

REGIONAL WEED MANAGEMENT PLAN

1.1	PLAN TITLE: GIANT PARRAMATTA GRASS MANAGEMENT IN THE NEW ENGLAND AND NORTH WEST REGIONS OF NSW.
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1.2 PLAN PROPONENTS	
Regional Weeds Advisory Committee:	Northern Inland Weeds Advisory Committee
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Signature: Chairman	Date: Submitted 30 October 2004

1.3	NAME OF PLANT(S)	WONS	NO
Botanical name(s):	<i>Sporobolus fertilis</i>		
Common Name:	GPG (GPG)		

1.4	PLAN PERIOD (not to exceed five years)		
Starting date:	1 st July 2005	Completion date:	30 th June 2010

1.5 AREA OF OPERATION

This plan covers the area of the Northern Inland Weeds Advisory Committee (NIWAC) as indicated in the **attached map**. This is an area of approximately 100 000 km² extending from the Liverpool Range in the south, to the Queensland border in the north, east to the New England Tablelands and west to Moree Plains and Narrabri Shires. However, not all LCAs are covered by this plan - those included are listed under stakeholders (page 2).

- 1.6 AIM**
- TO MINIMISE THE SPREAD OF GPG AND CONTAIN INFESTED AREAS AT 2004 LEVELS.
- 1.7 OBJECTIVES**
- A. Eradicate all light infestations (R1, R2 infestation categories) on private and public land by 2010.
 - B. Ensure that the total area of public land infested by GPG by does not increase beyond October 2004 levels.
 - C. Reduce infestations on private properties by at least one infestation category per property by 2010.
 - D. Improve landholder understanding of GPG, its method of spread, impacts on production and effective management.

2. STAKEHOLDERS

2.1 Signatories - organisations committed to the objectives/performance measures of this plan

- Glen Innes Severn Council (GISC);
- Narrabri Shire Council (NSC);
- New England Weeds Authority (NEWA)
- Tamworth Regional Council (TRC); and
- Tenterfield Shire Council (TSC).

These stakeholders contributed to the plan via a regional planning workshop and were given various opportunities for input. All stakeholders, except for Narrabri Shire and Tamworth Regional Council, have GPG in their area. NSC and TRC are in this plan because they want to keep it out of their LCA.

2.2 Other stakeholders - interested parties consulted as part of this planning process.

All LCAs and RLPBs in our NIWAC region were invited to be part of this regional plan. State Forests and Department of Environment and Conservation (formerly National Parks and Wildlife Service) were also invited to contribute and have been involved through NIWAC.

3. BACKGROUND & JUSTIFICATION

3.1 Plan justification - reason for this plan

GPG infestations in our region are still at a manageable level due to the persistence and vigilance of several LCAs. A continued, coordinated and strategic approach is necessary to limit current distribution and to promote a consistent message about the impacts and management of GPG. Such an approach is also critical to stop GPG from entering the tablelands from the adjoining coastal areas where it is a major problem.

3.1.1 Description of the problem

Current and potential impact of the problem

Current impact

The current impact of GPG varies across the NIWAC area. Major problems occur in the New England Weed Authority area, particularly on the eastern fall in the upper reaches of the Macleay catchment. The problem is less serious in Tenterfield Shire, with about 95 infested properties. Most infestations in the Glen Innes Severn Council area fit into the rare/isolated to light infestation categories (R1, R2 categories).

Potential impact

The potential distribution of GPG is mainly limited to eastern NSW. It is widespread and locally common in coastal areas of NSW and Queensland. There is significant potential for further spread into and across the NIWAC region.

Why it is important that this weed is controlled?

GPG invades pastures on poor soils, is adapted to various conditions and can reduce pasture and animal production. It also produces a huge number of seeds and, once established, will exclude native plants. It recovers rapidly from fire and is a major weed of disturbed and pastoral land.

The negative impacts of GPG are significant to graziers that rely on moderate quality native and naturalised pastures to maximise the number of healthy calves over the breeding life of each cow while minimising costs. Infested pastures reduce the breeding life of each cow and the vigour and weaning weight of calves.

