Hunter Regional Chinese Violet Management Strategy 2019-2029

Port Stephens Council

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Template 2.8.1

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Abbreviations

Abbreviation	Description
GBD	General Biosecurity Duty
HHRCVMS	Hunter Regional Chinese Violet Management Strategy
LGA	Local Government Area
LMCC	Lake Macquarie City Council
MCC	Maitland City Council
MERI	Monitoring, evaluation, reporting and improvement (Strategy)
MoU	Memorandum of Understanding
CN	City of Newcastle
PSC	Port Stephens Council

1. Introduction

1.1 Background

Eco Logical Australia (ELA) was commissioned by Port Stephens Council to prepare a regional strategy for the management of Chinese violet (*Asystasia gangetica*) in the NSW Hunter Region. The strategy covers four (4) local government areas (LGAs) including Port Stephens Council, City of Newcastle, Lake Macquarie City Council and Maitland City Council. This strategy contains detailed background information on the ecology, threats and distribution of Chinese violet, and context including a cost/benefit analysis, relevant legislation and control methods. The strategy also includes a 1-year operational plan, 5-year delivery plan, a 10-year strategic approach, and a stakeholder and community engagement plan. A monitoring, evaluation, reporting and improvement (MERI) plan inclusive of NSW Biosecurity Information System (BIS) data input is also included.

The plan aims to prioritise and address the outlying scattered infestations through a continuous control and enforcement program. This will be done in conjunction with capacity building and assistance to those affected properties in the core infestation areas to eradicate the weed from the region, consistent with best practice in biological invasion management (Wittenberg & Cock 2001) and the Hunter Regional Strategic Weed Management Plan 2017 – 2022 (HRSWMP).

1.2 Purpose and scope of plan

The purpose of this Hunter Regional Chinese Violet Management Strategy (HRCVMS) is to:

- Establish the current distribution of Chinese violet in the Hunter region.
- Identify the key actions and a timeline to achieve the containment and localised eradication of Chinese violet from the region.
- Outline the business case for a regional containment program for Chinese violet in 10 years and incorporate localised eradications in a 5-year period.
- Provide a stakeholder and community engagement plan and communication plan.
- Provide a framework for monitoring, evaluation, reporting and improvement.

2. Ecology and biology of Chinese Violet

2.1 Ecology and biology

Chinese violet is native to India, the Malay Peninsula and Africa. It is a major weed overseas, notably in Malaysia, Indonesia and the Pacific Islands, where it infests crops such as rubber, coffee and palm oil plantations.

Chinese violet is a perennial mat-forming creeper capable of producing roots from every leaf node when growing prostrate or / and scrambling to three metres high when supported by other vegetation (Skinner 2015). Reproduction of Chinese violet occurs asexually through leaf nodes where the lower stems behave as stolons. Fragments of stems may contribute to the spread of new populations. Chinese violet can also reproduce sexually, and seed can be dispersed short distances via exploding follicles. The species can also be dispersed /spread more widely by human activities (Skinner 2015).

2.2 Threats and impacts

Chinese Violet has proven to be strongly competitive and highly invasive, presenting a major threat to agricultural production and biodiversity across eastern Australia. Its national significance was recognised through its listing on the National Alert list of Environmental Weeds in 2000, which includes species that have the potential to become a significant threat to biodiversity if they are not managed (http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/alert.html). In 2003 the Australian Bureau of Rural Sciences listed Chinese violet in the top 10 National priority sleeper weeds to be eradicated (http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/alert.html).

The effective asexual and sexual reproductive strategies contribute to the species' successful invasiveness. New populations generally are quick to mature and produce seed prolifically (Skinner 2015). Once established, the population can smother ground plants, compete for soil nutrients, displaces native plant species and reduces habitat for native plants and animals, reducing overall biodiversity (Pritchard, G. *et al.*, 2003).

2.3 Distribution

Currently in NSW the plant has established within a number of localities in the Lower Hunter Region, with a small number of incursions at Hat Head and Uki on the Mid North and North Coasts, and one at Tascott on the Central Coast. Within the Hunter Region the plant is restricted to an area of approximately 300 km^2.

The plant is currently distributed across four Local Government Areas (LGAs) within the Hunter Region. It is found predominantly in the Port Stephens (84% sites) and Newcastle (15% sites) LGA's with fewer sites identified within Lake Macquarie (four sites) and two sites within Maitland LGA (**Figure 1**). Infestations can be as little as a few plants and 10 m^2 in area, although are on average 100 m^2 with the largest site being 13 ha. The total infestation of Chinese Violet across all of the four LGA's covers an area of approximately 89 ha across the 608 known sites.

Infestations of Chinese violet in the affected LGAs have been categorised as being either a high (outlier locations), medium (marginal locations) or low priority (core locations) for eradication, treatment and removal.

