



***Policy and Procedures for the  
Mitigation of Commercial Crop Damage by  
Flying-foxes  
for implementation in 2002/2003***

**August 2002**

## **Acknowledgement**

This policy has been prepared by NPWS Biodiversity Research and Management Division in consultation with the NSW Flying-fox Consultative Committee and NPWS Regional Staff.

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This policy should be cited as:

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## 1. Introduction

Crop damage by flying-foxes is an important and ongoing problem for some fruit growers in NSW. Although flying-foxes feed mainly on the fruit, blossoms and nectar of native vegetation, they may seek out alternative food resources such as commercial and domestic fruit. Damage occurs when flying-foxes feed on fruit and blossoms in these orchards and includes damage to tree limbs, foliage and fruiting branches as well as to fruit and buds. Crops typically affected in NSW include stone fruit, mangoes, lychees, pome fruit, pawpaw, coffee and bananas.

Three species of flying-fox occur in NSW; the Black Flying-fox (*Pteropus alecto*), the Grey-headed Flying-fox (*P. poliocephalus*) and the Little Red Flying-fox (*P. scapulatus*). The term “flying-foxes” will be used to refer to all three species collectively in this policy, except where specified. While all three species will forage in fruit crops, the Grey-headed Flying-fox is the species most often implicated by farmers.

A number of methods have been employed by farmers to deter flying-foxes and reduce damage to fruit crops, however the most consistently used and widespread technique has been to shoot flying-foxes. This activity went unregulated until 1986 when flying-foxes became protected under NSW legislation. After that time flying-foxes could only be legally harmed where a farmer held a valid licence for this activity issued by NSW National Parks and Wildlife Service (NPWS) under s121 (Occupier’s licence) or s120 (General licence) of the *National Parks and Wildlife Act 1974* (NPW Act). In 1995 the Black Flying-fox was listed as a vulnerable species under the *Threatened Species Conservation Act 1995* (TSC Act). Section 121 (3) of the NPW Act provides that a s121 (Occupier’s) licence shall not be issued to authorise the harming of a threatened species. Accordingly, licences were no longer issued to harm this species.

After a brief moratorium on the issue of all damage mitigation licences for flying-foxes in 1997, the NPWS developed and implemented a Service policy on the mitigation of commercial crop damage by flying-foxes in 1998. The policy advocated the use of full exclusion netting as the only reliable means to avoid crop damage by flying-foxes. However, provisions were made for licences to be issued under s121 of the NPW Act to harm a limited number of the two protected species, Grey-headed and Little Red Flying-fox, by gunshot only in circumstances where netting was not feasible. Under this policy, farmers were encouraged to shoot to scare, however it was understood that incidental and direct harm may occur through this practice. An annual review of this policy, licence applications and licences issued has been conducted by NPWS to assess and amend the policy where necessary and to develop the NPWS’s understanding of flying-fox distribution and the impact of licensing on both the farming community and the flying-fox population in NSW.

In May 2001 the NSW Scientific Committee made a Final Determination to list the Grey-headed Flying-fox as a vulnerable species under the TSC Act. This created a need to develop a new policy, which contained provisions for both threatened and protected species. An interim three-year policy was prepared by the NPWS in consultation with the NSW Flying-Fox Consultative Committee (FFCC) in July 2001.

## 2. Scope

This policy contains the NPWS position and operational procedures for the management of flying-foxes in commercial fruit crops. It is one component of a broader conservation and management strategy on flying-foxes being developed. This interim policy has been developed in consultation with relevant NPWS staff and the NSW Flying-fox Consultative Committee (FFCC) and will replace all previous NPWS policies. The operational elements of this new

policy will be reviewed annually in consultation with the NSW FFCC with a complete assessment to be undertaken at the completion of the 2003-2004 fruit-growing season.

### **3. Role and Responsibilities**

The Director-General, NPWS has statutory responsibility for the protection, conservation and management of native wildlife in NSW under provisions of the NPW Act. The Director-General, NPWS also has specific responsibility for the protection and recovery of threatened species, populations and ecological communities listed on the Schedules of the TSC Act.

### **4. Management Strategies**

The NPWS advocates that full exclusion netting is the only reliable method for protecting fruit crops from damage by flying-foxes and welcomes opportunities to work together with NSW Agriculture to present the value of full exclusion netting as a non-lethal crop protection mechanism. The NPWS acknowledges that, in some circumstances (e.g. orchard topography), this technique may not always be practicable. Where such restrictions on exclusion netting occur, the NPWS supports NSW Agriculture and industry in investigations into alternate non-lethal damage prevention methods (See Section 9).

A number of alternative strategies have been trialled with varying success rates including strobe lights, noise, scare guns and patrolling crops. It is recommended that using a variety of methods in crop management may be useful where exclusion nets are not feasible. NPWS supports the investigation and trialling of alternative non-lethal methods to deter flying-foxes and protect crops.

