



Australian Government

Department of the Environment

Referral guideline for management actions in grey-headed and spectacled flying-fox camps

EPBC Act Policy Statement



September 2015

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Front cover—Grey-headed flying-foxes (*Pteropus poliocephalus*) © Adam McKeown

Back cover—A grey-headed flying-fox camp © Adam McKeown

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Summary of the guideline

Actions taken at grey-headed or spectacled flying-fox camps **that are likely to require referral** under the EPBC Act because they are likely to have a significant impact include:

- clearing vegetation, dispersal of animals, *in situ* management or other impacts on nationally-important flying-fox camps that are not carried out in accordance with relevant mitigation standards
- dispersal actions at nationally-important flying-fox camps that are proposed during a period of significant population stress regardless of whether they adopt mitigation measures
- multiple camp dispersals or repeated *in situ* management actions that are likely to, over time or collectively, result in the total loss of roosting vegetation at a nationally important camp or result in mortality levels that constitute significant population stress.

If a proponent is proposing dispersal of multiple camps or repeated *in situ* management actions at one or more camps they should consider their action more strategically as a single, larger action and undertake appropriate strategic planning which conforms with the mitigation and outcomes outlined in this policy.

Actions taken at camps of grey-headed or spectacled flying-fox that **are unlikely to require referral** under the EBPC Act because they unlikely to have a significant impact include:

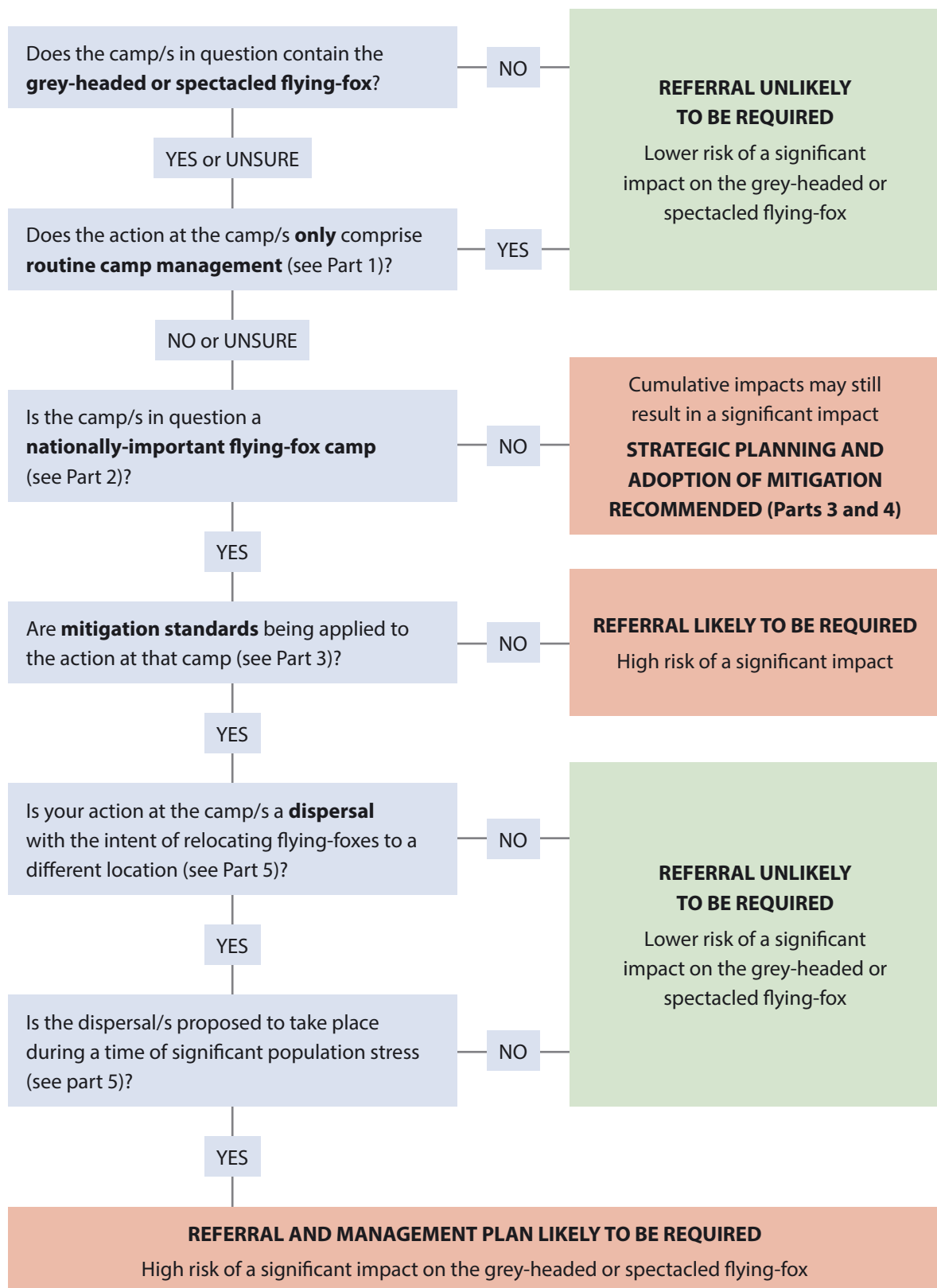
- minor, routine camp management at any camp
- clearing some vegetation or other indirect impacts on nationally-important flying-fox camps that are carried out in accordance with the mitigation standards
- dispersal of nationally-important flying-fox camps, that are carried out in accordance with the mitigation standards and are done so when the national population is not subject to significant stress
- clearing vegetation, dispersal of animals, *in situ* flying-fox management or other impacts on flying-fox camps that are not nationally-important flying-fox camps that is carried out in accordance with state or territory regulatory requirements.

