



Imperial Oil and Gas

EP 187

Appendix 04

Weed Management Plan

IMP 5-1

WEED MANAGEMENT PLAN EP187

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FOX & CO
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EXECUTIVE SUMMARY

Previous weed assessments have been undertaken on the Imperial Oil and Gas Limited (IOG) exploration tenement EP187 in relation to the 2021-2023 exploration program and the 2019-2020 seismic and drilling program. Previous pre-exploration weed surveys were undertaken in dry season conditions (October and November 2018 and September 2019) and post-wet season conditions (April 2019). A post-wet season / post-exploration activity weed survey was undertaken in June 2020, March 2021, March 2022 and March 2023. These historical weed assessments are incorporated into this Weed Management Plan to provide comprehensive baseline data of existing weed species surveyed within EP 187.

IOG proposes to undertake initial scope field assessment activities on EP187, described herein as the Carpentaria Pilot Project (CPP). A weed survey was undertaken in October 2023 over the field assessment zones.

This report consolidates all previous weed survey activities and data and includes new survey data for surveys undertaken in October 2023.

One weed species was recorded inside the IOG work area during the October 2023 field survey (*Bidens Pilosa* (Cobbler’s Peg)) which is not a declared weed in the Northern Territory.

A range of mitigation measures and monitoring protocols have been recommended to reduce the risk and associated impacts of new weed introductions on the tenement.

Acronyms and Abbreviations

Acronyms/Abbreviation	Description
DEPWS	Department of Environment, Parks and Water Security (Formerly DENR)
IOG	Imperial Oil & Gas
LCP	IOG Land Clearing Permits
LCG	NT Land Clearing Guidelines LCG
WMP	Weed Management Plan
WONS	Weeds of National Significance

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1. INTRODUCTION

Fox & Co Environmental Pty Ltd (Fox & Co) conducted pre and post-seismic weed surveys for Imperial Oil & Gas (IOG) exploration activities on EP187 between 2018 and 2023. This report consolidates all previous weed survey activities and data and includes new survey data for the Carpentaria Pilot Project (CPP) initial scope surveys undertaken in October 2023. The following programs are included in this Weed Management Plan (WMP):

- 2019 - 2020 Exploration Program
- 2021 – 2023 Exploration Program
- 2023 CPP Initial Scope

The following reports have been consolidated to inform preparation of this WMP:

- *Weed Management Plan, 2018 Seismic Program, EP187, Premise Environment, November 2018, Report # 1802587e*
- *EP187 Post-Wet Season Weed Survey, Fox & Co Environmental, June 2019, Report IG-01*
- *EP187 Post-Wet Season Weed Survey, Fox & Co Environmental, June 2020, Report IG-03*
- *Weed Management Plan EP187, Fox & Co Environmental, March 2023, Report IG-05*

In addition to the above reports, a desktop assessment and review was undertaken prior to all survey to familiarise with existing information and any changes (if any) of weed listing status. Literature reviewed included NT Department of Environment, Parks and Water Security (DEPWS) records and alerts:

- DEPWS known weed records;
- DEPWS information alerts.

Weeds considered prime concern in relation to IOG's proposed seismic and drilling operations, based on known occurrence and threat of introduction include:

Mesquite (*Prosopis spp.*), Prickly acacia (*Vachellia nilotica*), Parkinsonia (*Parkinsonia aculeata*), Chinese apple (*Ziziphus mauritiana*), Mimosa (*Mimosa pigra*), Bellyache bush (*Jatropha gossypifolia*), Gamba grass (*Andropogon gayanus*), Neem (*Azadirachta indica*), Grader grass (*Themeda quadrivalvis*), Snake weed (*Stachytarpheta spp.*), Devils claw (*Martynia annua*), Hyptis (*Hyptis suaveolens*), Khaki weed (*Alternanthera pungens*), Sida (*Sida acuta*, *Sida cordifolia*, *Sida rhombifolia*), Lion's tail (*Leonotis nepetifolia*), Parthenium (*Parthenium hysterophorus*) and Rubber vine (*Cryptostegia spp.*).

A weed is defined as any plant that requires some form of action to reduce its harmful effects on the economy, the environment, human health and amenity. (Australian Government Department of Agriculture, Water and the Environment, 2017). There are two types of invasion: introduction of exotic plants and movement by native species into new areas well outside their native range. Weeds have an adverse effect on an area's environmental values and ecological functioning for the following reasons:

- Competition with native species;
- Change in the structure of a plant community through addition or removal of strata;
- Suppress recruitment of native species;
- Change the natural fire fuel characteristics, which can change the natural fire regime to the detriment of native species, often resulting in the loss of native species;
- Change the food sources and habitat values available to native fauna, reducing some and increasing others;
- May change geomorphological processes such as erosion; and
- May lead to changes in the hydrological cycle.

Weed species considered to be of greatest threat to natural and economic values on a national basis have been ranked as Weeds of National Significance (WONS) (Thorp & Lynch, 2000). Weed significance at a national level was assessed using four major criteria:

- Invasiveness;
- Impacts;

- Potential for spread; and
- Socio-economic and environmental impacts.

At the Northern Territory level, the Weeds Management Act (the Act) (Northern Territory Government, 2001) identifies those weed species that represent a threat to primary industries, natural resources and the environment. The Act enables the following weed declaration classes:

- Class A – to be eradicated
- Class B – growth and spread to be controlled
- Class C* –Not to be introduced into the Northern Territory

All Class A and B weeds are also Class C

1.1 LOCATION

EP187 is situated in the upper reaches of the McArthur River in proximity to the Barkly Tablelands. The tenement lies to the west of the Tablelands Highway and is crossed east to west by the Carpentaria Highway. Figure 1 displays the location of the tenement area. Access within the tenement is along the Carpentaria Highway and Broadmere Road.