As a final alternative, the NPWS will issue licences to property owners to harm a limited number of flying-foxes by shooting only. These licences are issued with the understanding that the farmer will shoot to scare and that some incidental harm is likely to result from this activity. That harm is not to exceed the specified limit of the licence.

Under the previous policy licences were issued under s121 (Occupier's Licence) of the NPW Act. However, subsequent to the listing of the GHFF, such licences can no longer be issued as a s121 licence may not be issued for a threatened species. Section 91 of the TSC Act states that a licence may be issued authorising a person to take action that is likely to result in the harm of a threatened species under s120 of the NPW Act where there is a threat to life or property. Damage to commercial fruit crops is regarded as constituting a threat to property where damage can be established and where it is likely that further damage will occur if no protective measures are taken. All three species of flying-fox that occur in NSW are implicated in fruit crop damage and all three may be present at a crop at any one time. It would therefore not be feasible to have a dual licensing systems under s121 for protected species and s120 for threatened species. Therefore, a General licence will be issued under s120 of the NPW Act to harm Black, Grey-headed and/or Little Red Flying-foxes based on the procedures outlined below.

## **5. Procedures for the issuing of licences by NPWS for the purpose of crop damage mitigation**

Specialised application and licence forms are provided to facilitate the evaluation of applications and more expressly identify the rights and obligations of the licensee. This should improve licensing understanding, and deter licensee's from breaching licence conditions.

### **5.1 Application**

An application for a s120 General licence to harm flying-foxes in NSW must be completed and received by the local Regional or Area Office of NPWS (see Appendix 1 – Form 1.0). Only one application per property is required for each licence.

All persons that might act as shooters on a property must be identified in the application and will be included on the licence, if approved. The licence will cover only those individuals identified on the application form and on the licence.

Information in the application form is vital to NPWS to assess and review this policy and to document the impact of flying-foxes on commercial fruit crops. NPWS officers issuing the licence must ensure that the application is fully completed before granting approval.

### **5.2 Inspection**

An inspection of the affected property may be undertaken to confirm that flying-foxes are active and causing damage. The inspection will include pre-licence confirmation of the estimate of crop damage given on the application form above. Such inspections should take place, wherever possible, within 24 hours of the request for a licence under this policy. A complete application must always be submitted to the NPWS Office prior to the issue of a licence. It is then the responsibility of the Region/Area to determine when an inspection is required to confirm details in the application form and suitable licence conditions.

A Region/Area may maintain a register of local growers, noting history with flying-foxes and previously held licences to streamline this process. This information is critical to the licensing procedure as these licences are issued under the provision that flying-foxes pose a threat to property (see section 4 above). The NPWS must have relevant evidence that the threat is real, e.g. evidence of damage or recorded history of damage to the property or crop in the area.

### **5.3 Issue of Licence**

A s120 General licence to harm flying-foxes will incur a fee of \$30.00. An additional fee of \$10.00 may be charged for any changes or additions to the licences that are made at the request of the licensee (e.g. inclusion of more than one shooter to a licence after the licence has been issued or change to the number of animals permitted to be harmed). Thus, only one licence will be required per property.

Subsequent to the recommendation of the inspecting NPWS officer, a Section 120 General licence to harm a limited number of flying-foxes may be issued to the applicant (see Appendix 1 – Form 2.0). Where Grey-headed or Black flying-foxes are included in the licence, it must be authorised by the Area Manager.

It is up to the NPWS Regional office's discretion to determine the number of flying-foxes that may be harmed under an individual licence. However, a licence may be issued for no more than 50 animals. Regional quotas have been established for Grey-headed Flying-foxes only (See section 6 on Regional Quotas below).

All licences should be issued to expire either at the end of the month of expected harvest completion, or no later than 1 June, to improve administrative efficiency for the NPWS and the growers. A Region may choose a relevant date based on the crops that are grown in that area. For example, Regions, in Central Directorate may choose an expiry date of 1 March, as licences are rarely issued after January in most Areas. However all licences must expire no later than 1 June so that information may be received by the Head Office and incorporated into an annual policy review.

The issue of provisional licences (i.e. issued before damage has occurred) is not recommended as they will be problematic to enforce and regulate. Additionally, NPWS is developing a proactive process under Property Management Plans (PMP) (see section 7) whereby farmers may develop a fuller and long term property management strategy. Farmers wishing to obtain provisional licences should be encouraged to submit PMPs wherever possible. However, should a Region decide to issue provisional licences independent of the PMP program, several issues must be addressed. As noted above in Section 5.2, the NPWS will need to establish that there is a real threat to property. This would include a clear record of the history of damage to the property or similar crops in the vicinity and relevant information on flying-fox presence in the Area. As there is a limited quota of GHFF for each Region, it is recommended that provisional licences be issued for a very limited number of animals, i.e. 1 or 2, so that a farmer may be covered immediately should his property be affected and can shoot scouts, yet leave the majority of the Region's quota available. Such licensees must be informed that the licence is only valid for harm to the limited number of animals (i.e. 1 or 2) and they must notify the issuing NPWS Office as soon as the licence has been activated so that a further allocation of animals may be added to the original terms of the licence. This will constitute a licence variation (see Section 5.6 below).

