

# GAMBA GRASS

ANNUAL REPORT

2024

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Acronyms	Full form
CDU	Charles Darwin University
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEPWS	Department of Environment, Parks and Water Security
DIPL	Department of Infrastructure Planning and Logistics
DLI	Department of Logistics and Infrastructure
DLPE	Department of Lands, Planning and Environment
DTH	Department of Tourism and Hospitality
GAP	Gamba Action Program
GEBC	Gamba Eradication and Biodiversity Conservation
GFMU	Gamba Fire Mitigation Unit
GGMU	Gamba Grass Management Unit
NESP	National Environmental Science Program
NLC	Northern Land Council
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) (DEPWS 2020) 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 (DEPWS 2020) also outlines strategic goals, objectives and actions, to improve gamba grass management outcomes across the Northern Territory. In 2024, a year 3 review of the gamba plan (DEPWS 2020) was completed. The plan was amended to improve operability and make updates after legislative amendments introduced to the *Weeds Management Act 2001* in January 2023. All amendments made to the gamba plan (DEPWS 2020) are summarised in an Appendix of the revised gamba plan (DEPWS 2024). This Gamba Grass Annual Report 2024 (this report) demonstrates progress against implementation of the revised gamba plan (DEPWS 2024) from 1 July 2023 to 30 June 2024.

**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. Three 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 were completed, over the reporting period of 1 July 2023 to 30 June 2024. These include:

- Ongoing tracking of gamba grass eradication across the Class A (eradication) zone through implementation of the mapping and monitoring program (DEPWS 2022A). Key findings include:
  - A total of 1760 Gamba Grass Management Units (GGMUs) (1 ha grids) across the Class A zone were assessed in the reporting period. Of these:
    - The GGMUs occur across 88 properties and 16 different roads / highways. Of these 88 properties:
      - 11 properties have 'active' GGMUs (where gamba grass is present) – with either an unknown management status, partially unmanaged or no data provided during 2023/24
      - 30 properties have 'active' GGMUs (where gamba grass is present) and control has occurred across known gamba grass locations
      - 14 properties are under 'monitoring' (their GGMUs are in the monitoring phase and none are active)
      - 33 properties have 'locally eradicated' gamba grass (all their GGMUs are 'locally eradicated').
- Australian Government Funding received for gamba grass management across the Class A zone including Kakadu National Park and Arnhem Land is progressing, eradication of gamba grass in this zone.
- Compliance inspections and enforcement actions across the Class B (control) zone by the Weed Management Branch and Gamba Fire Mitigation Unit are summarised as follows:
  - In the Darwin rural area:
    - 1559 compliance inspections were undertaken
    - 27% of these properties were issued authorised officer orders and of these, 19% have been notified of an intended penalty infringement notice.
  - Across Darwin and surrounds (outside Darwin rural area):
    - 420 compliance inspections were undertaken
    - 35% of these properties were issued authorised officer orders to comply with no penalty infringement notices required.
- A 'Have your say' survey was conducted in April 2024 for a 6 week period, seeking community feedback on implementation against the revised gamba plan (DEPWS 2024). The survey results are included online (where permission has been provided) at [nt.gov.au/gamba](https://nt.gov.au/gamba). Key results are included in this report.
- Gamba grass knowledge gaps, emerging issues and lessons learned are explored under Goal 4.
- The Gamba Grass Weed Advisory Committee continue to oversee implementation of the revised gamba plan (DEPWS 2024).

## 2. Purpose of this report

This Gamba Grass Annual Report 2024 (this report) has been prepared to fulfil the requirements of the 'Weed Management Plan for Gamba Grass 2020 – 2030 (2024 Revision)' (the revised gamba plan) (DEPWS 2024). The revised gamba plan (DEPWS 2024) 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 (DEPWS 2020) in December 2020, this is the fourth annual report to be published. This annual report covers the reporting period 1 July 2023 to 30 June 2024.

### How to interpret this report

This report documents progress made against each performance indicator in the revised gamba plan (DEPWS 2024). An extract from the revised gamba plan (DEPWS 2024) is presented in Appendix 1, including Tables 7 to 11 showing all goals, objectives, strategic actions, performance indicators and performance measures and how they are related.

Each performance indicator in Appendix 1 has been colour-coded to represent progress made against the revised gamba plan (DEPWS 2024). 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. About the gamba plan

The gamba plan (DEPWS 2020) was finalised and approved by the Minister for Environment in December 2020. The gamba plan (DEPWS 2020) was developed in accordance with the *Weeds Management Act 2001* (the Act) and sets out the legal requirements for land owners and occupiers in the Northern Territory for managing gamba grass. The gamba plan (DEPWS 2020) also outlines strategic goals, objectives and actions, to improve gamba grass management outcomes across the Northern Territory.

The gamba plan (DEPWS 2020) was drafted by a statutory Gamba Grass Weed Advisory Committee (WAC), appointed by the Minister in April 2020. In 2024, a year 3 review was completed in conjunction with the WAC and the gamba plan (DEPWS 2020) was amended to improve operability of the plan and make updates to the plan after legislative amendments introduced to the Act in January 2023. The WAC continues to oversee implementation of the revised gamba plan (DEPWS 2024).

Gamba grass (*Andropogon gayanus*) is a declared weed under section 7 of the Act and has a split classification 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 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.

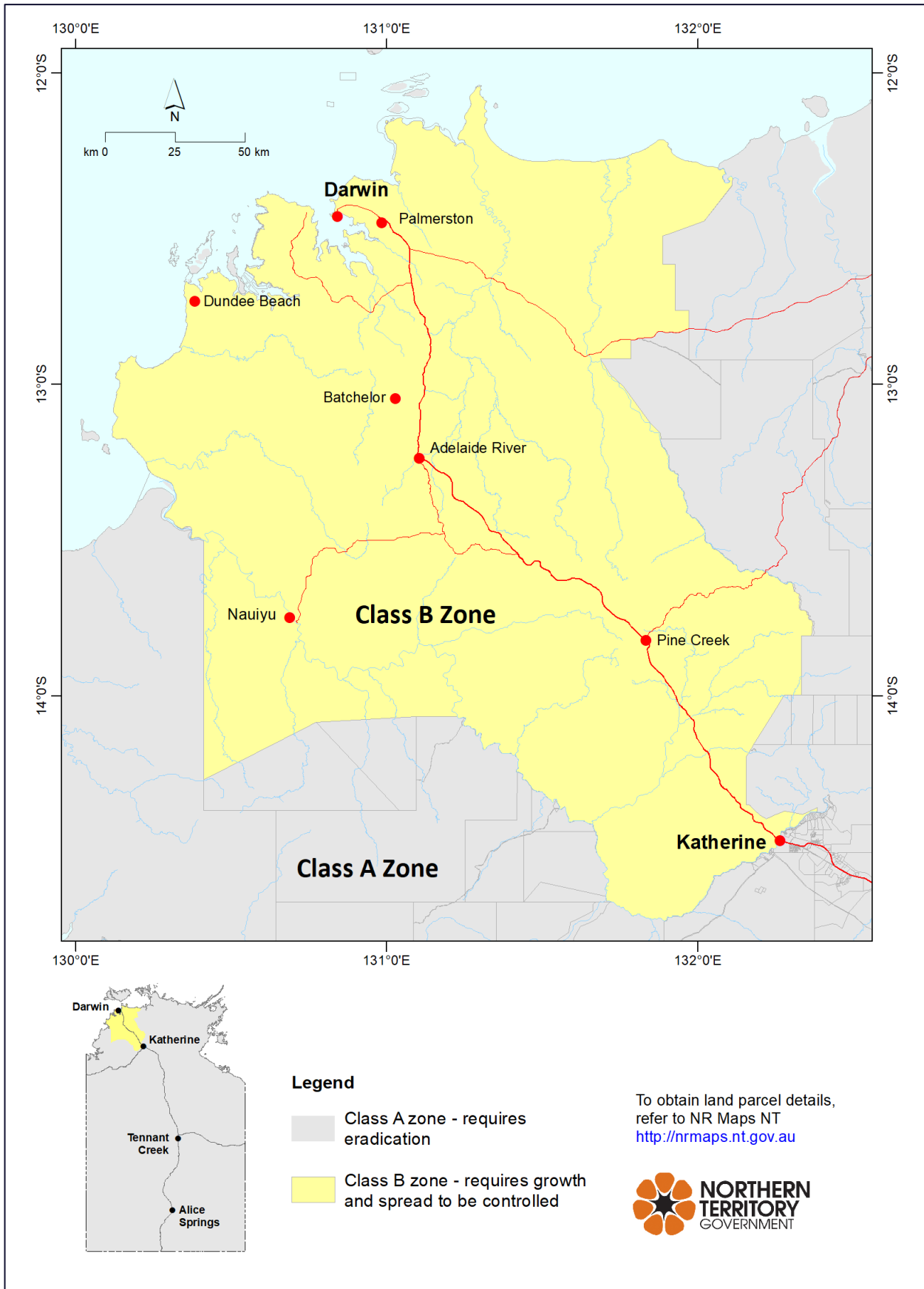


Figure 1: Gamba grass management zones: Class A (Eradication) and Class B (Growth and spread to be controlled).

## Gamba Management Framework

The Department of Lands, Planning and Environment (DLPE), previously the Department of Environment, Parks and Water Security (DEPWS) have developed the Gamba Management Framework (see Appendix 2) to demonstrate the collaborative projects that DLPE are involved in to help manage the impacts of gamba grass.

### Collaboration with key stakeholders to inform annual report

A 'Have your say' survey was conducted for 6 weeks during April to May 2024 seeking community feedback on implementation of the revised gamba plan (DEPWS 2024). 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.



Gamba grass plants

## 4. Community feedback on gamba grass management and plan progress

A 'Have your say' survey was conducted for 6 weeks during April to May 2024. A total of 12 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 and support gamba action?

Participants are taking action to control gamba grass because:

- They are looking after their lifestyle (50% of participants)
- Looking after nature (67% participants)
- Safety of people and protection of built infrastructure (50% of participants)
- Financial impact of not taking action (25% participants)
- Legal requirements (17% participants)
- Other (8% participants)

\*This number is over 100% as participants selected multiple answers.

### Q. If you manage gamba grass in the Class A eradication zone, how are you tracking with gamba grass eradication on your property?

- Progress towards eradication is on track - (33% participants)
- Progress towards eradication is partially on track - (8% participants)
- Progress towards eradication is not on track - (8% participants)
- NA - (33% participants)
- Other - (17% participants)

### Q. How are you tracking towards achieving your Class B zone requirements, of maintaining gamba free buffers prior to seeding, keeping clean areas clean, and reducing gamba?

- Management is on track - (42% participants)
- Management is partially on track - (25% participants)
- Management is not on track - (8% participants)
- I don't have gamba grass on my property - (17% participants)
- NA - I am not a land owner managing gamba grass - (8% participants)
- Other - (8% participants)

\*This number is over 100% as participant's selected multiple answers.

### Q. What factors are a barrier to your ability to manage gamba grass?

- Nothing is hindering me from managing gamba grass on my land - (17% participants)
- Time - (50% participants)
- Money - (25% participants)
- Knowledge - (8% participants)
- Other - (50% participants)

\*This number is over 100% as participants selected multiple answers.

**Q. What further information do you need in order to manage gamba grass on your land effectively?**

- The information I need is available – (83% participants)
- Information on gamba grass identification – (8% participants)
- Information on how to spray and control gamba grass – (25% participants)

\*This number is over 100% as participant's selected multiple answers.

**Q. Are you receiving enough information in the annual gamba grass reports on how environmental and cultural assets are being protected against the threat of gamba grass?**

- Yes – 50%
- No – 42%
- Other – 25%

\*This number is over 100% as participant's selected multiple answers.

**Q. Which environmental and cultural assets would you like more information on?**

- Litchfield National Park (33% participants)
- Other NT Parks and Reserves (25% participants)
- Kakadu National Park (17% participants)
- Indigenous Protection Areas (IPA's) (17% participants)
- Other (8% participants)

**Q. Do you believe there has been a change in attitude towards gamba grass over the last two years and if so please list the change(s)?**

- Yes – (42% participants)
- No – (8% participants)
- Other – (42% participants)

\*This number is less than 100% as one participant skipped this question.

The information above has been considered throughout the preparation of this report and has been addressed under the relevant goals and objectives.

**In relation to community feedback on environmental and cultural assets at threat from gamba grass:**

- During the 2024 revision of the gamba plan (DEPWS 2020), a new performance measure was added to the revised gamba plan (DEPWS 2024) to prepare an annual map of gamba grass overlaid across key environmental and cultural assets for target locations.
- An additional map has been included in this annual report for the gamba grass Class A zone in response to this requirement. The DLPE (previously DEPWS) will need to work with stakeholders towards additional data collection in order to produce maps of other environmental assets, for example within the Class B zone.

## 5. Progress against goals in the gamba plan

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

#### Objective:

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

**Strategic Action** “By July 2021, design a mapping and monitoring program for the Class A zone. By July 2021, commence the mapping program in the Class A zone. By July 2022, complete the mapping program and continue monitoring 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 in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023), a mapping and monitoring program (DEPWS 2022A) 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).

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 this zone.

Progress towards eradication is measured by the Weed Management Branch (WMB) in a yearly assessment for period 1 June to 31 May each year. The 2024 assessment of gamba grass in the Class A zone is for the assessment year of 1 June 2023 to 31 May 2024. Any gamba grass data collected after 31 May 2024 will be assessed in future assessments.