1.2 2023 CPP EMP INITIAL SCOPE FIELD ASSESSMENT ZONES

The proposed CPP initial scope areas include:

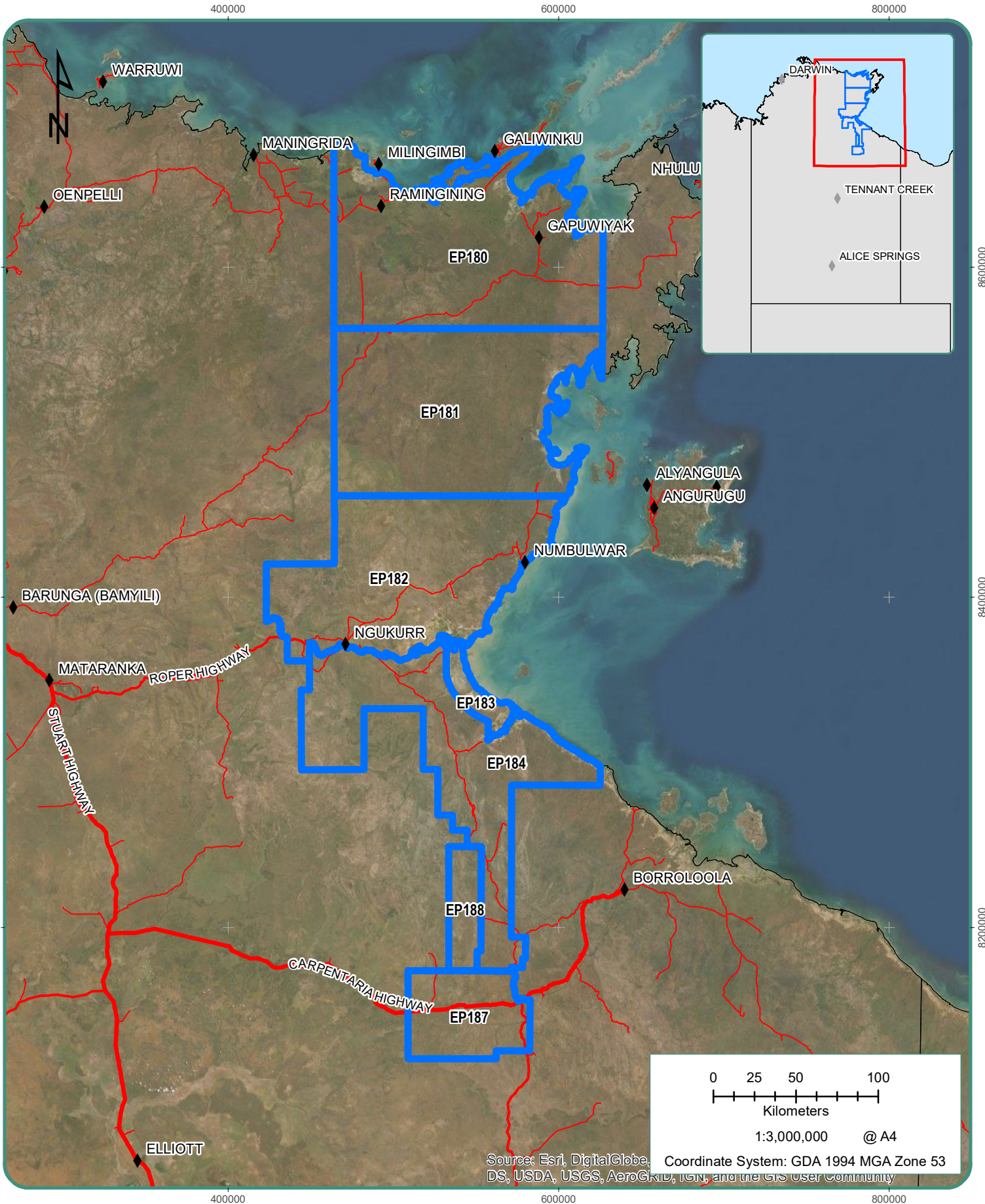
- Five new well locations (BA, BB, BC, BD and BD Central)
- Gas and wastewater flowlines
- Infrastructure area which includes gas plant, water handling station and campsite

Figure 10 shows the initial CPP assessment areas.


Table 1 Wellpad locations October 2023

SITE	Seismic Line	Easting	Northing
Wellpad			
BA	2019-04	511500	8150620
BB	I0G21-07	515907	8152050
BC	I0G21-07	519625	8128340
BD	2019-05	521830	8139805
BD(central)	2019-05	522265	8136350

Document Path: C:\Users\greenvale\Documents\Fox & Co Environmental\Projects\Imperial oil and gas\2021\Maps\1. Weed Management Plan\1. IOG WMP_001 Figure 1 - Regional Location.mxd



Source: Esri, DigitalGlobe, GeoEye, IGN, GeoEye, USGS, AeroGRID, IGN, and the GIS User Community
Coordinate System: GDA 1994 MGA Zone 53

<p>TITLE:</p> <p style="text-align: center;">Regional Location</p>	<p>LEGEND</p> <ul style="list-style-type: none"> ◆ Populated places ▭ Australian State Boundaries Roads ▭ Tenements — Principal Road — Secondary Road — Minor Road
<p>MAP NO: Figure 1</p>	
<p>PROJECT: Weed Management Plan (WMP)</p>	

Date: 22/03/2021

Data Source:

1.3 LEGAL REQUIREMENTS

Of particular relevance to this WMP is the Northern Territory *Weeds Management Act 2001* (the Act).

A project specific weed management plan must be developed as part of the EMP which meets the requirements of the NT Weed Management Planning Guide: Onshore Petroleum Projects (DENR, 2019) and it must provide at least for the following:

- (a) baseline weed assessments prior to regulated activities being undertaken;
- (b) ongoing weed monitoring;
- (c) provision of a dedicated weed officer; and
- (d) consistency with statutory requirements including any relevant threat abatement plans under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.3.1 Weeds Management Act

The purpose of the Act is:

- I. to prevent the spread of weeds in, into and out of the Territory and to ensure that the management of weeds is an integral component of land management in accordance with the Northern Territory Weeds Management Strategy 1996 – 2005 or any other strategy adopted to control weeds in the Territory
- II. to ensure there is community consultation in the creation of weed management plans; and
- III. to ensure that there is community responsibility in implementing weed management plans. The Act enables the following weed declaration classes:

Class A – to be eradicated

Class B – growth and spread to be controlled

Class C* –Not to be introduced into the Northern Territory

All Class A and B weeds are also Class C

1.4 RECOMMENDATIONS FROM SCIENTIFIC ENQUIRY

1.4.1 Imperial Weed Officer

As per recommendation 8.3 of the Scientific Inquiry into Hydraulic Fracturing, gas companies must have a dedicated weed officer for each gas field. To ensure the required weed management outcomes, the weed officer must have relevant skills and experience and availability to successfully manage weed related issues for the project, including:

- Knowledge of the biology/ecology of local weeds including but not limited to gamba and grader grass
- Knowledge of relevant weed management frameworks including NT legislation and plans, the EPBC Act; and
- Understanding of existing weed management arrangements being undertaken by landholders As per Section 7 of the EMP, the Site Coordinator (SC) will be responsible for weed related issues.

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Title: Environmental Specialist

Location: Brisbane

Contact Details: [REDACTED], [REDACTED] or
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1.4.2 DEPWS Weed Officer

Recommendation 8.3 of the Scientific Inquiry into Hydraulic Fracturing requires a dedicated Government weed officer who is responsible for:

- coordinating regional weed baseline assessments and subsequent weed surveillance; and
- overseeing strategic and effective management of any weed incursions by gas companies.
- This WMP has been prepared in consultation with the Northern Territory (DEPWS).

