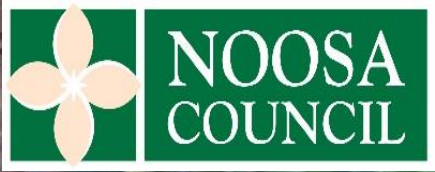




SIX MILE CREEK CATCHMENT  
CATS CLAW CREEPER MANAGEMENT  
STRATEGY 2021-2026





# SIX MILE CREEK CATCHMENT CATS CLAW CREEPER MANAGEMENT STRATEGY 2021-2026

June 2021

## Acknowledgements;

This document and supporting digital mapping files has been prepared by Noosa & District Landcare Inc. with the guidance and support of Noosa Shire Council.

## *Disclaimer:*

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## Document Tracking

Item	Detail
Project Name	Six Mile Creek Catchment Cats Claw Creeper Management Strategy 2021- 2026
Job No.	12004
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Status & Date	Final 5/08/21

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# 1.0 OVERVIEW AND BACKGROUND

## 1.1 STRATEGY OBJECTIVES

The plan objective is to outline an effective strategy for best practice management of the transformer species Cats Claw Creeper (CCC) (*Dolichandra unguis-cati*) within the Six Mile Creek catchment. These vines are invasive weed species of riparian areas however can occur within all areas of the landscape.

CCC vines are major threats to endangered Lowland Rainforest ecological communities and are identified as a Priority Pest Species in Noosa Council's *Pest Management Plan*, listed as a Restricted Native Plant under the *Biosecurity Act 2014*, and listed as Weeds of National Significance (WONS). This plan aims to guide coordination of effort and support previous investment by various stakeholders in on-ground work.



FIGURE 1 - CATS CLAW CREEPER FLOWERS (ABOVE), SEED PODS & TUBERS (BELOW)

## 1.2 CATS CLAW CREEPER DESCRIPTIONS

### 1.2.1 CATS CLAW CREEPER VINE

Cat's claw creeper, originating in central and south America, is an aggressive climbing vine with the habit of smothering other vegetation. It is what is called a 'transformer' weed in so far as its ability to transform entire vegetation communities both structurally and floristically.

The vine has a vigorous root and tuber system in addition to the ability to producing prolific seeds with papery wings (called samaras) which enable dispersal by water and wind. It can also reproduce vegetatively from tubers and creeping stems.



Further information on Cats claw creeper can be found within the Biosecurity Qld's Fact Sheet contained in Appendix 1.

## 1.3 CATCHMENT BACKGROUND

The headwaters of Six Mile Creek and its tributaries have their origins in the West Cooroy and Mt Tinbeerwah areas bordering on the Noosa and Mary River Catchment. Major tributaries of Six Mile Creek include; Pinbarren, Cooroy and Cooroora creeks which flow into the Mary River Catchment.

Six Mile Creek (within Noosa Council LGA boundaries) drains a catchment area of approximately 309 square kilometres or 30,900 hectares.

The Six Mile Creek Catchment once contained large tracts of Lowland Rainforest of Subtropical Australia. This vegetation community is now recognised as being Critically Endangered due to land use practices post-European contact. The main ongoing threats to the Six Mile Creek Catchment and the Lowland Rainforest ecological communities are creek erosion, uncontained livestock, overgrazing and weeds.

## 1.4 Previous Activities

Awareness of Cats Claw Creeper vine and actions to manage infestations in the Six Mile Creek catchment have been occurring for many years by both Noosa & District Landcare Group and Noosa Council.



FIGURE 2 - FRILLING OF CCC VINES - VINES ARE CUT AND SWABBED.

# 2.0 SURVEY AND PRIORITISATION

## 2.1 INVASIVE VINE SURVEYS

Noosa Landcare and Noosa Council have been undertaking Cats Claw management within the Six Mile Creek Catchment for a number of years and has in that time built a spatial dossier of locations of infestation sites. Spatial infestation data however, was not comprehensive across the catchment and it was determined that a ground survey was required. A survey was deemed necessary to provide a better picture of infestations across the catchment, and to enable the most strategic approach to Cats Claw investment and management.

Over 2020 and 2021 NDLG and Noosa Council has conducted invasive vine surveys of Six Mile creek catchment which identified and classified locations and types of vine infestations.

