



**ACT**  
Government

# GUNGAHLIN STRATEGIC ASSESSMENT

PLAN REVIEW REPORT

October 2022



## Acknowledgements

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## List of Abbreviations

ACT	Australian Capital Territory
ANBG	Australian National Botanic Gardens
ANU	Australian National University
BGW	Box gum woodland
BRAMP	Biodiversity Research and Monitoring Program
CAPAD	Conservation and Protected Area Database
CEMP	Construction Environment Management Plan (interchangeable with EMP)
CIT	Canberra Institute of Technology
CMTEDD	Chief Minister, Treasury and Economic Development Directorate
CRP	Conservation Research Program
EDP	Estate Development Plan
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
EPD	Environment and Planning Directorate (formerly Environment and Sustainable Development Directorate)
EPSDD	Environment, Planning and Sustainable Development Directorate (formerly EPD)
GPS	Global Positioning System
GSA	Gungahlin Strategic Assessments
GSM	Golden sun moth
IUCN	International Union for Conservation of Nature
HIP	Habitat Improvement Plan
LMA	Land Management Agreement
MNES	Matters of National Environmental Significance
MOU	Memorandum of Understanding
NC Act	<i>Nature Conservation Act 2014</i> (ACT)
NSW	New South Wales
OCSE	Office of the Commissioner for Sustainability and the Environment

OMP	Offset Management Plans
PCS	Parks and Conservation Service
PD Act	<i>Planning and Development Act 2007</i>
the Plan	Gungahlin Strategic Assessment Biodiversity Plan
PIT	Plan Implementation Team
PTWL	Pink-tailed worm-Lizard
RMP	Reserve Management Plans
SDM	Species Distribution Modelling
SLA	Suburban Land Agency
SLL	Striped legless lizard
SP	Superb parrot
The Strategy	ACT Nature Conservation Strategy
TCCS	Transport Canberra and City Services
WWT	Woodland and Wetlands Trust

**Note: References to Department and Directorate names in the body of this report are accurate as of October 2022.**

## Executive Summary

The Gungahlin Strategic Assessment (GSA) was an assessment under Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The GSA process commenced on 2 October 2012 and was approved on 17 July 2013.

The GSA assessed the potential impacts from development of Gungahlin, on Matters of National Environmental Significance (MNES) protected under the EPBC Act. The GSA established a broad range of commitments, under the Gungahlin Strategic Assessment Biodiversity Plan (the Plan), to be delivered by the ACT Government over 20 years.

Over the past four years (the period of 21 June 2018 to 30 June 2022), the ACT Government has implemented commitments of the Plan, in order to avoid and mitigate environmental impacts resulting from development in Gungahlin. Key achievements that have been made during this time include:

- delivery of residential and mixed-use development in multiple suburbs;
- establishing conservation areas in Goorooyarroo and the Mulligans Flat Nature Reserve;
- administrative process improvements for the delivery of the GSA;
- research on protected matters undertaken in partnership with research institutions; and
- consultation and community engagement across a variety of external stakeholders.

The GSA requires a Plan Review Report (the Report) to be prepared every four years from endorsement of the Plan. This is the second Report over the 20-year timeframe of the GSA. This second Report covers the period of four years from June 2018 to June 2022. The Report provides findings on actions undertaken, improvements to MNES, legislation and policy changes and knowledge gained during this period. The Report also considers issues and challenges that have arisen and opportunities for improvements to deliver the Plan.

The Report concludes with a number of recommendations for improving the delivery of commitments in the future, and the ACT Government will continue to work with the Commonwealth Government to deliver these recommendations.

# 1. Introduction

## 1.1 Background – Gungahlin Strategic Assessment

On 2 October 2012, the ACT and Commonwealth Governments commenced a strategic assessment process under Part 10 of the EPBC Act. The focus of the strategic assessment was to assess the potential impacts on MNES protected under the EPBC Act, resulting from development of the remaining identified greenfield sites in Gungahlin, the northern-most district in the ACT.

The Plan was endorsed on 20 June 2013 under the EPBC Act, and the actions associated with the development of Gungahlin were approved on 17 July 2013. Consequently, the Plan has resulted in the establishment and management of a consolidated offsets package. The Plan has also streamlined the development process by removing the need for site-by-site assessment of MNES in the strategic assessment area. The MNES included in the plan are:

- Box gum woodland (BGW);
- Golden sun moth (GSM);
- Superb parrot (SP);
- Striped legless lizard (SLL); and
- Pink-tailed worm-lizard (PTWL).

The Plan is relevant to the following areas as they appear in the Territory Plan:

- urban development areas of Kenny, Throsby, Moncrieff, Jacka (north) and Taylor;
- urban development areas currently zoned Commercial (CZ2) and Mixed Use (CZ5) in the Gungahlin Town Centre (East); and
- conservation areas, including broad-acre areas, being additions to Gorooyaroo and Mulligans Flat Nature Reserve (Throsby North, Throsby East and Kenny Broadacre offsets), Nadjung Mada Nature Reserve (Kenny offset), Kinlyside Nature Reserve, and Jacka, Taylor and Horse Park North avoidance areas. (Refer to Figure 1 – The Gungahlin Strategic Assessment area).

The Plan outlines actions required to facilitate development and actions required to avoid, mitigate, and offset the impacts of development. These actions are implemented through a range of commitments that cover the planning, reporting, conservation, and financial requirements of the Plan.

## 1.2 Background – Plan Review Report

Commitment 15 of the Plan requires the PIT to prepare and submit the Report every four years from endorsement of the Plan.

The Plan identifies that five Reports will be prepared over the 20-year life of the Plan. In 2033, the final Report will provide an overview of the entire Plan implementation, including:

- a consolidated description of the Plan;
- knowledge gained and lessons learned;
- future management requirements; and
- opportunities for enhancement of MNES beyond the life of the Plan.

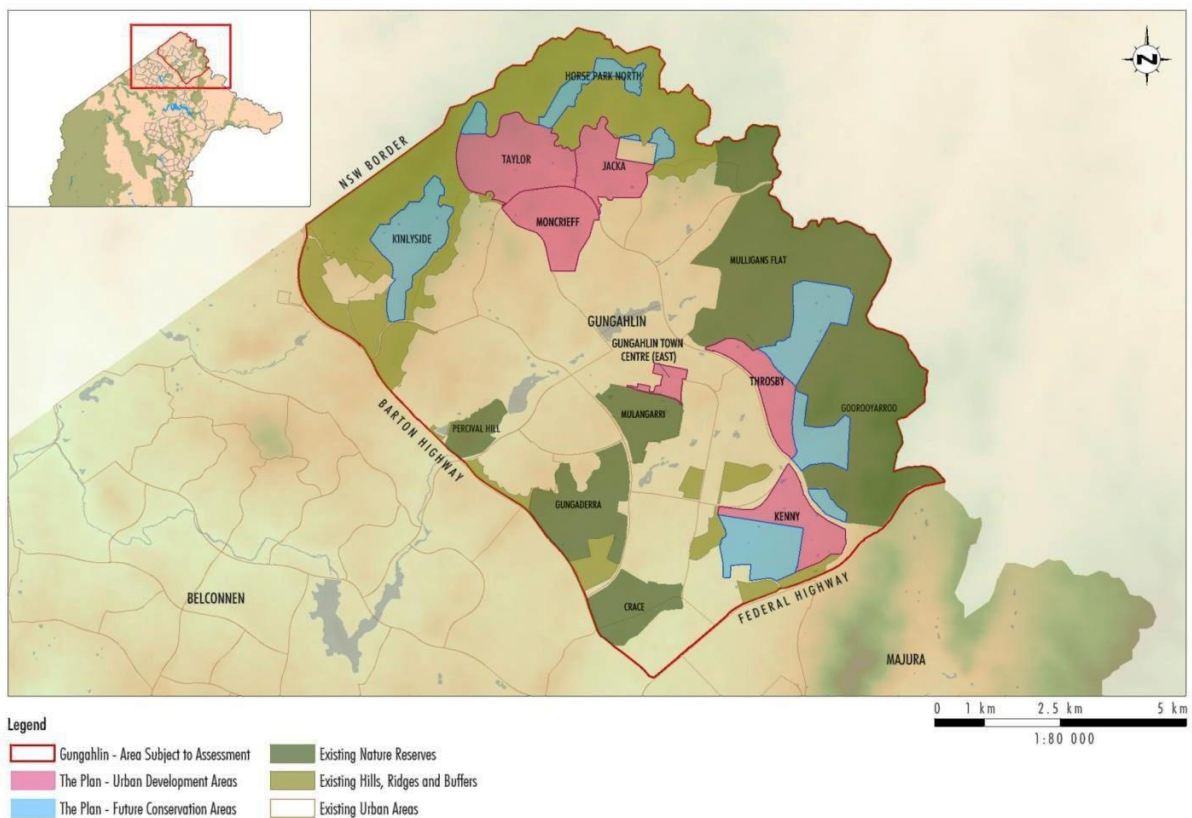
The purpose of the Report is to summarise progress over the preceding four years in achieving the conservation gains against the objectives outlined in the Plan. The review identifies the knowledge gained through implementation of the Plan and considers consistency with action plans, policy, and

legislation by reviewing these guiding documents.

The Plan requires the following items to be considered in the Report:

- a summary of matters reported including actions undertaken, improvements to MNES habitat, research findings and other issues as relevant, over the preceding four years as reported in the Gungahlin Strategic Assessment Annual Reports for that period;
- legislative or policy changes during the period that potentially affect actions under the Plan;
- any change in focus the Plan needs to adopt in order to take into account for knowledge gained through the Plan implementation or new knowledge from other sources relevant to the protected matters in the context of Gungahlin; and
- recommendations for amending programs under the Plan in order to achieve greater efficiency and or effectiveness in meeting the Plan’s objectives.

It is envisaged that this will ensure that once the PIT is disbanded and responsibility for ongoing management is devolved to the appropriate ACT Government entity, knowledge of the Plan will not be lost.



**Figure 1 - The Gungahlin Strategic Assessment area**

This Report is the second of its kind since the inception of the Plan from 2013. The first Report was completed and lodged to the Commonwealth Government in 2018. The first report identified a number of recommendations for improving the delivery of commitments in the future, and the that the ACT Government will continue to work with the Commonwealth Government to deliver the recommendations. The previous recommendations are outlined in the first column of the table in [section 7 \(Recommendations\)](#) of this report. The previous report can be found at,

### 1.3 This Plan Review Report

In accordance with the requirements of Commitment 15 of the Plan, this Report is a comprehensive review on the activities related to the GSA for the period 2018-2022.

On 10 August 2022, request for an extension of time was granted by the Commonwealth Government to deliver this second report by 31 October 2022. The Commonwealth reviewed a draft version and provided comments, as such, a further extension of time was granted to 31 January 2023. This Report will cover the preceding four years from 21 June 2018 until 30 June 2022.

The annual reporting requirements which coincide with the Report have been incorporated into this document to minimise duplication. Please find the 2021-2022 Annual Report attached at **Appendix A**.

The Report provides findings on the majority of items required under the Plan. Notwithstanding, this is the second Report over the 20-year timeframe of the GSA Plan. As such, it is too early in the implementation and delivery of the GSA to provide findings on all of the items required under the Plan. It has been noted, in the relevant sections of the Report, where findings cannot be made on specific items. It is anticipated that future Reports will be able to provide findings on all items required by the Plan as the GSA progresses throughout its lifespan.

## 2. Summary of commitments

A review of commitments within the Plan has been completed to provide an overview of the progress of the Plan. The following review only considers commitments where issues and opportunities have been identified for the previous four years. Other commitments relate to statutory processes or policy development that is still underway, or the commitments are already complete.

*Note: A detailed update on the status of each commitment is provided in the 2021-2022 Annual Report (Appendix A) and completed commitments are outlined at Appendix A of the Annual report.*

## 3. Review of commitments

The following discussion of commitments is organised in order of commitment numbers which is in line with the structure of the Plan as follows:

- Planning commitments
- Management commitments
- Reporting commitments
- Conservation commitments
- Financial commitments

It is noted the GSA Plan is mid-way through its 20-year timeframe. As such, findings on some commitments cannot be made as the information to evaluate the progress of these commitments is not yet available as it is an on-going process which will be achieved at the end of the 20 years reporting period. Therefore, the commitments discussed in future reports may change depending on the information available and the issues and opportunities that arise during future implementation and operation of the GSA.

Over the 2018-22 reporting period, it is important to raise that weather events (2019-20 bushfires, drought, and extreme rainfall) as well as the COVID-19 pandemic affected delivery of planning, reporting, conservation, and financial commitments.