Contact: Nathan Mills

Title: DEPWS Onshore Petroleum Weed Management Officer

Location: 33 Leichhardt Street, Tennant Creek, NT, 0861

Contact Details: nathan.mills@nt.gov.au

2. WEED INTRODUCTION AND RISKS

Section 1 of the EMP describes the exploration program and activities. In summary the exploration operation involves the following:

- Land clearing
- Earthworks
- Well construction
- Operation of Wells
- Flowlines, pipelines and facilities associated with the drilling and hydraulic fracturing of wells of appraisal gas production in the CGP area.

Table 2 Weed introduction risks and mitigation measures

Project Stage	Risk		Mitigation Measures
	Introduction of new weeds	Spread existing weeds	
Well construction and Operation (BA, BB, BC, BD, BD Central) Construction of gas and wastewater flowlines Construction of infrastructure areas which include gas plant, water handling station and campsite	Machinery and equipment sourced from other locations infested with weed species not found in or around EP area	Traversing of weed infested areas with machinery	Requirement that all equipment/machinery arrives on site clean of plant and soil matter. All vehicles to undertake and complete Weed Hygiene self-declaration prior to arriving onsite. Records will be retained. Require that all equipment/machinery is clean of plant and soil matter before demobilising from one site and working on another. Restrict movement of topsoil from sites where significant or declared weeds are known to exist to prevent the spread of weeds on the lot. Control declared weeds in accordance with NT Government's Weeds in the NT database.

Project Stage	Risk		Mitigation Measures
	Introduction of new weeds	Spread existing weeds	
			Mark no-go areas if infestations of WONS and/or Class A/C weeds are found within or adjacent to disturbance footprint.
	Personnel unable to identify weeds or unaware of weed species present in areas where machinery and equipment is sourced from.	Existing weed distribution not known due to: insufficient survey effort, survey effort conducted at wrong time of year, persons undertaking survey not familiar with / unable to identify declared weed species.	<p>Develop weed identification material to be made available to staff and contractors while working on the lot. Problem weeds can be defined during pre-work toolboxes.</p> <p>Compulsory site inductions will present information to staff and contractors working on site on problem weed species and protocols to minimise risk of introduction including wash down locations and procedures, certification of plant and machinery before entering site, weed hygiene measures, non-compliance and reporting procedures.</p>
	Construction of infrastructure area proximate to Carpentaria Highway.	<p>Construction proximate to identified weed areas into clean weed free areas.</p> <p>Hyptis and grader grass observed in disturbed areas along Carpentaria Highway.</p>	<p>Use existing and designated tracks where possible. Restrict access to areas outside of the cleared footprint to limit the disturbance area to within the approved footprint.</p> <p>Conduct post-wet season weed surveys to determine whether any weed introductions have occurred and to monitor existing weed populations. Take the appropriate and government authority preferred corrective actions where necessary.</p> <p>Monitoring data of weed populations and also weed free areas based on pre-construction data.</p>

3. WEED SPECIES

The DEPWS Natural Resource (NR) maps database was used to identify all introduced flora species that have previously been recorded within the area of the tenement associated with the proposed seismic program. Weeds along the Carpentaria Highway between Cape Crawford (Heartbreak Hotel) were also identified as this is the road upon which contractors will be travelling each day.

Figure 2 shows the historical weed locations and weeds identified during the 2018 and 2019 surveys undertaken for the 2019/2020 exploration program.

Figure 3 shows the post-seismic weed survey undertaken in 2020 for the 2019/2020 exploration program.

Figure 4 shows the post-seismic weed survey undertaken in March 2021 for the 2019/2020 exploration program.

Figure 5 shows the pre-works weed survey undertaken for the 2021-2023 exploration program

Figure 6 shows the weeds identified during 2023 CPP initial weed survey. No weeds were reported other than Cobbler’s peg (*Bidens pilosa*) in the proposed infrastructure area.

3.1 REGIONAL PRIORITIES

The DEPWS Katherine Regional Weed Management Plan 2015-2020 is guided by three (3) regional priorities to manage weeds. These are:

- I. Priority weeds;
- II. Priority landscape areas; and
- III. Priority pathways of spread

The below table lists weeds that have previously been recorded in the area and also priority weed species as per the Katherine Regional Weed Strategy 2021-2026 (Department of Environment, Parks & Water Safety, 2021).

Table 3 Previously recorded and priority weed species

Scientific Name	Common Name	Declaration	Where located (e.g. on EP, machinery source location, extractive proppant/s, corridors)
<i>Prosopis spp.*</i>	Mesquite*	WONS, Class A, Class C	Not recorded. Priority weed
<i>Vachellia nilotica</i> (previously <i>Acacia nilotica</i>)*	Prickly acacia	WONS, Class A, Class C	Previous records (NR Maps, DEPWS). Refer Figure 3.
<i>Parkinsonia aculeata</i>	Parkinsonia	WONS, Class B	Previous (NR Maps, DEPWS) and October 2018 survey records. Refer Figure 3.
<i>Ziziphus mauritiana*</i>	Chinee apple	Class A, Class C	Not recorded. Priority weed
<i>Mimosa pigra*</i>	Mimosa	WONS, Class A, Class C	Not recorded. Priority weed
<i>Jatropha gossypifolia*</i>	Bellyache bush	WONS, Class A, Class C	Previous records along Carpentaria Highway (NR Maps, DEPWS). Refer Figure 3
<i>Andropogon gayanus*</i>	Gamba grass	WONS, Class A, Class C	Not recorded. Priority weed

Scientific Name	Common Name	Declaration	Where located (e.g. on EP, machinery source location, extractive proppant/s, corridors)
<i>Azadirachta indica</i>	Neem	Class B	Not recorded. Priority weed
<i>Themeda quadrivalvis</i>	Grader grass	WONS, Class B	June 2020 and March 2021 record (Fox & Co). Priority weed
<i>Stachytarpheta spp</i>	Snake weed	Class B	Not recorded. Priority weed
<i>Martynia annua</i>	Devils claw	Class A	Not recorded. Priority weed
<i>Hyptis suaveolens</i>	Hyptis	Class B	Previous (NR Maps, DEPWS) and October 2018, April & Sept 2019, June 2020 & March 2021 survey records (Fox & Co) along Carpentaria Highway. Refer Figures 3, 4, 5 and 7
<i>Alternanthera pungens</i>	Khaki weed	Class B	Previous records (NR Maps, DEPWS). Refer Figure 3.
<i>Sida acuta, Sida cordifolia, Sida rhombifolia</i>	Sida	Class B	Previous records (NR Maps, DEPWS). Refer Figure 3.
<i>Leonotis nepetifolia</i>	Lion's tail		Previous records (NR Maps, DEPWS).
<i>Tribulus sp.</i>	Caltrop	Class B	Recent record (Fox & Co, 2019)

Table 8 lists weed alert species as per the Katherine Regional Weed Strategy 2021-2026. These species warrant strategic control across the Katherine Region due to their high impact on land managers, and other economic and environmental values.