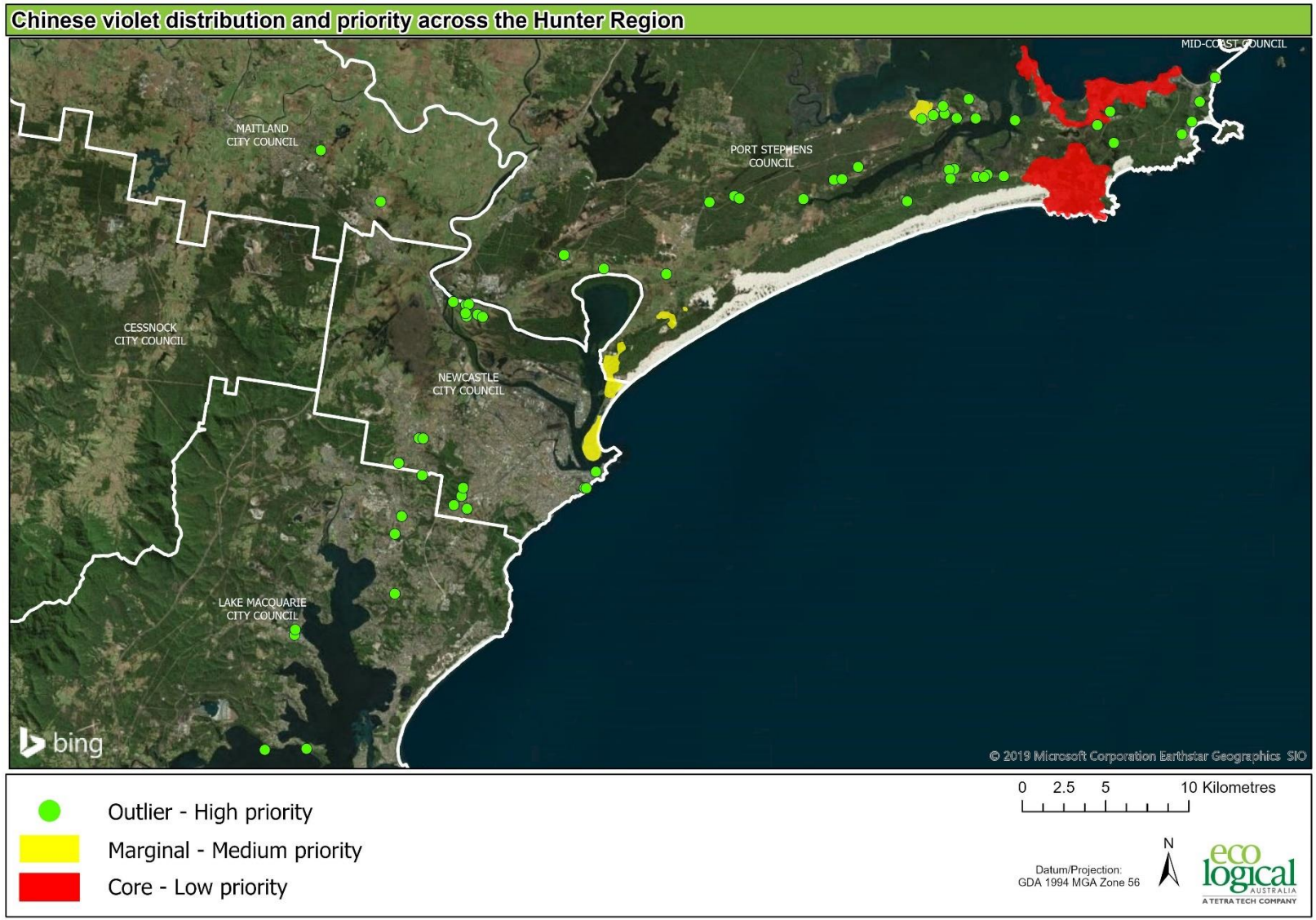


Figure 1. Regional distribution and prioritised target areas of Chinese Violet across the Lower Hunter Region

2.4 Core Locations – Low priority

Core locations in the HRCVMS are defined by the number of sites within close proximity to each other. Generally greater than 60 sites within 4 km radius. The core sites for Chinese Violet are typically illustrated by multiple adjoining properties with plants present across common boundaries. There are two (2) core locations within the plan (**Table 1**). These are Anna Bay and surrounds (Boat Harbour, Fishermans Bay, One Mile Beach) and Nelson Bay and surrounds (Corlette and Salamander Bay). There are individual properties in the core areas that contain Chinese Violet and this accounts for 75% of the sites within the HRCVMS.

Table 1: Core Chinese violet infestation locations

Location	Number properties
Anna Bay Area	272
Nelson bay Area	108
Total	380

2.5 Marginal Locations – Medium priority

Marginal infestations generally do not immediately adjoin other infestation areas and occur where there are less than 6 sites within an area of 1-2 ha. There are 169 known marginal infestation locations, currently comprising four (4) identified marginal / medium priority areas in the HRCVMS. These areas are located in the localities of Stockton (77 sites), Tanilba Bay (46 sites), Fern Bay (30 sites) and Fullerton Cove (16 sites) (**Figure 1**).

Note: The Stockton locality is potentially considered as a Core location based on the current infestation criteria, although upon the treatment of some outlier infestations in the Stockton area (through regional funding and this plan), this locality will then be positioned into the Medium priority category.

2.6 Outlier Locations – High priority

Outlier locations generally have individual sites remote (greater than 500m) from any other infested site (**Figure 1**). The outlier sites are scattered throughout all four LGA's. There are currently 59 outlier sites within the plan, however it is recognised that this number may vary with localised eradications and new incursions being possible. By LGA these sites number Port Stephens Council 47; City of Newcastle six (6), Lake Macquarie City Council four (4) and two (2) in Maitland Council area.

3. Context and issues

3.1 Cost benefit analysis

There are a range of direct and indirect costs and benefits associated with the development of the HRCVMS.

