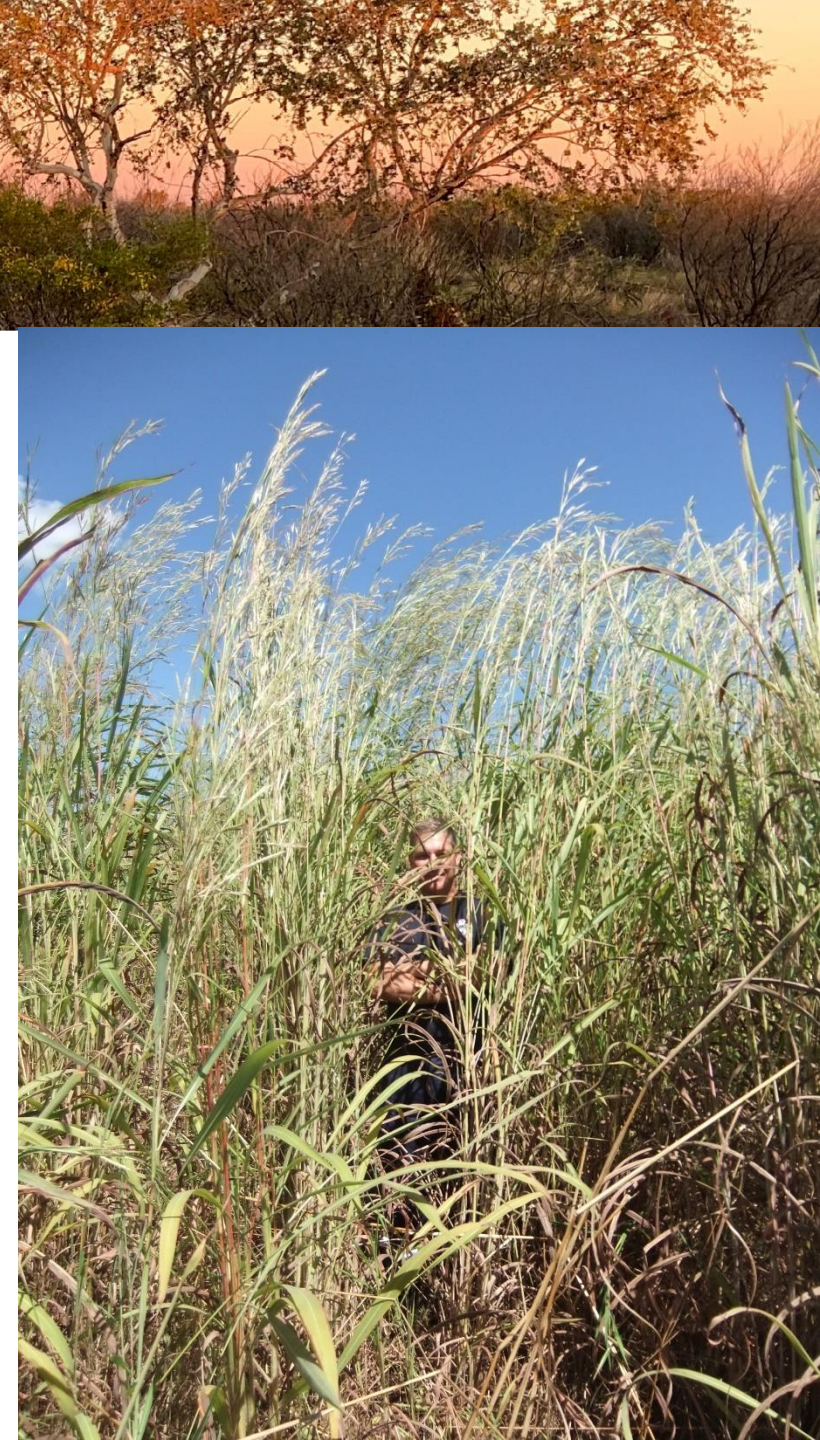


# THE GAMBIA ARMY



# Background

- We know it's a habitat transforming species
- Invasive characteristics (=resilient pasture species?!)
- Increasing public awareness – science ➡ declared a weed 2008
- Increasing public awareness ➡ the Gamba Army
- The current government has committed \$500,000 over this WS
- Complement and supplement existing land manager control efforts
- Additional workforce on priority areas ➡ conservation, amenity
- Job creation



# Know your Enemy

- Understand its ecology, phenology (e.g. seeding)
- Understand the interaction with native species
- Species identification
- Relationship between gamba grass ecology and integrated weed management practices?
- When is it vulnerable?

