



REGIONAL WEED MANAGEMENT PLAN

1.1 PLAN TITLE: **St John's Wort**

1.2 PLAN PROPONENTS

Regional weed advisory committee: Macquarie Valley Weeds Advisory Committee

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Signature: Chairman: Date:

1.3 NAME OF PLANT(S)

WONS n

Botanical name: *Hypericum perforatum* Common name: St John's Wort

1.4 PLAN PERIOD (not to exceed five years)

Starting date: 01/07/2008

Completion date: 30/06/2013

1.5 AREA OF OPERATION

All Local Control Authorities (LCA's) and Rural Lands Protection Boards (RLPB's) of the Macquarie Valley Weeds Advisory Committee.

1.6 AIM

To successfully manage St John's Wort in the Macquarie Valley.

1.7 OBJECTIVES

1.7.1 Considerably reduce impacts of existing weeds

1.7.2 Prevent new weed problems

1.7.3 Improve coordination and cooperation

1.7.4 Raise awareness of weeds issues within region

2.0 STAKEHOLDERS

2.1 SIGNATORIES

Participating Councils (LCA's):

- Bogan Shire Council
- Bourke Shire Council
- Brewarrina Shire Council
- Cabonne Council
- Cobar Shire Council
- Dubbo City Council
- Mid- Western County Council
- Narromine Shire Council
- Orange City Council
- Parkes Shire Council
- Unincorporated area of Western Division
- Wellington Council

Participating County Council:

- Castlereagh Macquarie County Council
- Upper Macquarie County Council

Participating Rural Lands Protection Boards:

- Bourke
- Brewarrina
- Coonamble
- Dubbo
- Central Tablelands
- Coonabarabran
- Hillston
- Molong
- Moree
- Mudgee
- Narrabri
- Nyngan
- Walgett

2.2 OTHER STAKEHOLDERS

- NSW Department of Primary Industries (DPI)
- State Forests
- NSW Department of Environment and Climate Change (DECC) – National Parks and Wildlife Service (NPWS)
- Department of Lands
- Catchment Management Authorities (CMA's)
- Regional Landcare Coordinators
- Aboriginal Lands Councils
- Service providers – Country Energy, Telstra, Australian Rail Track Corp (ARTC)

3.0 BACKGROUND AND JUSTIFICATION

3.1 PLAN JUSTIFICATION AND DESCRIPTION OF PROBLEM

If St. John's Wort is not continually prevented from spreading throughout the region all land that is not currently infested will be at risk. This will reduce biodiversity and productivity. By implementing this control plan we hope to slowdown and reduce spread throughout the Macquarie Valley.

Scientific research shows the long-term viability of St. John's Wort seed can be up to 10 years. The seeding ability and invasiveness of St John's Wort seriously affects agricultural production.

St. John's Wort has shown itself to be a significant weed in the group project area by its ability to grow in all climatic and topographical zones. It has also shown itself to become a dominant species, replacing native and improved pastures. St. John's Wort's capacity to replace desirable plant species and its effect on stock health (photosensitization) makes it a threat to agricultural/horticultural production.

The community expects control measures to be taken not only for the concerns of its effects

on agriculture but also because of its ability to cause contact dermatitis to humans. It is essential that funding continue to LCA's and RLPB's because one of the main reasons for the increased area of infestation is that the roadsides are a major source of contamination into uninfested areas. This is through travelling stock and motor vehicles. Concerns have been raised about the spread of St. John's Wort from State and private lands that are unstocked, inaccessible and poorly managed.

3.2 THE 'DO NOTHING' OPTION

Local control authorities have a responsibility to minimise the damage by the spread of St John's Wort to agricultural production, uninfested environmentally sensitive areas and for human health reasons.

If nothing were done to suppress, reduce and manage St. John's Wort there would be

- A dramatic spread of St. John's Wort from Core and Marginal areas (50% of area) to Rare and Isolated areas (50%)
- An increase of displaced native and improved pastures
- An increase of stock health problems (photosensitization and nervous disorders)
- A decrease in land productivity
- A decrease in land values
- Increase in weed control costs and
- Restrictions on types of agricultural production.

