

# GAMBA GRASS

ANNUAL REPORT

2023

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Acronyms	Full form
AG	Australian Government
CDU	Charles Darwin University
DEPWS	Department of Environment, Parks and Water Security
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
GAP	Gamba Action Program
GFMU	Gamba Fire Mitigation Unit
GGMU	Gamba Grass Management Unit
ICIN	Indigenous Carbon Industry Network
NESP	National Environmental Science Program
NLC	Northern Land Council
NTCA	Northern Territory Cattlemen's Association
NTFRS	Northern Territory Fire and Rescue Service
NTG	Northern Territory Government
TNRM	Territory Natural Resource Management
TAP	Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the 5 listed grasses
TSAP	Threatened Species Action Plan 2022–2032
WAC	Weed Advisory Committee
WMB	Weed Management Branch

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# 1. Executive Summary

The Weed Management Plan for Gamba Grass 2020 – 2030 (the gamba plan) was developed in 2020 to set out the legal requirements for land owners and occupiers in the Northern Territory for managing gamba grass. The gamba plan also outlines strategic goals, objectives and actions, to improve gamba grass management outcomes across the Northern Territory. This Gamba Grass Annual Report 2023 (this report) demonstrates progress against implementation of the gamba plan from 1 July 2022 to 30 June 2023.

**In summary, implementation against strategic goals, actions and objectives outlined in the gamba plan continue to be typically on track. This is demonstrated in this report by reporting against each performance indicator of the gamba plan. Two performance indicators have been marked as red 'significant concern with progress.' A colour coded summary of all progress is provided in Appendix 1.**

A number of key actions completed, over the reporting period of 1 July 2022 to 30 June 2023 include:

- Ongoing tracking of gamba grass eradication across the Class A (eradication) zone through implementation of the mapping and monitoring program, see [Gamba grass mapping and monitoring program for Class A \(eradication zone\) \(nt.gov.au\)](#). Key findings include:
  - A total of 1573 gamba grass management units (1ha grids) across the Class A zone have now been assessed in the 2023 assessment spanning 73 properties and 16 different roads / highways. Of these 73 properties with gamba grass:
    - 12 properties are 'active' – with either an unknown management status, partially unmanaged, unknown or no data provided during 2022/23
    - 19 properties are 'active' – control has occurred
    - 10 properties are under 'monitoring'
    - 32 properties are 'locally eradicated.'
- Work undertaken by Territory Natural Resource Management through Australian Government funding helped to aerially survey many areas of the Class A zone, informing progress towards eradication of gamba grass in this zone.
- Compliance inspections and enforcement actions across the Class B (control) zone by the Weed Management Branch are summarised as follows:
  - In the Darwin rural area:
    - 1333 compliance inspections were undertaken
    - 22% of these properties were issued authorised officer orders and of these 10% have been notified of an intended penalty infringement notice.
  - Across Darwin and surrounds (outside Darwin rural area):
    - 93 compliance inspections were undertaken and 97% of these properties were issued authorised officer orders to comply.
- A 'Have your say' survey was conducted in April 2023 for a 4 week period to seek feedback from the community on implementation against the gamba plan. The survey results are included online (where permission has been provided) at [nt.gov.au/gamba](https://nt.gov.au/gamba).
- The Gamba Grass Weed Advisory Committee are continuing to oversee implementation of the gamba plan through quarterly meetings and out-of-session discussions.

## 2. Purpose

This Gamba Grass Annual Report 2023 (this report) has been prepared to fulfil the requirements of the Weed Management Plan for Gamba Grass 2020 – 2030 (the gamba plan). The gamba plan requires that all performance indicators and measures will be reported on annually to assess performance and to determine whether the stipulated actions are contributing towards the identified outcomes at a Territory level.

Since the development of the gamba plan in December 2020, this is the third annual report to be published. This annual report covers the reporting period 1 July 2022 to 30 June 2023.

This report has been released after the due date of 30 July to allow for collaboration with stakeholders required by objective 5b and to include this information in this report.

### How to interpret this report

This report documents progress made against each performance indicator in the gamba plan. An extract from the gamba plan is included in Appendix 1 that presents Tables 7 to 11 showing all goals, objectives, strategic actions, performance indicators and performance measures.

Each performance indicator in Appendix 1 has been colour-coded to represent progress made against the gamba plan. The colours in Appendix 1 indicate the following progress made:

- white: yet to be started
- grey: to be evaluated
- green: on track
- orange: progress but some concerns
- red: significant concerns with progress.

## 3. Introduction

The gamba plan was finalised and approved by the Minister for Environment in December 2020 and sets out the legal requirements for land owners and occupiers in the Northern Territory for managing gamba grass. The gamba plan also outlines strategic goals, objectives and actions, to improve gamba grass management outcomes across the Northern Territory. The gamba plan was drafted by a statutory Gamba Grass Weed Advisory Committee (WAC), appointed by the Minister in April 2020, which has stayed on to oversee its implementation.

Gamba grass (*Andropogon gayanus*) is a declared weed under section 7 of the *Weeds Management Act 2001* (the Act) and has a split declaration as a Class A and B weed for different areas of the Northern Territory (see Figure 1).

- The gamba grass Class A zone means gamba grass is to be eradicated in all areas of this zone.
- The gamba grass Class B zone means gamba grass growth and spread is to be controlled.

These declared areas are based on the known distribution and density of gamba grass. As such, different goals and objectives apply to these zones to limit the impacts of gamba grass on the natural environment, life, property and infrastructure.



Figure 1: Gamba grass management zone A (Eradication) and zone B (Growth and spread to be controlled).



## Gamba Management Framework

The Gamba Management Framework (see Appendix 2) has been developed by the Department of Environment, Parks and Water Security (DEPWS) to demonstrate the collaborative projects that DEPWS are involved in to help manage the impacts of gamba grass. The Framework continues to evolve and strengthen with new elements being added including:

- 1) the addition of the Parks and Wildlife Division to DEPWS and the control work undertaken by rangers within the parks estate; and
- 2) the formulation of a specific gamba grass research project by the Office of Climate Change.

### Collaboration with key stakeholders to inform annual report

A 'Have your say' survey was conducted in April 2023 seeking community feedback on implementation of the gamba plan. WAC members and their represented stakeholders were also invited to provide feedback for inclusion in this report. Key feedback has been incorporated throughout this report. All 'Have your say' survey results and individual submissions received during the survey period have been de-identified, compiled and are available (where permission has been provided) online at [nt.gov.au/gamba](https://nt.gov.au/gamba). A range of other stakeholders have also been invited to provide information for inclusion into this report.



Member of the WMB walking through gamba grass during a field day organised by the Gamba Army

## 4. Community feedback on gamba grass

A 'Have your say' survey was conducted in April 2023 where a total of 90 submissions were received. The survey asked a number of questions in relation to community opinion on gamba grass management.

Some key findings, including questions asked and answers provided are presented below:

### Q. What are the main factors that motivate you to manage gamba grass?

Participants are taking action to control gamba grass because:

- They are looking after nature (80% of participants).
- Safety of people and protection of built infrastructure (58% of participants).
- Looking after your lifestyle (33% of participants).
- Financial impacts of not taking action (28% of participants).
- Legal requirements (21% of participants).
- Other (10% of participants).

### Q. Do you know what your legal requirements are to control gamba grass?

- Yes – 76%
- No – 23%

### Q. What would help you to be more successful with your gamba management?

- Enforcement of gamba regulations and unmanaged infestations
  - Enforcement of unmanaged gamba infestations
  - Force property owners to manage gamba, heavy fines or make them pay more in tax or higher council fees
- More assistance
  - More herbicide and professional help
  - More free chemical
  - Maybe a street by street approach where residents work together. It only takes one to undo a lot of good work by others.
  - Greater access to sprays and spray units, options to call on professional resources if required; greater control on surrounding blocks.
- Government being more proactive – NTG cleaning up their land and council undertaking more spraying
  - More spraying and treatment on council land
  - NT government and Litchfield council need to manage gamba on their land to help reduce spread onto my land

### Key recommendations made by Gamba Grass Roots (key gamba grass lobby group):

- Increase Gamba Action Program (GAP) funding to \$300,000 per year for 4 years
- Commit to an annual budgeted baseline of \$1million per year for the Gamba Army for 4 years
- Funding an increase of at least \$10 million over 10 years in response to Litchfield National Parks Gamba Mapping Report.



The following response is provided to key topics raised above:

### Managing gamba to protect nature

In late 2022 the Australian Government made an announcement to commit \$9.8 million towards gamba grass management in line with the 2022 – 2032 Threatened Species Action Plan, see [Joint media release: Labor delivers on tackling gamba grass in the Top End | Ministers \(dcceew.gov.au\)](#). This funding will be directed towards managing gamba grass to protect matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), focusing on Kakadu National Park and the Class A (eradication) zone. This work is being administered through Territory Natural Resource Management (TNRM) and others.

### Legislative amendments and enforcement action

Legislative amendments were passed for the *Weeds Management Act 2001* in January 2023 enhancing the ability of weed management officers to regulate compliance with the gamba plan and to help improve gamba grass management outcomes across the NT. Modifications to the Act have resulted in larger fines for non-compliance with an order issued under the Act, increasing from \$283 to \$744<sup>1</sup>. Under the amended legislation new instruments have also been introduced. For example, a Ministers direction can be issued to a landholder to comply with a weed management plan and if not complied with, a penalty infringement notice up to \$1800 can also be issued. Under the Act non-compliant properties may be considered for enforced remedial work. Where remedial works are undertaken, the cost becomes a debt due and payable by the landholder to the Territory and a statutory charge is placed on the land.

A summary of compliance activities that have occurred over the reporting period are included throughout this report. Overall it can be reported that the number of orders and infringements issued this reporting period has continued to increase from the previous year. This does not necessarily mean community effort has waned, as is explained later in this report.

### Gamba management on government land

It is clear that community concern continues about how gamba grass is being managed on government land. The NTG continues to work towards improving the management of gamba grass on government land through a number of processes including:

- Discussing gamba grass management at quarterly Weeds and Fire Working Group meetings which are attended by the WMB, Gamba Fire Mitigation Unit (GFMU), Bushfires NT, NT Fire and Rescue Service, Parks and Wildlife, Power and Water, and the Department of Infrastructure Planning and Logistics (DIPL) vacant Crown land and civil assets roads units. This group aims to discuss operational on-ground gamba grass management, discuss progress with gamba grass management on government land and co-ordinate gamba grass management where possible.
- The Gamba Army funded by the NTG is helping with the management of gamba grass on NTG land.
- The WAC also continues to meet on a quarterly basis to oversee implementation of the gamba plan and provide ongoing advice to the Minister.
- The WMB continue to explore the regulation of gamba grass including on government land and ways that improved gamba grass management outcomes may be achieved.

More information on the above can be found in this report under Goals 2 and 4.

### Funding for the Gamba Army

The Gamba Army has proven to be an efficient and successful avenue for managing gamba grass across the Northern Territory. The Gamba Army has been an effective way of managing gamba grass across land with multiple adjoining land parcels where cross tenure coordination is required. Further information on progress made by the

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<sup>1</sup> From 9 January 2023

Gamba Army over the last year is included under Goal 4. Ongoing funding of \$300,000 per year over the next two years has been confirmed for the Gamba Army, following a successful Cabinet Submission from the WMB.

### **Funding for the Gamba Action Program**

The Gamba Action Program (GAP) will continue into the future to support private landholders manage gamba grass on their land. GAP is funded by the NTG and administered by the WMB. It includes the provision of \$100,000 for herbicide ongoing. At this stage funding has not been increased for this program however further funding has been requested.

### **Funding for gamba management on Litchfield National Park (\$10 million required over 10 years)**

Gamba grass control in Litchfield National Park occurs with funding received through internal and external processes. The results of the Charles Darwin University (CDU) / National Environmental Science Program (NESP) project have helped guide gamba control efforts in the park, including developing costed management scenarios to manage gamba grass in the Park under three management scenarios. This work was in part funded by the WMB.



**Gamba Army spraying gamba grass (photo provided by TNRM)**

## Goal 1 - Eradicate gamba grass from the Class A zone

### Objective:

#### 1a: Understand the distribution of gamba grass in the Class A zone.

**Performance indicator: "By July 2022, the extent of gamba grass has been assessed for land parcels identified in the monitoring and mapping program."**

As reported last year, a mapping and monitoring program has been developed for the Class A (eradication) zone. This program is available to the public at [nt.gov.au/gamba](http://nt.gov.au/gamba), excluding the Appendices that include individual property details.

The objectives of this program aim to determine the extent of gamba grass across the Class A zone on properties already known to have gamba grass and to track the progress towards eradication of gamba grass in the Class A zone. Progress towards eradications is measured by tracking the number of gamba grass management units (GGMUs) that are:

- **Active** – GGMUs containing a recorded gamba grass point.
- **Monitoring** – where gamba grass has not been detected for at least 12 months after the last detection.
- **Locally eradicated** – when the unit has been inspected and gamba grass has not been reported for at least 24 months after the last detection.

All land in the Class A zone with gamba grass records will continue to be evaluated to determine the current presence or absence of gamba grass. Evaluation is being conducted through a number of methods, including:

- field surveys conducted by the landholder, WMB or TNRM
- letters and property surveys sent to landholders asking to report on gamba presence / absence.