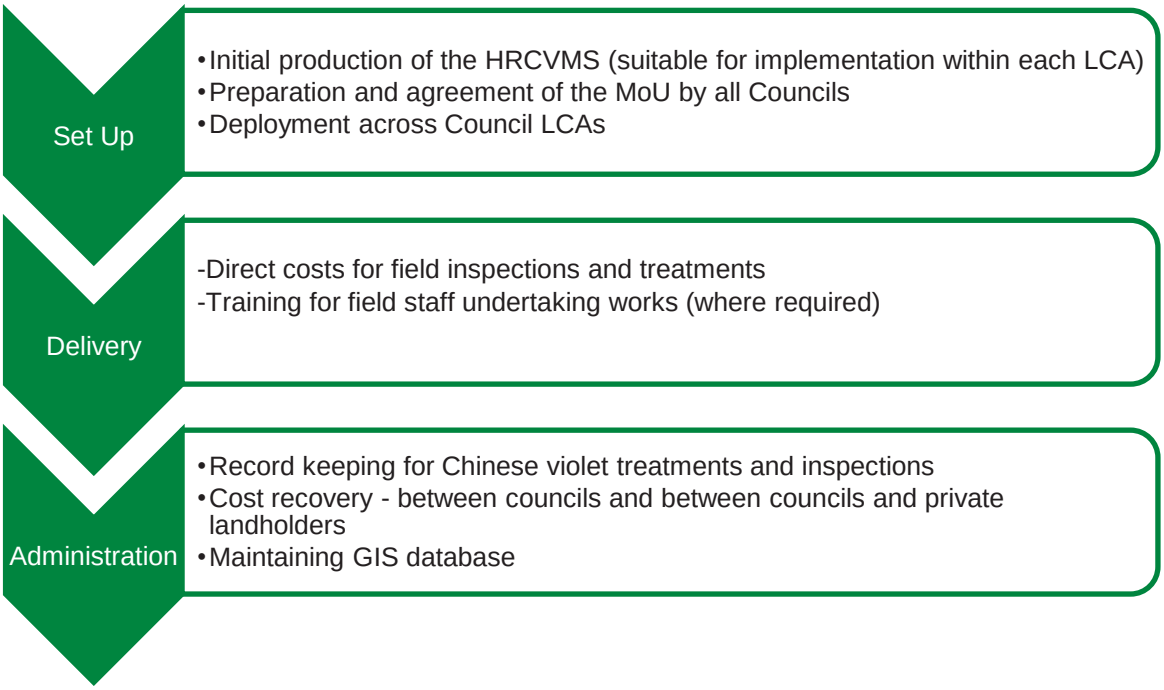
The direct benefits of developing the HRCVMS include:

- ✓ Consistent / strategic approach to Chinese violet management across all LCAs
- ✓ Provision of an eradication time-line
- ✓ Cooperation between staff counterparts in each Council
- ✓ Community education and engagement
- ✓ Standardised data recording for inspections and treatments - via BIS
- ✓ Better overall outcome for the treatment of the species
- ✓ Improved overall confidence for the eventual eradication of Chinese violet.

The indirect benefits of developing the HRCVMS include:

- ✓ Time saved on developing individual strategy documents for each LCA
- ✓ Clarity of expectations for all affected LCAs
- ✓ Public / community support

Costs associated with developing, delivering and administering the HRCVMS are:



3.1.1 Maintaining the status quo

To assess the merits of implementing the HRCVMS, it is also necessary to consider the risks of not developing the HRCVMS (**Table 2**).

Table 2: Maintaining the status quo

Risk	Potential impact(s)
Inconsistent weed management approach across LCAs	• No-net-loss or increase in Chinese violet infestations • Spread of Chinese violet from one LCA to a neighbouring LCA (creating a resource and management burden)
Ad-hoc weed management	• Likely inability to eradicate the species from region
Resource burden to	• Inequity across groups (LCAs) • Variable weed management standards and available materials
Variable dissemination of information and cooperation between LCAs	• Delayed information flow between strategic stakeholder organisations • Limitations on the actual distribution and control methods for the species

3.1.2 Benefit of 10-year strategy

- Cost of eradication would blow-out if not controlled while infestation is still relatively minor.
- Cost to conservation and other land uses if allowed to spread?
- Increase in conservation value?
- Value in improving council reserves for biodiversity offsets / Stewardship sites?

Table 3: Hunter Regional Chinese Violet Management Strategy project timeline

Chinese Violet	Year									
Key Project Milestones	1	2	3	4	5	6	7	8	9	10
Stakeholder engagement plan, MoU agreement / signoff	■									
Year 1 implementation of eradication of outlier infestations	■									
Year 2 implementation of eradication of outlier infestations		■								
Year 3 implementation of eradication of outlier infestations			■							
Ongoing landholder surveillance (both private and council, Crown, NPWS, etc.)	■	■	■	■	■	■	■	■	■	■
Annual monitoring and project reporting	■	■	■	■	■	■	■	■	■	■
Year 3 evaluation of eradication of the outlier infestations (carry out updated density and distribution mapping)			■							
Implementation of year 4 to 10 management (eradication) of Marginal and Core infestations				■	■	■	■	■	■	■
Year 5 assessment of density and distribution mapping					■					
Program midway evalation completed					■					
Year 10 density and distribution mapping										■
Year 10 evalution completed										■

3.2 Legislation

3.2.1 Federal legislation

Chinese violet is listed in the Federal Government's *Alert List for Environmental Weeds* in 2001. All subspecies of Chinese violet (*Asystasia gangetica*) are prohibited imports and cannot be imported into

Australia. The inclusion of this species on the Alert List for Environmental Weeds makes this species a target for eradication.

3.2.2 New South Wales legislation

Chinese violet is listed as a **Regional Priority Weed** within the Hunter Regional Weed Strategic Management Plan with the objective of **ERADICATION**. ERADICATION in this context is defined:

"*To permanently remove a weed species and its propagules from an area such that there is little or no likelihood of re-invasion occurring*".