### 3.1 Commitment 4 – Land Management Agreements

*Commitment 4: Review and update Land Management Agreements (LMA) or management plans for all avoided areas of NUZ3 – Hills, Ridges and Buffers to ensure consistency with, and application of commitments of the Plan. As a part of this action, baseline condition assessment of all avoided areas including NUZ3 will be undertaken and LMAs will include conditions for compliance and enforcement.*

Negotiations are ongoing for review and update of Land Management Agreements (LMAs) and occurs where necessary between Environment, Planning and Sustainable Development Directorate (EPSDD) and rural lease holders. The key issue regarding planning commitments related to LMA was reported as an issue in the previous GSA review and remains an issue at this time.

The requirements for all ACT rural leases to have an LMA is set out under section 283 of the *Planning and Development Act 2007* (PD Act). LMA's are an agreement between the landholder and Government which provides guidance to how agricultural activities (or other activities allowable in the lease) are to be undertaken and how environmental values are managed on the land.

LMAs outline the responsibilities of the rural lease holder and the legislative requirements for land managers with consideration of identified values and issues raised by government i.e. ACT Heritage, Environment Protection Authority (EPA) or Conservation Research. LMAs are required for all rural leases, including those located in reserves across the ACT, not just within the strategic assessment areas. Where there is a nature reserve overlay or an offset, these areas are usually covered by a separate documented management plan that is included to the LMA as an attachment.

#### Lessons learnt

- There have been delays in updating LMAs to include offset commitments as attachments and this presents a challenge to manage values and delivery of commitments.
- LMAs are private agreements (developed between the ACT Government and a rural lessee) which are not readily accessible to other stakeholders (i.e. the land manager, contractors, etc). The inaccessibility of these documents could potentially prevent other stakeholders from understanding and implementing conservation outcomes required by the LMA.
- Interpretation of commitments contained within the Plan has been a challenge for developing and implementing LMAs. It has been noted that stakeholders involved in developing LMAs and carrying out on-ground actions can have different interpretations of what a commitment intends to achieve and the actions that need to be undertaken to deliver commitments. This can lead to actions being included in an LMA that may not directly meet the requirements of commitments that need to be implemented and achieved under the Plan.
- Rural Services within the EPSDD are responsible for overseeing and implementing LMAs. However, Access Canberra (the gateway for ACT Government services and transactions and also upholds a range of regulatory protections in the ACT) is responsible for enforcing breaches to LMAs. The involvement of two different government agencies can result in complexities for undertaking compliance action and can limit opportunities for enforcing conditions.

- The mechanisms to ensure compliance with the conditions set out in LMA's is in development through the newly formed LMA Governance group made up of stakeholders involved in LMA development including Access Canberra.
- When a rural lease is transferred to another lessee, the existing LMA is no longer valid and a new LMA needs to be put in place within six months of the transfer being approved. This results in additional administrative requirements for the ACT Government and may impact on the management and protection of ecological values while the new LMA is being finalised (whether there are offset requirements or not).
- The review of LMAs has been prioritised in order of urgency with high-risk areas resolved first. Lease transfers and lease variations are priorities as these have timeframes for completion within the legislation.
- Additional policy is required to improve how the ACT Government can engage rural landholders to manage conservation values within offset areas. This should include options for payments to manage the values and assist the ACT Government deliver on the offset commitments. Investigations into stewardship programs in other jurisdictions would assist the ACT Government develop suitable policy and associated programs. A lack of policy support has made it challenging to engage and appropriately remunerate rural lessees for works undertaken to manage the land in order to achieve offset commitments.

### Recommendations

- Consultation with land managers should occur in the early stages of development of future strategic assessments to ensure that potential conflicts between agricultural activities and offset commitments are resolved.
- Develop LMAs with a separate management plan, as an attachment to LMAs, which contain specific and detailed information about offsets and commitments that need to be met as part of strategic assessments. Notwithstanding this, LMAs also need a level of flexibility to include evidence-based land management (based on results from the monitoring program) and achieve adaptive management principles.
- Investigate lease arrangements for LMAs (including the three-month withdrawal clause for 99-year leases in reserve areas) and consider improvements that can be made to achieve commitments.
- Ensure LMA documents are easy for the lessee to use and understand.

Future Strategic Assessments would benefit from more fully assessing whether a proposed offset site should stay under lessee management or be withdrawn and managed by the ACT Government. Costs of withdrawal of leases must be taken into account when considering a proposed offset site. An update on the status of each commitment is provided in the 2021-2022 Annual Report ([Appendix A](#)).

## 3.2 Commitment 9 – Reserve Management Plan

*Commitment 9: Develop a Reserve Management Plan for all new nature reserves in order to provide for adaptive management and condition improvement of the reserve in accordance with the objectives and commitments of the Plan.*

The key issues associated with management commitments related to:

- Reserve Management Plans (RMP); and
- Collection of baseline ecological information.

RMPs, also called Offset Management Plans (OMP), have been beneficial in helping the ACT Government to achieve strategic directions and commitments of the Plan. These plans are written with the aim of capturing the commitments outlined in the GSA Plan and the MNES-specific Habitat Improvement Plans (HIPs) to guide on-ground management in each offset area to deliver these commitments. A RMP was developed for Kinlyside offset area and for the Throsby North, Throsby East and Kenny Broadacre Offset Areas in 2015, with the Nadjung Mada RMP currently in development following reserve creation in 2021.

### Progress

2018 Issue	2022 Comment
<p><i>The maps used within the RMPs to inform land management actions were based on information from the GSA Plan and HIPs. As discussed in the Ecological Monitoring section of this Report, errors in the original mapping for the GSA resulted in discrepancies in the location and extent of ecological communities and habitats. This made achieving specific targets set out in the RMP's difficult. Future RMPs will be based on new maps showing the actual extent of habitat or community based on on-ground surveys.</i></p>	<p>Detailed mapping for BGW and GSM was completed for all offset areas in 2017. Since the 2018 Plan Review Report, the revised mapping has been used to develop new management zones across the offset areas. These are currently being used to guide land management actions and will be incorporated into new and revised RMPs.</p>
<p><i>Some actions in the RMPs are too prescriptive and lack the flexibility to achieve specific commitments.</i></p>	<p>Since the 2018 Plan Review Report, a revised process for developing RMPs has been implemented. This process takes a risk management approach to link specific site performance targets to management actions. The renewed focus on performance targets and risk management enables more flexibility for management actions to be adapted to address specific conditions. This is considered consistent with the GSA Plan's adaptive management process and has been formalised in the draft 2019 Environmental Offsets Adaptive Management Strategy.</p>
<p><i>The definition of certain MNES condition states within the GSA Plan (i.e. BGW is defined through a qualitative measure as 'good and medium quality') were used to inform the RMPs. These qualitative measures do not provide enough information for the RMP to inform restoration planning for improving MNES state conditions.</i></p>	<p>As described above, 2017 mapping for BGW and GSM has informed detailed management zones, enabling precise planning and implementation of restoration actions.</p>
<p><i>RMPs with more than one protected matter require further information and clarification as management actions for each matter may differ. When a specific area has more than one protected matter, there may be challenges to achieve quantitative targets for each matter.</i></p>	<p>The 2017 mapping for BGW and GSM prompted a reconsideration of the management approach for when protected matters overlapped. A review of the mapping post the 2018 Plan Review Report concluded that there was not adequate habitat for either protected matter within the offset areas to enable non-overlapping improvement zones, while still meeting the commitments of the GSA Plan.</p> <p>The new management zones, and associated management priorities for each zone, have been defined to allow commitments within the GSA Plan to be met more effectively, including for multiple</p>

	protected matters. This process will inform a refresh of the original HIPs.
<i>EPSDD is developing Biomass Management Guidelines to assist land managers achieve commitments. The guidelines are based on the most up to date evidence and expected to be completed in 2018. Once complete, the guidelines will provide a single point of reference for appropriate biomass levels and can be used to inform RMPs.</i>	These have been completed. The guidelines are based on the most up to date evidence and it is a dynamic document that can be updated when new information is gathered from monitoring and research. These guidelines provide a point of reference for the manipulation of biomass according to annual biomass composition. Annual biomass monitoring, along with regular field observations and together with the guidelines to support evidence-based land management decision making.
<i>RMPs should include clear definitions of terms and how to achieve qualitative conditions, i.e. what is considered to be an 'improvement' and specific details for categories of 'good' or 'medium' quality habitat. Such definitions could also be included in HIPs or other overarching framework documents.</i>	As part of the development of the draft 2019 Environmental Offsets Adaptive Management Strategy, new guidance has been created to inform the development of performance targets based on standardised definitions of habitat quality. This will enable clear, evidence-based use of terms and concepts in future new and revised RMPs.
<i>The development, implementation and monitoring set out in RMPs requires a high level of resourcing. It is easy to underestimate the difficulty and resources required, especially to undertake the restoration activities required to improve the condition of ecological communities or habitat of threatened species.</i>	The resolution of this is ongoing.
<i>Complexities in confirming governance and land management arrangements for offset areas have delayed the scheduled revision of the Kinlyside RMP and the Throsby North, Throsby East and Kenny Broadacre RMP. The development and mapping of new management zones has allowed actions targeted at delivering GSA Plan commitments to continue, however disconnect between the 2015 RMPs and the new management zoning has created challenges in implementing the RMPs.</i>	The resolution of this is ongoing.

### Lessons Learnt

- The GSA mechanism of linking the establishment of offset sites to development triggers has resulted in Nadjung Mada, only being established in 2021 due to delays in the development of Kenny. This has condensed the available time in which to undertake restoration to achieve the 20-year restoration outcomes of the GSA plan.
- The GSA's Biodiversity Plan indicative land release dates for Kenny range from 2013 through to 2016, however Nadjung Mada Nature Reserve was established under the Territory Plan Variation process on 2 August 2021, resulting in a reduced (effective) management timeframe to just 12 years if considering the original GSA Plan dates.
- Restoration is a highly uncertain endeavour, and takes time to plan, implement, and achieve success. The delay in establishment has risked restoration success and may necessitate higher cost actions to deliver the restoration commitments.
- Restoration is challenging, and with shortened timeframes the risk of not achieving original outcomes is high. Every action possible is being taken by ACT Government including

developing restoration plans with Greening Australia, synthesizing current knowledge of tested and novel restoration methods, undertaking evidence-based restoration actions (e.g., plantings, planning ecological burns with follow-up weed control etc.) in areas of already 'good condition' to maximise opportunities to shift non-EPBC to EPBC communities, and testing novel restoration actions in areas likely to be more challenging to restore.

- However, as ecological restoration is a relatively new area, knowledge of the most effective landscape-scale techniques to use in the local region is not complete. Determining the most effective technique may take time and testing, and also may require consultation; certain management methods may not be culturally or socially appropriate in particular areas, necessitating the use of trial methods which are unproven (increasing risk of not achieving outcomes). The challenge of selecting and implementing restoration techniques is further compounded by the dynamics of a system and life-histories of species targeted for inclusion in restoration. The ecology of the ecosystem – and previous land-use history – will dictate the time taken to achieve outcomes. This is often periods of at least 15-20 years.
- ACT Government have dedicated planners, ecologists and land managers working together to achieve the outcomes in the GSA Plan. However, the achievement of restoration actions cannot be accelerated beyond what is currently understood, and what is logistically achievable when managing threatened values in natural systems. Ecosystem changes take time, with elements like nutrient cycling, weed population and seed bank reduction, and increasing native plant presence and diversity requiring significant time allowances for lasting effects from management interventions to be seen.
- As such, the risk of not meeting outcomes identified in the GSA Plan over a shortened 12-year timeframe is high. Every opportunity will be taken, where resourcing permits, to meet restoration commitments under the GSA Plan but ACT Government believe it is important to flag the risk we see in delivering these commitments and highlight that significant ecological change is more likely to become evident towards 2043.

### Recommendations

- When there are multiple protected matters in a specific area, management should be integrated and focus on overall improvement, rather than specific targets for each protected matter. Future conditions in strategic assessments (which inform RMPs) should be developed collaboratively between planners, ecologists, parks rangers and other ACT Government staff to ensure targets are achievable and delivered using methods based on adaptive management principles.
- Conservation gains have a higher certainty of being achieved without high-cost and high-risk actions when site management begins early. In future strategic assessments, interim management at identified offset sites should begin before development triggers offset establishment, along with appropriate resourcing to develop and implement RMPs and monitor their effectiveness.

An update on the status of each commitment is provided in the 2021-2022 Annual Report ([Appendix A](#)).

### 3.3 Commitment 13 – Collection of baseline ecological information (completed)

*Commitment 13: Collection of baseline ecological information for all new reserve areas.*

Baseline ecological information for all new areas has been collected as part of the in-house Environmental Offsets Monitoring Program, with 3 years of data collected across GSA (and other offset sites) using consistent survey methods from 2018 onward. Monitoring methodologies and guidance are detailed in the Environmental Offsets Monitoring Reports.

