Mitchell River Revegetation Program

Bairnsdale Grey-headed Flying Fox Roost Site

Strategic Management and Action Plan

East Gippsland Shire Council
Updated 2015

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LIST OF ACRONYMS

DE	Department of Environment (Commonwealth Government)

DELWP	Department of Land, Water and Planning (State Government)
EGCMA	East Gippsland Catchment Management Authority
EGSC	East Gippsland Shire Council
EPBC Act 1999	Environment Protection and Biodiversity Conservation Act 1999
FFG Act 1988	Flora and Fauna Guarantee Act 1988
GHFF	Grey-Headed Flying Fox
IUCN	International Union for Conservation of Nature
The Plan	Grey Headed Flying Fox Strategic Management and Action Plan

1 SUMMARY

Grey-headed Flying-fox (*Pteropus poliocephalus*) (GHFF) is nationally listed as a vulnerable species and is a regular seasonal visitor to Bairnsdale inhabiting a campsite on the Mitchell River. Numbers have varied from a few hundred to records of 60,000 individuals in 2014. The roost site is situated within a large stand of White Poplar, *Populus alba*. This vegetation is in a very poor and senescent condition and has a limited lifespan. The poplars are also an undesirable invasive pest plant species. Due to the high public usage of the walking path and the condition of the trees they are now a public safety issue.

The Mitchell River roost site is adjacent to a residential area. Residents have expressed concerns over the impacts from the colony including disease, noise, smell, and the potential for the devaluation of their homes. The roost site is also adjacent to the Mitchell River Walking Track which is a highly used piece of recreational infrastructure. The local Landcare group, with funding from the East Gippsland Catchment Management Authority (EGCMA), has worked with EGSC to remove poplars and other invasive plants and revegetate with native species around the river walk. The roost site poplars form part of this program. The national listing of the GHFF means that the proposal to remove the existing roost trees is a controlled action under the *EPBC Act 1994* and requires the development of a management plan that will ensure no or minimal impact to the conservation of this species.

Three options for the management of the roost site were identified as:

- Do nothing
- One off replacement of vegetation from non-native to native species (i.e. complete clear felling of site with corresponding site revegetation).
- Staged replacement of non-native vegetation (i.e. partial site clearing with corresponding site revegetation).

Staged replacement of non-native vegetation is EGSC's preferred option. This allows development of a buffer between adjacent houses and the site whilst giving time to observe the GHFF response to a reduction in the poplar roosting trees. One-off removal of the poplars runs the risk of shifting the colony into a more inappropriate site and no opportunity to assess its impact on the GHFF population.

Schedules have been developed for each stage to ensure programmed works occur when GHFF are absent from the roost site or in smaller population levels to mitigate impacts from the actions on GHFF. Increased community involvement and education regarding GHFF will be ongoing for the duration of works and beyond.

Assessment of the impacts to the GHFF by undertaking works has been undertaken to mitigate impacts and allow adaptive management of the site should significant stress be observed on GHFF after undertaking each staged approach. If the GHFF relocate to other areas, dispersals may be required dependant upon the location. Each of these sites will be assessed as to the appropriateness in reference to longer term ecological requirements of GHFF and reaction in creation of conflict with the community.

2 INTRODUCTION

2.1 Purpose of this Plan

This plan has been prepared by East Gippsland Shire Council (EGSC) and in consultation with Department of Land, Water and Planning (DELWP, formerly Department of Environment and Primary Industries), Gippsland. This partnership in preparing the plan reflects the responsibilities relating to GHFF and the roost site with EGSC being the land manager and DELWP having responsibilities for fauna protection under the Victorian *Wildlife Act 1975.*

This Strategic Management and Action Plan (The Plan) provides for an opportunity to manage the GHFF colony and the Bairnsdale roost site in a sensitive manner and in accordance with both Federal and State obligations. The Plan also allows for the rehabilitation of the site in accordance with sections of the EGSC *Mitchell River Environs Local Structure and Development Plan 1998*.

2.2 Objectives of the Plan

The objective of this plan is to implement proposed revegetation actions and provide contingencies for possible impacts on GHFF and their subsequent management. This plan aims to achieve the following:

- Continue, maintain and enhance the revegetation efforts within the Mitchell River corridor to facilitate safe recreational use and also to enhance the ecological character of the area;
- Secure a longer term site for the requirements of the GHFF that is accepted by the wider community;
- Balance the concerns of local residents and the wider community with the requirements placed upon EGSC by the relevant legislation.

2.3 Planning Process

The Plan is based on extensive research, investigation, monitoring and consultation undertaken by both DELWP and EGSC into GHFF ecology and appropriate site management. The Yarra Bend Park Flying Fox Campsite Management Plan (DSE 2005) was a reference during the preparation of the Plan.

The Plan has been prepared by EGSC with the cooperation of DELWP and relevant community stakeholders. Expert advice in relation to GHFF ecology was provided by Tony Mitchell, Wildlife Management Officer, DELWP.

3 BACKGROUND

3.1 Regional Information

East Gippsland Shire is located in the far eastern corner of Victoria, approximately 280 kilometres from Melbourne and extends to the NSW border. The shire covers 21,051 square kilometres and is the second largest municipality in Victoria.

The main urban centres of the East Gippsland Shire are Bairnsdale, Lakes Entrance, Orbost, Paynesville, Omeo and Mallacoota. Bairnsdale has the largest population and is also the principal regional retail and service centre. There are approximately 10 smaller towns and a large number of rural settlements within the boundaries of the East Gippsland Shire. .

GHFF have been recorded in Victoria at Geelong and Melbourne intermittently in the 1880's (DECCW 2009). A campsite exists along the Mitchell River in urban Bairnsdale, Victoria, and is used regularly. GHFF are known at other sites within East Gippsland and have also been recorded in nearby West Gippsland (see **Appendix 3**). A report by Nelson (1965) recording the movement of GHFF refers to a site at Dowell's Creek in Mallacoota as being a seasonal GHFF camp, with intermittent sightings at Orbost and at Bairnsdale.

