1.0 COVER PAGE

NSW DEPARTMENT OF PRIMARY INDUSTRIES

REGIONAL WEED MANAGEMENT PLAN

1.1 PLAN TITLE: **Scotch Thistle**

1.2 PLAN PROPONENTS
Regional weed advisory committee: Macquarie Valley Weeds Advisory Committee
Address: C/- Cabonne Council, PO Box 17, Molong NSW 2866
Contact person: Cath Kearney, Secretary
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Signature: Chairman: …….. Date: ……..

1.3 NAME OF PLANT(S) WONS n
Botanical name: *Onopordum* species Common name: Scotch thistle, Stemless thistle, Illyrian thistle, Taurian thistle

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 Scotch Thistle 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):

- Cabonne Council
- Dubbo City Council
- Mid-Western Regional Council
- Narromine Shire Council
- Orange City Council
- Parkes Shire Council
- Wellington Council

Participating County Council:

- Castlereagh Macquarie County Council
- Upper Macquarie County Council

Participating Rural Lands Protection Boards:

- Central Tablelands
- Dubbo
- Molong
- Mudgee

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

A planned regional response to this weed is necessary to stop the spread of this invasive plant. Scotch Thistle has the potential to decrease income in a highly productive and agriculturally diverse area as well as the threat it poses to the environment. Scotch Thistle has the potential to reduce the viability and production of prime agricultural land in the Central Tablelands, a critical part of the economy of the region. Scotch Thistle is undesirable in the Macquarie Valley region because it competes well with pasture and it can be difficult to control by traditional pasture improvement techniques, it is rejected by livestock because of dense spines, and if eaten the spines can cause damage to the eyes and mouths of animals. The public will be encouraged to care about the control of this weed because it can cause problems to agriculture, the environment and recreational activities. It is important that Scotch Thistle is controlled because if left unchecked it can greatly impact on agricultural practices in this region.

3.2 THE 'DO NOTHING' OPTION

If nothing were done to suppress, reduce and manage Scotch Thistle, it would lead too extended infestations, spreading to clean properties and reduce cropping and general farming activities in the region. It would have the potential to decrease land productivity by up to 80% if not controlled, which would impact tremendously on the economic returns in this highly productive and agriculturally diverse region. It would decrease land values, increase weed control costs for good land managers, restrict the types of agricultural production and increase the displacement of native and improved pastures, impacting on the environment.

3.3 DISTRIBUTION OF INFESTATIONS

Scotch Thistle can become prolific on roadsides, waterways, recreational areas, agricultural and crown land if not controlled and allowed to set viable seed. It can be found to grow on most soil types throughout the tablelands of the Macquarie Valley region. It is best suited to subhumid temperate regions such as Central Tablelands, grows well on soils of moderate to high fertility, and occurs as a competitive weed of Australian pastures. Currently, Scotch Thistle infestations are rare and isolated in the Macquarie Valley.

A brief summary is as follows:

Cabonne Council: Eastern side of Cabonne Council.

Orange City Council: Eastern side of Orange around the Lucknow area.

Mid- Western Council: Rare and isolated over much of the area.

Wellington Council: Not declared, but have introduced bio control agents in "hot spots"

3.4 WEED BIOLOGY

An erect annual or biennial herb growing to 2 metres high, commonly to 1.2 metres high, reproducing by seed there can also be some local spread of severed root pieces by cultivation equipment.

Generally there is one main stem with numerous branches, covered with dense woolly hairs giving a whitish appearance, and broad spiny wings.

Leaves are covered with a mat of white woolly hairs, very prominent on the undersides (although somewhat sparse in some specimens) less so on upper sides, broadly lanceolate to ovate, margins cut or toothed undulate spiny. Rosette leaves are stalked up to 40cm long, stem leaves similar but sessile with bases extending down the stem wings.

Flowers are purple or mauve surrounded by numerous spiny bracts, heads 2 to 6cm diameter, solidarity or in small groups at the ends of branches, bracts woolly at the base and ending in sharp orange spines.

Seeds are grey with darker mottling 4 to 5mm long, quadrangular, transversely wrinkled pappus of toothed hairs, up to twice as long as the seed often detached from the seed in the head.

3.5 METHOD AND RATE OF SPREAD

Seeds germinate at any time of the year; hence infestations consist of plants of various ages and sizes. However there are two main times of germination, late summer-autumn and late winter-spring. Plants resulting from the first are annuals, most of which flower in the following spring and summer and then die, later germinating plants may either be annual or biennials. The biennials remain as rosettes over the first summer, flowering in the second spring or summer. Ineffective cutting, cultivation or chemical control often produces new growth in plants and plants become short lived perennials. Damaged plants or dead plants can remain standing for many months.

3.6 SPECIES MANAGEMENT

There is a wide variety of cost effective herbicides to control Scotch Thistle as well as several biological control agents, which have been released to assist in controlling this weed. These biological agents attack the plant at various growth stages such as flowering or rosette.

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

LCA	Declaration Status
Cabonne Council	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
Castlereagh Macquarie County Council	Not Declared
Dubbo City Council	Not Declared
Mid Western Regional Council	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
Narromine Shire Council	Not Declared
Orange City Council	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
Parkes Shire Council	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
Upper Macquarie County Council	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
Wellington Council	Not Declared

4.2 DECLARATION CHANGES

No changes to declaration status are 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:

- Scotch thistle is spreading from known infested areas
- Long seed dormancy (known to be over 8 years dormancy)
- Spread by vehicles, stock, wind, water, grain and fodder
- Staggered germinations
- Lack of knowledge by Landowners
- Absentee landowners

Contingencies:

- Seasonal conditions will1imit control strategies
- Environmental issues such as water storage areas for stock/domestic may become issues on chemical restrictions

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 70%	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 50% Existing rare and isolated infestations on private lands reduced by 60%	Landholders & LCA weed officers
1.7.2 Prevent new weed problems	Inspect for Scotch/Illyrian Thistle as part of routine property inspection program	Scotch/Illyrian Thistle 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 weed problems	Buffer zones established around sites known to be infested	Landholders, LCA weed officers & RLPB rangers
1.7.3 Improve	All infestations to be	Maps produced and updated	LCA weed

coordination and cooperation	recorded and mapped	regularly Data recording standards adhered to	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	Scotch/Illyrian Thistle 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 Scotch/Illyrian Thistle 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

If a management plan is in place and control carried out by all stakeholders the benefits to the Macquarie Valley would be:

- Protection of agricultural land from invasion of Scotch Thistle, which would increase grazing, and cropping production.
- A reduced cost to the public in the future
- More accessible recreational areas
- Reduced injury to livestock
- Protection of land values
- Protect the environment by decreasing displacement of native and improved pastures
- Restoring biodiversity to the region
- Increased productivity by increasing employment
- Better access to watering points and streams
- A reduction in the weed
- A benefit to the Macquarie Valley Catchment area through better land use eg cleaner fodder and much higher yields from previously infested areas.

9.0 RESOURCES

- Cunningham, GM Mulham, WE. Milthorpe. PL & Leigh, HI (1992). "*Plants of Western NSW"*. Inkata: Melbourne

- Milvain, H (1997). "*Herbicide Control of Noxious weeds 1997; A Guide to Noxious Weed Control in Non Crop Situation"*. DPI Orange

- Parson, WT and Cuthberson, Eg (1992). "*Noxious Weeds of Australia"*. Inkata: Melbourne.

- Dellow and Holtkamp 1996 "*Scotch, Illyrian and stemless thistle"*. DPI Orange