#### Progress

2018 Issue	2022 Comment
<i>Consultant reports have established different baseline plots and different scores for data collection. Inconsistencies across the different consultants means that integrity of temporal data is compromised and requires greater effort to seek: compromise between methods used; location of plots to yield most useful ecological information; and maintaining the length of the ecological time series.</i>	<p>In-house monitoring to collect ecological data was implemented within the 2018 survey season, and as such standard methodologies and processes for collecting ecological data have been in place for the last 4 years. Where methodologies have changed, processes have been developed to ensure that information is captured, and data is still comparable across years and monitoring locations. The in-house collection of data has opportunities for working in an adaptive management cycle, being able to have direct access to data and feed this information back to land managers in real-time.</p> <p>Three-year baseline ecological data has now been collected, and a Data Analyst has been contracted to develop baseline values for ecological metrics. These baseline values will act as the comparison point to understand the effectiveness of land management activities and progress towards meeting performance targets and offsetting commitments across the GSA.</p>

### 3.4 Commitment 14 – Collection of ecological information

*Commitment 14: Ongoing collection of key ecological information for monitoring and reporting requirements.*

The strategic assessment funding has provided an opportunity for ACT Government to undertake ongoing collection of ecological information.

#### Progress

2018 Issue	2022 Comment
<i>The MNES monitoring program has predominantly been delivered by external consultants. This has not proven to be cost or time effective. An increase in internal resourcing (qualified ecologists) to conduct in-house monitoring and reporting and reduce the reliance on consultants would improve outcomes (for both the delivery of the monitoring program and from diversifying the skills within the offsets team).</i>	<p>Since 2018, an increase in internal funding has led to the monitoring and reporting on ecological information predominantly being delivered in-house by permanently employed ecologists. Parks and Conservation Service (PCS) engaged highly qualified and skilled staff to develop monitoring methods and systems of analysis and evaluation to inform future management of offset sites towards delivering the relevant performance targets. These</p>

	systems have already provided and will continue to provide additional benefits for EPSDD, namely assisting PCS to implement evidence-based actions to manage effectively and adaptively, the natural values within the reserve system.
<i>Establishing clear habitat quality thresholds for all protected matters would assist to inform ACT Government actions related to clearance, monitoring, and achieving quality improvement targets.</i>	EPSDD are continuing to establish thresholds.

### Recommendations

- Future strategic assessments should adopt consistent monitoring and condition measures across all offset sites and other reserves where possible.
- A new MNES restoration mapping process is being developed to assist with strategic investment in restoration actions across ACT environmental offsets. Collection of key ecological information underpins this mapping and may be used to guide restoration actions during the 2022-26 reporting period.

### 3.5 Commitment 16 – Annual reports

*Commitment 16: Prepare and submit Annual Reports (n=20). Highlighting the implementation of the actions and relevant conservation outcomes for MNES. All reports, in addition to any research related to the Plan will be published on the internet in a central location.*

The key issues relating to reporting commitments in the Plan include:

- preparation of the annual reports for the GSA
- the independent audit of the GSA
- preparation of the Report.

Issues and opportunities associated with the preparation of the annual reports and the Report are outlined below. A discussion on the independent audit of the GSA is provided in **Section 4** of this report. Annual reports have been prepared and submitted to the Commonwealth as required under the Plan, since the approval of the GSA. The following issues and opportunities were identified with the preparation of annual reports.

### Progress

2018 Issue	2022 Comment
<i>It has been difficult to incorporate findings of ecological surveys as timeframes for ecological monitoring and reporting do not align with the administrative reporting timeframes for the annual reports. This presents a risk, in that the information presented in the annual reports may not reflect the most up to date status of the ecological values.</i>	As ecological monitoring has been brought in-house, access to up-to-date monitoring data has become less of an issue; the capacity to monitor more frequently has increased, monitoring data is communicated internally in near-real time via digital platforms, and scripts for annual monitoring data that will automate comparisons with baseline values. Annual reporting information may show a lag (i.e. monitoring is from the previous year), but this information is likely to be representative of site condition year-on-year.
<i>The timing and late delivery of annual reports has been identified in the independent audit of the GSA</i>	Annual reports have been submitted within the required timeframes; however, further

as a risk to achieving commitments.

considerations are being undertaken to ensure annual reports provide up-to-date information.

### Lessons learnt

- Pandemics and extreme events (2019-2020 bushfires, damaging storms in the ACT, heavy rainfall events) have affected staffing capacity, in turn affecting the ability to adhere to reporting deadlines.

### Recommendations

- The timely delivery of annual reports could be improved by taking into account timeframes for ACT Government processes and negotiating more flexible timeframes with the Commonwealth Government.
- While monitoring capacity has improved greatly between 2018-2022, capacity in data analysis/evaluation is still limited. Future reporting can be enhanced by engaging a suitably qualified staff member in-house. Alternatively, planning for ecological analysis and engaging statistical consultants early in reporting processes (annual, but also for land managers) would enhance current reporting.

## 3.6 Commitment 17 – Plan review

*Commitment 17: Prepare and submit Plan Review Report (n=5). The final Plan Review Report will include a summarised synthesis of all knowledge gained over the life of the Plan in order that it represents a complete description of actions taken under the Plan, requirements for ongoing management and opportunities for future enhancement beyond the life of the Plan.*

This Report is the second of its kind since the inception of the Plan and provides an opportunity to improve the development and delivery of future strategic assessments. The following issues and opportunities were identified for preparation of the Report.

### Progress

2018 Issue	2022 Comment
<i>The timing of the Report (four years from commencement of the Plan) impacted the ability to collect meaningful ecological data. Due to the GSA being in its infancy, there has not been sufficient time for observable ecological change to occur from the actions undertaken as part of commitments implemented under the Plan. Therefore, it is not possible to provide comments on the outcomes of certain commitments as the information is not yet available.</i>	A rigorous monitoring program has been established over the 2018-2022 reporting period. Consequently, the ability to comment on commitments has improved.
<i>There is little guidance on the specific requirements of the Report. This impacted the preparation of the Report as contributors did not know what information they needed to provide in order meet the commitment.</i>	Guidance is being provided for new and existing staff and clarification is continuing.
<i>The requirement to include the 2017-2018 Annual Report as part of the Report was challenging as the timing for the delivery of each report did not align.</i>	This was challenging for this reporting period as well and therefore an extension of time was requested. The challenges for this reporting period also included staff movements and unexpected leave.

## Recommendations

- Greater guidance on interpretation of each commitment is essential due to the long lifetime of the GSA and subsequent changes to staffing and team structures that inevitably occurs. This challenge could be addressed by providing a document (i.e. a service delivery document) which clearly sets out the intent and actions that need to be delivered for each commitment. Service delivery agreements could be developed by EPSDD for future strategic assessments and would be subject to approval from the Commonwealth.
- The timing of reports in future strategic assessments could be extended to allow time for observable ecological and particularly restoration - change to occur. Detailed reports could be completed every ten years of the strategic assessment lifetime. A shorter, interim report could form part of the annual report every five years.

### 3.7 Commitment 27 – Habitat improvement plans

*Commitment 27: Habitat Improvement Plans for Box Gum Woodland (approx. 104 hectares of habitat), Golden sun moth (up to 140 hectares of habitat), Striped legless lizard (up to 111 hectares of habitat) and Superb parrot.*

The key issues relating to conservation commitments include:

- Habitat Improvement Plans (HIPS);
- preparation of educational resources;
- research into protected matters; and
- wildlife corridors.

HIPs were completed prior to 2018. They were written in the context of the broader strategic assessment study area (landscape scale) and consider broader impacts and benefits to MNES. Current HIPs require updating as new ecological information and understanding has developed over the 2018-2022 reporting period.

## Progress

2018 Issue	2022 Comment
<i>While it is important to recognise the landscape scale benefit of developing HIPs, it needs to be recognised that the ACT Government is reviewing systems to improve the strategic management of threatened species and communities across ecological landscapes (the first focusing on values supported by grassland ecosystems, with BGW ecosystems in development). These systems will include planning tools to prioritise actions for relevant business units within the EPSDD Environment Division and will align with updated species and community action plans and the latest ecological information on MNES. These plans could inform management at the Operational Management Plan level. Investigations are required on the value of the HIP in light of these new planning systems to ensure that there is no unnecessary duplication.</i>	ACT Government has developed systems for grassland ecosystems and woodland ecosystems, that can give overall indication of ecosystem condition. Work is still required to translate broad ecosystem condition to the operational management plan level and is commencing in 2022. Opportunities to develop partnerships across business units in EPSDD and refine processes to reduce duplication and documentation for strategic planning at the landscape scale have been explored. Collaborations to improve strategic planning are ongoing, e.g. through the establishment of an urban ecology initiative.
<i>Duplication of planning and reporting systems, and</i>	EPSDD are continuing to consider ways of reducing

<i>the value of HIPs in the context of these systems.</i>	duplication in the strategic assessment reporting process.
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## Recommendations

There has been a movement towards spatial planning & delivery of monitoring/management data via spatial platforms. To reduce duplication, consideration should be given to providing flexible means of delivering HIPs and OMPs under Commonwealth commitments, e.g. via spatial platforms.

### 3.8 Commitment 30 – Educational resources

*Commitment 30: Establish educational resources including signage and guidelines for residents of East - Throsby, including description of ecological values and significance of the Mulligan's Flat – Goorooyarroo nature reserve complex; no domestic animals in reserves; management of pest species along the urban edge.*

The Woodlands and Wetlands Trust, in collaboration with PCS and the Suburban Land Agency (SLA), have prepared educational resources for residents and community members. The following education actions have been undertaken over the 2018-2022 reporting period:

- Interpretation signs have been placed within the Throsby North offset and describe the natural and cultural history of the site.
- The Woodlands and Wetlands Trust website (<https://www.woodlandsandwetlands.org.au/>) contains information on woodland restoration, offset management, and other restoration programs underway at the sanctuary.
- Australian National University (ANU) have published several papers related to woodland restoration.
- Preparation and circulation of the following guidelines/information:
  - ACT Urban Interface Design Guide
  - Your Resilient Home Guide
  - Front Garden Landscape Rebate
  - Plant a Tree in Your Canberra Garden is a practical guide
  - Climate Wise Garden Designs Booklet
  - Sustainable Civile Works Framework.

## Progress

<b>Progress 2018 Issue</b>	<b>2022 Comment</b>
<i>There is a challenge in educating secondary residents (residents who purchase a house after the initial sale) and residents in rental properties. At this stage there is no way of knowing when new residents move into a property. Whilst education material could be rolled out quarterly to accommodate changes, there is a risk this could lead to current residents becoming overloaded and disengaging from the information provided.</i>	Ongoing consideration is being undertaken to ensure new residents receive, and take in, educational information.

## Lessons learnt

- It was expected the woodland learning centre would be open by now, but COVID pandemic and rain slowed construction work.

## Recommendations

- Develop a strategy for educational material to be provided to residents who are second residents or renters to ensure that the commitment is achieved.
- The woodland learning centre, 'Wildbark' will become the hub for visitors to the Sanctuary. It is immediately adjacent to the Thorsby North offsets and provides an ideal opportunity to use its location to interpret woodland values and restoration techniques to the community.
- Aligned with the Taylor Mingle group ('Mingle' is a community development program by SLA), a ranger-guided interpretation package and communications materials with nature-based messaging has been developed to improve community knowledge of environmental and cultural values and promote positive visitor behaviours. This package and communications materials can be tailored to educate secondary residents of the suburb of Thorsby over the 2022-2026 reporting period.

### 3.9 Commitment 31 – Focussed research (Superb parrot habitat)

*Commitment 31: Commence planning for implementation of focused research on Superb parrot habitat requirements*

The Plan has been a great opportunity for government to lead innovation and research for the Superb parrot (SP). Under the commitment, strong partnerships have been developed through collaboration with entities and research institutions. Ongoing research and monitoring as part of the commitment has included:

- **Monitoring SP breeding participation and critical nest-based parameters**, including nest survival, clutch size, brood size and nestling body condition. We have quantified reproductive output over four years (2017 to 2020) at two ACT breeding colonies: Thorsby Offset Area and central Molonglo Valley, showing that while high nest survival was maintained in all monitoring years, there was high inter-annual variation in nestling body condition, likely driven by high environmental variability of the breeding environment. We have found that clutch and brood sizes are highest in years of lowest rainfall (2018 and 2019), and that predation rates escalated in the highest rainfall year (2021).
- **Describing the attributes of SP nest trees and nest hollows** to better understand breeding site selection and determine whether SP nest attributes impact on reproductive output. This research showed that SP nest trees contained more hollows than random trees. We also showed that SP select hollows that were deeper, with wider floors and entrance sizes than random hollows.

Hollows with the combination of selected traits are extremely rare, comprising only 0.5% of the standing hollow resource. Our results confirm that non-excavators can be very selective about the types of trees and hollows they use for nesting. Rarity of suitable hollows may be a factor in limiting the population growth and recovery of SPs.