Limited survey time was available and was prioritized to riparian systems; however, all known sites were mapped throughout the catchment including isolated infestations on private property away from creek line areas.

Surveyed areas are displayed within Figure 3.

Surveys were financially supported by the Noosa Council

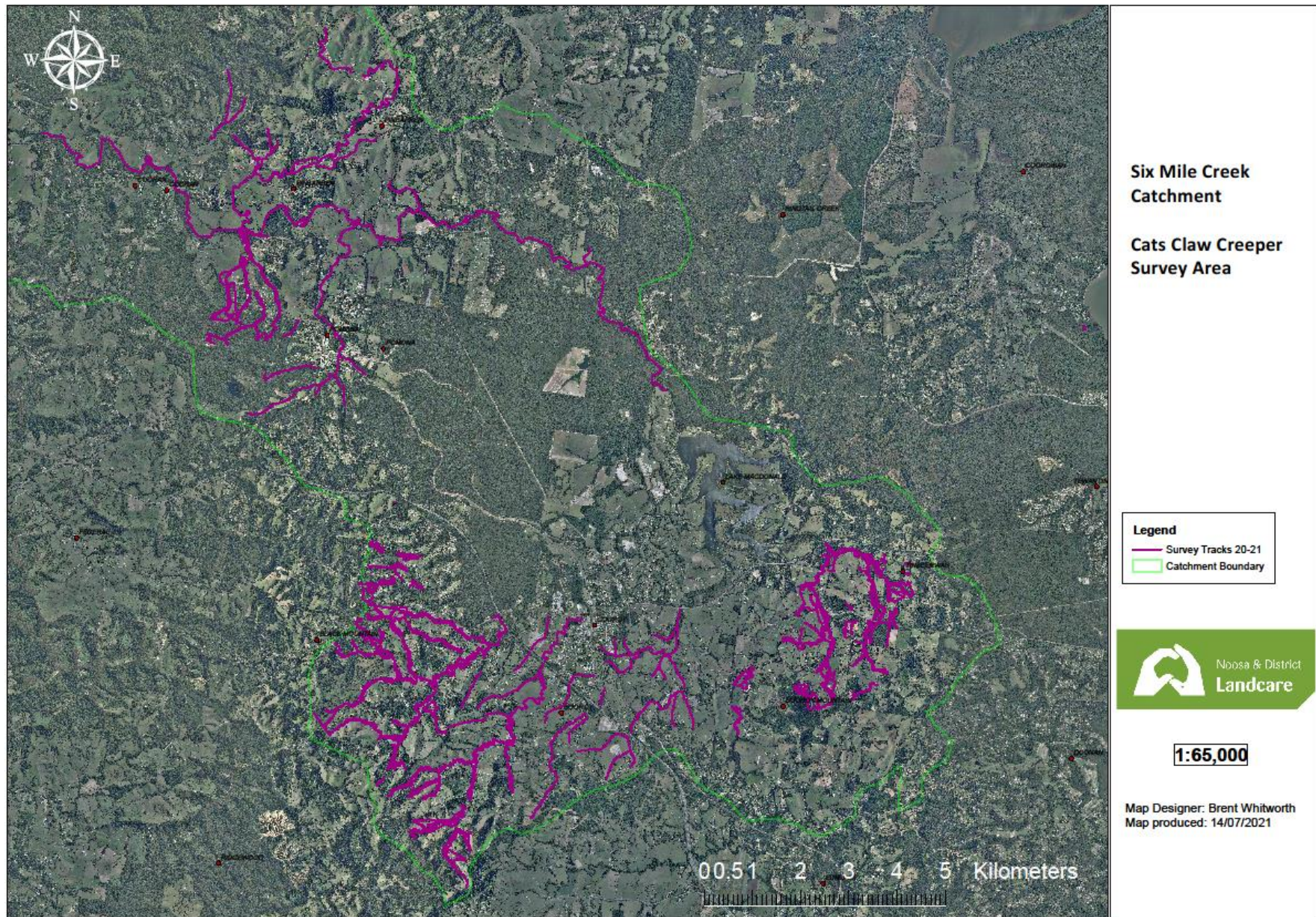


FIGURE 3 – INVASIVE VINE SURVEY AREAS

## 2.2 PRIORITISATION

This plan prioritises weed infestations based on the characteristics of

- location within the catchment - vines can spread along rivers, particularly from seeds (CCC) or vegetative matter dispersed by floodwaters,
- infestation aggregation - seedlings and isolated plants or clumps,
- infestation maturity – timing of control before seed germination,
- viability for bio control releases – contain spread and protect assets.