The assessment of the eradication of gamba grass in the Class A zone excludes the GGMUs within the two existing permit areas located in the Class A zone. This is because gamba grass is permitted to grow in these permit areas and is not under an eradication regime. Rather, they are closely monitored and audited by the WMB in conjunction with the landholders.

### Assessment of total gamba grass management units

In 2022, the WMB assessed the progress towards eradication of gamba grass in the Class A zone. A total of 650 GGMUs were assessed based on the known gamba grass in the Class A zone in 2022 (see Figure 2). Individual GGMUs span across individual properties and roads. A single unit is a 1 ha cell and a unit is triggered when there is one or more gamba grass points in the cell.

A reassessment of GGMUs, for the Class A zone, was undertaken in 2023 identifying the total GGMUs had increased to 1573 (see Figure 3). This increase was due to:

- 1) Historical gamba grass records being provided to the WMB from a number of landholders including Kakadu National Park that had not been previously provided to the WMB. Note that many of these gamba points are already locally eradicated. The addition of this historical data added an extra 725 GGMUs to the register.
- 2) New gamba grass detections in the reporting period 1 June 2022 to 31 May 2023 which has added an extra 207 GGMUs to the register.

Gamba grass on roads within the DIPL Katherine Management Region are under an ongoing monitoring and control program, therefore the main roads in this region are considered to have been searched for gamba grass. However, as only presence records are currently being reported, we have inferred absence during the 2022/23 reporting period where present records have not been reported. As a result, the assessment for 174 GGMUs was changed from 'active' to 'monitoring' for the following roads: Victoria Highway, Stuart Highway, Bicentennial Highway, Novis



Quarry Road, Ross Road, Fox Road, Central Arnhem Road, Roper Highway, Jilkminggan Access, Buchanan Highway, Buntine Highway and Carpentaria Highway.

A total of 42 new active GGMUs were reported in road corridors in the 2023 reporting period (1 June 2022 to 31 May 2023).

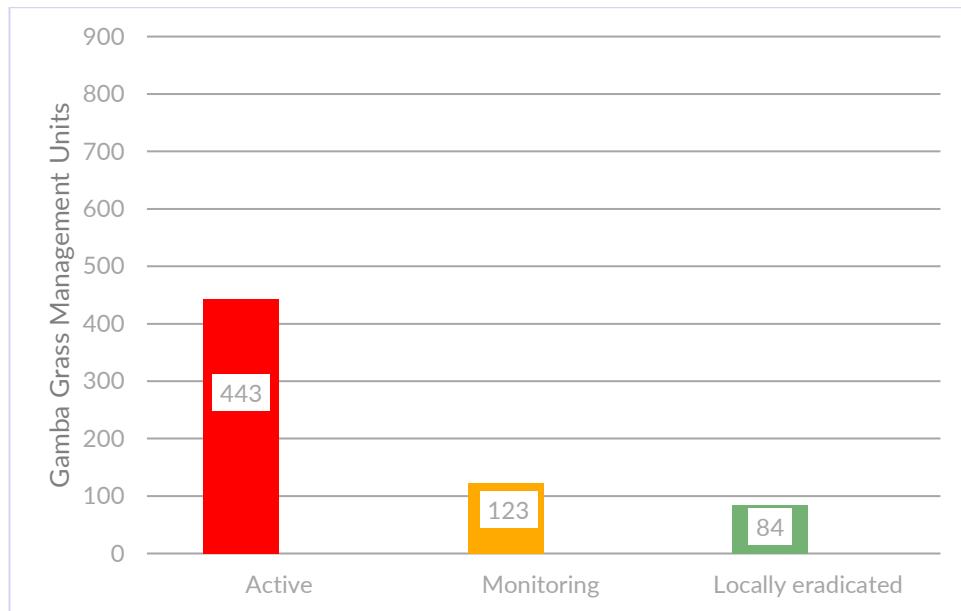


Figure 2: 2022 assessment of gamba grass management units across the Class A zone.

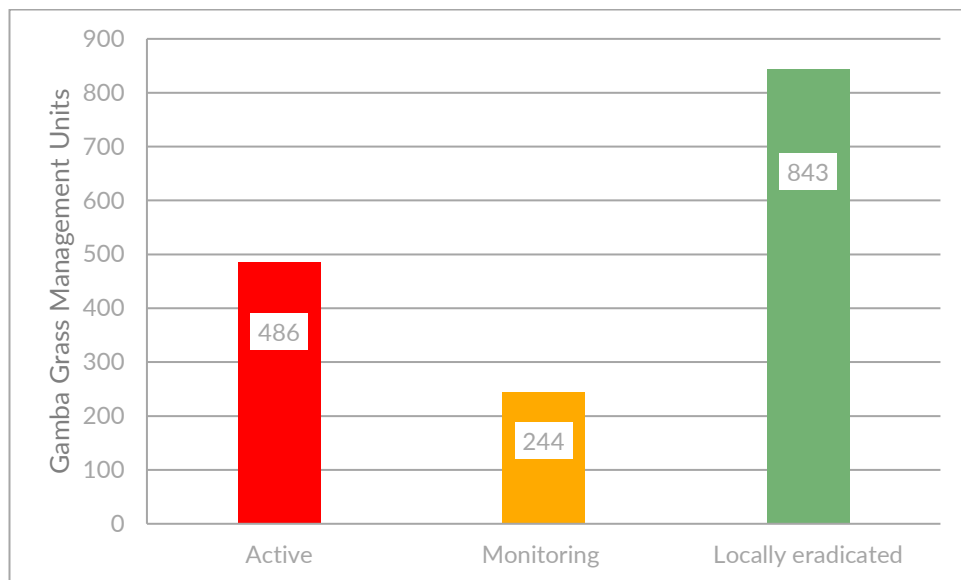
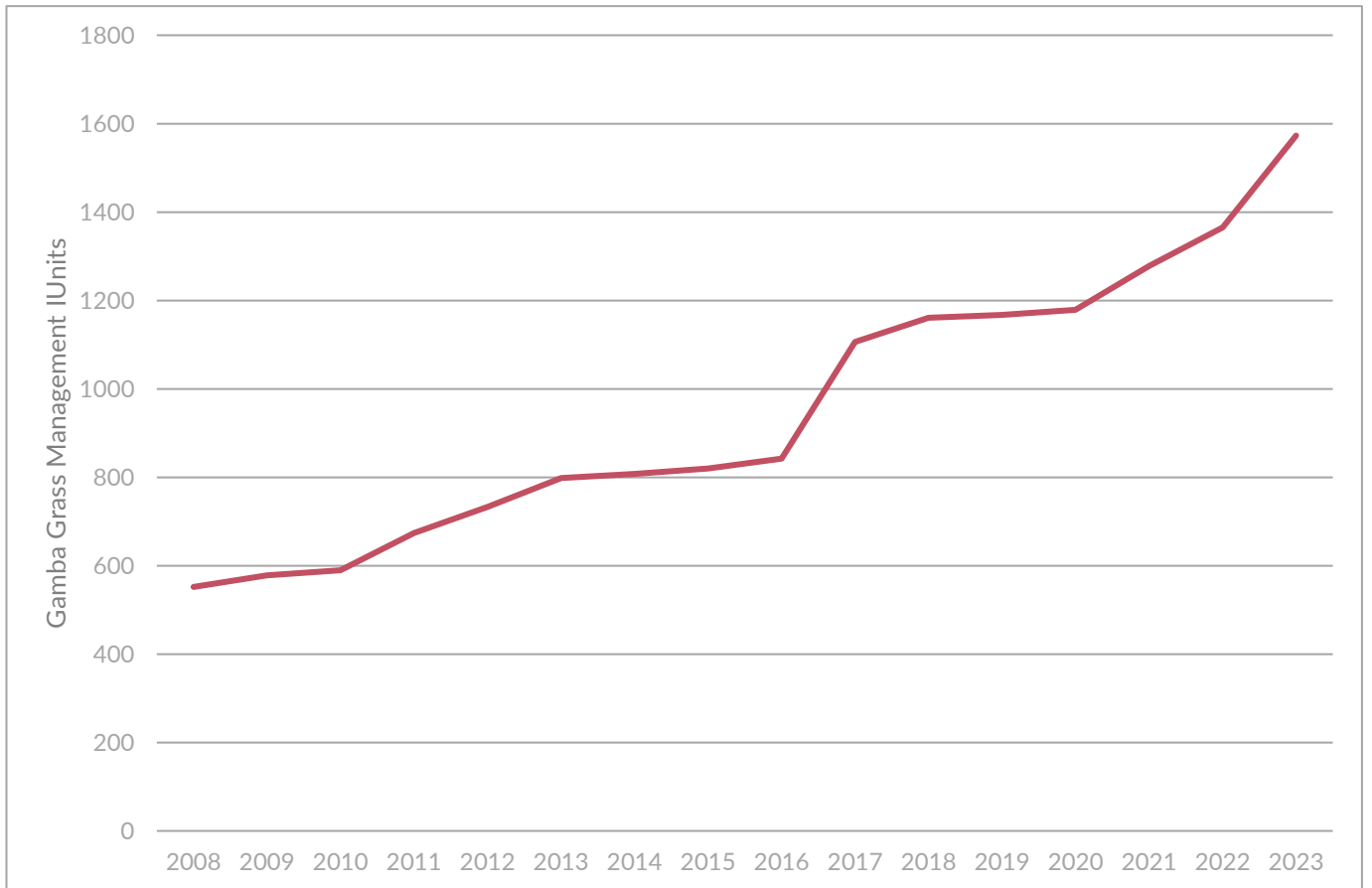


Figure 3: 2023 assessment of gamba grass management units across the Class A zone.

The WMB has also reviewed the historical gamba grass records for the Class A zone and assessed the rate of change in total GGMUs since 2008, when gamba grass was declared. Figure 4 presents the total number of GGMUs in the Class A zone since 2008 based on all gamba records available to the WMB in 2023.



**Figure 4: Total Gamba Grass Management Units (GGMUs) in the Class A zone since 2008. Note all records made prior to 2008 are included in the 2008 value.**



**Ranger identifying gamba seedlings (photo provided by TNRM)**

## Assessment of gamba grass management units across different regions of the Class A zone

The WMB has also assessed the GGMUs across the Class A zone across seven different regions to demonstrate progress towards eradication of gamba grass at a finer scale. The seven regions are shown in Figure 5 along with the eradication status of gamba grass, at a 10km scale. In addition, Figure 6 presents the 2023 assessment of GGMUs across each of the seven regions that are classed as 'active', 'monitoring' and 'locally eradicated'.