Experiences in Queensland have shown the serious nature of GPG. Consequently, it is now one of 7 species that have been declared as Class 2 species in that state. These weeds must have a Weed Hygiene Declaration to provide information on whether any product is contaminated or free of weed seed.

3.2 Do nothing scenario

Without a coordinated regional approach, GPG could spread across the entire tablelands and slopes.

Where control is not economically feasible, GPG can be managed for grazing. If grazed short and kept leafy, it has similar quality to carpet grass in summer and is better quality than carpet grass in spring.

However, the feed quality is very poor once it gets rank and seeds. Obviously though, grazing management is really only an option for infestations on private land.

3.3 Distribution of infestations - where it occurs.

GPG, a native of South America, was introduced to NSW in the early 1800s. It is an aggressive weed that has invaded and, in some cases, taken over large areas of coastal NSW and southern Queensland. The table below summarises the distribution of GPG in the NIWAC region and the attached map shows the regional distribution.

Organisation	Distribution of infestations
Armidale RLPB	Infestations along the Macleay River.
Glen Innes Severn Council	Less than 1% of total shire, or 6 properties, infested with R1 and R2 infestations. Minor infestation on the Glen Innes to Grafton Rd.
Narrabri Shire	There are currently no infestations of GPG in Narrabri Shire.
New England Weeds Authority	Infestations extend all along the lower Macleay River and the river flats, extending into the hills.
Tamworth Regional Council	There are currently no infestations of GPG in the area covered by the Tamworth Regional Council.
Tenterfield Shire	About 95 properties infested, ranging in size from 150 ha to a few square metres, and about 250 km of roadsides. About 10-15% of the total shire is infested.

3.4 Biology

GPG is a tufted, perennial grass that can grow to 2 metres but normally only 60 to 150 cms.

The seed heads are up to 40 cm long and resemble a rat's tail. The branches at the bottom of the seed head often droop away from the central stem. The seeds, which are about the size of sugar grains, form at the ends of each floret. Seeds are initially white and turn yellow-brown at maturity.

GPG flowers and seeds in the frost-free period of the year, with the main seeding in late summer/autumn. Single tussocks grow up to 40 cm in diameter and produce more than 200 seed heads per year. The tussocks hay off in the autumn, leaving a distinctive straw of seedless heads.

3.5 Method and rate of spread

Seed is the only means by which GPG can spread. At maturity, seed becomes sticky when damp and is spread by animals, clothes, vehicles and machinery. Seed can also stick to the hooves of animals and footwear and can spread from infestations along roads and track. Studies at the University of New England have shown that seeds falling from the hair of stock are a greater method of seed dispersion than excretion.

Current rate of spread

When the original GPG regional plan was submitted in 2000, the main infestations were in TSC and the area covered by the NEWA with scattered plants along approximately 150 kms of roadsides in

Tenterfield and 35km in NEWA area. Scattered infestations were reported in GISC area and on RLPB and other public land. The current situation is still similar and the weed continues to spread.

3.6 Species Management

The main threat to the persistence of GPG is competition. Property hygiene and early identification are also critical to prevent the production and spread of weed seed.

Prevention

Prevention is a critical part of GPG management. It is far preferable to keep a property GPG free from the outset - control is very difficult and expensive once the plant has established. Farm hygiene will minimise the spread of weed seed and all landholders should check on the source of stock, seed or other farm products to ensure that they are GPG free.

Control

The best time to control is anytime from spring to late summer to prevent seeds from maturing and producing seed. As with all weeds, the best control method will depend on the size, degree and location of the infestation, land use and growth stage. Some of the following options may be relevant.

Mechanical - Small, individual plants should be hand pulled, taking care to remove the whole root system. Slashing is only recommended when GPG is the dominant species. Plough and/or slash prior to seed set and sow with a competitive pasture species.

Chemical - Herbicides are only effective in some situations because they kill existing plants but seed reserves in the soil remain untouched. Wick wiping (also called chemical slashing or pasture-topping) can be used to improve the grazing quality of GPG. Chemical options include: fluproponate 745 g/L (various trade names), Glyphosate 360 g/L (Various trade names, PER 4697, PER 6675), Glyphosate 450g/L (various trade names) Glyphosate 360g/L Roundup Biactive ®) and 2,2-DPA (various trade names).

