

Australian Capital Territory

# Nature Conservation (Grey-Headed Flying-Fox) Native Species Conservation Plan 2024

Notifiable instrument NI2024–504

made under the

**Nature Conservation Act 2014, s 122 (Draft native species conservation plan—final version and notification)**

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## 1 Name of instrument

This instrument is the *Nature Conservation (Grey-Headed Flying-Fox) Native Species Conservation Plan 2024*.

## 2 Commencement

This instrument commences on the day after its notification day.

## 3 Preparation of a Native Species Conservation Plan

The final version of the Native Species Conservation Plan for the Grey-headed Flying-fox is set out in Schedule 1.

Bren Burkevics  
Conservator of Flora and Fauna  
23 August 2024

## **SCHEDULE 1**

(see section 3)

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**ACT**  
Government

# Native Species Conservation Plan



Grey-headed Flying-fox  
*Pteropus poliocephalus*

## Acknowledgment to Country

*Yuma*

*Dhawura nguna ngurumbangu gunangu  
Ngunnawal. Nginggada dindi dhawura  
Ngunnawalbun yindjumaralidjinyin. Mura  
bidji mulanggaridjindjula.*

*Naraganawaliyiri yarabindjula.*

*Hello*

*This country is Ngunnawal (ancestral/  
spiritual) homeland. We all always respect  
elders, male and female, as well as  
Ngunnawal country itself.*

*They always keep the pathways of their  
ancestors alive. They walk together as one.*

**We acknowledge the Ngunnawal people as traditional custodians of the ACT and recognise any other people or families with connection to the lands of the ACT and region. We acknowledge and respect their continuing culture and the contribution they make to the life of this city and this region**

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# Executive Summary

The Grey-headed Flying-fox (GHFF) is a listed Vulnerable species in the ACT, due to a national population decline (defined as >30% over the past three generations of the species (18–21 years) that will likely continue into the future). The decline is caused by the loss of native foraging habitat. The species plays a very important role as a nocturnal pollinator and long-distance seed disperser in Australia’s native forests, woodlands and mangrove ecosystems. The primary food sources are the flowers of Eucalyptus, Banksia and Melaleuca species as well as rainforest fruits. They are distributed along the east coast of Australia from Queensland to Victoria and South Australia. GHFFs used to mainly inhabit native forests, however deforestation and loss of native vegetation is driving the migration of GHFFs into urban areas, following the flowering of remnant vegetation and fruit provided in backyard orchards.

The ACT has an established GHFF camp in Commonwealth Park (on Commonwealth-managed land), which was formed in 2003 due to food shortages throughout their range (however, sightings of GHFF in the ACT predate 2003). GHFF migrate to Canberra around September each year to establish a maternity camp for the final trimester of gestation and their peak birthing, creche and conception periods. Once the weather cools the following winter, they move back to warmer places, usually by June. The ACT provides habitat and food for significant numbers of GHFF during critical life stages (peak of 9,159 in March 2021 and 6,110 in February 2024). Therefore, the efforts to protect the GHFF in the ACT are significant for the overall conservation of the species.

Based on experience elsewhere, movement of the flying-foxes into other areas nearby the camp has a high likelihood of occurring within coming decades. In addition, the number, size and permanency of camps may increase in the ACT in the future, since GHFF are believed to respond to changes in the availability of food sources by moving nomadically between camps. GHFFs forage all around the ACT at night, relying on blossoms and fruit during their stay. Therefore, there is a compelling need for the ACT to plan for responses to the potential establishment of camps on ACT land and provide safe foraging habitat.

The Native Species Conservation Plan (NSCP) for the GHFF has been developed under the *Nature Conservation Act 2014*. It supports the delivery of the National Recovery Plan for the Grey-headed Flying-fox *Pteropus poliocephalus* (Department of Agriculture Water and the Environment (DAWE) 2021) and provides a framework for conserving GHFFs in the ACT.

This plan has six main outcomes:

1. GHFF habitat is better protected and enhanced in the ACT
2. The size and dynamics of the GHFF population in the ACT are known and tracked over time
3. Mass mortality of GHFFs due to extreme weather events (EWEs) is minimised
4. The number of GHFF trapped in household netting decreases over time
5. ACT Government and community is well prepared for GHFF migration to ACT land
6. The ACT community co-exists harmoniously with GHFFs

This plan complements the current Commonwealth Park Grey-headed Flying-fox Camp Management Plan (NCA 2020) and outlines several short-term actions that will help to prepare for the migration of this species into ACT-owned land.

Climate change and habitat modification is driving migration of species into new habitats. Co-habitation with new species requires increased awareness and education, risk mitigation and collaboration, to live harmoniously with new species on Ngunnawal Country.

# Introduction

The Grey-headed Flying-fox (*Pteropus poliocephalus*, GHFF) is one of the largest bats in the world and is one of the five species of flying-foxes endemic to Australia. The GHFF and the Little Red Flying-fox (*Pteropus scapulatus*) visit the ACT regularly.

This GHFF Native Species Conservation Plan (plan) outlines conservation management information and actions for the GHFF on stated land in the ACT (excluding land managed by the National Capital Authority (NCA)). This plan complements the National Recovery Plan for the Grey-headed Flying-fox (National Recovery Plan) (DAWE 2021) under the EPBC Act and the objectives and actions outlined in the Commonwealth Park Plan, which guides the NCA's management of that camp.

## Conservation status

The GHFF is listed as Vulnerable nationally under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and is also included in the threatened species lists of other states and territories throughout its range. In 2021, the International Union for Conservation of Nature (IUCN) reassessed the GHFF and retained it as Vulnerable due to a continuing population decline caused by substantial loss and degradation of foraging habitat because of fire and clearing, mass mortalities associated with extreme heat and food shortages, and mortality from electrocution on power lines, and entanglement in barbed wire and fruit tree netting (Eby et al. 2021). The statutory listing status of the GHFF is provided in Table 1.

Jurisdiction	Legislation	Status
Commonwealth	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Vulnerable
ACT	<i>Nature Conservation Act 2014</i>	Vulnerable
NSW	<i>Biodiversity Conservation Act 2016</i>	Vulnerable
Victoria	<i>Flora and Fauna Guarantee Act 1988</i>	Vulnerable
SA	<i>National Parks and Wildlife Act 1972</i>	Rare
Queensland	<i>Nature Conservation Act 1992</i>	Vulnerable

Table 1. The listing status of the GHFF under Australian threatened species lists.

### National

In 2001, the Commonwealth Threatened Species Scientific Committee (TSSC) considered available data from counts of GHFF conducted in 1989 and 1998–2001. A comparison of these counts showed a 30% decrease from at least 566,000 individuals in 1989 to at most 400,000 in 1998–2001 (HRSCEE 2017). This qualified the species for inclusion in the Vulnerable category of the threatened species list under the EPBC Act.

### Australian Capital Territory

The GHFF is listed as Vulnerable under section 91 the *Nature Conservation Act 2014* (NC Act) in the ACT Threatened Native Species List under IUCN Criterion A—A2(a)(b)(c). The factors that make it eligible include: a continuing national population decline (>30% over the last three generations (18–21 years) which is predicted to continue into the future) due to the shrinkage in distribution and loss of over-wintering foraging habitat, and probable competition and hybridisation with the Black Flying-fox (*Pteropus alecto*) (ACT Scientific Committee 2019).

## Policy context

The NC Act is the primary legislation in the ACT for the protection of native plants and animals, including management of reserves for conservation. The ACT Nature Conservation Strategy 2013–2023 (The NC Strategy) (ACT Government 2013) provides guidance for the recovery of threatened species and ecological communities. The NC Strategy puts in place frameworks to manage ecological threats to our biodiversity and ecosystems.

The ACT Scientific Committee is consulted in the development of a native species conservation plan, which is a plan that details how the native species may be appropriately managed on stated land. For the GHFF, stated land is considered as land in the ACT that contains GHFF habitat as described in ‘Objective 1’ of this document.

The development of this plan is also guided by the following documents:

- > Nature Conservation (Grey-headed Flying-Fox) Conservation Advice 2019 (ACT Scientific Committee 2019).
- > National Recovery Plan for the Grey-headed Flying-fox *Pteropus poliocephalus* (DAWE 2021)
- > Commonwealth Listing Advice on *Pteropus poliocephalus* (Grey-headed Flying-fox) (TSSC 2001)
- > The Action Plan for Australian Bats (Duncan et al. 1999)
- > Commonwealth Park Grey Headed Flying-Fox Camp Management Plan (NCA 2020).
- > Flying-fox Camp Management Policy (NSW Office of Environment and Heritage 2015)
- > Flying-Fox Campsite Management Plan Yarra Bend Park (Department of Sustainability and Environment 2005)
- > Flying-fox Camp Management Code of Practice 2018 under the Biodiversity Conservation Regulation 2017 (NSW Office of Environment and Heritage 2018)



*GHFF rescued by ACT Wildlife*

# Current and emerging threats to GHFF

There are a wide range of threats, both natural and anthropogenic, to the national GHFF population across its distribution that have been identified in the National Recovery Plan (DAWE 2021). Local threats to GHFF have been identified in the Commonwealth Park Grey-headed Flying-fox Management plan (NCA 2020). In the ACT, the main threats to GHFFs include:

- > habitat loss and degradation
- > interaction with human infrastructure and related mortality such as entanglement in barbed wire fencing and fruit netting, or electrocution from power lines, and
- > climate change impacts, including an associated increase in the severity and frequency of heat waves, cold snaps and drought periods.