- **GPS tracking of breeding male SPs** using local-scale UHF transmitters and range-scale solar satellite transmitters. Local tracking data revealed regular movement pathways through the suburbs of northern Canberra, with birds favouring areas with remnant Eucalypts, pod-bearing Acacias, and Elms. Tracking data have been used in Species Distribution Modelling (SDM) to develop SP habitat suitability maps for the whole ACT region (including the wider GSA and offset areas). In a particularly innovative approach, we accounted for spatially explicit SP behaviour in SDMs to map SP breeding, foraging, and moving habitats separately.

These products allow for more targeted and effective restoration applications by land managers.

- **Genetic analysis of the two known ACT SP subpopulations**, this research found that the total breeding output of SP in the study area was attributable to only 34 SP pairs, of which 12 bred repeatedly and produced 59% of chicks born into the study area. We also found evidence of strict monogamy among SP over time, and low but significant in breeding. This small ACT population size was supported by low estimates of effective population size. We also found significant spatial structure of genetic relatedness at spatial scales as small as 100m, meaning that SP prefer to breed near their kin. This has critical implications for restoration efforts to create new breeding habitat for the species, which may fail if social dynamics are not explicitly considered in site selection and planning.

By combining Global Positioning System (GPS) telemetry and genetic data, our research program shows that the two subpopulations within 15km of one another (a trivial distance for these mobile birds) remained isolated even though the landscape was permeable to their movements. Although the subpopulations may have arisen from the same source population, genetic analysis reveals they have not interbred over five years. This phenomenon has not been demonstrated for an Australian parrot species and represents a significant advance in conservation knowledge.

### Progress

2018 Issue	2022 Comment
<i>The research program for reducing or eliminating nest hollow competition, needs to be more focused. For example, to investigate whether hollow availability is likely to be limiting population growth of SP due to tree decline, or competitive exclusion – rather than diving straight into control measures.</i>	Research is continuing into the actual impact on SP.
<i>Proposed research was phrased as a management action. As such the aims of the research should be clearly described, appropriate and achievable.</i>	Research is ongoing and is being adjusted as required.

### Lessons Learnt

- To adequately address the issue of nest hollow attrition, competition and supplementation requires significantly more investment, both in FTE and field resources. The current GSA budget does not allow for this threat to be effectively managed at the Throsby East Offset Area.

### Recommendations

- Contractors will need to be informed of the commitment context to allow for better monitoring outcomes.
- An evidence-based framework that allows adaptive monitoring and research responses may be a better strategy to achieve the commitments and gain critical conservation information. This strategy would address the current limitation of commitments that are not flexible and cannot be re-phrased.
- Surveying relevant ecological sites outside the GSA area will go beyond the commitment to achieve enhanced conservation outcomes for the species.

Having an ecologist who is engaged specifically to deliver the GSA research commitment and maintain a single-species research agenda has resulted in a comprehensive understanding of the SP

and their ecological requirements across multiple ACT Government directorates, NSW Government departments and the broader community.

Overall, this research project has provided a catalyst from which to gain momentum and additional resources to invest in increasing our knowledge and understanding of the SP. Outcomes of the SP research program has far exceeded the initial commitment under the GSA Plan and created opportunities to broaden the conservation applications for the species nationally.

The GSA SP research program has played an instrumental role in informing the new National Superb Parrot Recovery Plan and directing the research priorities of new and emerging research projects, including under NSW Offsets total > \$750 K.

### 3.10 Commitment 32 – Research Golden sun moth habitat

*Commitment 32: Research Golden sun moth habitat requirements:*

- *may include research into translocation of Golden sun moths*
- *fragmentation and proximity to urban areas*

Research around the translocation of GSMs was completed in 2018. This research showed potential, but uncertainty around long-term ability of translocations to support viable breeding populations. Since 2018, detailed mapping has been undertaken to better understand the distribution of GSM across the ACT. These models are taking into consideration landscape-scale and site-scale variables that may influence GSM presence including soil temperatures, soil type, and topographical features (e.g. aspect). Research in this area is ongoing, with final mapping products (and statistical models) expected to be finalised in 2023.

#### Progress

2018 Issue	2022 Comment
<i>Data collection can be impacted by poor seasonal conditions which in turn impact research findings.</i>	This is an ongoing issue due to the seasonal variations within this period.

#### Recommendations

- Research arising from the GSA provides insight into how we can better allocate research funds for GSM and has revealed key knowledge gaps in managing GSM that should be addressed to improve management of this MNES. The research has suggested that:
  - While translocations show some degree of success, a long-term funding and resourcing commitment to monitoring is required to appropriately evaluate the success of such a project.
  - Research should be coupled with habitat protection/improvement research to provide a ‘relative’ measure of which action provides best return-on-investment.
  - Allocation of research resources into GSM should be focussed on effectiveness of habitat protection and improvement measures in maintaining GSM populations and/or increasing extent of populations.

### 3.11 Commitment 35 – Connectivity and wildlife corridors

*Commitment 35: Undertake plantings to improve connectivity and wildlife movement along Gungaderra and Sullivan's creeks, targeting in particular Superb parrot movement*

#### Progress

Works undertaken over the 2018-2022 reporting period to meet the commitment have included:

- Monitoring plantings of 8000 trees along Gungaderra and Sullivan's creeks
- Monitoring erosion prevention and provision of wildlife corridors (using the least cost connectivity pathways) have been implemented running north-south through the eastern side of the offset area.

#### Recommendations

- Site preparation should be finalised prior to planting, and this should be adopted in similar planting processes (using the least cost connectivity pathways) in Throsby North and the wider Gungaderra Creek area.
- New techniques and information can be used to improve connectivity of wildlife corridors. For example, radio tracking of SP has helped to recognise where to target revegetation works to focus on the species' main foraging routes.
- A new ACT Government urban connectivity project offers the opportunity for a multi-agency approach in planning for landscape scale connectivity for multiple species. Employing the outputs of this project to guide plantings may enhance conservation outcomes.
- Strategic placement of offsets maximises benefits across the conservation estate (e.g. quoll movement from Mulligans Flat Sanctuary into Throsby offsets). Developing a long-term Territory-wide strategy for offsets will improve opportunities for connecting natural areas, improve core to edge ratios of these natural areas, and enhance landscape-scale conservation of biodiversity.

### 3.12 Financial commitments

Annual Financial Reporting is provided with the 2021-2022 Annual Report at [Appendix A](#).

## 4. Independent audit of the Gungahlin Strategic Assessment

The Plan specifies that an audit of the commitments is required every five years to ensure commitments are being implemented. The Plan identified the Office of the Commissioner for Sustainability and the Environment (OCSE) as an appropriate entity to undertake the audit given the office is an independent authority.

In November 2017, OCSE delivered the first independent audit into the GSA. The audit found that most of the commitments, a total of 19 (five with observations), were compliant. A total of 13 commitments were not compliant, five of which were identified as high risk.

Areas of non-compliance resulted largely from delays in timely delivery and implementation of the commitments across government agencies. Five corrective actions were issued for the high-risk items to ensure commitments are met. The five corrective actions related to:

- 1) implementation of the Cat Containment Policy (Commitment 5);
- 2) review of the Taylor Stage 1 Construction and Environmental Management Plan (CEMP) (Commitment 11a);
- 3) prepare process documentation for reporting on potential breaches of commitments in the Plan (Commitment 15);
- 4) complete Fire Hazard Management Strategies (Commitment 28); and
- 5) prepare educational information for residents moving into Throsby (Commitment 30).

The audit report also made eight recommendations for improving the delivery of GSA commitments. A response to each of the audit recommendations is detailed below:

- 1) The completion of the five corrective actions detailed in the audit table on or before the critical dates.

All five of the corrective actions have been delivered as summarised below:

- On 20 December 2017, a plan on how to address compliance and enforcement for cat containment was completed (Commitment 5) for all suburbs except Kenny where development has not commenced (refer [DI2019-33](#)). Transport Canberra and City Services (TCCS) are responsible for administering cat containment under the *Domestic Animals Act 2000*. In 2021, TCCS released the [Cat Plan 2021-2031](#) which will aid in the development of cat management compliance strategies for the GSA area. The cat plan includes a cat containment policy which will be implemented in all urban development areas during detailed design for each suburb.
- On 29 January 2018, the Taylor Stage 1, CEMP (Commitment 11a) review was completed. A new CEMP procedure has been implemented to ensure CEMPs for greenfield developments in the GSA area are submitted and reviewed. However, there are some ongoing coordination, communication and staff capacity issues that need to be addressed to ensure rigorous review of CEMPs.
- On 29 January 2018, the GSA incident reporting (Commitment 15) process was completed. The process has recently been updated to provide additional time to investigate potential breaches and ensure the procedure meets the objectives of this commitment.
- On 20 February 2018, the outstanding fire management strategy for Throsby and Horse Park North was completed (Commitment 28). Based on the development

timelines, the fire management strategy for the Taylor offset is not required until later this year.

- A plan for rolling out educational material has been developed to target both buyers and residents (Commitment 30). The plan was finalised on 20 December 2017. First landsales in Throsby commenced in February 2016 with first settlements in May 2017. As at July 2017, 34 dwelling sites were under construction (1065 vacant sites). An educational brochure for distribution to Throsby residents was expected to be rolled out by July 2018 (dependent on occupation rates).
- 2) The ACT Government adheres to prescribed timeframes for delivery of all commitments and/or formalises with the Commonwealth the approval process to be adopted in the event of changes to due dates on commitments.
- EPSDD is coordinating the GSA on behalf of the ACT Government. Where there is an unexpected delay and timeframes are unable to be met, EPSDD will seek advice from the Commonwealth on how to proceed and agreement to revised timeframes.
  - Improvements in procedures are currently underway to ensure that commitments are met within the prescribed timeframe. This includes the development of a database to track critical dates and key decision points.
- 3) Improvements in the process for collection of evidence on implementation of the commitments in the Plan.
- EPSDD is responsible for coordinating delivery of the GSA. Documents relating to the strategic assessment will be filed in accordance with government record keeping system requirements. EPSDD is also collating historical information on this strategic assessment to ensure accurate records from commencement of the strategic assessment are held.
  - The key to improving the collection of evidence and information relating to the strategic assessment commitments is to have a coordination team, and a process for maintaining consistent records and liaising with all government agencies.
  - EPSDD took on the GSA reporting function in 2016 and is working with relevant agencies to improve procedures to ensure information is captured, reviewed and filed in a consistent manner.
- 4) All the research undertaken as a function of the GSA and the Plan is made publicly available on the web, is accessible and easy to find, and includes historical research as well as the most recent scholarship and reports.
- Since the first audit, EPSDD webpage has relevant research and reports available to the public. Some challenges have arisen in making scientific documents accessible for publication on the internet, but solutions to these challenges are currently being addressed. Information is included at <https://www.environment.act.gov.au/ACT-parks-conservation/environmental-offsets/environmental-offsets-monitoring-and-research>.
  - A new strategic assessment webpage (<https://www.environment.act.gov.au/ACT-parks-conservation/environmental-offsets/strategic-assessments/gungahlin-strategic-assessment>) that holds all relevant documents and guidance material relating to the GSA in one location available to the public. The webpage ensures the information is easily accessible to the public.
- 5) The Key Risks section in the audit report is noted and the recommendations in this section will be incorporated into future management.

- Two of the key risks, relating to informing buyers and commitment breaches have been addressed through the completed corrective actions.
- 6) The management of leasehold land and the ability to meet offset requirements is one of the key issues of the strategic assessment and is discussed earlier in this report. Further investigate the commitments that have been termed Undetermined.
- A review of the commitments identified as 'Undetermined' in the audit report has been actioned.
  - The audit report identified commitments 3 and 12 as 'undetermined' due to a lack of evidence. Commitment 3 requires the ACT Government to provide guidance on the development of concept plans to ensure appropriate land use planning for areas adjacent to MNES habitat, and associated buffers to all urban development. The audit report noted that no evidence was provided to show how asset protection and buffer zones were addressed.
  - Asset protection and buffer zones are addressed during development applications for estate development plans (EDP). This includes an assessment of the EDP against the ACT Bushfire Regulation, and the commitments under the GSA. The offset areas are currently classified as a Strategic Firefighting Advantage Zone, which requires the bushfire fuel load to be managed in accordance with the standard described in the Strategic Bushfire Management Plan for the ACT.
  - Commitment 12 requires the ACT to ensure all obligations have been met in regard to the management of MNES before handing over assets for ongoing operation. The audit report noted that there was insufficient evidence to determine the status of this commitment.
  - Existing processes and developing new procedures to ensure all data relating to the GSA is captured is currently underway. This includes establishing service delivery agreements with each relevant agency, which will outline how such obligations are met.
- 7) The observations detailed in the Audit Table are noted and are used to inform future management.
- The audit report provides a number of observations in relation to achieving the conservation outcomes of the GSA.
  - The observations relate to management actions to achieve habitat improvement targets including benchmarks to ensure the targets are met and consideration of planning research to ensure a strategic approach is applied in delivering future management of the GSA.
  - The ongoing collection of data to assist in ensuring habitat improvement targets has been identified as one of the key issues for the GSA. Progress in this space can be made now that baseline data have been collected. However, further work is required to tailor a new monitoring program/research program to directly address restoration-related activities.
- 8) Adaptive management principles are carefully scrutinised and considered for incorporation into implementation of the commitments for this Plan.
- Ecological values within the GSA area will be subject to the increasing and ongoing pressures of urban development and climate change. These pressures are not always known, and their effects may be uncertain. Management actions are assessed on a case-by-case basis and, where required, adaptive management actions are applied to ensure conservation outcomes met. This will become increasingly important to

ensure the objectives of the Plan are met over the extensive timeframes for the strategic assessment.