Table 4 Weed Alert Species

Scientific Name	Common Name	Declaration
<i>Ziziphus mauritiana</i>	Chinee apple	Class A, Class C, Statutory Weed Management Plan

Scientific Name	Common Name	Declaration
<i>Jatropha gossypifoli</i>	Bellyache bush	WONS, Class A, B and C
<i>Andropogon gayanus</i>	Gamba grass	WONS, Class A, B and C, Statutory Weed Management Plan
<i>Cryptostegia madagascariensis</i>	Ornamental rubber vine	Class A and C
<i>Azadirachta indica</i>	Neem	Class A and C, Statutory Weed Management Plan
<i>Themeda quadrivalvis</i>	Grader grass	Class B and C, Statutory Weed Management Plan
<i>Tamarix aphylla</i>	Athel pine	Class A and B, Statutory Weed Management Plan
<i>Martynia annua</i>	Devils claw	Class A

Parthenium hysterophorus (parthenium) and *Cryptostegia spp* (rubber vine) are of particular concern as they are considered to be a very high risk of introduction to this area of the Northern Territory. This area of the Northern Territory is often accessed from Queensland where these two (2) weed species are well established and have had detrimental impacts to the Queensland beef industry.

3.2 OCTOBER 2023 WEED SURVEY RESULTS

One weed species was recorded inside the IOG work area during the October 2023 field survey (*Bidens Pilosa* (Cobbler's Peg)) which is not a declared weed in the Northern Territory

Figure 10 shows the weed result recorded in October 2023 and the survey tracks.




Appendix A provides a table of the survey results for the October 2023 survey. These results were supplied to DEPWS in the required format within 7 days of undertaking the weed survey.



3.2.1 Previous Weed Survey Observations

Table 9 provides a summary of previous weed survey observations recorded during the pre-exploration weed surveys on EP187.

Table 5 Previous Weed Survey Observations

Weed	Details	Location	Plate
Weeds Observed During 2018 Dry Season Survey (Oct and Nov 2018)			
<i>Hyptis suaveolens</i> (Hyptis).	Hyptis was primarily recorded along the Carpentaria Highway (and also in some areas along Broadmere Road)	Carpentaria Highway	

Weed	Details	Location	Plate
<p><i>Parkinsonia aculeata</i> (Parkinsonia)</p>	<p>Parkinsonia was recorded at a stock water bore (No. 3 bore) north of the Carpentaria Highway.</p>	<p>No.3 Bore</p>	
Weeds Observed During 2019 Weed Surveys (April and September 2019)			
<p><i>Hyptis suaveolens</i> (Hyptis). Class B herbaceous weed.</p>	<p>Hyptis was observed along the Carpentaria Highway in disturbed areas (ie. Truck rest stops) or drainage lines. It was also observed at the proposed camp location (which is a truck rest area).</p>	<p>Location: - 16.710633, 135.349883</p>	
<p><i>Tribulus sp.</i> (Caltrop). Class B herbaceous weed.</p>	<p>Caltrop was observed at the picnic area at the jump-up proximate to the eastern end of Seismic Line 1, just off the Carpentaria Highway.</p>	<p>Location: - 16.703183, 135.366863</p>	
Weeds Observed During 2020 Post Wet Season Survey			
<p><i>Hyptis suaveolens</i> (Hyptis). Class B herbaceous weed.</p>	<p>Hyptis was observed along the Carpentaria Highway and Broadmere Rd in disturbed areas (ie. Truck rest stops) or drainage lines.</p>	<p>Location: - - 16.732533, 135.1994</p>	

Weed	Details	Location	Plate
<i>Themeda quadrivalvis</i> (Grader grass).	Observed outside (east) of IOG work area, adjacent to the Carpentaria Highway.	Location: -16.71181, 135.4232	
Weeds Observed During 2021 Wet Season Survey (March 2021)			
<i>Hyptis suaveolens</i> (Hyptis).	Hyptis was primarily recorded along the Carpentaria Highway (and also in some areas along Broadmere Road)	135.2474039 -16.53130396 135.1991994 -16.73235367 135.0817638 -16.74155369 135.094250 -16.74059011 135.11648- -16.73876822 135.1164812 -16.73876822 135.1090543 -16.73967926 135.1607469 -16.7349109 135.3226097 -16.72085056	

4. ANNUAL ACTION PLAN

Control options will be undertaken in accordance with the species-specific Statutory Weed Management Plans, and the NT Government's Weeds in the NT" database (Northern Territory Government, 2020).

Table 6 Action Plan (2023 Carpentaria Pilot Project)

Weed Management Area	Weed Species	Management Objective	Survey Time/s	Treatment Time/s	Control Method/s	Herbicide
Wells BA, BB, BC, BD, BD Central	None observed in October 2023	No introduction of new weed species.	End of wet season	Tba	Tba	Tba
Access tracks and flowlines	None observed in October 2023	No introduction of new weed species.	End of wet season	Tba	Tba	Tba
Infrastructure Area (e.g., gas plant, water handling station and campsite)	None observed in October 2023, other than small patch of <i>Bidens pilosa</i> (Cobbler's pegs)	No introduction of new weed species.	End of wet season	Tba	Tba	Tba

5. MITIGATION MONITORING

Field surveys were undertaken within the CPP EMP initial scope field assessment zones to determine weed species presence. Other information such as presence of feral animals and vegetation community / species were described along assessment zones.

Follow-up monitoring (e.g. timeframes following treatment) is species specific and will be undertaken in accordance with the species-specific Statutory Weed Management Plans for the priority weeds (if identified on site) listed in Table 6 and Table 7.

A post-wet season (2024) survey will be undertaken to actively determine weed presence (if any) within the proposed exploration areas.

All data will be supplied to DEPWS.

5.1 MITIGATION

Weed mitigation measures should include hygiene protocols to minimise the likelihood of introduction and spread of environmental, agricultural and declared weeds. These should include:

- Requirement that all equipment/machinery arrives on site clean of plant and soil matter. All vehicles to undertake and complete Weed Hygiene self-declaration prior to arriving onsite. Records will be retained.
- Require that all equipment/machinery is clean of plant and soil matter before demobilising from one site and working on another.
- Restrict movement of topsoil from sites where significant or declared weeds are known to exist to prevent the spread of weeds on the lot.
- Control declared weeds in accordance with NT Government's Weeds in the NT database.
- Develop weed identification material to be made available to staff and contractors while working on the lot. Problem weeds can be defined during pre-work toolboxes.
- Compulsory site inductions will present information to staff and contractors working on site on problem weed species and protocols to minimise risk of introduction including wash down locations and procedures, certification of plant and machinery before entering site, weed hygiene measures, non-compliance and reporting procedures
- Use existing and designated tracks where possible. Restrict access to areas outside of the cleared footprint to limit the disturbance area to within the approved footprint
- Conduct post-wet season weed surveys to determine whether any weed introductions have occurred and to monitor existing weed populations. Take the appropriate and government authority preferred corrective actions where necessary.
- Monitoring data of weed populations (and/or weed free areas) based on pre-construction data.

