

## **CONSULTATION QUESTIONS FOR GOLDEN SUN MOTH**

### **SECTION A - GENERAL**

1. Is the information used to assess the nationally threatened status of the species robust? Have all the underlying assumptions been made explicit? Please provide justification for your response.
2. Can you provide additional data or information relevant to this assessment?
3. Have you been involved in previous state, territory or national assessments of this species/subspecies? If so, in what capacity?

### **PART 1 – INFORMATION TO ASSIST LISTING ASSESSMENT**

#### **SECTION B DO YOU HAVE ADDITIONAL INFORMATION ON THE ECOLOGY OR BIOLOGY OF THE SPECIES? (If no, skip to section C)**

##### **Biological information**

4. Can you provide any additional or alternative references, information or estimates on longevity, average life span and generation length?
5. Do you have any additional information in the ecology or biology of the species not in the current advice?

#### **SECTION C ARE YOU AWARE OF THE STATUS OF THE TOTAL NATIONAL POPULATION OF THE SPECIES? (If no, skip to section D)**

##### **Population size**

6. Has the survey effort for this taxon been adequate to determine its national adult population size? If not, please provide justification for your response.
7. Do you consider the way the population size has been derived to be appropriate? Are there any assumptions and unquantified biases in the estimates? Did the estimates measure relative or absolute abundance? Do you accept the estimate of the total population size of the species? If not, please provide justification for your response.
8. If not, can you provide a further estimate of the current population size of mature adults of the species (national extent)? Please provide supporting justification or other information.

If, because of uncertainty, you are unable to provide a single number, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of possible subspecies numbers, and also choose the level of confidence you have in this estimate:

Number of mature individuals is estimated to be in the range of:

5000–7500  7500–10 000  10 000 –15 000  15 000 – 30 000  >30 000

Level of your confidence in this estimate:

0–30% - low level of certainty/ a bit of a guess/ not much information to go on

31–50% - more than a guess, some level of supporting evidence

- 51–95% - reasonably certain, information suggests this range
- 95–100% - high level of certainty, information indicates quantity within this range
- 99–100% - very high level of certainty, data are accurate within this range

**SECTION D ARE YOU AWARE OF TRENDS IN THE OVERALL POPULATION OF THE SPECIES? (If no, skip to section E)**

**Evidence of total population size change**

9. Are you able to provide an estimate of the total population size around 2008-2010 (*at or soon after the start of the most recent three generation period*)? Please provide justification for your response.

If, because of uncertainty, you are unable to provide a single number, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of possible subspecies numbers, and also choose the level of confidence you have in this estimate.

Number of mature individuals is estimated to be in the range of:

- 5000–7500  7500–10 000  10 000 –15 000  15 000 – 30 000  >30 000

Level of your confidence in this estimate:

- 0–30% - low level of certainty/ a bit of a guess/ not much information to go on
- 31–50% - more than a guess, some level of supporting evidence
- 51–95% - reasonably certain, information suggests this range
- 95–100% - high level of certainty, information indicates quantity within this range
- 99–100% - very high level of certainty, data are accurate within this range

10. Are you able to comment on the extent of decline in the species/subspecies' total population size over the last approximately 10 years? Please provide justification for your response.

If, because of uncertainty, you are unable to provide an estimate of decline, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of ranges of decline, and also choose the level of confidence you have in this estimated range.

Decline estimated to be in the range of:

- 1–30%  31–50%  51–80%  81–100%  90–100%

Level of your confidence in this estimated decline:

- 0–30% - low level of certainty/ a bit of a guess/ not much information to go on
- 31–50% - more than a guess, some level of supporting evidence

- 51–95% - reasonably certain, suggests this range of decline
- 95–100% - high level of certainty, information indicates a decline within this range
- 99–100% - very high level of certainty, data are accurate within this range

11. Please provide (if known) any additional evidence which shows the population is stable, increasing or declining.

**SECTION E ARE YOU AWARE OF INFORMATION ON THE TOTAL RANGE OF THE SPECIES? (If no, skip to section F)**

**Current Distribution/range/extent of occurrence, area of occupancy**

12. Does the assessment consider the entire geographic extent and national extent of the species? If not, please provide justification for your response.
13. Do you have information regarding any targeted surveys undertaken within the modelled distribution for the species, particularly in areas where it has not previously been recorded, such as the area between Wangaratta, Victoria and Murrumbateman, NSW.
14. Has the survey effort for this species/subspecies been adequate to determine its national distribution? If not, please provide justification for your response.
15. Is the distribution described in the assessment accurate? If not, please provide justification for your response and provide alternate information.
16. Do you agree that the way the current extent of occurrence and/or area of occupancy have been estimated is appropriate? Please provide justification for your response.
17. Do you agree that the species distribution is severely fragmented? Please provide justification for your response.
18. Do you have any information on the population size and habitat patch size required to support a viable population?
19. Can you provide estimates (or if you disagree with the estimates provided, alternative estimates) of the extent of occurrence and/or area of occupancy.

If, because of uncertainty, you are unable to provide an estimate of extent of occurrence, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of ranges of extent of occurrence, and also choose the level of confidence you have in this estimated range.