Under the NSW Biosecurity Act 2015, Chinese violet has a **Control Order** in force which "*establishes one or more control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Control Orders are issued for managing weeds under approved eradication programs and last for five years (or can be renewed for longer-term eradication programs)*." Further to this the following outcomes and responses are required to achieve the Control Order objective.

Outcomes to demonstrate compliance with the GBD	Strategic response in the region
• The plant is eradicated from the land and the land kept free of the plant. • Land managers mitigate the risk of new weeds being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land.	• Destruction of all infestations, aiming at local eradication where feasible. • Detailed surveillance and mapping to locate all infestations. • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/ or hygiene protocols. • Monitor progress towards eradication.

"The Hunter Regional Strategic Weed Management Plan 2017-2022 describes the duty of land managers in relation to Chinese violet. They (land mangers) *"should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found*."

The Hunter Region Chinese violet Strategy provides the framework and direction to provide a legal, logical and considered approach to meeting the Biosecurity Duty.

3.3 Control

3.3.1 Methods and hygiene

The current best practice management for the control of Chinese Violet has been developed, following control trials undertaken by NSW Department of Primary Industries, and implemented at numerous sites by Port Stephens Council and its contractors.

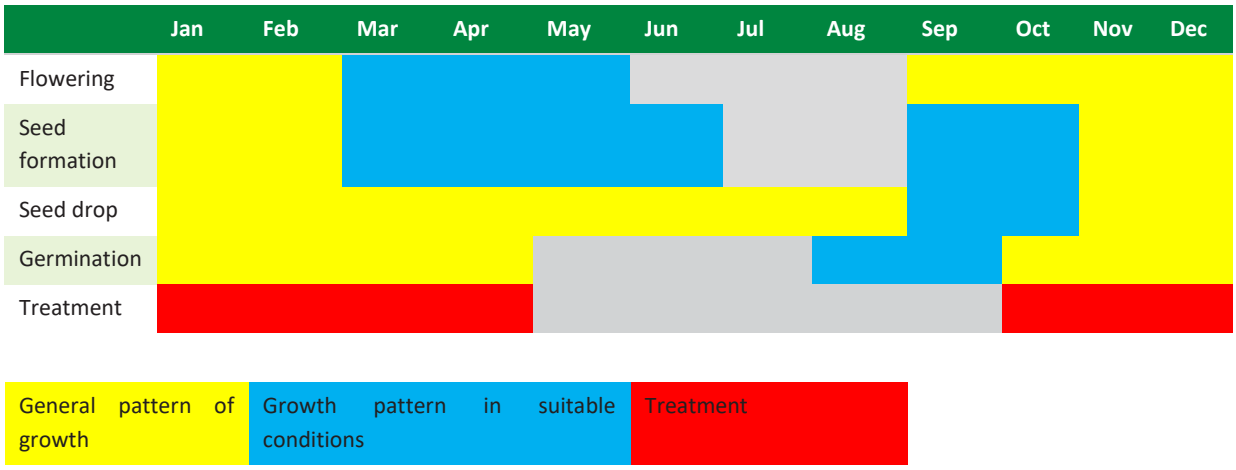
Methods for control have also been supplied by NSW Weed Control Handbook (NSW DPI, 2018) (**Table 4**).

Table 4: Chinese violet control methods

Permit	Chemical and concentration	Rate	Comments
PER13678	MCPA 340 g/L + Dicamba 80 g/L Kamba® M	100 mL per 15 L of water per 150 sq. m. (1 L /10 m2)	Spot spray application. Apply to actively growing weeds before seed set on the plants.
None	Non-chemical option	N/A	Seedlings and small plants can be manually removed.

3.3.2 Frequency and schedule

The frequency and schedule of control should be informed by the plant's growth calendar and seasonal effectiveness of herbicide. Treatment should occur four times annually between October and April for core and marginal infestations.



Chinese violet can flower and fruit (seed production) all year round when conditions are ideal in tropical and sub-tropical climates. In temperate coastal NSW, winter generally causes dormancy with occasional frost damage, although, during the warmer months, rapid growth follows germination and continues during and after flowering and seed production.

In warmer tropical climates, the plant growth may be continuous particularly where conditions are moist following rainfall (DEH 2003 - https://www.environment.gov.au/biodiversity/invasive/weeds/publications/guidelines/alert/pubs/a-gangetica.pdf).

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4. The 5-year strategy

4.1 Eradicate (High Priority) Outlier infestations in the Hunter Region - Immediate priority

The immediate priority action of the plan is to focus on eradication of outlying infestations (**Figure 1**) **within 3 to 5 years**. These infestations will receive intensive management through regionally funded inspections and treatments for sites on all tenures including National Parks and Wildlife Services (NPWS), Crown Land, Council managed land (PSC, CN, LMCC and MCC), and on private land. These infestations are deemed eradicable in the immediate future (**Table 5**).

Note: The relevant council should invoice PSC where an inspection of a known infestation demonstrates no Chinese violet has been found. Conversely, upon inspection, where Chinese violet is present at a known infestation, the council officer is to treat the infestation, and seek to recover costs from the land owner / manager or bear the cost if present on council owned / managed lands.

Further to this, PSC can authorise payments to each LCA after each LCA provides evidence that every outlier site has been treated four (4) times per year. To supplement this and provide a detailed record of inspections and treatments, LLS is to provide PSC with a quarterly BIS readout for all outlying sites. This will allow PSC surety to authorise or withhold payments as required.

This allows each LCA the flexibility to ensure treatment in whatever way they desire. This will rely on maintenance of the existing sites and the division of fees equally across these sites (e.g. a nominal fee per site). Where new sites are added in any given quarter, the nominal fee will need to be reduced accordingly or the regional funding increased. Currently there are ~60 outlying sites and $30,000/year for on ground work, equating to $125 per inspection.