If weed monitoring indicates new introductions and/or detrimental changes in existing weed species density and abundance, the following should be undertaken:

- Notification to DEPWS
- Determine the cause of the incident and review the process to ensure that the incident does not re-occur.
- Assess and implement the appropriate course of action in consultation with relevant authorities and landholder

6. NOTIFICATION PROCEDURE

Should a new weed species in the project area be identified, the DEPWS Onshore Petroleum Weeds Officer (refer Section 1.4.2) will be contacted. Initial notification will be via telephone and subsequently followed up with an email (written notification) within seven (7) working days with

details of species, location (latitude and longitude), abundance and any other relevant details such as life stage.

7. RECORDING

During weed surveys over the EP187 seismic lines and proposed exploration areas, weed data was collected using the Northern Territory Government WeedMate App as well as via Arc Collector in accordance with the DEPWS Weed Data Collection Field Guide.

All weed data was supplied to the DEPWS Onshore Petroleum Weed Management Branch.

8. REPORTING

Following the post-wet / post-exploration weed survey, an annual report will be submitted to DEPWS. The report will include the following:

- Details of activities implemented to address weed spread and introduction risks (e.g. examples of track construction from working from weed free areas into weed infested areas to reduce spread)
- Submission of all weed data collected
- Details of survey and monitoring events, including dates, personnel, maps and track data; and
- Overview of weed control events and success rates (weed control should be captured in detail through the data collection process and submitted as a component of (a)).

9. WORKS CITED AND RELEVANT REFERENCE LIST

- Australian Government Department of Agriculture, Water and the Environment. (2017). *Australian Weeds Strategy 2017-2027*. Retrieved from Pest animals and weeds in Australia: <https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/pests-diseases-weeds/consultation/aws-final.pdf>
- Department of Environment, Parks & Water Safety. (2021, Nov 17). *Katherine Regional Weeds Strategy 2021-2026*. Retrieved from Northern Territory Government: https://depws.nt.gov.au/__data/assets/pdf_file/0006/269286/Katherine-Regional-Weeds-Strategy-2021-2026.pdf
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APPENDIX A

WEED DATA

APPENDIX B

FIGURES

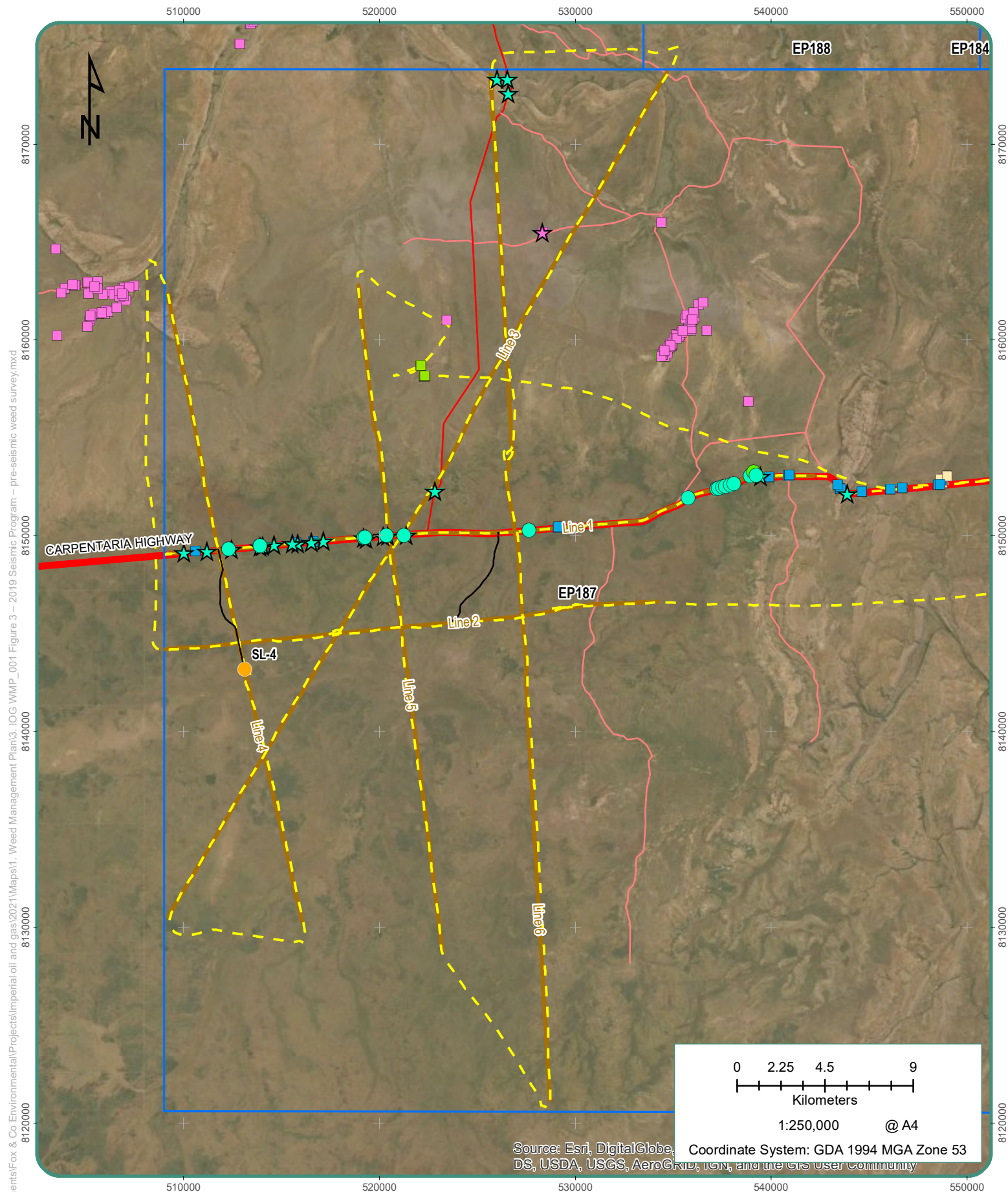
Figure 2 2019-2020 Exploration Program, pre-exploration weed survey (2018/2019)

Figure 3 2019-2020 Exploration Program, post-exploration weed survey (2020)

