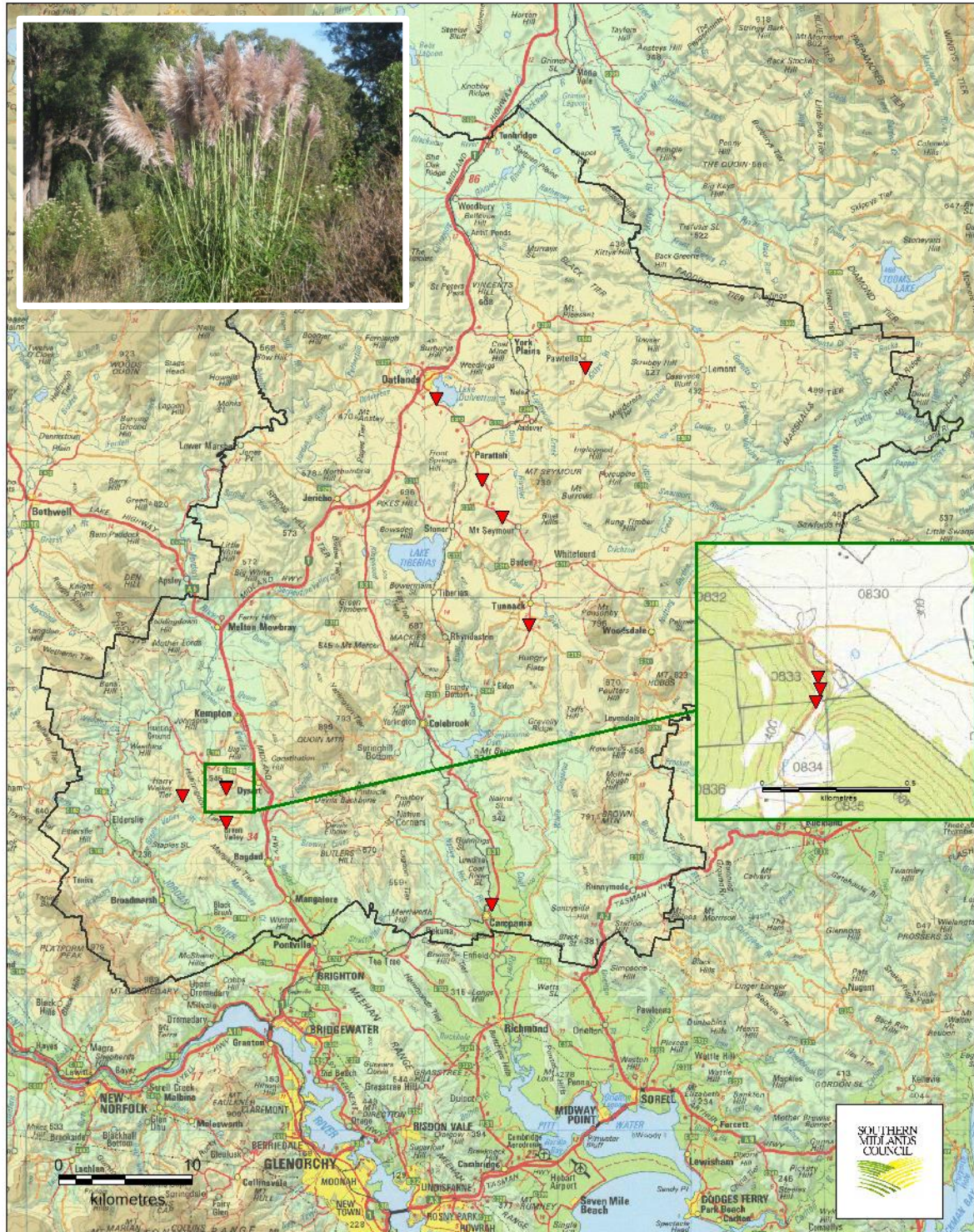
Map 6

Nodding Thistle (*Carduus nutans*) records - April 2018

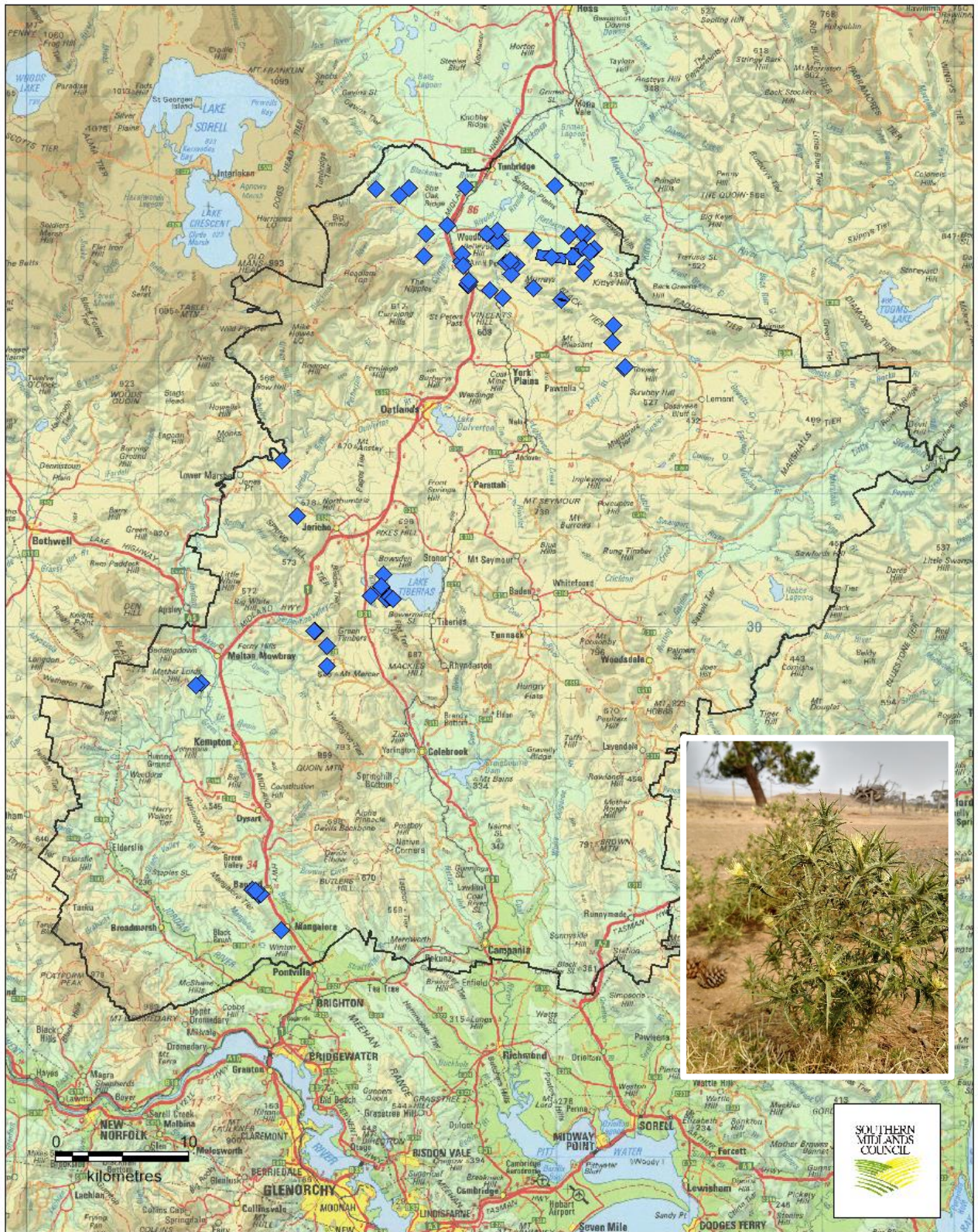