Table 5: High priority eradication

Priority	Goal	Objective	Target
High	**Eradication** - To completely exhaust soil seed bank by preventing seed set within this zone by controlling every plant through an intensive management program. Ensure new seed is not set, and new infestations are not occurring through deliberate human introduction.	Continually **treat** and **eradicate** Chinese Violet at **all known** locations.	A total of **four** treatments/inspections to be carried out **annually**, between **October and April** at regular intervals for each outlying infestation. **Treat all outlier infestations four (4) times annually by 2021.**
		Conduct regular **inspections** on privately owned sites, ensure stakeholder compliance and control.	Ensure **stakeholder compliance** and control.
		Raise awareness to affected and non-affected property owners through **targeted inspections**, **education** and **advertising**.	**Ensure compliance** on privately owned properties is followed through with by property owners.

4.2 Eradicate (Medium Priority) marginal infestations in the Hunter Region - Short-term priority

The short-term priority action of this plan is to eradicate marginal infestations **within 5 years** (**Table 6**). The marginal infestations will be the focus of efforts by Port Stephens Council and City of Newcastle. These infestations must be contained, and an inspection, treatment, and education program will be the focus here, delivered by the responsible LGA in line with the Biosecurity Act 2015 and the HRSWMP. Chinese violet is not widely distributed here, and isolated groups of infestations are eradicable in the second phase of the plan. However, regional funding for outlying infestations will allow the relevant councils to increase their focus in this area and drive these sites towards early eradication. Regional funding for the outliers will facilitate increased marginal site management through freeing up resources the relevant council was previously spending in the outliers.

Table 6: Medium priority eradication

Priority	Goal	Objective	Target
Medium	**Work towards eradication** - To **reduce distribution** and **density**, and ensure new seed is not set, and new infestations are **not occurring** through deliberate **human introduction**.	Conduct **regular treatments** on **council managed** sites.	Conduct a total of **four** treatment programs on **Council** controlled sites between **October** and **April**. **Treat all marginal infestations four (4) times annually by 2025.**
		Conduct regular **inspections** on privately owned sites, ensure stakeholder compliance and control.	Ensure **stakeholder compliance** and control. **Inspections will coincide with the four (4) annual treatments.**
		Raise awareness to affected and non-affected property owners through **targeted inspections** and **advertising**.	**Ensure compliance** on privately owned properties is followed through with by property owners.

5. The 10-year strategy

5.1 Contain core (Low Priority) infestations in the Hunter Region - Long-term priority

The long-term priority of this plan is to contain core infestations and prevent any spread out to zones that are unaffected by Chinese violet in **10+ years** (**Table 7**). This will contribute to the goal of eventually eradicating all core infestations. Further planning will be required to assist the implementation of core infestation eradications, which will be based on outputs of monitoring outlier and marginal infestations.

The core sites will be the subject of an eradication plan which will require additional funding to be leveraged. Focus will be the responsibility of Port Stephens Council and City of Newcastle, where it will continue treatment and inspection programs aimed at containment while an eradication plan for these three core areas is developed and funded. These infestations must be contained, and an education program will also be a primary focus. These infestations are in the Port Stephens suburbs of Boat Harbour, Anna Bay, One Mile Beach, Fisherman's Bay and others. The plant is widely distributed throughout this zone. Additionally, the weed is widespread in and around the Newcastle suburb of Stockton.

Table 7: Low priority eradication

Priority	Goal	Objective	Target
Low	**Containment** – Contain infestations while an **eradication plan** for the core is **developed and funded**. To **protect** significant environmental and Primary Industry **assets**, **preventing spread** out of and within the zone to sites that are unaffected by Chinese violet.	Undertake scheduled treatments on Port Stephens Council controlled land to reduce plant population prior to seeding.	Treat council managed sites twice annually to contain infestations within this area ensuring assets remain protected.
		Ensure stakeholders within this zone remain engaged and vigilant in control of the weed.	Raise awareness to affected and non-affected property owners through targeted advertising.
		Undertake scheduled **inspections** on **private land** to ensure plant population is **controlled prior** to seeding.	PSC will be aiming for 4 inspections per year.
	Planning – Ongoing work towards funding and developing an eradication plan for the core infestation areas.	Undertake **planning** for total **eradication** within **core** infestation areas.	Include outputs from **monitoring** of treatment of outlier and marginal areas to **inform planning** of treatment in core areas.

6. Stakeholder & Community Engagement Plan

A comprehensive stakeholder and community engagement plan is required to implement the HRCVMS. As many infestations are located on private land, community engagement is crucial to achieving eradication of Chinese violet. Community-based social marketing (CBSM) has been identified as an effective community strategy. CBSM involves direct contact with people and is carried out at the community level.

Community engagement will encourage active involvement and behavioural changes. Volunteer activities (e.g. Bushcare groups) can contribute to a positive return on investment.

6.1.1 Survey results

A survey was undertaken by the Department of Primary Industries in 2018 to assess community attitudes and knowledge of Chinese Violet in the PSC LGA.

Results from the survey showed attitudes and education may benefit from stakeholder and community engagement and education (**Figure 2**).