3.2 Bairnsdale Township

Bairnsdale is the principal commercial and retail centre in East Gippsland. The town has a population of approximately 13,000 residents (ABS 2011) and is situated adjacent to the Mitchell River on the edge of an extensive plains area.

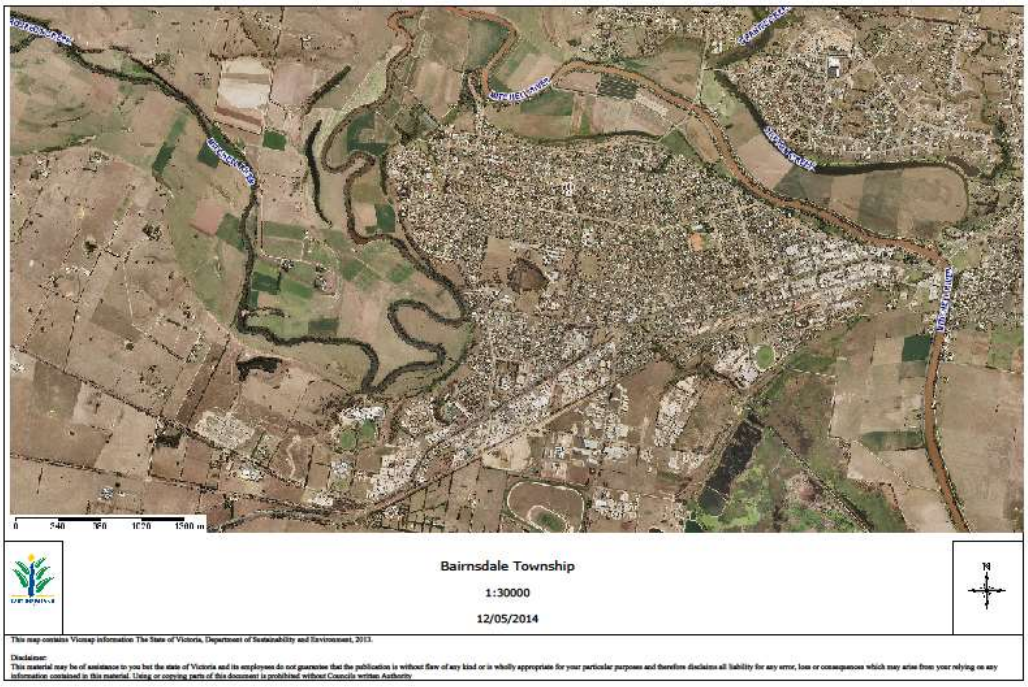

Figure 1 - Aerial Image of Bairnsdale

3.3 History of GHFF in Gippsland

GHFF have been recorded using the Mitchell River roost site since 1995, with occupation recorded since 2002 (no GHFF recorded 2005). The number of GHFF

using the site has varied between seasons, with numbers recorded from a few hundred to thousands. The largest numbers recorded onsite were 34,000 and 18,000 in May of 2006 and 2010 respectively (See **Appendix 1**).

In 2003, the colony remained on site through the year with pups being born on site. The exact reason for the extended period of occupancy cannot be determined, but could be attributed to extended periods of available feeding resources.

3.4 Stakeholders

Current and potential stakeholders now, and longer term, include;

- East Gippsland Shire Council (EGSC);
- Department of Land, Water and Planning(DELWP); (Formerly Department of Environment and Primary Industries)
- East Gippsland Catchment Management Authority (EGCMA);
- Bairnsdale Urban Landcare Group (BULG);
- Department of Environment (DE) (Formerly Department of Sustainability, Environment, Water, Population and Communities)
- Riverine Bat Cluster;
- Federal Member for Gippsland;
- Member for Gippsland East;
- Adjacent landholders;
- Wildlife Shelters and Foster Carers;
- Local residents and the wider community;
- Tourists and visitors to the area;
- East Gippsland Tourism;
- Local orchards; and
- Animal Welfare/Activist Groups (e.g. Bat Advocacy NSW, Victorian Advocates for Animals).

4 SPECIES INFORMATION

4.1 Grey-headed Flying Fox (*Pteropus poliocephalus*)

4.1.1 Distribution

GHFF is a native fauna species that can be found along the eastern coast of Australia from Queensland to South Australia. Due to declining numbers, GHFF was nationally listed as Vulnerable under the Commonwealth *EPBC Act 1999*.

Habitat loss is considered to be the main reason for the population decline.

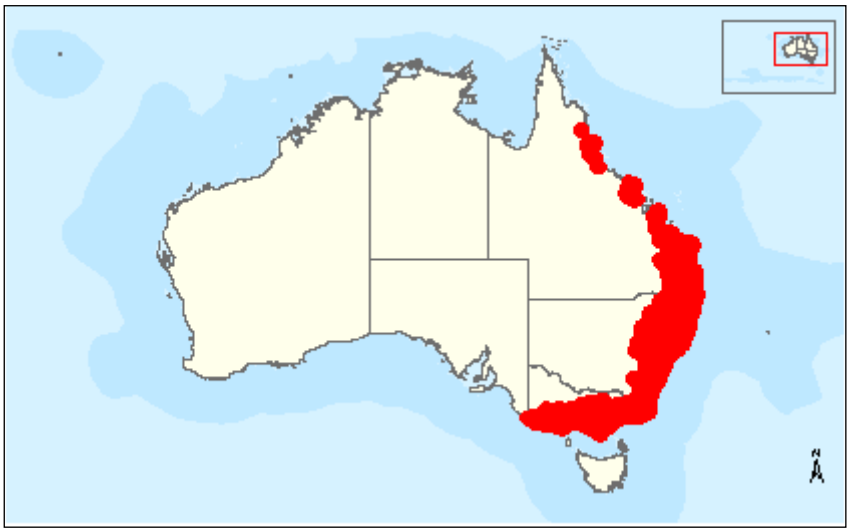

Figure 2 - Range of GHFF in Australia (DE 2013)

4.1.2 Ecological Role

GHFF play an important role in pollination and seed dispersal, which is essential for maintaining biodiversity. Although other species also fill this role, GHFF are very important because of the large distances they travel and they traverse highly disturbed areas (Roberts 2006). As native vegetation continues to become fragmented the movements of many pollinators and seed dispersers becomes restricted, GHFF will have an important role in linking genetically isolated and remnant patches of forest (Shilton *et al* 1999 in Roberts 2006).