Map 7

Pampas Grass (*Cortaderia* sp) records November 2019

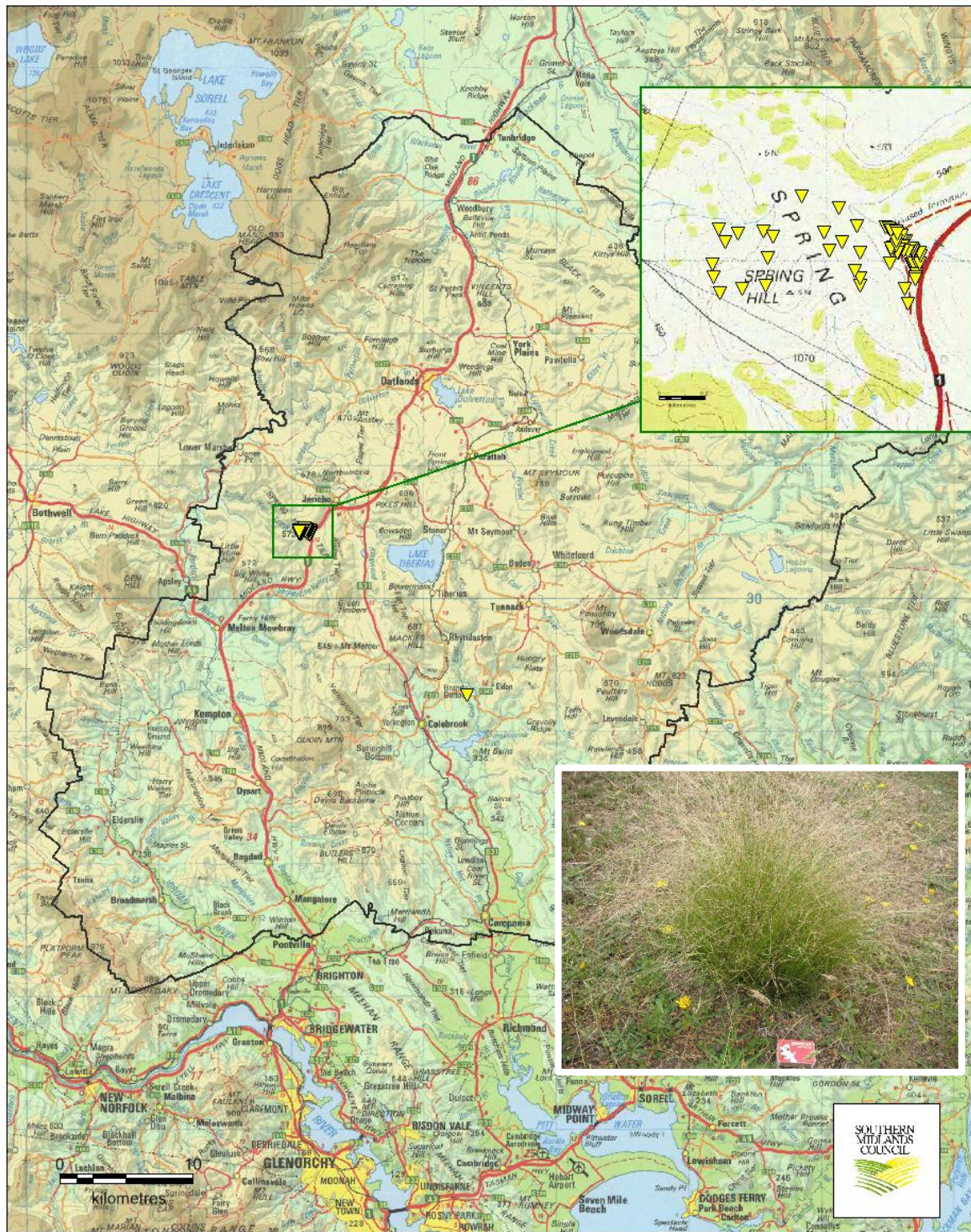


Saffron Thistle (*Onopordum