The referral decision-making process is summarised in Figure 1.



Photo: Spectacled flying-foxes taking to the sky in Cairns, Queensland © Adam McKeown

Figure 1: Summary of the referral decision-making process for proponents



Important notice

Please note that this Guideline is general in nature. It does not remove your obligation to consider whether you need to make a referral to the Minister for the Environment (the **Minister**) under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (the **EPBC Act**). While this guideline provides information to help you decide whether to refer a proposed action, the possible impacts of the proposed action will depend on the circumstances of the action. These circumstances may include the proximity of the action to habitat, indirect impacts and impact avoidance and mitigation measures.

Although this Guideline has been developed based on the most up-to-date scientific information available at the time of writing, a referral will be assessed by the Department on the basis of the most up-to-date scientific information available at the time of referral, which may build upon the information reflected in this Guideline. This Guideline does not provide guidance on requirements under state, territory or local government laws.

Flying-foxes and the EPBC Act

Two species of flying-fox are listed as vulnerable species under the EPBC Act: the grey-headed flying-fox (*Pteropus poliocephalus*) and the spectacled flying-fox (*Pteropus conspicillatus*). These are referred to together throughout guidelines as 'EPBC Act-listed flying-fox species'. Both species move long distances in search of food on a seasonal basis and play an important role in providing key ecosystem services such as pollination and seed-dispersal for many vegetation communities across their distributions along the east coast of mainland Australia. Each species exists as a single national population across their entire range.



Photo: The spectacled flying-fox (*Pteropus conspicillatus*), Wet Tropics of Queensland © Department of the Environment and Mike Trenerry

Actions likely to have a significant impact on EPBC Act-listed flying-fox species

If you propose to take an action that has, will have or is likely to have a significant impact on an EPBC Act-listed flying-fox species, you must refer the proposed action to the Minister prior to commencing the action. The Minister will then decide within 20 business days whether assessment is required under the EPBC Act. When making a decision on whether a proposed action requires assessment, the Minister must consider all relevant information and act in a manner consistent with natural justice and procedural fairness obligations. An action that will have or is likely to have a significant impact on an EPBC Act-listed flying-fox species must not commence until the Minister makes an approval decision. Substantial penalties apply for undertaking such an action without Commonwealth approval (civil penalties up to \$8.5 million or criminal penalties including up to seven years imprisonment).

More information on the referral, assessment and approval process is available at www.environment.gov.au/epbc/assessments/index.html. Information on compliance and enforcement of the EPBC Act can be found at www.environment.gov.au/epbc/compliance/index.html. If you are uncertain about the need to refer, you may refer your proposed action for legal certainty, or contact the Department to discuss your proposed action by emailing epbc.referrals@environment.gov.au.