3.3 DISTRIBUTION OF INFESTATIONS

St. John's Wort has the potential to spread throughout the areas of the region and State that has an altitude between 500 and 1000 m and with an annual rainfall above 750 mm. The specific details of current distribution are-

- Infestations of St. John's Wort including Core, marginal and Rare and Isolated comprise the majority areas of Narromine Shire Council, Dubbo and Orange City Councils, Wellington Council, and Mid Western Regional Councils
- The reality of the infestation in the southern portion of Macquarie Valley should be seen as an area for integrated control/management approach.

3.4 WEED BIOLOGY

St. John's Wort is a hairless, rhizomatous perennial herb or small bush. Leaves opposite, sessile with oil glands which appear to be perforations when held up to the light. Stem reddish, with 2 opposite longitudinal ridges, branching near the top. Flowers of 5 yellow petals with several stamens in 3 bundles. Fruit is a sticky 3- celled capsule containing many seeds.

3.5 METHOD AND RATE OF SPREAD

St. John's Wort is mainly spread by seed; however spread can also result from rhizome growth and dispersal following fragmentation by soil disturbance such as cultivation (if left undesiccated).

Seeds may be carried short distances by wind however dispersal by water and soil movement (e.g. mud on machinery), adherence to animal fur and wool, and as contaminants of produce are the main forms of movement. Because of the sticky nature of the fruit, stock easily carry fruit on to new properties after travelling along infested roads, creating new infestations. Seeds passing through animals can also remain viable.

3.6 SPECIES MANAGEMENT

As with most species, St John's Wort requires integrated weed management to achieve successful control:

- Burning – Non-specific, it kills seeds and checks growth.
- Manual – St John's Wort can reproduce from buds on its roots therefore the entire root structure must be removed.
- Chemical – Different situations (e.g., flowering times, chemical choice, surrounding plants) require different methods (e.g. spot spraying, wick wiper).
- Pasture competition – perennial pastures provide competition that is essential for long term control, particularly during autumn.
- Grazing management – Practical for steep, inaccessible hill country. Only certain breeds of sheep with enough wool growth or dark coloured cattle should be used.
- Biological control – Agents include two species of Chrysolina beetles, *Agrilus hyperici*, Gall midge, *Aphic chloris*, and the St John's Wort stunt mite.

3.7 KEY LAND MANAGERS

- LCA's
- RLPB's
- Landholders
- National Parks
- State Forests
- Department of Lands
- Service providers – Country Energy, ARTC
- RTA

4.0 LEGISLATIVE AND REGULATORY SITUATION

4.1 CURRENT DECLARATION

Hypericum perforatum (Common Name: St John's Wort) is declared as a Class 4 noxious weed in the following LCA areas across the Macquarie Valley region:

Class 4: The growth and spread of the plant must be controlled according to the measures specified in a management plan published by the local control authority	
<ul style="list-style-type: none">• Cabonne Council• Castlereagh Macquarie County Council• Dubbo City Council• Mid Western Regional Council• Narromine Shire Council	<ul style="list-style-type: none">• Orange City Council• Parkes Shire Council• Upper Macquarie County Council• Wellington Council

4.2 DECLARATION CHANGES

No alteration to existing declaration is anticipated.

5.0 CONSIDERATIONS AND OPPORTUNITIES

5.1 FINANCIAL SUPPORT TO CARRY OUT THE PLAN

The majority of the financial support for this plan will be provided as part of LCA/RLPB weed control programs. Further support will be sought through DPI's group project funding program. Any other funding source deemed relevant by MVWAC will also be explored.

5.2 LINKS TO OTHER STRATEGIES

- Australian Weed Strategy
- NSW Invasive Species Plan

- MVWAC Regional Weed Strategy
- Catchment Action Plans

5.3 BARRIERS AND CONTINGENCIES

Barriers

- St John's Wort spreading from core infested areas.
- Landholders do not have the resources to control the weed in core areas.
- Landholders lack the knowledge to use alternative methods to control the weed.
- RLPB's issuing Permits for moving stock through St. John's Wort infested TSR's during the seeding period.
- Spread by wild and feral animals.
- Seed long dormancy (up to 10 years).
- Spread by vehicles, stock, wind and water.