lanatus*) records July 2018



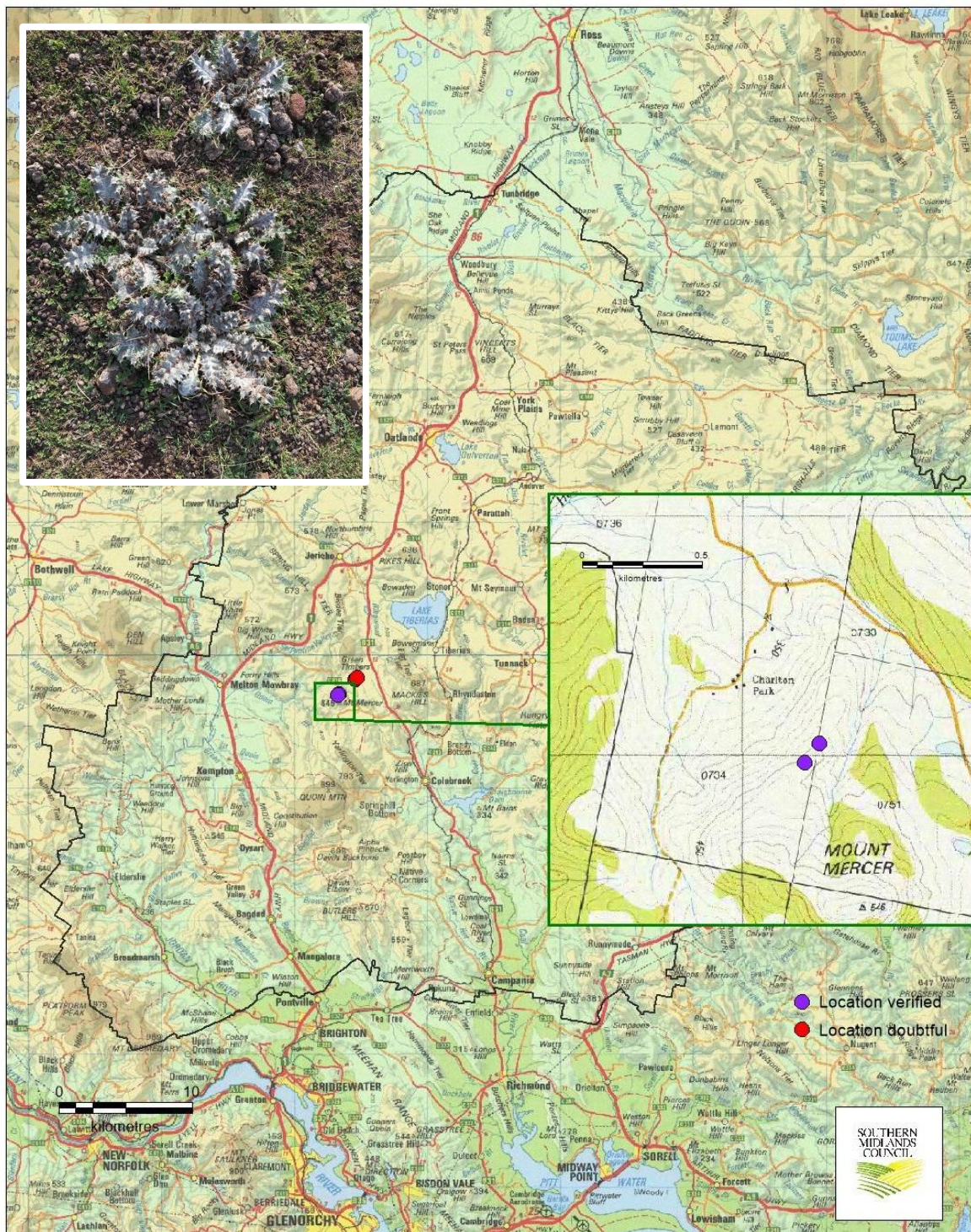
Map 9

Serrated tussock (*Nassella trichotoma*) - November 2019