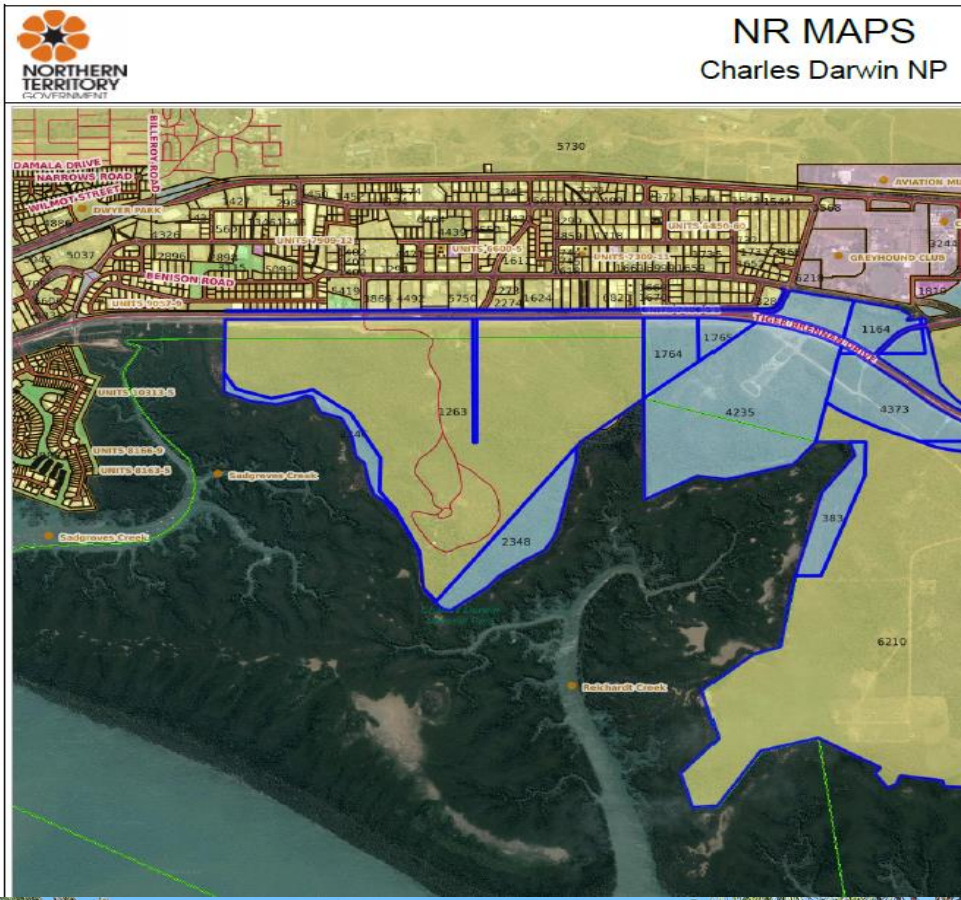


# Know your Allies



# Pick your battlefields

- Site prioritisation
  - Conservation areas
  - High amenity use
  - Impact on adjoining tenures
  - Leverage with existing investment
  - Leave the battles that require a bigger army
- Engage relevant land managers



## Create a plan of attack

- Inspect the battle fields (sites)
- Previous 'battle' history – fire (WS, DS), herbicide, slashing (grazing)
- Develop Site Operational Plan
  - Water sources
  - Access
  - Maps, monitoring points
  - Safety



# Get your weapons ready

- Spray gear
- Herbicide
- Capital vs Labour
  - cost-effective



# Recruit and train your 'soldiers'

- Expression of Interest

- Casual workers
  - Students, Tourist industry, Invested land managers
- Contractors



## EXPRESSION OF INTEREST

Territory Natural Resource Management are seeking casual workers to be part of the Gamba Army.

### Background

The Darwin region is a diverse and beautiful area with a rich diversity, assets and people. The Gamba Army aims to complement and supplement current efforts by providing an additional workforce on priority areas, including conservation. The current government has committed \$500,000 to the creation and deployment of the Gamba Army for the 2020-21 Wet Season. This is your opportunity to be part of this meaningful project.