- Embedding in-house ecologists in the offsets program has greatly enhanced the ability to implement adaptive management. A focus over coming years in the adaptive management space is to strengthen evaluation and compliance processes to improve delivery of commitments for this plan.

It is important to note that improvements to procedures are ongoing, and the projects above are only the start in addressing the key recommendations outlined in the audit report. The recommendations identified in the audit will complement those provided in this report and assist in ensuring the conservation outcomes of the Plan are delivered.

## 5. Legislation and policy context

### 5.1 ACT legislation

#### 5.1.1 *Nature Conservation Act 2014*

The *Nature Conservation Act 2014* (the NC Act) commenced in June 2015 during the operation of the first five years of the GSA. Implementation of the NC Act has included the development of regulations and a large number of plans and strategies that may have a relatively minor impact on implementation of the GSA but does not impact on the delivery of commitments.

Since 2018, there have been twelve amendments to the NC Act including variations to cater for changes to a variety of other related legislation and minor and technical amendments. The amendments to the NC Act are of a nature that will not impact on the GSA.

Changes to the threatened species list has been finalised which ensures a better alignment of ACT and EPBC Act protected matters. For example, the GSM is listed as endangered under NC since 1996, <https://www.environment.act.gov.au/nature-conservation/conservation-and-ecological-communities/threatened-species-and-ecological-communities#endangered>. GSM Listed as Vulnerable under EPBC (Date effective 07-Dec-2021) [http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon\\_id=25234](http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=25234).

Work is ongoing to continue to assess and consider the most appropriate conservation status. This may not affect commitments to manage GSM but might inform adaptive management actions.

#### 5.1.2 *Reserve management*

Areas primarily reserved for nature conservation under the current Territory Plan 2008 (wilderness areas, national parks and nature reserves) have been assigned to an International Union for Conservation of Nature (IUCN) category. The IUCN has developed an international standard of categories for describing and guiding the management of protected areas. In 2011, the Commissioner for Sustainability and the Environment (the Commissioner) released a report on the *Investigation into the Canberra Nature Park (nature reserves); the Molonglo River Corridor (nature reserves) and Googong Foreshores*, which recommended that the ACT Government categorise its nature reserves by drawing on the IUCN categories. Through the National Reserve System Program, all jurisdictions report to the Commonwealth on IUCN categories for their reserves, which are stored in the Conservation and Protected Area Database (CAPAD), hosted by the Commonwealth. This has provided greater consistency in reporting about the extent of ACT protected areas management for conservation including reserves established under the GSA.

### 5.1.3 ACT Nature Conservation Strategy (the Strategy)

The Strategy commenced on 7 August 2013. The Strategy guides the protection and management of biodiversity in the ACT and region. It articulates a vision for 'biodiversity rich, resilient landscapes stretching from the inner city to the mountains, where well-functioning ecosystems can meet the needs of people and the environment'. This desired future is to be achieved through the Strategy's five key strategies and 33 actions. The key strategies are to:

- enhance habitat connectivity and ecosystem function
- manage threats to biodiversity
- protect species and ecological communities
- enhance biodiversity value of urban areas
- strengthen community engagement.

The Strategy is being implemented through two five-year implementation plans. Implementation Plan 1 (2013–18) identified milestones for each of these 33 actions. The Nature Conservation Strategy Progress Report 2019,

([https://www.environment.act.gov.au/\\_data/assets/pdf\\_file/0010/1428364/Progress-Against-Milestones-in-Implementation-Plan-1-201318.pdf](https://www.environment.act.gov.au/_data/assets/pdf_file/0010/1428364/Progress-Against-Milestones-in-Implementation-Plan-1-201318.pdf)) Shows 51 milestones/priorities have been completed with a further 51 ongoing.

Key milestones include:

- completing the Woodlands Restoration Program which restored and connected 60,000 hectares of the largest remaining box-gum grassy woodland in Australia;
- undertaking research and on-ground trials to improve management of ACT's grasslands for threatened flora and fauna;
- successfully translocating and reintroducing many species to the ACT including the Eastern Bettong, Eastern Quoll, Brown Treecreeper and New Holland Mouse as part of the Mulligans Flat Woodland Sanctuary and Mulligans Flat – Gorooyarroo Woodland experiment; and
- continuing strong community engagement through Parkcare and citizen science groups.

The Implementation Plan 2 (2019-23) sets out new focus areas. These include:

- working with rural landholders on promoting native vegetation and biodiversity
- supporting Traditional Custodians to apply land management methods on Country
- strengthening partnerships for conservation, including cross-border collaboration
- improving the ACT's ability to monitor the effectiveness of environmental programs.

### 5.1.4 Research and monitoring program

The Conservator of Flora and Fauna (the Conservator) outlines strategic direction and priorities for research and monitoring in the Biodiversity Research and Monitoring Program (BRAMP). The BRAMP is updated biennially. In 2020, the Conservator released the first BRAMP 2020-22 that set out the ACT Government's biodiversity research and monitoring priorities including:

- a long-term strategic approach to biodiversity monitoring and research;
- better understanding and tracking of ecosystem condition in the ACT; and
- an evidence base for environmental policy, program and resource allocation decisions, and reporting.

A specific feature of BRAMP (2020-2022) is that it goes beyond the requirements of s.25 of the NC Act to include research and monitoring not directly related to biodiversity, and in particular brings to effect activities under the EPSDD's Science Plan 2020-2025 ([https://www.environment.act.gov.au/data/assets/pdf\\_file/0009/1675233/science-plan-2020-25.pdf](https://www.environment.act.gov.au/data/assets/pdf_file/0009/1675233/science-plan-2020-25.pdf)).

### 5.1.5 Action plans for threatened species

While the offset sites have been established in response to impacts on specific MNES, RMPs include actions for the management of all species protected under both Commonwealth and ACT Government legislation. Action plans for species and ecological communities that occur within the GSA offset sites have been developed. These can be found on the EPSDD website (<https://www.environment.act.gov.au/nature-conservation/conservation-and-ecological-communities/threatened-species-and-ecological-communities#endangered>).

- Strategies and plans under the NC Act are regularly reviewed. Action plans for threatened species and ecological communities outline actions to be taken for the protection of listed species. These are reviewed every 5 years and updated every 10 years.
- Actions outlined in these reviewed action plans will inform the adaptive management of species commitments under the GSA because the latest science and research informs the actions identified and includes evidence about the impacts of climate change on species, where known, which is critical to inform ongoing adaptive management.

## 5.2 ACT policy

### 5.2.1 ACT Environmental Offsets Policy

The ACT Environmental Offsets Policy (the Policy) is a statutory policy under the PD Act, which commenced on 2 April 2015, following changes to the PD Act through the *Planning and Development (Bilateral Agreement) Amendment Act 2014*.

The Policy outlines the ACT Government's approach to the use of environmental offsets for MNES under the EPBC Act and for ACT protected matters. The Policy is implemented through a range of provisions under the PD Act. These include provisions relating to:

- consideration of MNES through environmental assessment processes
- development of guidelines to assist in the development and consideration of environmental offsets and the offsets register.

The Policy is supported by a delivery framework which reflects the provisions of the PD Act and a number of administrative processes.

Section 111G of the PD Act states that the Minister must monitor the effectiveness of the offsets policy and consider, at least once every five years, whether or not the policy needs to be reviewed. If the Minister decides that the policy needs to be reviewed, then a review must take place. The offsets policy may then be revised if the review finds that this is necessary. The review will need to focus on whether the policy meets the needs of the ACT and whether it effectively and efficiently delivers what it aims to deliver. Any review should consider, whether or not, the principles of the policy are being met, and if, in meeting these principles, appropriate outcomes are being achieved.

The offsets policy commenced on 2 April 2015 in anticipation of the Commonwealth's 'one-stop-shop' for environmental approvals, under which approvals for actions impacting EPBC listed

matters, would be undertaken by the ACT. The 'one-stop-shop' has not progressed, and because of this, all approvals with offsets in the ACT have been made under the EPBC Act and using the Commonwealth's offsets policy. In effect, this means that parts of the ACT's offsets policy and delivery framework are not utilised (for example use of the ACT environmental offsets calculator). However, the ACT offsets policy was developed to be consistent with the Commonwealth policy and has the same core principles.

### 5.3 ACT offsets register

The offsets register (available at <https://www.planning.act.gov.au/tools-resources/plans-registers/registers/offsets-register>) provides information on offsets in the ACT as required under section 111V of the PD Act. The register is to provide information on offsets given effect under the EPBC Act and the PD Act.

The register includes details of offset areas and associated development, and links to information on environmental approvals, management, and additional reports. The geographic location of each offset can be viewed on ACTmapi. In accordance with the ACT Environmental Offsets Delivery Framework, the planning and land authority is responsible for maintaining a register of offset sites. Conservation areas established as a result of the GSA are documented on the register, these include:

- Kinlyside Offset Area
- Jacka, Taylor and Horse Park North Offset Areas
- Throsby North, Throsby East and Kenny Broadacre Offset Area
- Nadjung Mada Offset Area (previously known as Kenny).

Requirements relating to environmental offsets have embedded processes for assessing and managing environmental offsets (Offset Management Plans) in the ACT, including mandatory requirements for an ACT environmental offsets policy (<https://www.environment.act.gov.au/nature-conservation/environmental-offsets-policy>) and the offsets register. A range of other governance structures have been put in place, including an Offsets Working Group which liaises across the directorate and PIT to coordinate action specific to the implementation of the GSA. Over the reporting period, in particular more recently, there have been fewer formal meetings for these groups due to COVID and staff movements. However, urgent matters have been communicated to these groups through out of session items. EPSDD are endeavouring to ensure regular meetings are undertaken.

The NC Act and subsequent reforms to align threatened species listings will provide a more transparent governance platform for future assessments. For example, NC Act requirements for assessment and listing of nationally threatened species now mirror those of the Commonwealth and the NC Act provides for conservation advice and action plans to be adopted by the Commonwealth and vice versa, allowing for more integrated management. A process of aligning species under both the NC Act and the EPBC Act will lead to improved management with resources targeted to those species most at risk.

## 6. Key Achievements over the 2018-2022 Period

### 6.1 Key Achievements/Project Update

#### 6.1.1 *Establishment of conservation areas*

Implementation of the GSA from 2018-22 has resulted in an additional 1632.5 hectares of land being protected in the ACT through the establishment of Nadjung Mada Nature Reserve (previously Kenny).

This expands on the 581.2 hectares protected in the previous period via gazettal of Kinlyside Nature Reserve and the inclusion of Throsby North, Throsby East, and Kenny Broadacre into the Mulligans Flat and Gorooyaroo Nature Reserves. In addition, a further 120 hectares of avoidance areas (Jacka, Taylor and Horse Park North) are zoned under NUZ3: Hills Ridges and Buffer. In total, 864.1 hectares are now managed as GSA avoidance areas by the PCS, with 743 hectares protected in perpetuity in ACT Nature Reserves.

Following the creation of these reserves, OMP have been prepared for the Kinlyside Nature Reserve and the extension of Mulligans Flat and Gorooyaroo Nature Reserves. These OMPs are now due for revision. As Nadjung Mada Nature Reserve was only established in 2021, the OMP for this reserve is in its final drafting stages prior to submission to the Commonwealth.

### *6.1.2 Management of conservation areas*

Within the GSA offset and avoidance areas, ecological restoration and management programs that have been undertaken between 2018-2022 include:

- pest plant and animal control programs (including removal of rabbits and foxes from Throsby offsets),
- dam enhancement activities (rock and coarse woody debris placement, and shrub planting) to improve habitat for aquatic and semi-aquatic fauna,
- restoration activities including forb nodes, seeding, slashing, and ecological burns,
- multi-disciplinary development of a strategic grazing plan, underpinned by ecological data, to manage the grassy understory and habitat of GSM,
- revegetation to improve wildlife habitat connectivity,
- an erosion control program at Halls Creek that include monitoring, and
- the establishment of 11.5 hectares of predator-proof fencing around Throsby North, Throsby East and Kenny Broadacre offsets that has facilitated natural movement of threatened species (e.g., Eastern Quoll) from Mulligans Flat Sanctuary to the extended sanctuary.