Bananas grow year round and there may be a need for licences to cover the time period between 1 June and 1 September. All licences should still expire on 1 June and growers asked to apply for a new licence which will be applicable for the following fruit growing season, when necessary. This situation will be assessed as it arises.

The licensee should be encouraged to shoot to scare where possible and must be made aware of all conditions attached to the licence, including the number and species of flying-fox permitted to be harmed and the need for completion and return of the Flying-fox Record Sheet (FFRS) provided by NPWS as detailed on the licence (see Section 5.4, Appendix 1 – Form 3.0). **Failure to comply with any conditions of the licence will render the licensee liable to prosecution, or the issue of an infringement notice.** In extreme circumstances a licence may be revoked, however this will require the approval of the Regional Manager.

Any breach of the conditions of a s120 General licence to harm flying-foxes, for example through failure to submit the accurately completed FFRS, will be regarded as an important matter and taken into account in the consideration of any future licence application. An applicant may be requested to demonstrate just cause as to why a new licence should be issued under these circumstances.

#### **5.4 Flying-fox Record Sheet (FFRS)**

Completion and submission of FFRSs to the NPWS is critical to the Service's ability to maintain a record of the harm to flying-foxes throughout the fruit growing season and to assess the impact of this licensing system on the Grey-headed and Black Flying-fox. This information may be requested from the NPWS throughout the year, thus it is important that up to date information be available. Changes to this policy have included extending all licences to cover the entire fruit growing season in an effort to reduce NPWS officer time spent administering the system. For this reason, growers will be requested to return an up to date copy of their

FFRS at several times during the season. Licence condition number 5 should stipulate that the FFRS must be filled in by the licensee within 24 hours of any shooting event, be available for inspection at any time by an NPWS officer and a complete and up to date copy returned to the NPWS office of issue on the 1 January, 1 March and 1 June, regardless of whether any animals have been harmed in that interim period (Appendix 1 – Form 2.0). These FFRSs should be maintained on file by the Regional offices and relevant information included in the database described in Section 6 for submission to the Coordinator Wildlife Management (CWM), Head Office on the last day of each month. It is recommended that each Region nominate one individual that will handle this filing system and database and send in monthly reports to the CWM.

A reminder notice should be sent out to all licensees whose FFRS have not been received at the appropriate NPWS office by the required date. This notice should note that the licensee is in breach of a condition on their licence and is liable to prosecution unless they comply immediately (See appendix 1- Form 4.0 for a sample letter). Infringement notices may be issued to licensees in breach of licence conditions at the discretion of the Regional Office. Failure to comply with conditions should be noted on the licensee's file and should be taken into consideration in the assessment of future licence applications.

### **5.5 Delegation**

Regional Managers have the delegated power to authorise officers of the Service to issue a s120 General licence. It is up to the Regional Manager to determine which officers are suitable for this delegation and to issue the appropriate authorisation, keeping in mind that these licences may need to be issued on a short timeframe (i.e. 24 hours). Any authorisation must identify the specific nature of s120 General licence that may be issued by the authorised officer, thus the authorisation should not give blanket approval for officers to issue s120 General licences for any purpose. (An example authorisation form is provided in Appendix 1 - Form 5). It is recommended that, where a s120 licence is to be issued for harm to Grey-headed or Black Flying-foxes, the delegation be given to the Area Manager level to ensure that due care is taken in adhering to the Regional quotas. The authorisation should, where appropriate, also empower the relevant service officer to attach conditions, vary or remove such conditions to a licence.

### **5.6 Variation of Licences**

Where the terms of a licence have been fulfilled, that is, the number of animals harmed is that as specified on the licence (maximum of 50 animals), and the licensee determines that damage from flying-foxes is still occurring, the licensee may seek to have the licence varied. Any requests to vary a licence must be received in writing at the Office that issued the original licence and should include clear reasons why the licence should be varied and a completed and accurate FFRS. As per s133 (3) of the NPW Act, "an authorised officer may, by notice in writing served on the holder of a licence or certificate ... vary or remove any conditions or restrictions attached by an authorised officer to the licence...". Initial notification of the need to vary the original terms of a licence may be done via the phone. This verbal notification must, however, be accompanied by a written request before approval can be given to vary the original terms of a licence. An additional fee of \$10 may be charged for any changes or additions to a licence that are made at the request of the licensee.

A property inspection should be conducted by the NPWS and, where possible, NSW Agriculture should be requested to inspect the property and provide a report to NPWS. It is up to the discretion of the Regional Office to vary the licence according to the request, e.g. to increase the number of flying-foxes permitted to be harmed, keeping in mind that any change must be recorded in the database and allotment accounted for in the Regional quota. The

above guidelines (Section 5.3 and 5.4) for issuing the original licence apply to any variation, e.g. a variation may be for a maximum of a further 50 animals. The NPWS must notify the licensee in writing of the changes to the licence and include a new FFRS (see proforma Appendix 1- Form 6).