Dispersal as a last resort management action

The Department understands that camps of EPBC Act-listed flying-fox species can be problematic and may affect human amenity due to noise, smell, hygiene issues and proximity. Management actions taken to mitigate these problems can in some circumstances have a significant impact on the flying-foxes as defined under the EPBC Act. Camp dispersal is one such action and the Department recommends that this be considered as a management action of last resort. Camp dispersal has been demonstrated to be unsuccessful and costly¹. Accounting for flying-fox camps in state/territory and local planning provisions, *in situ* management of camps and assisting neighbours to co-exist with camps are the recommended alternative strategies. The Department does however recognise that there are some circumstances where this is not possible or preferred.

How to use this Guideline

This Guideline is designed to be read from the perspective of a person proposing to take an action that may have a significant impact on the grey-headed or spectacled flying-fox. Parts of the Guideline contain information that requires a developed understanding of the EPBC Act assessment process and the ecology of EPBC Act-listed flying-fox species, as well as broader ecological concepts. Some proponents may need to seek assistance from suitably qualified or experienced people when applying them to a particular action. There is an expectation that the self-assessment process would be carried out by (or be informed by) people with a reasonable level of knowledge and experience in these matters.

This Guideline should be read in conjunction with the *Significant Impact Guidelines 1.1—Matters of National Environmental Significance* (Significant Impact Guidelines), which explain the concept of a ‘significant impact’. The Significant Impact Guidelines can be found on the Department’s website at www.environment.gov.au/epbc/publications/nes-guidelines.html.

Information base for this Guideline

This Guideline has been developed based on scientific information outlined for each species in the Department’s Species Profile and Threats Database (see the profile for the [grey-headed flying-fox](#) or [spectacled flying-fox](#)). It is informed by current estimates of population size and camp sizes and locations collected from the [National Flying-fox Monitoring Programme](#) (NFFMP), information on previous Commonwealth and State approvals for flying-fox management actions and any recovery plans for either the grey-headed or spectacled flying-fox. A national recovery plan exists for the [spectacled flying-fox](#) and the Department is currently developing a recovery plan for the grey-headed flying-fox.

The Department, state governments and CSIRO are collaborating to support the National Flying-fox Monitoring Program (NFFMP) and to ensure it provides regular and robust monitoring of EPBC Act-listed flying-fox species to enable insight into any significant changes in population numbers or dynamics or new camps. The [interactive flying-fox viewer](#) is updated quarterly from the counts being undertaken as part of the NFFMP. Should any of this information change significantly, this Guideline will be reviewed.

¹ Roberts, B. J., Eby, P., Catterall, C. P., Kanowski, J., & Bennett, G. (2011). The outcomes and costs of relocating flying-fox camps: insights from the case of Maclean, Australia. *The biology and conservation of Australasian bats*. Mosman, NSW: Royal Zoological Society of NSW, 277–287

Purpose of this Guideline

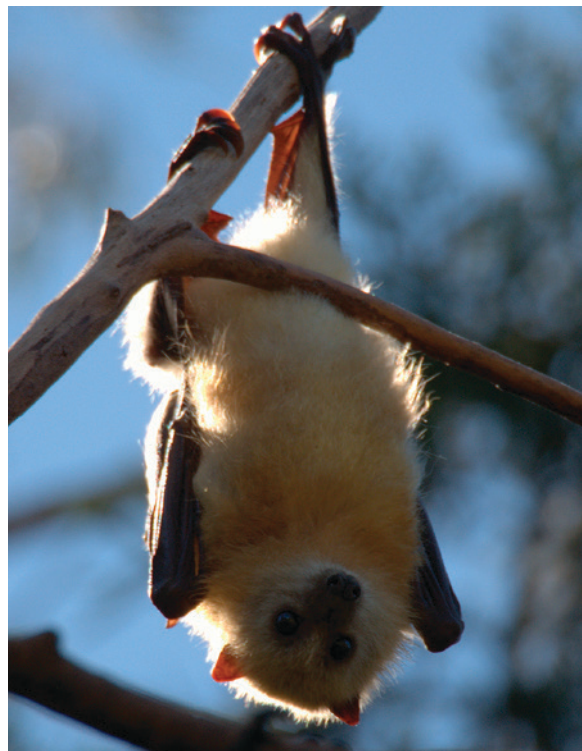
This Guideline has been developed to assist proponents in determining whether a proposed action at a flying-fox camp is likely to have a significant impact on an EPBC Act-listed flying-fox species, and whether that proposed action requires referral to the Department for assessment in accordance with the EPBC Act. It does so by describing which actions at certain camps of EPBC Act-listed flying-fox species are likely to have a significant impact on these species, and providing criteria for identifying nationally-important camps for each species. This Guideline aims to help proponents ensure that significant impacts on EPBC Act-listed flying-fox species are minimised when non-lethal actions to manage their camps are proposed by outlining mitigation standards to be implemented at these camps to avoid significant impacts.