4.1.3 Legislation and Conservation Status

Due to the national vulnerable status of the GHFF, works that may potentially have significant impact on this species require approval under the *EPBC Act 1999.*

- National: Listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999;*
- New South Wales: Listed as Vulnerable under the *Threatened Species Conservation Act 1995;*
- Queensland: Listed as Least Concern under the *Nature Conservation Act 1992;*
- Victoria: Listed as Vulnerable under the *Flora and Fauna Guarantee Act 1988*;

4.1.4 Breeding Cycle

This species has a low fecundity with only one young born per season (Martin and McIlwee 2002 in DECCW 2009). Peak births occur between October and November (Tidemann and Nelson 2004). The lactation period after birth for GHFF is for 3 or 4 months, with the young dependant upon the mother (Nelson 1965). Hall and Richards (2000) report that young travel with their mother to feeding sites for a period of 5-6 weeks post birth and once furred are left in maternal camps until they become independent at around 12 weeks of age.

Mating behaviour commences in January where the male establishes a defendable territory and co-exists within this space with usually one female as a bonded pair, and some exhibit polygamous tendencies (DECCW 2009). Conception is generally considered to occur in March and April, but mating behaviour can extend beyond this period (Tidemann and Nelson 2004).

4.1.5 Habitat Requirements

This species utilises camps during the day and leave the camps to feed in surrounding vegetation from dusk to dawn. Selection of camp sites across their distribution typically include some of the following attributes (Eby 2002, Eby and Lunney 2002, Hall and Richards 2000, Roberts 2005 in DECCW 2009);

- Closed canopy;
- Continuous canopy area > 1 ha;
- Within 50km of the coast and at less than 65 msl;
- Close proximity to waterways (<500m);
- Level topography;
- Canopy height 8m and above; and
- Positioned with a nightly commuting distance of generally less than 20km of sufficient food resources.

Campsites are thought to be selected by the availability of surrounding food resources and the exact attributes that attract GHFF to a particular area is under researched and is difficult to define (DECCW 2009). This species typically forage in native vegetation that is dominated by Eucalypts and feed mostly on nectar and pollen bearing species. The number of GHFF in a camp is generally thought to relate to the availability of food resources in the local area. Plant species within the Myrtaceae family which are preferentially sought by GHFF exhibit differing flowering periods across a spatial and temporal scale.

Populations of GHFF at roost or camp sites fluctuate with individuals remaining for extended periods of several months whilst others stay for much shorter periods. There is evidence that the majority of individuals are nomadic either continuously or during certain seasons (Ratcliffe 1931; Eby 1991; Spencer *et al.* 1991). GHFF have no adaptations for withstanding food shortages and migrate in response to changes in the amount and location of flowering plants (Eby 1991; Spencer *et al*. 1991).

5 MITCHELL RIVER ROOST SITE

The Mitchell River roost site has been a known site for a number of years with the first recorded population count in 1995 and recorded annual seasonal occupation since 2002. The current roost site is considered to be an inappropriate location to support a GHFF colony of the population size seen in recent years (see **Appendix 1**). Key reasons include disturbance of the colony from recreational walking path

users, creation of conflict with local residents, proximity to high traffic areas and limited longevity of the current roost trees.

5.1 GHFF Roost Site

The GHFF roost site primarily comprises of Crown Land reserve which EGSC is the appointed Committee of Management with the remainder of the site being an EGSC managed road reserve.

Figure 3 - Bairnsdale Roost Site Location (inset see Figure 6)

This reserve forms a steep narrow embankment between the Mitchell River and Riverine Street. The Mitchell River Walking Track runs along the river bank immediately at the bottom of the embankment. There is a pedestrian footpath between the road reserve and Riverine Street and there was a linking footpath down the embankment between the river walk and Riverine Street which is now closed given the close proximity of the path through unsafe trees occupied by GHFF. The Mitchell River Walking Track is a 5.4km loop and runs along both sides of the river between the Lind and Mitchell River Bridges. The track incorporates the Port of Bairnsdale and Howitt Park and has very high usage all year round.

5.2 Roost Site Vegetation Condition

The roost site is a mature stand of predominantly White Poplar, *Populus alba*, along the Mitchell River within the township of Bairnsdale, as shown in **Figure 3**.

An arboricultural report was conducted in June 2010 and reviewed in June 2011. The report highlighted that the useful life expectancy of *P.alba* at this site ranges between 5-15 years under normal conditions. *P.alba* is a short lived tree species with non durable heartwood. It is estimated that the crown ratio of the trees inspected during the report (being representative of the whole stand) was around 60-70%.

The majority of *P.alba* on site have a multi stemmed habit and exhibit a growth habit towards light/away from competition resulting in trees being swept at the base with precipitous angles of lean. A high proportion of the trees are suffering from degrees of die-back, which could be attributed to a combination of senescence of trees and also seasonal presence of GHFF. There are a number of trees that have already fallen within the stand as demonstrated in **Figure 4**.

The poplars, as a stand of trees and as a roost site, have a very limited lifespan regardless of any intervention by EGSC. Vegetation condition will decrease over a short period of time. It is reasonable to expect the crown die back will increase and live crown ratio will fall. An increasing number of stems will fall down. There is little suitable recruitment of native species or poplar that will provide for roost habitat into the future within the poplar stand.

Figure 4 - Current Condition of Poplar Stand

Annual occupation of the poplar stand by GHFF results in defoliation of the canopy across the site. Lack of a canopy encourages germination and spread of weed species, with faecal drop further enriching the soil. Repeated defoliation can

accelerate the decline of the stand as this decreases the health of the tree. Where camps are located in small vegetation remnants, the pressure is concentrated as there are limitations on the amount of available roosting space (Richards 2000). Presence of fruit bearing weed species like Wild Tobacco (*Solanum mauritianum*) and Broad Leaved Privet (*Ligustrum lucidum*) at the roost site which could be consumed by GHFF is another vector of spread.