## **6. Regional Quotas- Grey-headed Flying-fox (GHFF)**

Issuing a s120 General licence does not address the issue of cumulative impact on flying-fox populations either on a Regional or State-wide level. This is of particular concern for the GHFF as the majority of the Australian population of this species can be found in NSW during some seasons. Martin and McIlwee (in press) note that an imposed mortality of as low as 10%, in addition to natural mortality, will lead to the rapid decline of even a large population. To ensure that the total impact of all licences issued in NSW does not constitute a serious threat to the long term survival of this species, the NPWS will exercise the precautionary principle and establish a maximum State-wide quota of 0.95% of the most recent minimum population estimate provided by the Australasian Bat Society for the GHFF for this season. (Note: This quota applies to the GHFF only, not to Black or Little Red Flying-foxes).

A portion of this quota (20%) will be kept in reserve and the remaining 80% divided amongst the Regional Offices that have issued licences in the past 3 years. The quota for each Region will be allocated based on the proportion of licences issued in the previous season and numbers of flying-foxes permitted to be harmed in those licences. All Regions will be advised of the State-wide quota for the season and the division amongst Regions prior to the beginning of the fruit growing season.

The current population estimate of GHFF in Eastern Australia is 320,000-400,000 (P. Eby, pers. comm). This estimate was accepted by the NSW Scientific Committee in reviewing the evidence placed before it for its determination of the GHFF as a vulnerable species. The total State-wide quota will be 0.95% of the minimum estimate, or 3,040 for the 2002/03 fruit season. 20% of that amount will be maintained in reserve (608), leaving a total of 2,432 to be divided amongst the Regions (See Table 1 for Regional allocations). This quota will be assessed during the annual review of the Policy and/or when further information is available on current population estimates.

Each Region will be responsible for dividing its allocated quota amongst its Areas, maintaining accurate and up to date records on applications received, licences issued and variation to licences to ensure that the quota is not exceeded throughout the season. Records should be entered into a spreadsheet format (Appendix 2) and a copy of this database forwarded to the CWM at the end of each month. As noted in Section 5.4 above, it is recommended that one individual (e.g. the Regional Operations Coordinator) be nominated to handle the quota and licence information for the Region. This will eliminate confusion over the allocated quota and ensure a minimum number of contact points to collect information on the licensing system Statewide.

Should a Region issue licences to the extent of its quota before the end of the season and still be receiving further applications, the Region can make an application to the CWM, Head Office for a further allocation from the number held in reserve.

There are several Regions that have not been issued with quotas, yet are within the home range of the GHFF. The 20% reserve held by the CWM will be apportioned so that there will be a provisional number of GHFF available to these Regions. Where a Region that does not have an allocated quota receives a valid application, that Region can anticipate a provisional quota of 20 GHFF to expedite the licensing process for that application. The CWM must be notified as soon as practicable so that the need for the provisional quota can be recorded and

assessment made of a further quota allocation to that Region. In the 2002/03 season, this provisional system will apply to Mid North Coast Region and Northern Tablelands Region.

**Table 1 Allocation of Regional quotas for harm to Grey-headed Flying-foxes in the 2002/03 season. Allocation is based on the proportion of the Statewide total of Grey-headed Flying-foxes permitted to be harmed per Region in the previous season.**

Region	Previous Season Allocation	No. of GHFF allowed to be harmed in 2001/02	% of State-wide totals for Previous Season	Allocation for 2002/03
<b>Northern Directorate</b>				
Northern Rivers	707	103	6.3	154
North Coast	164	10	0.6	15
<b>Central Directorate</b>				
Central Coast-Hunter	450	616	37.8	919
Sydney North	570	590	36.2	880
Sydney	15	21	1.3	31
Sydney South	48	155	9.5	231
Blue Mountains	50	115	7.1	172
<b>Southern Directorate</b>				
South Coast	40	20	1.2	30

Total allocation for 2002/03 is 2432 GHFF ie 0.95% of minimum population estimate (320,000) minus 20% reserve

## 6.1 Contingency Planning

In the event that a Region approaches its allotted quota and is still receiving licence applications, that Region should contact the CWM, BRMD to receive a further allocation from the 20% reserve of the total quota. Before issuing any further allotments the CWM will investigate the status of Regional quotas across the State to determine the potential needs of other Regions, including likelihood of unallocated Regional quotas. The CWM will take this information into consideration before making any further allocations to ensure that all Regions receive fair allotments.

Where the CWM allocates the reserve 20% and Regions continue to receive licence applications, a submission will be made to the Director-General (DG), NPWS requesting an increase of the established quota of GHFF for that season. This submission will contain full details of the licence system, allocations to date, extent and magnitude of the problem and perceived end of the growing season. It will then be at the discretion of the DG to permit a further allocation of GHFF to be included in the quota system for that season only. The submission for an increase of the GHFF quota will be made by the CWM with sufficient time to process the request to ensure continuous operation of the quota system. The allocation of licences and the number of flying-foxes permitted to be harmed under those licences, and the productivity and stage of the season will drive the need to review the quota.