Grazing - suitable for light to medium infestations. Grazing management should aim to keep GPG as short as possible through high intensity grazing, wick wiping or judicious slashing.

3.7 Key land managers

Given that GPG is spread very effectively by farm machinery, clothing and livestock, the success of this plan hinges on the coordinated efforts of many land managers.

Local Control Authorities - have a responsibility to control infestations on LCA land, conduct extension activities, inspect private properties, record details of GPG infestations and coordinate the efforts of other stakeholders.

Local Councils - Councils also have a responsibility to minimise the spread of weed seed through routine operations such as slashing, grading and road construction. These efforts need to be integrated with the work of the Weeds Officers.

Public land managers - their responsibility is similar to councils, particularly given the potential for seed to be spread by recreational users.

Graziers - Control and management on private land is ultimately the responsibility of landowners. This is particularly relevant to tablelands graziers given the potential for GPG to be spread by animals.

Northern Inland Weeds Advisory Committee (NIWAC) - the regional committee is responsible for developing policy and for encouraging all LCAs and RLPBs to adopt this policy. They also provide a focus for coordination and annual review and monitoring of proposed actions.

Stock agents and saleyards - these managers have a responsibility to provide wash-down facilities for stock transports. Saleyards and holding paddocks should also be inspected regularly to ensure that suspicious plants are quickly removed.

4 REGULATORY SITUATION

4.1 Current declaration

GPG is currently listed as a W2 weed in all LCAs in the north west and New England, except for Narrabri and Moree Plains Shire Councils.

4.2 Declaration changes

There are no declaration changes but it should be noted that the Central Northern County and North West Weeds County Councils were disbanded on 1st July 2004, following changes to local government boundaries. We are assuming that the new LCAs, namely Liverpool Plains Shire Council (based on the former Quirindi Shire Council boundary), Gwydir Shire Council (incorporating the former shires of Bingara and Yallaroi) Tamworth Regional Council (incorporating the former shires of Barraba, Manilla, Nundle, Parry and Tamworth City Council) and Inverell Shire Council (which formerly operated under the North West Weeds County Council, will adopt the W2 classification.

5. CONSIDERATIONS & OPPORTUNITIES.

5.1 Financial support to carry out the plan

All stakeholders listed in this plan will contribute a significant proportion of their own funds towards implementing this regional plan. Department of Primary Industries noxious grant funding will also be accessed but, given the limited nature of these funds, it is expected that this will only account for a small percentage of total expenditure to implement this plan.

The Action Plan section of this plan indicates the funding source for specific actions.

5.2 Links to other strategies

This Plan forms part of the **NIWAC Regional Strategy**. It also contributes to the following desired outcomes from the **State Weed Strategy**:

- a. Development/implementation of programs to reduce environmental degradation and the loss of biodiversity through weed invasion;
- b. Implementation of effective weed control programs on public, State-owned and Crown land;
- c. Promoting resource-sharing and formal associations - such as weeds authorities and weeds county councils - between local control authorities;
- d. Ongoing planning/monitoring of weed control programs to ensure that objectives are achieved in an efficient and cost-effective manner - including developing performance indicators for weed programs and using them to evaluate LCA noxious weed programs; and
- e. Development/promotion of sustainable, cost-effective management systems for the control of weeds in crops, pasture and forestry - including providing information on best-practice weed management through the media, publications, public and private consultants

The inspection and extension activities associated with –in the main–be combined with the normal LCA inspection and coordination program.

5.3 Barriers

Barriers restrict what can be done and how. Identifying these barriers is the first step to overcoming them. The main barriers to managing GPG are:

- B1. Identification is difficult in new areas where landholders are not aware of the problem;
- B2. Poor understanding of control methods;
- B3. Constant risk of re-introduction from stock and vehicle movement.

Specific strategies to overcome these barriers are outlined in the Action Plan.