An overview of the three priority classes is contained in Figure 4. The highest priority will be given to **isolated, mature infestations in the headwater areas of the catchment.**

Figure 5 identifies the priority infestation sites in the Six Miles Creek Catchment as a result of the surveys.





FIGURE 4 - PRIORITISATION CHART

Priority	Zone & Description	Justification	Actions	Timeline & Frequency	Comments
Priority 1	New and Previously treated outlier infestations sites, clumps, isolated patches, etc.	Prevention and early detection are the most cost effective forms of weed management.  Preserve past investment and effort and continue to reduce infestation area and density.	Chemical treatment: Treat isolated mature infestations high in the catchment that occupy the tree canopy and have the capacity to set seed and/or damage the existing forest structure. Build the capability of community to detect, report and implement control of CCC Vines in areas impacted by vines.	2-3 times throughout years 1-5.	Ensure cat's claw creeper is incorporated into hygiene protocols and other spread prevention guidelines.
			Biocontrol Release on new and existing sites.	September – April each year.	Dependent on seasonal conditions
			Monitoring: Survey lower order tributaries of Six Mile Creek Catchment	After third treatment sweep for the year.	Supported by NDLG Waterwatch Program – if existing.
Priority 2	Mature outlier infestations – concentrating around vector paths (riparian zones) and manage prior to seeding (late summer – autumn, however can occur twice yearly)	Reduce seed set and dispersal into Six Mile Creek Catchment in areas where the greatest biodiversity significance occurs. Liberating mature native trees from vine weeds to enable recovery of the canopy is a key first step in restoring ecosystems.	Chemical treatment: Focus on canopy treatment initially to reduce seed set. Treat infestations that meet the priority criteria within lower order tributaries of Six Mile Creek and minor creeks within catchment.  Treat infestation aggregations in riparian areas that are in good condition and occupy large areas along the ground to prevent re-infestation of mature trees.	2-3 times throughout years 2-5	Dependent on seasonal conditions
			Biocontrol Release	September – April	Dependent on seasonal conditions
			Monitoring: Survey and assess previous treatment and Biocontrol Release sites.	Annually from previous survey.	Supported by NDLG Waterwatch Program
Priority 3	Mechanical, Manual, Chemical and Biocontrol in main infestation areas on Six Mile Creek	Sufficient material to sustain biocontrol agents – help to contain CCC spread from core infestation until resources available to undertake manual work.  Preserve assets and improve natural resource condition.	Chemical treatment: Focus on canopy treatment initially to reduce seed set. Treat infestation aggregations that occupy large areas along the ground to prevent re-infestation of mature trees. Follow up treatment of infestations that previously occupied tree canopy.	2-3 times throughout years 3-5	Dependent on seasonal conditions
			Biocontrol Release	September – April	Dependent on seasonal conditions
			Monitoring: Survey and assess previous treatment and Biocontrol Release sites. Assess and recommend strategy for catchment CCC management for next 5 years.	Annually from previous survey.	Supported by NDLG Waterwatch Program.

