



REGIONAL WEED MANAGEMENT PLAN

1.1 PLAN TITLE: PARTHENIUM WEED MANAGEMENT PLAN

1.2 PLAN PROPONENTS

Regional Weeds Advisory Committee: **Macquarie Valley Weeds Advisory Committee**
 Address: C/- Cabonne Council, PO Box 17, Molong NSW 2866.
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Signature: Chairman: Date:

1.3 NAME OF PLANT(S) WONS: Yes

Botanical name(s): *Parthenium hysterophorus* Common name(s): Parthenium Weed

1.4 PLAN PERIOD (not to exceed five years)

Starting date: 1/7/2005 Completion date: 30/6/2010

1.5 AREA OF OPERATION: The Local control Authorities (LCA) and Rural Lands Protection Boards (RLPB) of the Macquarie Valley Weeds Advisory Committee. This includes the following Councils and County Council

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| Bogan Shire Council | Bourke Shire Council |
| Brewarrina Shire Council | Cabonne Shire Council |
| Cobar Shire Council | Dubbo City Council |
| Mid-Western Regional Council | Orange City Council |
| Narromine Shire Council | Wellington Shire Council |
| Castlereagh Macquarie County Council | |

1.6 AIM: To prevent the establishment of Parthenium Weed in the Macquarie Valley Weeds Advisory Committee area, so as to prevent damage to agriculture and the environment.

1.7 OBJECTIVES:

1. Detect all new outbreaks of Parthenium Weed no later than the second growth season.
2. Contain all new outbreaks of Parthenium Weed within 2 days of discovery.
3. Minimise the entry of Parthenium Weed into NSW through cross border cooperation.
4. Suppress all outbreaks within 2 weeks of discovery.
5. Eradicate all small outbreaks (less than 10 plants) within two years of discovery.
6. Eradicate all large outbreaks (More than 10 plants) within six years of discovery.

2.0 Stakeholders

Signatories:

- Local Control Authorities (LCA)
- Rural Land Protection Boards (RLPB)

Participating Councils (LCA's):

- Bogan
- Bourke
- Brewarrina
- Cabonne
- Cobar
- Dubbo City
- Mid-Western Region Council
- Narromine
- Orange City
- Wellington

Participating County Council:

- Castlereagh Macquarie County Council

Participating Rural Lands Protection Board (RLPB's):

- Bourke
- Brewarrina
- Central Tablelands
- Cobar
- Coonabarabran
- Coonamble
- Dubbo
- Molong
- Mudgee/Merriwa
- Nyngan
- Walgett

Other Stakeholders:

- Department of Primary Industries (DPI)
- Department of Environment and Climate Change (DECC)
- Department of Water and Energy (DWE)
- Australian Rail Track Corporation (ARTC)
- National Parks and Wildlife Service (NPWS)
- Aboriginal Land Councils
- Catchment Management Authorities (CMA)
- Regional Landcare Coordinators

All stakeholders listed above have been consulted and a management plan is available on request to any of them or other interested person.

3.0	BACKGROUND & JUSTIFICATION: WHY WE NEED A REGIONAL PLAN
Why is it important that Parthenium is controlled? Why is it a concern to the community who will be paying to control it?	
<p>Parthenium Weed is an annual Asteraceae and is a vigorous coloniser of bare and waste ground and over-grazed pastures. It produces a large basal rosette and, once established, suppresses growth of weak or over-grazed pastures by both direct competition and allelopathy. Parthenium is particularly aggressive. It reproduces by seed and, in summer, can germinate, flower and set seed within 28 days. A single fully mature plant can produce at least 15 000 seeds and buried seed has a half-life greater than six years. It is unpalatable to stock and it will seriously taint the meat and milk of animals that eat it. Parthenium can cause severe allergic reactions in humans and some animals. Symptoms include rhinitis, asthma & severe contact dermatitis. Prolonged exposure tends to sensitise some individuals who did not initially react to the weed.</p>	

3.1	Key Stakeholders Consulted
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All Local Control Authorities and Rural Lands Protection Boards have been consulted. Although not directly consulted in the development of this plan, many agri-business providers have been targeted in Parthenium work to date.