Gamba Army workers will be responsible for the application of herbicide (glyphosate) on Gamba grass across a range of sites in the Darwin region using backpack sprayers and/or high volume sprayers (e.g. QuikSpray units) under the direction of the Team Leader.

Gamba Army personnel will be expected to:

- Enjoy working outdoors and positively contributing to effective land management outcomes
- Be willing to apply herbicides, including wearing of necessary protective equipment
- Be able to complete accredited units in treating weeds and/or applying chemicals under supervision
- Be flexible and adaptable to working in various work locations throughout the Darwin and rural area
- Be fit and capable of working in hot, humid conditions, walking through vegetation on rough ground
- Ensure their personal health and safety, and that of others in the workplace
- Work cooperatively and respectfully with other team members to accomplish joint tasks
- Possess or have ability to develop, skills in the identification of Gamba grass.

Gamba Army Contractors will provide a supplementary workforce with other workers within the Gamba Army. There will be a range of sites across the Darwin and Litchfield region which will be targeted under a transparent prioritisation process to complement existing weed management programs. You will be part of a panel of preferred Contractors who may be asked to quote for Gamba Grass Spray activities over the duration of the 2020-21 Wet Season. Sites will have defined boundaries aimed at smaller-scale but highly strategic weed management such as smaller infestations within 'clean' areas, or to leverage from adjoining weed management activities resulting in an overall larger gamba grass managed area. This may be multiple sites over the duration of the 2020-21 Wet Season. Estimated up to \$10,000 per designated site.



## Join forces

- Already significant investment
- Leverage off existing effort
  - NTG (Parks, VCL, Roads)
  - Defence
  - Community



Reference	Description of procurement	Agency	Contract value	Contractor name	Territory enterprise	Awarded
Q19-0398	Katherine, Pine Creek, Mataranka - Weed Management on Vacant Crown Land	Department of Infrastructure, Planning and Logistics - Lands and Planning	\$150,553.00	Territory Weed Management Pty Ltd	Yes	11 Oct 2019
Q19-0467	Greater Darwin Region - Consultancy - Review of the Crown Land Weed Management Strategy and the Darwin Region Weed Management Plan	Department of Infrastructure, Planning and Logistics - Lands and Planning	\$68,219.00	SLR Consulting Australia Pty Ltd	Yes	23 Dec 2019
T19-1229	Darwin Region - Slashing and Weed Control in Road Reserves for a Period of 36 Months - Mandatory Industry Briefing	Department of Infrastructure, Planning and Logistics - Transport and Civil Services	\$4,995,476.04	Akron Group NT Pty Ltd	Yes	24 Sep 2019
T19-1796	Katherine Region - Central and Eastern Area - Weed Controlling in the Road Corridor for a Period of 12 Months - Mandatory Industry Briefing	Department of Infrastructure, Planning and Logistics - Transport and Civil Services	\$125,850.00	Piening Holdings Pty Ltd	Yes	24 Dec 2019
T19-1799	Katherine Region - Gulf Area - Weed Control in Road Corridor - Period of 36 Months	Department of Infrastructure, Planning and Logistics - Transport and Civil Services	\$134,275.00	Triple P Contracting Pty Ltd	Yes	27 May 2020
T19-2229	Darwin Region - Auditing of Weed Management Compliance for a Period of 36 Months	Department of Infrastructure, Planning and Logistics - Transport and Civil Services	\$135,825.00	Stephen Paul Wingrave	Yes	24 Feb 2020
19-1215	Darwin - Supply and Delivery of X3 Quikspray Weed Spray Units for Parks, Wildlife and Heritage	Department of Tourism, Sport and Culture - Parks, Wildlife and Heritage	\$59,582.00	H.D Enterprises Pty LTD	Yes	29 Aug 2019
19-1638	Katherine - Supply of X 1 Weed Spray Unit for Parks, Wildlife and Heritage	Department of Tourism, Sport and Culture - Parks, Wildlife and Heritage	\$17,486.76	HD PUMPS	Yes	10 Feb 2020
19-1624	Darwin Region - Darwin Package A (Wishart West, Wishart East, Sec 1902 Middle Arm, Sec 6126 East Arm and Hidden Valley Reserve) - Weed Mgt Services - Period of 12 Months	Land Development Corporation - Corporate Management	\$66,528.00	Practical Land Management	Yes	5 Nov 2019
19-2172	Darwin Region - Multiple Sites - Weed and Fuel Load - Project Planning and Management Services - Period 12 Months	Land Development Corporation - Corporate Management	\$18,480.00	Little Falcon Consulting	Yes	20 Dec 2019