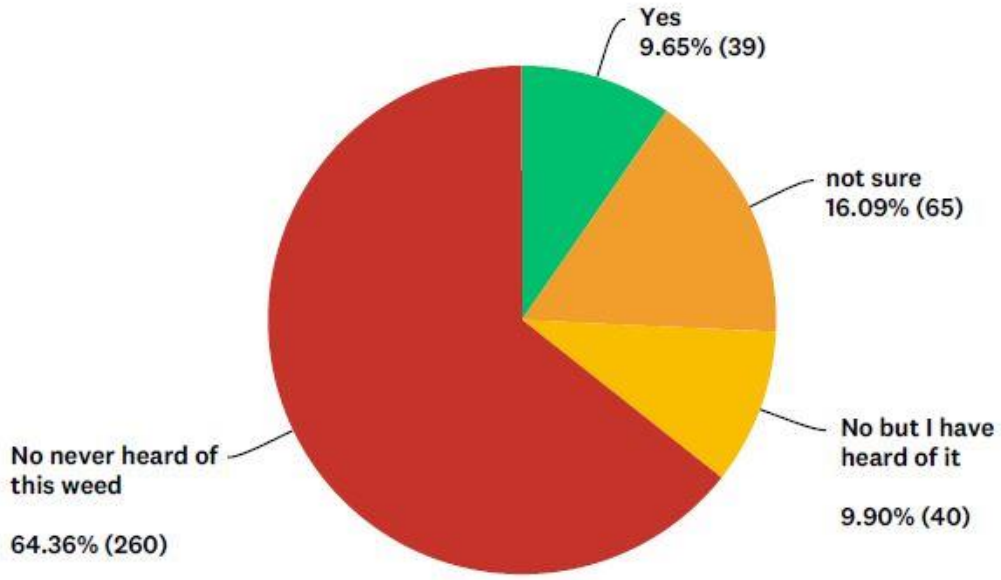

Figure 2. Results from survey participants asked if they know how to identify Chinese violet.

6.2 Plan objectives

The objectives of the stakeholder and community engagement plan are to:

- Educate stakeholders (particularly private landholders and the general community) about Chinese violet, the management project and management actions.
- Maximise stakeholder and community engagement.
- Maximise private landholder compliance.

- Maximise involvement in community to assist in identifying infestations and undertake control on private property.

6.3 Project partners and key stakeholders

The key project partners and key stakeholders have been identified. Project partners will assist in the delivery of the strategy and community engagement plan.

Primary stakeholders will be the targeted audience for engagement.

6.3.1 Primary project partners

The primary project partners include:

- Adjacent, impacted Councils (City of Newcastle, Lake Macquarie City Council and Maitland Council).
- NSW Department of Planning, Industry and Environment.
- NSW National Parks and Wildlife Service.
- Hunter Local Land Services.
- Hunter Regional Weed Committee / Hunter Weeds Technical Team.

Communication relevant to project partners is primarily about funding structure and the operation method of the planned eradication of the outlier infestations by Port Stephens Council staff.

6.3.2 Primary stakeholders

The primary stakeholders to be targeted include:

- Private landholders in the affected areas.
- Landcare and Bushcare groups in the affected areas.
- Local gardening groups and plant groups (e.g. Australian Native Plants Society), botanic gardens (e.g. Hunter Region Botanic Gardens), nurseries (e.g. Tilligerry Habitat, Hunter Indigenous Plants,) etc.
- Local private landscaping and bush regeneration businesses (e.g. Worrimi Green Team, Trees in Newcastle, BARRC, Toolijooa, Litoria, etc.)

6.4 Engagement techniques for primary project partners

Table 8: Engagement techniques – primary project partners

Activity	Stakeholders involved	Tools/actions	Key messages/actions	Who is responsible	Timeframe
Initial Workshop/Meeting	• Councils • All other primary project partners	Hold an initial workshop/meeting to communicate the plans to local councils and other project partners.	• Ensure all parties understand funding structure • Encourage collaboration	Council Environment / Invasive species / Biosecurity Officers	Prior to starting work
Information material	• Councils • All other primary project partners	Compile and distribution information material to project partners.	• Encourage compliance • Encourage contribution of Chinese Violet distribution data	Council Environment / Invasive species / Biosecurity Officers	• Prior to starting work • Annual reports
Ongoing dialogue, collaboration and reporting	• Councils • All other primary project partners		Encourage ongoing involvement and engagement from all councils and other project partners	Council Environment Officers, PWS staff if working in National Parks	• Ongoing throughout lifespan of project • Annual meetings

6.5 Engagement techniques for primary stakeholders

Community engagement practises can cover five broad levels of engagement: informing, consulting, involving, collaborating and empowering.

The most relevant practises of engagement to this plan are informing, involving and collaborating.

Table 9: Engagement techniques – primary project stakeholders

Activity	Stakeholders involved	Level of engagement	Tools/actions	Key messages/actions	Who is responsible	Timeframe
Presence at relevant events	Private landholders	• Inform • Involve	• Select community events in the Hunter region (e.g. Lake Macquarie Smart Living Festival) • Assign experience Officer to attend event to disseminate information and material	• Encourage compliance • Encourage contribution of distribution data	Council Environment / Invasive species / Biosecurity Officers	• Prior to starting work on high priority areas on private property • During operational phase of plan
Community forum	Private landholders	• Inform • Involve	• Identify areas where access to private land may be an issue • Organise community forum • Set at times suitable for the community. Advertise widely. • Provide opportunity for residents to follow up with Officers. • Hold a barbeque to thank attendees	• Encourage compliance • Encourage contribution of Chinese Violet distribution data	Council Environment / Invasive species / Biosecurity Officers	Prior to starting work on high priority areas on private property
Working bee (e.g. Mambo wetlands - Community bush	• Private landholders • Landcare/Bushcare groups • Gardening groups	• Inform • Involve	• Facilitate working bees in infestations, advertise widely in local media and social media. • Support Bushcare groups currently working in areas with Chinese violet	• Encourage involvement •	Council Environment / Invasive species / Biosecurity Officers, PWS staff if working in National Parks	