## Habitat loss and degradation

During the 1990s, the loss of foraging and roosting habitat in southern Queensland and northern and central New South Wales led to substantial GHFF population declines, largely through the clearance of native vegetation for agriculture, forestry operations and urban development (Duncan et al. 1999). Habitat loss and the resulting population decline in NSW was the primary cause of the species being listed as Vulnerable under the EPBC Act.

Although most habitat loss has occurred outside the ACT, impacts on populations and habitat in the ACT result in an increased pressure on the remaining suitable vegetation to support a larger number of GHFF. This can lead to increased damage to trees in camps, as has occurred in other areas e.g., Melbourne Botanic Gardens (DSE 2005).

As highlighted in the National Recovery Plan (DAWE 2021), the important winter and spring vegetation communities are those that contain *Eucalyptus tereticornis*, *E. albens*, *E. crebra*, *E. fibrosa*, *E. melliodora*, *E. pilularis*, *E. robusta*, *E. seeana*, *E. sideroxylon*, *E. siderophloia*, *Banksia integrifolia*, *Castanospermum*, *Corymbia citriodora citriodora*, *C. eximia*, *Grevillea robusta*, *Melaleuca quinquenervia* or *Syncarpia glomulifera* (See Appendix B for a list of foraging species). Where the existence of these important winter and spring flowering vegetation communities is verified in the field, they are considered habitat critical to the survival of the GHFF (DAWE 2021). Many of these species are present in the ACT (including *Eucalyptus tereticornis*, *E. albens*, *E. crebra*, *E. fibrosa*, *E. melliodora*, *E. paniculate*, *E. pilularis*, *E. sideroxylon* and *Grevillea robusta*) providing suitable foraging habitat for the GHFF.

GHFF in the ACT often feed from native vegetation when flowering occurs (noting that many native species flower erratically) and supplement their diet with fruit in residential backyards and orchards, particularly when native flowers and fruits are less available. A critical period for GHFF in the ACT is during Autumn when food availability is very limited. For example, a total of 115 GHFF pups were found dead at the Commonwealth Park camp by ACT Wildlife over 2023–24, likely due to lack of food resources.

## Climate change

Warming has been observed across Australia in all months with both day and night-time temperatures increasing since national records began in 1910. This shift is accompanied by an increased number of extreme nationally averaged daily heat events across all months, including a greater frequency of very hot days in summer. For example, 2019 experienced 41 extremely warm days, about triple the highest number in any year prior to 2000. Also in 2019, there were 33 days when national daily average maximum temperatures exceeded 39 °C, a larger number than seen in the 59 years from 1960–2018 combined. Increasing trends in extreme heat are observed at locations across all of Australia (CSIRO 2022).

Instances of extreme heat events negatively affect GHFFs (Welbergen et al. 2008). Heat stress disproportionately impacts female and juvenile GHFFs as female GHFFs abandon young in response to high temperatures, and lactating mothers are more vulnerable to heat stress. The largest mass mortality events in the last decade were due to hyperthermia (Tidemann and Nelson 2011). For example, during 2019–2020, 85 flying-fox die-off events were recorded in NSW, ACT, Victoria, and South Australia due to extremely high temperatures, resulting in at least 54,000 GHFF and Black Flying-fox deaths (DAWE 2021). GHFFs are extremely vulnerable to temperatures above 38°C due to their inability to sweat, and it has been recorded that the species has suffered widespread mortality when temperatures reach 42°C (Welbergen et al. 2008; Snoyman et al. 2012; Bishop et al. 2019).

An increase in the incidence of extreme weather events due to climate change, such as more severe storms and heat waves, will likely increase direct mortality and affect the ability of habitat to physically support camps. In early 2020, the GHFFs in Commonwealth Park were impacted for months by the effects of bushfires and their lingering smoke, high temperatures, and a devastating hailstorm on 20 January 2020 (NCA 2020). An estimated 600 GHFFs died due to those climatic events. In addition, GHFFs have been known to abort foetuses and birth prematurely in response to environmental stress (McIlwee and Martin 2002).

Impacts of climate change may also include changes to the phenology (annual life cycles) and productivity of key food species (Woinarski 2014). Climate change induced alteration of rainfall patterns may exacerbate the impacts of habitat reduction and the availability of food resources during key periods of the year. In the ACT, this is primarily from October to May when camp numbers are highest. In drought, eucalypt flowering times are altered, which reduces the amount of food available to the GHFF resulting in animals needing to forage further afield and potentially relocate camps to other locations within the ACT (DAWE 2021).

The GHFF is slow to reach sexual maturity and has a low reproductive rate which limits the capacity for population increase, even under ideal conditions; it also limits the capacity to recover from frequent or persistent threatening processes (McIlwee and Martin 2002; DAWE 2021a).

Climate change is likely to increase the incidence of extreme hot days and cold snaps, increase rainfall in some areas, and drought and bushfires, with cascading effects on food shortages (e.g less flower, nectar and fruit production) and thus increasing incidences of flying-fox morbidity and mortality. Monitoring temperature and humidity at the camp and enacting the EWE Plan when thresholds are breached, could substantially reduce GHFF fatalities due to extreme temperatures.

## Interaction with human infrastructure

GHFFs are increasingly inhabiting urban settings because food and shelter are currently more abundant than in the natural forest/woodland ecosystems (Roberts et.al 2012). The loss of natural habitat and the attractiveness of year-round food availability in urban areas both contribute to this change. Urban areas can also provide refuge from predation and be easier to navigate due to the open nature of the urban landscape with an abundance of landmarks and lighting (Parry-Jones and Augée 2001), although GHFFs in urban areas also encounter infrastructure that contribute to their decline.

Inappropriate fruit tree netting is one of the primary reasons that GHFF need rescuing by ACT Wildlife (the ACT's licensed wildlife rescue organization). During the 2023–24 season, 46 GHFFs were rescued by ACT Wildlife due to entanglement in fruit tree netting. This is a substantial number of animals that needed care until they recovered from injuries and could be returned to the camp.

**For more information on the species see Additional Background Information section (p22-26).**

# Vision

The ACT provides quality roosting and foraging habitat for its Grey-headed Flying-fox population, allowing them to safely reproduce here and coexist with the ACT community.

*GHFFs flying out of camp in Commonwealth Park to forage overnight, November 2023.*

# Outcomes

This plan is designed to complement the current management of the GHFF camp at Commonwealth Park. It has six main target outcomes and sets out key actions to achieve them.

Note that GHFFs are a nomadic species. Thus, the number of individuals coming to the ACT varies greatly each year. The aim of this plan is not to increase or maintain a certain number of individuals in the ACT, as that would not reflect the effectiveness of this NSCP. Instead, this plan aims to provide GHFFs with foraging and roosting habitat and to reduce mortality while they are in the ACT.

## **1. GHFF habitat is better protected and enhanced in the ACT**

- 1a. GHFF key foraging areas and plant species are identified and mapped in the ACT
- 1b. GHFF foraging habitat is included in the ACT Ecological Network Dashboard
- 1c. The community and relevant government entities have access to guidance on GHFF foraging plants to promote planting of these species in non-sensitive areas in the ACT
- 1d. Knowledge is built on potential alternative roosting habitat for GHFF in non-sensitive areas in the ACT and possible restoration actions to attract GHFFs to a new camp

## **2. The size and dynamics of the GHFF population in the ACT are known and tracked over time**

- 2a. GHFFs are counted regularly and data contributes to the National Monitoring Program
- 2b. The reproductive outcome of the ACT camp is monitored annually
- 2c. The number and main causes of GHFF morbidities and mortalities are known in the ACT
- 2d. GHFF data is incorporated into the Threatened Species Dashboard in the ACT

## **3. Mass mortality of GHFFs due to extreme weather events (EWEs) is minimised**

- 3a. A protocol for responding to EWEs is in place and the ACT Government actively participates in EWE responses at camp
- 3b. Temperature and humidity at camp are regularly monitored in summer to anticipate when thresholds will be breached, and the EWE Plan will be enacted before a mass mortality event occurs

## **4. The number of GHFFs trapped in household netting decreases over time**

- 4a. The transition of households to using wildlife-friendly netting is continued and enforced 4b. The number of GHFFs trapped in household netting is tracked
- 4b. ACT Wildlife carers have access to up to date training to care for rescued GHFFs

## **5. ACT Government and community is well prepared for GHFF migration onto ACT land**

- 5a. A camp management plan is prepared in the event that GHFFs establish a camp in a non-sensitive area of the ACT

## **6. The ACT community co-exists harmoniously with GHFFs**

- 6a. Public awareness and perception of GHFFs is improved through strong effective collaboration with community groups and proactive dissemination of GHFF's information by the ACT Government

These outcomes aim to address conservation issues and align with proposed management actions recommended in the Conservation Advice for the species (ACT Scientific Committee 2019):

- > to reduce the impact of threatening processes on GHFFs and arrest decline
- > to conserve the functional roles of GHFFs in seed dispersal and pollination
- > to improve the standard of information available to increase community knowledge to reduce the impact of negative public attitudes on the species.