5.4 Contingencies

The main limiting contingencies are those that may effect the landowner's economic circumstances and ability to control infestations on their property. These include drought, low commodity prices and rising production costs.

ACTION PLAN

FURTHER EXPLANATION OF PLAN AIMS AND OBJECTIVES

AIM: TO MINIMISE THE SPREAD OF GPG AND CONTAIN INFESTED AREAS AT 2004 LEVELS.

OBJECTIVE 1: Eradicate all light infestations (R1, R2 infestation categories) on private and public land by 2010.

- This objective is **specific** - it specifically relates to R1 and R2 infestations on private and public land. These are infestations where less than 1% of the total site has either scattered individual plants or scattered patches with isolated plants interspersed.
- This objective is **achievable and realistic** - participating organisations are confident that these smaller infestations can be totally removed within five years.

OBJECTIVE 2: Ensure that the total area of public land infested by GPG by does not increase beyond October 2004 levels.

- This objective is **specific** - it specifically relates to the total hectares of public land infested. However, it does not necessarily mean that the density of infestations will be reduced.
- This objective is **achievable and realistic** - through their local activities, participating organisations can directly effect the number of hectares infested. Originally, this objective was to reduce the areas infested by 10% but this is seen as unrealistic given the current regional extent and impact of GPG. Limiting the area to the current levels of infestation is seen as the best possible, and most realistic, outcome.

OBJECTIVE 3: Reduce the extent and severity of infestations on private properties by at least one infestation category per property by 2010.

- This specifically relates to the extent and severity of each infestation on each individual private property.
- Given the widespread nature of GPG in some LCAs this is seen as the most realistic and achievable aim across the region. This objective means that the infestation will be reduced to a lower infestation category. For example, if a property has a H3 infestation (over 20% of the property with large, dense infestations) of GPG it should be reduced to at least a H2 (over 20% of the property, scattered patches with isolated plants). However, total number of hectares infested could still be the same.

Objectives 1, 2 and 3 are all **measurable**. All LCAs in the NIWAC region have a standard approach for recording infestations on private property. This involves recording the number of hectares infested and the infestation category. The infestation category is based on the severity/degree of infestation, expressed as either 1 (scattered individual plants) 2 (scattered patches/isolated plants) or 3 (large, dense infestations) and the extent/% of property infested, expressed as either High (over 20% of the property infested) Medium (5 - 20% of the property infested), Low (1-5% of the property infested), Rare/Isolated (less than 1% of the property infested) or Not Found. The attached table explains these categories and shows the relevance of this approach for monitoring outcomes.

OBJECTIVE 4: Improve landholder understanding of GPG, its method of spread, impacts on production and effective management.

This could be either an objective or strategy. It is included as an objective because it describes a change we would like to achieve through this plan.

CONTROL & MANAGEMENT STRATEGIES

Related objectives: Eradicate all light infestations.

Reduce the total areas of public land infested.

Reduce infestations on private property by at least one infestations category

Small infestations of GPG can be controlled but larger infestations must be managed to minimise spread and seed production.

				While not included in the DPI format for regional plans these columns are included so every stakeholder can look at the plan and know exactly what they are expected to do and when by			
NO	ACTION (WHAT)	PERFORMANCE INDICATOR	BY WHOM	WHERE	WHEN	PRIORITY	\$ SOURCE
1.	Control all infestations on Local Control Authority land.	All new infestations treated before seed set.	Relevant LCAs	All levels of infestation	Ongoing	ESSENTIAL	DPI regional group project grant LCA funds
2.	Adopt roadside management guidelines for routine operations such as slashing, mowing and road maintenance to minimise the spread of weed seed.	Roadside management guidelines endorsed and adopted by all Councils in the NIWAC region.	All Councils in the NIWAC region	All levels of infestation	By December 2005	HIGHLY DESIRABLE	Individual council funds
3.	Develop/implement weed hygiene policies to minimise the spread of weeds seed through daily operations.	Weed hygiene policies adopted by all public land managers by June 2006.	Policy coordinated through NIWAC, implemented by LCAs and RLPBs	All public land incl. roads, TSRs and Crown land	June 2006	ESSENTIAL	Individual LCA and RLPB funds

EXTENSION & AWARENESS STRATEGIES & ACTIONS

Related objective: *Improve landholder understanding of GPG, its method of spread, impacts on production and effective management*

Awareness and extension activities are critical to achieving the objectives in this plan. GPG will only be controlled if people know what it is, understand its impacts and know how to control it. Extension must focus on the method of spread and the need to minimise spread by adopting roadside management guidelines and improving farm and machinery hygiene.