What this Guideline applies to

This Guideline is intended to provide guidance only in relation to management actions taken at or in camps, including non-lethal dispersal actions.

It does not apply to the following actions:

- Actions in the vicinity of camps, such as development actions, firework displays or concerts, which may indirectly affect camps of EPBC Act-listed flying-fox species.
- Actions which may impact on the foraging habitat of EPBC Act-listed flying-fox species. Proponents of actions of this kind should refer to the [Significant Impact Guidelines 1.1](#).
- Lethal management actions of EPBC Act-listed flying-fox species at camps, or for crop protection (lethal management actions should be considered separately, as there is greater potential for these actions to have a significant impact on these species).
- Actions taken at camps which are occupied solely by the black flying-fox (*Pteropus alecto*) or little red flying-fox (*Pteropus scapulatus*) which are not listed as threatened under the EPBC Act, and actions taken which may impact the critically endangered Christmas Island flying-fox (*Pteropus natalis*).



Photos: (left) The grey-headed flying fox (*Pteropus poliocephalus*), (right) A juvenile grey-headed flying-fox (*Pteropus poliocephalus*) © Adam McKeown

Part 1: Which actions are considered to be minor or routine camp management and less likely to require referral to the department?



Photo: Spectacled flying-foxes (*Pteropus conspicillatus*) © Adam McKeown

Minor or routine camp management activities that will not have the effect of dispersing or clearing a flying-fox camp are unlikely to have a significant impact on an EPBC Act-listed flying-fox species, regardless of whether or not the camp affected is a nationally important camp. Referral under the EPBC Act is less likely to be required for these activities.

Activities that are more likely to be minor or routine camp management are:

- mowing of grass and similar grounds-keeping actions
- application of mulch or removal of leaf litter or other material on the ground
- weed removal, minor trimming of understorey vegetation or the planting of vegetation
- removal of tree limbs or a small proportion of the whole trees in a camp if they are significantly damaged and pose a health and safety risk, as determined by a qualified and experienced arborist
- minor habitat augmentation for the benefit of the roosting animals
- installation of signage or similar-scale infrastructure
- passive recreation (i.e. low noise recreation)
- educational activities, such as study or observation of roosting flying-foxes.

Part 2: Is the proposed action likely to impact on a nationally-important flying-fox camp?

Nationally-important flying-fox camps are identified on the Department's [interactive flying-fox viewer](#). Proponents should first consult the [interactive flying-fox viewer](#) to confirm whether the camp where they are considering management actions is nationally-important.

When *in situ* management actions or dispersals are proposed at nationally-important camps, the risk of a significant impact is increased because these camps contain an ecologically significant proportion of the population. These camps have been identified by applying the following criteria to current monitoring information for each flying-fox species:

Nationally-important grey-headed flying-fox camps

Camps that have contained $\geq 10,000$ grey-headed flying-foxes in more than one year in the last 10 years, or have been occupied by more than 2,500 grey-headed flying-foxes permanently or seasonally every year for the last 10 years.

Nationally-important spectacled flying-fox camps

Camps that have contained $\geq 16,000$ spectacled flying-foxes in more than one year in the last 10 years, or have been occupied by spectacled flying-foxes in at least 50 per cent of the surveys over the last 10 years.