Similarly, the objectives also align with the ACT Nature Conservation Strategy 2013–23 by:

- > increasing community health and wellbeing through improved understanding and support for biodiversity protection
- > maintaining and improving native vegetation and biodiversity through improved habitat protection and connectivity, and
- > assisting the landscape's resilience to climate change through effective management.

# Outcomes and proposed actions

## 1. GHFF habitat is better protected and enhanced in the ACT

### 1a. GHFF key foraging areas and plant species are identified and mapped in the ACT

Identifying and protecting GHFF foraging habitat, including any spatial and temporal variations in resource availability, is key for the health of the entire GHFF population, since the ACT currently provides quality and safe roosting and foraging habitat for GHFFs during key life stages.

A first step to protect GHFFs' habitat is to identify feeding areas in the ACT. This could be done using the vegetation type map layer in the ACT to locate the known plant species on which GHFFs feed. In addition, Canberra Nature Map and Atlas of Living Australia GHFF sightings could be used to identify foraging trees in urban areas and complement research to create a more complete understanding of where GHFFs forage in the ACT. Ecologists in the Office of Nature Conservation will lead this work. Depending on resources, a consultancy will be engaged to achieve this first outcome.

### 1b. GHFF foraging habitat is included in the ACT Ecological Network Dashboard

Critical habitat for the persistence of GHFF has not been identified and considered in planning and development frameworks and processes, such as strategic assessments and offset arrangements. The information generated above will be used to develop a map of foraging habitat in the ACT, which should be considered as critical habitat for the persistence of the species and incorporated in the ACT Ecological Network Dashboard to be considered when assessing urban development projects.

### 1c. The community and relevant government entities have access to guidance on GHFF foraging plants to promote planting of these species in non-sensitive areas in the ACT

GHFFs are inhabiting urban areas more frequently due to the destruction of native vegetation elsewhere. Providing resources in safe, non-sensitive urban areas (sensitive areas include schools, childcare, and aged care centres, hospitals, equine centres and airports; locations that present a higher risk to vulnerable people or flying-foxes themselves) is becoming increasingly important for the survival of GHFF.

A 30% canopy cover by 2045 has been set as an outcome of the ACT Urban Forest Strategy 2021–45, which will require an increase in planting programs. Plant species that GHFF forage should be considered in revegetation works so trees that attract GHFF are planted in non-sensitive areas and avoided in sensitive areas. For instance, a guide for revegetating for GHFF should include avoiding planting foraging trees too close to hazards like busy roads, powerlines, and barbed wire. Such action aligns with Action 4.2.1 in the Urban Forest Strategy 2021–45: Implement strategic planting to support wildlife and enhance movement and foraging opportunities across the city and wider landscape. Promoting integration of GHFF foraging trees into ACT planting programs will help to increase foraging habitat in urban and rural areas.

## 1d. Knowledge is built on potential alternative roosting habitat for GHFF in non-sensitive areas in the ACT and possible restoration actions to attract GHFFs to a new camp

Once GHFFs establish roosts (or camps) in an area, it is difficult to encourage their dispersal into other areas (generally done by disturbing them using loud noises). Dispersal of such camps might be needed if GHFFs move into sensitive areas or establish an additional camp. A revision of 17 known flying-fox dispersal actions used between 1990 and 2003 concluded that in all cases, dispersed animals did not abandon the local area and they did not move far (<600 m from the original site, contingent on the distribution of available vegetation). In 85% of cases, new camps were established nearby and repeated dispersal actions were required. In addition, it was not possible to predict where alternate camps would form, and the financial costs of dispersal efforts were high. For instance, the relocation of the GHFF camp from the Melbourne Botanical Gardens to Yarra Bend Park in Fairfield took continuous effort for six months, and cost approximately \$3 million with additional ongoing management required (Roberts and Eby 2013).

A strategy to avoid dispersal actions is to promote movements of flying-foxes to new roosting areas by revegetating potential flying-fox roosting habitat to encourage the relocation away from residential areas or other sensitive areas. This mechanism has been used successfully to relocate flying-foxes in Lake Macquarie, NSW (see Blackalls Park flying-fox camp - Lake Macquarie City Council). Modelling of potential roosting habitat will show where GHFFs might move and where restoration will effectively attract them.

## 2. The size and dynamics of the GHFF population in the ACT are known and tracked over time

### 2a. GHFFs are counted regularly, and data contributes to the National Monitoring Program

Monitoring is necessary to evaluate both the management requirements of threatened species and management effectiveness of the actions taken to improve the status of the species. The Australasian Bat Society (ABS) surveyed the camp at Commonwealth Park since it was first established in 2003, and in 2012 entered into a formal agreement with the NCA to monitor the camp at least 8 times per year. The ABS also provided quarterly census data to the ACT and Commonwealth Governments to contribute to the National Flying Fox Monitoring Program from 2013–22.

These data have been used to monitor the overall trend of the entire GHFF population by the National Flying Fox Monitoring program (NFFMP). The NFFMP ceased at the end of 2022, the ACT Government and other jurisdictions had initial discussion on the necessity to re-activate this program and ways to support it. The NFFMP is essential to track if the actions taken to reduce threats are making an effect at the whole population level. National funding is needed to monitor this species that moves across state borders. The ACT will continue to highlight the need for this program and support its reactivation.

## 2b. The reproductive outcome of the ACT camp is monitored annually

## 2c. The number and main causes of GHFF morbidities and mortalities are known in the ACT

ACT Wildlife records the numbers of GHFF found dead at camp, electrocuted, or trapped in netting. This information, as well as the yearly reproductive outcome (the number of pups born) of GHFF in the ACT camp, is crucial to understand if the actions in this plan are having an impact on reducing mortality and evaluating if the actions need to be adjusted.

## 2d. GHFF data is incorporated into the Threatened Species Dashboard in the ACT

The ACT Government will incorporate monitoring data on annual counts, and subject to additional funding incorporate mortality, and reproductive output in the newly planned Threatened Species Dashboard.

# 3. Mass mortality of GHFFs due to extreme weather events (EWEs) is minimised

## 3a. A protocol for responding to EWEs is in place and the ACT Government participates in EWE responses at camp

ACT Wildlife and the NCA have developed a Flying-Fox Extreme Weather Event (EWE) Plan to respond in a timely and effective manner to extreme weather events including hailstorms, cold snaps, and heat waves (e.g. turn in situ water sprinkler system on to reduce heat stress at the camp). The ACT Government veterinary officers have provided input into the EWE plan, and are also responders in these emergencies. The ACT Government will continue to discuss preparations for extreme weather seasons and assist in responding to EWEs, including providing ACT Wildlife with a list of vaccinated veterinarians that can help during EWE events.

## 3b. Temperature and humidity are regularly monitored in summer to anticipate EWEs and react before a mass mortality event occurs

Monitoring temperature and humidity at a camp is key to responding quickly to EWEs to assist the camp when these parameters exceed the safe threshold for GHFF. However, current monitoring uses more general broad-scale Bureau of Meteorology data (e.g. from the Canberra Airport) that cannot account for substantial variations at Commonwealth Park. Small weather stations have been used to monitor temperature and humidity in other camps with alarms triggered when thresholds are reached. ACT Wildlife will acquire such equipment to help respond to EWEs more accurately, with support from ACT Government. This monitoring would assist with tracking the particular camp conditions at which GHFFs start to react to stressful temperature and humidity conditions.

## 4. Number of GHFFs trapped in household netting decreases over time

**Helping injured wildlife**

If you find an animal or bird trapped in your netting, do not try to free it yourself. Attempted rescues risk human injury and can be extremely distressing for wildlife, animals can quickly die from shock.