Progress towards eradication is tracked through gamba grass management units (GGMUs) that are assigned a status of ‘active’, ‘monitoring’ or ‘locally eradicated’. GGMU’s are a 1ha cell (100m x 100m) and may span across individual properties and roads and must include at least one gamba grass plant. During the 2024 assessment a status has been assigned to GGMU’s as follows:

- Active
  - For any GGMU which was previously ‘active’ and has not met the requirements to change to ‘monitoring’, or
  - For any GGMU containing any new gamba grass records in the 2024 assessment year.
- A ‘monitoring’ status has been assigned:
  - For any GGMU which was previously ‘monitoring’, has not had any gamba grass recorded in the 2024 assessment year and has not met the requirements to change status to ‘locally eradicated’.
  - For any GGMUs assigned an ‘active’ status in the 2023 assessment where:
    - The GGMU has been surveyed for gamba grass in the 2024 assessment year (1 June 2023 to 31 May 2024), and
      - No gamba grass was found, and
      - At least 12 months have passed between the last gamba grass detection (in a previous assessment year) and the most recent gamba grass survey.
- A ‘locally eradicated’ status has been assigned:
  - For any GGMU which was previously ‘locally eradicated’ that has not had any gamba grass recorded in the 2024 assessment year.
  - For any GGMUs that were assigned a ‘monitoring’ status in the 2023 assessment where:
    - The GGMU has been surveyed during the 2024 assessment year (1 June 2023 to 31 May 2024), and

- No gamba grass was found, and
- At least 12 months have passed between the gamba grass survey that changed the status of the GGMU from 'active' to 'monitoring' and the most recent gamba grass survey.

Circumstances that trigger changes between phases that are an exception to the above rules are included in detail in the [mapping and monitoring program](#) (DEPWS 2022A).

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 through Australian Government funding of \$9.8million being directed towards gamba grass in the Class A zone.
- Field surveys conducted by the landholder and/or WMB.
- Letters 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 included in the eradication program. Rather, they are closely monitored and audited by the WMB in conjunction with the landholders.

### Assessment of Gamba Grass Management Units

The WMB have completed the assessment of GGMU's for the 2024 assessment year (1 June 2023 – 31 May 2024) for the gamba grass Class A zone. There were a total of 1760 GGMUs assessed for the 2024 assessment year. Of these, 621 (35.2%) were assessed as 'active', 445 (25.3%) were assessed as 'monitoring', and 694 (39.4%) were assessed as 'locally eradicated'. A comparison of the total GGMUs assessed as 'active', 'monitoring' and 'locally eradicated' in 2022, 2023 and 2024 is presented in Figure 2. The total GGMUs for each year between 2008 and 2024 is presented in Figure 3. The increase in GGMUs from the 2023 assessment year to the 2024 assessment year is 162 units. A new graph is also included in this report, refer Figure 4, that demonstrates a comparison of the total GGMUs assessed from 2022 to 2024 against the proportion of 'active' units for each year.

#### *Notes on curation of historical data and calculations of GGMU status in the period 2022-2024*

The data presented here for the 2022 and 2023 assessment years differs from that presented in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023). This is due to additional data and information in 2024 that allowed a curation of the data in 2022 and 2023. As a result, the presentation in this report of the summary of the status of GGMUs for 2022-2024 is a better fit for underlying gamba grass records than in the previous 2023 report. There were two significant data corrections applied:

Significant new data was received in 2023 that related to the assessments of units in the 2022 and 2023 assessment years. In 2024, it became evident that some of these GGMUs had been prematurely assessed in 2023 as 'locally eradicated' in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023). This was the result of some differences in interpretation of the eradication methodology and challenges in applying the eradication methodology to a large influx of historical records. As a result, the data has been re-evaluated in this report with the consequence that, the 2023 status of some GGMUs have been changed in this 2024 assessment from 'locally eradicated' to 'monitoring'.

A second data anomaly from 2023 has been identified and corrected in this report. As described in the 'Mapping and Monitoring Program' (DEPWS 2022A) where an 'active' GGMU was the result of a historic gamba point (greater than 10 years old), and the location has been revisited with no gamba grass found, then the GGMU moves directly to 'locally eradicated' in the relevant assessment year. This is because it was considered that a lack of gamba presence records for a 10 year or greater period followed by a single survey where gamba grass is not found, is sufficient evidence to consider the status of the GGMU 'locally eradicated' (i.e. absent), rather than 'monitoring'. However, to be conservative with the progression of states from 'active' -> 'monitoring' -> 'locally eradicated' in the monitoring protocol, the following specific correction was applied: if a GGMU progressed directly to 'locally eradicated' in the 2023 assessment year (using the 10 year rule as described above), then we reassessed it's status in the year prior (the 2022 assessment year) as 'monitoring' (not 'active').

Note that gamba grass on roads within the Department of Logistics and Infrastructure (DLI) previously Department of Infrastructure Planning and Logistics (DIPL) Katherine Management Region are normally under an ongoing monitoring and control program, therefore in the 2023 assessment of GGMU's the main roads in this region are considered to have been searched for gamba grass. Absence was inferred during this period where no new presence records were recorded and a number of roads status changed from 'active' to 'monitoring.' The status of these roads remained in a 'monitoring' phase in the 2024 assessment unless an absence point was recorded for the gamba record, in which case the unit was shifted to 'locally eradicated'. Due to an understood lack of gamba grass monitoring on Katherine roads during this reporting period, no further road GGMUs in the Katherine region shifted to a 'monitoring' status during the 2024 assessment.

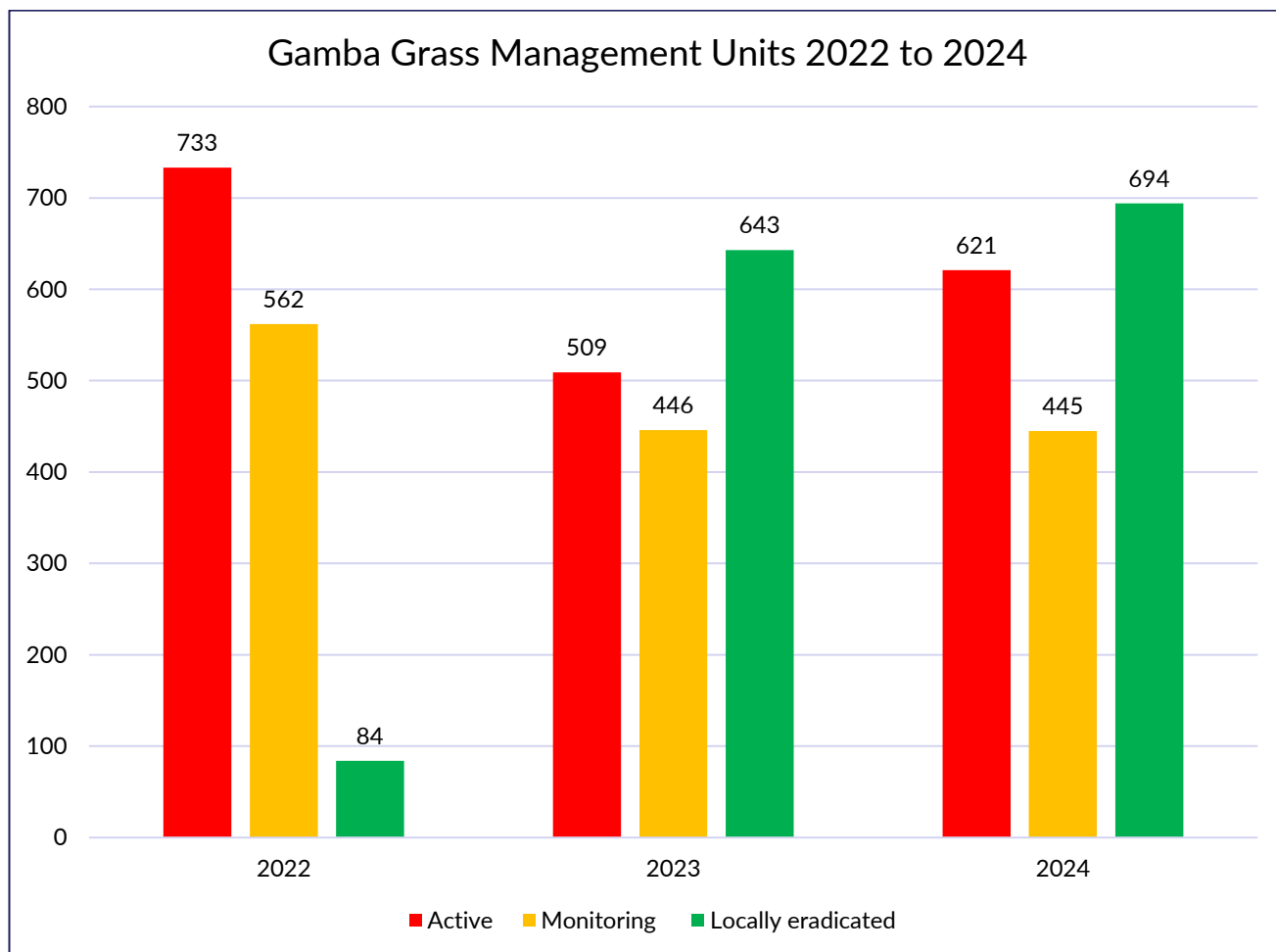
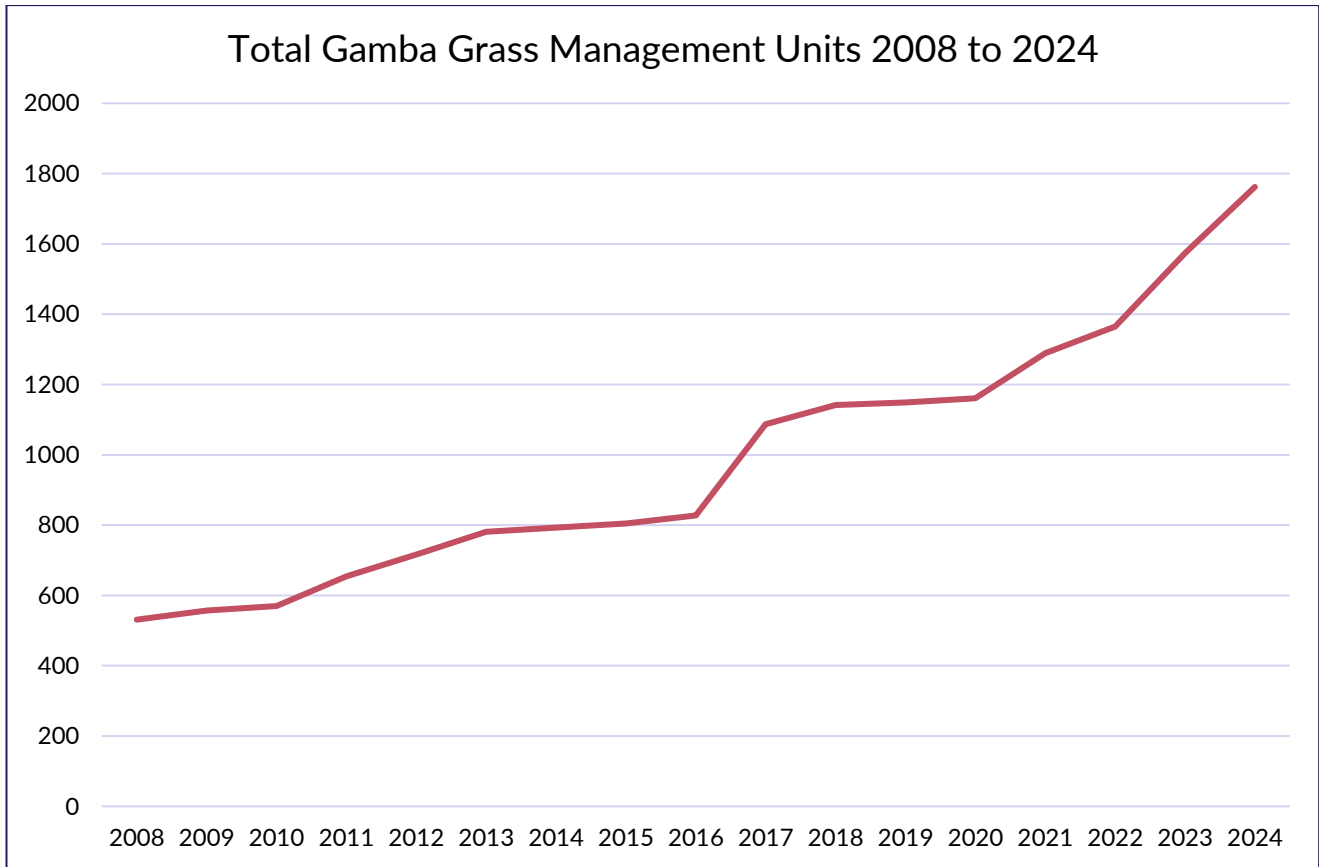


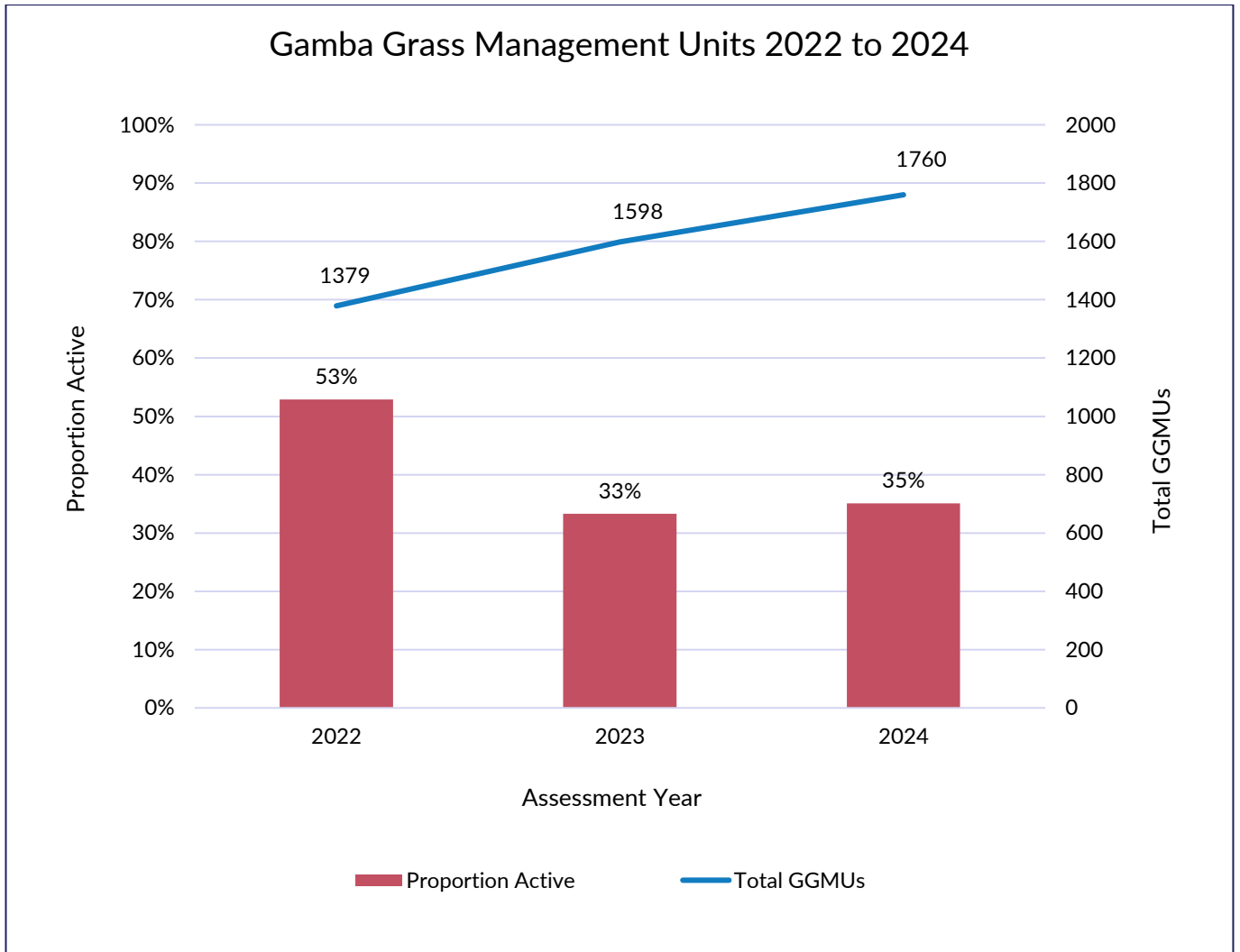
Figure 2: Assessment of gamba grass management units (GGMUs) across the Class A zone from 2022 - 2024.