Uncertainty and camps not meeting the criteria

If you have good reason to believe that a camp which is not identified as nationally-important in the [interactive flying-fox viewer](#) meets the criteria listed above, then that camp should be treated as a nationally-important camp and consideration given to the mitigation standards in Part 3. If you are uncertain about the camp, consultation with the Department is recommended by emailing speciespolicy@environment.gov.au.

The Department recognises that camps which fall below the criteria for a nationally-important flying-fox camp may be considered important at the state/territory or local scale. The relevant state/territory or local authority should be consulted regarding actions in such camps. In the majority of cases, state or territory regulatory requirements will apply to actions in these camps.

For information on regulations in NSW visit: www.environment.nsw.gov.au/threatenedspecies/flyingfoxcamppol.htm

For information on regulations in Queensland visit: www.chp.qld.gov.au/wildlife/livingwith/flyingfoxes/roost-management.html



Photo: Flying-foxes taking to the sky, Marlborough, Queensland, Arthur Mostead © Department of the Environment and Arthur Mostead

Actions impacting on a nationally-important flying-fox camp

Actions that may impact on nationally-important flying-fox camps may include *in situ* management, clearing of vegetation within a flying-fox camp or dispersal of animals through disturbance by noise, water, smoke or light. *In situ* management includes actions that are not minor or routine, but aim to retain the camp whilst reducing human-flying-fox conflict. This may be achieved by carrying out works that increase or improve the buffer between the camp boundary and sensitive land-uses. *In situ* management may be referred to as ‘camp boundary management’ or ‘nudging’ by some agencies. *In situ* management actions may include:

- Selectively clearing canopy trees at the camp boundary; and
- Disturbing animals at the boundary of the camp to encourage roosting in adjacent vegetation.

Part 3: Will mitigation standards be applied to the nationally-important flying-fox camp?

The adoption of the mitigation standards described below will assist in avoiding or reducing significant impacts on EPBC Act-listed flying-foxes arising from management actions at their camps. Referral under the EPBC Act is less likely to be required if such mitigation standards are implemented. Proponents should either implement the following mitigation standards where relevant, or an equivalent state or territory mitigation standard that achieves the same outcome. For example, the Queensland Code of Practice: Ecologically sustainable management of flying-fox roosts (2013) requires all management actions to immediately cease if flying-foxes appear to have been killed or injured. This is considered to achieve a similar outcome to the mitigation standards below.

Mitigation standards

- The action must not occur if the camp contains females that are in the late stages of pregnancy or have dependant young that cannot fly on their own.
- The action must not occur during or immediately after climatic extremes (heat stress event², cyclone event³), or during a period of significant food stress⁴.

2 A 'heat stress event' is defined for the purposes of this document as a day on which the maximum temperature does (or is predicted to) meet or exceed 38°C.

3 A cyclone event is defined as a cyclone that is identified by the Australian Bureau of Meteorology (www.bom.gov.au/cyclone/index.shtml).

4 Food stress events may be apparent if large numbers of low body weight animals are being reported by wildlife carers in the region.

- Disturbance must be carried out using non-lethal means, such as acoustic, visual and/or physical⁵ disturbance or use of smoke.
- Disturbance activities must be limited to a maximum of 2.5 hours in any 12 hour period, preferably at or before sunrise or at sunset.
- Trees are not felled, lopped or have large branches removed when flying-foxes are in or near to a tree and likely to be harmed.
- The action must be supervised by a person with knowledge and experience relevant to the management of flying-foxes and their habitat, who can identify dependent young and is aware of climatic extremes and food stress events. This person must make an assessment of the relevant conditions and advise the proponent whether the activity can go ahead consistent with these standards.
- The action must not involve the clearing of all vegetation supporting a nationally-important flying-fox camp. Sufficient vegetation must be retained to support the maximum number of flying-foxes ever recorded in the camp of interest.
- The mitigation standards are applicable to all actions at nationally-important flying-fox camps other than routine camp management. In circumstances where mitigation standards are not applied, significant impacts are likely and the proposed action is more likely to need to be referred for assessment and approval under the EPBC Act.

5 This may include water sprays/sprinklers or other methods of physical disturbance that will not cause harm or injury to flying-foxes.

Part 4: Are significant impacts possible at camps not identified as nationally important?