For professional assistance in the case of injured or trapped animal, please call:

- » **ACT Wildlife: 0432 300 033 (24/7)**
- » **Access Canberra: 13 22 81**

**Wildlife friendly fruit netting**

ACT Government

ACT Wildlife  
ACT Government

Wildlife friendly fruit netting

For more information on wildlife friendly tree netting, visit [www.environment.act.gov.au](http://www.environment.act.gov.au)

To learn more about wildlife rescue in the ACT, visit [actwildlife.net](http://actwildlife.net)

ACT Wildlife  
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Secure your harvest, protect our wildlife

*Information flyer on Wildlife-friendly fruit netting designed by ACT Government to support ACT Wildlife in this campaign.*

### 4a. The transition of households to using wildlife-friendly netting is continued and enforced.

Legislation prohibiting ACT households using tree netting with a mesh size greater than 5 mm x 5 mm commenced in April 2024. Wildlife-friendly netting is available at local retail shops in Canberra and online, and some major vendors now exclusively stock wildlife-friendly netting for residential use. The legislation includes a requirement for retailers stocking non-wildlife-friendly netting to inform shoppers that the netting does not comply with legislation and is prohibited for use, to assist Canberrans to make an informed choice and avoid inappropriate netting. The ACT Government is supporting ACT Wildlife to help residents switch to wildlife-friendly netting through a Fruit Tree Netting Swap Program. The ACT Government will continue to promote the use of wildlife friendly netting via social media and other means. In addition, ACT Government officers will encourage compliance through education and awareness and escalating enforcement action will apply to those that demonstrate a disregard for the law through the use of warnings and penalty infringement notices.

### 4b. The number of GHFFs trapped in household netting is tracked

ACT Wildlife rescues GHFFs trapped in household netting and keeps records of these eventualities. Tracking these numbers over time is key to understanding if the change to using wildlife-friendly netting is reducing the number of GHFF getting trapped in inappropriate netting. The ACT government will track reports of dead GHFFs trapped in netting.

#### 4c. ACT Wildlife carers have access to up to date training to care for rescued GHFFs

Volunteers that care for GHFFs need to be fully vaccinated for the Australian Bat Lyssavirus and have the appropriate training to feed and handle flying-foxes, especially when they are caring for stressed individuals. Having access to up-to-date training to care for rescued GHFFs will facilitate the safety of volunteers and increase the likelihood of survival for GHFFs. ACT Wildlife will undertake additional training, with funding support from the ACT Government.

## 5. ACT Government and community is well prepared for GHFF migration onto ACT land

#### 5a-c. A camp management plan is prepared in the event that GHFFs establish a camp in a non-sensitive area of the ACT

In the ACT, the GHFF may expand from the Commonwealth Park camp if the population of the camp reaches capacity or if disturbances promote an exodus. Camps might establish in other urban areas in parks or near residential areas, which increases the likelihood of GHFF interactions with residents. Ecosure, as part of the Commonwealth Park Management plan (NCA 2020), has modelled potential future flying-fox camp locations using habitat scores. Considering habitat suitability, and proximity to water and feeding areas, Ecosure found that potential areas for future camps are Sullivans Creek, Australian National Botanical Gardens, Glebe Park, and Anzac Parade. Further work needs to be undertaken to expand this research and identify other potential camp locations near waterways in other parts of the ACT, such as Gungahlin, Tuggeranong and Belconnen and evaluate potential restoration of these sites to attract GHFFs to safe roosting habitats (see 1d).

If camps are established on ACT Government managed land, a camp management plan (CMP) (which includes an EWE Plan) should be developed. In situ management of GHFF camps will be important for reducing human-GHFF conflict and any disturbances caused by human activity. A CMP guideline should be developed that can be adapted for particular sites according to factors such as threats, extent of camp usage, time of year, or risks to the surrounding environment. A CMP should describe which actions and activities are acceptable around the camp and provides mitigation protocols for higher-risk actions similar to the Commonwealth Park Plan.

## 6. The ACT community co-exists harmoniously with GHFFs

Several risks emerge when GHFFs establish in urban areas, both to the species and to people. Tolerance for GHFFs by the community can rapidly deteriorate when people become affected by noise, smell, excrement, defoliation, and excessive take of fruit from backyards and orchards. Tait et al. (2014) found that residents and businesses close to camps may experience property damage to houses, cars and gardens, water tank contamination, and reduced enjoyment of public parks for gatherings and events. The number, size and permanency of camps can be expected to increase in the ACT in the future, since the GHFF is believed to respond to changes in the availability of food sources by moving between camps (Eby 2000). Educating the public around the ecological value of this species will help to create a positive image of GHFFs, which could help with conflict resolution in the future.

## 6a-b. Public awareness and perception of GHFFs is improved

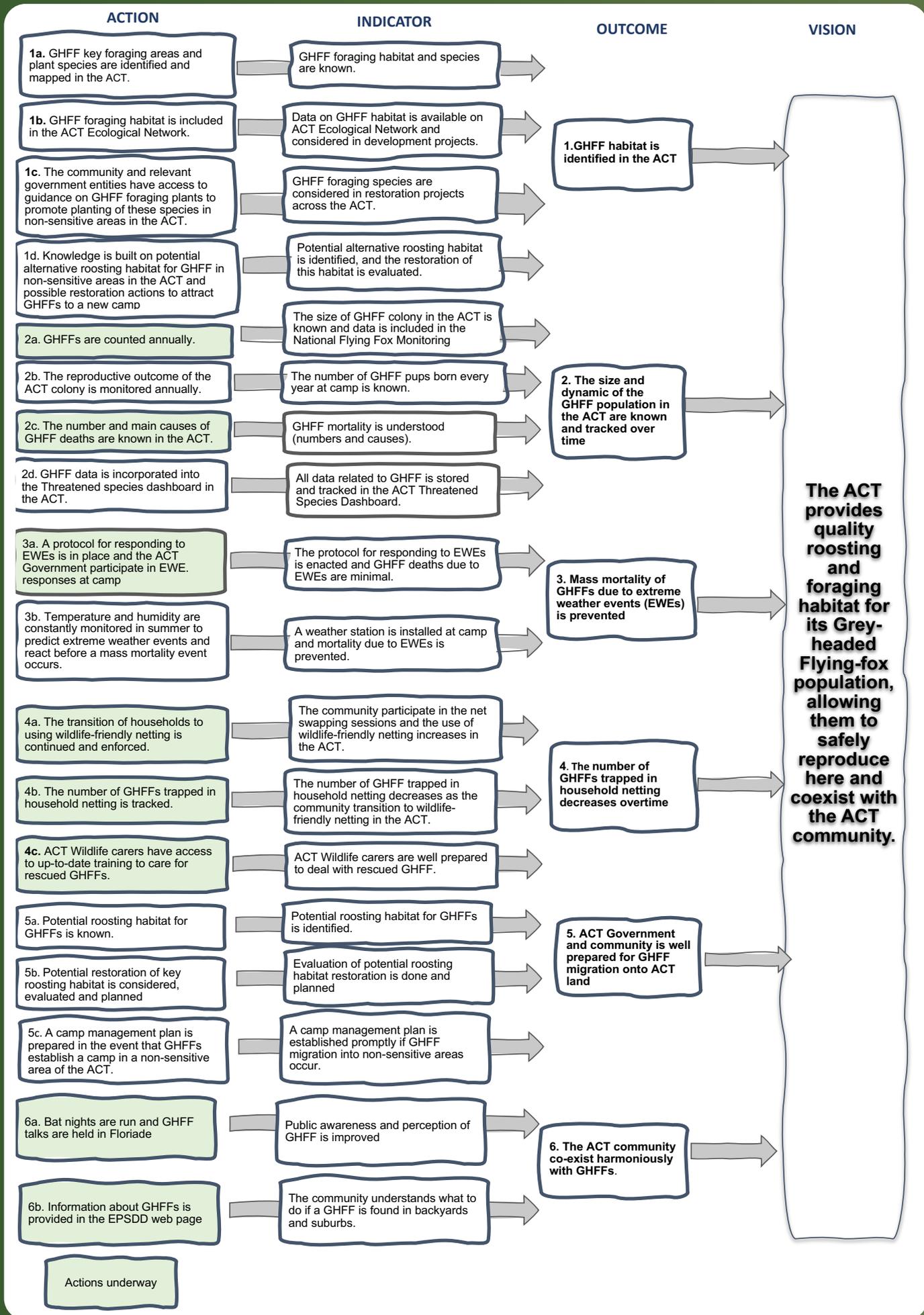
In several areas, negative public attitudes toward the species act as an impediment to the recovery process. The continued clearing of GHFF habitat for urban and rural development both reduces the habitat available and increases the conflict between GHFFs and people. As well as protecting GHFF habitat, public education is needed to improve co-existence between people and GHFFs and reduce this conflict.

Educating the community on the ecological importance of the GHFF and implementing a campaign to provide information and advice could mitigate potential human conflict. The campaign should disseminate information in a range of formats covering:

- > the new wildlife-friendly netting legislation
- > the ecological value of GHFFs
- > the threats to the survival of the species
- > dispelling myths about GHFFs
- > encouraging changes in attitudes to understand that GHFF are intelligent, social and charming animals.

Collaboration between ACT Government and community groups will be essential to creating a better relationship with this threatened species.

The ACT Government, in collaboration with ACT Wildlife, already runs a “Bat Night” at Commonwealth Park as part of the Jerrabomberra Wetlands “Young Rangers” program. Extending this activity to more groups in the broader community would be a great opportunity for people to get familiar with this species. The ACT Government is funding ACT Wildlife to run three “Bat Night” events at Commonwealth Park in 2024–25.