Figure 4 2019-2020 Exploration Program, post-exploration weed survey (2021)

Figure 5 2021-2023 Exploration Program, pre-exploration weed survey (March 2021)

Figure 6 October 2023 weed survey and track log



Source: Esri, DigitalGlobe, GeoEye, IGN, AerGRID, USDA, USGS, AeroGRID, IGN, and the GIS User Community
 Coordinate System: GDA 1994 MGA Zone 53

TITLE:
 2019/2020 Seismic Program
 - pre-seismic weed survey

MAP NO: Figure 2

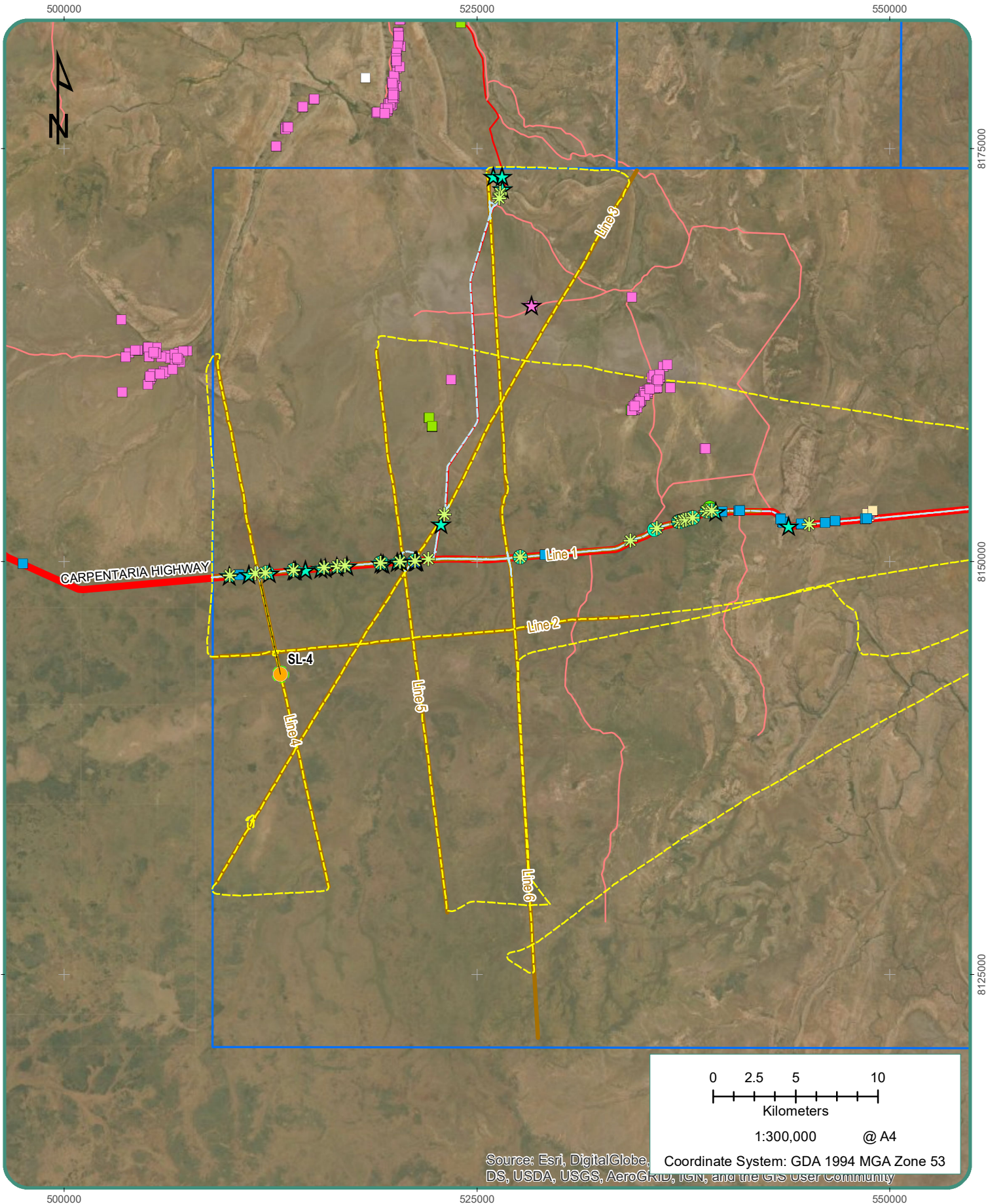
PROJECT: Weed Management Plan (WMP)

LEGEND

Dry season (2018)	Weed name	2019 Seismic lines
★ Hyptis	■ Bellyache bush	— Tenements
★ Parkinsonia	■ Burr - Star	
Post wet season (2019)	■ Caltrop - terrestris	
● Caltrope	■ Hyptis	
● Hyptis	■ Khaki weed	
● Exploration bore SL-4	■ Neem	
	■ Parkinsonia	
	■ Prickly acacia	
	■ Sida - Spiny head	
	■ Sida sp	
	— GPS track log	
	— Proposed bore access	