Contingencies

- Variable seasonal conditions
- Resource shortfall

6.0 ACTION PLAN

Objective	Action	Performance indicator	By whom
1.7.1 Considerably reduce impacts of existing weeds	All public lands to be inspected annually	100% of all roadsides, reserves and Travelling Stock Routes (TSR's) inspected.	LCA weed officers & RLPB rangers
	Control methods to be carried out on all infestations on LCA & RLPB lands as seasonal conditions allow	Existing infestations on LCA/RLPB lands reduced by 50%	LCA weed officers & RLPB rangers
	All private properties identified as having infestations are to be inspected annually and regulatory action taken as required	100% of identified properties inspected Existing marginal infestations on private lands reduced by 20% Existing rare and isolated infestations on private lands reduced by 50%	Landholders & LCA weed officers
1.7.2 Prevent new weed problems	Inspect for St John's Wort as part of routine property inspection program	St John's Wort is included in the inspection routine	LCA weed officers & RLPB rangers
	Aspects of the rapid response program to be implemented when a new infestation is discovered	100% of located new infestations recorded and mapped 100% of new infestations treated 100% of new infestations to be monitored and follow-up treatment programs implemented	Landholders, LCA weed officers & RLPB rangers
	All infestations to be contained to prevent new	Buffer zones established around sites known to be infested	Landholders, LCA weed

	weed problems		officers & RLPB rangers
1.7.3 Improve coordination and cooperation	All infestations to be recorded and mapped	Maps produced and updated regularly Data recording standards adhered to	LCA weed officers & RLPB rangers
	Plan implementation to be monitored and reviewed	Review process (as outlined in section 7.0) carried out	RPO, LCA weed officers & RLPB rangers
	Actively seek partnerships with other weed management agencies	Partnerships developed where necessary	RPO, LCA weed officers & RLPB rangers
	Develop on-ground management plans with neighbouring landholders, LCA's and RLPB's	Plans of management entered into and partnerships developed with neighbouring landholders, LCA's and RLPB's	LCA weed officers & RLPB rangers
1.7.4 Raise awareness of weeds issues within region	St John's Wort to be part of a regional weeds awareness program	Advertisements on television Field days held Displays at local shows attended by Weed Officers Weed pamphlets distributed to landholders during property inspections Weed Calendars distributed by LCA's and RLPB's	DPI, RPO, LCA weed officers & RLPB rangers

7.0 MONITOR AND REVIEW

There will be an annual review of the St John's Wort Regional Management Plan to ensure the performance indicators are realistic and are being met. Member LCA/RLPB's weed officers and rangers will participate in the review process. This would include discussions on increases or decreases of range, new incursions, successful management strategies, expectations and results.

8.0 BENEFITS

To have control work carried out by LCA and RLPB on land under their control will reduce further spread of St John's Wort onto privately occupied land and if landholders control St. John's Wort on their land the benefits will include:

- Minimised the health risks to stock and humans
- Agricultural productivity will increase
- Hay production from previously infested areas will be clean
- Increased land values and
- Substantial benefit from produce grown in the Macquarie Valley.

9.0 RESOURCES

- Auld, B.A. and Medd, R. W. (1987) "WEEDS" An illustrated botanical guide to the weeds of Australia, Inkata Press, 255pp.
- Anon (1998) Review of Legislation Concerning the Control of Weeds in New South Wales. NSW Government May 1998.

- Anon (1998) Noxious Weeds Declaration list, October 1998.
- Campbell, M.H., Briese, D.T. & Delfosse, E.S. (1995). *Hypericum perforatum* L. in the biology of Australian weeds, ed. R.H. Goves, R.C.H. Shepherd and R.G. Richardson, Richardson: Melbourne.
- Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (1992) Plants of western New South Wales. Inkata: Melbourne.
- Parson, WT and Cuthbertson, EG (2001). *Noxious Weeds of Australia*. Inkata: Melbourne.
- Jupp, P.W., Briese, DT & Groves R.H. (1996). St John's Wort: *Hypericum perforatum* L: Integrated control and management. Proceedings of a workshop held at CSIRO Entomology