The conservation value of the reserve is very low as a result of weed coverage. This site currently has more than 50% coverage of invasive species with the dominant canopy species being *P.alba*. English Ivy (*Hedera helix*) is covering a significant amount of the site and regeneration of any native species is restricted by invasive plant diversity and abundance. **Appendix 5** shows the invasive species recorded onsite and their density.

5.3 Surrounding Revegetation

There has been significant investment in the Mitchell River urban corridor by EGSC in accordance with the *Mitchell River Environs Local Structure and Development Plan 1998*. The local urban Landcare Group has worked with EGSC to improve the walking track and remove the poplars and other invasive plants and revegetate with native species. The East Gippsland Catchment Management Authority (EGCMA) has been a significant contributor to these works. Refer to recent revegetation works in **Figure 5**, which reflect the principles of the East Gippsland Regional River Health Strategy**.**

Figure 5 - Revegetation works on the northern side of the Mitchell River

6 GREY-HEADED FLYING FOX ASSOCIATION WITH THE MITCHELL RIVER SITE

GHFF have been recorded occupying the Bairnsdale site annually since 2002, concentrated in the stand of *P.alba*. **Figure 6** demonstrates the approximate minimum occupation area in yellow, and the approximate maximum occupation area in purple. The red outline is the proposed boundary of non-native vegetation removal.

Figure 6 - Grey Headed Flying Fox Roost Site

6.1 Role of roost site in lifecycle of Grey-headed Flying-fox

6.1.1 Breeding Cycle

After reaching sexual maturity within 2 years (DECCW 2009), GHFF give birth to usually only one young in October or November (Martin and McIlwee 2002 in DECCW 2009). Records on the first arrival of GHFF to the Mitchell River roost site has predominately been in December with initially low numbers. Some young have been observed being carried by females which is common for several weeks after birth for GHFF during the lactation period. Nursing continues until the young can be left alone in camp. The coupling and mating period occurs between January and May (DECCW 2009). GHFF have been observed at the site with seasonal variability during this period (See **Appendix 1**).

Based on occupation counts carried out by DELWP, the species is most likely to be present at the Bairnsdale site between December and May. GHFF have been absent from the sites in most years between July and November (see **Appendix 1**). In 2003 the colony were in residence for an entire year, whilst in 2005 GHFF were not recorded in any month. Counts suggest that the number of GHFF fluctuates between months and is highly variable, which is suggestive of a transient population.

6.1.2 Habitat Attributes

The location and attributes of the Mitchell River roost site provides a home base or central point as a southern migration stopover for GHFF. It is used as a day camp during this period and facilitates movement of GHFF into nearby areas where flowering resources are available within their foraging range (Tidemann and Nelson 2004). The erratic count numbers and variation in occupation times suggest that their arrival and departure is resource driven as opposed to functioning as a key maternity roost site.

With the numbers of GHFF recorded and annual occupation since late 2002 (with the exception of 2005), this particular roost site is now considered to be ecologically important, in accordance with the definition of 'critical roosting habitat' as outlined in the Draft National Recovery Plan for the Grey Headed Flying Fox (DECCW 2009) and also defined as a Significant Impact Criteria affecting Vulnerable species under EPBC Policy Statement 1.1

The Draft Recovery Plan (DECCW 2009) documents critical roosting habitat as having the following attributes;

- Is used as a camp either continuously or seasonally in greater than 50% of years;
- Has been used as a camp at least once in 10 years (beginning in 1995) and is known to have contained greater than 10,000 individuals, unless such habitat has been used only as a temporary refuge, and the use has been of limited duration (i.e. in the order of days, rather than weeks or months);
- Has been used as a camp at least once in 10 years (beginning in 1995) and is known to have contained greater than 2,500 individuals, including reproductive females during the final stages of pregnancy, during lactation or during the period of conception.

6.2 Nearby Feeding Locations

6.2.1 Native Vegetation

GHFF are capable of travelling long distances (up to 100 km in a single night) in search of food resources (Eby 1996; Parry-Jones and Augee 2001). Observations during 'fly out' monitoring counts of GHFF in Bairnsdale have seen them heading from the roost site to likely feed on local flowering Eucalypts including Red Ironbark (*Eucalyptus tricarpa*), Yellow Box (*E.melliodora)* and Coastal Grey Box (*E. bosistoana*) and also heading towards the coast to feed on Coastal Banksia (*Banksia integrifolia*). These species can occur within 20 – 40 Kilometres of the Bairnsdale camp (refer to **Appendix 3**). Small numbers of GHFF from the Bairnsdale camp have been observed to be regular visitors to a stand of non-indigenous Bushy Yates (*E.lehmannii*) on private property. The availability (volume, species, location) of natural food near Bairnsdale and the situation with food supplies further east towards NSW appears to be the limiting factor on GHFF population numbers arriving to the site and when they depart. Exact feeding areas have not been recorded, but rather the observations of direction of flight made during monthly fly out counts of the population gives an indication of where they may feed.

6.2.2 Residential Areas

Residential areas with no sources of food are unlikely to attract GHFF, however, those properties that provide a food source (eg. flowering eucalypts, cocas palm leaves) may attract GHFF from time to time and their presence may only become

noticeable when competing animals squabble over food, leave droppings or take fruit. Feeding on residential fruit trees is typically a secondary food source, and occurs when natural food sources are low (Hall and Richards 2000). Unexpected rain events may also force GHFF into residential areas due to removal of nectar and pollen from native trees.

6.2.3 Commercial Areas

GHFF can cause damage in commercial orchards which can lead to conflict with producers. However, in the Bairnsdale area they usually only target fruit crops during periods when natural sources of food are scarce (Hall and Richards 2000) or reduced through adverse weather events such as heavy rains.