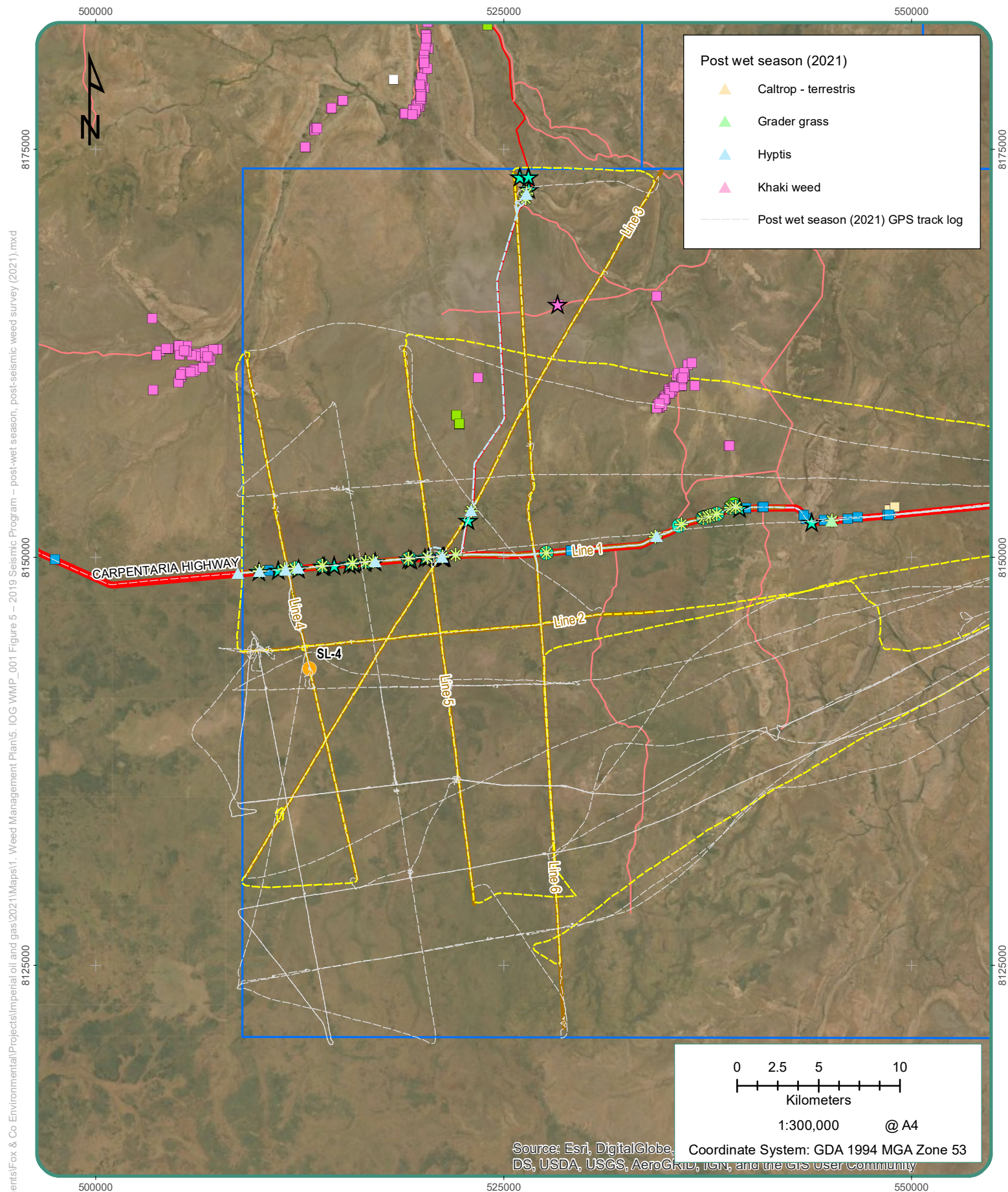


Document Path: C:\Users\greenvalle\Documents\Fox & Co Environmental\Projects\Imperial oil and gas\2021\Maps\1. Weed Management Plan\4. iOG WMP_001 Figure 4 - 2019 Seismic Program - post-wet season, post-seismic weed survey (2020).mxd



Source: Esri, DigitalGlobe, GeoEye, IGN, Aerogrid, USDA, USGS, AeroGRID, IGN, and the GIS User Community
 Coordinate System: GDA 1994 MGA Zone 53

TITLE: 2019/2020 Seismic Program - post-wet season, post-seismic weed survey (2020)		Dry season (2018) ★ Hyptis ☆ Parkinsonia		Post wet season (2020) ★ Hyptis ☆ Parkinsonia ● Caltrope ● Hyptis ● Dry season (2019) ★ Hyptis		Post wet season (2019) ● Caltrope ● Hyptis ● Dry season (2019) ★ Hyptis		Weed name ● Bellyache bush ● Burr - Star ● Caltrop - terrestris ● Hyptis ● Khaki weed ● Neem ● Parkinsonia ● Prickly acacia ● Sida - Spiny head ● Sida sp ● Exploration bore SL-4		● On ground weed survey track log ● Aerial weed survey track log ● 2019 Seismic lines ● Tenements	
MAP NO: Figure 3		FOX & CO ENVIRONMENTAL									
PROJECT: Weed Management Plan (WMP)		Date: 23/03/2021									



Document Path: C:\Users\greenvale\Documents\Fox & Co Environmental\Projects\Imperial oil and gas\2021\Maps\1 - Weed Management Plan\5. IOG WMP_001 Figure 5 - 2019 Seismic Program - post-wet season, post-seismic weed survey (2021).mxd

TITLE:
**2019/2020 Seismic Program -
 post-wet season,
 post-seismic weed survey (2021)**

MAP NO: Figure 4

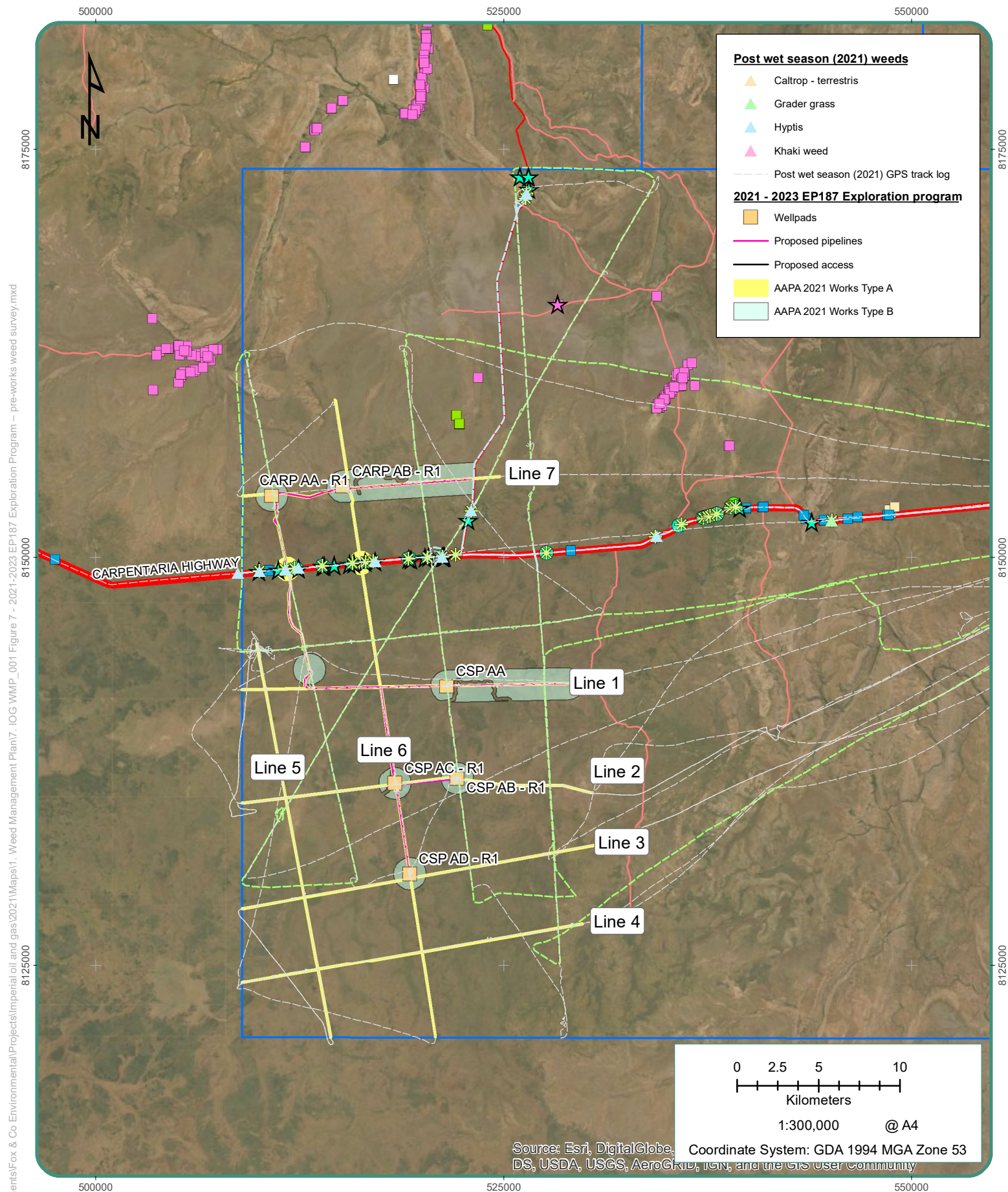
PROJECT: Weed Management Plan (WMP)