**Figure 3: 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.**



**Rangers controlling gamba grass on the Tiwi Islands (photos provided by the Tiwi Land Council)**



**Figure 4: Comparison of the total number of GGMUs assessed against the proportion of ‘active’ units for 2022 – 2024.**

**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 eight different regions to demonstrate progress towards eradication of gamba grass at a finer scale. The eight regions are shown in Figure 5 along with the eradication status of gamba grass, at a 10km scale. In addition, Figure 6 presents the 2024 assessment of GGMUs across each of the eight regions that are classed as ‘active’, ‘monitoring’ and ‘locally eradicated’.

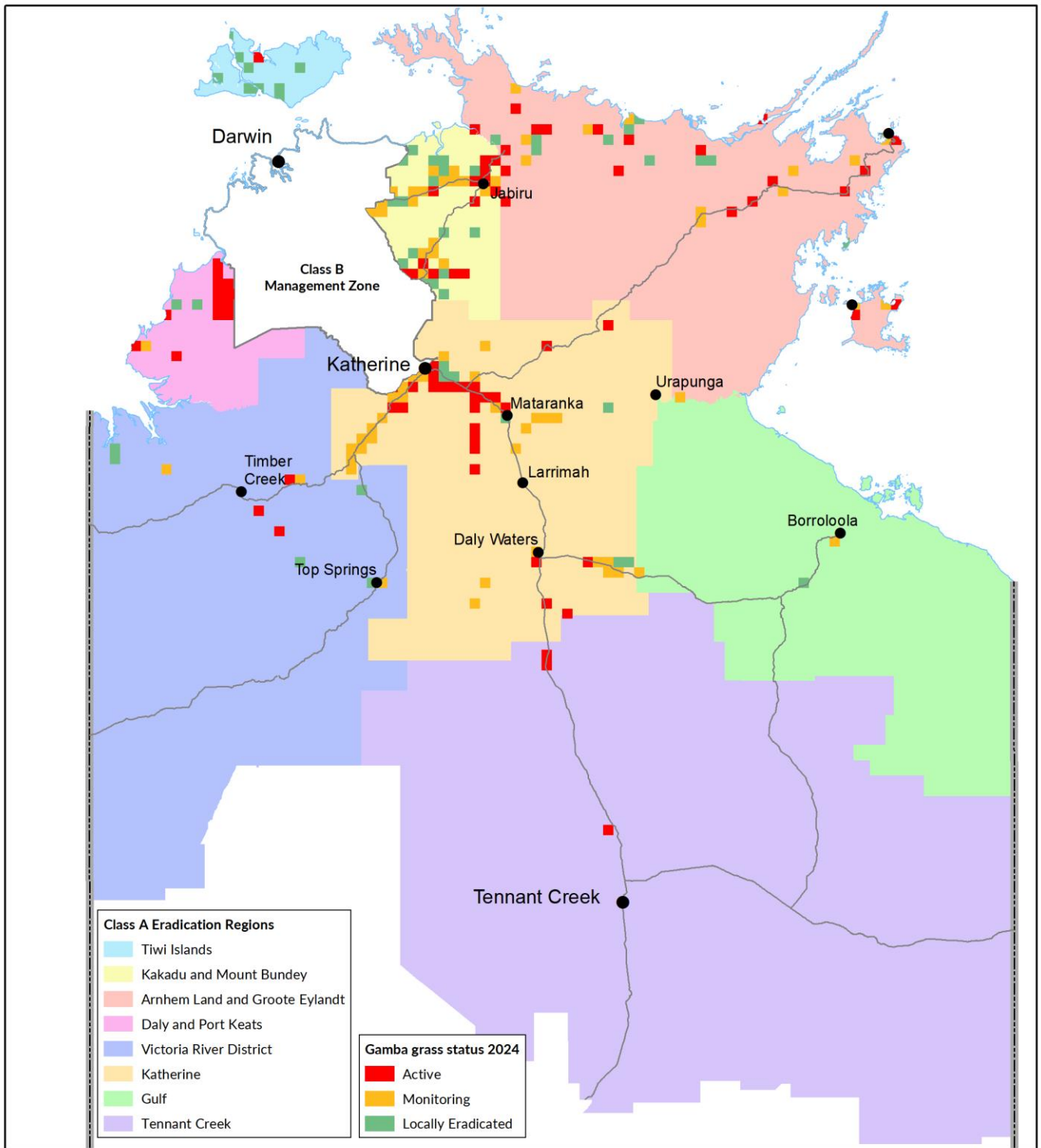
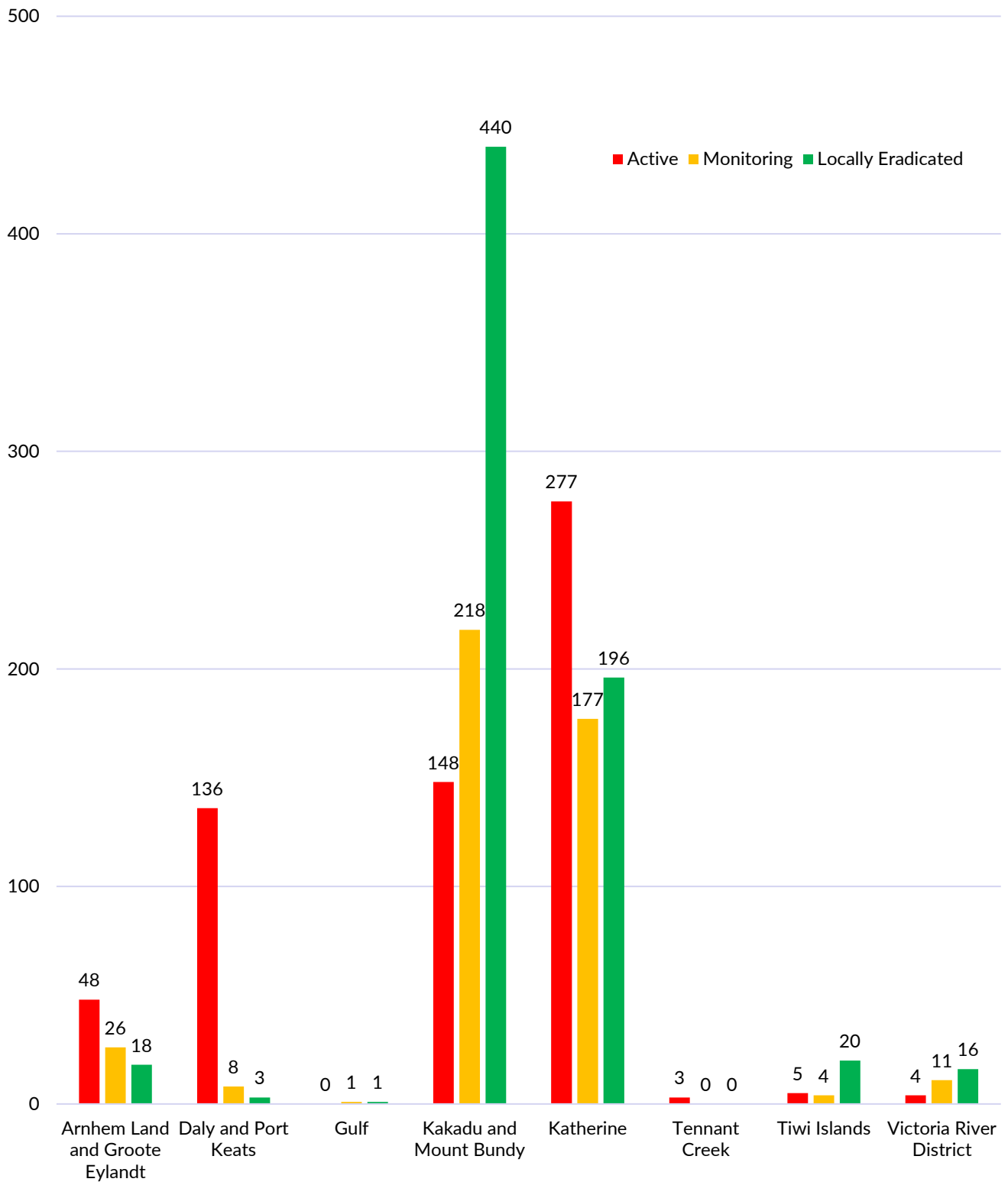


Figure 5: NT Gamba Grass Eradication Regions and the distribution of 2024 gamba grass records using 0.1 degree squared grids (~ 10 x 10 km). The 10 km grid status is based on the most conservative value (i.e. active is more conservative than monitoring) of all the 1 ha GGMUs within each 10 km grid.

## Gamba Grass Management Units Assessment 2024



**Figure 6: Total Gamba Grass Management Units (GGMUs) assessed as 'Active', 'Monitoring' and 'Locally Eradicated' for each of the NT Gamba Grass Eradication Regions in 2024.**

## Assessment of gamba grass across tenures in the Class A zone

### Individual properties and parcels

Properties and parcels within the Class A zone include land under many different tenures, including pastoral land, national parks, vacant Crown land and Aboriginal land.

A total of 88 individual properties<sup>1</sup> across the above different tenures have been assessed as having recorded gamba grass points based on all weed records in the WMB Corporate Weeds Dataset. 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
11	Management status as unmanaged, partially unmanaged, unknown or no data provided during 2022/2023
30	Active management – control has occurred
14	Assessed as 'monitoring'
33	Assessed as 'locally eradicated'

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.

### Roads and highways

A total of 16 different roads and highways in the Class A zone have recorded gamba grass points based on all weed records in the WMB Corporate Weeds Dataset. The GGMUs containing these points have been assessed in 2024 as either 'active', 'monitoring' or 'locally eradicated'. This data is included in the regional assessment shown in Figure 6.

### Gamba grass across data deficient areas

A draft map has been prepared by the WMB to present the confidence in gamba grass absence across the Class A zone. This map is now considered out of date based on the survey effort for gamba grass that has occurred over recent years. Consideration will be given to whether it is feasible to prepare a map that can also present areas with no recorded gamba grass, where survey effort has occurred and gamba grass has not been found.

### **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).**

**Strategic action: "Individuals, land owners and occupiers implement required actions as per Section 4. Assess eradication status for land parcels."**

**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 (DEPWS 2022A) 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,

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<sup>1</sup> For the purposes of this report an NT Portion has been reported as a property.

individual properties and roads has been provided above. Table 1 above presents the results of the Class A zone gamba eradication assessment for 2023/24 and summarises the number of properties understood to be actively managing gamba in the Class A zone.

**Strategic action:** *“Individuals, land owners and occupiers implement required actions as per Section 4. Assess eradication status for land parcels.”*

**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 (DEPWS 2022A) and tracking the eradication of gamba grass in the Class A zone using the eradication register.

**Strategic action:** *“Individuals, land owners and occupiers implement required actions as per Section 4. Assess eradication status for land parcels.”*

**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 (DEPWS 2022A) 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.*

**Strategic action:** *“Existing permits that allow grazing of gamba grass in the Class A zone are reassessed to ensure they are appropriate.”*

**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.

Note that 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 2023. 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 2024.

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.”*

**Strategic action:** *“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.”*

**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.

## 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.*
- 2g: Understand the distribution of gamba grass in the Class B zone.*

**Strategic action:** “Land owners, occupiers and all users of land implement required actions as per Section 3 and 4.”

**Performance indicator:** “An annual compliance program is developed and implemented to assess compliance with this plan and compliance action is taken against properties not complying.”

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 and a resulting compliance program was developed. The DLPE (previously 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 2023/24 wet season, 1,559 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. Inspections were to assess gamba grass risk, targeting areas that were flagged from the 2016 survey dataset and a subsequent aerial survey in 2023. 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.
28%	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 the Gamba Action Program (GAP).
35%	Properties inspected showed a reasonable level of ongoing land management, and were monitored for change throughout the season, with no intervention.

Percentage	Compliance result
27%	Property inspections scored highly enough to result in authorised officer orders being issued, requiring the landholder to rectify non-compliance.

In total 436 compliance orders were issued during 2023/24. Compliance with these orders is summarised in Table 3.

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

Percentage	Compliance result
81%	Met their management requirements after being informed of non-compliance, or showed significant progress towards compliance.
19%	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)**

During the 2023/24 season, 420 compliance inspections were undertaken for properties in Darwin and the surrounding area, not including the Darwin rural area. The WMB Darwin Operations Team undertook these inspections. A summary of compliant properties and enforcement action taken is show in Table 4.