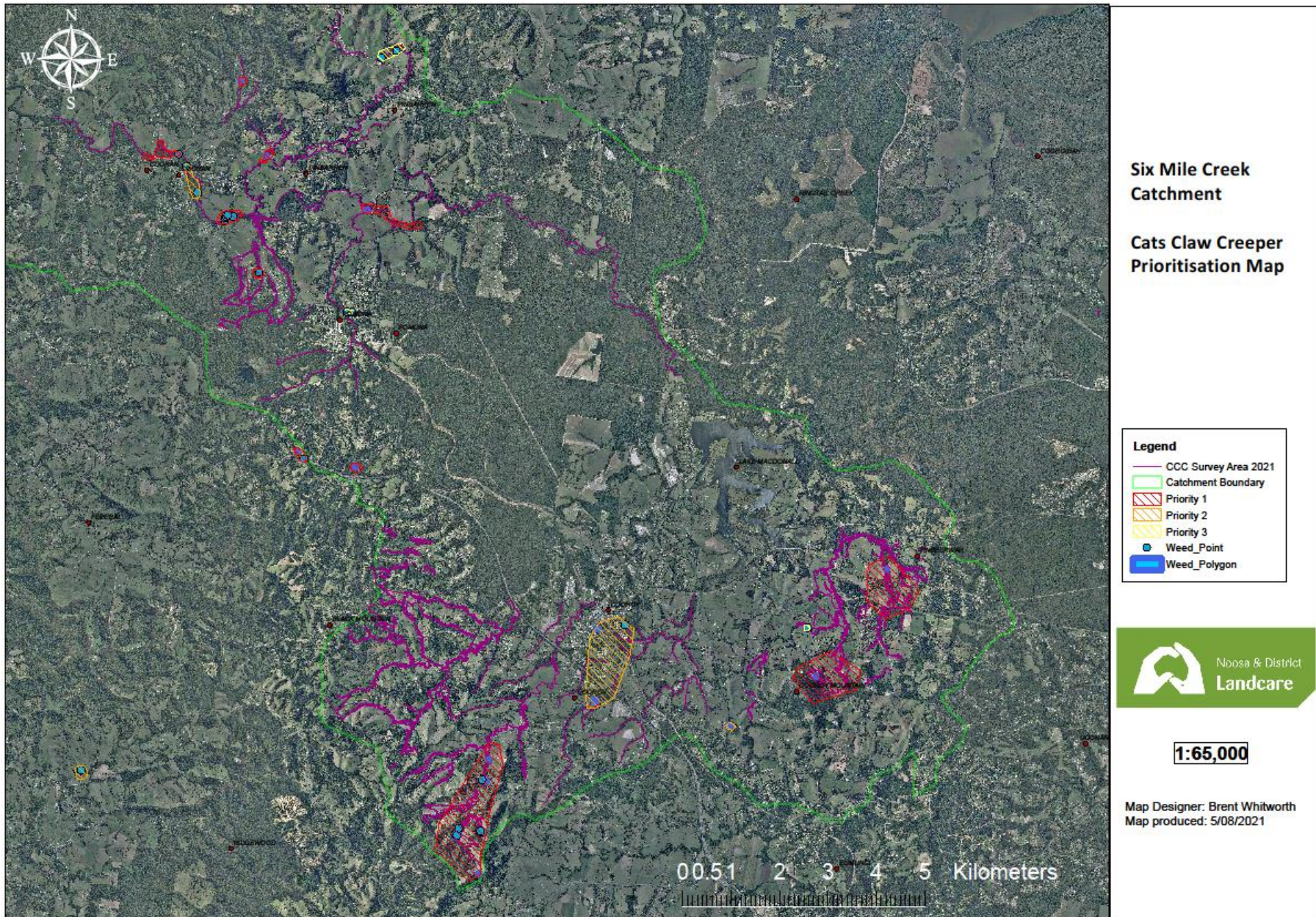


FIGURE 5 - PRIORITY AREAS FOR ON-GROUND CONTROL WORKS

# 3.0 IMPLEMENTATION

Cats Claw Creeper Vine management poses a significant challenge and requires a multipronged approach. Comparative to other catchments in South East Queensland and the Burnett Mary region, infestations the Six Mile Creek Catchment, while significant, are in the project team's belief very much worth attempting to manage.

The rehabilitation of this catchment will be achieved by:

- 1) Detection: Extensive surveys and mapping of Six Mile Creek Catchment that identify priority areas.
- 2) Early intervention:
  - Priority outlier infestations are contained or eradicated.
  - Treating target species strategically to break the seed cycle and prevent spread from core infestations is prevented whilst preserving and encouraging integrity of ecologically sensitive areas.
  - Fostering strong populations of biocontrol to help control the rate of Cats Claw seed production and spread.
- 3) Educating and mentoring community involvement with managing weed infestations.



FIGURE 6 - VINE CUT FROM CARTERS RIDGE IN FEBRUARY 2018 – SECATEURS SHOW SIZE.