**Current extent of occurrence** is estimated to be in the range of:

- <100 km<sup>2</sup>  100 – 5 000 km<sup>2</sup>  5 001 – 20 000 km<sup>2</sup>  >20 000 km<sup>2</sup>

Level of your confidence in this estimated extent of occurrence

- 0–30% - low level of certainty/ a bit of a guess/ not much data to go on
- 31–50% - more than a guess, some level of supporting evidence
- 51–95% - reasonably certain, data suggests this range of decline
- 95–100% - high level of certainty, data indicates a decline within this range

- 99–100% - very high level of certainty, data is accurate within this range

If, because of uncertainty, you are unable to provide an estimate of area of occupancy, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of ranges of area of occupancy, and also choose the level of confidence you have in this estimated range.

**Current area of occupancy** is estimated to be in the range of:

- <10 km<sup>2</sup>  11 – 500 km<sup>2</sup>  501 – 2000 km<sup>2</sup>  >2000 km<sup>2</sup>

Level of your confidence in this estimated extent of occurrence:

- 0–30% - low level of certainty/ a bit of a guess/ not much data to go on
- 31–50% - more than a guess, some level of supporting evidence
- 51–95% - reasonably certain, data suggests this range of decline
- 95–100% - high level of certainty, data indicates a decline within this range
- 99–100% - very high level of certainty, data is accurate within this range

**SECTION F ARE YOU AWARE OF TRENDS IN THE TOTAL RANGE OF THE SPECIES? (If no, skip to section G)**

**Past Distribution/range/extent of occurrence, area of occupancy**

20. Do you consider that the way the historic distribution has been described is appropriate? Please provide justification for your response.

21. Can you provide estimates of the former extent of occurrence and/or area of occupancy.

If, because of uncertainty, you are unable to provide an estimate of past extent of occurrence, you may wish to provide an estimated range. If so, please choose one of the ranges suggested in the table below of ranges of past extent of occurrence, and also choose the level of confidence you have in this estimated range.

**Past extent of occurrence** is estimated to be in the range of:

- <100 km<sup>2</sup>  100 – 5 000 km<sup>2</sup>  5 001 – 20 000 km<sup>2</sup>  >20 000 km<sup>2</sup>

Level of your confidence in this estimated extent of occurrence

- 0–30% - low level of certainty/ a bit of a guess/ not much data to go on
- 31–50% - more than a guess, some level of supporting evidence
- 51–95% - reasonably certain, data suggests this range of decline
- 95–100% - high level of certainty, data indicates a decline within this range
- 99–100% - very high level of certainty, data is accurate within this range

If, because of uncertainty, you are unable to provide an estimate of past area of occupancy, you may wish to provide an estimated range. If so, please choose one of the

ranges suggested in the table below of ranges of past area of occupancy, and also choose the level of confidence you have in this estimated range:

**Past area of occupancy** is estimated to be in the range of:

<10 km<sup>2</sup>  11 – 500 km<sup>2</sup>  501 – 2000 km<sup>2</sup>  >2000 km<sup>2</sup>

Level of your confidence in this estimated extent of occurrence:

0–30% - low level of certainty/ a bit of a guess/ not much data to go on

31–50% - more than a guess, some level of supporting evidence

51–95% - reasonably certain, data suggests this range of decline

95–100% -high level of certainty, data indicates a decline within this range

99–100% - very high level of certainty, data is accurate within this range

## **PART 2 – INFORMATION FOR CONSERVATION ADVICE ON THREATS AND CONSERVATION ACTIONS**

### **SECTION G DO YOU HAVE INFORMATION ON THREATS TO THE SURVIVAL OF THE SPECIES? (If no, skip to section H)**

22. Do you consider that all major threats have been identified and described adequately?
23. To what degree are the identified threats likely to impact on the species/subspecies in the future?
24. Are the threats impacting on different populations equally, or do the threats vary across different populations?
25. Can you provide additional or alternative information on past, current or potential threats that may adversely affect the species/subspecies at any stage of its life cycle?
26. Can you provide supporting data/justification or other information for your responses to these questions about threats?

### **SECTION H DO YOU HAVE INFORMATION ON CURRENT OR FUTURE MANAGEMENT FOR THE RECOVERY OF THE SPECIES? (If no, skip to section I)**

27. What planning, management and recovery actions are currently in place supporting protection and recovery of the species/subspecies? To what extent have they been effective?
28. Can you recommend any additional or alternative specific threat abatement or conservation actions that would aid the protection and recovery of the species/subspecies?
29. Would you recommend translocation (outside of the species' historic range) as a viable option as a conservation actions for this species/subspecies?

**SECTION I DO YOU HAVE INFORMATION ON STAKEHOLDERS IN THE RECOVERY OF THE SPECIES?**

30. Are you aware of other knowledge (e.g. traditional ecological knowledge) or individuals/groups with knowledge that may help better understand population trends/fluctuations, or critical areas of habitat?
31. Are you aware of any cultural or social importance or use that the species has?
32. What individuals or organisations are currently, or potentially could be, involved in management and recovery of the species/subspecies?
33. How aware of this species are land managers where the species is found?
34. What level of awareness is there with individuals or organisations around the issues affecting the species/subspecies?
  - a. Where there is awareness, what are these interests of these individuals/organisations?
  - b. Are there populations or areas of habitat that are particularly important to the community?

**PART 3 – ANY OTHER INFORMATION**

35. Do you have any information to help define habitat critical to the survival of the species? And/or knowledge of particular sites which should be considered to be habitat critical?
36. Do you have comments on any other matters relevant to the assessment of this species?