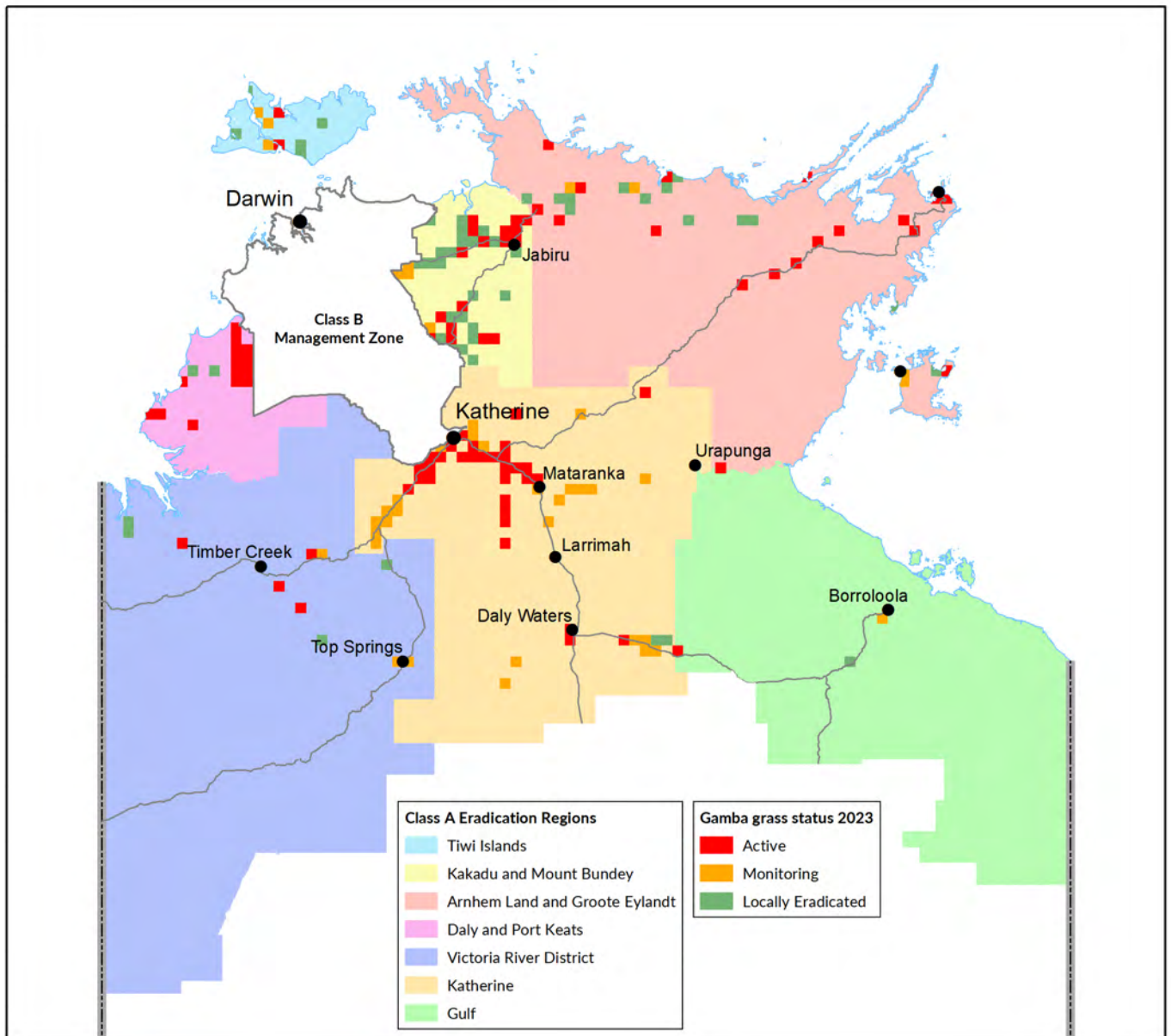
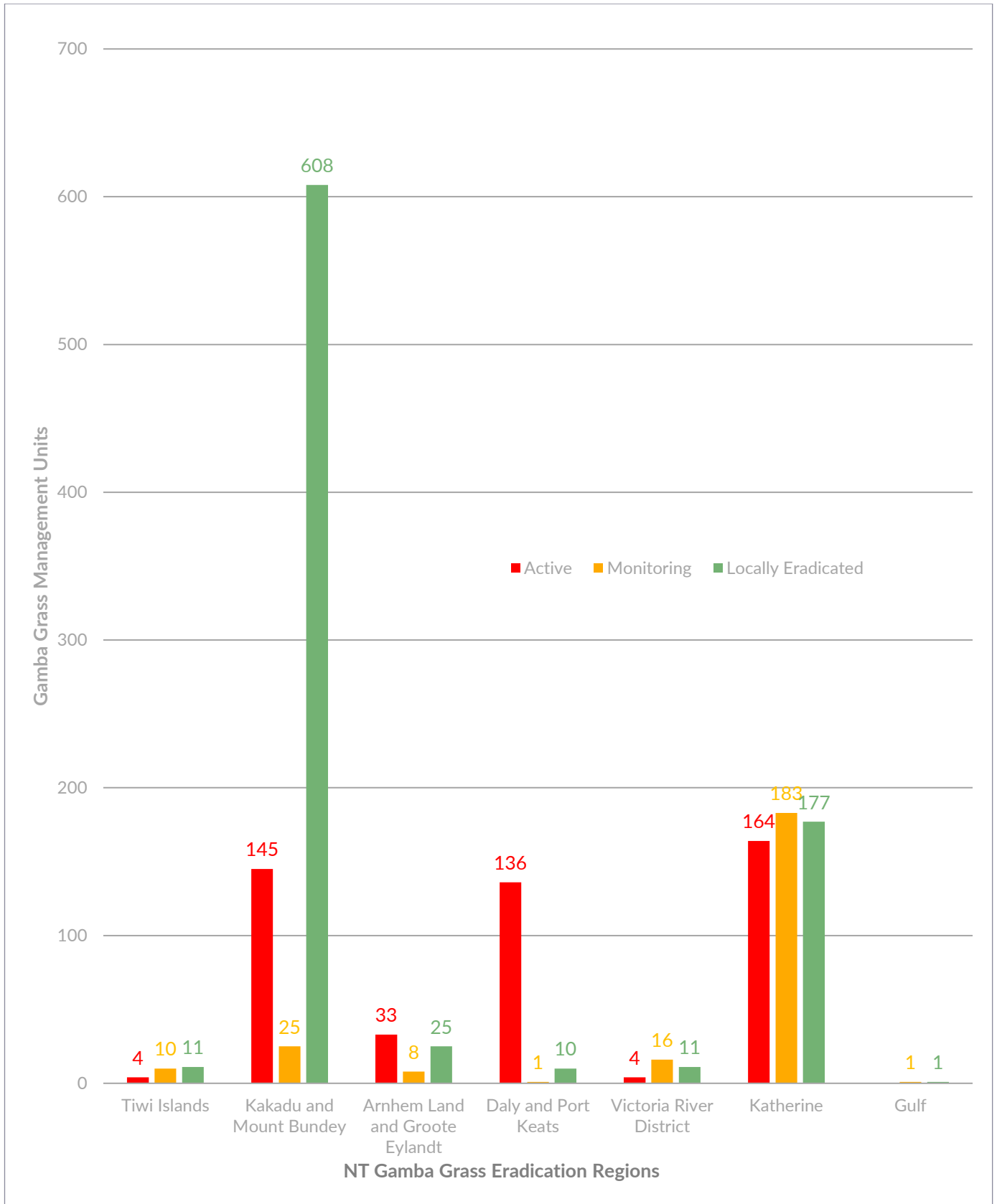


Figure 5: NT Gamba Grass Eradication Regions and the distribution of 2023 gamba grass records using 0.1 degree squared grids (~ 10 x 10 km). The 10 km grid status is based on the most conservative value (i.e. active is more conservative than monitoring) of all the 1 ha GGMUs within each 10 km grid.





**Figure 6: Total Gamba Grass Management Units (GGMUs) assessed as 'Active', 'Monitoring' and 'Locally Eradicated' for each of the NT Gamba Grass Eradication Regions.**

## Assessment of gamba grass across individual properties

A total of 73 individual properties<sup>2</sup> have been assessed as having recorded gamba grass points. The assessment towards eradication of these individual properties is shown in Table 1.

**Table 1: Assessment of properties in the Class A zone with gamba grass.**

Properties	Assessment towards eradication
12	Management status as unmanaged, partially unmanaged, unknown or no data provided during 2022/2023
19	Active management – control has occurred
10	Assessed as ‘monitoring’
32	Assessed as ‘locally eradicated’

## Assessment of gamba grass across roads and highways

A total of 16 different roads and highways in the Class A zone have recorded gamba grass points. The GGMUs containing these points have been assessed in 2023 as either ‘active’, ‘monitoring’ or ‘locally eradicated’. This data is included in the regional assessment shown in Figure 6.

## Gamba grass across areas with no recorded gamba points

A map will be developed for the rest of the Class A zone with no recorded gamba grass records, to show the confidence in gamba grass absence. This map will be useful for planning purposes to inform areas that may require follow up. A draft map has been prepared. The WMB aims to finalise the map and upload online by the end of 2023 at [nt.gov.au/gamba](https://nt.gov.au/gamba).

## Gamba grass on pastoral leases across the Class A zone

Many pastoral leases occur across the Class A zone. Generally pastoral lessees are working cooperatively with the WMB when assessing gamba grass across this zone.

Two permits exist in the Class A zone to retain existing gamba grass areas for grazing. These permits are closely monitored by the WMB and are audited annually.

## Gamba grass on vacant Crown land and roads

Has been reported under Goal 2.

## Gamba grass across Indigenous lands across the Class A zone

### Submissions from the Land Councils

Land council submissions are included in Appendix 3 that report on either actions being taken to manage gamba grass in the Class A zone or view towards Goal 1 of the gamba plan.

## Indigenous Carbon Farming across the Class A zone

No update has been received this year from the Indigenous Carbon Industry Network (ICIN). Our understanding is the spread of gamba grass continues to be a key threat to savanna fire management carbon projects within the Top End of the Northern Territory, because of its high fuel load that can change the fire regime to one of predominantly hot savanna fires. Many Indigenous land managers across the Top End also support savanna fire management projects, and so gamba grass is a direct threat to their livelihoods, as well as a threat to their health and safety when

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<sup>2</sup> For the purposes of this report an NT Portion has been reported as a property.

fighting wildfires. Indigenous land managers in these areas are simultaneously managing weeds such as gamba grass as well as managing fire on their country. This work is highly resource intensive. Indigenous land managers are managing vast areas of land across many thousands of hectares, for both fire and weeds. This land is often inaccessible by road and exposed to extreme seasonal changes and extreme heat conditions.

The current (2018) methodology for obtaining carbon credits means that if any gamba grass is reported in a project area, it must be removed within two years or the pixels containing gamba grass (1 ha) will be permanently removed from the project area. This could be a disincentive to gamba grass being reported to the WMB when it has been found in the Class A zone.

The ICIN is currently supporting co-design of the new Savanna Fire Management Methodologies through the Clean Energy Regulator. The regulator is due to release the new methods in 2024. The impact of fire weeds such as gamba grass are being considered as a part of the co-design process to ensure that any gamba grass found in this zone is reported and controlled appropriately, which is vital for the successful eradication of gamba grass across this zone.

**Objectives:**

**1b: By July 2023, all gamba grass in the Class A zone is under an active eradication program and all gamba grass plants have been destroyed (unless under permit).**

**1c: By July 2026, all gamba grass in the Class A zone is eradicated (unless under permit).**

**Performance indicator: "By July 2023, all known land parcels with gamba grass in the Class A zone are classified as b) active management."**

A mapping and monitoring program and eradication register for the gamba grass Class A zone has been established to track progress towards eradication. The assessment of gamba grass management units, individual properties and roads has been provided above. Table 1 above presents the results of the Class A zone gamba eradication assessment for 2022/23 and summarises the number of properties understood to be actively managing gamba in the Class A zone.

**Performance indicator: "By July 2025, all known land parcels with gamba grass in the Class A zone are classified as c) monitoring phase."**

This performance indicator will be assessed through the implementation of the mapping and monitoring program and tracking the eradication of gamba grass in the Class A zone using the eradication register.

**Performance indicator: "By July 2026, all known land parcels with gamba grass in the Class A zone are classified as d) eradicated."**

This performance indicator will be assessed through the implementation of the mapping and monitoring program and tracking the eradication of gamba grass in the Class A zone using the eradication register.

**Objective:**

**1d: By July 2026, a review of the permit system pertaining to gamba grass is completed.**

**Performance indicator: "Review of permit system is completed as it pertains to gamba grass."**

A review of the permit system is yet to be undertaken.

There are two gamba grass permits in the Class A zone that authorise the grazing of already existing gamba grass. These permits were issued in the past as a way of working with landowners after gamba grass was declared in 2008.

Permit conditions require that the gamba grass is strictly monitored to ensure there is no spread. The permit holders are audited annually, to ensure compliance with permit conditions. Audits of the permit holders were conducted during the reporting period in July and August 2022. Both permit holders were found to be in compliance with their



permit conditions at the time of the audit. This year, both current permit holders submitted their required annual report by 31 May 2023.

New permits for grazing gamba grass are no longer being issued by the WMB in the Class A zone.

**Objective:**

**1e: “Review the Class A and B zone boundaries to improve the protection of areas in the Class B management zone that are free of gamba grass”**

**Performance indicator: “By July 2026, revised Class A and B zones are declared if recommended by the review process”**

A review is yet to be undertaken.



**Hairs on gamba grass stem**



**Distinctive white midrib on gamba grass leaf**

## Goal 2 – Contain and control gamba grass by actively managing infestations across the Class B zone and preventing spread into new areas

### Objective:

*2a: Reduce seed production.*

*2b: Implement weed hygiene measures to reduce gamba grass seed spread.*

*2c: Reduce gamba grass outliers at a land parcel and landscape scale.*

*2d: Prevent gamba grass spreading into clean areas.*

*2e: Reduce gamba grass abundance and density in the Class B zone.*

*2f: Reduce gamba grass presence around landholder infrastructure.*

**Performance indicator: “An increase each year in the number of assessed land parcels that have implemented management requirements and percentile of properties assessed that are compliant e.g. 80% compliant.”**

In the Class B (control) zone, there is the potential for gamba grass to be present on many thousands of land parcels. In 2016 aerial gamba grass survey data was processed through a prioritisation key, utilising key variables in order to rank gamba grass on the likelihood and consequence of impact. The DEPWS has committed to inspecting 1,100 properties per annum through the gamba grass compliance program in the Darwin rural area. Inspections are undertaken at the start and end of the wet season, allowing landholders an opportunity to voluntarily meet their management requirements after being informed of non-compliance.

### Darwin rural area

During the 2022/23 wet season, 1,333 compliance inspections were undertaken for properties around the Darwin rural area by the Gamba Fire Mitigation Unit (GFMU), a partnership between the WMB and Bushfires NT. It is noted that not all properties required follow up inspections, such as properties already compliant at the time of inspection. Inspections were undertaken in areas of prioritised gamba grass risk, with the summary results shown in Table 2.

**Table 2: Darwin rural area compliance inspection results.**

Percentage	Compliance result
10%	Properties inspected showed a significant improvement in gamba grass control, and notable progress towards achieving compliance. These landholders received a letter of acknowledgement, designed to encourage and maintain voluntary effort throughout the season.
27%	Properties inspected appeared to have attempted to manage gamba grass, with limited success. These landholders received a letter of advice with information on best practice gamba grass control and support available through GAP.
41%	Properties inspected showed a reasonable level of ongoing land management, and were monitored for change throughout the season, with no intervention.
22%	Property inspections scored highly enough to result in authorised officer orders being issued, requiring the landholder to rectify non-compliance.

In total 294 orders were issued during 2022/23. Compliance with these orders is summarised in Table 3.