## 3.1 DETECTION AND DATA COLLECTION

Surveys of the catchment within priority landscape areas have occurred and results are mapped digitally. However there is the need to maintain this dataset and move forward. Additional surveys of areas further away from creek lines are warranted to bolster this information.

Repeated surveys over 5 years will assist in detecting performance of the strategy and partner contributions. Aerial surveys may provide additional information and should be considered, particularly to identify isolated infestations in headwater areas.

New infestations identified by either community engagement results and/or further surveys and will be added to the database for consideration according to the prioritization framework for inclusion in all future works.

Preference for database management is utilizing the Spatial Pest Attribute Standard (SPA Standard) system and undertaking mapping and data entry through the field platform 'Collector' Application managed by Noosa Council.

Data to be collected and collated includes:

- Infestation site – including details of extent, spread (ground or canopy) and evidence of biocontrol activity
- On-ground control sites – including method, date and prevailing conditions
- Biocontrol release sites

## 3.2 ON-GROUND WORKS

The implementation program follows the Australian Weed Strategy 2017-2017 to manage weed impacts by the most economical means, and with the least possible hazard to people, property, and the environment. The program recommended for this project uses chemical, mechanical, manual and biological methods to reduce and contain the targeted species. The goals and priorities in the strategy are shaped around these three key areas:

- **Goal 1** Prevention, detection and early intervention
- **Goal 2** Minimise the impact of established weeds
- **Goal 3** Enhance local capacity and commitment to weed management

Figure 7 identifies priorities for on-ground control in the Six Mile Creek Catchment.

The maintenance program is a guide only. It is subject to variables such as site situation (steep and uneven access), seasonal conditions, and plant (both weed and desirable) performance. Regular monitoring of the site is recommended to ensure maintenance interventions are timely, strategic and logistically viable.

### 3.2.1 BIOCONTROL AGENTS

The CCC bio-controls Tingid bug (*Carvalhotingis visenda*) have been identified at a few sites at varying levels throughout the survey areas.

### 3.1.2 CHEMICAL AND MANUAL TREATMENT TECHNIQUES

The delivery of the treatment tasks will be achieved using a systematic approach to ensure accurate coverage of all target plants within each infestation site. The application methods to achieve the priority goal will be a combination of cut and swab application technique and foliar spray application using either selective or non-selective herbicide, depending on site situation and infestation severity. All chemical application is to be carried out in accordance with DAF Biosecurity Queensland Guidelines contained in Appendix 1 and also updated at the following website - [https://www.daf.qld.gov.au/\\_data/assets/pdf\\_file/0003/63336/IPA-Cats-Claw-Creeper-PP139.pdf](https://www.daf.qld.gov.au/_data/assets/pdf_file/0003/63336/IPA-Cats-Claw-Creeper-PP139.pdf)

All foliar spraying operations will be conducted using 15 litre back pack sprayers with appropriate nozzle types.

All cut and swab applications will use 1 litre hand sprayers with shrouds. All herbicide products are registered for use in these situations under the product registrations and/or Off Label Permits # 11463 and # 10533.

## 3.2 COMMUNITY ENGAGEMENT

Enhancing and maintaining the capacity and ability of the community to engage in identification of CCC Vine, implementing and monitoring activities to support the achievement of this strategy's objectives is a priority.

It is important that future feedback and comment is noted and addressed in some capacity either through follow up awareness sessions or attached to this strategy as it evolves. It is recommend NDLG and partnering investment agencies engage the local residents through presentation sessions, field days or workshops and ask for their assistance in the implementation process of this strategy to maintain the strong stewardship values in the community.

NDLG will not only oversee the progress of the works but can also act as another conduit for information to residents through facilitation of flow-on activities, such as;

- Hold weeding working bees with the supervision of a qualified professional.
- Organise workshops for residents to attend
- Dispersal of timely, clear and catchy fact sheets to the community asking for feedback on CCC infestation sightings while providing control advice and information.

Careful consideration of weed management methods (backpack spraying) is required in the catchment. Previous work within this catchment has highlighted an issue with using herbicides in regards to some residents' sensitivities.

## 3.3 MONITORING AND EVALUATION

The objectives of the plan will be measured by re-surveying and recording of all identified infestation sites along Six Mile Creek and its lower tributaries after a period of 5 years.