## 7. Property Management Plans

In addition to the licensing system discussed above, the NPWS is exploring the use of Property Management Plans (PMP) as an option for farmers. Section 91(5) of the TSC Act states "The Director-General may, for the purposes of this Act, approve of a property management plan for land prepared by a landholder. Any action identified in, and carried out in accordance with, a property management plan so approved by the Director-General does not require a licence under this Part even if the action is, or is of a class of actions, that may, in

accordance with the regulations, be carried out only under the authority of a licence under this Part.”

The NPWS encourages landholders to prepare PMPs to facilitate an improved management and decision making process. PMPs must be prepared in accordance with advice from the NPWS and be approved to be valid. A pilot program is being conducted with several farmers to determine the likelihood of exercising this option. A separate document detailing procedural guidelines for the development and approval of PMPs is being prepared and will be included as an addendum to this policy upon endorsement.

#### **8. Law Enforcement program by NPWS for the purpose of ensuring compliance with licence conditions**

The law enforcement program should be determined on a Regional basis and may include a range of regulatory procedures such as those outlined below.

Pre-licence property inspections must be conducted by an appropriately experienced NPWS officer, when undertaken.

Each office issuing licences will maintain a register recording details of all calls/complaints relating to shooting or suspected shooting of flying-foxes.

All NPWS response/inspection/patrols undertaken by Service staff must be recorded on a standard NPWS Flying-fox – Law Enforcement Report form (see Appendix 1 – Form 5.0).

Service officers have the power, to enter premises where they have a reasonable suspicion under s164(1)(a) of the NPW Act or in order to inspect the presence or condition of threatened species. Where a licensee obstructs or hinders the officer then they commit an offence. A file note will be made detailing the incident and consideration will be given to the issuing of an infringement notice. This refusal should be considered in the course of determining any future s120 licence applications.

The local Police Stations should be provided with information on the NPWS policy on crop damage mitigation, the issue of licences and implications for compliance. Where possible, the support of the local Police in assisting in compliance should be sought. For example, the Police may be encouraged to contact NPWS when they receive reports of shooting to determine whether the resident has a licence or not and/or the Police may join NPWS on random compliance efforts. This liaison should be developed by the Local Regional or Area office and relevant Police station, however, the Investigation Unit of the Legal Services Directorate may be contacted to provide advice and information on police powers under NPWS legislation.

Alleged illegal shooting should be investigated and, where appropriate, NPWS should seek support from local Police. Properly completed offence reports with all accompanying information relating to illegal shooting or breach of licence conditions should be forwarded to the Senior Legal Officer (Legal Operations Unit).

#### **9. Monitoring**

All NPWS Regions are to provide copies of the spreadsheet information on applications and issue of licences outlined in Appendix 2 to the CWM, BRMD on a monthly basis (to be received in HO on the first day of each month). This information is required so that State-wide reports can be prepared at short notice throughout the fruit growing season and after the completion of the season. Regional offices may be requested to send in copies of all

applications, licences issued, completed flying-fox record sheets, and law enforcement reports to the CWM, BRMD at the end of the season to finalise the State-wide policy review.

In addition, all NPWS Regions are to provide a summary spreadsheet at the end of the season compiling all relevant licensing data including data provided on the licence application and FFRS. A standard template will be provided at the beginning of the season.

NPWS may seek the assistance of local stakeholder groups to assess and monitor flying-fox populations at known roost sites during the fruit-growing season.

## **10. Alternate Damage Prevention Methods**

The Service acknowledges the work done by NSW Agriculture to date and seeks to assist NSW Agriculture wherever possible in its ongoing work with fruit growers to investigate and promote non-lethal crop protection methods. The NPWS will provide information to farmers, where available, on alternative techniques trialled in Australia. The NPWS may participate, where possible, in planning research programs through the NSW FFCC.

## **11. Research on Flying-foxes**

The Service's primary role in flying-fox research is the provision of baseline biological and ecological information. An aim of such research is the provision of information, which can ultimately inform decision-making processes for conservation and management purposes.

NPWS will provide technical advice to NSW Agriculture and stakeholder groups wherever possible.

The Service will advocate and facilitate the involvement of tertiary institutions and stakeholder groups in such research.