**Table 3: Darwin rural area compliance with orders.**

Percentage	Compliance result
90%	Met their management requirements after being informed of non-compliance, or showed significant progress towards compliance.
10%	Landholders ordered, failed to make a reasonable effort to meet management requirements and have / will be notified of an intended infringement.

#### **Darwin and surrounding area (excluding Darwin rural area)**

Compliance activities were instigated for 93 properties in Darwin and surrounds (outside of the Darwin rural area) by the Darwin Operations Team of the WMB. A summary of compliant properties and enforcement action taken is shown in Table 4.

**Table 4: Darwin and surrounding area (excluding Darwin rural area) compliance inspection results.**

Percentage	Compliance Result
3%	Compliant at the time of initial assessment and no follow up action was required
0%	Voluntarily met management requirements after being informed of non-compliance
97%	Compliance action taken due to non-compliance – orders issued
0%	Compliance action not warranted, further inspections to be undertaken
0%	Action not commenced

In total 34 orders were issued during 2022/23. Compliance with these orders and after final orders was issued is summarised in Table 5.

**Table 5: Darwin and surrounding area (excluding Darwin rural area) compliance with orders.**

Percentage	Compliance result
99%	Met their management requirements after being informed of non-compliance, or showed significant progress towards compliance.
1%	Landholders ordered, failed to make a reasonable effort to meet management requirements and have / will be notified of an intended infringement.

#### **Katherine**

The town of Katherine straddles both the Class A and B zones. Therefore half of Katherine is within the Class A zone and half is within the Class B zone. The focus for compliance in this area has been on the Class A zone, the results of which are documented above under Goal 1. In the Class B zone, properties less than 3 ha have been the focus for compliance around Katherine. Of these <3 ha properties, two properties remain under active control. In addition, 14 properties within the Class B zone have documented active control programs for gamba grass management (ranging from less than 3 ha to much larger properties).

***Performance indicator: "By July 2024 and annually afterwards there is an improvement in gamba grass management as evidenced by an improvement in parcel compliance score."***

The gamba grass compliance program across the Darwin rural area includes a widespread property inspection regime. Parcel-based risk scores are collected to inform targeted enforcement and the comprehensive data set is also used to measure the broader change in parcel risk scores over time. The scores collected during the 2022/23 compliance season inform trends in risk over time, and can be used to indicate the effectiveness of awareness and enforcement approaches on influencing landholder behaviours.

Note the parcel risk scores for the Darwin rural area reflect the same scoring system found online at [nt.gov.au/gamba](http://nt.gov.au/gamba) where landholders can check the gamba grass risk for their property.



During the 2022/23 season, the overall compliance risk scores for the Darwin rural area improved. The following trends shown in Table 6 have been measured as a result of enforcement action.

**Table 6: Overall compliance risk scores for Darwin rural area.**

Total percentage	Compliance result
65%	Land showed an improved parcel compliance score, indicating improved gamba grass management.
9%	Parcel compliance scores remained unchanged.
26%	Compliance scores worsened, indicating an increase in gamba grass hazard.

The Katherine Compliance Program uses a different approach to a parcel compliance score. Rather than a parcel compliance score to prioritise properties, the Katherine compliance program is comprehensive with all properties a priority for follow up. All affected properties are included in the program and properties scored with regard to progress towards eradication. This is because the majority of properties within the class B zone of the Katherine regional weed management area that have gamba grass have small infestations.

Improvements in gamba grass management in Katherine are assessed as:

- properties requiring no enforcement as they are compliant with the gamba plan;
- unmanaged;
- under active management;
- under monitoring, or;
- properties that have locally eradicated their gamba grass.

Compliance results are shown separately for both the Class A and B zones (as Katherine is located across both zones). Goal 1 presents the Class A results and Goal 2 presents the Class B results for Katherine.

**Performance indicator: "Reduction in area affected by gamba grass."**

A baseline assessment of the area affected by gamba grass in the Class B zone was calculated as 4656km<sup>2</sup> (approximately 12% of the Class B zone) in the 2021 gamba grass annual report. The area affected by gamba grass across the Class B zone was reported as 4754km<sup>2</sup> in the 2022 gamba grass annual report.

The WMB have been conducting a weeds data audit and as such the areas affected reported above, have changed slightly. The updated areas affected are included in Table 7.

The area affected by gamba grass in the Class B zone calculated for 2023 is also included in Table 7 and shown in Figure 7.

**Table 7: Area affected by gamba grass across the Class B zone.**

Year	Area affected by gamba grass (km <sup>2</sup> )	Area affected by gamba grass (%)
2021	4727 km <sup>2</sup>	13.7%
2022	4762 km <sup>2</sup>	13.8%
2023	5003 km <sup>2</sup> (including aerial survey data of the Darwin rural area undertaken in May 2022).	14.5%

Areas affected are approximate only as:

- The area affected has been calculated based on 1km grids intersecting the Class B zone that include a gamba point. If a 1km grid includes any gamba grass the unit is considered 'affected.' This method is based on gamba grass records in the WMB spatial database which date back to 1960. Therefore a single gamba plant in a 1km<sup>2</sup> grid would be reported as 1km<sup>2</sup> affected.

- Weed records are collected and continually added to the weed records database. Although absence records can be collected, no weeds points are removed.
- The data being reported on in this annual report only reflects the gamba grass records reported to the WMB.

As reported in 2022, it is not feasible to track a 'reduction' in gamba grass across the Class B zone at a landscape scale. However, information is provided below to demonstrate survey and control effort being undertaken to control gamba grass in the Class B zone. It is noted a wide range of government, council and non-government stakeholders have been invited to provide information on their gamba grass management over the reporting period, but may have chosen not to do so. You are encouraged to contact these stakeholders directly if you would like to find out more on how gamba grass is being managed on their land.

### **WMB – aerial survey of Darwin rural area**

The Darwin WMB Operations Team carried out an intensive aerial survey of the Darwin rural area during May 2023. This survey effort replicated the surveys done in 2016 with the aim of assessing change in gamba grass across this area over time.

Although data from these surveys is still being processed, it appears the survey did not show significant differences in distribution of gamba grass and reveals some positives regarding gamba grass management. These included:

- Many more properties around Darwin River and Mala Plains / Livingstone hotspots having developed substantial gamba grass breaks around their houses and sheds.
- A reduction of large gamba grass monocultures and efforts to break gamba grass monocultures up, reducing fire fuel loads and improving firefighting access.
- Significant evidence of recently treated gamba that has been either slashed, grazed or chemically treated.

The survey also revealed areas that will require more attention and more focussed effort over coming years including:

- High voltage power line easements, water pipeline easements and numerous drainage easements - government or local government managed land requiring more effort.
- Often one property amongst neighbours remained heavily infested with gamba whilst neighbouring properties are conducting control.
- Many properties have very small patches of gamba in areas located out of sight of their house.
- Many properties have gamba along the front and back fences though no gamba around living areas. In some cases gamba appears to be used as a privacy screen.

### **Parks and Wildlife**

Parks and Wildlife (DEPWS) have been tackling gamba grass with aerial spraying and on-ground applications across a number of parks over the reporting period, noting gamba grass is one of many priority weeds managed across NTG managed parks.

Parks and Wildlife in the Darwin region have continued to liaise with the Gamba Army about gamba grass control undertaken in:

- Charles Darwin National Park
- Casuarina Coastal Reserve
- Knuckey Lagoons Conservation Reserve

Gamba Army also treated sites in Holmes Jungle Nature Park and Buffalo Creek Management Area. Approximately 493 ha was sprayed on park by the Gamba Army in the reporting period.

Parks and Wildlife have continued to liaise with the 'Adopt a Spot' program volunteers and landcare groups (Casuarina and Rapid Creek) to tackle outlier gamba grass plants on Casuarina Coastal Reserve. Spray contractors were engaged for tackling larger infestations at Holmes Jungle, Buffalo Creek and Charles Darwin National Park.

Other notable parks and reserves controlled by Parks and Wildlife over the reporting period include:

- Fogg Dam Conservation Reserve
- Mary River National Park
- Litchfield National Park (noting Gamba Army, Parks and Wildlife and 'Weed Walkers' undertook control across this park).

Approximately 600ha of gamba was sprayed in Litchfield National Park, mainly by helicopter, with an additional 800 hours provided by on ground contractors. This was made possible by funding received through the Australian Government's 'Supporting Communities Manage Pest Animals and Weeds Program'. Funding awarded to this three year project in 2022 was \$492,000.

Aerial surveillance surveys for the detection of gamba grass have also been undertaken around the boundaries of Nitmiluk National Park. Gamba grass was not detected during these surveys.

### **Vacant Crown Land, Crown Land Estate**

#### **Darwin Region**

A three year period contract (2022-2025) for the control of weeds on vacant Crown land from Darwin to Adelaide River is being implemented. The weed control for the 2022/23 period has been completed.

Two separate contractors are engaged to undertake the treatment of gamba grass and additional species on over 200 parcels. Treatment areas for each site vary, from buffers to complete eradication.

Approximately \$578,000 was spent on weed control in Darwin, Palmerston, Darwin rural area, Batchelor and Adelaide River on vacant Crown land parcels over the reporting period.

#### **Katherine Region**

Weed control was carried out over various Crown land parcels in Katherine and Pine Creek over the 2022/23 wet season. The work has included treatment of actively growing gamba grass and also monitoring of historical sites. Overall, fewer plants were found and therefore less treatment was required.

### **Roads, Transport and Civil Services**

#### **Darwin Region**

DIPL Roads control season for 2022/23 has concluded with varying results. Despite a priority direction to achieve compliance with the 15m gamba grass free buffer for all roads, this was not achieved for most roads with gamba grass presenting late in the season post slashing activities.

Conversely, impressive results were attained on some road groups by Indigenous ranger groups subcontracted by the head contractor. These road groups were Daly River, Kakadu Highway and Cox Peninsula.

A new weed control contract is at tender stage and is expected to be awarded by September 2023. Mapping has been completed for 2023 and will form the basis for weed control for the upcoming control contract.

DIPL introduced a mid-season review of weed control to provide feedback to the contractor for where effort was required.

Urban landscape contracts were awarded late in 2023 wet season with a focus on eradication of gamba grass within the road reserve of the urban arterial road network. DIPL anticipates good results with mapping again forming an

integral aspect. DIPL's GIS software will be utilised to display attendance by the contractors and a midseason review by DIPL will be employed to highlight any deficiencies.

### **Katherine Region**

Gamba grass continues to remain a priority within the road corridors in the Katherine region for inspections and control. Note that this work has been carried out over both the Class A and B zones.

### **Local Government (Councils)**

Councils with gamba grass in the Class B zone include the City of Darwin, City of Palmerston, Litchfield Council, Coomalie Community Government Council, Wagait Shire Council, Belyuen Community Government Council, Victoria Daly Regional Council and Katherine Town Council. All of the listed councils were invited to include a submission in this report. The only council to provide a submission was Litchfield Council. A summary of their submission is provided below. If you would like further information on what other councils are doing to manage gamba grass on council land, please contact your local council directly.

### **Litchfield Regional Council**

Litchfield Council's mobile workforce manage approximately 800km (1600km both sides) of road network and 1500 ha of excised land comprising 46 main land parcels. Litchfield Council manages weeds in accordance with their Litchfield Council Integrated Weed Management Plan 2021 – 2026 and the Weed Management Plan Gamba Grass 2020 – 2030 as best as practical. Limited access to most land parcels due to the wet season means that some parcels cannot be accessed for management until late April / May and in some cases not until July / August.

Pre-monsoon Litchfield Council targets their 46 land parcels with the intent of eradication and at a minimum having 15m buffers installed around the entire land parcel perimeter. On average council land parcels have 6 – 10m firebreaks. In conjunction with managing these land parcels Litchfield Council sprays roadside furniture and spot sprays gamba grass and other various weed species along the road network. Slashing and mowing is undertaken about 3 – 4 weeks after spraying and another round of spraying is undertaken after that. This work is undertaken between November and June with 10 operators. This team also repair signage, conduct litter collections, undertake plant machinery maintenance and business administration. During the 2022/23 season Litchfield Council used 3000 L's of 540 g/L glyphosate concentrate across council land parcels and the road network.