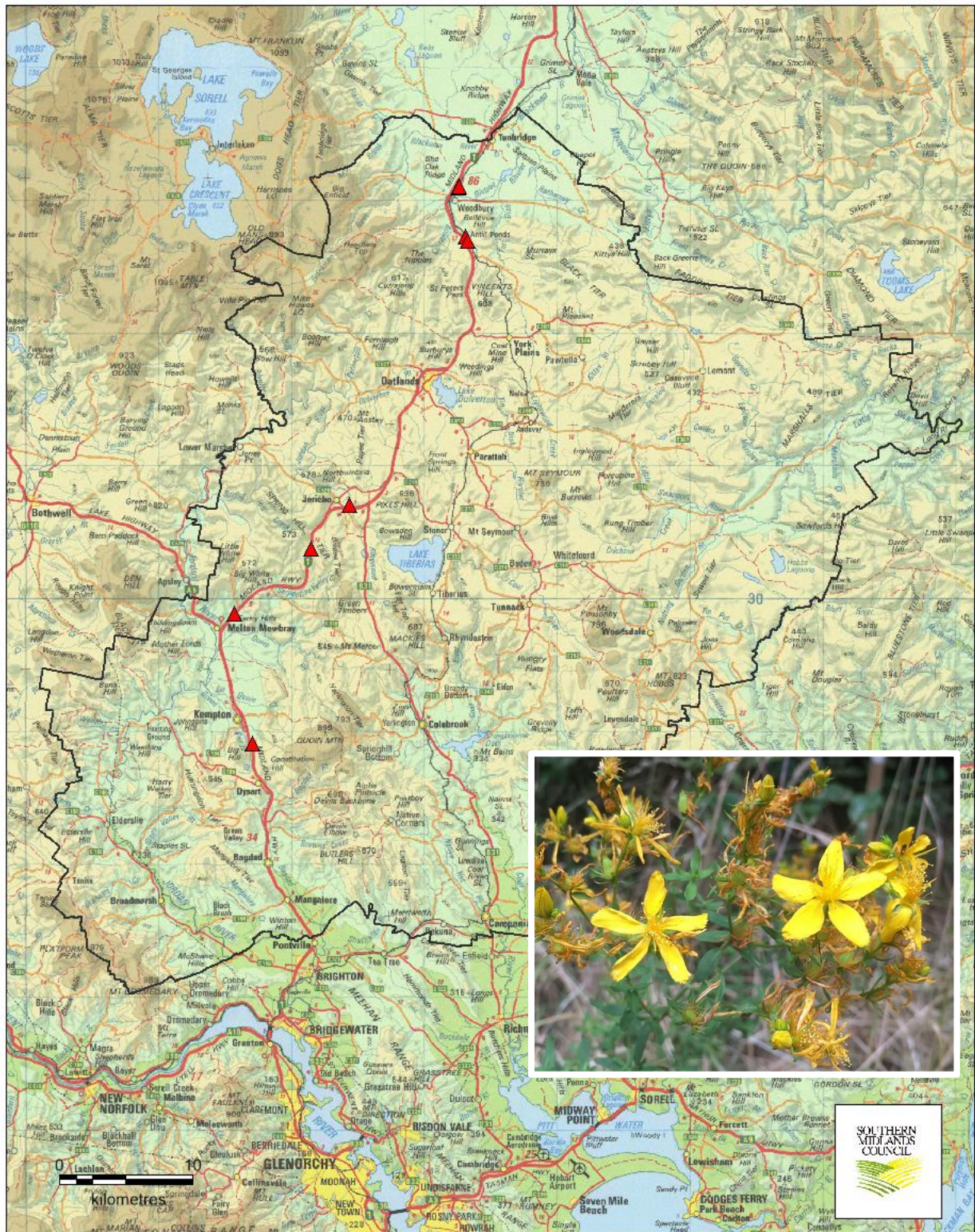
Map 10

Stemless Thistle (*Onopordum acaulon*) records June 2018



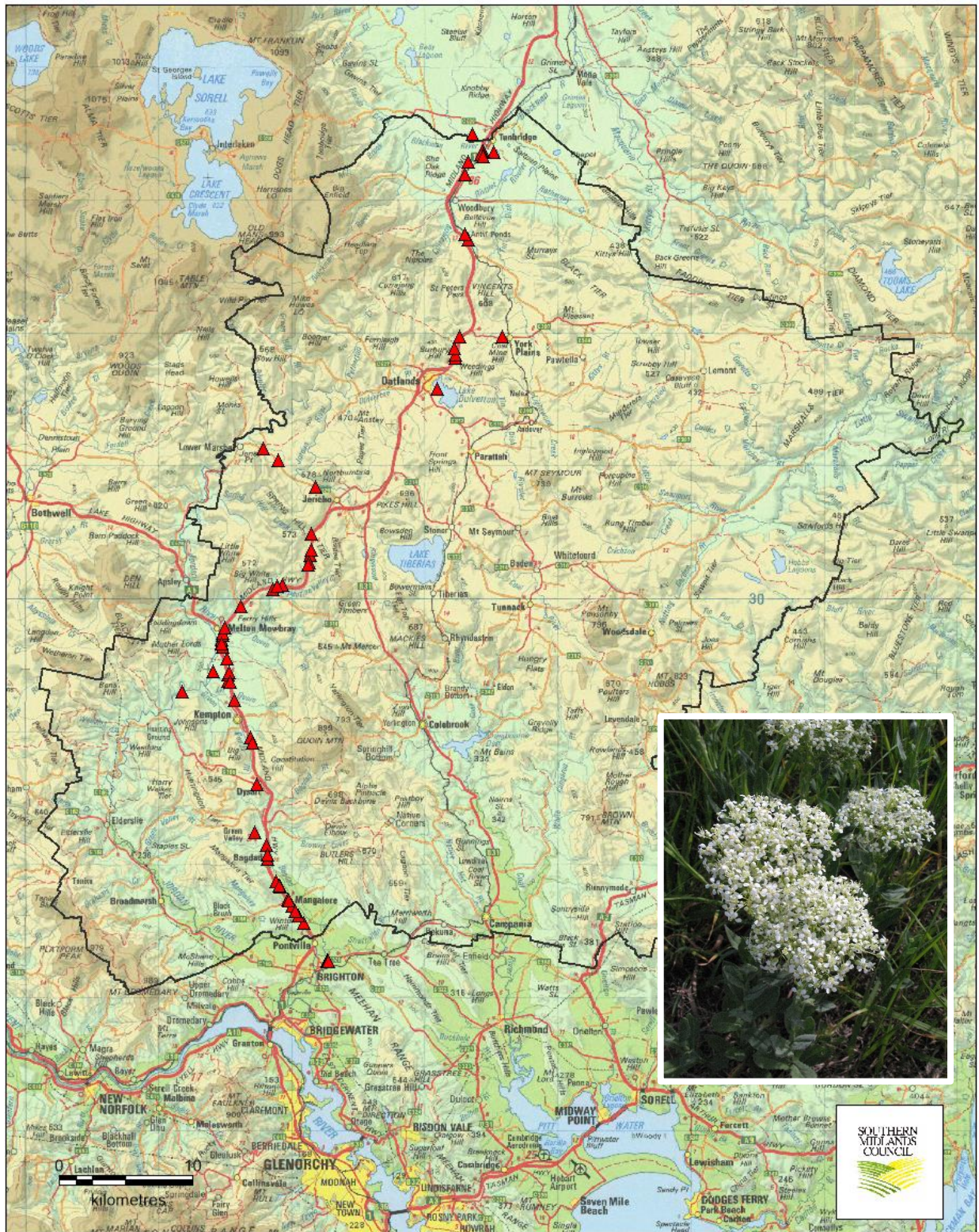
Map 11