# Implementation, monitoring and review

This plan has been developed through consultation with key stakeholders and experts. Successful implementation will require a range of stakeholders (both within and outside of the ACT Government), to realise the objectives and actions under this plan.

Section 124 of the NC Act requires the Conservator, the lessee of leased land (if applicable) and the custodian of the land (if applicable) to implement a native species conservation plan. This plan will be implemented by ACT Government staff with expertise in ecological monitoring and conservation practices, and potentially Government areas working in restoration of urban and rural areas, and ACT Wildlife. Section 125 of the NC Act requires the Conservator to monitor the effectiveness of this plan. The legislation does not stipulate a statutory timeframe for monitoring and review; however, the plan should be reviewed frequently to ensure it is meeting its objectives and adjusted within an adaptive management framework as required. The actions outlined in this plan are to be developed in the short term (3 years) and will require review after that period to ensure the actions are still relevant and effective to achieve the stated outcomes.

Appendix A summarises the actions and corresponding indicators of success for this plan. It also includes timeframes and milestones that trigger review against each action.



*ACT Wildlife carers in Commonwealth Park discussing GHFF ecology during Young Rangers Bat Night, organised by ACT Government, November 2023*

# Additional Background Information

## Description

GHFFs are Australia's largest bat. Adult GHFF males generally weigh 750–1,000 g, with weights as high as 1,133g recorded (Ratcliffe 1932; Tidemann 1995; DECCW 2009). Adult females generally weigh 650–800g. Although males and females differ in weight, their forearms are of similar length, 155–175 mm. Body fur is typically medium to dark grey, with many light-tipped hairs (Hall and Richards 2000). Fur on the head is also grey but varies in shade from near black to silver. An orange or russet-coloured mantle or collar encircles the neck, and leg fur extends to the ankle which distinguishes the species from the similarly sized Black Flying-fox (*Pteropus alecto*), the leg furs of which does not extend below the knee. Wing membranes are black (DECCW 2009).

Through pollination and seed dispersal, the GHFF contributes to sustaining ecological processes within a variety of ecosystems, including within woodlands and forests of the ACT. It plays a key ecological role within the coastal regions of eastern Australia, including three of Australia's World Heritage Areas: K'gari (QLD), the Gondwana Rainforests (NSW and south-east QLD) and the Greater Blue Mountains (central NSW) (DAWE 2021).

The GHFF feeds on over 100 species of flowering trees and fleshy-fruited trees and vines (Eby and Law 2008) including Eucalyptus, Banksia and Melaleuca species. In doing so, they interact with numerous plant communities and assist with seed and pollen dispersal of its food plants within these communities (Eby 1996; Tidemann and Vardon 1997).

Actions to manage and improve foraging and roosting habitat will benefit several hundred vegetation communities in Queensland, New South Wales and Victoria (Eby and Law 2008). Nectar and fruit feeding bats, birds, and mammals will also benefit, as will a range of other fauna that occupy the forest and woodland communities used by the GHFF.

## Distribution and habitat

The GHFF is endemic to eastern Australia, with a distribution ranging from Ingham in Queensland to Melbourne in Victoria. The range extends from the coast to the western slopes of New South Wales (NSW) with reports also from South Australia (TSSC 2001). The latitudinal range of GHFF appears to have changed little since the 1800s (Roberts et al. 2012), with the southern part of the range tending to be occupied by summer migrants. Since the 1980s, there has been a southerly expansion in roosts occupied year-round from Mallacoota to Melbourne, Victoria (Williams et al. 2006). Since 2011, new permanent roosts have been established as a result of westerly expansion beyond Melbourne in Victoria, and as far west as Adelaide (Boardman et al. 2021) and Port Augusta, South Australia. One of the main drivers for this is thought to be the diversity of winter foraging resources in urban areas (Williams et al. 2009; Yabsley et al. 2021).

The distribution of the GHFF population responds rapidly to changes in resource distribution with entire regions being colonised or vacated in short periods (Westcott et al. 2011). In the past, temporary camps established during food shortages were abandoned once conditions improved elsewhere. Since the mid-2000s, an increasing number of these temporary camps have persisted despite food availability elsewhere, leading to an increase in the inland presence of GHFF. For example, the Commonwealth Park camp in Canberra was formed during the 2003 food shortage in Queensland and NSW (CNM 2018), and a Tumut camp formed during the 2010 food shortage, as did camps in Bendigo and Adelaide. Many of these 'new' camps currently record consistent seasonal numbers of GHFF.

Throughout its distribution, the GHFF is found in a wide variety of habitats, including tropical moist forest, open forest, closed and open woodlands, Melaleuca swamps, Banksia woodlands, Mangrove ecosystems, and commercial fruit plantations. The species also occurs in urban areas where suitable foraging is available close to suitable roosting habitat (Lunney et al. 2008).

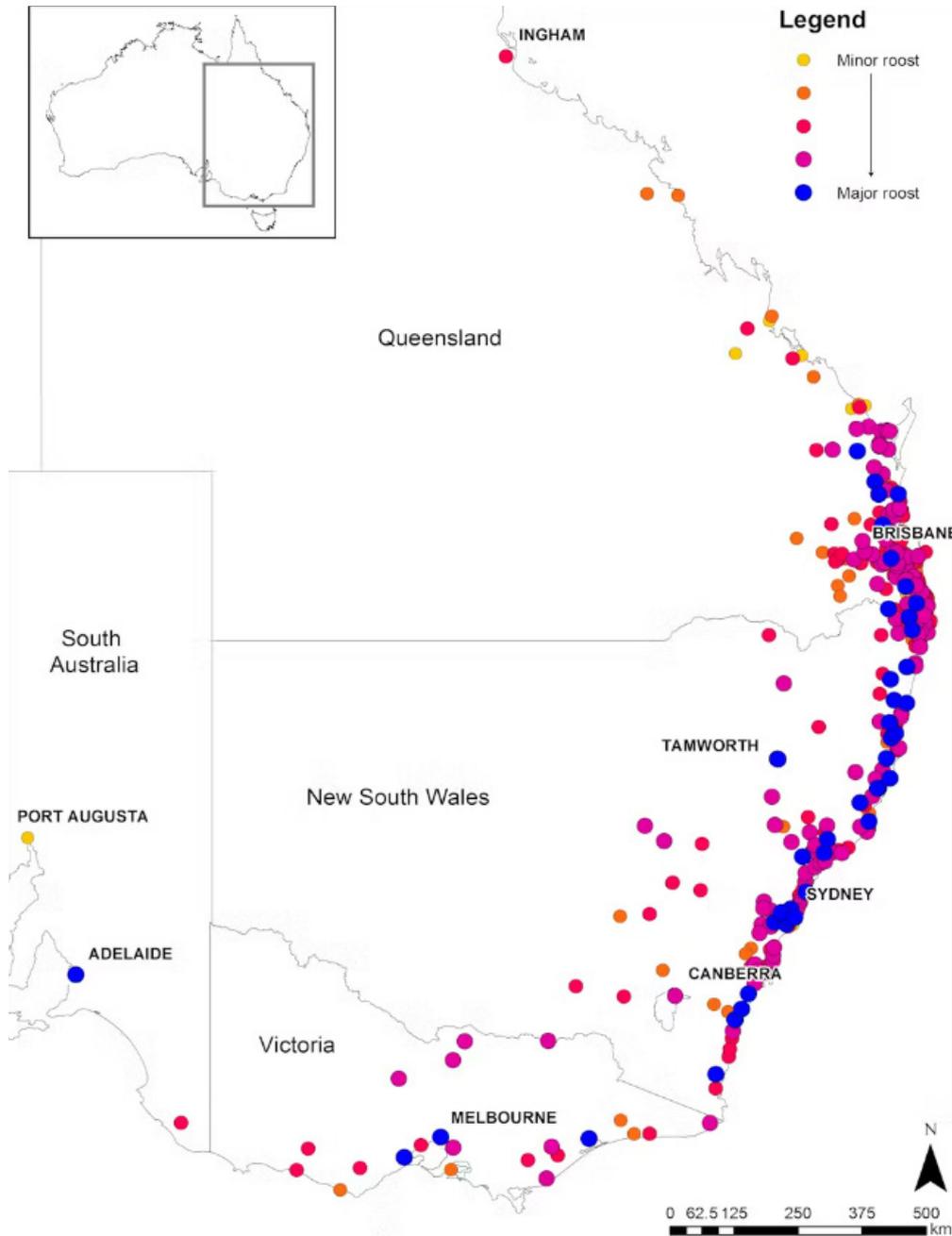


Figure 2: Map of Grey-headed Flying-fox counts across its distribution. Minor roosts had fewer than 100 individuals while major roosts had more than 100,000 (Eric Vanderduys in the Conversation, March 2024 <https://creativecommons.org/licenses/by-sa/4.0/>)

All the GHFF in Australia are regarded as one population that moves around freely within its entire national range (Webb and Tidemann 1996; DoE 2015). GHFF may travel up to 100 kilometres in a single night with a foraging radius of < 50 kilometres from their camp (McConkey et al. 2012). They have been recorded travelling over 500 kilometres over 48 hours when moving from one camp to another (Roberts et al. 2012).