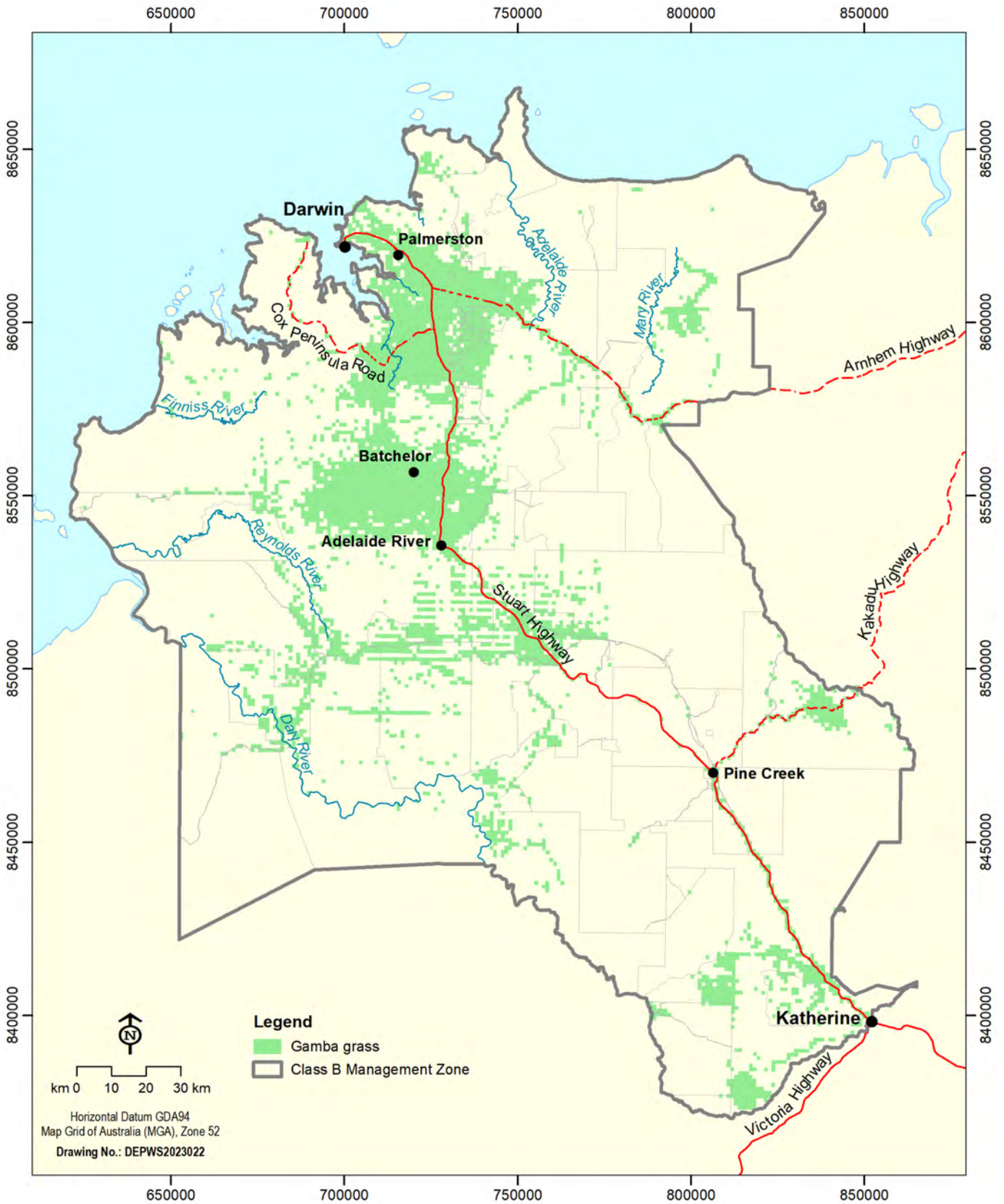


Figure 7: Estimated area affected by gamba grass in the Class B zone as of 2023 (based on data ranging from 1960 to 2023 reported to the Weed Management Branch).

## Goal 3 – Protect priority environmental and cultural assets from the impacts of gamba grass

### Objective:

*3a: Identify key environmental and cultural assets at risk of being impacted by gamba grass and incorporate into relevant Weed Management Branch, stakeholder and land manager regional plans, strategies and compliance programs.*

**Performance indicator: “By December 2022 a list has been developed of key environmental and cultural assets.”**

### Northern Territory Weeds Strategy 2021 – 2026

Key environmental and cultural assets are currently included in the four [regional weed strategies](#) that form the Northern Territory Weeds Strategy 2021 – 2026. Key environmental and cultural assets at threat from gamba grass include important biodiversity conservation sites (see [Sites of conservation significance list | NT.GOV.AU](#)), parks and reserves, watercourses, and key sites of community value such as Arnhem Land and the Darwin rural area.

Key environmental and cultural assets were also considered further and reported on in the [Gamba Grass Annual Report 2022](#).

### TNRM – Managing Gamba Grass for Biodiversity Conservation in priority areas of the Top End

In late 2022 the Australian Government made an announcement to commit \$9.8 million towards gamba grass management in line with the Australian Government’s *Threatened species action plan 2022–2032* (TSAP). This funding will be directed towards managing gamba grass to protect matters of national environmental significance under the EPBC Act.

Target areas for this project have largely focussed on the legislative eradication zone for gamba grass (class A zone). Over the reporting period the key activities undertaken or supported by TNRM included:

- Eradication planning with many groups including in Kakadu National Park.
- Gamba grass detection surveys across areas with existing infestations in the A zone (Western Top End & Kakadu regions).
- Reconnaissance surveys to validate historic records and search high risk entry points in Indigenous Protected Areas in Arnhem Land.
- Treatment activities targeting Western Top End, Kakadu National Park, Indigenous Protected Areas in Arnhem Land and road corridors leading from the Class B zone to the Class A zone.

### Nature Repair Market

The Australian Government are developing a nature repair market that will reward landholders and businesses for protecting nature such as restoring or protecting the natural environment through weeding activities. The Nature Repair Market Bill has been developed and establishes the framework for the nature repair market. It is expected that the nature repair market will be open for trading in 2024. More information on the nature repair market can be found at: [Nature Repair Market - DCCEEW](#).

**Performance indicator: “Key environmental and cultural assets are prioritised in WMB regional plans, WMB compliance planning and stakeholder weed plans aimed at managing gamba grass.”**

Key environmental and cultural assets remain a priority in regional WMB strategies and compliance plans. As outlined above, key environmental and cultural values are currently included in the WMB [regional weed strategies](#).

Updated WMB operational and compliance programs will consider the above assets. An example of existing WMB and stakeholder programs that prioritise key assets are outlined below.



## WMB - gamba grass compliance program (Darwin rural area)

The gamba grass compliance program for the Darwin rural area uses seven individual criteria to assign a parcel-based risk score out of 20. The individual criteria can then be assessed to identify particular risks of interest. During the 2022/23 compliance season, a range of specific risks have been measured and mapped as shown in Table 8.

**Table 8: Darwin rural area gamba grass risks measured and mapped through the compliance program.**

Percentage	Risks measured and mapped
67%	Properties assessed had gamba grass within 15m of their boundaries, presenting a risk of spread to neighbouring land.
47%	Properties assessed had gamba grass within 15m of roads and tracks, presenting a risk of vehicle-assisted spread off the property.
17%	Properties assessed had gamba grass growing within 15m of houses and infrastructure, presenting an increased bushfire risk to life and property.

Life and property are the highest priority assets identified through the gamba grass compliance program for the Darwin rural area. In 2023, 34 land parcels threatened by imminent bushfire risk to life and property were referred to the relevant fire authority (i.e. Bushfires NT and NT Fire and Rescue Service).



**Gamba found along track in remote NT (photo provided by TNRM)**

## Goal 4 – Increase community capacity and willingness to participate in gamba grass management

### Objective:

4a: “Engage with the community and obtain a high level of public support for gamba grass management action.”

Performance indicator: “Public knowledge of gamba grass impacts and management requirements has increased.”

A Gamba Grass Communications Plan 2021 – 2024 has been developed to raise awareness of gamba grass management requirements and available support. This plan, prepared in consultation with the WAC, is guiding communications in relation to gamba grass.

Gamba grass communications tools used over the reporting period are included in Table 9.

**Table 9: Summary of gamba grass communications tools implemented over reporting period.**

Tool	Purpose
<p>A gamba grass requirements leaflet was developed and distributed to all rates payers within the Litchfield Council and Coomalie Council Shires with rates notices issued in August / September 2022.</p> <p>This leaflet was also provided to Wagait Council for inclusion with their 2022 rates notices.</p> <p>This was a collaborative effort between council and the WMB.</p>	To increase awareness of gamba grass legal requirements amongst land owners.
Gamba grass requirements leaflet sent to City of Darwin, Palmerston City Council and Wagait Council for consideration to include in newsletters.	
Gamba grass requirements leaflet sent to the Members of the Legislative Assembly for Palmerston and surrounding suburbs for consideration to include in newsletters.	
Gamba grass requirements posters printed and displayed at GAP collection points.	
Gamba Grass Annual Report 2022 released and made publically available online at <a href="http://nt.gov.au/gamba">nt.gov.au/gamba</a> .	To report on implementation of the Weed Management Plan Gamba Grass 2020 – 2030.
QR Code stickers developed linking to the gamba grass control page with new videos showing how to mix and spray herbicide for gamba grass. QR code stickers attached to herbicide drums distributed through GAP, GAP spray units and Gamba Grass Management Guides.	To educate landowners and occupiers about how to spray gamba grass and mix herbicide.
Core flutes stating ‘control gamba now to prevent dangerous dry season fires’ printed and distributed to the Katherine WMB Office and GFMU for display in rural areas.	To educate people that now is a good time to manage gamba grass to prevent bad fires in the dry season.
Radio interviews throughout the year.	To discuss different gamba grass topics and remind people that help is available to manage gamba grass.



Tool	Purpose
Radio ads during GAP.	To advertise herbicide is available for collection through GAP.
Social media Facebook posts throughout the year.	To educate the community about different gamba grass related topics including GAP.
Gamba grass bus wrap from December 2022 to May 2023.	To remind the community it is the time of the year to take action on gamba grass.
<p>Presentations about gamba grass and Class A zone eradication to:</p> <ul style="list-style-type: none"> <li>• TNRM Conference at 'Gamba not on my country' workshop</li> <li>• Darwin / Daly Regional Fire / Weeds Meeting</li> <li>• University of 3<sup>rd</sup> Age</li> <li>• Extractives Industry Association members meeting</li> </ul>	<p>Educate different stakeholders about gamba grass:</p> <ul style="list-style-type: none"> <li>• The Weed Management Plan Gamba Grass 2020 – 2030 and implementation of this plan such as how eradication of gamba grass is being tracked across the Class A zone.</li> </ul>
NTFRS and Bushfire NT Communications including gamba grass messaging such as key legal requirements.	To promote the requirement to manage both gamba grass and firebreaks to reduce wildfire impact and improve community safety.
<p>Gamba ID booklets distributed at:</p> <ul style="list-style-type: none"> <li>• Palmerston Recreation Centre</li> <li>• Palmerston Library</li> <li>• Litchfield Council</li> <li>• Fred's Pass Rural Market GAP distribution outlet</li> <li>• NT Native Eco-Fair and Plant Sale</li> </ul>	To provide information to the community about how to identify gamba grass.
Gamba grass how to mix herbicide video prepared and uploaded at <a href="https://nt.gov.au/gamba">nt.gov.au/gamba</a> .	To demonstrate how to correctly mix gamba herbicide.
Bushfire NT variable message boards.	Used to advertise GAP - herbicide available for collection.
<p>WAC meetings held quarterly and outcomes of each quarter are uploaded online at:</p> <p><a href="#">Gamba Grass Weed Advisory Committee   Department of Environment, Parks and Water Security</a>.</p>	<p>To oversee implementation of the gamba plan and actions being undertaken by different stakeholders.</p> <p>The online report is prepared to demonstrate key outcomes for each quarter achieved by the WMB, GFMU and gamba WAC members that are presented at WAC meetings.</p>
Distribution of gamba grass ID book and gamba grass management guides at community events – such as Finniss Reynolds Catchment Group meetings, TNRM conference, extractives industry association meeting, and other events.	To improve community awareness and capacity to identify gamba grass.
Gamba grass identification training day with Ranger Groups.	To educate Ranger groups on how to identify and manage gamba grass.



**Gamba grass ranger training day in February 2023**

### **Have your say survey responses**

To further assess this performance indicator the “Have your say – April 2023” survey results were analysed further. Responses are provided below.

#### **Do you know what your legal requirements are to control gamba grass, in accordance with the Weed Management Plan for Gamba Grass 2020 – 2030?**

- Yes – 76%
- No – 23%
- No response – 1%

#### **Have you found the gamba grass report developed in 2021 and 2022 a useful resource?**

- Yes – 24.4%
- No – 14.4%
- 50% not aware of annual report
- 11% provided no response or chose other

#### **How did you find out your legal requirements for managing gamba grass?**

The following methods were provided in the feedback:

- Online – DEPWS Weed Management Branch website, gamba website, Facebook, online advertisement.

- Government organisations – liaison with Bushfires NT and Weed Management Branch, Fred's Pass information stall, through the Gamba Action Program and NT fire brigade.
- Non-government organisations / environment groups - Gamba Grass Roots and Gamba Army.
- Local councils – on council websites.
- General responses – reading the Weed Management Plan, poster dropped in PO Box, workplace training and training at university, word of mouth, community notices, plant fairs, family knowledge, posters, noticeboards throughout the community, Land for Wildlife and work.

**Where would you like to see more information educating people about gamba grass?**

- General advertising:
  - The message needs to be advertised more widely such as on television and radio
  - Local community notice boards
  - Social media, newspapers including NT news, radio including ABC radio, billboards, Fred Pass Show
  - Back of bus, road side signs
  - Rates notices in Litchfield Shire
  - Media campaign
  - Info at hardware / gardening / rural stores
  - Town notice boards
  - At supermarkets, pubs, community centres for rural owners
  - Community centres in rural areas
  - Real estate agents (package of information for interested landholders)
  - Through the insurance industry
- Participation at community events:
  - Workshops through local community groups
  - Community service group meetings
  - Local markets
  - School visits
- Enforcement related communications:
  - On fences of people that don't control their gamba grass
  - Targeted mail and property visits
  - Mailbox drops



**Gamba Army control site (photo provided by TNRM)**



Although over 75% of participants understood there are legal requirements to control gamba grass, 38% of respondents did not know if the land they manage is within the Class A or B zone. Also, 50% of participants were not aware of the annual report that has been released the last two years.