Supplementary survey information garnered through landholder engagement programs such as Land for Wildlife assessments, and Noosa Landcare Gold Member property visits will be added to the dataset over time.



# 4.0 REFERENCES

Department of Agriculture and Fisheries (2020). *Cat's claw creeper Fact Sheet*. The State of Queensland, Brisbane.

Noosa & District Landcare Group Inc. et al. (2017) *Noosa Shire Waterways Assessment 2017*, Noosa & District Landcare Group Inc., Pomona.

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Threatened Species Scientific Committee. (2011). *Commonwealth Listing Advice on Lowland Rainforest of Subtropical Australia*. Canberra: Department of Sustainability, Environment, Water, Population and Communities.

Department of Agriculture and Water and Resources (2017) *Australian Weeds Strategy 2017-2027. Invasive Plants and Animals Committee*. Australian Government.

## 5.0 APPENDIX 1 – BIOSECURITY QLD FACT SHEET – CATS CLAW CREEPER VINE.

## Cat's claw creeper

*Macfadyena unguis-cati* (L.) A.H.Gentry  
(syn. *Dolichandra unguis-cati* (L.) L.Lohmann)



Cat's claw creeper is a native of tropical America and is an aggressive climber that was used as an ornamental in older-style Queensland gardens. This vine has the ability to completely smother native vegetation, even growing up over trees, and many bushland areas already have serious infestations of this weed. The vine has a vigorous root and tuber system, which adds to difficulties in controlling the weed.

Cat's claw creeper has been recognised as a Weed of National Significance due to its invasiveness and potential impacts.

### Legal requirements

Cat's claw creeper is a category 3 restricted invasive plant under the *Biosecurity Act 2014*. It must not be given away, sold, or released into the environment. The Act requires everyone to take all reasonable and practical steps to minimise the risks associated with invasive plants under their control. This is called a general biosecurity obligation (GBO). This fact sheet gives examples of how you can meet your GBO.



At a local level, each local government must have a biosecurity plan that covers invasive plants in its area. This plan may include actions to be taken on certain species. Some of these actions may be required under local laws. Contact your local government for more information.

## Description

Cat's claw creeper is a vine with long slender stems. Older stems become very woody with time. Its leaves each have two leaflets, with a three-clawed tendril (the cat's claw) growing between them. It has large, bright yellow, bell-shaped flowers in spring. The vine bears very long, narrow and flat pods containing many papery seeds.

## Life cycle

Seed capsules mature in late summer to autumn, approximately 8–10 months after flowering. Seed begins to drop in late May, with peaks in July and August. Seeds germinate best when not buried and will germinate readily in moist leaf litter. Although seed viability is low, seed production is high and some seeds produce multiple seedlings.

Established plants can reproduce vegetatively from tubers and creeping stems. Detached tubers and cuttings may re-sprout in moist conditions. Roots start to develop tubers in their second year and plants may be well established before they start to flower.

## Methods of spread

Cat's claw creeper produces numerous seeds with papery wings that aid dispersal, particularly by water and wind. Tuberos roots also spread by floods and humans.

## Habitat and distribution

Cat's claw creeper is native in Central and South America and the West Indies. It is widely naturalised around the world, occurring in southern Africa, south-eastern USA and Hawaii, Asia, the Pacific Islands, Republic of Cape Verde, Mascarene and recently in Europe. Cat's claw creeper grows in a range of soil types, but does not tolerate poorly drained soils. Plants are capable of surviving heavy frost but seed germination is reduced at low temperatures.

Cat's claw creeper prefers warm-temperate, tropical and sub-tropical areas. It can be found in gardens, over fences, along roadsides, waterways and in disturbed rainforests. It occurs in coastal and sub-coastal areas of south-eastern Queensland, and in central and northern Queensland.

## Control

### Managing cat's claw creeper

The GBO requires a person to take reasonable and practical steps to minimise the risks posed by cat's claw creeper. This fact sheet provides information and some options for controlling cat's claw creeper.

## Physical control

Use a pruning saw, machete or brush hook to cut all leads/stems up the trees. All above the cut will die, but regrowth will occur from the underground tubers.

Digging the tubers out is not practical in most cases. Don't allow the regrowth to reach host tree's canopy; if they get away you will have to re-cut them.