Dry season (2018)	Post wet season (2020)	Hyptis	On ground weed survey track log
★ Hyptis	☼ Hyptis	■ Khaki weed	— Aerial weed survey track log
★ Parkinsonia	— Bore access track	■ Neem	— 2019 Seismic lines
Post wet season (2019)	Weed name	■ Parkinsonia	□ Tenements
● Caltrop	■ Bellyache bush	■ Prickly acacia	
● Hyptis	■ Burr - Star	□ Sida - Spiny head	
Dry season (2019)	■ Caltrop - terrestris	■ Sida sp	
★ Hyptis	● Exploration bore SL-4		



Date: 23/03/2021

Data Source:



TITLE:
 2021-2023 EP187
 Exploration Program
 - pre-works weed survey

MAP NO: Figure 5

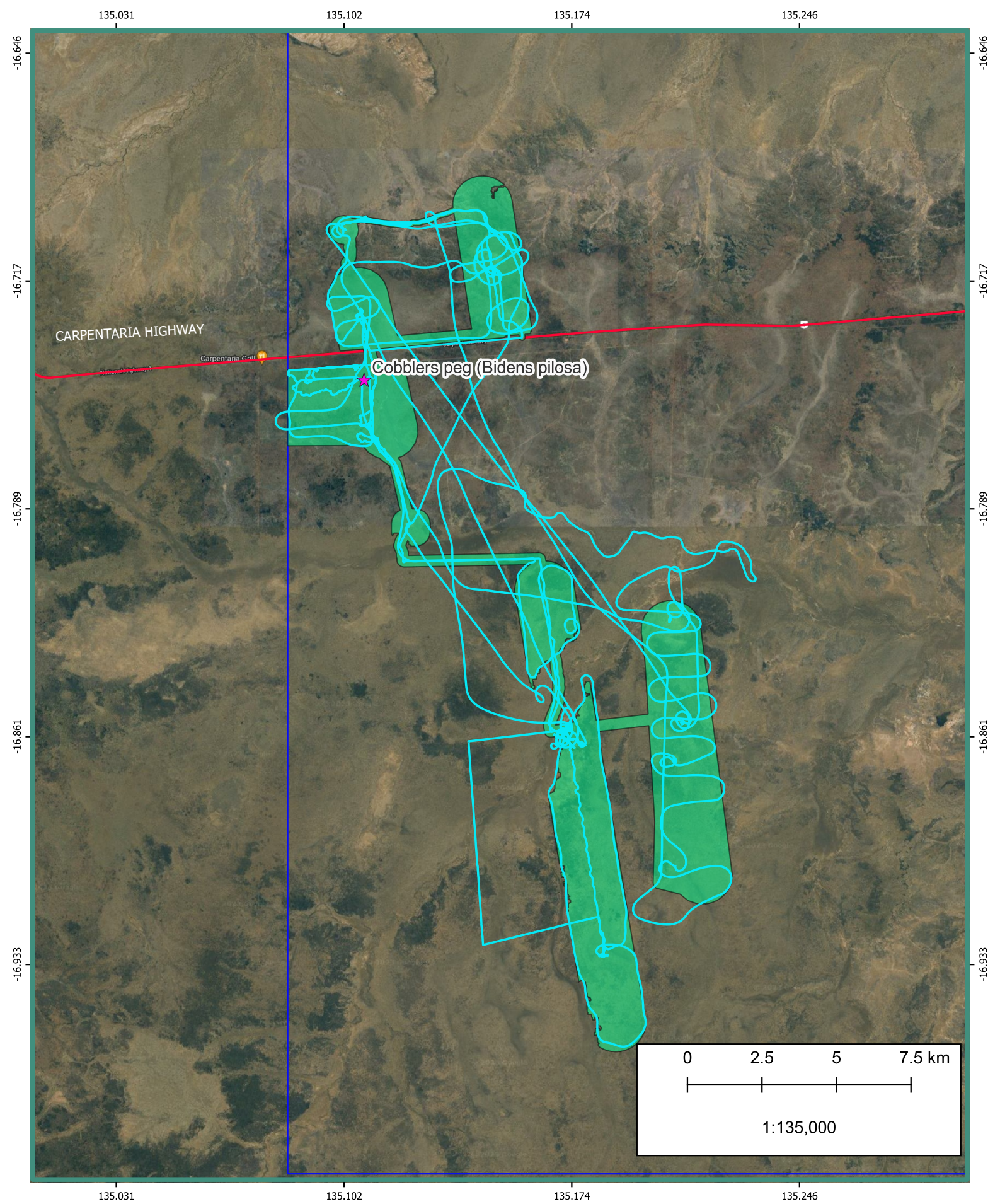
PROJECT: Weed Management Plan (WMP)

Dry season (2018)	Post wet season (2020)	■ Khaki weed	--- On ground weed survey track log
★ Hyptis	★ Hyptis	■ Neem	--- Aerial weed survey track log
★ Parkinsonia	Weed name	■ Parkinsonia	
Post wet season (2019)	■ Bellyache bush	■ Prickly acacia	
● Calltrope	■ Burr - Star	■ Sida - Spiny head	
● Hyptis	■ Calltrop - terrestris	■ Sida sp	
Dry season (2019)	■ Hyptis		
★ Hyptis			



Date: 23/03/2021

Data Source:



TITLE October 2023 weed survey and track log

MAP NO. Figure 6

PROJECT EP187 Production EMP Initial Scope

- LEGEND**
- October 2023 Survey Tracks
 - EP187 Production EMP Initial scope — Field assessment zone:
 - EP187
 - Carpentaria Hwy





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