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

Percentage	Compliance result
43%	Compliant at the time of initial assessment and no follow up action was required.
35%	Compliance action taken due to non-compliance – orders issued.
11%	Compliance action not warranted, further inspections to be undertaken.
11%	Action not commenced.

Of the 420 compliance inspections undertaken, 150 orders were issued, and after this 73 'Notice of Intent to Infringe' were issued during 2023/24. Compliance after final orders were issued is summarised in Table 5.

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

Percentage	Compliance result
100%	Met their management requirements, or showed significant progress towards compliance after being notified of an intended infringement.

#### **Katherine**

The town of Katherine is located across both the Class A and B zones.

The focus for compliance in this area during the reporting period has been on the Class A zone, the results of which are documented above under Goal 1.

***Strategic action: "Land owners, occupiers and all users of land implement required actions as per Section 3 and 4."***

***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 2023/24 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 2023/24 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
59.5%	Land showed an improved parcel compliance score, indicating improved gamba grass management.
21.5%	Parcel compliance scores remained unchanged.
19%	Compliance scores worsened, indicating an increase in gamba grass hazard.

An assessment of an improvement in parcel compliance score has not been undertaken for properties outside of the Darwin rural area.

**Strategic action:** “Land owners, occupiers and all users of land implement required actions as per Section 3 and 4.”

**Performance indicator:** “Reduction in area affected by gamba grass in target areas.”

A baseline assessment of the area affected by gamba grass in the Class B zone since 2021 is shown in Table 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%
2024	5425km <sup>2</sup>	15.75%

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.
- Data audits are ongoing and may result in slight updates to the area affected by gamba grass, as reported in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023).

As previously reported, it is not feasible to track a ‘reduction’ in gamba grass across the Class B zone at a landscape scale. However, information is provided under the performance indicator below to demonstrate the current understanding of the distribution of gamba grass in the Class B zone of which can be used to better understand priority areas for future mapping within the Class B zone in the future.

Based on the above difficulties in tracking a ‘reduction’ across the entire class B zone, the revised gamba plan (DEPWS 2024) revised this performance indicator to ‘a reduction in area affected by gamba grass in target areas’.

These specific 'target' areas have not yet been determined. However, it is noted that an overview is provided below that includes various stakeholder submissions stating how their gamba grass management is tracking across the Class B zone.

Of particular note is the lack of submissions received this year from the DLI (previously DIPL) in regards to gamba grass management on DLI managed roads. A lack of gamba grass management on roads has been raised with the WAC and WMB over the reporting period as a key concern. A lack of gamba grass management on roads is a significant concern and if not managed appropriately will limit the ability of the gamba plan (DEPWS 2024) to achieve success, particularly with Goals 1 and 2.

**Objective:**

*2g. Understand the distribution of gamba grass in the Class B zone.*

**Strategic action:** *"The WMB are to undertake an annual assessment of land impacted by gamba grass. A mapping and monitoring program is developed for the Class B zone."*

**Performance indicator:** *"Increased understanding of priority areas for future mapping in the Class B zone."*

The following information demonstrates the current understanding of the distribution of gamba grass in the Class B zone. A wide range of government, council and non-government stakeholders have been asked to provide information for inclusion in this report to demonstrate gamba grass management being undertaken across the Class B zone. Not all stakeholders have chosen to supply information. If you would like information on gamba grass management on land that has not been addressed below, you are encouraged to contact these stakeholders directly.

The information below demonstrates the effort on gamba grass management that reflects the known distribution of gamba grass.

**Metrics for some tenures:**

**NTG Parks**

Parks and Wildlife, Department of Tourism and Hospitality (DTH) (previously 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 Parks District 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
- Holmes Jungle Nature Park.

The Gamba Army assisted Parks and Wildlife by contributing nearly 900 hours of work spraying gamba grass in the reporting period within the Darwin Urban Parks District.

Spray contractors were engaged for tackling larger infestations at Holmes Jungle, Charles Darwin National Park and Casuarina Coastal Reserve, Djukbinj National Park, Black Jungle / Lambells Lagoon Conservation Reserve, Manton Dam Recreation Area and Berry Springs Nature Park, and contributed over 700 hours of spraying.

Significant gamba control work was undertaken in Litchfield National Park. Approximately 280 ha of gamba grass was sprayed in Litchfield National Park, mainly by helicopter, with an additional 800 hours provided by on ground contractors assisting with follow up control. This work focussed on gamba grass infestations on or encroaching the Table Top Range. 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. DTH (previously DEPWS) funded Strategic Pest Management Projects focussing on gamba grass contributed nearly 240 hours of aerial and ground control contractor hours. Volunteer group 'Weed Walkers' also

undertook control and gamba grass surveillance across this park during the reporting period, contributing many hours. This work included backpack spraying and physically removing gamba grass, as well as data collection and mapping of gamba grass presence and density, which was reported back to rangers to assist with logistics and planning for follow up control.

During the reporting period Parks and Wildlife received an additional \$250,000 ongoing year on year towards managing gamba grass in Litchfield National Park. This will ensure that work commenced under the Australian Government's 'Supporting Communities Manage Pest Animals and Weeds Program' can continue once this Australian Government funding ends.

Other notable parks and reserves controlled by Parks and Wildlife in the Top End District over the reporting period include:

- Fogg Dam Conservation Reserve
- Mary River National Park
- Black Jungle / Lambells Lagoon Conservation Reserve.

Across all sites, Parks and Wildlife Park Rangers contributed nearly 2500 hours in field directly targeting control of gamba grass across North Australian Parks.

Parks and Wildlife has 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. Volunteers contributed over 400 hours of voluntary effort physically removing gamba grass at the Reserve. Gamba density and presence has declined significantly in the project site areas over last 3 years due to this work.

Ongoing gamba grass surveillance is being conducted by Park Rangers in conjunction with regular park operations in Savannah-Gulf Parks within the Katherine region, ready to respond if gamba incursions appear.

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

#### **Darwin Region**

The Vacant Crown Land Weed Management Contract is a three year program (2022-2025) for the control of declared weeds on vacant Crown land from Darwin to Adelaide River. Sites were originally identified by surveys conducted to create the *Darwin Region Weed Management Plan – NT Vacant Crown Land*. The aim of this plan is to provide guidance and objectives to eradicate, prevent and reduce the impacts of weeds on VCL.

In 2022, two contractors were engaged to undertake treatment of gamba grass and additional declared species on over 200 parcels through chemical control. Treatment areas for each parcel differ due to species, fire risk, high visitation areas, cultural and heritage values, topography and weed management activities from neighbouring properties. These treatment areas range from a minimum 30 m weed free buffer on boundaries, tracks and trails to complete eradication sites. Approximately \$578 000 is spent on weed control in Darwin, Palmerston, Darwin Rural Area, Batchelor and Adelaide River under the current contract as follows:

- Darwin: 20 parcels, extending from Leanyer, Marrara, Hidden Valley, Cullen Bay, Darwin City and Berrimah.
- Palmerston and Surrounds: 47 parcels, extending from Knuckey Lagoons, Marlow Lagoon, Archer, Mitchell, Holtze, Johnston, Farrar, Bellamack and Zuccoli.
- Coolalinga and Surrounds: 48 parcels, extending from Coolalinga, Virginia, Bees Creek, Humpty Doo, McMinns Lagoon, Howard Springs and Gunn Point.
- Batchelor and Adelaide River: 18 parcels, extending from Batchelor, Rum Jungle and Adelaide River.
- Berry Springs and Surrounds: 75 parcels, extending from Berry Springs, Darwin River, Tumbling Waters, Middle Arm, Livingston, Blackmore, Southport and Litchfield.

The Weed Management Contract continues to grow and develop on a monthly basis, with sites removed or added due to change of tenure, scope changes due to development and control of other weed species.

It is noted, resources have also been limited with the VCL Weeds and Fire Officer position only being filled in April 2024 of the reporting period.

### **Katherine Region**

DLI (previously DIPL) did not provide a submission this annual report for the Katherine region's VCL.

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

#### **Darwin Region**

DLI (previously DIPL) did not provide a submission this annual report for the Darwin region's managed roads.

#### **Katherine Region**

DLI (previously DIPL) did not provide a submission this annual report for the Katherine region's managed roads.

### **Area of NTG Government land affected by gamba grass**

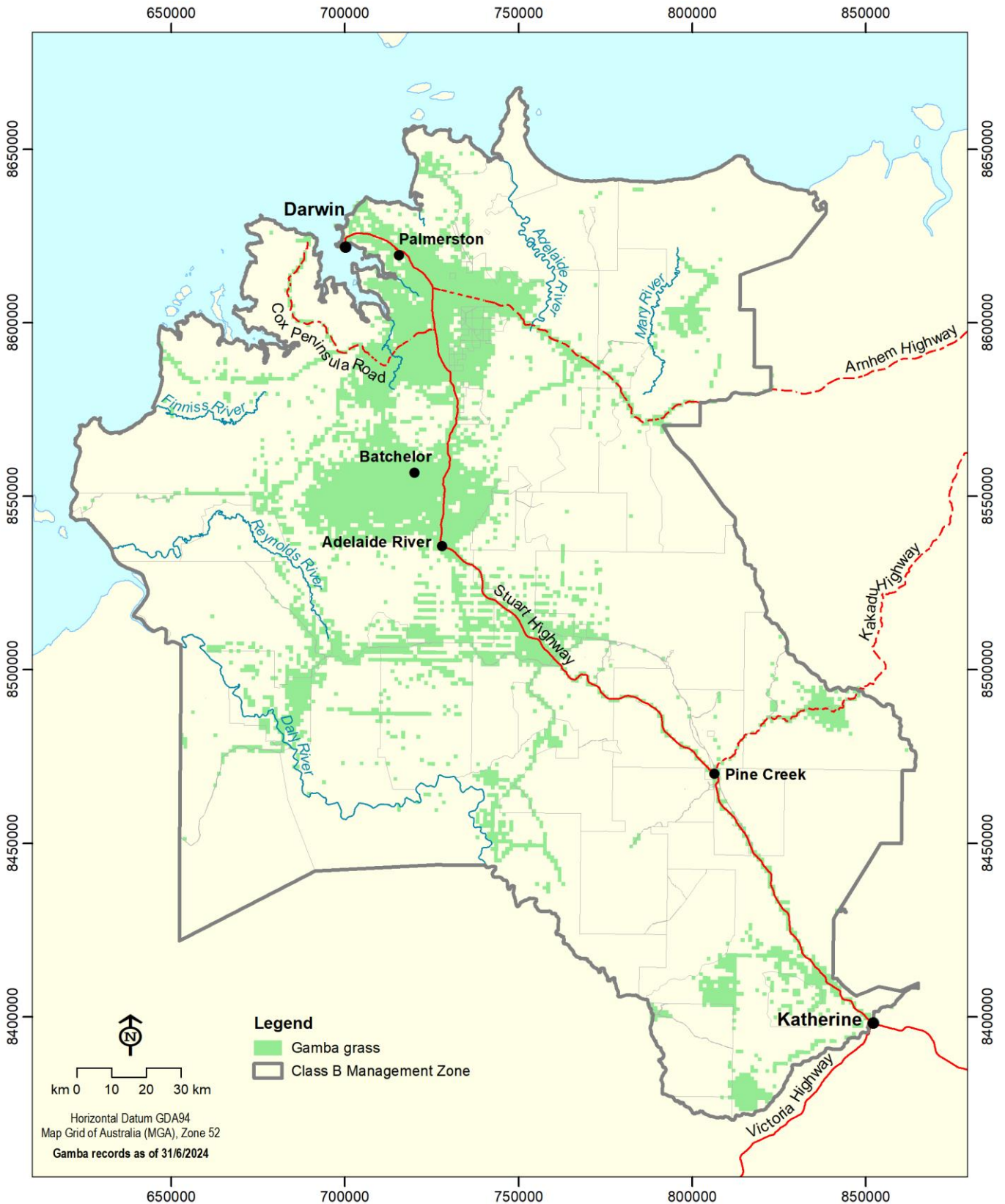
When calculating the area of the Class B zone affected by gamba grass (as shown in Figure 7) the WMB have also calculated the number of 1 km<sup>2</sup> cells that are affected by gamba grass in the Class B zone for NTG land including NT Parks and Reserves, VCL and roads, refer to Table 8. This information has been calculated based on all weeds records in the WMB Corporate Weeds Dataset.

Note:

- A 1 km<sup>2</sup> cell, will be flagged as affected, if there is at least one gamba grass record in the cell.
- Out of the 894 km<sup>2</sup> NT Parks and Reserves cells, 82 of these overlap with VCL cells that also intersect with a gamba grass point.

**Table 8: NTG land affected by gamba grass across the Class B zone.**

<b>Area affected</b>	<b>Total number of 1 km<sup>2</sup> grids affected by gamba grass</b>
NT Parks and Reserves	894
VCL	909
Highways	539
Rural roads	1505
Urban roads	98
Pastoral roads	1022



**Figure 7: Estimated area affected by gamba grass in the Class B zone as of 2024 (based on data ranging from 1960 to 2024 reported to the Weed Management Branch).**

## **Railway**

Due to the wet weather this year Aurizon missed the planned window for aerial spraying for financial year 2024 for the rail corridor Aurizon manage. Noting there would have been very localised removal of vegetation including gamba grass during general track / infrastructure maintenance. Aurizon's plan for financial year 2025 is to undertake the spraying / management for gamba grass via its vegetation manager early in the 3<sup>rd</sup> quarter of 2024.

## **Power and Water Corporation**

Power and Water Corporation's weed management is delineated into two distinct business areas:

- Water Services - responsible for areas such as Darwin River Reservoir, Howard Springs Bore Field and other water and wastewater related infrastructure.
- Power Services - responsible for area's such as Hudson Creek System Control, Zone Sub-stations and other power related infrastructure.

Power and Water also engage Utility Support Contractors to undertake works in remote communities as part of the Indigenous Essential Services Program.

### **Water Services**

Water Services spends approximately \$1.1 million annually on vegetation management across sites including Darwin River Dam, Howard Springs bore field and numerous service easements and water/wastewater facilities.