### *6.1.3 Establishment of robust, in-house ecological monitoring programs*

Since May 2020, in-house ecologists have joined the offsets team to build biodiversity and conservation knowledge and skills within the ACT Government. Bringing ecologists into the offsets team has enhanced knowledge of adaptive management principles and improved the delivery of monitoring, research, and reporting. Ecologists also play an important role in supporting rangers to conduct effective on-ground actions driven by scientific evidence. The collaboration between ecologists and land managers is developing positively, with new systems developed in 2021-22 for communicating ecological advice to inform management; notably, spatial tools have been developed by the Monitoring team and the offsets team spatial planner to record management actions and display monitoring data in real-time.

The managed MNES Ecological Monitoring and Research Plan development was finalised and able to be implemented from spring 2018. Since its implementation, the Program has continued to develop and innovative improvements have been made, notably that all data collection is now undertaken using digital data collection tools. Each project for MNES a has purpose-built app through ArcGIS and Survey123, developed by the offsets spatial planner in collaboration with the monitoring team's requirements. These digital tools have made field work data collection more efficient and eliminated the need for manual data entry by staff as these systems provide data in an Excel format ready for analysis.

Two reports have been published on the ACT Offsets Register summarising monitoring data collected in 2018-19 and 2019-20. In addition, data to establish baseline ecological values have been collected across GSA – capturing periods of below and above-average rainfall and are currently being

analysed. These baseline values will provide a rigorous estimate of site and MNES condition (taking into consideration the influence of externalities like weather), that directly inform progression towards conservation commitments at offset sites.

#### *6.1.4 SP research program expansion*

The ACT Government has partnered with research institutions to deliver ongoing SP research. The research has enhanced the understanding of critical breeding resources for the SP. The research will assist with identifying additional and future breeding locations and improve urban tree planting to promote SP foraging, and nest competitor mitigation strategies. Outcomes of the ACT environmental offsets SP research program and opportunistic investment from the ACT PCS has attracted additional external funding (NSW Offsets) and a dedicated PhD Scholar (ANU), growing the research partnership into a national Conservation Research Program (CRP). To date, the SP CRP has produced three peer-reviewed scientific papers, with a further three papers in draft. The CRP attracts positive local and national media coverage.

#### *6.1.5 Completion of GSM Translocation research*

The GSM Translocation research at Kinlyside was completed in 2018 and a report is available on the ACT Offsets Register. Pupal cases were found in 2018 in both translocation and control plots, as well as a flying male. While numbers are low at the translocation site, there is an indication that translocations may be able to support (at least in the short-term) pupae and subsequently adults that can reproduce. It remains unclear whether the numbers of GSM present at the translocation could establish a long-term breeding population. Further monitoring and research are required in this regard.

#### *6.1.6 Development of restoration plans at GSA offsets to guide restoration actions*

PCS have collaborated with Greening Australia to commence development of Restoration Plans for Throsby and Nadjung Mada Nature Reserves. These detailed plans will provide options for restoration commitments as well as trials required to better understand what methods work best in Throsby and the Nadjung Mada landscapes. Restoration Plans will be developed in next few years for all other GSA offset sites to guide restoration activities in these areas.

#### *6.1.7 Community engagement programs*

The GSA has provided an opportunity for community engagement programs which are important to enhance public knowledge of environmental values and promote positive visitor behaviours on reserve.

The Woodland and Wetlands Trust (WWT) operates Twilight Tours at the Mulligans Flat Woodlands and Wetlands Sanctuary. Participants are taken on a guided walk around the sanctuary by WWT Outreach Officers, learning about conservation values and management actions undertaken across the sanctuary and GSA offsets. The tours are popular with residents and visitors in the ACT and have received positive feedback. The WWT also undertakes educational programs about the sanctuary on site for large groups, such as schools, university groups, scout groups, holiday programs and more.

A new woodland learning centre, Wildbark, is currently open to the public following a soft opening in June 2022 and formally opened in August 2022. The centre will build on existing positive community education and engagement programs and enhance community knowledge of protected matters and ecological values. In addition, a suite of community engagement tools has been developed for deployment at Taylor that are focused on enhancing community understanding of the conservation values at their doorstep. The intention is that, through art-based and nature-based activities, Taylor residents will gain a better understanding of, appreciation for, and willingness to protect the

significant conservation values of Taylor avoidance area adjacent to resident homes.

Other community engagement activities undertaken across GSA sites over the 2018-2022 reporting period include:

- Annual guided walks as part of the Canberra and Region Heritage Festival which interprets natural and cultural heritage landscapes and sites.
- Meetings and community events undertaken in partnership with the Throsby Mingle Community Group, and SLA Mingle Communication & Events Team, including PCS information stalls, children's activities with Ranger interpretation, and the development of PCS content for SLA newsletters and social media posts.
- Broad social media engagement through factual posts about biodiversity values that our nature reserves and offset sites conserve. Ecologists in the offsets team liaise with EPSDD Communications and Engagement team, providing photographs and associated information.
- School education programs, undertaken at the sanctuary and at schools across the ACT.
- University (e.g., ANU) field visits to the Sanctuary each year where PCS staff deliver talks on the history of the sanctuary including the acquisition and management of environmental offsets. Site visits have expanded to other offset sites where ecologists give presentations about the MNES values, and monitoring and management programs undertaken in offset sites. Offsets ecologists also have been invited to present at the Canberra Institute of Technology (CIT) and the ANU on multiple occasions, with invitations in consecutive years due to the success of these sessions.
- Site visits from groups across Australia, including the Yolngu Rangers Group, NSW Catchment Management Coordinators, NSW Parks and Wildlife Service and others.
- Ranger interpretation activity at Taylor nature-based playgroup.
- Ranger led walk & talk for English as a second language community group.
- Volunteer participation in restoration work parties (Throsby and Nadjung Mada Nature Reserve).
- Volunteer contributions to the monitoring of SP in and around the Sanctuary, at sites selected by Offsets Ecologists and coordinated by the WWT.
- Citizen scientist participation in SP research by analysing hundreds of thousands of nest camera images through the Australian Museum DigiVol site. The resulting data will be used in future analysis of nest site dynamics, particularly competitive pressure for nesting hollows.
- Presentations of SP research at community group forums, including the Canberra Ornithologists Group, Friends of the Australian National Botanic Gardens (ANBG), Science in the Sanctuary, and the Conservation in Action Conference.
- Supporting a local community-led project to trial the use of artificial nesting boxes for the SP. Boxes were designed using measurements collected by the GSA SP research program and built by the Kaleen-Giralang Men's Shed.

## 6.2 Traditional Owner Engagement

The GSA has opened greater dialogue around how to engage with traditional custodians to improve cultural outcomes across GSA offset sites (and more broadly across the ACT reserve network). Over the 2018-22 reporting period, traditional custodian engagement activities have included:

- Discourse and discussion with Ngunnawal community around the Mulligans Flat Sanctuary strategy, with the incorporation of decolonising language in official government documents.
- Working with Ngunnawal community in reserve naming (e.g. Kenny renamed as Nadjung Mada Nature Reserve in 2021).

- Collaborating with Ngunnawal artists to develop placemaking elements for Nadjung Mada Nature Reserve.

### 6.3 Better understanding the landscape around Jacka, Taylor, Horse Park North Avoidance Areas

To better protect Jacka, Taylor and Horse Park North avoidance areas from threats in adjacent blocks, and to better understand conservation values and connectivity opportunities to those blocks; habitat and occurrence mapping for MNES is being undertaken in 2022-2023. Target MNES include Pink-tailed Worm-lizard, Golden Sun Moth and Box Gum Woodland.

## 7. Recommendations

The below table summarises the previous GSA recommendations set forth in 2018 (i.e. 2018 Recommendation), their current status (i.e. 2022 Comment) recognising the progress made since 2018 to date, and new recommendations proposed for the next 4 years here onwards (i.e. 2022-2026 Recommendation).

<b>Coordination</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Co-ordinating the delivery of the GSA commitments should be undertaken collaboratively across government and with non-government stakeholders. Collaboration can be achieved through early engagement with external stakeholders to improve the on-ground outcomes when delivering commitments.	In progress with the formal establishment of the GSA Working Group. However, further work is needed as the Terms of Reference for the group are unclear, and meetings are not as frequent as they need to be.	Regular meetings with stakeholders should be established (e.g. 3-monthly whole of GSA stakeholder catchups) and where they are running, cross-checking that all relevant stakeholders are included in meetings will be critical to improved coordination and on-ground conservation outcomes.
Policy development to support the delivery of commitments should be undertaken across government and with non-government stakeholders. The GSA working group could adopt a stronger focus on policy development to ensure the required policies are delivered.	In progress with a staff member recruited on a temporary contract to focus on the offsets policy review and offsets register. However, this position is not ongoing which risks completion of all required policy review and policy development as the GSA Working Group do not have capacity to do policy development.	Pursue an ongoing offsets policy position to complete required policy review and associated policy development identified in this, and the previous, Review Report.
Formalise the role of the GSA working group (in addition to a PIT) with representation from higher levels within the ACT Government. Continue to have regular working group meetings for Gungahlin to inform PIT activities and ensure agencies are implementing commitments in accordance with the Plan.	In progress with the formal establishment of the GSA (Offsets) Working Group. However, compliance monitoring and enforcement is a gap that still requires further development.	There are a number of compliance teams within ACT Government that have specific powers under different legislation (e.g. NC Act, Environment Protection Act and PD Act). All teams are currently collaborating when investigating compliance issues.
Explore an alternative mechanism for governance and assess if the role of the PIT could be enhanced via representation from lower levels of government.	In progress with the formal establishment of the GSA (Offsets) Working Group.	Reporting on the most appropriate group will be addressed in the next reporting period.
Funding for the GSA has yet to provide adequate	This has not been addressed in the 2018-22 reporting	Adequate resourcing (i.e., staff) to co-ordinate GSA

resources to co-ordinate management across all areas of Government, in particular the development of a suitable policy.	period and needs to be pursued.	management across all areas of Government to be undertaken, particularly ongoing resourcing to ensure the development of policy, and rigorous compliance monitoring and enforcement.
		A clearer process, and sufficient resourcing, is required to record and transfer information across stakeholders involved in GSA delivery. This process should be communicated to all stakeholders at the commencement of each financial year (post-annual reporting), and when there is turnover in key stakeholders.
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Early consultation across all stakeholder groups could ensure the needs of various stakeholders are considered in developing commitments so that commitments are achievable.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
Adequate policy is required early in the establishment of the strategic assessment to inform the delivery of commitments – especially those on rural land (including advanced offsets on rural land i.e. Kenny).	This recommendation is reiterated in this plan review.	Retain for reports post 2026
When there are multiple protected matters in a specific area, management should be integrated and focus on overall improvement, rather than specific targets for each protected matter. Future conditions in strategic assessments should be developed collaboratively between planners, ecologists, parks rangers and other ACT Government staff to ensure targets are achievable and delivered using methods based on adaptive management principles.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
		Further information should be shared between Government and impacted parties into the creation of the Strategic Assessment Plan and its commitments and definitions.

		Greater consideration of offset context is required early in the planning process. Landscape position, interface zones, proximity to development, cultural connectivity and recreation pathways need to be explicitly considered early in offset identification and estate development planning processes to ensure optimal natural, cultural and social benefit of offsets.
		Early identification of who holds compliance responsibility during the delivery of offsets, and the scope of that compliance role, is required. This role should not be purely administrative, it should also encompass auditing of developer commitment to ensure on-ground compliance.
		More nuanced and deeper conversations with traditional custodians are required throughout the offsetting process. In particular, early engagement in planning stages will yield improved cultural outcomes across offsets.