GHFF generally show a high level of fidelity to camp sites, returning year after year to the same site, and have been recorded returning to the same branch of a particular tree (SEQ Catchments 2012).

## Breeding season

GHFFs are seasonal breeders, with a single breeding event each year, with births typically occurring between October and November/December after a 6-month gestation (Churchill 2008; Divljan 2008). Females generally reach sexual maturity in their second year and give birth to a single pup, annually; however, it is thought that few females younger than three years successfully raise young to independence (McIlwee and Martin 2002). Generation length is likely to be around six or seven years (Lunney et al. 2008). GHFF travel to Canberra to spend the final trimester and peak birthing, creche and peak conception periods at Commonwealth Park (Figure 2). Thus, Commonwealth Park provides habitat for GHFF during critical life stages.

Young are highly dependent on their mother for food and thermoregulation. Young are suckled and carried by the mother until approximately four weeks of age (Markus and Blackshaw 2002). At this time, they are left at the camp during the night in a crèche until they begin foraging with their mother between January and March (Churchill 2008) and are usually weaned by six months of age.



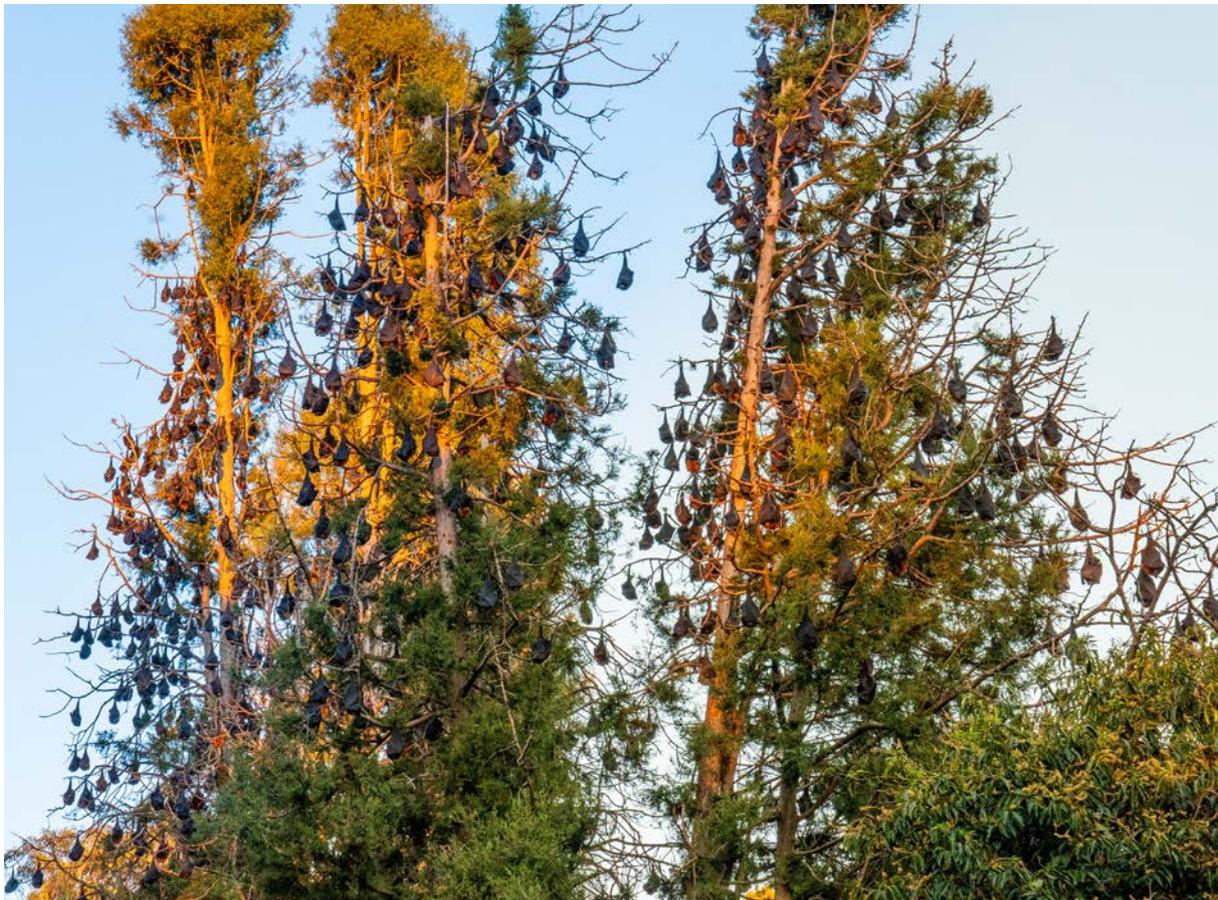
*GHFFs roosting in Commonwealth Park, November 2023*

# The Commonwealth Park camp

In 2003, Dr Christopher Tidemann of The Australian National University (ANU) recorded an estimated 300 GHFF for the first time in trees in Commonwealth Park between Stage 88 and Nerang Pool (in the Rhododendron Garden). The camp has been occupied seasonally, every year since 2003, and is the only known long-standing camp in the ACT. The Australasian Bat Society Inc (ABS) has surveyed the Commonwealth Park camp since 2003. In 2012, the ABS entered into an agreement with the National Capital Authority (NCA) to monitor this camp by conducting 8 counts each year. All counts are made using a static ground-based method where roosting flying-foxes are counted during the day. This method is consistent with the national method developed by CSIRO (Westcott et al. 2011). Since 2013, the ABS has also provided quarterly census data to the ACT and Commonwealth governments as part of the National Flying-fox Monitoring Program.

GHFF usually arrive in Commonwealth Park around early October, at peak birthing season, and they leave the camp in mid-May, after mating (Figure 2). The mating season (March to April) represents the period of peak camp occupancy (Markus 2002). Usually, no flying-foxes are recorded between June and August, however around 500 flying-foxes were recorded over the winter season in 2010 and in 2014 the camp was occupied during winter at very low numbers. The reason for the variation in flying-fox abundance throughout the year is unknown but it is likely related to food availability (Westcott et al. 2011) and climate (Parris and Hazell 2005). GHFF abundance in the Commonwealth Park camp has generally increased over time. The maximum numbers of GHFF were recorded in 2021 ( $n = 9,159$ ). The 2022 peak abundance was 4,079 with a larger peak being reported for 2023 of 5,295 GHFFs counted in March (Wilson 2023).

A small camp was observed repeatedly (though not consistently) in 2020–21 at Lake Ginninderra, on ACT Government-managed land.