Time the attack



# Multi-weapon attack

- Interaction between fire history and application of herbicide
- Subsequent fire management post-spray
- Gamba Army liaison with land managers



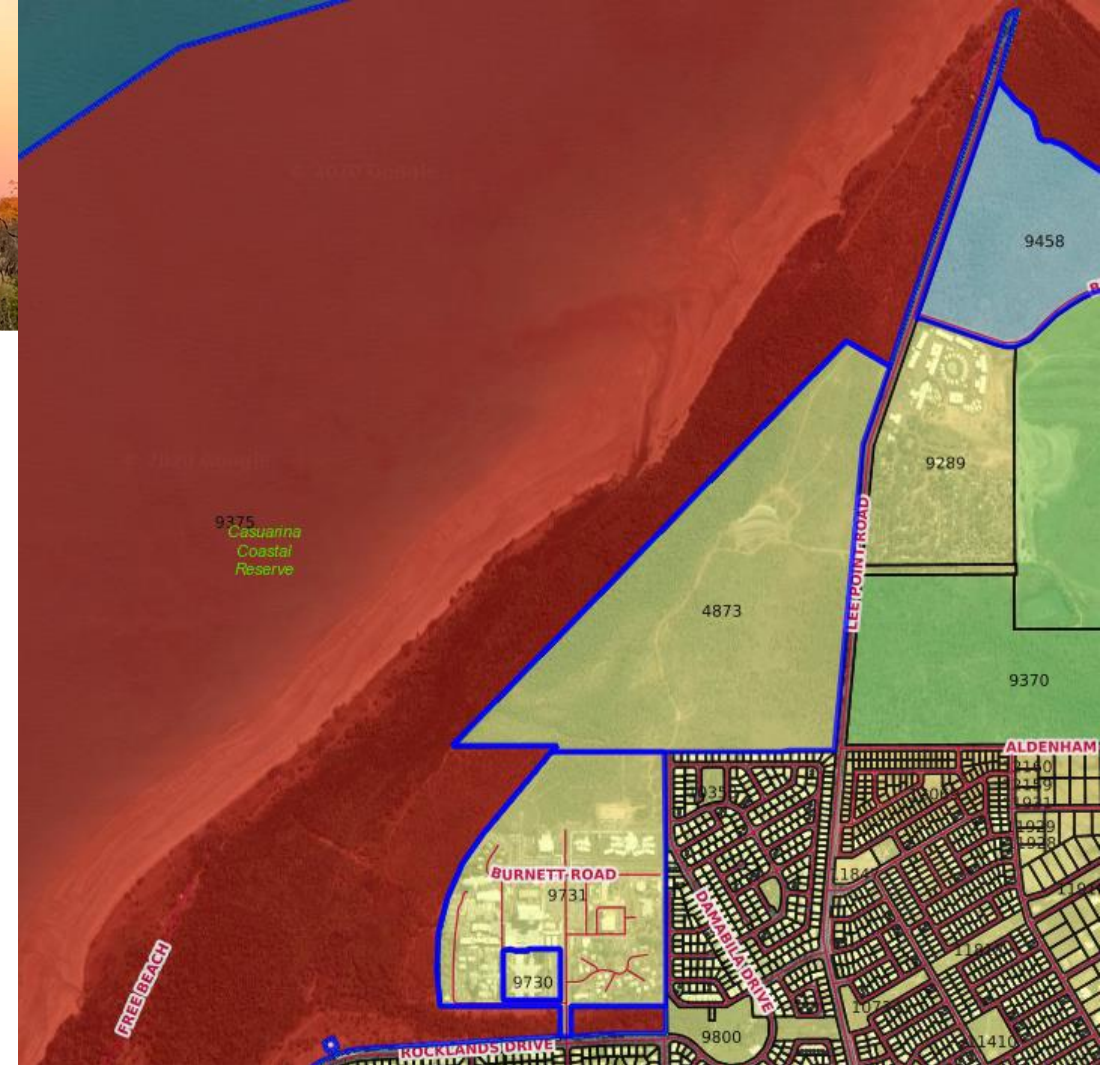
**Table 1.** Considerations for spraying and burning at different times for gamba grass management.