St Johns Wort (*Hypericum perforatum*) records - November 2019

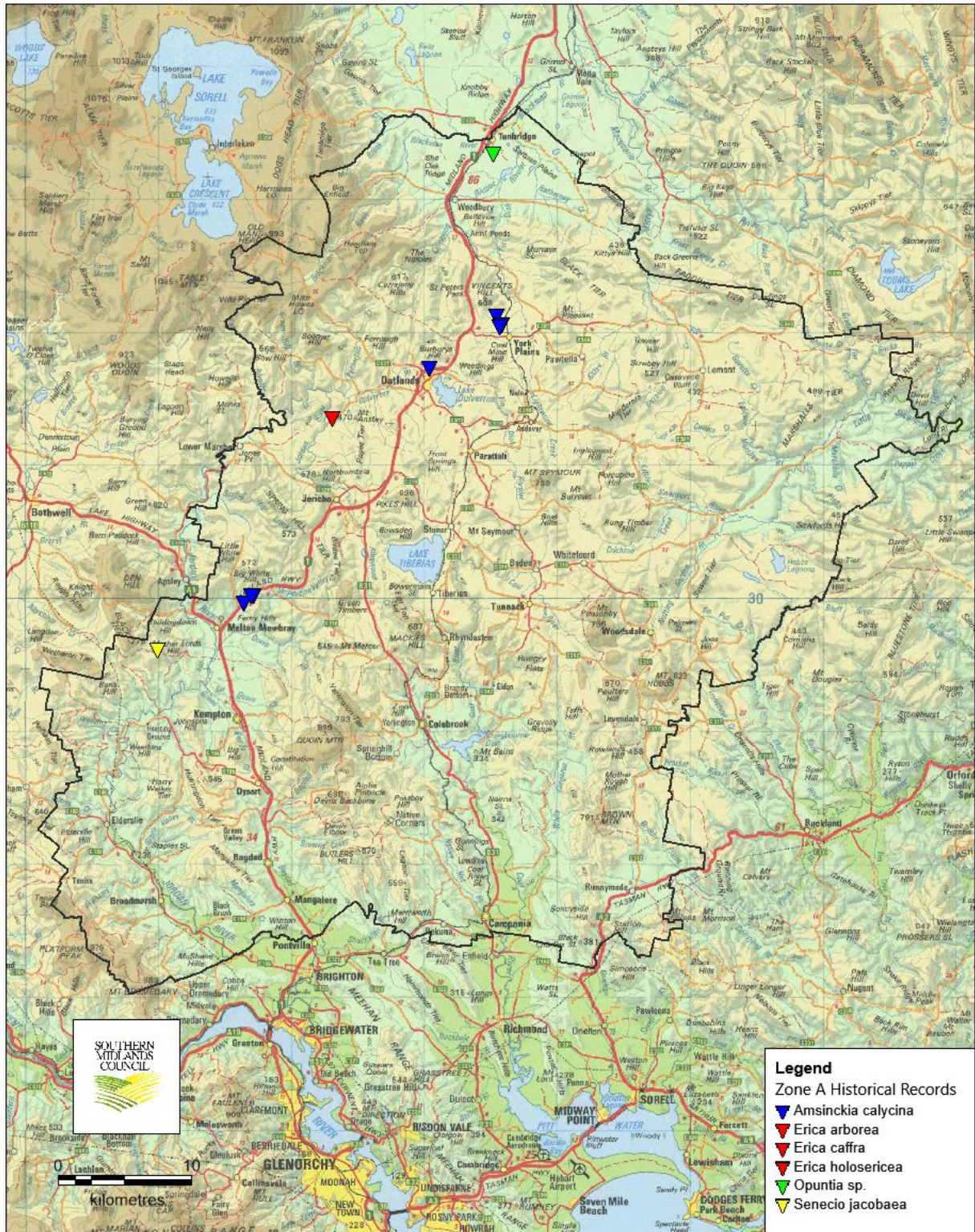


Map 12 (White Weed)