*GHFFs roosting in the Commonwealth Park camp, November 2023.*

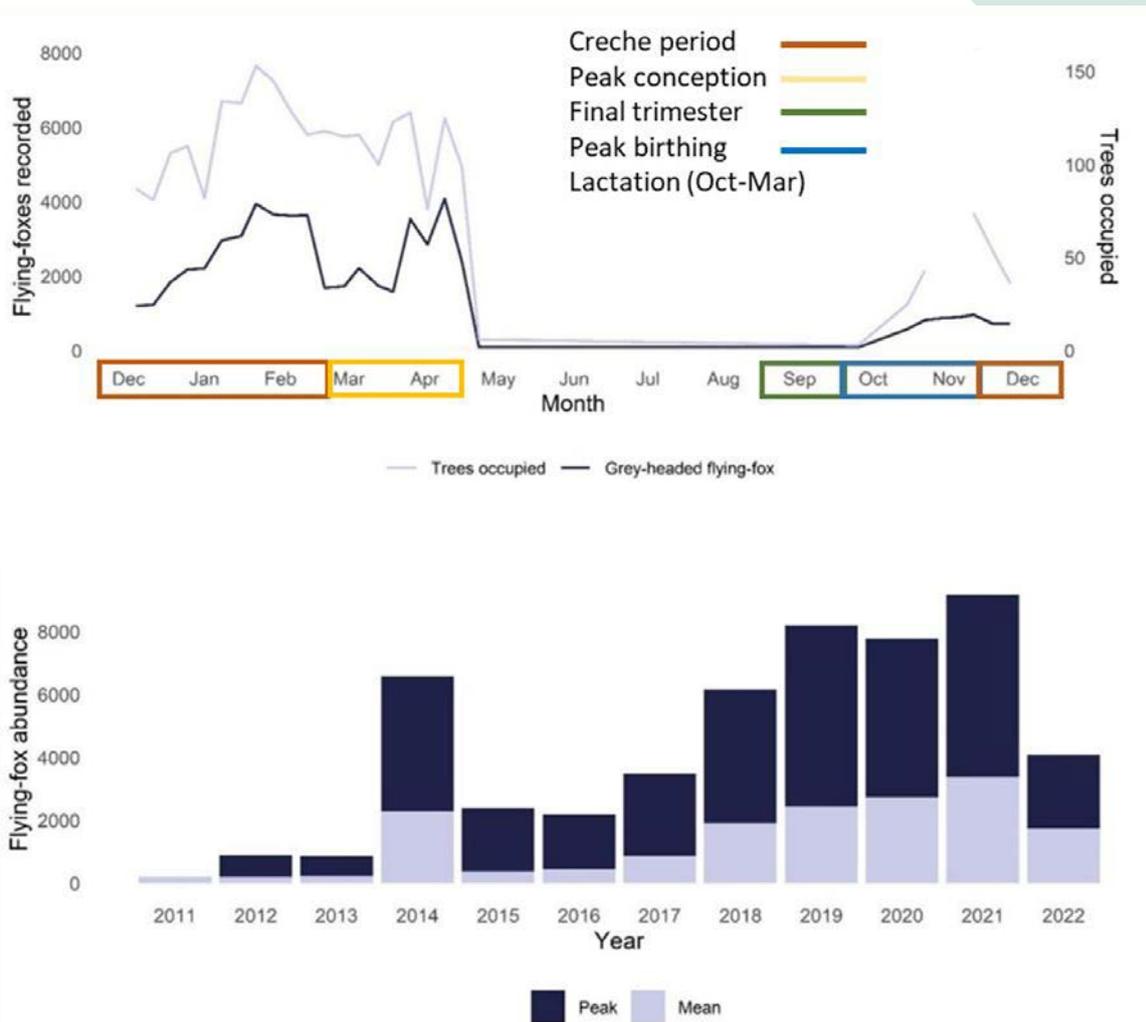


Figure 3: Abundance (above) and peak and mean abundance (below) of flying-foxes (*Pteropus* species) recorded at Commonwealth Park camp, Australian Capital Territory, based on 268 surveys conducted between December 2011 and November 2023. This figure was generated using the ggplot2 (Wickham 2014) package in R (R Core Team 2022). Sourced from Wilson et al. (2023).

## Cultural Importance

In other areas, the GHFF has significance to traditional custodians as a food source, a clan totem, an art subject and an indicator of particular habitat associations and seasonal and climatic changes, both annually and in the dreaming cycle (Ecobiological 2009). The literature indicates that Aboriginal people traditionally had an intimate understanding of many aspects of GHFF ecology, such as breeding and movement patterns, and that they carefully managed flying-fox habitat to protect the species (Ecobiological 2009). Historical records show that before 2003, GHFFs had been only occasional visitors to the ACT; a search of museum records and historical databases between 1965 and 2002 revealed 12 records in Canberra (Wilson 2023).

GHFF numbers are increasing in Ngunnawal Country; understanding Ngunnawal knowledge and consideration around this species will enrich the outcomes of this plan and help with the conservation of the GHFF.

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# Appendix A:

## Outcomes, actions, indicators and timeframes to be assessed during monitoring and review of this Plan

Actions	Indicator of success	Timeframe
<b>Outcomes 1: GHFF habitat is identified in the ACT</b>		
1a. GHFF key foraging areas and plant species are identified and mapped in the ACT	> GHFF foraging habitat and species are identified and mapped in the ACT	> Research into foraging areas starts in 2024 until 2025
1b. GHFF foraging habitat is included in the ACT Ecological Network Dashboard	> Data on GHFF habitat is available on ACT Ecological Network Dashboard and considered in development projects	> GHFF critical habitat is known, mapped and available in the ACT Ecological Network Dashboard by the start of 2026
1c. The community and relevant government entities have access to guidance on GHFF foraging plants to promote planting of these species in non-sensitive areas in the ACT	> GHFF foraging species are considered in restoration projects across the ACT	> By mid-2026, a comprehensive list of GHFF foraging species is ready for circulation
1d. Knowledge is built on potential alternative roosting habitat for GHFF in non-sensitive areas in the ACT and possible restoration actions to attract GHFFs to a new camp	> Potential alternative roosting habitat is identified, and the restoration of this habitat is evaluated.	> Alternative roosting habitat is identified and potential restoration projects to attract GHFF are considered and evaluated by 2027
<b>Outcomes 2: The size and dynamic of the GHFF population in the ACT are known and tracked over time</b>		
2a. GHFFs are counted regularly	> The size of the GHFF camp in the ACT is known and data is included in the National Flying-fox Monitoring Program	> Ongoing – GHFF at camp are counted at least 8 times each year by the Australasian Bat Society, contracted by NCA
2b. The reproductive outcome of the ACT camp is monitored annually	> The number of GHFF pups born every year at camp is recorded	> Ongoing – ACT Wildlife continue monitoring of deaths and entanglements
2c. The number and main causes of GHFF morbidities and mortalities are known in the ACT	> GHFF morbidity and mortality is understood (numbers and causes recorded)	> Reproductive outcome measures start in 2025 (subject to funding)
2d. GHFF data is incorporated into the new ACT Threatened Species Dashboard	> All data related to GHFF is stored and tracked in the ACT Threatened Species Dashboard	> A GHFF database in the Threatened species Dashboard is established by 2025

Actions	Indicator of success	Timeframe
<b>Outcomes 3: Mass mortality of GHFFs due extreme weather events (EWEs) is minimised</b>		
3a. A protocol for responding to EWEs is in place and the ACT Government actively participates in EWE responses at camp  3b. Temperature and humidity are regularly monitored in summer to anticipate EWEs and react before a mass mortality event occurs.	> The protocol for responding to EWEs is enacted and GHFF deaths due to EWEs are minimal.  > Mortality due to EWEs is minimised	> Ongoing - The EWE protocol is reviewed annually and the ACT Government participates in preparations and emergencies  > A grant was allocated to ACT Wildlife in April 2024 to provide a weather station  > A weather station is installed by start of 2025 with the cooperation of the NCA

<b>Outcomes 4: The number of GHFFs trapped in household netting decreases over time</b>		
4a. The transition of households to using wildlife- friendly netting is continued and enforced  4b. The number of GHFFs trapped in household netting is tracked  4c. ACT Wildlife carers have access to up to date training to care for rescued GHFFs	> The community participates in the net swapping program and the use of wildlife- friendly netting increases in the ACT  > ACT Wildlife carers are well prepared to deal with rescued GHFF	> ACT Government continues education around the netting ban  > ACT Government enforced the ban post education campaign (mid-2025 onwards)  > ACT Wildlife runs a second net swap program in Spring 2024  > Funding was allocated to ACT Wildlife in April 2024 for training for carers and the netting program  > Ongoing – the number of GHFF that get trapped in netting is tracked over time

Actions	Indicator of success	Timeframe
<b>Outcomes 5: ACT Government and community is well prepared for GHFF migration onto ACT land</b>		
5a. Potential roosting habitat for GHFFs is known	> Potential roosting habitat for GHFFs is identified	> Potential roosting habitat is identified by 2026
5b. Potential restoration of key roosting habitat is considered, evaluated and planned	> Evaluation of potential roosting habitat restoration is done and planned	> Potential restoration of roosting habitat is evaluated and planned in early-2026
5c. A camp management plan is prepared in the event that GHFFs establish a camp in a non-sensitive area of the ACT	> A camp management plan is established promptly and implemented if GHFF migration into non-sensitive areas occur	> Management plan is required as soon as GHFF migrate into non-sensitive areas
<b>Outcomes 6: The ACT community co-exists harmoniously with GHFFs</b>		
6a. Bat nights are run and GHFF talks are held in Floriade	> Public awareness and perception of GHFFs is improved	> “Bat nights” are run in spring and summer 2024 and autumn 2025
6b. Information about GHFFs is provided in the EPSDD web page	> The community understands what to do if a GHFF is found in backyards and suburbs.	> Ongoing – dissemination of GHFF information by the ACT Government