Significant efforts are taken annually to ensure the on-going health of Darwin's drinking water catchments, which include targeted weed spraying in the Darwin River Reservoir. A successful weed spraying program was undertaken this year, focussed primarily on gamba grass, mimosa and olive hymanachne with more targeted spraying undertaken via small vehicles (quads/buggies) around the edge of the reservoir.

Water Services also ensure weed management is carried out under the Utilities Support Contracts at their bore and sewer compounds at Indigenous Essential Services funded communities and minor centres.

### **Power Services**

A Weed Management Plan, updated annually, has been developed covering Power Services properties in the Top End region. Management actions under this control plan have been successfully completed including gamba grass management, involving poisoning, slashing and grading. These activities were undertaken around critical power network infrastructure including system control infrastructure, power line easements and zone substations to ensure that weed infestation and associated fire risks do no impact on Power and Water's electricity network.

Power Services also ensure weed management is carried out under Utility Support Contracts at their power station compounds located at Indigenous Essential Services funded communities and minor centres. These contracts are funded via the Indigenous Essential Services Program and provide the maintenance of Indigenous Essential Services utility services assets across 72 remote Indigenous communities and 66 outstations across whole of NT.

### **Summary**

- In total, for both Power and Water Services, weed management is carried out across 427 lots. This does not include vegetation management under power lines.
- Management of vegetation is undertaken via mowing, slashing and herbicide with the main priority being to maintain a 4m firebreak around critical essential services assets.
- Gamba grass is a concern to Indigenous Essential Services in remote communities, particularly around critical assets, with spraying targeting all species of weeds including gamba grass observed in Power and Water lots.

## 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 City of Darwin. 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.

### **City of Darwin**

City of Darwin have treated gamba grass on council land throughout Muirhead, Lee Point Road, Buffalo Creek Road, Dickward Drive, Winnellie and Berrimah, and along the boundaries of Leanyer which back on to Shoal Bay. The old Leanyer landfill site has recently been handed back to the City of Darwin in early 2023, the City of Darwin is aware that gamba grass is present on this site. Fire breaks have been installed around the perimeter and the site will be added to the Weed Management Plan for the Shoal Bay Waste Management Facility.

### **Categorised list of priority areas that require gamba grass mapping**

Based on the above information, the following areas remain a priority for future mapping in the Class B zone:

- Government and council land under gamba grass management programs to determine the effectiveness of these programs and further work required. On-ground follow up survey particularly in environmental and cultural asset areas such as National Parks should include a focus on mapping gamba grass presence, absence (for previously present gamba points) and treatment in order to produce accurate maps of these areas in future annual reports.
- Litchfield National Park to determine progress in gamba grass management in this National Park with the increased funding towards managing gamba grass management to address the threat of gamba grass in this park, addressed in detail in the [Gamba Grass Annual Report 2023 \(nt.gov.au\)](https://www.nt.gov.au/depws/gamba-grass-annual-report-2023) (DEPWS 2023).
- The 500m Class B buffer zone that adjoins the gamba grass Class A zone to determine any ongoing threat from this buffer area to the gamba grass Class A zone.



**Hairs on gamba grass stem**



**Distinctive white midrib on gamba grass leaf**

## 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.**

**Strategic Action “By December 2022, key environmental and cultural assets at risk of being impacted by gamba grass have been identified with stakeholder input”.**

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

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](#) (DEPWS 2022).

**Strategic Action “Identified key environmental and cultural assets have been prioritised in WMB and stakeholder planning processes.”**

**Performance indicator: “Key environmental and cultural assets are prioritised in landholder management programs including regional plans.”**

This section summarises how key environmental and cultural assets are being prioritised in landholder management programs. In order to do this Table 9 lists the key environmental and cultural assets listed in the Darwin and Katherine Regional Weed Strategies 2021 – 2026 and the various landholder programs managing gamba grass across these assets.

To demonstrate progress against this action, the revised gamba plan (DEPWS 2024) introduced the requirement to include an annual map with gamba grass overlaid across key environmental and cultural assets for target locations. Figure 8 presents key environmental and cultural assets across the gamba grass Class A zone, where the eradication of gamba grass is now being tracked year on year.

It is more difficult to show an ‘accurate’ gamba grass presence map for environmental and cultural assets in the gamba grass Class B zone. This is because although gamba grass ‘presence’ is recorded by land managers, these ‘presence’ records are never removed from the WMB Corporate Weeds Dataset, even when gamba grass may have been treated and removed from different areas. Therefore, a map simply showing gamba grass presence may be misleading and not show the real on the ground gamba grass situation. In order to produce more accurate maps, gamba grass treatment and absence records need to be recorded in the Class B zone where possible. The WMB will work with stakeholders such as the DTH, Parks and Wildlife Division in data that needs to be collected in order to produce additional maps in future annual reports.

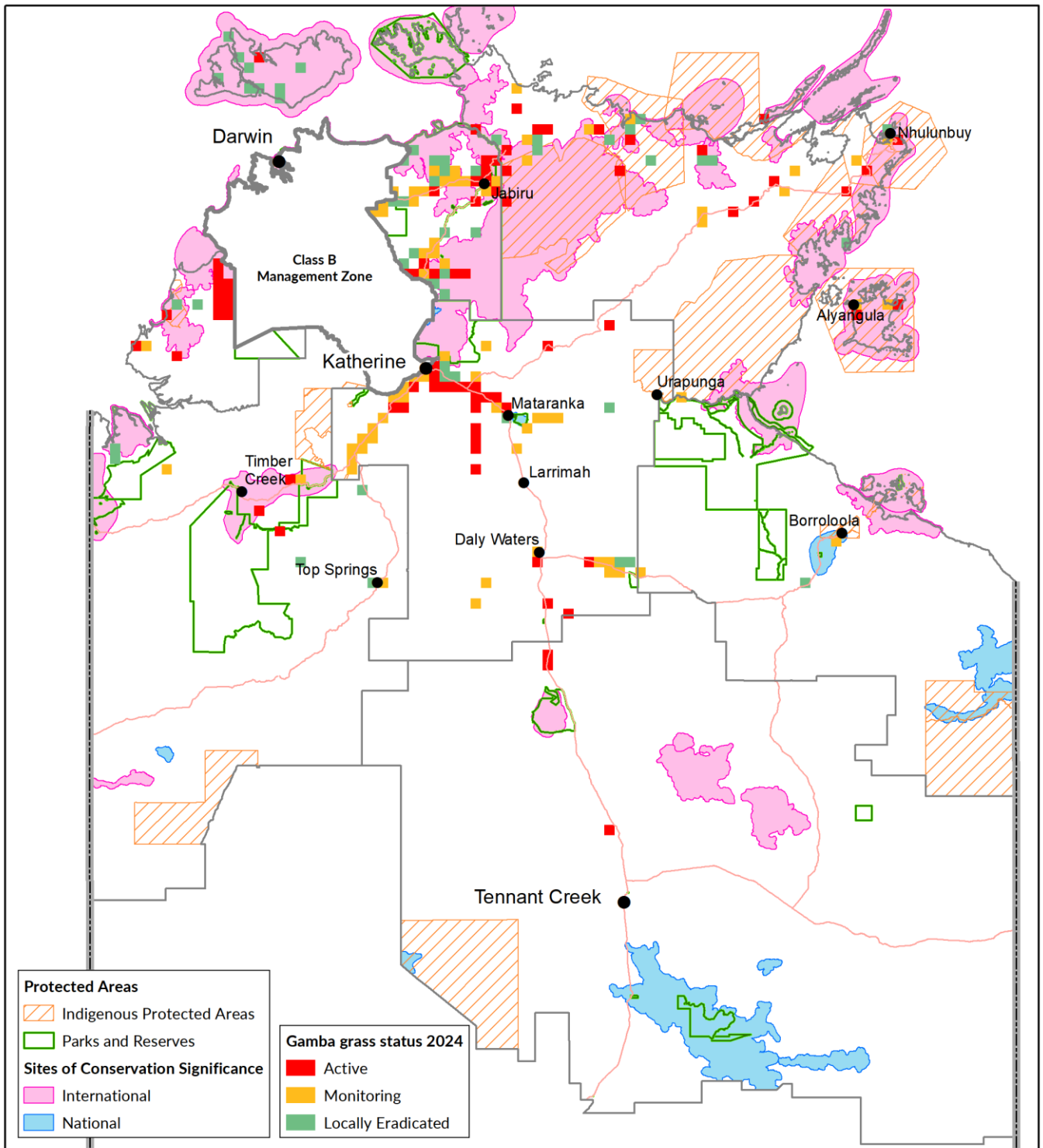


Figure 8: NT Gamba Grass Eradication Grids overlaid against key environmental and cultural assets across the Class A zone.

**Table 9: Key environmental and cultural assets at threat from gamba and how gamba is being managed.**

Key environmental and cultural assets	Programs managing assets
Sites of Conservation Significance	<p>Australian Government Funding for gamba grass in line with Threatened Species Action Plan 2022 – 2032. Further information is provided below.</p> <p>Tiwi Land Council gamba grass control program. Refer further information below.</p> <p>Anindilyakwa Land Council gamba grass control program. Refer further information below.</p> <p>NT Parks and Reserves gamba grass management. Refer below.</p>
Water courses including the Daly River, Mary River and Goyder River, Katherine River, Victoria River and Roper River	<p>Australian Government Funding for gamba grass in line with Threatened Species Action Plan 2022 – 2032. Further information is provided below.</p> <p>NT Parks and Reserves gamba grass management. Refer below.</p>
Key sites of community value – Kakadu National Park	<p>Australian Government Funding allocated to gamba grass in line with Threatened Species Action Plan 2022 – 2032 – refer Parks Australia submissions below.</p>
Key sites of community value – Arnhem land	<p>Australian Government Funding allocated to gamba grass in line with Threatened Species Action Plan 2022 – 2032 – refer Northern Land Council (NLC) submissions below.</p>
Key sites of community value - NT Parks and Reserves, e.g. Litchfield National Park and Nitmiluk National Park	<p>NT Parks and Reserves gamba grass management. Refer Goal 2.</p> <p>Concern remains from stakeholders as to the threat of gamba grass on NT Parks and Reserves. Two submissions have been received for this annual report from the Litchfield Regional Tourism Association and Tourism Top End in regards to the threats of gamba to National Parks and the tourism industry, see Appendix 3.</p>
Key sites of community value – Darwin rural area	<p>Gamba grass compliance program – refer Goal 2.</p>
Rangelands – Sturt Plateau and the Beetaloo sub-basin	<p>Australian Government Funding allocated to gamba grass in line with Threatened Species Action Plan 2022 – 2032 – refer NLC submission below.</p> <p>NT Parks and Reserves gamba grass management. Refer below.</p>

**Australian Government Funding allocated to gamba grass in line with Threatened Species Action Plan 2022 – 2032**

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 *Environment Protection and Biodiversity Conservation Act 1999 Act*.

Target areas for this project are focussed on the legislative eradication zone for gamba grass (Class A zone) with funding directed to Parks Australia and the Northern Land Council for management. Submissions from Parks Australia and the Northern Land Council on how their funding is managing gamba grass to protect environmental and cultural assets are both outlined further below.

## **Submission from Parks Australia**

Kakadu National Park has received part of the Federal Government's \$9.8 million gamba grass funding towards the goal of eradication of gamba grass within Kakadu National Park. This funding has resourced a team of one coordinator and two gamba grass officers. The project focus is to work with other Kakadu National Park Rangers, independent Indigenous ranger groups (Djurrubu Rangers), government departments, Traditional Owners and pastoralists. Working collaboratively should ensure the collection of accurate survey data needed to implement the best methods of treatment before seeding.

Since commencement of this federally funded gamba grass project in 2023, the project team has:

- Visited 49 GGMU's within Kakadu National Park
- Completed 1158 km's of helicopter surveys, and
- Conducted 123 km's of on ground buggy/vehicle gamba grass surveys/treatments. (Not including some data currently held by Djurrubu Rangers).

Kakadu National Park has contracted multiple organisations to help with surveys and treatments throughout 2023/24. This includes Heli-Muster from Katherine to conduct aerial spraying, the local Indigenous ranger group Djurrubu Rangers and local business Kakadu Native Plants.

The 2024/25 season aims to fill any gaps in gamba grass survey data including aerial re-survey of known infestations and additional areas where gamba grass has been reported/recorded.

## **Submission from the Northern Land Council**

The NLC was successful in obtaining funding for gamba management through the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEE). Alongside the funding for Kakadu National Park, the NLC's Gamba Eradication and Biodiversity Conservation (GEBC) Project makes up the majority of the \$9.8 million Federal Government's election commitment to manage gamba grass in the Northern Territory.

The GEBC project is focussed on the gamba grass Class A (eradication) zone. While the majority of the work will be on Aboriginal land the project is not limited to parties affiliated with the NLC. The GEBC Project works across tenure boundaries including with independent Indigenous rangers, government departments, Traditional Owners, pastoralists, extractives and other Top End land councils. The GEBC Project aims to do a reset, find and destroy all current gamba grass across the eradication zone and give land managers the tools, training and knowledge to deal with future gamba grass incursions, should they arise.

The GEBC project was initiated in January 2024 through an interim NLC project team until the project manager position was filled on the 30<sup>th</sup> of April 2024. Unfortunately, this was very late into the 2023-24 gamba control season. Early work was done to ensure progress of gamba control programs in key strategic areas of Central and West Arnhem, Katherine and the Daly River / Port Keats Aboriginal Land Trust. Gamba grass survey and control operations were done through Thamarrur Rangers across the Daly River / Port Keats Aboriginal Land Trust, and with the Mimal Rangers to target key areas in central Arnhem Land. Following the manager's appointment the GEBC Project conducted an extensive helicopter survey and control operation of existing gamba locations in western Arnhem Land with the Demed Aboriginal Corporation (Demed) based Adjumarllarl ranger group and NLC based Mardbalk and Njanjma ranger groups.