White Weed (*Lepidium draba*) records - November 2019



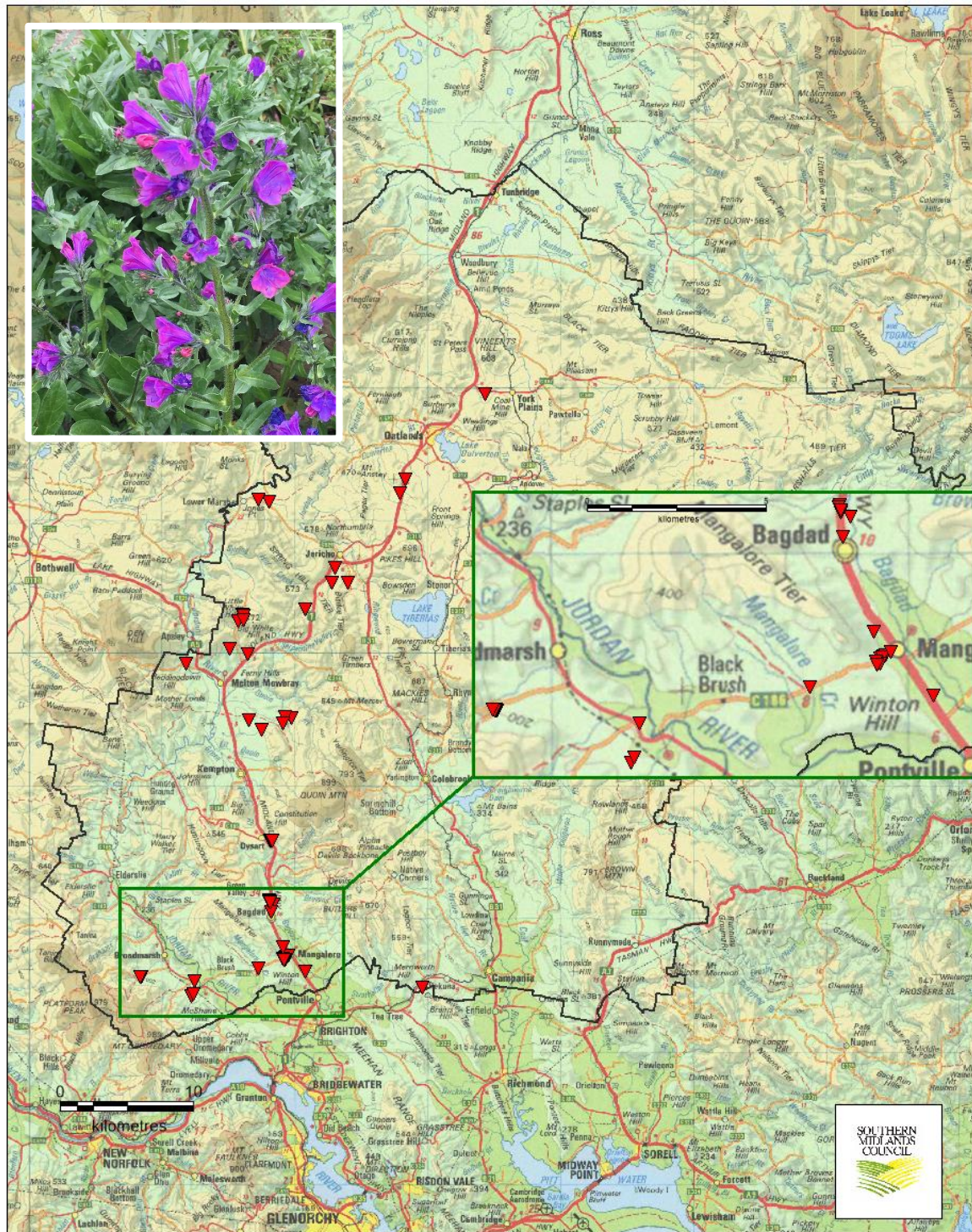
Zone A Historical Records, No Longer Present - November 2019