# Appendix B:

## Foraging plants for Grey-headed Flying foxes

Botanical Name	Common Name
<b>Native fruits</b>	
<i>Acmena hemilampra</i>	Broad-leaved lilly pilly
<i>A. ingens</i>	Red apple
<i>A. smithii</i>	Lilly pilly
<i>Alphitonia excelsa</i>	Red ash
<i>Archontophoenix alexandrae</i>	Phoenix or Alexandra Palm
<i>A. cunninghamiana</i>	Bangalow palm
<i>Avicennia marina</i>	Grey mangrove
<i>Bridelia exaltata</i>	Brush Ironbark or Scrub Ironbark
<i>Cissus antarctica</i>	Water or Kangaroo Vine
<i>C. hypogaluca</i>	Five-leaf water vine
<i>Davidsonia spp.</i>	Davidson's plum
<i>Dendrocnide excelsa</i>	Giant stinging tree
<i>D. photinophylla</i>	Shining-leaved stinging tree
<i>Diospyros pentamera</i>	Myrtle ebony
<i>Diploglottis australis</i>	Native tamarind
<i>Ehretia acuminata</i>	Koda
<i>Elaeocarpus grandis</i>	Blue fig
<i>E. obovatus</i>	Hard quandong
<i>E. reticulatus</i>	Blueberry ash
<i>Ficus coronata</i>	Creek sandpaper fig
<i>F. fraseri</i>	Sandpaper fig
<i>F. macrophylla</i>	Moreton bay fig
<i>F. microcarpa</i>	Small-fruited Fig
<i>F. obliqua</i>	Small-leaved fig
<i>F. rubiginosa</i>	Rusty fig
<i>F. superba</i>	Deciduous fig
<i>F. virens</i>	White fig
<i>F. watkinsiana</i>	Strangler fig
<i>Hedycarya angustifolia</i>	Native mulberry
<i>Livistona australis</i>	Cabbage palm
<i>Maclura cochinchinensis</i>	Cockspur thorn
<i>Mallotus discolor</i>	White Kamala
<i>Melia azedarach</i>	White cedar
<i>Melodinus australis</i>	Southern Melodinus
<i>Morinda jasminoides</i>	Morinda
<i>Notothixos cornifolius</i>	Kurrajong mistletoe
<i>Passiflora spp.</i>	Native passionfruit

Botanical Name	Common Name
<b>Native fruits</b>	
<i>Pennantia cunninghamii</i>	Brown Beech
<i>Pittosporum undulatum</i>	Sweet pittosporum
<i>Planchonella australis</i>	Black apple
<i>Podocarpus elatus</i>	Plum pine
<i>Polyosma cunninghamii</i>	Featherwood
<i>Rauwenhoffia leichardtii</i>	Zig zag vine
<i>Rhodamnia argentea</i>	Malletwood
<i>Schizomeria ovata</i>	Crabapple
<i>Syzygium australe</i>	Brush cherry
<i>S. corynanthum</i>	Sour cherry
<i>S. crebrinerve</i>	Purple cherry
<i>S. luehmanii</i>	Riberry
<i>S. oleosum</i>	Blue Lilly pilly
<i>S. paniculatum</i>	Magenta Lilly Pilly
<i>Toechima dasyrrhache</i>	Blunt-leaved Steelwood

Botanical Name	Common Name
<b>Native blossoms</b>	
<i>Angophora costata</i>	Smooth-barked apple
<i>A. floribunda</i>	Rough-barked apple
<i>A. woodsiana</i>	Wood's apple
<i>Banksia integrifolia</i>	Coast banksia
<i>B. serrata</i>	Old man banksia
<i>Callistemon citrinus</i>	Crimson Bottlebrush
<i>Castanospermum australe</i>	Black bean
<i>Corymbia citriodora</i>	Lemon-scented Gum
<i>C. eximia</i>	Yellow or Red Bloodwood
<i>C. gummifera</i>	Large-leaved spotted gum
<i>C. henryi</i>	a Spotted Gum
<i>C. intermedia</i>	Pink bloodwood
<i>C. maculata</i>	a Spotted Gum
<i>C. torrelliana</i>	Cadagi
<i>C. trachyphloia</i>	White bloodwood
<i>C. variegata</i>	a Spotted Gum
<i>Eucalyptus acmenoides</i>	White mahogany
<i>E. albens</i>	White box
<i>E. amplifolia</i>	Cabbage gum
<i>E. andrewsii</i>	New england blackbutt
<i>E. baileyana</i>	Bailey's Stringybark
<i>E. bancroftii</i>	Orange gum
<i>E. beyeri</i>	an Ironbark

Botanical Name	Common Name
<b>Native blossoms</b>	
<i>E. blakeyi</i>	Blakely's Red Gum
<i>E. botryoides</i>	Southern Mahogany
<i>E. campanulata</i>	New England blackbutt
<i>E. camuldulensis</i>	River Red Gum
<i>E. carnea</i>	Thick-leaved Mahogany
<i>E. cayleyi</i>	Cayley's Ironbark
<i>E. cloeziana</i>	Gympie Messmate
<i>E. crebra</i>	Narrow-leaved ironbark
<i>E. curtisii</i>	Plunkett Mallee
<i>E. dealbata</i>	Tumbledown Red Gum
<i>E. deanii</i>	Mountain Blue Gum
<i>E. fastigata</i>	Brown Barrel
<i>E. fibrosa</i>	Broad-leaved ironbark
<i>E. fusiformis</i>	a Grey Ironbark
<i>E. globoidea</i>	White Stringybark
<i>E. grandis</i>	Flooded gum
<i>E. haemastoma</i>	Scribbly Gum
<i>E. longifolia</i>	Woollybutt
<i>E. macrorhyncha</i>	Red stringybark
<i>E. maidenii</i>	Maiden's Gum
<i>E. melanophloia</i>	Silver-leaved Ironbark
<i>E. melliodora</i>	Yellow box
<i>E. microcorys</i>	Tallowwood
<i>E. moluccana</i>	Grey box
<i>E. obliqua</i>	Messmate Stringybark
<i>E. paniculata</i>	Grey ironbark
<i>E. parramattensis</i>	Parramatta Gum
<i>E. pilularis</i>	Blackbutt
<i>E. piperita</i>	Sydney Peppermint
<i>E. placita</i>	a Grey Ironbark
<i>E. planchoniana</i>	Bastard tallowwood
<i>E. propinqua</i>	Small-fruited grey gum
<i>E. punctata</i>	Large-fruited grey gum
<i>E. pyrocarpa</i>	Large-fruited blackbutt
<i>E. racemosa</i>	Southern Scribbly Gum
<i>E. radiata</i>	Narrow-leaved Peppermint
<i>E. resinifera</i>	Red mahogany
<i>E. robusta</i>	Swamp mahogany
<i>E. rummeryi</i>	Steel box
<i>E. saligna</i>	Sydney blue gum
<i>E. seeana</i>	Narrow-leaved red gum
<i>E. siderophloia</i>	Grey ironbark

Botanical Name	Common Name
<b>Native blossoms</b>	
<i>E. sideroxylon</i>	Mugga ironbark
<i>E. sieberi</i>	Silvertop Ash
<i>E. tereticornis</i>	Forest red gum
<i>E. tessellaris</i>	Carbeen
<i>E. tetrapleura</i>	Square-fruited ironbark
<i>E. tricarpa</i>	an Ironbark
<i>E. umbra</i>	Broad-leaved White Mahogany
<i>E. viminalis</i>	Ribbon Gum
<i>Grevillea pteridifolia</i>	Orange Grevillea
<i>G. robusta</i>	Silky oak
<i>Lophostemon confertus</i>	Brush box
<i>L. suaveolans</i>	Swamp Box or Swamp Turpentine
<i>Melaleuca quinquenervia</i>	Broad-leaved tea tree
<i>Stenocarpus sinuatus</i>	Firewheel Tree
<i>Syncarpia glomulifera</i>	Turpentine
<i>Xanthorrhoeae sp.</i>	Grass Tree
<i>Xanthostemon chrysanthus</i>	Golden Penda

Botanical Name	Common Name
<b>Exotic leaves and fruits</b>	
<i>Arecastrum romanzoffianum</i>	Cocos Palm
<i>Avicennia marina</i>	Grey mangrove
<i>Carica papaya</i>	Papaya
<i>Celtis sinensis</i>	Chinese Hackberry
<i>Cinnamomum camphora</i>	Camphor laurel
<i>Citris reticulata</i>	Mandarin
<i>Citris spp.</i>	Orange
<i>Diospyros spp.</i>	Persimmon
<i>Harpephyllum caffrum</i>	South African Wild Plum
<i>Litchi chinensis</i>	Lychee
<i>Malus spp.</i>	Apple
<i>Mangifera indica</i>	Mango
<i>Morus nigra</i>	Black Mulberry
<i>Musa spp.</i>	Banana
<i>Nephelium lappaceum</i>	Rambutan
<i>Passiflora spp.</i>	Passionfruit
<i>Phoenix canariensis</i>	Canary Island Date Palm
<i>P. dactylifera</i>	Date Palm
<i>Prunus armeniaca</i>	Apricot
<i>P. avium</i>	Cherry
<i>P. domestica</i>	Plum

Botanical Name	Common Name
<b>Exotic leaves and fruits</b>	
<i>P. persica</i>	Peach
<i>P. persica var. nectarina</i>	Nectarine
<i>Psidium guajava</i>	Guava
<i>Schotia brachypetala</i>	Drunken Parrot Tree
<i>Solanum mauritianum</i>	Wild tobacco
<i>Syagrus romanzoffiana</i>	Cocos palm
<i>Tipuana tipu</i>	Rosewood
<i>Vitis spp.</i>	Grape
<i>Ulmus parvifolia</i>	Chinese Elm

## References

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**ACT**  
Government

# Native Species Conservation Plan

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