Territory Natural Resource Management (TNRM) were subcontracted through the GEBC Project to allow continuity of support for remote gamba grass management (begun under a previous project in the Kakadu & West Arnhem region, 2018-2023). Through this, TNRM helped to set up contracts for operations by Djelk Rangers and Jawoyn Rangers on their respective country focusing on historic gamba grass locations, communities, new construction areas and roadways. TNRM also worked alongside Arafura Swamp Rangers Aboriginal Corporation (ASRAC) and in conjunction with the GEBC Manager to survey and control gamba grass on Elcho Island with the Gumurr Marthakal Rangers.

The GEBC worked with officers of the Katherine WMB to deliver weed mapping and control on the Victoria Highway, Fitzroy Station and inspect historic gamba grass infestations on Bullo River Station and Legune. A contract was set up through a Katherine based contractor to control gamba grass on Mataranka Station.

Data from all historic gamba grass locations has been collected to inform the GGMU's. With a few exceptions, it has been pleasing to find so little gamba grass within the majority of active sites, transitioning to monitoring. It indicates there has been some great work to manage incursions into local eradication early and prior to the GEBC project.

The 2024/25 wet season aims to fill gaps in gamba grass survey data. It will include aerial surveys of key locations in the Katherine, Mataranka, Central Arnhem and Upper Daly districts and more work engaging, training and contracting groups in central and eastern Arnhem Land to go above and beyond with gamba grass survey and control. At the time of writing the GEBC Project is recruiting a coordinator and two project officer positions. These positions will ensure the project is ready and able to deliver more comprehensive operations over the control season 2024/25.

### **Other land council gamba grass management**

In addition to the above project, the Tiwi Land Council and Anindilyakwa Land Council are actively working towards the eradication of gamba grass across on the Tiwi Islands and Groote Eylandt. Both land councils were invited to provide a submission on the gamba grass management programs over the reporting period and are included below.

#### **Submission from Tiwi Land Council**

The Tiwi Land Council is aware of 31 sites where gamba grass has been recorded on the Tiwi Islands historically. The majority of known sites are located within community areas and have been managed carefully over the past five years with 12 of these sites now classed as locally eradicated. In 2024, the Tiwi Land Council coordinated gamba grass surveys, visiting all sites classed as "active" or for "monitoring". A total of three gamba grass plants were detected at two of the active sites and immediately hand pulled. All other known sites were surveyed with no gamba grass detected. The Tiwi Land Council will continue to focus on monitoring of known sites with the aim of local eradication. One of the key achievements of the Tiwi Land Council for 2023 was the employment of a full time quarantine and biosecurity officer. Inspections of all freight destined for the Tiwi Islands have commenced and are assisting control works by reducing the risk of gamba grass seeds entering the islands.

#### **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, stakeholder engagement and priority management of gamba grass across the Anindilyakwa Indigenous Protected Area. Biosecurity practices including visual inspections of vehicles and freight entering the IPA are carried out to mitigate the risk of gamba grass seed dispersal. There have been six detections of isolated gamba grass 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.

## 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 resulting in an increase in voluntary compliance with gamba grass management requirements.”



**Strategic Action:** “By July 2021, develop a communications plan to raise awareness of gamba grass management requirements and available support. Engage with the community. Education and awareness activities are implemented to encourage compliant behaviour”.


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

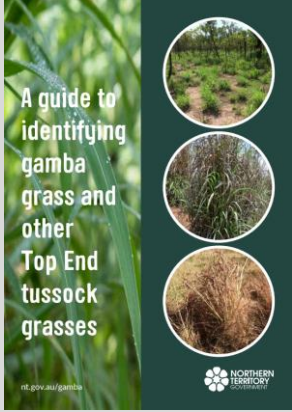
A Gamba Grass Communications Plan 2021 – 2024 has been developed to raise awareness of gamba grass management requirements and available support. This plan, prepared in consultation with the WAC, is guiding communications in relation to gamba grass and is updated annually.

Gamba grass communications tools used over the reporting period are included in Table 10.

**Table 10: 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 Coomalie Council Shire with rates notices issued in August 2023.</p> <p>This was a collaborative effort between council and the WMB.</p>	<p>To increase awareness of gamba grass legal requirements amongst land owners.</p>  <p>New gamba grass regulations have started</p> <p><b>LESS THAN 3 ha (7.4 acres)</b> All gamba grass must be removed, or you risk being fined.</p> <p><b>LARGER THAN 3 ha (7.4 acres)</b> You should already be actively reducing gamba every year and have a 15 m gamba-free buffer around boundaries, infrastructure and both sides of the track into your property.</p> <p>The new requirements are part of the <i>Gamba Grass Weed Management Plan 2020–2030</i>.</p> 
<p>Gamba grass requirements leaflet sent to the following stakeholders for consideration to include in any newsletters:</p> <ul style="list-style-type: none"> <li>• City of Darwin Council</li> <li>• City of Palmerston Council</li> <li>• Litchfield Council Councillors</li> <li>• Coomalie Community Government Council Councillors</li> <li>• Wagait Shire Council</li> <li>• Members of Legislative Assembly (MLA) for Palmerston and surrounding suburbs.</li> </ul>	
<p>Gamba grass requirements posters printed and displayed at GAP collection points and various shopping centre, council and MLA notice boards.</p>	
<p><a href="#">Gamba Grass Annual Report 2023</a> (DEPWS 2023) released, made publicly available online at <a href="http://nt.gov.au/gamba">nt.gov.au/gamba</a>, and printed and distributed to key stakeholders.</p>	<p>To report on implementation of the gamba plan (DEPWS 2020).</p>
<p>QR Code stickers developed linking to the gamba grass control page with videos showing how to mix and spray</p>	<p>To educate landowners and occupiers about how to spray gamba grass and mix herbicide.</p>

Tool	Purpose
herbicide for gamba grass. QR code stickers attached to herbicide drums distributed through GAP, GAP spray units and Gamba Grass Management Guides.	
Individual property weed management plan template developed and uploaded online.	To assist landholders to develop a property weed management plan for their property.
New gamba grass magnets developed and distributed to GAP outlets, various council offices, Palmerston Recreation Centre.	Educate about gamba grass control times and seeds generated from gamba grass.
Core flutes stating 'control gamba now to prevent dangerous dry season fires' distributed through the Darwin rural area and Katherine rural area.	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 including the gamba action program and remind people that help is available to manage gamba grass.
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.
<p>Gamba grass bus wrap from December 2023 to May 2024.</p> 	To remind the community it is the time of the year to take action on gamba grass.
<p>Gamba grass presentations / identification workshops:</p> <ul style="list-style-type: none"> <li>• Weed identification games including how to identify gamba grass – Girraween Primary School – September 2023.</li> <li>• Presentation at workshop - Transforming cultural and natural resource management intercultural workforce capabilities in Arnhem Land - November 2023.</li> <li>• Gamba grass identification workshop conducted at the 2024 Savanna Fire Forum – February 2024.</li> </ul>	<p>Educate different stakeholders about:</p> <ul style="list-style-type: none"> <li>• Gamba grass identification and management.</li> <li>• Methodology for tracking the eradication of gamba grass across the gamba grass Class A zone.</li> <li>• The revised gamba plan and implementation against different aspects of this plan, such as how eradication of gamba grass is being tracked across the Class A zone.</li> </ul>
Distribution of gamba grass management books and gamba grass ID booklets to various locations such as:	To improve community awareness and capacity for identifying and managing gamba grass.

Tool	Purpose
<ul style="list-style-type: none"> <li>• Fred's Pass Rural Market GAP distribution outlet</li> <li>• TNRM Conference</li> <li>• Forage to Farming Forum</li> <li>• Key stakeholders on request</li> <li>• Parks and Wildlife for distribution to volunteers</li> <li>• Northern Australian Quarantine Strategy.</li> </ul>	
Gamba grass podcast.	Educate people about the gamba grass impacts, how to ID and control.
<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>

The 'Have your say' April – May 2024 survey results have also been analysed to assess performance against this performance indicator. Relevant responses are included in Table 11. These survey results have been considered in updating the next Gamba Grass Communications Plan 2024 – 2025 for the next reporting period.

**Table 11. Have your say responses that report against whether public knowledge of gamba grass impacts and management requirements have increased.**

Question	Response
<p><b>Do you find the gamba grass annual reports a transparent and useful resource?</b></p>	<ul style="list-style-type: none"> <li>• Yes (17% participants)</li> <li>• No (8% participants)</li> <li>• Did not know the gamba grass report exists (83% participants)</li> </ul> <p>*This number is over 100% as participants selected multiple answers.</p>
<p><b>What gamba grass communications methods have you found useful to you or someone you know:</b></p>	<ul style="list-style-type: none"> <li>• Information at nt.gov.au/gamba (33% participants)</li> <li>• Gamba grass legal requirements leaflet received with council rates (25% participants)</li> <li>• Gamba grass annual report (17% participants)</li> <li>• Videos – how to identify and spray gamba grass (8% participants)</li> <li>• Gamba grass Facebook posts (67% participants)</li> <li>• Back of bus advertising (8% participants)</li> <li>• Other (25% participants)</li> </ul> <p>*This number is over 100% as participant's selected multiple answers.</p>
<p><b>What further information do you need in order to</b></p>	<ul style="list-style-type: none"> <li>• The information I need is available – (83% participants)</li> </ul>

Question	Response
manage gamba grass on your land effectively?	<ul style="list-style-type: none"> <li>• Information on gamba grass identification – (8% participants)</li> <li>• Information on how to spray and control gamba grass – (25% participants)</li> </ul> <p>*This number is over 100% as participant's selected multiple answers.</p>

### Gamba Grass Roots

Gamba Grass Roots is acknowledged as also playing a significant role in communicating with the community about gamba grass. The evolution of Gamba Grass Roots as a community based group has progressed with registration as a group under the auspices of [Landcare NT](#). Ongoing activities of this Landcare Group will include market stalls, community barbeques and advice to landholders.



Gamba grass identification session hosted by the Weed Management Branch held as a part of the Indigenous Carbon Industry Network Conference in February 2024

**Strategic Action:** *“By July 2021, develop a communications plan to raise awareness of gamba grass management requirements and available support. Engage with the community. Education and awareness activities are implemented to encourage compliant behaviour”.*

**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.

**Strategic Action:** *“By July 2023, complete a social marketing study (subject to funding) to identify community perceptions, needs and barriers regarding gamba grass management.”*

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

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 (DEPWS 2020) in 2020. A social marketing study (subject to funding) was 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.

Annual ‘Have your say’ surveys have been undertaken since 2021 to gauge feedback from the community on implementation of the gamba plan (DEPWS 2020), which is useful to some extent in understanding this performance indicator. Annual ‘Have your say’ survey results have been presented in each gamba grass annual report since 2021. Annual ‘Have your say’ surveys will continue to inform this performance indicator.

In addition, a new PhD project that may help inform this performance indicator in relation to pastoral land manager perceptions, needs and barriers is a project being undertaken by PhD student, Steven Myburgh from the University of Melbourne. This project will be looking at the spread and management of gamba grass on pastoralist properties in the northern Australian savannahs. The project is focused on understanding the views and opinions of pastoralists in the NT and Queensland, as they relate to gamba grass. Specifically, through interviews and surveys of both pastoralists and professionals who have dealings with pastoralists in a gamba grass context, Steven will be looking to:

- Gather the range of values gamba grass has for pastoralists
- How pastoralists feel about regulation and societal discussion around it, and
- How pastoralists manage gamba grass according to management aims, legislative requirements, access to knowledge and resources, societal fire risk perceptions and other management drivers.

After having incorporated landholder behaviour into an existing gamba grass spread model, the project aims to run the spread model according to regulatory and economic scenarios that have been co-designed with gamba grass managers, with results including gamba grass spread and cost of control under these different scenarios.

Steven is hoping that the results of his thesis can ultimately help gamba grass managers and policymakers understand and incorporate into any existing or new programs and regulation, the at-times competing incentives, and knowledge and resource constraints around management practices, associated with a species that has conflicting values across society.

Steven is working on this project with his primary supervisor Dr Rebecca Runting at the University of Melbourne, and co-supervisor is Dr Natalie Rossiter-Rachor at Charles Darwin University (CDU).

**Strategic Action: “Improve landholder capacity for reporting gamba grass points in the Class A zone”.**

**Performance indicator: “Public reporting to WMB on gamba infestations in the Class A zone.”**

It is essential that every gamba grass plant in the gamba grass Class A zone is reported to the WMB. This is to enable the WMB to track the eradication of gamba grass across this gamba grass Class A zone. The most efficient method of reporting these points to the WMB is using the NT WeedMate App.

A total of 6 organisations have used the NT WeedMate App in 2023/24 to record gamba grass presence and absence points in the gamba grass Class A zone. Collectively these organisations reported a total of 348 gamba grass records via the NT WeedMate App in 2023/24 for the Class A zone.

The WMB will continue to promote the use of the NT WeedMate App to landholders in the Class A zone. If you are a landholder in the gamba grass Class A zone and you would like to be registered to use the NT WeedMate App, please contact the WMB.

**Strategic Action: “Development of an efficient tool (subject to funding) to encourage public reporting of gamba grass sightings and management effort. Promote the report gamba tool to encourage public reporting of problem gamba grass in the Class B zone.”**

**Performance indicator: “Public reporting of problem gamba grass.”**

### 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](https://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 are 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 136 gamba grass complaint reports in the 2023/24 financial year about gamba grass for the Darwin rural area, Darwin and the surrounding area. 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.

The WMB received several complaints about gamba grass in the Katherine Region this reporting period. These complaints were about gamba grass on road sides. The WMB referred these complaints to DLI (previously DIPL) for actioning.

### NT WeedMate

The NTG NT WeedMate App remains the central tool for reporting weed data points to the WMB. Registered users for the NT WeedMate App currently sits at 297. Since the creation of NT WeedMate in 2019 there have been 9255 gamba grass presence and absence points reported to the WMB using this App. Gamba grass records made using the NT WeedMate App are summarised in Table 12.

**Table 12: Number of gamba grass records (including presence and absence records) reported to the WMB using the NT WeedMate App.**

Year	Total	Class A zone	Class B zone
2023/2024	1788	348	1440
2022/2023	3525	114	3411
2021/2022	1709	92	1617

Year	Total	Class A zone	Class B zone
2020/2021	1831	38	1793
2019/2020	402	15	387

Note: the numbers reported above are slightly different to those reported in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023) due to ongoing data auditing and clean up.