The Gamba Grass Communications Plan 2021 – 2024 has been updated for the next reporting period and will be implemented with the aim of continuing to increase public knowledge of gamba grass management requirements, impacts and assistance available. The survey results above have been considered in updating the communications plan for the next reporting period.

**Performance indicator: “Better understand community perceptions, needs and barriers regarding gamba grass management.”**

There is no doubt that the community are concerned with the management of gamba grass. The forming of the ‘Gamba Grass Roots’ group attests to this. However, a study to better understand community perceptions, needs and barriers regarding gamba grass management was identified as a strategic action needed in conjunction with the WAC during development of the gamba plan. A social marketing study (subject to funding) is proposed by July 2023 to identify community perceptions, needs and barriers regarding gamba grass management.

This action has not been progressed since the last annual report. As such this performance indicator has not been met.

**Performance indicator: “Public reporting to WMB on gamba infestations.”**

### **Gamba Grass Reporting Tool and Complaints**

A new ‘Gamba Grass Reporting Tool’ was developed in the 2021/22 reporting period. The reporting tool can be found at [nt.gov.au/gamba](http://nt.gov.au/gamba) and can be used for reporting concerns about unmanaged gamba grass. Reports of problem gamba grass made through this online platform will be automatically emailed to the WMB for follow up. Alternatively, problem gamba grass can still be reported to the WMB via phone or email.

The WMB received approximately 148 gamba grass complaint reports in the 2022/23 financial year consisting of 117 complaint reports about the Darwin rural area and approximately 31 complaint reports about Darwin and surrounds (outside the Darwin rural area). No complaints were received about gamba grass in the Katherine Region. All complaints received are triaged and followed up by WMB authorised officers. Follow up action may include undertaking an inspection of the property, engagement with land managers, follow up letters and the issuing of penalty infringement notices if the matter is not resolved.

### **NT WeedMate**

The NTG NT WeedMate App remains the central tool for reporting weed data points. Since the last gamba grass annual report, registered users for the NT WeedMate App have reduced from 258 to 150 after an audit and removal of duplicate registrations. To find out more about NT WeedMate go to: [NT WeedMate App | Department of Environment, Parks and Water Security](#)

There have been 7232 gamba grass reports via NT WeedMate since its development. Reports received include:

- 3350 records for 2022/23 financial year
- 1404 records for 2021/22 financial year
- 2066 records for 2020/21 financial year
- 412 records for 2019/20 financial year (noting NT WeedMate commenced in the 19/20 financial year).

Note the numbers have changed slightly for the last few years due to an audit of the NT weeds dataset.



**Performance indicator: "An increase in coordinated management effort."**

As outlined in the last annual report a Gamba Management Framework has been developed that includes a number of collaborative partnerships to improve gamba grass management (see Appendix 2). In addition, there are a number of co-ordinated stakeholder projects that aim to tackle gamba grass.

## **Gamba Management Framework collaborative partnerships**

### **Gamba Grass Weed Advisory Committee**

The WAC continues to meet quarterly with the WMB to oversee implementation of the gamba plan. The WAC includes representatives for NTG (DIPL and Parks and Wildlife); TNRM; CDU; NLC; Northern Territory Cattlemen's Association (NTCA); ICIN; Local Government Association of the Northern Territory (LGANT), the Environment Centre NT and the tourism industry. Meeting updates (for all meetings held from September 2021 onwards) are available at: [Gamba Grass Weed Advisory Committee | Department of Environment, Parks and Water Security](#).

### **The Weed and Fire Working Group**

The Weed and Fire Working Group has continued to collaborate on best practice management of weeds and fire management on government land, including gamba grass. Members of the group include, Crown Land Estate; Roads; Power and Water Corporation; WMB; GFMU; Bushfires NT; Fire and Emergency Services and Parks and Wildlife. This group is continuing to meet quarterly to provide an update on their seasonal programs, to discuss areas of concern and to better co-ordinate management effort across adjoining lands.

### **Gamba Army**

The Gamba Army was established in late 2020 as a response to the COVID outbreak to create jobs and tackle problematic gamba grass across the Northern Territory at the same time. The third iteration of the Gamba Army took place over the 2022/23 reporting period and was coordinated by TNRM over this time with funding from the NTG. Over the 2022/23 reporting period the Gamba Army conducted follow up control on sites from previous seasons as well as addressing several new sites. The third season of the Gamba Army also saw several vacant Crown land parcels, previously treated by the Gamba Army, adopted back into the new vacant Crown land weed management contract.

Gamba management took place over 72 different land parcels encompassing over 5850 ha of land across a range of land tenures in the Darwin and rural area. Strategic treatment also occurred in Litchfield National Park, the Gamba Army focusing works in:

- the Parks and Wildlife designated gamba eradication zone surrounding Florence Falls and Buley Rockhole
- assisting with on-ground follow up after aerial spraying programs in the park.

The Gamba Army also assisted TNRM's West Arnhem / Kakadu project in a collaborative effort to help protect important cultural sites and sensitive riparian areas in Jawoyn Country surrounding Katherine, alongside the Jawoyn rangers, Wagaman rangers, and NTG's WMB. Other sites targeted over the 2022/23 season include:

- Litchfield National Park
- Holmes Jungle Nature Park
- Charles Darwin National Park
- Casuarina Coastal Reserve and adjoining hospital block
- Knuckey Lagoons Conservation Reserve
- Darwin Prison
- Numerous vacant Crown land blocks

The Gamba Army has proven to be an efficient and successful avenue for managing gamba grass across the Northern Territory especially achieving effective cross tenure coordination to successfully manage gamba grass across multiple tenures.

Ongoing funding of \$300,000 per year over the next two years has been confirmed for the Gamba Army.

The WMB continue to oversee results of the Gamba Army through a Gamba Army Annual Report. This reporting period the WMB have received the Gamba Army Annual Report for 2021/22 and the interim Annual Report for 2022/23.

## Research Institutions working with the NTG

### Litchfield National Park gamba grass survey

CDU/ NESP researchers have completed the two-year research project with the WMB and Parks & Wildlife Division DEPWS to map gamba grass in Litchfield National Park and develop costed management scenarios. DEPWS contributed \$100,000 to this two-year research project and provided in-kind support.

The project team surveyed 143,931 ha of Litchfield National Park over two years. This gamba grass distribution data was used to carry out a detailed prioritisation process for the park, using the six management zones in the Park's Integrated Conservation Strategy (ICS). The data was used to model the predicted gamba grass distribution in 2021/22 and develop costed management scenarios to manage gamba grass in the Park under three management scenarios:

1. No active management
2. Eradicating gamba grass in the existing Litchfield gamba grass eradication zone (to protect the visitor assets on Tabletop), no active management elsewhere in the park.
3. Eradicating gamba grass in an expanded eradication zone (to protect the majority of visitor assets in the park), no active management elsewhere in the park.

The key results of this research project were:

- Gamba grass has rapidly expanded in the Litchfield National Park over the past seven years, with infestations now covering ~30,000 ha.
- This is the largest gamba grass infestation in a national park in Australia. (The survey showed that in 2021/22, gamba grass covered 29,713 ha of the total survey area, making it the largest gamba infestation in a national park in Australia). See Rossiter-Rachor *et al.* (2023) for more detail.
- Without intensive weed control, CDU/NESP predict gamba grass will cover more than 42,000 ha of the park within a decade.
- Two options for park managers to protect highly valued environmental and tourism assets are:
  1. eradicating 594 ha of gamba grass from the existing eradication zone on Tabletop Range, predicted to cost \$825,000 over five years
  2. eradicating 801 ha of gamba grass in a much larger eradication zone, to better protect park assets, predicted to cost \$6.6 million over five years.

The results of the project have helped guide gamba control efforts in the park in the 2023 control season, including the \$492,000 investment from the Australian Government.

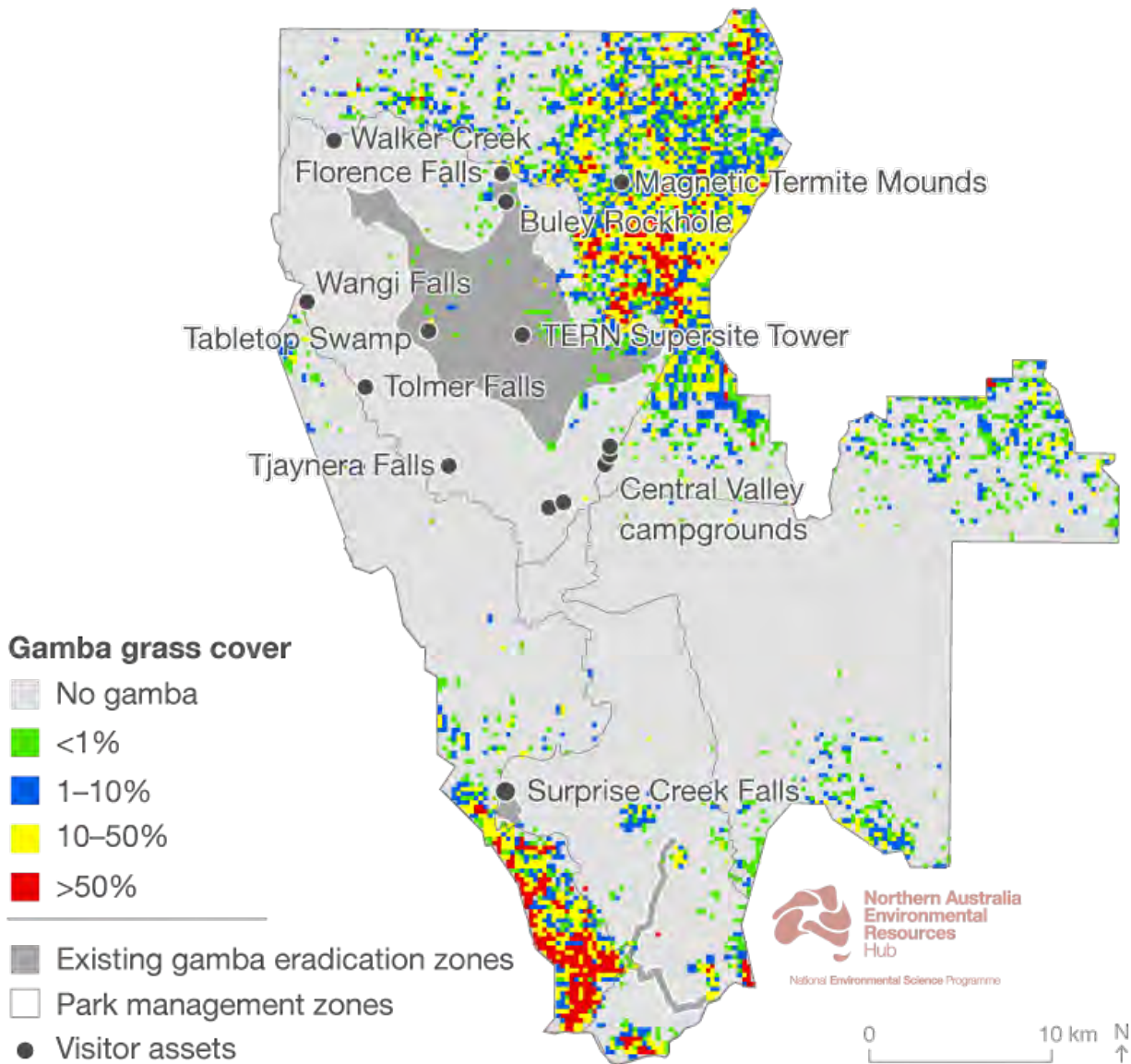
The results of this mapping project were communicated by the NESP researchers via a range of methods, including:

- Project [wrap up factsheet](#)
- Published [peer reviewed journal paper \(Rossiter-Rachor et al 2023\)](#)
- Summarised on the [NESP gamba grass synthesis website](#)
- In-person briefing to the Deputy Chief Minister, and Minister for Parks, The Honourable Nicole Manison, and the CEO of DEPWS.
- Written briefing to the Minister for Environment, the Honourable Lauren Moss.

- Multiple in-person briefings to the Gamba WAC, as well as additional presentations to the WMB and Parks & Wildlife Division.

The results of the 2021–22 Litchfield gamba grass survey highlight the importance of mapping to understand the extent of gamba in the park and the likely impacts and to determine an appropriate management response.

### Distribution of gamba grass in Litchfield National Park in 2021–22



**Figure 8: Distribution of gamba grass in Litchfield National Park in 2021–22.**

Survey data shows gamba grass coverage in grid cells (250 × 250 m) in 5 gamba grass cover classes: grey = no gamba present; green = <1% cover; blue = 1–10% cover; yellow = 10–50% cover; red = >50% cover. Park management zones are illustrated as base colour on the map. The eradication zone implemented after the 2014 survey is shaded in dark grey (Rossiter-Rachor et al. 2023).

## Paper reference

Rossiter-Rachor, N. A., Adams, V. M., Canham, C. A., Dixon, D. J., Cameron, T. N., & Setterfield, S. A. (2023). The cost of not acting: Delaying invasive grass management increases costs and threatens assets in a national park, northern Australia. *Journal of Environmental Management*, 333, 116785.