Licensees should be asked whether they are willing to participate in research on flying-foxes to assist in developing our understanding of flying-fox ecology and/or the development of alternative non lethal damage mitigation measures. Growers may assist through a variety of actions requiring various levels of commitment and participation. For example:

- The FFRS includes several "optional" categories. Licensees should be advised that this information does not need to be supplied, but will assist in NPWS conservation and management strategies. This information will not be used against the licensee and should only be included where the licensee can supply accurate information.
- Researchers have requested access to dead flying-foxes where possible to carry out genetic analysis and collect data for population parameter assessments. Licensees may assist by notifying NPWS that they are willing for researchers to visit their property to collect dead animals and to be contacted directly by the researchers to make these arrangements.
- A number of flying-foxes carry thumb bands that were attached on the animal's wing as part of a release program. Should a licensee shoot a banded animal, it is important that correct band information along with the fate of the animal is provided to the Australian Bird and Bat Banding Scheme (ABBS) of Environment Australia. This information is important in assessing population parameters such as life span and range patterns. When a banded animal has been found, the licensee may either send the following information directly to the ABBS at GPO Box 8, Canberra ACT 2601 or contact NPWS to collect the animal and

band. Where NPWS is contacted, the responding officer must send the following information to the ABBS. The ABBS would like the following:

- The band, where possible, removed from the animal and attached to a piece of cardboard, or at least the band number;
  - Date and location where the animal was sighted;
  - Fate of the animal; and
  - Any notes on the animal, e.g. other markings etc.
- Research trials may be used to test various non-lethal deterrents over the next few years. Licensees should be asked whether they would be willing to participate in trials.

## **12. Policy Review**

This Policy will be reviewed annually in consultation with key stakeholders and a complete assessment and revision will be conducted at the end of 3 years.

## **13. References**

Martin, L. and McIlwee, A. In press. On the intrinsic capacity for increase of Australian flying foxes (*Pteropus spp*, Megachiroptera). Australian Zoologist.





# **Appendix 1**

## **Standard Forms**



## **Form 1.0**

# **Application for a Section 120 General Licence**



## NATIONAL PARKS AND WILDLIFE ACT, 1974

### APPLICATION FOR A SECTION 120 GENERAL LICENCE to harm Grey-headed (*Pteropus poliocephalus*) and/or Black (*P. alecto*) and/or Little Red (*P. scapulatus*) Flying-foxes in New South Wales

Name of applicant (in full): \_\_\_\_\_

Postal address: \_\_\_\_\_

Telephone: BH \_\_\_\_\_ AH \_\_\_\_\_ MOBILE \_\_\_\_\_

Details of licence issued under the Firearms Act 1996 \_\_\_\_\_

Name and address of the property for which the licence is sought (If your property is difficult to locate, please provide detailed instructions for access or a map in the space provided on the back of this form):  
\_\_\_\_\_  
\_\_\_\_\_

Rural Lands Protection District: \_\_\_\_\_

Area of property (ha): \_\_\_\_\_ Species for which licence is sought \_\_\_\_\_

Irrigation District: \_\_\_\_\_ Nearest Police Station: \_\_\_\_\_

Have you previously held a licence to harm flying-foxes in NSW? YES/NO

If YES, indicate licence number(s); year(s); and the NPWS office which issued the licence(s):  
\_\_\_\_\_  
\_\_\_\_\_

If you propose to allow other licensed shooters to assist you in shooting flying-foxes on your property, please provide **names, addresses, phone numbers** and **firearms registration** details for **each** proposed shooter. Only those persons identified on this application will be listed on your licence, if granted, and any additional shooters will not be permitted.  
\_\_\_\_\_  
\_\_\_\_\_

Crop being damaged: \_\_\_\_\_

Total Area of crop (ha) \_\_\_\_\_ Estimated area of damage (ha): \_\_\_\_\_

Type of damage (eg urination, single bites, mass attack, damaged trees):  
\_\_\_\_\_

Estimated financial loss (\$) \_\_\_\_\_ Expected completion date of picking \_\_\_\_\_

If photographic evidence of the damage is available please attach a photograph.

Please provide details of other crop protection measures being used (eg netting, noise, lights)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Comments in support of the application: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
**Signature of Applicant**

\_\_\_\_\_  
**Date**

**The completed application should be delivered to:**

Phone: \_\_\_\_\_ Fax \_\_\_\_\_

**Note: There is a \$30.00 administration fee payable for the issue of this licence. Changes that are requested by the licensee to the licence will incur an additional \$10.00 fee.**

The applicant should use this space for any information thought likely to assist either in locating the affected property or in explaining the nature of the trouble experienced.

NO SHOOTING IS TO PROCEED UNTIL YOU HAVE RECEIVED YOUR LICENCE

**Please note: Live flying-foxes should not be handled. If it is necessary to handle dead flying-foxes protective gloves should be worn.**

#### **Privacy statement**

The personal information\* that is provided in the attached s120 Licence Application form is for the purpose of assessing your application and is required by law.

Your personal information will not be used for any other purpose, and will not be disclosed, without your consent. You have the right to access and correct any of the personal information once we have collected it at any time. The information will be stored securely in our records management system.

\* Personal information is any information from which your identity is apparent or can be reasonably ascertained.

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- OFFICE USE ONLY -

INSPECTION REPORT:

RECOMMENDATION:

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\* Personal information is any information from which your identity is apparent or can be reasonably ascertained.