Multiple dispersals or repeated *in situ* management actions may over time, or collectively, result in the total loss of roosting vegetation at a nationally important camp or in mortality levels that constitute significant population stress (Part 5). Such actions therefore may result in a significant impact on EPBC Act-listed flying-fox species.

If a proponent is proposing multiple dispersals of EPBC-listed flying-fox camps—including camps not identified as nationally important, they should consider their actions more strategically as a single, larger action and appropriate strategic planning should be undertaken which conforms with the mitigation and outcomes expected in this policy (Part 3). Strategic planning which does not adopt or consider the mitigation and outcomes outlined in this policy may result in a significant impact on an EPBC-listed flying-fox.

Part 5: Is your action a dispersal that is proposed to take place during a time of significant population stress?

Dispersals to manage flying-foxes which are proposed during times of significant population stress have a higher risk of having a significant impact, even if mitigation standards are in place. Proponents proposing dispersals at nationally-important camps are advised to consider their action in this context.

For the purposes of applying this guideline, dispersal is defined as the action of intentionally relocating flying-foxes from one location to another location that is not connected by suitable roosting vegetation. An action that is intentionally relocating flying-foxes to a nearby location i.e. within 100 metres of the original location that is connected by suitable roosting habitat and contains a similar or greater area of extent, is considered *in situ* management or nudging and not dispersal.

To minimise impacts, any dispersal proposed during a time of significant population stress (see below) should be postponed. Instead, *in situ* management actions could be used to mitigate any human-flying-fox conflicts until the population is no longer under significant stress.

To manage the risk of significant impact resulting from a dispersal during a time of significant population stress, a more detailed level of assessing risks and planning the action should be undertaken. it is recommended that a dispersal management plan be developed and included in a referral to the Department which meets the below requirements or equivalents of a state or territory management plan⁶.

Required elements of a dispersal management plan include:

- objectives of avoiding a long-term decline in the national population of the species or disruption to its breeding cycle
- a strategy to achieve the objectives
- an assessment of potential relocation sites, other nationally-important flying-fox camps, and flying-fox activity in the region
- a dispersal methodology, including measures to minimise stress on flying-foxes in the camp and nearby camps, stop work triggers, responsibilities of participants
- a contingency plan in the event that animals relocate to an unacceptable location
- awareness and assessment of potential impacts on other MNES resulting from any sequential dispersals⁷
- post-dispersal monitoring program
- public communication program.

⁶ The NSW OEH camp management plan template is the recommended template (www.environment.nsw.gov.au/threatenedspecies/flyingfoxcampplan.htm)

⁷ If the assessment of proposed relocation areas or an actual re-dispersal itself indicates likely significant impacts on other MNES, consideration may need to be given to a separate additional referral for likely significant impacts.

Determining a time of significant population stress

Events that may place significant stress on the national population of each species include 'heat stress events', cyclone or bushfire events (resulting in either significant mortality or severe food shortages), and the lethal take of flying foxes for crop protection. A time of significant population stress is considered to be more likely when an event/s has in the year prior to the proposed date of the action taking place, resulted in the mortality of 1.5 per cent or more of the national population of the grey-headed or spectacled flying-fox. The lowest population figure for the species recorded in the NFFMP to date will be used in calculations defining significant population stress. Using the **lowest figure** from the NFFMP to date, 1.5 per cent of the national population would equate to approximately 5,000 individuals of grey-headed flying-fox and 450 spectacled flying-fox annually.

The [NFFMP](#) tracks changes in the national population of grey-headed and spectacled flying-foxes. [Quarterly reports](#) on the NFFMP may provide information on significant mortality events explaining population changes. Otherwise state or government websites or flying-fox care and rescue organisations may provide information on such events to help you with this important decision step. This decision step should also consider annual lethal take of flying-foxes for crop protection across their ranges⁸.

Any information regarding mortality from heat or other stress related events can be sent to speciespolicy@environment.gov.au. This information will be made available on the Department's flying-fox web page.



Photo: Grey-headed flying-foxes (*Pteropus poliocephalus*) © Adam McKeown

⁸ For flying-fox lethal take quotas and allocations visit www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/damage-mitigation-permits.html and www.environment.nsw.gov.au/wildlifelicences/s120Licence.htm