## New NESP invasive grass research project

NESP researchers have commenced a new four year research project - [Supporting the strategic management of invasive grasses](#). This project aims to support the strategic management of invasive grasses in northern Australia – in particular, gamba grass, para grass and olive hymenachne, to reduce their impacts on biodiversity. This project will provide support to managers of protected areas and Indigenous ranger groups through co-development of user-friendly mapping, monitoring and decision-support tools.

The three key species of invasive grass included in this project are listed in the TSAP and the 2012 **Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the 5 listed grasses** (TAP). The project is collaborating with research users to address 'Target 10' of the TSAP that, by 2027, 'Gamba grass is reduced to an area less than its 2022 range', and all six objectives of the TAP.

## **Gamba Action Program**

GAP is another element of the Gamba Management Framework. During the 2022/23 GAP season there were a total of 2103 individuals who accessed GAP across 2016 properties. GAP aims to provide one 5L or 10L container of herbicide per property, however over the 2022/23 season the majority of drums allocated were 5L to allow for more participants to receive herbicide. Spray units are also available for loan to spray gamba grass through this program.

## **The Gamba Fire Mitigation Unit**

The GFMU is a collaborative unit which combines specific functions of the WMB and Bushfires NT. This unit allows for better collaboration between these Divisions as well as the NT Fire and Rescue Service. This collaboration combines compliance and risk mitigation services aiming to reduce the risk of unmanaged gamba grass in the Top End rural region.

## **Coordinated stakeholder projects**

### **TNRM – West Arnhem Land and Kakadu Regional Project**

TNRM continued to coordinate the 2018-2023 West Arnhem Land and Kakadu Regional Project, funded through the Australian Government's National Landcare Program. This project brought together stakeholders at a regional scale to tackle the negative impacts of invasive weeds (including gamba grass), feral animals and destructive fires. Over the reporting period the key activities undertaken or supported by TNRM included helping rangers with weed management planning, collection and use of survey and treatment data, and treatment of gamba grass in parts of Zone B to prevent spread to Zone A. As part of the project TNRM adopted a campaign with the messaging 'stop gamba grass in its tracks' using posters, flyers, stickers, NT News ads, and signage for areas of Aboriginal Land. More information can be found about this project at: [West Arnhem Kakadu Project | Territory NRM](#)

### **Casuarina Coastal Reserve Landcare Group**

The Casuarina Coastal Reserve Landcare Group has been continuing to collaborate with the Parks and Wildlife Division to tackle gamba grass. As community volunteers, members have completed a two year Casuarina Coastal Reserve 'Adopt a Spot' Pilot Project to find and control outlying infestations of gamba grass. More information can be found on the work being done at the Casuarina Coastal Reserve at: [TRACKING GAMBA AT CASUARINA COASTAL RESERVE - Casuarina Coastal Reserve Landcare Group \(landcarent.org.au\)](#).

Coordinated gamba grass management effort will be promoted where appropriate in line with the gamba grass communications plan.



**Objective:**

**4b: "Ensure adequate information and knowledge of gamba grass management is available."**

**Performance indicators: "Documentation of knowledge gaps."**

Many knowledge gaps exist in relation to gamba grass management; such as understanding the full gamba grass distribution and the best integrated gamba grass management regimes. Previously reported knowledge gaps and further discussion on these are reported below.

**Accurate gamba grass distribution records in both the Class A and B zones**

A framework and methodology to accurately capture control effort in order to report on the eradication status of gamba grass in the Class A zone has previously been reported as a knowledge gap. A methodology has been developed to address this knowledge gap in the 'gamba grass mapping and monitoring program for the Class A zone'. Even with this methodology now developed and being applied, the success of this analysis depends on survey effort for gamba in the Class A zone and reports of gamba grass being provided to the WMB.

Federal funding received in late 2022 has helped to fund additional aerial survey work across the Class A zone, which helps to address this knowledge gap.

As mentioned above NESP researchers have commenced a new project that will support managers of protected areas and Indigenous ranger groups through co-development of user-friendly mapping, monitoring and decision-support tools. The NESP Resilient Landscape Hub research aims to develop a new mapping system for government weeds officers, and other weeds managers to map gamba grass. The previous software that was custom developed for the NTG is now at the end of its lifespan. A new system will incorporate new ways to map and report gamba grass presence. Regular gamba grass mapping is essential for managing gamba grass and for monitoring the progress of control programs.

**Integrated gamba grass management regime (herbicide and fire)**

It has become evident through gamba grass control and observing fire behaviour that if fire passes through an area where gamba grass has been sprayed and subsequently appears dead, it can render the gamba spraying ineffective and/or stimulate regrowth or seed growth. This was recently observed during the work undertaken by the Gamba Army at Knuckey Lagoon in 2022/23. Further research into these interactions is needed.

**Integrated gamba grass management regime (alternatives to glyphosate)**

DEPWS have partnered with the Queensland Government in a project for improving the management of invasive grasses across Australia. This project will include the research of gamba grass including trials of alternative herbicides. A national proposal was finalised and submitted to the Centre for Invasive Species Solutions (CISS) for approval in 2022. No news has been received about the submission and therefore the project has not commenced.

**Integrated gamba grass management regime (biocontrol)**

Gamba grass has been endorsed at a national level (by the Environment and Invasives Committee) as a target weed for biological control (or biocontrol) and the WMB will be seeking to work collaboratively to develop solutions.

**Performance indicator: "Community awareness"**

**Community Forum**

An annual 'gamba grass research and development community forum' is required under the gamba plan. A community forum was planned to be held in Katherine in early 2023 but was not held. The next forum will be considered pending resources available.

## Gamba Grass Roots

Gamba Grass Roots is a community based group that has arisen from an alliance between The Pew Charitable Trusts and the Environment Centre NT. Gamba Grass Roots has actively engaged with landholders and the general public, raising awareness and building the case for more action on gamba grass. Activities have ranged from:

- stalls at markets
- developing educational materials to empower the public to express their voice
- advocacy efforts highlighting problems, solutions and recognising delivery.

The significant momentum arising from the community has contributed to ongoing resources being made available from the NTG, along with delivery of additional resources from the Australian Government. More information about the threats, solutions and actions is available here at: [Gamba Grass Roots - Gamba Grass Roots](#).

### Integration of research outcomes into core business activities and relevant publications

The WMB will continue to provide the community with gamba grass research outcomes through methods included in the gamba grass communication plan, via our website and via WMB educational material such as the Gamba Grass Management Guide.

In addition CDU/NESP have released a new webpage [Research synthesis of gamba grass - NESP Resilient Landscapes Hub \(nesplandscapes.edu.au\)](#) that summarises their research on the biology, spread, impacts, and management of gamba grass in a user-friendly way for land managers and the broader public.

**Performance indicator: “Adaption of control programs to incorporate updated management recommendations.”**

As reported in the last annual report, the community forum required under the gamba plan will allow for the discussion of gamba grass successes and any updated gamba grass management recommendations.

The WMB will update its gamba grass management guide if required to reflect new recommendations in gamba grass management so this information can be shared with all stakeholders.

**Performance indicator: “By December 2022 a pathway is identified to produce National Gamba Grass Best Practice Manual.”**

The Australian Government has engaged the consultancy Wild Matters to develop a number of Best Practice Manuals including a Gamba Grass Best Practice Manual. The release of the final manual has been delayed, however, is expected to be completed and online by the end of December 2023. The [nt.gov.au/gamba](http://nt.gov.au/gamba) webpage will be updated to include a link to this new manual.

### Objective:

**4c: “Increase voluntary compliance with gamba grass management requirements.”**

**Performance indicator: “Changes in active management and voluntary compliance levels.”**

A summary of trends in effort and compliance is provided against Goal 2. Further changes may be evident in future reports by looking at whether there is an increase in the number of properties already compliant at the time of initial inspections or whether achieving compliance is more dependent on the active compliance programs.

## Goal 5 – Implement transparent and accountable compliance, monitoring and reporting processes

### Objective:

**5a: “Deliver a transparent and risk-based compliance program.”**

### Performance indicator: “Responsiveness to public enquiries.”

As reported last year all enquiries were responded to, including enquiries about plant identification, GAP, control options and enforcement action.

The WMB maintains a generic phone number (8999 4567) and email address ([weedinfo@nt.gov.au](mailto:weedinfo@nt.gov.au)) to receive public enquiries and reporting of all weeds. A dedicated team tracking sheet has been developed for reports specifically relating to gamba grass.

When complaints are made to the WMB about gamba grass they are recorded, triaged and followed up by authorised weeds officers. The WMB does not provide updates to every complainant about every complaint made; however, that does not mean gamba grass complaints are not actioned. Complainants are welcome to follow up with the WMB on action that is being taken about a gamba grass complaint that has been made.

### Performance indicator: “Public awareness of the parcel compliance rating system.”

As reported last year an online ‘[Check Your Gamba Risk Tool](#)’ has been developed. Landholders can answer a series of questions about their gamba grass and will be provided a risk rating and advice on what they should do to manage their risk.

This self-assessment score system aligns with a similar process used to assess landholder parcels for compliance.

The ‘Check Your Gamba Risk Tool’ went live on 1 April 2021. Over the reporting period 2022/23 there has been 89 views of the risk tool.

You can Check Your Gamba Risk score via link:

<https://nt.gov.au/environment/weeds/weeds-in-the-nt/A-Z-list-of-weeds-in-the-NT/gamba-grass/gamba-grass-risk-check>

### Performance indicator: “Application of the parcel compliance rating system.”

Application of the parcel compliance rating system has been discussed above under Goal 2.

### Objective:

**5b: “Collaborate with key stakeholders to undertake regular monitoring and reporting of performance against the Weed Management Plan for Gamba Grass 2020 – 2030.”**

### Performance indicator: “Regular, transparent, and meaningful reporting that is effectively promoted to the public.”

A ‘Have your say’ survey was conducted in April - May 2023 for a period of four weeks, seeking comment on community and stakeholder progress against the gamba plan and to seek community comment on implementation of the gamba plan. A total of 90 participants responded to this survey. In addition, one individual submission outside the survey was provided to the WMB. Results of the survey have been included throughout this report. All survey results and individual submissions received during the survey period have been de-identified, compiled and are available (where permission has been provided) online at [nt.gov.au/gamba](https://nt.gov.au/gamba).

**Performance indicator: "Community awareness."**

A communications plan has been developed that documents the mechanisms for informing the community about gamba grass matters, including the promotion of this report and key outcomes from the report.

**Objective:**

**5c. "Ensure ongoing independent oversight of delivery of the Weed Management Plan for Gamba Grass 2020 - 2030."**

**Performance indicator: "Retention of the WAC."**

The WAC is continuing to oversee implementation of the gamba plan. A commitment has been made in the Gamba Grass Communications Plan 2021 - 2024 for the WMB to meet quarterly with the WAC.

Four meetings were held during the reporting period on:

- 16 August 2022
- 6 December 2022
- 6 March 2023
- 7 June 2023.

Meeting summaries for the meetings above can be found online at:

<https://depws.nt.gov.au/boards-and-committees/gamba-grass-weed-advisory-committee>



**Gamba grass ranger training day in February 2023**

## Appendix 1 Goals, objectives, strategic actions, performance indicators and performance measures from the Weed Management Plan for Gamba Grass 2020 - 2030

### Key

- white: yet to be started
- grey: to be evaluated
- green: on track
- orange: progress but some concerns
- red: significant concerns with progress

Table 7. Goal 1 - Eradicate gamba grass from the Class A (eradication) zone				
Objectives	Strategic actions	Who	Performance indicators	Performance measures
1a. Understand the distribution of gamba grass in the Class A zone.	By July 2021, design a mapping and monitoring program for the Class A zone.	Weed Management Branch (WMB)	By July 2022, the extent of gamba grass has been assessed for land parcels identified in the monitoring and mapping program.	A generalised map of distribution or gamba grass presence confidence is publicly available.  Annual measurement of gamba grass in hectares using available spatial data and eradication status information.
	By July 2021, commence the mapping program in the Class A zone.	WMB / land owner / occupiers		
	By July 2022, complete the mapping program and continue monitoring in the Class A zone.	WMB/ land owner / occupiers		
1b. By July 2023, all gamba grass in the Class A zone is under an active eradication program and all gamba grass plants have been destroyed (unless under permit)	Individuals, land owners and occupiers implement required actions as per Section 4.	Land owners and occupiers	By July 2023, all known land parcels with gamba grass in the Class A zone are classified as b) active management.  By July 2025, all known land parcels with gamba grass in the Class A zone are classified as c) monitoring phase.	A register is maintained by WMB of all known land parcels with gamba grass in the Class A zone according to their current eradication status:  a) unmanaged b) active management c) monitoring phase



Table 7. Goal 1 - Eradicate gamba grass from the Class A (eradication) zone

1c. By July 2026, all gamba grass in the Class A zone is eradicated (unless under permit).	Assess eradication status for land parcels.	WMB	By July 2026, all known land parcels with gamba grass in the Class A zone are classified as d) eradicated <sup>3</sup> .	d) eradicated Summary data of a, b, c and d is produced. Annual summary data produced showing progress toward eradication.
1d. By July 2026, a review of the permit system pertaining to gamba grass is completed.	Existing permits that allow grazing of gamba grass in the Class A zone are reassessed to ensure they are appropriate.	WMB Gamba Grass Weed Advisory Committee (WAC)	Review of permit system is completed as it pertains to gamba grass.	Annual reporting on gamba grass grazing permit conditions and compliance. Outcomes of the July 2026 review are made publicly available.
1e. Review the Class A and B zone boundaries to improve the protection of areas in the Class B management zone that are free of gamba grass.	By July 2026, review the Class A and Class B zones to ensure the Class A zone captures areas that are free of gamba grass and where eradication is considered feasible.	WMB WAC	By July 2026, revised Class A and B zones are declared if recommended by the review process.	Gamba grass management zones review discussion paper is produced through consultation with relevant stakeholders, including the WAC. Updated Class A and B zone map is produced if zones are amended.