**Form 2.0**

**Section 120 General Licence**



LICENCE No.:

**NATIONAL PARKS AND WILDLIFE SERVICE**

*National Parks and Wildlife Act 1974*

**SECTION 120 GENERAL LICENCE to HARM FLYING-FOXES**

AUTHORITY is hereby given in accordance with the provisions of Section 120 of the *National Parks and Wildlife Act 1974* for the person(s) stated, to *harm* Black (*Pteropus alecto*) and/or Grey-headed (*P. poliocephalus*) and/or Little Red (*P. scapulatus*) Flying-foxes, only by shooting with a 12 gauge shotgun using number 4 lead shot, for the purpose of mitigating crop damage caused by that species, on the land(s) identified below and subject to the conditions listed. The Licensee(s) is encouraged to shoot to scare wherever possible.

**Licence issued to (full name of person and firearms licence number):**

**Land(s) specified:**

**Type of crop(s) affected:**

**Other individuals authorised under this licence (full names, addresses and firearms licence numbers):**

**Total number of each species that may be harmed:**

Black Flying-fox: \_\_\_\_\_ Grey-headed Flying-fox: \_\_\_\_\_ Little Red Flying-fox: \_\_\_\_\_

**Maximum TOTAL number of individuals that may be harmed: \_\_\_\_\_**

**NB: Harming more than the number of animals specified is an offence.**

**Licence Conditions:**

1. The licensee shall inform the local NPWS office, Police Service and neighbours of intention to shoot and abide by the provisions of the *Firearms Act 1996*.
2. Any person shooting Black, Grey-headed or Little Red Flying-foxes over crops pursuant to this licence must be identified on this licence.
3. Black, Grey-headed or Little Red Flying-foxes may only be shot over the crop designated on this licence.
4. The total number of Black, Grey-headed and Little Red Flying-foxes which can be harmed on the land(s) specified above, by any person identified on this licence, must not exceed the number indicated on this licence.
5. The Licensee must keep a true and accurate record of all Flying-foxes shot utilising the FFRS as provided by the NPWS. Each entry must be recorded within 24 hours of the shooting of the animal. The FFRS must be produced for inspection upon request by an officer of the NPWS at any time. A legible copy of the FFRS must be sent to and received by the NPWS staff at the office from which this licence was issued on the following dates: 1 January 2002, 1 March 2002 and 1 June 2002.
6. The licensee shall locate each animal shot and promptly alleviate the suffering of any injured flying-fox by quick and humane euthanasia.
7. No flying-fox or part of a flying-fox, alive or dead, is to be removed from the property on which the animal is shot without the approval of NPWS.
8. The licensee must carry the licence while on any land for the purpose of shooting flying-foxes, or whilst in the possession of flying-foxes, and produce it for inspection on demand by any officer of the NPWS.
9. The licensee must provide reasonable access to the land(s) specified by this licence for inspection by an officer of the NPWS at any time.
10. This licence is not transferable.

**Failure to comply with any conditions of this licence renders the licensee and/or other shooters authorised by this licence liable to be issued with infringement notice(s) or to prosecution.**

**Please note: Live flying-foxes should not be handled. If it is necessary to handle dead flying-foxes protective gloves should be worn.**

**Date Licence commences:** \_\_\_\_\_  
1 June 2002

**Date Licence expires:** \_\_\_\_\_

**Date of Issue:** \_\_\_\_\_



## **Form 3.0**

### **Flying-fox Record Sheet**

# NATIONAL PARKS AND WILDLIFE SERVICE - FLYING-FOX RECORD SHEET (FFRS)

NPWS \_\_\_\_\_ REGION

Property Name	Address	Property Owner	Licence No.

† Where more than one species of flying-fox is present and shot in one night, fill in one row of the table for each species so that accurate information is recorded on the number of individuals of each species harmed.

FULL AND ACCURATE INFORMATION REQUIRED							OPTIONAL INFORMATION		
Date	Name of Shooter	Species of FF*† (see Codes)	No. FFs seen* (see Codes)	FF Response* (see Codes)	Total No. FFs Killed	Signature	No. of Males Killed	No. of Females Killed	Estimate of economic cost/financial loss due to flying-fox damage this season.
									Location of nearest flying-fox roost site (where known). If not, direction from which flying-foxes arrive.
									<b>* Codes for filling out this sheet</b>  <b>Species of FF</b> <b>GH</b> – Grey Headed Flying-fox <b>LR</b> – Little Red Flying-fox <b>B</b> – Black Flying-fox  <b>No. FF seen</b> <b>S</b> – 1-5 FF (likely to be scouts) <b>L</b> – 5-50 FF <b>M</b> – 50-200 FF <b>H</b> – 200-500 <b>X</b> – more than 500 FF  <b>FF Response</b> <b>DIS</b> – flying-foxes dispersed <b>NR</b> – no response (FF do not disperse/react) <b>RET</b> – flying-foxes disperse, but return <b>SC</b> – scouts deterred, no others arrive

Live flying-foxes should not be handled. Protective gloves should be worn whenever handling dead flying-foxes.