Damage has been recorded at orchards near Bairnsdale and also at Johnsonville (17kms east of Bairnsdale) to apples and stone fruits. In 2010 an apple orchardist was heavily impacted when thousands of GHFF descended on the property following heavy and prolonged rains which washed nectar from flowering Eucalypts. Damage is therefore sporadic and generally only as an alternative or targeted by individual GHFF. The level of damage is influenced by food availability and not the location of the campsite within urban Bairnsdale.

7 CURRENT SITUATION

Many concerns have been raised about the continued occupation of GHFF in the Mitchell River corridor. These include public safety risk, associated health impacts and environmental issues.

7.1 Concerns of Public Safety

The current condition of the trees on site has been considered to be a safety risk to residents and recreational users on the Mitchell River walking path. Unsafe trees and branches were identified in an independent Arborist report undertaken in 2010, and reviewed in 2011 to inspect and highlight trees of safety concern. The condition of the poplars are an ongoing concern and will require subsequent management to provide a safe environment for the community. Subsequent inspections by EGSC Arborist have continued to monitor the condition and health of these trees.

7.2 Health Risks and Concerns

A common concern regarding the presence of GHFF is the risk of disease such as Australian Bat Lyssavirus, Hendra virus and Nipah virus. Whilst these diseases can be fatal in humans, the risk of exposure is very limited. Pets and other animals (such as horses) may be at risk of becoming infected with these diseases and potentially acting as a vector to humans, however the risk is still considered to be very low.

Australian Bat Lyssavirus is a rabies-like virus that has been identified in five species of bats (QLD Health 2013). Infection of humans is extremely rare (only three fatal cases documented in Australia to date). Research so far indicates that less than 1% of wild healthy GHFF carry the virus (DAFF n.d). This virus is transmitted by a bite or scratch from an infected bat. People living near GHFF or interacting with GHFF are not at risk of infection, provided they do not handle GHFF.

Hendra virus is naturally found in some species of GHFF, and can infect horses. This may be transmitted to humans who have contact with infected horses. There is no evidence that it can be transmitted directly from GHFF to humans. Hendra virus has

become more prominent in the national press in recent months resulting in stronger community concerns. Nipah virus is closely related to Hendra virus and also occurs naturally in some species of flying fox. Nipah virus was first identified in 1999 in Asia and has caused disease in animals (mostly pigs) and in humans, through contact with infectious animals. Nipah has not occurred in Australia to date.

7.3 Social Impacts

The Bairnsdale campsite currently impacts on nearby residents along Riverine Street due to odour, noise levels and general amenity. Depending on the time of year and population size of the colony, GHFF usually roost close to or on the boundary of the nearest property to the northwest of the roost site. Many local residents find the campsite very difficult to tolerate close to their properties and have cited health problems associated with the presence of the camp.

7.3.1 Noise

GHFF effectively communicate with each other through vocalisation. This allows individual animals to defend their selected territories, and is also used by mothers to locate their young in the camp. Increased noise activity occurs during dusk and dawn when they exit the camp to feed locally at dusk and in the morning when they return to roost. Their nocturnal habit can clash with the rest patterns of local residents, with noise levels increasing in the early dawn hours.

7.3.2 Odour

The odour of a GHFF roost site is not largely caused by faeces or urine, but rather the scent secreted by the animals. The odour is most noticeable during the breeding season, as males mark their territories, and to a lesser extent, while young are being raised from October through to March (Martin and McIlwee 2002 in DECCW 2009). Mothers use this scent to locate young in the camp.

Many people find the noise and odour of the GHFF offensive; homes in close proximity of the GHFF roost often feel that the smell is so overwhelming that their ability to use outside areas is restricted and impacts on their personal lives. There is also concern that the close proximity of the GHFF roost may have reduced the value of these properties.

7.3.3 Damage

There is also a visual impact resulting from the partial defoliation of trees used for roosting, particularly in the core area of the colony where the bulk of the animals occur. Wherever GHFF roost, they have an impact on the vegetation at the campsite (Tidemann 1999), even more so at permanent camps, where animals roost year-round. This is a natural phenomenon and part of a natural process. Degradation of small remnant patches of vegetation reduces the longevity and suitability of sites as camps (Pallin 2000).

It is important also to recognise that GHFF can have a positive impact on vegetation wherever they choose to roost. This impact is key to the role that GHFF play as an important pollinator and seed-disperser of native flora (DECCW 2009). This assists with the evolution and regeneration of forests which provide for many life forms and natural processes (DECCW 2009).

7.4 Economic Impacts

The economic impact of the GHFF on fruit growers in other areas of Australia varies between seasons from minimal or no impact in some areas to significant losses. In

the Bairnsdale region, impacts on local orchards have varied between seasons. The impact on the equine industry has been an issue in other States.

GHFF roost sites and dusk exit flights are increasingly being recognised as attractions for eco-tourism, as is apparent at camps in Port Macquarie, Brisbane and Yarra Bend in Melbourne. With careful management the Bairnsdale GHFF colony in the right location provides an opportunity to develop into an eco-attraction that would benefit the relationships between humans , GHFF and local tourism. The broader theme of 'Living with Wildlife' will be reiterated during the implementation of the Plan in line with EGSC Community Engagement Policy (**Appendix 8**).

7.5 Environmental Issues

Revegetation of the Mitchell River corridor has been an ongoing project through collaborative efforts with EGCMA, Bairnsdale Urban Landcare Group, Advance TAFE and other educational institutions. Revegetation of the remaining entire corridor has resulted in the Mitchell River roost site being one of the last sites to be revegetated as part of this ongoing project.

Continuation of the revegetation program protects investment of funding and significant volunteer inputs into provision of biodiversity values along the Mitchell River corridor. The roost site vegetation is almost completely populated with invasive species which can cause reinfestation of revegetated areas through both seed and vegetative spread.

7.6 Current Management

The Bairnsdale GHFF colony is monitored by DELWP Wildlife Officers and volunteers through static and fly out counts during the time GHFF are present. This is an ongoing DELWP management action. Monthly counts are done in co-ordination with other areas across the state and additional regular visits are made to the site to determine when the GHFF arrive, and how the colony is developing in size. DEPI staff also monitor the colony in the event of extreme heat events and respond to issues of illegal action or unauthorised actions concerning GHFF. DELWP have developed a Grey-headed Flying-fox heat stress response plan for the colony at Yarra Bend Park (DSE 2011). This plan is available to DELWP Gippsland for use but due to resourcing, local DELWP Officers use a minimal disturbance response which is based around observation on the colony during this period, ensuring limited disturbance to GHFF and monitoring post heat events.