Activity	Stakeholders involved	Level of engagement	Tools/actions	Key messages/actions	Who is responsible	Timeframe
regeneration workshop)			• Hold a barbeque to thank attendees • Invite local media			
Educational and survey material	All members of the public	• Involve • Inform • Collaborate	• Provide survey material to provide residents with an opportunity to report infestations on their property. See example given in Figure 3. • Provide information material to inform residents about physical and chemical control options.			Prior to starting work
Social media marketing	All members of the public	• Inform	• Include educational material and promote events on social media. Events can be advertised prior, or outcomes of events can be promoted.	• Encourage compliance • Encourage contribution of distribution data • Encourage involvement	All participating Councils social media teams	Throughout life of project

Six Mile Creek Catchment Cats Claw Creeper Vine Survey

Please complete this survey advising if you have Cats Claw Creeper vine on your property within the Six Mile Creek catchment.

Name *

First | Last

Address *

Address Line 1

Address Line 2

City | State / Province / Region | Postal / Zip Code

Phone * | **Email**

Lot on PLan

Do you have Cats Claw Creeper vine on you property?

- (•) Yes I have Cats Claw Creeper
- ( ) No I don't have Cats Claw Creeper
- ( ) I'm not sure if I have Cats Claw Creeeper

Comments or Questions

Privacy

PRIVACY STATEMENT: In providing any personal information, please note that you are agreeing to the possible transfer of your information outside Australia via the internet under s33 of the Information Privacy Act 2009. If for any reason you are unable to agree to these terms, please contact Council on 1300 307 800 to discuss alternate arrangements. Thank you for taking the time to provide your feedback.

Figure 3. Example of community survey for weeds

6.6 Project partner capacity development

Local government areas adjacent to Port Stephens Council will be engaged as primary project partners to assist in delivery of the project, as per a specifically developed MOU for the HRCVMS. Port Stephens Council through LLS and HRWC funding will provide assistance, via reimbursement for inspections where land managers are compliant in ensuring no Chinese violet is found on their property.

All councils involved in the project need to be aware of the funding structure and operation method of the planned eradication of the outlier infestations by Port Stephens Council staff.

6.7 Engagement achievements

Engagement achievements should be evaluated to measure success and allow an adaptive approach.

Evaluation of success of engagement activities can include:

- Have objectives been met?
- Assessment of who attends events.
- Were the key stakeholders engaged?
- Evaluation of the activities: what was the response? Were there any positive or negative outcomes?

Results of this evaluation should be included in the annual report and subject to adaptive management.

6.8 Barriers to engagement

Differing motivations for involvement - The motivation of the stakeholder and organisation to enter into dialogue may be different. Understanding this difference and attempting to bridge the gap through appropriate accommodation is a key step in building meaningful relations.

https://www.fundacionseres.org/lists/informes/attachments/1118/stakeholder%20engagement.pdf

The following issues, alone or in combination, can represent material and significant risk to the building of trust between an organisation and stakeholders:

- The engagement process lacks a clear purpose.
- Participants have unrealistic goals and are inflexible and unwilling to compromise.
- There are differences in philosophies and ways of working.
- There is a lack of communication both between stakeholders engaged and about the stakeholder discussions to outsiders.
- Participants have hidden agendas.
- There is an overall lack of ‘know-how’ and ‘know-who’.

7. Monitoring, Evaluation, Reporting and Improvement Strategy

7.1 Monitoring

Monitoring, evaluation, reporting and improvement (MERI) strategies are a key part of a successful management strategy (**Figure 4**; COA 2009). MERI allows the success and failures of management to be quantified and evaluated which can be reported and incorporated into adaptive management and program improvement to achieve positive environmental outcomes and return on investment.

Measurable goals provide a criterion which results of monitoring can be evaluated against. Satisfaction of the criteria will demonstrate the methods success or failure and provide a basis for improvement.

Chinese violet treatment data will be entered into the Biosecurity Information System (BIS) by respective local government Biosecurity Officer.