Zone B Declared Weed Maps

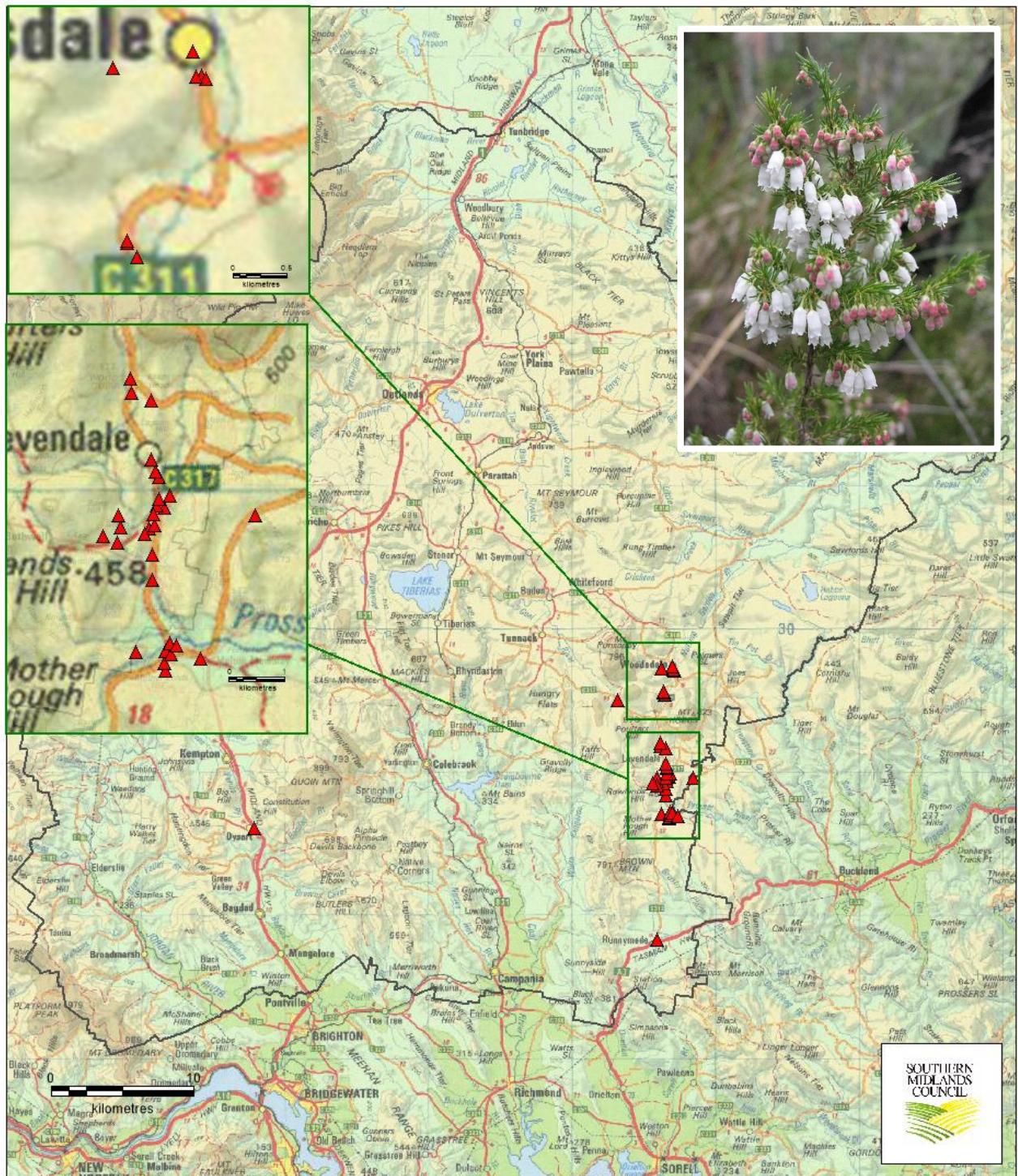
Map 14

Paterson's Curse (*Echium plantagineum*) records November 2019



Map 15

Spanish Heath (*Erica lusitanica*) records - November 2019

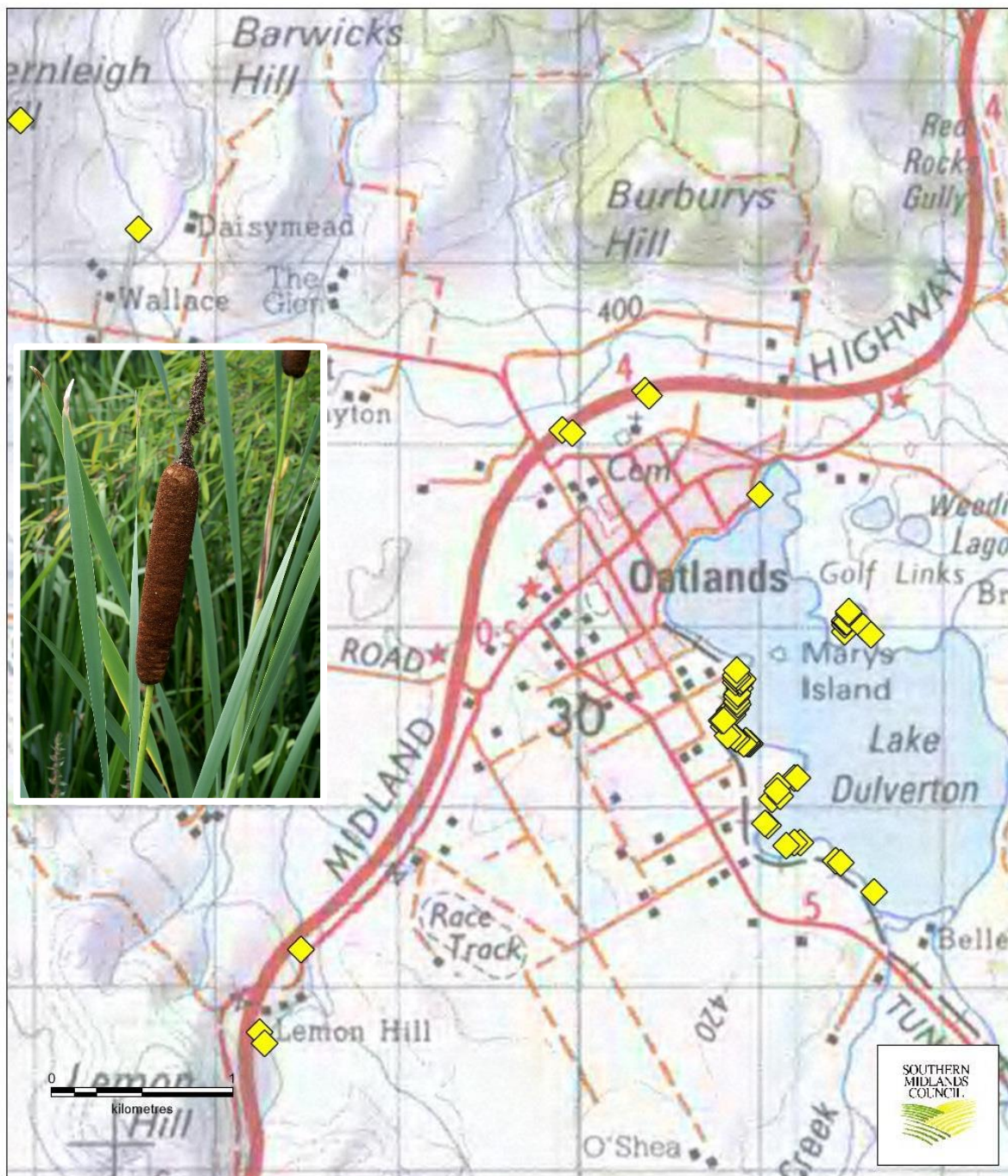


Undeclared Weed Maps

Map 16

Lake Dulverton area

Cumbungi (*Typha latifolia*) records - 20th February 2018



APPENDIX 5

Priority weeds in Southern Midlands

Zone A declared weeds (with history in Southern Midlands)



Left to right above: African lovegrass (*Eragrostis curvula*), Amsinckia (*Amsinckia calycina*), Boneseed (*Chrysanthemoides monilifera*)



Left to right above: Chilean needle grass (*Nasella neesiana*), Cotton thistle (*Onopordum acanthium*), Elisha's tears (*Leycesteria formos*).



Left to right above: Datura (*Datura* species), Tree heath (*Erica aborea*), Water heath (*Erica caffra*)



Left to right above: Mouse ear hawkweed (*Hieracium pilosella*), Nodding thistle (*Carduus nutans*), Opuntia cacti (*Opuntia* species {excluding *Opuntia ficus-indica*}).



Left to right above: Pampas (*Cortaderia jubata*), Ragwort (*Senecio jacobaea*), Saffron thistle (*Carrhamus lanatus*)



Left to right above: Serrated tussock (*Nasella trichotoma*), Stemless thistle (*Onopordum acanlon*), St John's wort (*Hypericum perforatum*).



Above: White weed (*Cardaria draba*)

Zone B declared weeds



Left to right above: African bothorn (*Lycium ferocissimum*), Blackberry (*Rubus fruticosus* aggregate), English broom (*Cytisus scoparius*).



Left to right above: Montpellier broom (*Genista monspessulana*), Californian thistle (*Cirsium arvense*), Fennel (*Foeniculum vulgare*).



Left to right above: Gorse (*Ulex europaeus*), Horehound (*Marrubium vulgare*), Paterson's curse (*Echium plantagineum*).



Left to right above: Slender thistles (*Carduus pycnocephalus*, *C. tenuiflorus*), Spanish heath (*Erica lusitanica*), Willow (pictured *Salix alba*).