Infrastructure maintenance is minimal due to the necessity of timing works around the arrival and departure of GHFF. Maintenance of the vegetation has not occurred in recent years except for treatment of dangerous trees in 2011 and the commencement of the referral process with DoE under the *EPBC Act 1999*. Revegetation efforts have continued along the Mitchell River riparian corridor in line with the *Mitchell River Environs Local Structure and Development Plan 1998*.

8 CONSULTATION

8.1 Initial Consultation

Consultation has been undertaken by DEPI and EGSC to engage local residents and stakeholders regarding the issues of managing a GHFF campsite and the necessity to provide a carefully planned approach to continue the poplar removal program and revegetation efforts.

Consultation has included to date:

- Media (radio and newspaper) statements and interviews with DEPI;
- Key stakeholder meetings to present possible management options and associated issues;
- Establishment of a working group of regulatory authority officers;
- Meetings with technical experts including biologists and ecologists (Tony Mitchell, Lindy Lumsden, William Peel) on site to discuss habitat requirements and site issues;
- Regular briefing and update of process and progress of the management of the site to residents significantly impacted on by the site;
- Ongoing consultation with DoE to develop the management plan;
- On site signage providing information regarding interaction with GHFF;
- Ongoing involvement (4 years) with the Bairnsdale Urban Landcare Group in relation to GHFF site management;
- DEPI website FAQ's used as a reference for resident requests of information; and
- Evaluation of other GHFF management sites and plans in other states to ensure up to date information in management trends;
- Site visit by Department of Environment project officers;
- Draft preliminary documentation (i.e. The Plan) was published for public comment and display in February 2013 and February 2014 by EGSC.

Initial involvement has been limited and undertaken separately by both EGSC and DELWP up to this stage. Exact dates of occurrences of each process is difficult to obtain, but has been ongoing since 2007.

Community consultation is an ongoing process and will continue and increase as management options are implemented to ensure that available information is current, and shared to inform appropriate management of the Mitchell River roost site into the future.

A previous version of the Plan was exhibited in February 2013 and open for public comment. A total of 12 responses were received on the document, and issues raised were addressed as part of the referral process. The responses to Public Comments are attached to the Plan as **Appendix 9.**

8.2 Ongoing Community Engagement

EGSC will develop an engagement plan for the implementation of the GHFF Management Plan with reference to EGSC Community Engagement Policy (**Appendix 8**). The level of engagement required with this situation involves provision of information and consultation. Involvement at this level can include provision of fact sheets, addition to EGSC website and displays.

Our community engagement will be part of a co-operative approach with DEPI in order to ensure provision of current and important information, and towards education regarding coexistence with GHFF.

8.3 Education

DEPI have an established theme of 'Living with Wildlife'. Promotion of a positive image for GHFF within the local region is of high importance when managing the GHFF colony longer term. Within our community engagement process, EGSC will

actively promote this theme for enquiries and management of GHFF within the East Gippsland Shire.

This process will include on site signage should the GHFF permanently relocate to an acceptable area under EGSC management which will promote GHFF conservation.

9 MANAGEMENT OPTIONS AND IMPLICATIONS

9.1 Discussion

Key issues with the existing GHFF roost site include:

- Council's revegetation proposal to replace the existing non-native roost trees with native vegetation;
- Poor overall condition and useful life expectancy of the poplar trees that constitute the roost site;
- Risk that the GHFF colony will move to a more inappropriate location through inaction or inappropriate action;
- Close proximity of the current roost site to adjacent landholders creating a risk of disease, noise, odour and property value concerns;
- Potential risk of personal injury to neighbours and walking track users and damage to neighbouring properties from falling limbs;
- Wider community concern about the impacts of the GHFF population on health (human and equine) and primary production (e.g. commercial orchards); and
- Relevant legislation, particularly the *EPBC Act 1999*, which places specific requirements and responsibilities upon EGSC as land manager.

Given the risks associated with the continuance of the site in its current condition, EGSC has considered a 'do nothing' approach, a complete vegetation removal approach and a staged vegetation removal approach. These options have been outlined below.

9.1.1 Do Nothing Approach

East Gippsland Shire has considered the approach of doing nothing to the site. This approach is considered inappropriate due to the following points;

Positives

- Very low cost option; and
- Low management inputs.

Negatives

- Continued risk of public safety from dangerous trees within the site and along the Mitchell River walking path;
- Continued impact on the Mitchell River environment and the lack of a continuous native riparian corridor to restore the appropriate function of ecological systems;
- Repeated invasion of invasive species into revegetation sites, private tenure and into remnant native vegetation;
- Recognition of continued concern expressed by nearby residents as the presence of GHFF and their impacts on residents social wellbeing;
- Recognition of continued concern from the community over the health risks associated with the presence of the GHFF colony;

- Longevity of the roost site and the replacement provision of habitat for fauna longer term, given the senescing state of current roost site; and
- General amenity of the area.

9.1.2 One-off Replacement of Existing Vegetation

Complete removal of existing vegetation on site has been considered and is not appropriate due to the unknown risks relating to Grey-headed Flying-fox welfare.

Positives

- Alleviate residents concern over the presence of GHFF at the current roost site;
- Quick management response to immediately alleviate associated issues of safety and risk to the public.

Negatives

- This action will prompt immediate and complete dispersal of GHFF population with no prior indications of alternative appropriate roosting locations;
- Costs associated with complete removal and revegetation efforts over one year;
- Does not allow for adaptive management;
- Creation of stress on the GHFF population;
- Potential unexpected response from the GHFF population.

9.1.3 Staged Replacement of Existing Vegetation

Proposal of a staged approach is the EGSC preferred option to revegetate the area currently occupied by the invasive *P.alba*.