## Herbicide control

The regrowth is best treated with a foliar spray. Glyphosate 360 (mixed at a rate of 83 mL to each 1 L of water) can be applied in a cut stump method. It is best done in pairs. Cut the lead as close to the ground as possible and spray/paint on the herbicide.

The glyphosate must be applied within 15 seconds of cutting—while the sap is running—to take the poison down into the roots and tubers. If not within 15 seconds, re-cut lower and try again.

Because of the multitude of tubers the herbicide tends to knock them down one at a time with new regrowth coming from the next tuber. Be prepared to continue control over the next five years.

PER13914 allows the use of products containing 300 g/L of triclopyr plus 100 g/L picloram with or without 8 g/L aminopyralid, subject to particular conditions that are set out in the permit.

The herbicides listed in the table that follows are permitted to be used in the listed situations. Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label and the conditions in the APVMA permit.

## Biological control

Cat's claw creeper is currently a target for biological control. The tingid bug *Carvalhotingis visenda*, the moth *Hypocosmia pyrochroma* and a leaf-mining jewel beetle *Hylaeogena jureceki* have been released. The tingid is widely established in majority of release sites and cause visible effects in some areas.

## Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland on 13 25 23 or visit [biosecurity.qld.gov.au](http://biosecurity.qld.gov.au).

**Table 1. Herbicides for the control of cat's claw creeper**

Situation	Herbicide	Rate	Comments
Pasture, non-crop situation (PERMIT 10533)	Glyphosate 360 g/L (e.g. Weedmaster Duo)	10 mL/L water	Foliar application Ensure vines are actively growing at time of treatment and not under stress of drought, waterlogging or cold (0–2 m high). High-volume (knapsack or handgun) spray to wet foliage, ensuring complete coverage over top growing terminals.
		83 mL/L water	Cut stump Ensure vines are actively growing at time of treatment and not under stress of drought, waterlogging or cold. Cut vine close to ground and immediately wet stump surface thoroughly using splatter gun, spray, swab or brush. Remove any branches on the stump and treat any cut surface.
	Dicamba 500 g/L (e.g. Kamba 500)	4 mL/L water	Foliar application Ensure vines are actively growing at time of treatment and not under stress of drought, waterlogging or cold (0–2 m high). High-volume (knapsack or handgun) spray to wet foliage, ensuring complete coverage over top growing terminals.
		33 mL/L water	Cut stump Ensure vines are actively growing at time of treatment and not under stress of drought, waterlogging or cold. Cut vine close to ground and immediately wet stump surface thoroughly using splatter gun, spray, swab or brush. Remove any branches on the stump and treat any cut surface.
Non-agricultural areas, domestic and public service areas, commercial and industrial areas, bushland/native forests, roadsides, rights-of-way, vacant lots, wastelands, wetlands, dunal and coastal areas	Fluroxypyr 200 g/L (e.g. FMC Fluroxypyr 200 Herbicide)	35 mL/L Diesel/kerosene	Basal bark spray (PERMIT 11463)
Riparian zones	Triclopyr 300 g/L plus picloram 100 g/L (e.g. Nufarm Conquero) or Triclopyr 300 g/L plus Picloram 100 g/L plus Aminopyralid 8 g/L (e.g. Grazon Extra)	400 mL of product per 100 L water	Foliar spray. Avoid getting spray on leaves of host and do not spray within 5 m of a waterway. Other restrictions apply. (PERMIT 13914)

Persons who wish to prepare for use and/or use products for the purposes specified in APVMA permits PER11463 or PER10533 must read, or have read to them, the details and conditions of the permit. APVMA permit PER11463 expires on 30 June 2023 and PER10533 expires on 31 July 2028. Both are available from the APVMA website at [apvma.gov.au](http://apvma.gov.au)

**Read the label carefully before use and always use the herbicide in accordance with the directions on the label.**



This fact sheet is developed with funding support from the Land Protection Fund.



Fact sheets are available from Department of Agriculture and Fisheries (DAF) service centres and our Customer Service Centre (telephone 13 25 23). Check our website at [biosecurity.qld.gov.au](http://biosecurity.qld.gov.au) to ensure you have the latest version of this fact sheet. The control methods referred to in this fact sheet should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, DAF does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

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06/20