



Golden Sun Moth

Synemon plana

Vulnerable

The overall objective of the Action Plan is to maximise the long-term survival of viable, natural populations of Golden Sun Moth (GSM) at sites across the geographic range of the species in the ACT.

Specific objectives of the Action Plan are to:

- Conserve large populations in the ACT. Protect other populations from unintended impacts.
- Manage the species and its habitat to maintain the potential for evolutionary development in the wild.
- Enhance the long-term viability of populations through management of adjacent grassland to increase habitat area and connect populations.

Population Trend (2017–22): Uncertain

The Golden Sun Moth is currently listed as Vulnerable in the ACT and nationally.

Monitoring of GSM populations can be difficult as the species exhibits high annual variability and responds to fluctuations in seasonal and climatic conditions (Figure 1).

The primary way GSM populations are managed in the ACT is through the management of habitat. The species persists in small, fragmented native grassland remnants, with populations highly sensitive to biomass levels, weed invasion, and habitat structure. Habitat quality and records of previous occupancy are the strongest predictors of site occurrence.

Key actions in the reporting period include:

- Establishment of Budjan Galindji Grasslands Nature Reserve (in response to development but has a net conservation gain for the species).
- Trial translocations in Kinlyside Nature Reserve
- Identification of key research priorities for the species such as habitat management and food
- Targeted population monitoring and additional habitat mapping in various locations across the ACT.

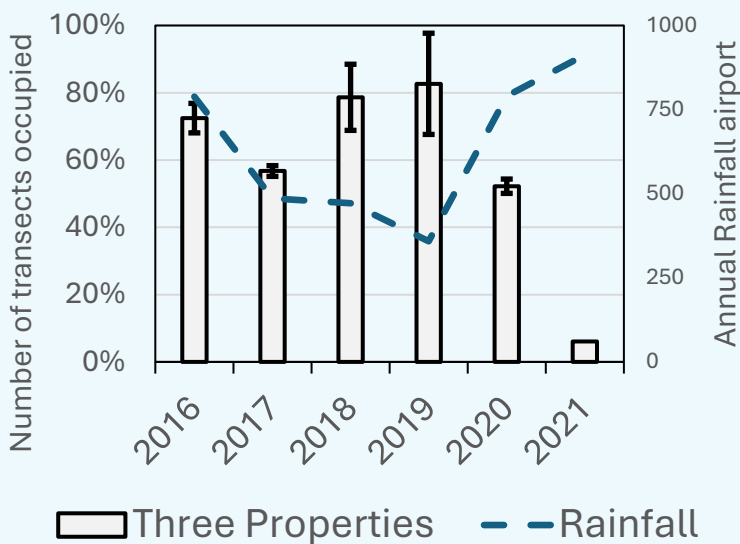


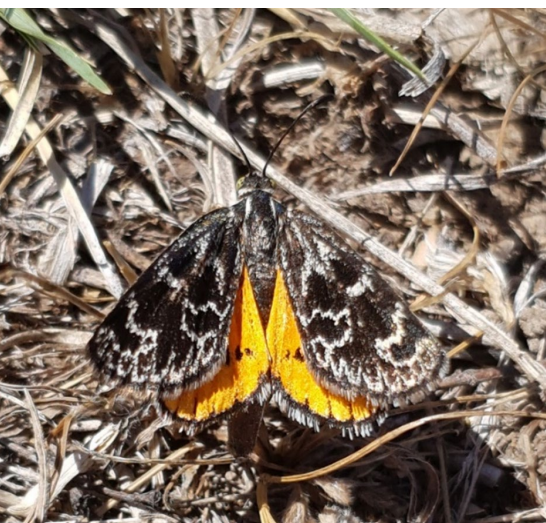
Figure 1: Proportion of transects occupied across 3 long-term monitoring sites. Standard error is shown based on per transects results and rainfall is shown on second axis.

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Action Indicators	Progress (2017–22)
Protection	
All large populations protected by appropriate formal measures.	Partially achieved
All sites with medium size populations are protected by appropriate measures from unintended impacts.	Partially achieved
All sites with small populations are protected by appropriate measures from unintended impacts, where sites have broader conservation value.	Partially achieved
Monitoring and Habitat Condition Management	
Trends in abundance are known for representative sites, management actions recorded.	Partially achieved
Habitat is managed appropriately. Potential threats (e.g. weeds) are avoided or managed. Populations are apparently stable or increasing.	Partially achieved
Grassland adjacent to or linking habitat is managed to improve suitability for the species. If suitable habitat exists, research and trials have been undertaken to establish new populations.	Partially achieved
Research	
Research undertaken and reported and where appropriate applied to the conservation management of the species.	Mostly achieved
Community Engagement	
Engagement and awareness activities undertaken and reported.	Mostly achieved

Note: this is a summary of progress for action indicators. For the full Effectiveness Review Report, please contact OfficeofNatureConservation@act.gov.au.



Outcome: Exact population numbers and trends are difficult to determine due to seasonal and climatic fluctuations. Future monitoring and more detailed analysis of available habitat is required to determine the effects of management and weather on the abundance of this species. Management practices that promote the cover of Wallaby grass (*Rytidosperma*) species and an open grassland structure (e.g. intermediate grazing) are likely to promote GSM numbers, with more work needed to identify exact habitat utilisation and preferences.

What's next for the Golden Sun Moth?

- Connect, establish and reestablish populations: conserve larger populations on larger sites, increase site connectivity and manage adjacent grassland to increase habitat area.
- Continue targeted habitat management: appropriate biomass reduction and weed suppression using patch-burning, slashing, and strategic grazing.
- Improve monitoring and undertake research: focus on optimal habitat requirements, habitat use, required food plants, management techniques required to improve or maintain habitat condition, invasive weeds and translocation methods.