				While not included in the DPI format for regional plans these columns are included so every stakeholder can look at the plan and know exactly what they are expected to do and when by			
NO	ACTION (WHAT)	PERFORMANCE INDICATOR	BY WHOM	WHERE	WHEN	PRIORITY	\$ SOURCE
4.	Promote farm quarantine, incl. the need to allow stock to 'empty out' before releasing to fresh paddocks, cleaning farm machinery and minimising weed spread.	All landholders provided with advice as requested.	Weeds Officers in conjunction with DPI staff	All areas	Ongoing	HIGHLY DESIRABLE	Council funds
5.	Promote roadside management guidelines to minimise the spread of weed seed through Council operations	All Councils endorsing and adopting roadside management guidelines	NIWAC	all areas	Ongoing	HIGHLY DESIRABLE	NIWAC resources
6.	Promote control by the use of wick wiper and Glyphosate.	Increased use of wick wipers for control.	Weeds Officers	All areas	Ongoing	ESSENTIAL	Council funds
7.	Promote identification skills through existing opportunities including agricultural shows at Tenterfield and Glen Innes, Bonalbo Bull sale, local stock sales and Weedbuster week.	2 extension activities per year per LCA/RLPB.	Weeds Officers - TSC, GISSC In conjunction with local networks	All areas	Ongoing	ESSENTIAL	DPI grant funds Private sponsorship
8.	Specifically target contractors to increase awareness and improve practices.	Spread of GPG to new areas minimised.	Weeds Officers	All areas	Ongoing	HIGHLY DESIRABLE	Council funds

SURVEILLANCE STRATEGIES & ACTIONS

Related objectives: Eradicate all light infestations.

Reduce the total areas of public land infested.

Reduce infestations on private property by at least one infestations category

Surveillance is important to gain a better understanding of the extent and impact of the problem and to monitor any changes in the situation. Without this feedback it is impossible to know if the situation is improving, or getting worse, and to decide how to best direct resources to meet the plan aims and objectives.

				While not included in the DPI format for regional plans these columns are included so every stakeholder can look at the plan and know exactly what they are expected to do and when by			
NO	ACTION (WHAT)	PERFORMANCE INDICATOR	BY WHOM	WHERE	WHEN	PRIORITY	\$ SOURCE
9.	Continue to identify and map current infestations on private and public land as part of routine procedures.	Roads in risk areas inspected twice/year. All infestations mapped and classified following surveillance activities.	LCAs with input from RLPBs	All public land incl. roadsides and TSRs	Ongoing	ESSENTIAL	Council funds
10.	Inspect risk properties and classify all infestations using the NIWAC approach which is based on the extent (estimated % of the total property infested) and the severity or degree (density of plants)	1/3 of risk properties inspected each year.	Relevant LCAs	All areas that currently have GPG infestations	Ongoing	ESSENTIAL	DPI grant funding
11.	Monitor changes in the number of properties infested and infestation category for each.	Prepare regular reports detailing the number of properties infested and the total hectares for each infestation category.	All stakeholders	All areas	June annually	ESSENTIAL	Council funds

7. MONITORING & REVIEW PROCESSES

Each stakeholder will be required to report against performance indicators at least annually. Stakeholders will also be required to provide regular updates on the infestations in their area, using a format that is endorsed by NIWAC. These reports will include details of spraying activity and results from inspections including the number of properties inspected, number of infested, the hectares infested and the type of infestations.

Individual reports will be collated into an annual regional infestation report. This regional report will be used to monitor outcomes and to assess if the weed problem has improved or worsened. An example of the annual infestation report is included on page 15. These annual reports will be prepared by either the plan author/lead organisation or the Regional Plan Coordinator.