Positives

- Allows an adaptive management response with monitoring of the response of GHFF after Stage 1 and Stage 2 removals;
- Cost is spread across each stage;
- Allows a staged revegetation effort that will provide varying ages of habitat structure for all faunal species;
- Allows development of key working relationships for management of GHFF longer term within the region.

Negatives

- Continued angst for local residents affected by presence of GHFF;
- Potential unexpected response from the GHFF population.

By conducting the revegetation works over a three year period, works can be implemented to begin appropriate replacement of invasive plant populations with native vegetation. The staged approach is proposed to limit stress levels on GHFF and allow suitable placement of the colony in surrounding vegetation. The three year period will allow GHFF time to select an appropriate new roost site. Stage One will prompt a response from the colony and will give an indication as to the reaction of GHFF to the works.

Through close consultation between EGSC and DEPI the feasibility of the staged approach is considered to be appropriate for implementation of revegetation actions.

10 PREFERRED MANAGEMENT ACTION AND IMPLICATIONS

EGSC has considered the options as highlighted in Section 9 and consider that staged removal and revegetation of the area is the preferable option for the long term management of the site and also of the GHFF colony.

10.1 Staged Replacement of Non-Native Vegetation

This proposal will involve the replacement of the existing non-native vegetation with native vegetation over a number of years. EGSC has developed a Revegetation Plan to rehabilitate the Mitchell River roost site incorporating the staged revegetation approach (**Appendix 8**).

Local residents and a section of the wider community feel strongly that the poplars should be removed in one operation and that the GHFF population will simply find an alternative roost site. This one off approach does not take into account the fidelity of the GHFF population to a particular site and the likelihood that GHFF population will, upon their return, move to the nearest roost trees. A one off approach gives no opportunity to gauge the reaction of the GHFF population which would be essential to any adaptive management strategy.

The staged approach also incorporates measures to limit the impacts on the short and long term wellbeing of GHFF on site. Impacts to the population could potentially include:

- Fragmentation of the existing population into two or more populations;
- Disruption to breeding cycle with lactating females and 'crèche' for young;
- Increase distance of new roost site to feeding areas;
- Loss of roosting habitat; and
- Overcrowding.

These possible impacts and their mitigation are discussed in **Section 10.2.**

To minimise risks to GHFF, works can only commence after confirmation from DEPI that GHFF are absent from the area, or in a limited number below 5,000 individuals and the colony is not exhibiting indicators of stress. Provided GHFF are absent, works can be undertaken at any time of the year except between the period from 1 August to 30 September, as this corresponds with a particularly vulnerable part of the GHFF breeding cycle, when pregnant females in the third trimester can spontaneously abort their pregnancy under relatively low stress conditions. While records show that GHFF are not normally present at the site during this time, the possibility that they could remain or return during this period cannot be discounted (**Appendix 1**).
Wherever possible, works will be timed as a priority to occur between 1 April and 31 July to avoid the time of vulnerability as described above by pregnant GHFF. This flexibility takes advantage of the variable nature of GHFF occupancy at the site (**Appendix 1**).

If GHFF remain on site beyond the 1st of April, monitoring of the site and population levels will continue to record if population levels are increasing or decreasing over time. Once numbers reach a lower level, consultation will occur between DoE, DELWP and EGSC to determine if population levels are low enough to allow EGSC

to perform a dispersal of the population into remaining vegetation to enable commencement of actions within each stage.

Machinery works will be completed within 15 working days and timing of revegetation activities will be varied given tubestock availability and other resource constraints.. If at any stage during the works GHFF return to trees earmarked for removal, all works must cease and cannot recommence until all GHFF are dispersed further along into established vegetation. An Exclusion Zone will apply, surrounding all vegetation to be removed if GHFF are still in the area whilst works are being undertaken.

Figure 7 – Proposed Removal and Revegetation Stages

The number of trees removed at each stage is different, however the percentage of habitat removed at each stage is approximately equal based upon the observed usage/distribution of the GHFF at the site in previous years. Each stage of removal represents a similar area of coverage being removed. Stage 2 removal is dominated by large trees, hence the removal of fewer trees for the same habitat value. Stage 3 comprises of smaller less significant habitat trees determining the removal of more trees to achieve approximately the same amount of potential habitat removal. **Figure 7** shows the removal areas of Stage 1-3 on the site. **Figure 8** provides an example of numbered trees in Stages 1 and 2.

Figure 8 - Numbered trees adjacent Mitchell River Walking Track part of Stage 1 and 2 Removal and Revegetation Areas

10.2 Dangerous Trees

Given the nature of the staged approach of revegetation, dangerous trees will need to be treated within all stages over the period of the Plan implementation. The area will be assessed by Shire's Arborist as to the presence of dangerous trees as part of routine inspections, after a severe weather event and/or suspected failure.

Works will consider at all times presence of GHFF and implement works only once an exclusion zone has been established and methods to disperse GHFF out of the area requiring treatment. The exclusion zone and methodology for dispersal will be consulted with DELWP. Works will be notified to both DE and DELWP prior to commencement.

10.3 Potential Impacts to Grey-headed Flying Fox Colony

One of the aims of the proposed revegetation action is to minimise risks, threats and impacts to the community, environment and GHFF. It is recognised there are potential impacts on GHFF which need to be understood and mitigated.

10.3.1 Fragmentation of Colony

Risk

Case studies of documented dispersal techniques detail the effects of the dispersal action towards fragmentation of the existing colony into 2 or more sub populations. Undertaking the proposed vegetation removal may result in the colony splitting into 2 or more sub populations.

Mitigation
The staged approach allows monitoring of the colony and prompts a response from the GHFF population. Having an indication of where GHFF may potentially relocate may allow a better assessment as to the suitability of new sites.

Stages One and Two allow the GHFF colony to be accommodated at the Mitchell River roost site within the remaining trees, with established revegetation areas surrounding providing some microclimatic requirements. The remaining area and surrounding vegetation will support the population short term until a suitable site is selected. Stage Three removes the remaining invasive vegetation and GHFF can move into surrounding established vegetation along the riverbank or populate a more suitable area.