What has been achieved in earlier programs?

Parthenium was introduced into Queensland as a contaminant of pasture seed in the 1950's. It quickly became naturalised in the state's Central Highlands and its spread was exacerbated by widespread land clearing during the Brigalow Scheme. It is now endemic throughout the highlands and regular, isolated outbreaks occur in the Darling Downs, Maranoa and Lockyer Valley. Significant progress has been made in cross border cooperation between Queensland and NSW. This has led to: clear identification of roles, incorporation of the southern QLD and NSW strategies into the National Parthenium Strategy, training opportunities for weed management staff, increased development of weed seed spread management frameworks, and expansion of best practice guidelines. NSW now has a limited number of outbreaks but with threat of some larger infestations in our region.

What will this program achieve that previous programs have not?

This program will build on existing efforts and continue to minimise the threat of Parthenium infestations across our region. It will bring a regional focus to the original State Management Plan.

Why is a continued planned regional response necessary?

The Parthenium Weed Taskforce (a sub committee of the Weeds Sub Program of NSW Agriculture, now DPI) was established in 1995 to co-ordinate a uniform approach to inspections, extension and control works. This regional plan builds on the initiatives of the Taskforce. A continued regional response will build on the many achievements to date and will help to keep NSW Parthenium free. It also provides a continued focus for people working on Parthenium.

3.2 Do nothing option

If no action is taken to prevent the entry and spread of Parthenium weed into New South Wales the following impacts are likely;

Parthenium weed will infest large areas of the state. This is demonstrated by the speed with which outbreaks can, and occasionally do, establish and spread under the current control regime. Patterns of spread in India and Ethiopia also show the invasiveness of this plant.

Areas infested with Parthenium Weed will become less productive, with potential reductions in stocking rates of up to 40% in the most heavily infested areas.

Areas with lower levels of infestation will see reduced livestock condition

Areas with lower levels of infestation will also see meat and dairy contaminated, tainted and unfit for human consumption.

Areas with any levels of infestation will see reduced prices for grain, and a reduction in markets willing to purchase from the region.

Animal health will be impacted, with skin lesions, mouth ulceration and potential deaths resulting from ingestion.

Human health will be impacted. It is likely from experience in India and Queensland that at least 10% of people exposed to Parthenium weed material will develop obvious allergies. These may include dermatitis, rhinitis (hay-fever), bronchitis and asthma. Effects are cumulative and the number of people affected will increase over time due to sensitisation. This will result in lost productivity, loss of skills as a percentage of affected people will be forced to leave regions where Parthenium Weed is established, and increased medical costs.

In addition to the direct impacts from infestations in NSW, if Parthenium were to become established it would place significantly more pressure on the States of Victoria and South Australia, with both States having strategies in place to prevent infestations, and this would result in increased costs to those State's control authorities.

3.3 Distribution

In Queensland Parthenium Weed has developed core areas of infestation within the central highlands region, and this is the source of seed responsible for most new outbreaks. Parthenium Weed was first discovered in NSW near Narrabri in 1982. The following year a very large infestation was discovered about 80 km north east of Moree. Many more infestations have been discovered

since the first outbreak, mainly along roadsides and particularly the Newell Highway, but also on farmland, in machinery yards, feedlots and stock food mills.
All known infestations in the region have been mapped and are being controlled in accordance with the plan.

3.4 | Biology

Parthenium Weed is an annual herb with a taproot. The plant usually grows to a height of 1 to 1.5 metres. Leaves are pale green, deeply lobed, covered with fine hairs and are alternately branched. Little cream flowers containing five black seeds occur on the tips of the numerous stems. The main identification features of the weed are that the stems appear to be striped due to grooves on ridges and the flowers have five distinct lobes. Parthenium Weed mainly grows in spring and summer and can complete its lifecycle from germination to seed set in as little as 28 days.