To find out more about NT WeedMate go to: [NT WeedMate App | Department of Environment, Parks and Water Security](#).

**Strategic Action: “Establish and support cross tenure working groups to ensure coordinated management of gamba grass across different tenures”.**

**Performance indicator: “An increase in coordinated management effort.”**

As outlined in the [Gamba Grass Annual Report 2023](#) (DEPWS 2023) a Gamba Management Framework has been developed that includes a number of collaborative partnerships to improve gamba grass management (see Appendix 2). Other co-ordinated stakeholder projects also aim to tackle gamba grass. A summary of the different collaborative partnerships to improve gamba grass management are outlined below.

### **Gamba Management Framework collaborative partnerships**

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

The WAC continues to meet quarterly with the WMB to oversee implementation of the revised gamba plan (DEPWS 2024). The WAC includes representatives for:

- DLI (previously DIPL)
- DTH (previously DEPWS) representing Parks and Wildlife
- TNRM
- CDU
- NLC
- Northern Territory Cattlemen’s Association
- Indigenous Carbon Industry Network
- 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:

- DLPE (previously DIPL) Crown Land Estate

- DLI (previously DIPL) Civil Services
- Power and Water Corporation
- DLPE (previously DEPWS) WMB
- DTH (previously DEPWS) Parks and Wildlife
- Northern Territory Fire and Emergency Services including representatives from GFMU (previously DEPWS) and Bushfires NT (previously DEPWS).

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 fourth iteration of the Gamba Army took place over the 2023/24 reporting period and was coordinated by TNRM over this time with funding from the NTG. Over the 2023/24 reporting period the Gamba Army conducted gamba grass management across 37 sites. This was a reduction in sites managed during the previous reporting period due to the reduction in funding to the Gamba Army from \$500,000 to \$300,000 over the reporting period. An area of 1100 ha was managed by the Gamba Army over the reporting period.

Key sites targeted over the 2023/24 season include:

- Holmes Jungle Nature Park
- Charles Darwin National Park
- Areas of Casuarina Coastal Reserve (hospital block and Lee Point) and Buffalo Creek
- Knuckey Lagoons Conservation Reserve
- Numerous vacant Crown land blocks including the prison at Howard Springs and the Humpty Doo bus exchange.

The Gamba Army also continued to manage gamba grass on the following blocks to support local community effort / fill contract gaps:

- Minmarama Park
- Aviation Museum
- Berry Springs fire station
- Livingstone Road and Stuart Highway corner
- Lowther / Jervois Road Virginia drain
- Small area of Hidden Valley motor sports complex (outside the VCL contracted areas)
- Knuckey Lagoons community area
- Kombi block adjacent to Knuckey Lagoons community and conservation area.

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 for 2024/25 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 summary for 2022/23 and the interim Annual Report for 2023/24.

## Gamba Action Program

GAP is another element of the Gamba Management Framework. During the 2023/24 GAP season there were a total of 3186 individuals who accessed GAP across 3061 properties. GAP was limited this year to one 5 L container of herbicide per property; landholders owning multiple properties were able to collect up to two 5 L containers. This approach aimed to assist as many properties as possible with herbicide assistance.

Spray units are also available for landholders to loan through this program including the following:

- Slip-on tanks that run from a 12 V battery available from one collection location (tank sizes 50 L, 100 L and 200 L), and
- Quick spray units available from three collection locations (tank sizes 200 L, 300 L, 400 L, 600 L and 800 L).

## 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. The GFMU also administers the Fire Ready Program that assists landholders who are willing but unable to manage their gamba grass. In this reporting period 2023/24 a total of 36 landholders were assisted through this program.

## **Research Institutions working with the NTG**

### National Environmental Science Program Invasive Grass Research Project

National Environmental Science Program (NESP) researchers are continuing work on a 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.

These 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.

## **Other coordinated stakeholder projects**

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

The TNRM West Arnhem Land and Kakadu Regional Project, funded through the Australian Government's National Landcare Program ended in June 2023. Although this project has concluded, much of the work undertaken through this project is being continued through other programs. For example, through the \$9.8 million Australian Government funding that has been directed towards gamba grass management across the gamba grass Class A zone being carried out from 2023 – 2026.

### 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. After completing a two year Casuarina Coastal Reserve 'Adopt a Spot' Pilot Project, this project is now ongoing and volunteers continue to work to find and control outlying infestations of gamba grass.

In September 2023, the project founder Dr David Liddle, presented to the 10<sup>th</sup> World Conference of the Society of Ecological Restoration, the 'Adopt a Spot' project and community-led restoration efforts achieved in this reserve. The conference was attended by international and local scientists, UN officials and environmentalists.

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 \(landcarent.org.au\)](https://landcarent.org.au).



Gamba grass control site courtesy of a Darwin rural area resident

**Objective:**

*4b: “Ensure adequate information and knowledge of gamba grass management is available and up to date, which translates into improvement management approaches.”*

**Strategic Action:** *“Research is undertaken that supports improved gamba grass management outcomes by addressing identified research gaps”.*

**Performance indicators:** *“the Gamba WAC reviews annually key knowledge gaps that need to be addressed to improve gamba grass management outcomes.”*

Many knowledge gaps exist in relation to gamba grass management. A number of knowledge gaps are discussed below including both new and previously reported knowledge gaps reported in earlier gamba grass annual reports and knowledge gaps raised through ‘Have your say’ feedback.

**Knowledge gap 1: Accurate gamba grass distribution records in both the Class A and B zones**

Progress has been made towards developing a better understanding of the gamba grass distribution records across the Class A (eradication zone) as follows:

- A methodology has been developed to track the eradication of gamba grass across the Class A zone, refer to [Gamba grass mapping and monitoring program for Class A \(eradication zone\) \(nt.gov.au\)](https://nt.gov.au).
- The Australian Government announced a \$9.8 million funding commitment in late 2022 to be spent on gamba grass management across the Class A zone. This funding has allowed for gamba grass survey effort across the Class A zone through 2022/23 and 2023/24 which is helping to better understand the distribution of gamba grass across this zone.

- The NESP Resilient Landscape Hub has developed a new mapping system for government weeds officers, and other weeds managers to map gamba grass via aerial survey. This new system incorporates 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.

**Knowledge gap 2: 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 observed during the work undertaken by the Gamba Army at Knuckey Lagoon in 2022/23. Further research into these interactions is still needed.

**Knowledge gap 3: Integrated gamba grass management regime (alternatives to glyphosate)**

DLPE (previously DEPWS) had partnered with the Queensland Government in a project for improving the management of invasive grasses across Australia. This project included research of gamba grass including trials of alternative herbicides. A national proposal was submitted to the Centre for Invasive Species Solutions for approval in 2022. Unfortunately, this project did not progress therefore this knowledge gap remains.

**Knowledge gap 4: Integrated gamba grass management regime (biocontrol)**

Gamba grass has been endorsed by the Environment and Invasives Committee as a target weed for biocontrol. The WMB have been collaborating with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) who were working on a funding proposal to develop biocontrol solutions through the Australian Government 'Saving Native Species Grants' Program including for gamba grass. This proposal has unfortunately been unsuccessful through this grant program. Alternative funding opportunities are being explored.

**Knowledge gap 5: How to get people and agencies involved to improve gamba grass action**

How to increase community involvement in gamba grass action remains a knowledge gap; as well as how to improve agency gamba grass management programs to achieve better on the ground gamba grass management outcomes. The actions below have been explored towards improving this knowledge gap:

- The requirement to conduct a social marketing study remains in the revised gamba plan (DEPWS 2024). Unfortunately funding has not been sourced to conduct this social marketing study, however annual 'Have your say' surveys being undertaken to inform progress against the revised gamba plan (DEPWS 2024) are a way to gather community information towards informing this knowledge gap.
- A gamba grass incentives program to incentivise gamba grass management by landholders was explored by DLPE (previously DEPWS). However, support was not received to progress this idea further.
- The Fire and Weeds Working Group that NTG agencies attend attempts to improve gamba grass action and management outcomes on government land.

## **Emerging Issues**

In addition to the knowledge gaps above, the following emerging issues are noted.

### **Emerging Issue 1: Potential for gamba grass spread to the Class A zone**

The spread of gamba grass into the gamba grass Class A zone is an emerging issue, despite the current investment of \$9.8 million in Australian Government funding towards the eradication of currently existing gamba grass in this zone.

The potential for gamba grass spread from the gamba grass Class B zone into the Class A zone is a threat to this eradication effort. Key areas in the gamba grass Class B zone that are a key concern towards this eradication effort include:

- Gamba grass on roads, particularly where they lead into the Class A zone.
- Gamba grass seed hidden in construction materials (sand, gravel, dirt) transported into the Class A zone for the construction of roads and houses.
- 4WD and hunting activities that occur between the Class B and A zones.
- Large infestations of gamba grass that are within close proximity to the Class A zone, especially where the gamba grass is located along watercourses that flow into the Class A zone.

### **Emerging Issue 2: Gamba grass on government land – roads and vacant Crown land**

Gamba grass on government land remains an on-going community concern. This concern is raised year on year in community feedback received via the online gamba grass 'Have your say' surveys. Of particular concern in the reporting period has been the lack of gamba grass management on DLI (previously DIPL) managed roads. Unmanaged gamba grass on government land may also lead to unintended consequences such as private landholders being unmotivated to manage gamba grass on their private land parcels.

These emerging issues if not managed appropriately will reduce the effectiveness of gamba grass management efforts by multiple agencies and stakeholders and limit the ability of the NTG, to deliver against the goals of the revised gamba plan (DEPWS 2024).

## **Lessons learnt**

Lessons are continually learnt through the implementation of different gamba grass management programs. Reflecting on and sharing these lessons is an important step in helping to improve future programs. Lessons learnt over the reporting period and previous years include:

- The Gamba Army has been an effective model for managing gamba grass, particularly on government land and across small land areas that are may be owned by a complexity of different land managers (across tenure). The Gamba Army has been an effective model for liaising across these multiple tenures to co-ordinate gamba grass control work as well as to undertake this on-ground gamba control.
- Community programs for addressing gamba grass are an effective way of tackling gamba grass across different areas as has been seen through the 'Adopt a Spot' program being implemented at the Casuarina Coastal Reserve, (refer above).
- Land holder assistance programs such as the GAP and Fire Ready Program are integral to assisting the community to manage gamba grass on their properties. Comparing gamba grass data across these programs is also important for looking at ways on the ground gamba grass management outcomes may be improved. For example, the WMB have improved the GAP data collection system in the reporting period so the WMB can assess land parcels accessing the GAP across numerous years. This data can then be compared against the compliance program properties and recent aerial survey results for gamba grass in the Darwin rural area. This allows the WMB to check for example, areas that may have a high density of gamba grass that have not accessed the GAP and may not have been assessed through the compliance program that require targeting in the future.



**Gamba control on the Tiwi Islands (photo provided by Tiwi Land Council)**

**Strategic Action: “Research is undertaken that supports improved gamba grass management outcomes by addressing identified research gaps.”**

**Performance indicators: “Feedback to be sought annually to inform knowledge gaps.”**

A ‘Have your say’ survey was launched in April 2024 for a six week period. To inform this strategic action a question was asked, “Where do you think there are still knowledge gaps (unknown information) that need to be addressed to improve gamba grass management outcomes?” Feedback to this question is included in Table 13. A response on each knowledge gap is also included.

**Table 13. Community feedback on knowledge gaps that need to be addressed to improve gamba grass management outcomes.**

Directly quoted community feedback	Methods for addressing knowledge gaps
<p><i>“The gaps are with property owners and local and Territory Governments.”</i></p>	<p>Goal 2 above discusses how gamba grass has been managed on NTG land over 2023/24 and the compliance programs that are targeting gamba grass.</p> <p>Goal 4 above discusses gamba grass management on government land remains on ongoing concern.</p> <p>Goal 4 above also outlines the Gamba Management Framework collaborative partnerships including between NTG departments with the aim of collaborating and co-ordinating gamba grass management.</p> <p>Goal 4 above discusses the communications plan that has been developed for gamba grass to educate landholders about their legal requirements and assistance available to help control gamba grass on their land.</p>
<p><i>“Spraying gamba grass prior to seeding.”</i></p> <p><i>“The importance of timing (month, when or after rain) and regular maintenance of it. How far in your neighbours yard you can spray if any that are covered in gamba.”</i></p>	<p>The WMB have developed many resources to assist with gamba grass identification and control. These resources are available at <a href="https://nt.gov.au/gamba">nt.gov.au/gamba</a>. Educational resources available include:</p> <ul style="list-style-type: none"> <li>• videos on how to identify and spray gamba grass</li> <li>• how to identify gamba grass booklets</li> <li>• management guides on how and when to control gamba grass over the year, including an integrated management calendar showing suitable control approaches that may be used across a calendar year.</li> </ul> <p>In addition, Wild Matters (funded through the Australian Government) are finalising a Gamba Grass Best Practice Manual that will include information on all the various aspects of gamba grass management.</p> <p>If you wish to spray your neighbour’s yard you should always speak to them and gain their permission. A collaborative approach to weed management is useful.</p>
<p><i>“Being new property owners, and new to the territory we have relied on neighbours updating us and what we need</i></p>	<p>Goal 4 above discusses the communications plan that has been developed for gamba grass to educate</p>