Stakeholders will also be encouraged to use NIWAC meetings to report on any regionally significant issues.

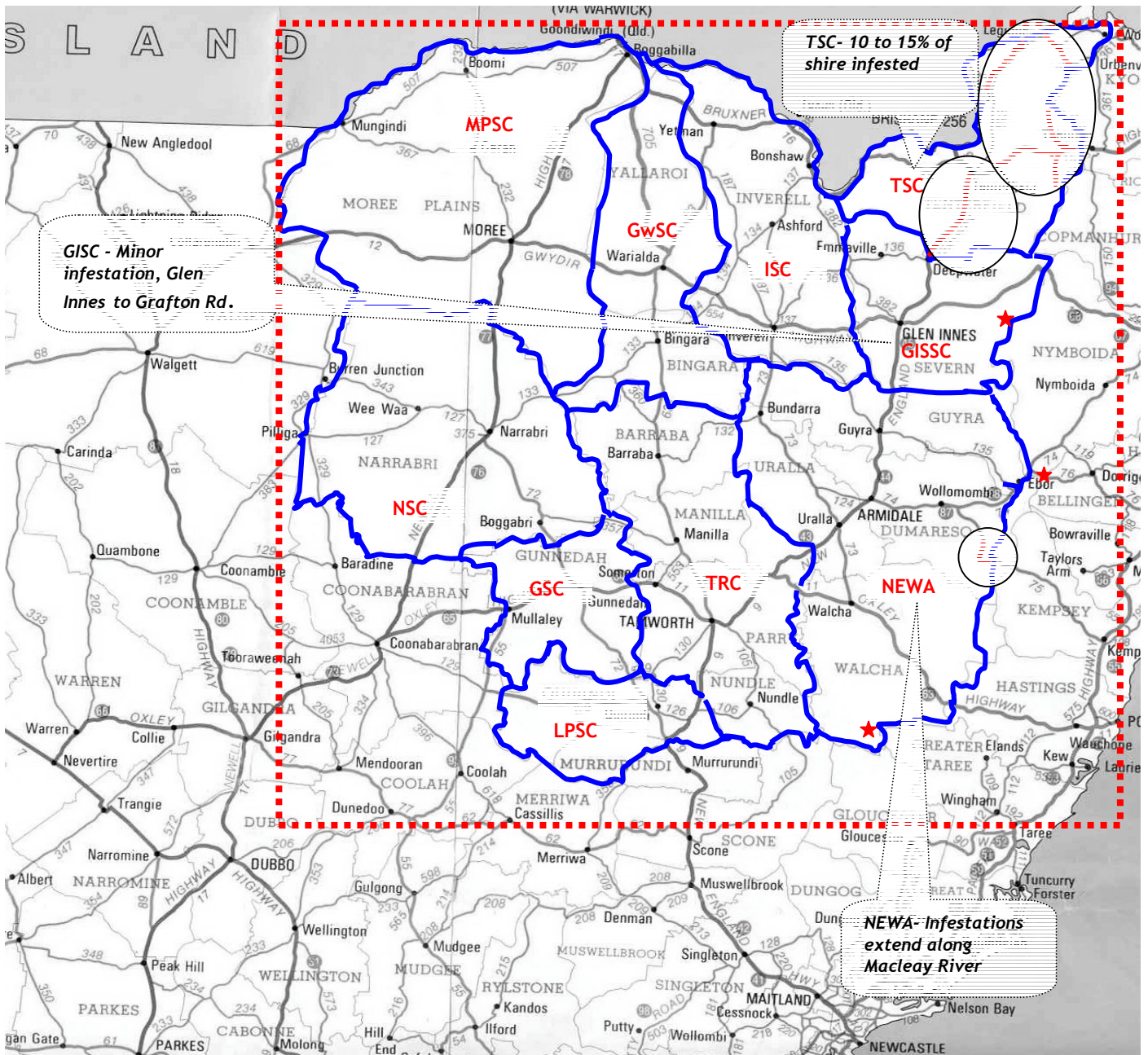
8. BENEFITS

- This plan provides a uniform approach to reduce the spread of GPG from infested LCA areas on the north coast to the adjoining LCAs on the northern tablelands and adjacent slopes.
- Many of the management practices required to minimise the spread of GPG will also reduce the spread of many other weed species; particularly perennial grasses. This will reduce the pressure that these weed species currently place on biodiversity.
- Ultimately, the adoption of improved roadside management practices and protocols should reduce the overall cost of control for many roadside weeds.