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<sup>3</sup> For more information on active management, monitoring phase, and eradication status, see glossary of Weed Management Plan for Gamba Grass 2020 - 2030.

Table 8. Goal 2 – Contain and control gamba grass by actively managing infestations across the Class B (control) zone and preventing spread into new areas

Objectives	Strategic actions	Who	Performance indicators	Performance measures
2a. Reduce seed production. 2b. Implement weed hygiene measures to reduce gamba grass seed spread. 2c. Reduce gamba grass outliers at a land parcel and landscape scale. 2d. Prevent gamba grass spreading into clean areas. 2e. Reduce gamba grass abundance and density in the Class B zone. 2f. Reduce gamba grass presence around landholder infrastructure.	Land owners, occupiers and all users of land implement required actions as per Section 3 and 4.	Land owners, occupiers and all users of land	An increase each year in the number <sup>4</sup> of assessed land parcels that have implemented management requirements and percentile of properties assessed that are compliant e.g. 80% compliant.	Proportion of assessed land parcels that: <ul style="list-style-type: none"> <li>a) Are already compliant at time of initial assessment and no follow up action is required.</li> <li>b) Voluntarily meet management requirements after being informed of non-compliance.</li> <li>c) Had compliance action taken due to non-compliance.</li> </ul> Annual summary of a, b and c produced including the total number and area of parcels assessed as a proportion of the area of the Class B management zone.
			By July 2024 and annually afterwards there is an improvement in gamba grass management as evidenced by an improvement in parcel compliance score.	Proportion of land parcels that have had multiple year compliance assessments and: <ul style="list-style-type: none"> <li>a) Compliance score has improved indicating reduced gamba density.</li> <li>b) Compliance score is unchanged indicating no reduction in gamba density.</li> <li>c) Compliance score has worsened indicating increased gamba density.</li> </ul> Annual summary of a, b, and c produced.
			Reduction in area affected by gamba grass.	Gamba grass presence measured annually (in ha and km <sup>2</sup> ) using available spatial data and updated distribution maps produced.

<sup>4</sup> In 2019 – 2020 the number of assessed land parcels was approximately 1500.

Table 9. Goal 3 - Protect priority environmental and cultural assets from the impacts of gamba grass

Objectives	Strategic actions	Who	Performance indicators	Performance measures
3a. Identify key environmental and cultural assets <sup>5</sup> at risk of being impacted by gamba grass and incorporate into relevant Weed Management Branch, stakeholder and land manager regional plans, strategies and compliance programs.	By December 2022, key environmental and cultural assets at risk of being impacted by gamba grass have been identified with stakeholder input.	WMB Non-Government Organisations Landholders and occupiers	By December 2022 a list has been developed of key environmental and cultural assets.	By January 2023, a list of priority assets identified is made publicly available (with exclusion of certain sacred sites if necessary).
	Identified key environmental and cultural assets have been prioritised in WMB and stakeholder planning processes.	WMB and landowners and occupiers with environmental and cultural assets	Key environmental and cultural assets are prioritised in WMB regional plans, WMB compliance planning and stakeholder weed plans aimed at managing gamba grass.	An annual assessment of regional plans and compliance programs is conducted to evaluate their success in managing the threat gamba grass poses to key environmental and cultural assets.  An annual summary is produced to demonstrate progress towards protection of key environmental and cultural assets.

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<sup>5</sup> Environmental and cultural assets will be defined through consultation with available registers and consultation with key stakeholders.

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Table 10. Goal 4 - Increase community capacity and willingness to participate in gamba grass management

Objectives	Strategic Actions	Who	Performance indicators	Performance measures
4a. Engage with the community and obtain a high level of public support for gamba grass management action.	By July 2021, develop a communications plan to raise awareness of gamba grass management requirements and available support.  Engage with the community.	WMB  WMB	Public knowledge of gamba grass impacts and management requirements has increased.	Delivery of the communications plan, including participation in public events.  The number of people participating in the Gamba Action Program has increased.
	By July 2023, complete a social marketing study (subject to funding) to identify community perceptions, needs and barriers regarding gamba grass management.	WAC lead in conjunction with Non-Government Organisations	Better understand community perceptions, needs and barriers regarding gamba grass management.	Development and completion of the social marketing study by 2023.  Post study completion, and delivery of strategies that incorporate study outcomes to increase uptake of gamba grass management in the community.
	Promote methods of reporting gamba grass distribution. <sup>6</sup>	WMB	Public reporting to WMB on gamba infestations.	Uptake of NT WeedMate.  Number of reports received (new locations).
	Development of an efficient tool (subject to funding) to encourage public reporting of	WAC lead in conjunction with Non-		

<sup>6</sup> For example – promotion of NT WeedMate, development of a discussion paper regarding the feasibility and options for an ‘amnesty’ period to increase self-reporting of gamba grass.

Table 10. Goal 4 - Increase community capacity and willingness to participate in gamba grass management

	gamba grass sightings and management effort.	Government Organisations		
	Establish and support cross tenure working groups to ensure coordinated management of gamba grass across different land tenures.	WMB	An increase in coordinated management effort.	Promote active working groups achieving effective gamba grass management across tenures.
4b. Ensure adequate information and knowledge on gamba grass management is available.	Identify and prioritise gamba grass knowledge gaps and advocate for research activity in these areas.	WMB Research partners	Documentation of knowledge gaps.	Knowledge gaps identified in annual reporting.
	Promote research activities and updated management recommendations.	WMB and Research partners	Community awareness.	Integration of research outcomes into core business activities and relevant publications (e.g. improved remote sensing technologies used for distribution mapping).
	Deliver an annual gamba grass research and development community forum with a focus on celebrating gamba grass successes and identifying barriers and issues to inform further research.	WAC in conjunction with relevant stakeholders	Adaption of control programs to incorporate updated management recommendations.	
	Collaborate with other jurisdictions to identify funding options for production of a National Best Practice Gamba Grass Manual by December 2022.	WMB	Pathway is identified to produce National Gamba Grass Best Practice Manual.	Progress is made towards development of National Gamba Grass Best Practice Manual.



Table 10. Goal 4 - Increase community capacity and willingness to participate in gamba grass management

4c. Increase voluntary compliance with gamba grass management requirements.	Education and awareness activities are implemented to encourage compliant behaviours.	WMB	Changes in active management and voluntary compliance levels.	Annual summary data produced as per Goals 1 to 3.
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Table 11. Goal 5 – Implement transparent and accountable compliance, monitoring and reporting processes

Objectives	Strategic actions	Who	Performance indicators	Performance measures
5a. Deliver a transparent and risk-based compliance program.	A risk-based compliance program is developed.	WMB	Responsiveness to public enquiries.	Proportion of public enquiries responded to regarding the compliance process.
	The compliance program is promoted to the community.		Public awareness of the parcel compliance rating system.	Number of online downloads of the parcel compliance rating system, annually.
	The compliance program is implemented annually.		Application of the parcel compliance rating system.	Annual summary of outcomes as per Goal 1 - 3.
5b. Collaborate with key stakeholders to undertake regular monitoring and reporting of performance against the Weed Management Plan for Gamba Grass 2020 – 2030.	By 30 July each year, deliver an annual report which addresses all performance indicators.	WMB WAC	Regular, transparent, and meaningful reporting that is effectively promoted to the public.	Public release of an annual report reviewed by the WAC that addresses performance indicators and measures within this plan.  Annual online feedback undertaken to inform annual report.
	Effectively communicate key outcomes of the annual report to the community.	WMB	Community awareness.	Number of mechanisms used to promote the key outcomes of the annual report.
5c. Ensure ongoing independent oversight of delivery of the Weed Management Plan for Gamba Grass 2020 – 2030.	Ongoing collaboration with the WAC regarding implementation of this plan.	WMB	Retention of the WAC.	WAC are communicating with their represented stakeholders on performance of the Weed Management Plan for Gamba Grass 2020 – 2030 and acting on feedback received from stakeholders.

## Appendix 2 Gamba Management Framework

# GAMBA MANAGEMENT FRAMEWORK

The Gamba Management Framework aligns the strategic and actionable items providing a holistic approach to gamba management and fire mitigation for fuel load reduction and infestation control. It is underpinned by the statutory 'Weed Management Plan for Gamba Grass 2020-2030', given force by the *Weeds Management Act 2001*.



Department of  
ENVIRONMENT, PARKS AND WATER SECURITY



## Appendix 3 Submissions from Land Councils in response to Goal 1

### Submission from Northern Land Council

The Northern Land Council region encompasses a vast area of the Top End of the Northern Territory which is sparsely populated. Whilst gamba grass management is considered a high priority amongst Aboriginal land managers throughout the NLC region, the thinly scattered population as well as the logistical challenges working in remote areas with limited infrastructure make the effective management and eradication of this weed difficult.

The NLC actively supports the work of Aboriginal custodians to maintain their cultural obligations to care for this land and sea country through the Land and Sea Management Branch, which provides environmental and related support services to Traditional Owners who actively manage in excess of 200,000 square kilometres of land and sea country. Currently the NLC also directly host twelve community land and sea ranger groups and support the management of seven jointly managed parks and reserves, including Kakadu National Park. The management of gamba grass, by control, eradication or prevention of introduction, is recognised as a priority amongst all these groups and reserves because of the threat posed to Aboriginal social, cultural, environmental and economic values and aspirations.

Aboriginal rangers continue to report that they suspect or know gamba grass is present in some areas they manage, but because resources are limited, the areas of land they manage are vast and access is often limited via foot or helicopter. In many cases confirming suspected new arrivals of gamba grass and mapping and eradicating it, is very difficult.

The NLC notes that access to long-term resources sometimes limits what gamba grass work rangers can do and where. But in addition, an ongoing problem is: having suitable strategic plans; experienced staff to coordinate and supervise gamba management action and mapping and monitoring work; and having local people passionate about looking after country. Government funding and gamba management plans for Aboriginal lands need to address both of these diverse needs; which are sometime overlooked in funding priorities and guidelines.

Gamba grass management has consistently been identified by Aboriginal land owners and Aboriginal rangers as a threat to both cultural and ecological values in the development of Healthy Country Plans. For example, the Malak Malak Healthy Country Plan identifies grassy weeds as the biggest threat to their values with Gamba Grass being the most important of these because of its ability to carry very hot fires and alter the country (<https://www.nlc.org.au/media-publications/malak-malak-traditional-owners-launch-healthy-country-plan>). Gamba grass is also recognised as a threat to indigenous carbon farming e.g. emissions offsets enterprises occurring on Aboriginal land.

The NLC is working with weed management and gamba grass experts across NTG and AG agencies, as well as the private sector and researchers to develop projects and find funding for the improved management of gamba grass and other weeds on Aboriginal land. For example, the Department of Climate Change, Energy, the Environment and Water (DCCEW) gamba management funding for the Top End (<https://minister.dcceew.gov.au/plibersek/media-releases/labor-delivers-tackling-gamba-grass-top-end>); and co-design of collaborative weed management projects with the NESP Resilient Landscapes (<https://nesplandscapes.edu.au/projects/nesp-rlh/managing-invasive-grasses/>).

As the NLC has suggested in recent Gamba Management Prioritisation workshops, effective gamba management in the A-Zone will require coordination and collaboration across the range of stakeholders, land managers and experts included in this report. A key element of which will be the perennial problem of having an agreed and defensible process to prioritise and allocate funding for gamba grass to deliver gamba management outcomes in the A-Zone.

### Submission from Tiwi Land Council

The Tiwi Land Council is aware of up to 30 sites where Gamba grass has been recorded on the Tiwi Islands historically. The majority of known sites are within community areas and have been managed carefully over the past four years. In 2023, the Tiwi Land Council coordinated a weed survey of the Tiwi Islands including all communities, roads, barge landings and high visitation areas. The survey was a collaboration between the TLC, Little Falcon Consulting, Tiwi Rangers and the NT Weed Management Branch. The survey confirmed that there is no gamba grass growing other than in the areas that have been recorded previously. The Tiwi Land Council will focus on monitoring

known sites towards local eradication whilst strengthening quarantine processes to stop seed being transported from the mainland.

#### **Submission from Anindilyakwa Land Council**

The Anindilyakwa Land Council Land and Sea Rangers continue to proactively manage the risk of gamba grass within the Groote Archipelago, through surveillance and priority management of gamba grass across the Anindilyakwa Indigenous Protected Area. There have been six detections of isolated gamba plants on Groote Eylandt, highlighting that the risk of this weed spreading across East Arnhem land is ongoing and significant. The Rangers continue to monitor historic gamba grass infestations and surveying, treating, and reporting any suspect weeds and new gamba grass infestations to the WMB.