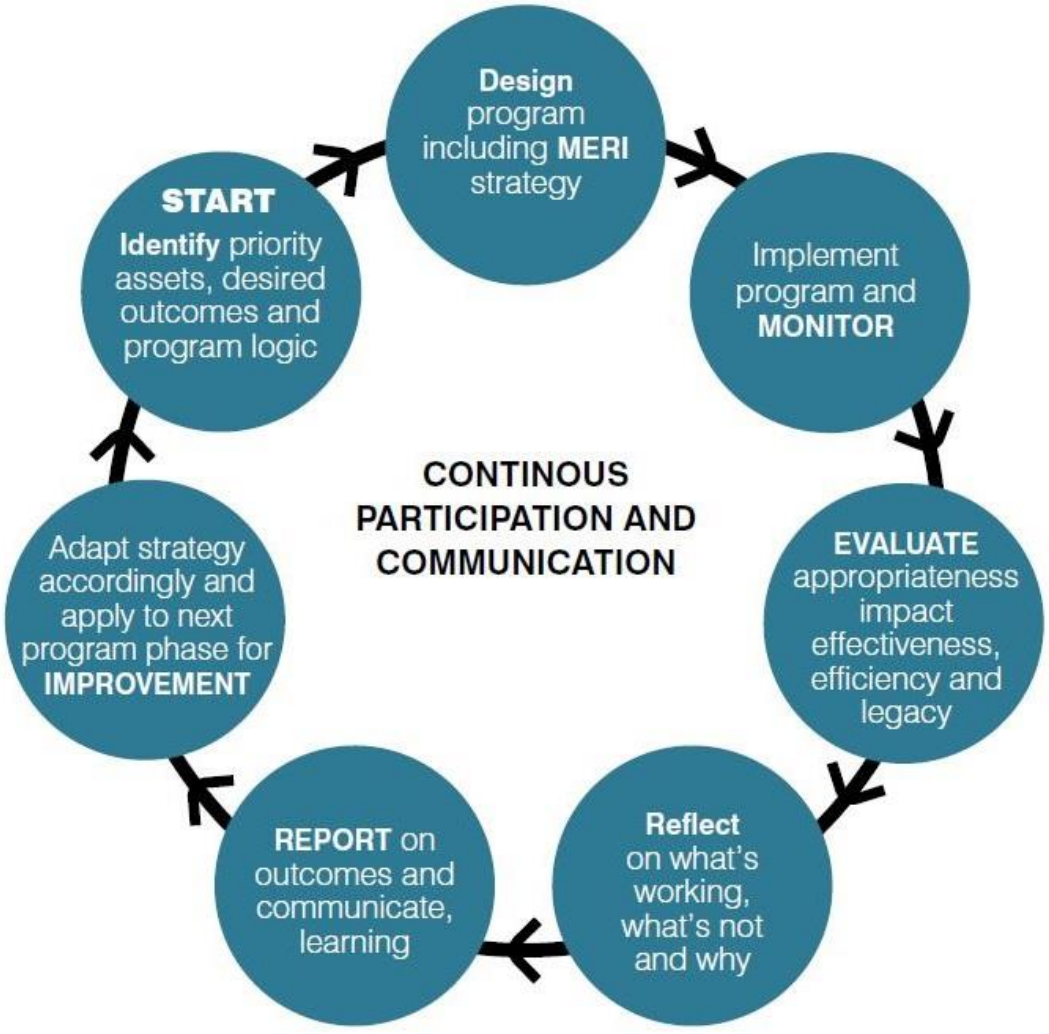

Figure 4. Program improvement and adaptive management approach to MERI (COA 2009).

7.1.1 Monitoring methods

The following methods have been developed for consistent monitoring:

- Data collected in the field will be based on input data consistent with the Biosecurity Information System (BIS).
- Monitoring sites should be defined by each organisation's weed mapping software/tools.
- At each monitoring site, the following data should be recorded:
    - Estimated size of infestation patch (e.g. 10 m x 10 m)
    - Estimated % cover of native species (e.g. 20%)
    - Estimated % cover of Chinese Violet (e.g. 60%)
    - Estimated % cover of other exotic species (e.g. 60%)
    - List other exotic species present
    - Low, moderate or high amount of Chinese Violet seedlings present
    - Include other notes related to the status of Chinese Violet such as flowers present, immature or mature seed present, low/high plant vigour, estimate of Chinese Violet growth stages e.g. seedling, juvenile, mature, over-mature.

Include other applicable data as necessary (e.g. was treatment carried out).

- Monitoring should be undertaken four times annually in outlying infestations and marginal infestations.

7.2 Evaluation

Quantitative evaluation can be undertaken using results from monitoring.

- What sites have been treated/inspected?
- Change in estimated cover of native plant species (e.g. increase or reduction).
- Change in estimated cover of Chinese Violet.
- Change in estimated cover of other exotic plant species.
- Change in number of native species.
- Change in number of other exotic species.

Port Stephens Council will carry out periodic assessment of the appropriateness of the HRCVMS project that will include evaluation processes to help improve performance, fulfil accountability requirements and to collate learning to inform future programs.

7.2.1 Key evaluation questions

7.2.1.1 Evaluation questions for Chinese Violet control

Key evaluation question	Evidence
What % of core infestation (immediate priority) sites have been treated/inspected?	Record area of control in BIS database including GIS location.
What % of outlier (short-term priority) sites have been treated/inspected?	Record area of control in BIS database including GIS location.
Is the treatment effective?	Changes in Chinese Violet cover, changes in native vegetation cover etc. Information recorded in reports.
Were there any other unanticipated, positive or negative change or other outcomes?	Record information in reports.
To what extent has the work plan and targets been achieved? Why? Why not?	Record the achievement of the work plan and document deviations through standard reporting formats and quarterly reporting.
Were targets achieved and management/implementation effective?	
What area of control measures have been undertaken for Chinese violet?	

7.2.1.2 Evaluation questions for engagement plan

Key evaluation question	Evidence
To what extent has the engagement plan been achieved?	Record the achievements of the engagement plan and document deviations through standard reporting formats and quarterly reporting.
Have objectives been met?	
Assessment of who attends events	
Were the key stakeholders engaged?	

Key evaluation question	Evidence
Evaluation of the activities	What was the response? Were there any positive or negative outcomes?

7.3 Reporting, Improvement and Adaptive Management

Port Stephens Council will provide regular reflection on collated monitoring results, strategies, management processes and progress to inform an adaptive management approach for continuous quality improvement of the project. A brief report will be prepared annually by Port Stephens Council with contributions from other councils involved. Reports should be used internally to assess progress and will also be made available to funding bodies. Note that funding bodies may also have their own reporting requirements which should be incorporated.

The suggested contents of the report are:

- Introduction
  - Brief introduction to the progress of the project
- Methods
  - Treatment methods
  - Monitoring methods
- Results
  - Outcomes from monitoring
  - Changes in % cover?
  - Any new infestations found?
- Discussion
  - How are the treatments performing? Are they suitable?
  - Should the methods remain in use? Do any changes need to be made?
- Conclusion
  - Summary of recommendations to the ongoing project

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