3.5 | Method and Rate of Spread

Parthenium Weed is spread almost exclusively by seed. Time from germination to seed set can be as short as 28 days, and each plant may produce up to 100,000 seeds. The seeds can be spread some distance by wind, but are better adapted to spread by water. Currently, long distance spread is largely related to human activity with seed being carried as a contaminant of grain, fodder, or on machinery and vehicles. Headers and grain harvesting operations have been linked with more than half of the Parthenium outbreaks on privately owned land. Other sources of spread on private land are contaminated stock food and contaminated pasture seed. Contaminated livestock are also a source of infestation.

Parthenium can spread at an alarming rate and recent infestations in our region have spread very quickly before being discovered.

3.6 | Species Management

Part of the difficulty in controlling Parthenium is the speed at which it spreads. Effective management must therefore combine prevention and control. Simple prevention measures include being aware when purchasing stock, feed and crop or pasture seed and being aware of the origin of machinery vehicles and stock. Effective machinery cleaning procedures should be adopted and other measures taken to minimise the introduction of infested stock, feed and/or seed.

Parthenium can be controlled with herbicides, competitive pastures, biological control and cultivation. It should be noted however that deep burial of the seed can extend the life of the seedbank, and should only be used as part of a carefully considered management plan.

Current management practices include enforced washing of machinery crossing into NSW from Queensland, controls on grain and fodder from infested areas, education of landholders to the risk of stock from infested areas, and the regular monitoring of locations at high risk of being infested. A program of total eradication is maintained for all outbreaks detected in NSW, and this includes quarantine restrictions, either voluntary or enforced, of infested locations.

3.7 | Key Land Managers

Private land managers are critical to the success of this plan. They must notify the presence of Parthenium Weed on the land to their Local Control Authority. They also have a responsibility to fully and continuously suppress and destroy any Parthenium plants.

Private landholders must also embrace the adoption of Best Management Practices and be willing to take on new information, change traditional practices and, in most cases, outlay significant dollars. RLPB's have an important role in ensuring that travelling stock do not bring in Parthenium seed into NSW, and in monitoring reserves for infestations.

4.0 | LEGISLATIVE & REGULATORY SITUATION

4.1 | Current Declarations

Parthenium Weed is listed as a Class 1 weed throughout NSW, making it one of the most significant weeds in our region. The plant must be eradicated from the land and the land must be kept free of the plant. Its presence must be notified to the Local Control Authority and the weed must be fully and continuously suppressed.

5.0 | CONSIDERATION AND OPPORTUNITIES

5.1	Opportunities to be exploited
	<p>As a recognised Weed of National Significance (WONS), this plant has a national WONS coordinator. Due to the recognised impacts to agriculture, the environment and the community, each state has a series of strategies and programs in place to identify, record and control this plant.</p> <p>The recognition and this plant's weed potential provides numerous opportunities for coordinated control campaigns. Cooperation between individual control authorities, regional bodies, state bodies, state government departments and national organisations is well established.</p> <p>As a result of the wide recognition and cooperation already in place there are numerous opportunities that are either being exploited, or that could be exploited as the need arises. Public awareness has been developed and landholder assistance in detecting and treating this plant is good.</p> <p>Although Parthenium can rapidly develop a huge soil seedbank, this has a limited life. Where seed is not deeply buried through soil disturbance it is realistic to expect eradication to be achieved over a period of six years, given adequate seasonal rains. This provides an opportunity to prevent the establishment of this weed, provided vigilance and coordinated control methods are employed across the region. These are realistic and achievable goals that can be understood and supported by land managers.</p>

5.2	Links to other strategies
	<p>This Regional Strategy is based on the State Parthenium Weed Strategy, the National WONS Parthenium Weed Strategic Plan, the Regional Weed Management Plans of adjoining NSW Weeds Advisory Committee areas, and the Awareness, Prevention, Eradication and Containment (APEC) Parthenium Strategy for Southern Queensland.</p>

5.3	Barriers to overcome
5.3.1	Method of spread - Parthenium is spread by seed from Queensland on vehicles, in machinery and grain. This is a major factor in our area because we share a border with Queensland.
5.3.2	Poor identification skills - Despite improved identification skills, many primary producers and the general public still do not recognise Parthenium.
5.3.3	Failure of some land managers to notify LCA's of outbreaks - Early notification is critical given the potential rate of spread.
5.3.4	Rate of spread - Parthenium Weed can set seed within 28 days of germination and produce an enormous number of seeds.
5.3.5	Difficult to control - Infestations are difficult to eradicate if the seed becomes buried.
5.3.6	Failure of some LCA's to keep adequate records of outbreaks - This makes ongoing monitoring and management difficult.