<b>Interpretation and delivery of commitments</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
The GSA working group to be responsible for developing a wiki or glossary detailing the interpretation of each commitment which could help to reduce confusion across the various stakeholders involved in implementing the GSA. The wiki or glossary should include the intention, definition and deliverables for each commitment and be submitted to the Commonwealth Government for approval and inclusion in the Plan.	This recommendation was noted in the 2019 Umwelt brief sent to the Commonwealth. This should be raised at GSA Working Group (offsets working group), to ensure a responsible party is agreed and the work is progressed. PCS would be willing to take on this responsibility.	Further discussions to be undertaken to address this matter.
Develop service delivery agreements, or similar, with relevant agencies. The service delivery agreement would include the intention of the commitment, key	Greater guidance on interpretation of each commitment is essential due to the long lifetime of the GSA and subsequent changes to staffing and team	A service delivery agreement should be prepared which clearly sets out the intent and actions that need to be delivered for each commitment. Service delivery

deliverables (including specific actions) to achieve the commitment and who is responsible for delivering each commitment.	structures that inevitably occurs. Service delivery agreements are an ongoing matter.	agreements could be developed by EPSDD for future strategic assessments and would be subject to approval from the Commonwealth.
		Capture terminology used in GSA Plan in the ACT Environmental Offsets Adaptive Management Strategy to improve clarity of commitment intentions.
Future strategic assessments		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
The wording of each commitment needs to be examined in detail to ensure the intentions and deliverables of the commitment are clear and feasible. Each commitment should also be discussed with all relevant agencies, including those responsible for implementation, before commitments are finalised.	This recommendation is reiterated in this plan review but modify wording to include "...and feasible"	In addition to the 2018 recommendation, across a Plan or strategy, there must be consistency in commitment wording, as well as cross referencing between commitment tables and sections in the Plan or strategy. Ideally, all necessary information about commitments should be contained within the commitments table rather than scattered throughout the strategy or Plan document.
There is an opportunity for future strategic assessments to include a one-page plan for each commitment at the commencement of the strategic assessment, clearly defining what the commitment entails, who will deliver the commitment and timeframes for its delivery.	This recommendation is important, but should be revised to read "there is an opportunity for future strategic assessment to include information for each commitment (e.g., 1-2 paragraphs) at commencement of the strategic assessment..."	
		Include a glossary of terms in all strategic assessment documents to improve clarity around intention of the commitments.
		Guidance materials from the Commonwealth around what is expected from restoration commitments (and monitoring restoration actions) would assist in interpreting and adequately planning for these commitments.

<b>Monitoring and mapping</b>		
<b>GSA-related</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Mapping for BGW has been recently revised. An assessment of the extent of BGW (both ACT and EPBC Act listed) needs to be undertaken and the Commonwealth consulted.	Desktop mapping exercises were undertaken in preparing the Plan. Ground-truthed mapping was then undertaken by Ecological (2011), and again by Capital Ecology (2018). The 2018 mapping was inconsistent with the earlier mapping, and the refined method employed by Capital Ecology has now been used across GSA and other offset sites, and this will be used to re-map GSA sites in 2026-2027. A brief was sent to Commonwealth during the 2018-2022 reporting period outlining the extent of BGW in different areas using the 2018 mapping method and how this new mapping compares with mapping completed for the GSA Plan using different methodologies.	Guidance from the Commonwealth is required on the implications of the 2018 mapping in achieving the GSA Plan commitments. This guidance will facilitate restoration planning decisions.
		Future re-mapping should be undertaken using the 2018 mapping method and monitoring should remain consistent with the ACT Environmental Offsets Monitoring Program across all offset sites (with any changes to the methods recorded to maintain integrity of the data and comparison of the data).
		There has been a movement towards spatial planning & delivery of monitoring/management data via spatial platforms. To reduce duplication, consideration should be given to providing flexible means of delivering OMPs under Commonwealth commitments, e.g., via spatial platforms.
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Undertake detailed and accurate mapping at an appropriate scale before the strategic assessment is approved.	Retain but refine this recommendation to highlight that ground-truthed information is required in mapping (as it influences many on-ground decisions e.g. fencing, monitoring programs, restoration	To retain detailed and accurate mapping for future strategic assessments, baseline data should be established through on-site investigations.

	planning). In addition, the timing of the commitments needs to be structured so that the ground-truthing can occur before the delivery of the first OMP/interim OMP.	
Develop standard monitoring and survey methods to apply to the strategic assessment area and over time. This will ensure results are comparable to original baselines.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
Future strategic assessments should adopt consistent monitoring and condition measures across all offset sites and other reserves where possible.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
		Use 3-year baseline as reference point for progress against commitments. Ideally, these baselines should commence before approval which would involve working closely with consultants to ensure compatibility between data for calculator, and for 3-year baseline (as closely as possible).
		There has been a movement towards spatial planning & delivery of monitoring/management data via spatial platforms. To reduce duplication, consideration should be given to providing flexible means of delivering OMPs under Commonwealth commitments, e.g., via spatial platforms.

<b>Research</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Apply research undertaken as part of the GSA to on-ground activities to improve ecological outcomes and the delivery of commitments.	Research undertaken as part of the GSA during 2018-2022 has informed on-ground activities within the GSA and more broadly across ACT Government (particularly planning for future developments and offsets, land management and future monitoring).	Retain for reports post 2026

Develop processes to ensure research undertaken is informed by ACT strategic priorities.	Research undertaken across GSA is checked against commitments, as well as strategic documents within ACT Government (e.g., action plans, strategies).	Research commitments should look to build on previous research to ensure investment is not duplicated on topics that have already been addressed. A national level register of research projects aligned with offsets and specific MNES would assist in reducing duplication (and increasing scientific collaboration) in the offsets research space.
Continue to implement research linked to the GSA across other offset areas and reserves that are managed by the ACT Government (i.e. as for SP research in Throsby and Molonglo). Research projects could be tenure neutral so long as the results ultimately lead to improved management within the offset areas.	Done for SPs but can be rolled out across all appropriate MNES/offset sites (may be outside the ACT in some cases).	Retain for reports post 2026
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Detailed requirements relating to research need to be flexible and able to be varied upon agreement with the Commonwealth after approval of the strategic assessment. This will ensure that research is designed to be most effective and able to respond to changing information/knowledge and emerging needs.	Addressed in 2019 Umwelt brief sent to the Commonwealth. However, should be retained to ensure it informs future strategic assessments.	Retain for reports post 2026
The purpose (aim or question) of the research needs to be clearly defined, appropriate and achievable.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
Contractors will need to be informed of the commitment context to allow for better monitoring outcomes.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
An evidence-based framework that allows adaptive monitoring and research responses may be a better strategy to achieve the commitments and gain critical conservation information. This strategy would address the current limitation of commitments that are not flexible and cannot be re-phrased.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
While translocations show some degree of success, a	This recommendation is reiterated in this plan review.	Retain for reports post 2026

long-term funding and resourcing commitment to monitoring is required to appropriately evaluate the success of such a project.		
GSM research should be coupled with habitat protection/improvement research to provide a 'relative' measure of which action provides best return-on-investment.	This recommendation is reiterated in this plan review.	
Allocation of research resources into GSM should be focussed on effectiveness of habitat protection and improvement measures in maintaining GSM populations and/or increasing extent of populations.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
		Greater consultation around research agendas is required to ensure they are in the context of broader ACT research agendas.
		A greater focus on research for the purposes of improving offset delivery should be considered and incorporated into strategic assessments e.g., socio-ecological research will assist in understanding values at reserve-urban interfaces, and within reserves (particularly regarding recreation desires and impacts).
		Research commitments should only be specific where scientific evidence underpins the specificity of the research agenda. Where there is no strong scientific underpinning for a research agenda, wording around research commitments should be higher level.
		For research commitments, develop short (1-2page) research proposals for approval by the Commonwealth to clarify objectives and methods of research, and outline resourcing requirements (and delivery timelines) for the research program.
		Structure research commitments in a way that research may be undertaken outside of identified offset areas (e.g., in reserves to act as control sites), if this will benefit delivery of specific offsets.

		Guidance is required from the Commonwealth around options for communicating results from research commitments, as it is not always appropriate to invest time in publishing research (e.g. seminars, technical reports, short reports may suffice).
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<b>Timing and delivery of commitments</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Provided that the overall outcomes for MNES are achieved, commitments that have specific targets should be flexible to respond to the different challenges and opportunities across the strategic assessment. For example, targets in rural lease areas should be flexible to allow for grazing and commercial operations to occur, provided that the overall target is met.	This recommendation has been tackled during the 2018-22 reporting period. The new processes developed under the Adaptive Management Strategy and for OMPs allows for flexibility in meeting targets. Effectively, the overall commitment provides the required flexibility, while specifics around how and what is being achieved sits in the OMP.	Mechanisms that allow for flexible delivery of targets needs to be clarified at the commencement of the strategy.
Delivery of commitments could be improved by adopting an environmental stewardship program. The objective of this program would be to provide long-term support for privatelandholders to maintain and improve the extent and condition of MNES.	Environmental stewardship was perceived as an alternative option to LMAs – but LMAs unlikely to be a mechanism used for engaging rural lessees in offsets management in future. It is still an option to be considered by the ACT Government, but there are considerable challenges (legislative, governance, compliance etc.) that may preclude the use of this option. A plan review and reform project is currently being undertaken for the PD Act and associated legislation. Issues with LMA’s have been raised in the review.	Review further once the new planning system is in force.
Develop guidance material for the next Report with specific questions and targeted information that will be used to evaluate the prior five years of GSA implementation.	Should be retained as it is a useful recommendation. Informal discussions with the Commonwealth clarified content of current report, but feedback on this report would assist with development of the next GSA Review report.	For the 2022-26 reporting period, a clear template and process guidelines, communicated early in the review will expedite feedback.

Future strategic assessments		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Future strategic assessments could include an establishment phase of time of 1-5 years. This phase would include baseline monitoring, establishing ecological targets and building internal capacity, skills, knowledge and systems to ensure the commitments can be achieved.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
Offsets should be considered in early development activities to make sure commitments are achieved.	This recommendation should be reworded to reflect that, when a strategic assessment is implemented, offsets due for release later in the development timeline should be adequately funded to ensure maintenance actions can be undertaken (ensuring maintenance of conservation values) until development triggers formal establishment.	
Ensure strategic assessments clearly document procedures for each commitment, including responsibility, input agencies and timeframes (which need to be flexible in some instances).	Greater guidance on interpretation of each commitment is essential due to the long lifetime of the GSA and subsequent changes to staffing and team structures that inevitably occurs.	Retain for reports post 2026
		Provisions should be made in strategies as well as funding for independent facilitator to undertake 4-yearly reviews of strategies for ACT Government. Internally, there may also be opportunities to liaise with Chief Minister, Treasury and Economic Development Directorate (CMTEDD) on a robust evaluation framework for offsets strategic assessments.
		Commitments around planning for restoration actions need to be adequately resourced early in the life of the offset/strategic assessment to ensure timely delivery of restoration commitments. Staged delivery of new offsets has led to declines in MNES, and potential challenges in achieving targeted restoration outcomes in diminishing timeframes where delays in

		developments have led to delays in establishment of offsets.
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Land Management Agreements		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Consider whether there are alternative types of reserves or other mechanisms that could be used or developed to secure offset arrangements while still allowing for rural production on leasehold land. This may include developing legislation to support conservation agreements on rural leases, developing an environmental stewardship program or other financial incentives to promote conservation-based land management. Any program would need to provide lessees with adequate support to undertake management towards meeting commitments.	Still required to ensure all options for potential offsets and mechanisms of delivery are explored that can achieve a desired conservation outcome in the long term. However, for environmental stewardship, no mechanism is currently available and require full scoping, approval and testing prior to implementing for offsetting.	
Review the effectiveness of LMAs as a tool to facilitate the management of the offsets to achieve commitments and as a tool to measure and enforce compliance.	LMAs unlikely to be a mechanism used for engaging rural lessees in offsets management in future, as it has been challenging to ensure conservation outcomes are being met (especially with difficult weather conditions e.g. extreme rainfall, and drought). A plan review and reform project is currently being undertaken for the PD Act and associated legislation. Issues with LMA's have been raised in the review.	Review further once the new planning system is in force.
Ensure offset targets on rural leases are developed recognising the complexity of managing conservation values concurrently with rural production. This is particularly important if the condition of conservation values needs to be improved to meet the offset requirements. In these instances, alternative sites should be considered as part of an offsets package.	The ACT Government is considering processes in this space, but currently government management from the outset is the most feasible and will likely yield the best conservation outcome, given resourcing pressures on-ground. If offsets are pursued with rural lessees, it is still recommended that alternative sites should be considered as part of an offsets package.	
Negotiate early with rural leaseholders to determine if government management is an option to achieve	Still required for future offsets and strategic assessments.	

specific commitments.		
Develop policy to establish frameworks around engaging rural lessees to undertake works in order to achieve commitments. The policy should consider options for funding and mechanisms for compliance and enforcement of LMA conditions.	LMAs are unlikely to be a mechanism used for engaging rural lessees in offsets management in future. ACT Government is considering processes in this space, but currently government management from the outset is the most feasible and will likely yield the best conservation outcome, given resourcing pressures on-ground.	
Develop policy to understand options for advanced offsetting, both in the GSA and across the ACT.	Continuing to consider developing policy.	Consider outcomes in next review.
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
		Future Strategic Assessments would benefit from further considering whether a proposed offset site should stay under lessee management or be withdrawn and managed by Government. Costs of withdrawal of leases must be taken into account when considering a proposed offset site.
		Employ a model where a body separate to PCS is established and resourced to oversee offsets delivered by rural lessees.