Directly quoted community feedback	Methods for addressing knowledge gaps
<p><i>to do to manage the mess of gamba we 'inherited'. The relevant council could be more proactive in sending out information on requirements for rural properties.</i></p> <p><i>Landholders move to the rural area with little knowledge about hazards, including Gamba and fires. Tenants and new owners need support to identify and manage such hazards."</i></p>	<p>landholders about their legal requirements and assistance available to help control gamba grass on their land. Communications activities are ongoing and being implemented year on year and the plan is reviewed yearly to look at ways communications can be improved.</p>
<p><i>"Not so much knowledge gap, it's more financial and health concerns preventing doing it. And not being able to reach out for assistance of neighbours for fear of abuse."</i></p>	<p>A collaborative approach to weed management, including working with your neighbours, is a good approach to tackling gamba grass.</p> <p>If gamba grass in the community is not being managed, this can be reported to the WMB for follow up through the compliance program using the online form <a href="https://www.nt.gov.au/wmb/report-problem-gamba">Report problem gamba   NT.GOV.AU</a>.</p> <p>Programs exist to help support landholders manage gamba grass including the GAP that provides herbicide and free spray unit loans to landholders.</p> <p>The application of any herbicide should only be done in accordance with Material Safety Data Sheet (MSDS) for the herbicide. Any other health concerns should be investigated with a health professional.</p>
<p><i>"The disconnect between what is "standard" for fires and "standard" for properties with gamba and other weeds is costly and potentially dangerous, as well as could promote the spread of the weed. I would suggest a compromise or cross the board standardisation (i.e 12m across the board for all blocks over 3ha fire breaks, and 6m for under 3ha) with a grace period for those purchasing undeveloped blocks, if they can prove action towards management/ eradication of gamba via mechanical, chemical or manual means. And inclusion of gamba eradication information, weed identification information (like a poster) and chemicals in a "rural starter pack" required when someone purchases a rural property. Increased assistance with a "virgin" block, as those purchasing are often building and developing land, many of which may not have any experience with managing noxious weeds, nor understand the time, labor and other costs involved over an extended period, with weeds like gamba, hyptis and mission grass; many not even knowing what they look like."</i></p>	<p>The legal requirements for managing gamba grass including buffer zone requirements have been developed in consultation with the Gamba Grass Weed Advisory Committee and other stakeholders.</p> <p>Firebreak requirements are a statutory requirement prescribed under the <i>Bushfires Management Act 2016</i>.</p> <p>The WMB has numerous resources available to assist landholders with gamba grass and other declared weeds.</p> <p>The WMB will liaise with councils that have large gamba grass infestations about potential communication tactics that councils could implement to improve gamba grass communications to landholders.</p>
<p><i>"Additional ways to stimulate public and landholder interest in addressing gamba grass."</i></p>	<p>Objective 4a of the revised gamba plan (DEPWS 2024) requires, a social marketing study to identify community perceptions, needs and barriers regarding gamba grass management. This has not been completed as a funding has not been available for this study. 'Have your say' surveys will continue to help answer these questions.</p>

**Strategic Action:** *“Promote research activities and updated management recommendations”*

**Performance indicators:** *“Land manager awareness of improved management approaches.”*

Research outcomes are made available to the public and reported on annually

CDU/NESP released a new webpage in 2022/23 [Research synthesis of gamba grass - NESP Resilient Landscapes Hub \(nesplandscapes.edu.au\)](https://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.

This information is available for the public with the aim of improving gamba grass management outcomes.

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

The WMB will continue to provide the community with information on how to identify and control gamba grass including new research outcomes that may improve gamba grass management outcomes.

Methods for communicating with the public are included in the gamba grass communication plan.

**Strategic Action:** *“Delivery of gamba grass forums with a focus on celebrating gamba grass successes and educating the community / land managers on how to manage gamba grass and identifying other needs.”*

**Performance indicator:** *“Capacity to manage gamba grass effectively has increased.”*

An annual ‘gamba grass research and development community forum’ is required under the revised gamba plan (DEPWS 2024). A community forum during the reporting period has not been undertaken.

**Strategic Action:** *“Collaborate with other jurisdictions: a) to identify funding options for production of a National Best Practice Gamba Grass Manual by December 2022. b) On the production of a National Best Practice Gamba Grass Manual by early 2024.”*

**Performance indicator:** *“Pathway is identified to produce National Gamba Grass Best Practice Manual.” “Collaborate with other jurisdictions on the production of the National Best Practice Gamba Grass Manual by early 2024”*

The National Best Practice Gamba Grass Manual has not been finalised during the reporting period. The best practice manual is due for completion in the second half of 2024 by the consultancy Wild Matters, funded by the Australian Government.

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

### Objective:

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

**Strategic Action** “A risk-based compliance program is developed. The compliance program is promoted to the community. The compliance program is implemented annually”.

**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.

**Strategic Action** “A risk-based compliance program is developed. The compliance program is promoted to the community. The compliance program is implemented annually”.

**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 2023/24 there has been 125 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>

**Strategic Action** “A risk-based compliance program is developed. The compliance program is promoted to the community. The compliance program is implemented annually”.

**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.”**

**Strategic action: “By 30 September each year, deliver an annual report which addresses all performance indicators”.**

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

This annual report has been developed to fulfil this requirement. A ‘Have your say’ survey was conducted in March to April 2024 for a period of six weeks, seeking comment on community and stakeholder progress against the revised gamba plan (DEPWS 2024) and to seek community comment on implementation of the gamba plan (DEPWS 2024). A total of 12 participants responded to this survey. 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).

**Strategic action: “Effectively communicate key outcomes of the annual report to the community”.**

**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.”**

**Strategic action “Ongoing collaboration with the WAC regarding implementation of this plan”.**

**Performance indicator: “Retention of the WAC.”**

The WAC is continuing to oversee implementation of the revised gamba plan (DEPWS 2024). 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:

- 12 September 2023
- 11 October 2023 (additional meeting to discuss review of gamba plan (DEPWS 2020))
- 28 November 2023
- 11 March 2024.

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

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

## References

1. DEPWS. (2020). Weed Management Plan Gamba Grass 2020 – 2030, Department of Environment Parks and Water Security, Northern Territory Government. [Territory Stories - Weed management plan Gamba Grass 2020-2030](#)
2. DEPWS. (2021). Gamba Grass Annual Report 2021, Department of Environment, Parks and Water Security, Northern Territory Government. [Gamba Grass Annual Report 2021 \(nt.gov.au\)](#)
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4. DEPWS. (2022A). Gamba Grass Mapping and Monitoring Program for Class A (eradication zone), Department of Environment Parks and Water Security, Northern Territory Government. [Gamba grass mapping and monitoring program for Class A \(eradication zone\) \(nt.gov.au\)](#)
5. DEPWS. (2023). Gamba Grass Annual Report 2023, Department of Environment, Parks and Water Security, Northern Territory Government. [Gamba Grass Annual Report 2023 \(nt.gov.au\)](#)
6. DEPWS. (2024). Weed Management Plan Gamba Grass 2020 – 2030 (2024 Revision), Department of Environment Parks and Water Security, Northern Territory Government. [Weed Management Plan](#)
7. *Weeds Management Act 2001* (NT). [Legislation Database \(nt.gov.au\)](#)

## 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>2</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>2</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 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 Sections 3 and 4.	Land owners, occupiers and all users of land	An annual compliance program is developed and implemented to assess compliance with this plan and compliance action is taken against properties not complying.	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 in target areas.	Gamba grass presence measured annually (1km grid map showing the area affected by gamba grass).

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

<p>2g. Understand the distribution of gamba grass in the Class B zone.</p>	<p>The WMB are to undertake an annual assessment of land impacted by gamba grass.</p> <p>A mapping and monitoring program is developed for the Class B zone.</p>	<p>WMB</p>	<p>Increased understanding of priority areas for future mapping in the Class B zone.</p>	<p>Aerial survey of gamba grass within the Class B zone (pending funding).</p> <p>Key areas of gamba grass improvement are reported on annually including metrics for the following:</p> <ul style="list-style-type: none"> <li>a) area sprayed</li> <li>b) the number of properties sprayed</li> <li>c) tenure types.</li> </ul> <p>Categorised list of priority areas that require gamba grass mapping is produced.</p>
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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>12</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 <sup>12</sup> 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 <sup>12</sup> .	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 <sup>12</sup> have been prioritised in WMB and stakeholder planning processes.	WMB and landowners and occupiers with environmental and cultural assets	Key environmental and cultural assets <sup>12</sup> are prioritised in landholder management programs including regional plans.	An annual summary is produced to demonstrate progress towards protection of key environmental and cultural assets <sup>12</sup> . An annual map is produced with gamba grass overlaid across key environmental and cultural assets <sup>12</sup> for target locations <sup>13</sup> .

<sup>12</sup> Environmental and cultural assets as outlined in the MWB Regional Weed Management Strategies.

<sup>13</sup> This performance measure requires stakeholders to be working towards collecting data (e.g. presence, absence and treatment) so more informed maps can be predicted over time.

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 resulting in an increase in voluntary compliance with gamba grass management requirements.	By July 2021, develop a communications plan to raise awareness of gamba grass management requirements and available support.  Engage with the community.  Education and awareness activities are implemented to encourage compliant behaviours.	WMB	Public knowledge of gamba grass impacts and management requirements has increased.  Changes in active management and voluntary compliance levels.	Delivery of the communications plan, including participation in public events.  The number of people participating in the Gamba Action Program has increased.  Annual review and update of communications plan.  Annual summary data produced as per Goals 1 to 3.
	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.
	Improve landholder capacity for reporting gamba grass points in the Class A zone.	WMB	Public reporting to WMB on gamba infestations in the Class A zone.	Uptake of NT WeedMate.  Presence / absence of gamba grass in the Class A zone is being reported to the WMB for a) all historical gamba grass points; and b) new sightings.
	Development of an efficient tool (subject to funding) to encourage public reporting of gamba grass sightings and management effort.	WAC lead in conjunction with Non-Government Organisations	Public reporting of problem gamba grass.	The number of reports being made of problem gamba grass via the gamba reporting tool at <a href="http://nt.gov.au/gamba">nt.gov.au/gamba</a>

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

	Promote the report gamba tool to encourage public reporting of problem gamba grass in the Class B zone.			
	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 and up to date, which translates into improved management approaches.	Research is undertaken that supports improved gamba grass management outcomes by addressing identified research gaps.	WMB Research partners WAC	The Gamba WAC reviews annually key knowledge gaps that need to be addressed to improve gamba grass management outcomes.  Feedback to be sought annually to inform knowledge gaps.	Key knowledge gaps are reported on annually including:  a) further research or work needed to address these knowledge gaps, and b) any progress being made to address these knowledge gaps.
	Promote research activities and updated management recommendations.	WMB and Research partners	Land manager awareness of improved management approaches.	Research outcomes that can improve gamba grass management outcomes are  a) made available to the public; and b) reported on annually.  Integration of research outcomes into core business activities.
	Delivery of gamba grass forums with a focus on celebrating gamba grass successes and educating the community / land managers on how to manage gamba grass and identifying other needs.	WAC in conjunction with relevant stakeholders	Capacity to manage gamba grass effectively has increased.	Delivery of gamba grass forums (every 2 to 3 years) to celebrate gamba grass successes, provide education and identify needs.
	Collaborate with other jurisdictions:	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

	<ul style="list-style-type: none"> <li>a) to identify funding options for production of a National Best Practice Gamba Grass Manual by December 2022.</li> <li>b) On the production of a National Best Practice Gamba Grass Manual by early 2024.</li> </ul>		<p>Collaborate with other jurisdictions on the production of the National Best Practice Gamba Grass Manual by early 2024.</p>	<p>Delivery of National Best Practice Gamba Grass Manual by early 2024.</p>
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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 September 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 tourism representatives to Goal 3

### Submission 1

#### Submission from the Litchfield Regional Tourism Association

Litchfield Regional Tourism Association is a membership based, not-for-profit Association that represents over 200 enterprises that relies heavily on tourism in and around the iconic Litchfield National Park. The goals of our association are:

1. Help, support and grow tourism and related businesses surrounding Litchfield
2. Protect, conserve and develop the region's unique natural environment.
3. Support and grow historic assets and attractions in the region

We are grateful for a tourism voice on the Gamba Weed Advisory Committee. We recognise that poor management of Gamba Grass issues in the region will negatively impact on all three of our association's goals.

Our visitors come to see the Northern Territory's amazing natural assets. Gamba's continuing infestation and destruction of our landscape and protected species, to one of the most highly visited top end attractions, is of major concern. The increasing threat of catastrophic gamba fires, which occur during our peak tourism season, is likely to result in more and extended closures of the park on high-risk fire days. These fires threaten the infrastructure of surrounding businesses and results in cancellations and loss of revenue to the tour operators and support services that rely on tourism.

We recognise that there is no simple solution to the issue and that a band-aid approach is not acceptable. We support the eradication of Gamba Grass to the majority of Litchfield National Park and measures to ensure surrounding landholders are actively reducing their gamba burden.

## Submission 2

Submission from Tourism Top End



Tourism Top End Incorporated  
T (08) 8980 6000  
6 Bennett Street, Darwin NT 0800  
[tourismtopend.org.au](http://tourismtopend.org.au)

Monday, 1 July 2024

Tourism Top End (TTE) is a peak industry body, with 500 + membership, regional tourism organisation (RTO) based in Darwin. We are the voice of the Top End tourism industry. Our purpose is to champion, shape and strengthen the Top End tourism industry.

The success of the Tourism Industry in the Northern Territory is due to the unique landscapes, wildlife and cultural assets that draw visitors from around the world. For this reason, it is essential that we support and participate in its preservation and protection.

Gamba Grass presents a significant risk to our national parks, with projections suggesting that nearly a third of Litchfield National Park could be infested within the decade. The safety implications are profound, particularly during the peak tourism season in the Top End. Gamba-fuelled fires not only endanger local communities and visitors but also pose a severe threat to our natural environment and tourism infrastructure. The occurrence of such fires can lead to significant destruction and irreparable reputational damage to our region.

Tourism Top End is invested in the sustainability and safety of our region's tourism industry, we are actively collaborating with the Weeds Advisory Committee to explore effective solutions for the management and eradication of Gamba Grass and similar destructive weeds.

Tourism Top End urges an increase effort to eradicate Gamba Grass within Litchfield National Park. Furthermore, we strongly advocate for increased controls to prevent the spread of Gamba Grass infestations across all Northern Territory park estates.

Tourism Top End believe that proactive measures now will safeguard our natural treasures, protect biodiversity, and ensure the safety and enjoyment of tourists visiting the Top End. We are committed to supporting and collaborating with government initiatives aimed at preserving our unique landscapes for future generations.

Kind regards,

A handwritten signature in black ink, appearing to be "S. Bennett", written over a faint circular watermark or stamp.

**Samantha Bennett**

**General Manager**

Ph: 08 8980 6021 | M: 0408 253 071

[tourismtopend.org.au](http://tourismtopend.org.au) | 6 Bennett St, Darwin NT 0800