6.0	ACTION PLAN
	SEE ATTACHED

7.0	MONITORING AND REVIEW
	<p>The MVWAC will review this plan annually to assess the achievements and performances of the various actions. This review will be based on the milestones spelt out in Section 6 (Action Plan) and various performance indicators including the number of new infestations, number of inquires and involvement in extension activities.</p> <p>The Plan Coordinator will collate all relevant information in a written report to be provided to the NSW Noxious Weeds Advisory Committee. The Regional Management Plan will be amended as necessary.</p> <p>A full review of the Plan will be undertaken by 30/6/2010.</p>

8.0	BENEFITS
	<p>By spelling out who is responsible for what in terms of Parthenium management, this plan will improve coordination and facilitate the early detection and management of Parthenium in our region.</p>

Improved coordination will ensure that various stakeholders understand their role in managing Parthenium and allow for a speedy response when an infestation is found. In turn this will minimise potential impacts on humans and animal health.

9 RESOURCES/REFERENCES

Guidelines for Writing Regional Weed Management Plans - 2002/2003. Prepared by NSW Agriculture.

Namoi, Gwydir & New England Noxious Weed Control Handbook . Compiled and edited by Lee Amidy (2002) on behalf of the Namoi/Gwydir and New England Noxious Weed Advisory Committees

Parthenium Management Plan prepared by Philip Blackmore, Noxious Plants Advisory Officer, NSW Agriculture, Armidale.

Barker. J and Hutchinson R (2003) Breaking Down the Barriers: a cross border approach to managing Parthenium. Proceedings of the 12th NSW Biennial Noxious Weeds Conference

Regional Parthenium Weed Control Plan. Namoi/Gwydir & New England, July 2003.

Weeds of National Significance: Weed Management Guide, 2003. Department of the Environment and Heritage and the CRC for Australian Weed Management

LOCATION OF INFESTATIONS

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OBJECTIVE A: DETECT ALL NEW OUTBREAKS OF PARTHENIUM WEED NO LATER THAN THE SECOND GROWTH SEASON

OBJECTIVE A, BARRIER 1 (Method of spread)			
ACTION	WHO	MILESTONE	COMPLETION DATE
Train Council's outdoor and professional staff in Parthenium Weed identification	LCA's & DPI	Council's relevant staff trained and able to identify Parthenium within six weeks of employment.	Ongoing for new staff
Maintain competency status of Council's outdoor and professional staff in Parthenium Weed identification	LCA's & DPI	Staff development maintained and documented.	Ongoing for relevant staff
Inspect all roads and highways during summer and autumn	All LCA's in region.	All roads surveyed twice per year.	February & May annually.
Inspect all farmland where crops have been harvested by agricultural machinery known to have worked in Central Qld in the same season	LCA's	Properties inspected within 16 months of machinery having harvested crops.	April + 12 months.
Inspect all machinery yards, stock food mills and grain elevators	LCA's	All sites inspected twice each season.	February & May annually.

OBJECTIVE A, BARRIER 2 (Poor identification skills)

ACTION	WHO	MILESTONE	COMPLETION
Use NSW Agriculture television advertisement and other extension material to emphasise identification and the need to keep NSW Parthenium free.	Regional Weeds Committee, coordinated through Project Officer	Advertisement shown on regional television station	Summer/ autumn annually.
Conduct extension activities, on site, when small roadside infestations are found	LCA's & DPI	Radio, television and newspaper coverage every time an infestation is found	Ongoing
Display weatherproof ID posters at permanent (eg Council offices and building) and temporary locations (field days, trade fairs) to promote the need to keep NSW Parthenium Weed free	LCA's and RLPB's to display	Posters displayed at every Council, RLPB and NSW Ag Office in region.	June 2004

OBJECTIVE A, BARRIER 1 (Method of spread)

ACTION	WHO	MILESTONE	COMPLETION
Train Council's outdoor and professional staff in Parthenium Weed identification.	LCA's, RLPB's and DPI	All LCA's maintain staff trained and able to identify Parthenium.	Ongoing
Coordinate extension activities in Nth NSW and	MVWAC members	Display exhibited at 10 regional	Annually

Sthn Qld.	in conjunction with QLD counterpart	shows/field days and saleyards.	
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OBJECTIVE A, BARRIER 3 (Failure of some land managers to notify Local Control Authorities of outbreaks.)