9. RESOURCES

- NSW Agriculture (2001) Agnote - Control of Giant Parramatta Grass
- NSW Agriculture (2004) Noxious and Environmental Weed Control Handbook - A guide to control in non-crop, aquatic and bushland situations.
- NSW State Weed Strategy (April 1998)
- Northern Inland Weeds Advisory Committee (2004) GPG Fact Sheet
- Tenterfield Shire Council (2000) Original Giant Parramatta Weed Control Plan





**NIWAC REGIONAL WEED MANAGEMENT PLAN
GIANT PARRAMATTA GRASS- (UPDATED NOVEMBER 2004)**



Note: Infestations not mapped to scale - map intended as an indication of the location of infestations. The annual infestation report (page 15) gives an idea of the number and extent of infestations in each LCA.

KEY

CODE

- | | | | |
|---|---------------------------------|---|--------------------------------------|
|  | LCA Boundaries |  | NIWAC regional boundary |
| GISSC | Glen Innes Severn Shire Council | MPSC | Moree Plains Shire Council |
| GSC | Gunnedah Shire Council | NSC | Narrabri Shire Council |
| GwSC | Gwydir Shire Council | NEWA | New England Weeds Authority |
| ISC | Inverell Shire Council | TRC | Tamworth Regional Council |
| LPSC | Liverpool Plains Shire Council | TSC | Tenterfield Shire Council |
|  | Infestation - not to scale |  | Roadside infestations - not to scale |

NIWAC REGIONAL WEED MANAGEMENT PLAN
GIANT PARAMATTA GRASS - (UPDATED NOVEMBER 2004)

ANNUAL INFESTATION REPORT
GPG - JULY 2004

	Number of properties with infestations and hectares infested by infestation category																								PUBLIC LAND	
	HIGH (H)						MEDIUM (M)						LOW (L)						Less than 1% of property infested							
	more than 20% of property infested						Between 5 and 20% of property infested						Between 1 and 5% of property infested													
	H1		H2		H3		M1		M2		M3		L1		L2		L3		L		R/I					
	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	No	Ha	km	ha
GISSC																			2	50	4	20	6	70		
NSC																							0	0	0	0
NEWA																					1	1	1	1	245	24
TRC																							0	0	0	0
TSC					4	200					50	150					40	40					94	390		
TOTALS	0	0	0	0	4	200	0	0	0	0	50	150	0	0	0	0	40	40	2	50	5	21	101	461	202	922

This table shows the number of infestations and their infestation category for each LCA and RLPB participating in this plan. The attached matrix explains the categories.

These figures are based on information provided by each organisation. LCA figures are gathered during property inspections. These figures can be used to monitor changes in:

- The number of properties infested (in total, by infestation category and by organisation/area) ;and
- The number of hectares infested (total, by infestation category and by organisation).

**NIWAC INFESTATION MATRIX
USED TO CLASSIFY WEED INFESTATIONS**

			EXTENT				
			Estimated % of total property area (hectares) infested.				
			HIGH	MEDIUM	LOW	RARE/ISOLATED	NOT FOUND
			Over 20 % of the property infested with either one or all of the degrees of infestation	Between 5% and 20% of the property infested with either one or all degrees of infestation	Between 1 and 5% of the property infested with either one or all degrees of infestation	Less than 1% of the area of the property infested with Class 1 or Class 2, or a mixture of the two.	Not found
SEVERITY OR DEGREE	Scattered individual plants	1	H1	M1	L1	R1	NF
	Scattered patches with isolated plants interspersed	2	H2	M2	L2	R2	
	Large, dense infestations	3	H3	M3	L3		