<b>Reserve Management</b>		
<b>GSA-related</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Government resourcing needs to allow for reserve management planning, implementation, monitoring, evaluation and reporting.	Most adequately resourced, with the exception of planning (currently under-resourced) and evaluation (not resourced).	Set up and allocate funding to an evaluation program.
Ensure internal structures and resourcing facilitates building relationships with external stakeholders.	This requires further development but is improving with the establishment of the environmental offsets working group and the environmental offsets executive group.	Retain for reports post 2026

<p>Develop policy guidelines on how to engage rural lessees to manage offsets and how to engage lessees to manage advanced offsets i.e. Kenny.</p>	<p>Guidelines are still required for GSA, but Kenny has become a Nature Reserve (Nadjung Mada) and is no longer managed by rural lessees.</p> <p>Still required for future strategic assessments and offsets.</p>	<p>Retain for reports post 2026</p>
<p>Further discussion and/or investigations are required about the compatibility of managing the offset commitments within the newly expanded predator proof fence at the Mulligans Flat Woodlands Sanctuary. This may require additional monitoring of values to ensure the management of MNES is compatible with the habitat management of Bettongs and Quolls.</p> <p>This needs to be undertaken as part of the broader review of GSA improvement targets.</p>	<p>For the 2022-26 reporting period, achievement of this recommendation will be dependent upon the governance model this is currently under discussion. Translocations need to consider impacts on offsets, monitoring frameworks that are intensive up-front to ensure any impacts on offsets are captured and can be remediated, and an exit strategy should negative impacts occur.</p>	<p>Retain for reports post 2026</p>
<p>The deployment of resources and management of the offsets in the sanctuary could be more integrated and coordinated with PCS.</p>	<p>Mulligans offsets (Throsby North, Throsby East, Kenny Broadacre) now looked after by Mulligans team in PCS. Offsets supports a Ranger 2 and General Service Officer in the Mulligans Flat team.</p> <p>For the 2022-26 reporting period, ongoing achievement of this recommendation will be dependent upon the governance model this is currently under discussion.</p>	
<p>Site preparation should be finalised prior to planting, and this should be adopted in similar planting processes (using the least cost connectivity pathways) in Throsby North and the wider Gungaderra Creek area.</p>	<p>This will be considered prior to any further plantings undertaken in the GSA area.</p>	<p>Retain for reports post 2026</p>
<p>New techniques and information can be used to improve connectivity of wildlife corridors. For example, radio tracking of SP has helped to recognise where to target revegetation works to focus on the species' main foraging routes.</p>	<p>This has been and will continue to be considered prior to any further plantings undertaken in the GSA area (and more broadly across the ACT).</p>	<p>Retain for reports post 2026</p>

		A new ACT Government urban connectivity project offers the opportunity for a multi-agency approach in planning for landscape scale connectivity for multiple species. Employing the outputs of this project to guide plantings will enhance conservation outcomes.
		Multi-disciplinary approaches to developing planning tools yield good conservation outcomes even beyond the GSA offset sites (e.g. strategic grazing for GSM). However, processes and governance structures need to be developed early to ensure that, with staff turnover, corporate knowledge is not lost and program continuity is not compromised.
Future strategic assessments		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
		Conservation gains have a higher certainty of being achieved without high-cost and high-risk actions when site management begins early. In future strategic assessments, interim management at identified offset sites should begin before development triggers offset establishment, along with appropriate resourcing for management and to develop and implement RMPs and monitor their effectiveness.
		Strategic placement of offsets maximises benefits across the conservation estate (e.g. quoll movement from Mulligans Flat Sanctuary into Throsby offsets). Developing a long-term Territory-wide strategy for offsets will improve opportunities for connecting natural areas, improve core to edge ratios of these natural areas, and enhance landscape-scale conservation of biodiversity.

<b>Community Engagement and Education</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Develop a strategy for educational material to be provided to residents who are second residents or renters to ensure that the commitment is achieved.	Aligned with the Taylor Mingle group, a ranger-guided interpretation package and communications materials with nature-based messaging has been developed to improve community knowledge of environmental and cultural values and promote positive visitor behaviours. This package and communications materials can be tailored to educate secondary residents at Thorsby over the 2022-26 reporting period.	Retain for reports post 2026
		The woodland learning centre, 'Wildbark' will become the hub for visitors to the Sanctuary. It is immediately adjacent to the Thorsby North offsets and provides an ideal opportunity to use its location to interpret woodland values and restoration techniques to the community.

<b>Adaptive Management Principles</b>		
GSA-related		
2018 Recommendation	2022 Comment	2022-2026 Recommendation
Develop internal capacity to enhance understanding of adaptive management principles within government and implement review processes to ensure these principals are being met.	Adaptive Management Strategy developed over the 2018-22 reporting period and guides implementation across GSA. The process within this adaptive management strategy will be applied to GSA Offset Management Plans being reviewed and drafted during the 2022-26 reporting period. Adaptive management can be difficult in practice, and the ACT Government are still establishing and refining our systems for providing ecological advice to land managers in a timely and efficient manner. However, progress has been made in the timeliness of information delivery that will assist in adaptively managing GSA offset sites.	Set up and allocate funding to an evaluation program to improve review process for adaptive management (and increase understanding of AM principles across teams).

	For 2022-26 reporting period, a review of the Adaptive Management Strategy may be required.	
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Develop commitments with consideration of complex ecological outcomes and with sufficient flexibility to design a robust adaptive management program.	This recommendation is reiterated in this plan review.	Retain for reports post 2026
Prepare an environmental offset guideline outlining processes for avoidance areas to ensure that the values of these areas do not decline.	This recommendation is reiterated in this plan review.	Only establish and approve avoidance areas if the following are developed/identified: <ul style="list-style-type: none"> <li>- complementary management actions</li> <li>- supporting documents to guide objectives for a site</li> <li>- appropriate mechanisms for delivery (e.g. protection through gazettal)</li> </ul>
		Develop a Register of Avoidance Areas to ensure the overall conservation outcome across offsets is achieved across all developments in the long term. Given the conservation value of avoidance areas, greater conservation significance should be attributed to these areas.
Future strategic assessments should include commitments that are based on increasing ecological knowledge via research that can be implemented for improved outcomes, as opposed to quantitative targets that must be achieved.	Retain but acknowledge that targets should be in place for ecological commitments, but those targets should not be a singular areal or quantitative measure.	Retain for reports post 2026

<b>Reporting</b>		
<b>GSA-related</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Review the requirement for an annual financial audit. Financial reporting on a site-by-site basis may be a more efficient mechanism to provide findings on the overall investment in MNES commitments outlined in the plan and overall financial performance.	Financial audit is undertaken site-by-site.	For future GSA annual reports, guidance on whether previous financial reports have been suitable, and/or what information Commonwealth is looking for, on annual basis would improve efficiency of financial reporting.

		Guidance by Commonwealth around reporting requirements where there are lags in being able to demonstrate progression towards commitments would improve the efficiency and quality of future GSA reporting.
The timely delivery of annual reports could be improved by taking into account time frames for the ACT Government processes and negotiating more flexible timeframes with the Commonwealth Government.	This recommendation is reiterated in this plan review.	Further deliberations on this with interested parties including EPSDD, the Commonwealth, PCS, SLA.
		While monitoring capacity has improved greatly over between 2018-2022, capacity in data analysis/evaluation is still limited. Future reporting can be enhanced by engaging a suitably qualified staff member in-house. Alternatively, planning for ecological analysis and engaging statistical consultants early in reporting processes (annual, but also for land managers) would enhance current reporting.
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
The timing of reports in future strategic assessments could be extended to allow time for observable ecological and particularly restoration - change to occur. Detailed reports could be completed every ten years of the strategic assessment lifetime. A shorter, interim report could form part of the annual report every five years.	This recommendation is reiterated in this plan review.	Further deliberations on this with interested parties including EPSDD, the Commonwealth, PCS, SLA and retain for reports post 2026.

<b>Funding</b>		
<b>GSA-related</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Budgeting should be allocated to meet the resourcing requirements for ecologists, and administration,	Allocations now meet resourcing requirements for ecologists, administration, planning and reporting.	Set up and allocate funding to an evaluation program.

planning and evaluation processes. This will build internal capacity and help to achieve commitments.		
Ensure budgeting, resource planning and team structures have on-going positions allocated to undertake research within the GSA, especially research to inform management of MNES and restoration efforts.	Over the 2018-2022 reporting period, multiple ongoing positions have been secured to undertake ecological research associated with the GSA.	Undertake more focused research around MNES management and restoration to improve offset delivery.
<b>Future strategic assessments</b>		
<b>2018 Recommendation</b>	<b>2022 Comment</b>	<b>2022-2026 Recommendation</b>
Integrated planning that considers financial and ecological factors needs to be undertaken for the delivery of commitments.	This recommendation is reiterated in this plan review.	Further deliberations on this with interested parties including EPSDD, the Commonwealth, PCS, SLA and retain for reports post 2026.
Expenditure of budget for advanced offsetting may be a strategy to secure values but requires accurate baseline ecological information, sufficient resourcing for management of the offset and resolution of LMA's.	This recommendation is reiterated in this plan review.	Further deliberations on this with interested parties including EPSDD, the Commonwealth, PCS, SLA and retain for reports post 2026.
Funding that has to be spent within a specified timeframe, especially the commencement of the offset, may lead to rushed and/or poor decision-making with regards to biodiversity outcomes (both on the specific site, but also in a broader landscape context). This could be improved for future strategic assessments by extending the timeframe for funding to align with costs required to meet the commitments and in line with the long lifespan of the strategic assessment.	Retain. This is particularly relevant to constraints in delivering commitments due to extreme weather and COVID-19, as well as delays in future developments mean that comprehensive reserve planning (access points, water infrastructure, track/trails) is also delayed, which does not match with timing of the release of reserve infrastructure funding. Having greater flexibility in funding delivery will ensure opportunities can be taken as they arise (e.g. restoration actions when they align with suitable weather), rather than as they are strictly timetabled in business cases.	Retain for reports post 2026
		Developer/proponent provides interim funding (either as offset in business case from developer or as one-off payment upon identification of offset) to manage site for maintenance until a business case is developed to support site establishment and management.

		Investing and establishing new reserves adjacent to development areas has been complicated and requires more careful consideration in terms of funding. Active developments can impact on reserve values and damage reserve infrastructure without being required to compensate for that damage. Provisions for compensation need to be identified in strategies to ensure unimpeded delivery of commitments.
		Ensure land manager consultation is undertaken to confirm that timing and delivery of funding is appropriate to allow for achievement of commitment.

## 8. References

- ACT Government (2013) *Environmental guidelines for preparation of an Environment Management Plan* Environment Protection Authority, Environment and Sustainable Development Directorate (May 2013)
- ACT Government (2008) *Territory Plan – Current Version*, ACT Government, Canberra (September, 2013)
- ACT Government (2012d) *ACTMAPi: ACT Government Online Interactive Maps ‘Significant Plants and Animals Mapping’*, Environment and Sustainable Development Directorate, Canberra
- ACT Government (2016) *Offsets Register*, Environment, Planning and Sustainable Development Directorate, Canberra. Available: [http://www.planning.act.gov.au/topics/design\\_build/da\\_assessment/environmental\\_assessment/offsets\\_register](http://www.planning.act.gov.au/topics/design_build/da_assessment/environmental_assessment/offsets_register)
- Eco Logical Australia (2011). *Gungahlin Vegetation Survey and Mapping Report*, Environment and Sustainable Development Directorate, Canberra
- Rehwinkel R (2015). A revised floristic value scoring method to assess grassland condition. In *Grass half full or grass half empty? Valuing native grassy landscapes*. Proceedings of the Friends of Grasslands 20th anniversary forum, 30 October – 1 November 2014, Canberra, Australia. Editors: A. Milligan & H. Horton. Friends of Grasslands Inc.. Available on the internet at: <http://www.fog.org.au/forum2014.htm>
- Umwelt (2013a) *Gungahlin Strategic Assessment Biodiversity Plan: Final*, prepared for ACT Economic Development Directorate and ACT Environment and Sustainable Development Directorate, Canberra (June, 2013)
- Umwelt (2013a) *Gungahlin Strategic Assessment Report: Final*, prepared for ACT Economic Development Directorate and ACT Environment and Sustainable Development Directorate, Canberra (May, 2013)
- Umwelt (2013b) *Preliminary Risk Assessment, Gungahlin Strategic Assessment: Final*, prepared for ACT Economic Development Directorate and ACT Environment and Sustainable Development Directorate, Canberra (May, 2013)

## Appendix A – Gungahlin Strategic Assessment Annual Report 2021-22

## Appendix B – Completed Commitments