ACTION	WHO	MILESTONE	COMPLETION
Implement ongoing publicity program using both the carrot & stick legal consequences of not reporting and/or controlling Parthenium and the need for effective control.	DPI & LCA's	1 press release	Ongoing
Access NSW Agriculture funding for initial control of new outbreaks	Individual LCA's through group project applications.	Adequate funding secured for effective control.	As necessary

OBJECTIVE C: MINIMISE THE ENTRY OF PARTHENIUM WEED INTO NSW THROUGH CROSS BORDER COOPERATION.

OBJECTIVE C, BARRIER 1 (Method of spread)

ACTION	WHO	MILESTONE	COMPLETION
Investigate reports of illegal entry of agricultural machines into NSW.	DPI in conjunction with relevant LCA's	Reports investigated as per DPI Standard Operating Procedure.	Ongoing
Discourage NSW grain users from buying grain from Central Queensland.	MVWAC members, DPI	At least 1 press release.	September annually
Work with the Queensland Parthenium Project Officer to develop cross border communication and cooperation.	MVWAC members in conjunction with QLD counterpart	Joint projects between QLD and NSW maximised.	Ongoing

OBJECTIVE C BARRIER 6 (Failure of some LCA's to keep adequate records of outbreaks)

ACTION	WHO	MILESTONE	COMPLETION
Stress the need for record keeping and reporting by all LCA's. See Objective D & E. Barrier	Project Officer with DPI Noxious Plants Advisory Officer.	All LCA's reporting regularly and ASAP when new infestations are found.	Ongoing

OBJECTIVE D: SUPPRESS ALL SMALL OUTBREAKS (LESS THAN 10 PLANTS) WITHIN TWO WORKING DAYS OF DETECTION.			
OBJECTIVE D-1: ERADICATE ALL SMALL OUTBREAKS (LESS THAN 10 PLANTS) WITHIN TWO YEARS OF DETECTION.			
OBJECTIVE E: SUPPRESS ALL LARGE OUTBREAKS (MORE THAN 10 PLANTS) WITHIN THREE WORKING DAYS OF DETECTION.			
OBJECTIVE E: SUPPRESS ALL LARGE OUTBREAKS (MORE THAN 10 PLANTS) WITHIN SIX YEARS OF DETECTION.			
OBJECTIVES D & E BARRIER 4 (Rate of spread)			
ACTION	WHO	MILESTONE	COMPLETION
Treat all outbreaks promptly.	LCA's.	All outbreaks contained within 2 working days of discovery; Small outbreaks treated within 1 working day of discovery; Large outbreaks treated within 3 working days of discovery.	Ongoing
Ensure outbreaks on private property are re-inspected regularly and that occupiers meet their control responsibilities.	LCA's & affected occupiers.	Suspect area re-inspected at least every 21 days from Oct to May; Section 18 notices served if necessary; Section 20 entries made if necessary; Legal action used if necessary	Ongoing as necessary

OBJECTIVE E - BARRIER 5 (Difficulty to control once seed is buried)			
ACTION	WHO	MILESTONE	COMPLETION
Ensure outbreaks are not ploughed during control period unless necessary for containment of seed.	LCA's	Undertaking from occupier to control; Section 18 notices served if necessary; Legal action used if necessary.	As necessary

OBJECTIVES D & E - BARRIER 8 (Failure of some LCA's to keep adequate records of Parthenium Weed outbreaks)			
ACTION	WHO	MILESTONE	COMPLETION
Maintain detailed records of all Parthenium Weed outbreaks	LCA's	Records updated every time a new infestation is found and then maintained annually for at least 10 years.	Ongoing