**Licence Condition No 5.** – The Licensee must complete the Flying-fox Record Sheet provided by NPWS within 24 hours after any shooting. This Record Sheet is to be available for inspection at any time by an officer of the NPWS and a complete and up to date copy returned to NPWS office of issue on the 1 January, 1 March and 1 June 2002.

**Form 4.0**  
**Sample FFRS return reminders**

## BREACH OF LICENCE CONDITION NOTICE – FAILURE TO RETURN FFRS

This is to notify you that, in accordance with condition 7 of Licence No. .... held under your name for the purpose of harming flying-foxes, a true and accurate **copy** of the Flying-Fox Record Sheet maintained under this licence was due into the NPWS ..... Region Office no later than 1 January 2002 (1 March 2002 1 June 2002).

Failure to comply with this condition will place you in breach of the licence conditions and liable to prosecution by the NPWS. Please note a maximum penalty of \$4400 applies for such an offence. Breach of any licence conditions will be taken into consideration when assessing future licence applications for a similar licence.

The **copy** of the Flying-fox Record Sheet must be sent in by post to ..... or sent by fax to ..... Please keep in mind that you, and any other person named on the licence, must continue to keep accurate and regular records of licensed activity on the **original** Record Sheet.

Thank you.

Manager, ..... Region

**Form 5.0**  
**Delegation Authorisation**

**AUTHORISATION**  
**NATIONAL PARKS AND WILDLIFE ACT 1974**

I, ..... , Manager, ..... Region of the National Parks and Wildlife Service of New South Wales, pursuant to delegation and in accordance with Section 119 of the National Parks and Wildlife Act, 1974 (the "Act"), do hereby authorise ..... , an officer of the National Parks and Wildlife Service, to issue General licences under the section 120 of the National Parks and Wildlife Act, 1974 to authorise the harming of Black Flying-foxes, Grey-headed Flying-foxes and/or Little Red Flying-foxes for the specified purpose of mitigating damage caused to property in accordance with established NPWS policies and procedures.

This authorisation provides that authorised officer with the power to attach conditions, to vary or remove any conditions of the licence.

Dated: .....

.....  
Manager, ..... Region

## **Form 6.0**

# **Notification of Variation of Conditions on a s120 (General) Licence**

You are hereby advised that, as provided in Section 133(3) of the National Parks and Wildlife Act 1974, the following variation has been made to General Licence No. .... :

**Total number of each species that may be harmed:**

Black Flying-fox .....      Grey-headed Flying-fox.....      Little Red Flying-fox .....

According to your completed Flying-Fox Record Sheet (FFRS), ..... Flying-foxes have been harmed under this licence, thus this variation permits harm to a further ..... (sp) Flying-foxes only.

A new FFRS is enclosed with this notification and, according to condition 5 of the licence, must be completed within 24 hours after any shooting event and must be available for inspection by an officer of the NPWS at any time. A complete and up to date copy of this FFRS must be returned to this NPWS Office no later than 1 January 2002, 1 March 2002 and 1 June 2002.

All other conditions on the original licence still apply.

Manager, ..... Region

Date

## **Form 7.0**

# **Law Enforcement Report**

NPWS - Flying-fox Law Enforcement Program Report							NPWS REGION:													
Patrol/ Rsp nos.	Patrol/ Rsp Dates	Time Patrol/ Rsp began	Time Patrol/ Rsp end	Nos. staff	Reason CM; Complt; other	Police attend; Notify Police; Nil	Type and Nos. s120 property inspectn						Type and Nos. unlicensed property inspectn						COMMENTS	
							DB	Liaise	IDOC	PIR	PI	Other	DB	Liaise	IDOC	PIR	PI	Other		
Examples																				
1	24/02/00	1800	2300	2	CM	nil	10	3	2	nil	nil	nil	6	2	nil	nil	nil	nil		
2	1/02/99	1900	2200	2	CM	nil	9	2	nil	1	nil	nil	8	nil	nil	nil	nil	nil		
3	2/02/99	19:00	20:00	2	Complt	nil	nil	nil	nil	nil	nil	nil	nil	1	nil	nil	nil	nil	See Register F/N 27: Spoke with owner re: complaint about shooting; no s121 lic for FF; owner stated no shooting had occurred.	
4																				
5																				
6																				
7																				
8																				
9																				
10																				



## **Appendix 2**

**Sample Spreadsheet to be maintained by each  
Region.**

Following is a sample spreadsheet noting categories of information required from all licence applications, licences issued and FFRS. This database must be maintained regularly and returned to the CWM, HO on the first of each month during the fruit growing season, or on request.

TABLE: SUMMARY - SECTION 120 LICENCES																			
Licence No.	Name	Property	Issue Date	Previous Licence	# indiv on licence	Crop Type	Crop Area (ha)	Area of Damage (ha)	Total # FF issued	# BFF issued	# GHFF issued	# LRFF issued	FFRS received	Total # harmed	# Black harmed	# GHFF harmed	# LRFF harmed	Complied with conditions:	