Time of season	Advantages	Disadvantages
<p><b>Early WS (Dec–Feb)</b></p>	<p><b>Gamba grass is actively vegetative:</b></p> <ul style="list-style-type: none"> <li>• Uses smaller volume of herbicide and less time per plant or per unit area than when plants have matured</li> </ul> <p><b>Allows integration of spraying with previous DS or current WS burn:</b></p> <ul style="list-style-type: none"> <li>• Stimulates lush green re-growth for improved herbicide efficacy</li> <li>• Removes rank tiller material from previous WS for decreased interception (waste) of herbicide</li> <li>• Increased operator safety and easier application by not working in thick tall gamba (logs, snakes, caught up hoses etc)</li> </ul> <p><b>Allows staggering of spray and burn times:</b></p> <ul style="list-style-type: none"> <li>• Prioritise spray areas previously burnt and now re-growing; follow-up areas from previous season</li> <li>• Less hectic than DS for Fire Officers' burning workload</li> <li>• Rainfall settles smoke haze</li> </ul>	<p><b>Gamba grass if not recently burnt:</b></p> <ul style="list-style-type: none"> <li>• Dormant tillers not yet emerged; often requires follow-up spraying later that WS to target regenerating tillers plus new recruited seedlings</li> <li>• Rank tillers remaining from previous WS not susceptible to herbicide uptake</li> <li>• Spraying may cause collateral damage of desirable species</li> </ul> <p><b>Hot and humid, it rains a lot:</b></p> <ul style="list-style-type: none"> <li>• Logistics more difficult; rain delays</li> <li>• Discomfort; poor worker efficiency</li> </ul> <p><b>To conduct a burn at this time:</b></p> <ul style="list-style-type: none"> <li>• Requires a short break in WS</li> <li>• May require fire exclusion in preceding DS for fuel load to carry</li> <li>• Removal of ground cover may lead to erosion from intense WS rain</li> <li>• May require additional DS burn if follow-up herbicide application NOT conducted</li> </ul>



# Attack across borders

- Geographic block
- Multi-tenure
- Micro-eradication zones
- E.g. Casuarina Coastal Reserve
- Strength of the Gamba Army



Street Name	Street Type	Parcel Label	Parcel Area M2	Property Name	Owner Category	Tenure Reference Description
ROCKLANDS	DR	9731	449900		Northern Territory Government	Freehold
FLOREY	AVE	9730	27300		Private	Freehold
LEE POINT	RD	4873	813300		Private	Freehold
TROWER	RD	9375	13600000	CROWN	Northern Territory Government	Reserve
BUFFALO CREEK	RD	9458	343300	CROWN	Northern Territory Government	Vacant Crown Land



13Nov2020

4July2016

14Aug2016

# Implications for management

## INTEGRATED WEED CONTROL

- NTG largest investment into gamba grass control in the NT (maybe Australia?)
- Incorporate into tenders / contracts
- Develop three-year operational strategy including WS burning / spraying
- Continual burning exacerbate gamba grass problem; where do we want to be in a decade?

This was a slide from a talk 2016

### 19. PROPOSED BURN LOCATIONS 2015



# Future battles for the Gamba Army?

- Win some battles in 2020-21
- How to show this?
- Follow-up requirements
- Processes to incorporate into future land manager's tenders / contracts
- Develop three-year operational strategy including WS burning / spraying
- Aspirational vs practical and cost-effective?





## GAMBA ARMY



**RECRUITING NOW!**

Eva Lawler MLA: Member for Drysdale

November 8 at 9:30 AM

Boots will hit the ground soon with recruitment for the Gamba Army now beginning!

Protecting biodiversity and our beautiful recreational areas, this \$500,000 project run by not-for-profit organisation Territory NRM and the NT Weeds Branch will provide up to 45 local jobs.

Weeds management protects lives, property and our environment and the Gamba Army will also help stimulate the Territory economy.

Gambagrassroots FBpage

Find out more at [www.territorynrm.org.au](http://www.territorynrm.org.au)

Gamba Army  
is ramping  
up for  
deployment