10.3.2 Overcrowding

Risk
Removal of a proportion of *P.alba* at the site could increase the dependency on remaining poplar and other species within the immediate site, if population numbers are at the highest levels. Given the territorial nature of this species, overcrowding could occur when the number of selected defendable sites is reduced through tree removal. Overcrowding could also result in a fragmentation of the colony.

Mitigation
Surrounding vegetation has been utilised by GHFF historically, and observed in March 2014. It is expected that GHFF population will utilise the remaining poplar short term and extend into native vegetation until a suitable site is selected. This area will be sufficient to accommodate the population at high levels.

10.3.3 Disruption to the Breeding Cycle

Risk
Removal of roosting habitat is recognised as potentially having associated impacts through interruption to the breeding cycle of GHFF. This could result in a) limited breeding or b) no breeding. In times of stress, it has been reported that female GHFF can abort or abandon pups. It is expected that such reactions will cause impacts on population levels in future years.

Mitigation
EGSC proposes that the staged approach of vegetation removal is considered to be appropriate to manage this risk. With the assistance of the DELWP, any indicators of stress or restlessness will be reported and adaptive management measures developed by EGSC. Stages One, Two and Three will all have this monitoring process in place to determine appropriate actions in light of reactions from the GHFF colony.

No works will be undertaken to avoid added disturbance from noise and increased human interactions during 1st August to 30 November, unless GHFF are absent and permission sought from DE to undertake supplementary works. This is required to prevent stress on pregnant and lactating females within the colony and timing of management actions will incorporate the expected occupancy periods of between November to April.

10.3.4 Loss of Roosting Habitat

Risk
Loss of available roosting habitat available for GHFF.

Mitigation
Past revegetation over the last decade has rejuvenated the Mitchell River riverbank to be a highly diverse riparian corridor which is preferred habitat of GHFF. Existing mature trees of Gippsland Red Gum (*E.tereticornus* subsp *mediana*) along the riverbank have supported GHFF in previous years, and the shrubby surrounding vegetation would provide the microclimate required in times of higher temperatures in the short term. Other areas of intact vegetation could be potentially selected by GHFF and these sites will be assessed as to their suitability longer-term.

EGSC proposes that the staged approach of vegetation removal is considered to be appropriate to manage this risk. With the assistance of the DELWP, any indicators of stress or restlessness will be reported and adaptive management measures developed. Stages One, Two and Three will all have this monitoring process in place to determine appropriate actions in light of reactions from the GHFF colony.

10.3.5 Distance from Foraging Resources

Risk
GHFF could move into areas that will increase the distance from utilised foraging resources.

Mitigation
The areas selected by GHFF should the colony disperse, will be assessed on a site by site basis as to how the site will be accepted longer term by GHFF. The site will be assessed with regards to longer term provision of ecological requirements, including distance from foraging resources. As East Gippsland is highly vegetated, and the exact preferred feeding locations of the GHFF colony are not currently determined, there are numerous resources available within the wider rural area for foraging opportunities.

10.3.6 Behavioural Changes

Risk
Stress levels of GHFF colony increase in response to management actions undertaken by EGSC resulting in distinct changes to expected behaviour.

Mitigation
EGSC will not be felling trees where GHFF are present within the canopy, and should GHFF be in the surrounding area whilst works are being undertaken, a suitable buffer will be in place to limit impacts to GHFF.

Irrespective of the proposed revegetation action, DELWP will respond to heat events when the GHFF are present at the roost site and if a sick or injured specimen is found. This response will continue during the period of the proposed works.

Potential options for reducing stress on the colony includes installation of signage asking people to not interact with GHFF, to reduce noise levels, ensure pets are on leash and as an extreme measure, temporary closure of the path under the colony.

10.3.7 Unexpected Responses from GHFF

Risk
Potential for an unexpected response from GHFF which is unknown, unanticipated or irreversible.

Mitigation

The reaction of the GHFF population post vegetation removal on site is unknown. The staged approach allows and prompts a reaction from the GHFF colony, which will assist in determining a new suitable location. Entire desertion of the camp is not expected after Stage One removal, but given the unpredictable nature of this species, cannot be unanticipated.

10.3.8 Increased Community Intolerance

Risk

There is a possibility of unauthorised action and associated welfare issues against GHFF to displace them from the Mitchell River roosting site. There may be continued debate over management of site and colony longer term.

Mitigation

The methodology employed to manage the poplar site is anticipated to provide some immediate relief to adjacent property owners. Following Stage One removal, local residents will be consulted as to whether GHFF continue to affect their wellbeing. This will enable EGSC and DELWP to monitor attitudes towards the GHFF colony prior to undertaking Stages 2 and 3.

10.2.9 Inappropriate Site Occupation

Risk

Movement of GHFF into areas that are considered inappropriate for longer term residency.

Mitigation

Each new site that GHFF occupy will be assessed as to whether the presence of GHFF at this site will be suitable for their longer term ecological requirements and their risk to the community on a site by site basis (See **Section 10.4**). If a dispersal is required, this will be undertaken following consultation with DE and DELWP, on a site by site basis.

10.4 Alternative Roost Sites and Dispersal of Flying Foxes

It is accepted by EGSC that undertaking these actions could promote dispersal of GHFF from the current roost site into alternative area(s). Undertaking the staged approach of site revegetation and rehabilitation will allow alternative selection of appropriate roost sites by GHFF whilst maintaining a proportion of their original roost site. This allows for an indication of where the colony could potentially shift after roost tree removal, whilst still allowing occupation on site in remaining habitat (denoted as Stages Two and Three).

Prediction of where GHFF could potentially relocate is unachievable due to the unknown response from the GHFF population and a lack of information concerning their site selection. It is not fully understood what specifically attracts GHFF to a particular roost site so this Plan cannot list all alternative roost sites. Assessment of each new site will be undertaken in determining if new sites meet their ecological requirements and limits conflict for their long term occupation (see **Section 10.4**).

EGSC has evaluated relocation case studies including the Victorian Royal Botanical Gardens to Yarra Bend Park based around providing alternative roost sites. The

associated difficulties and level of success with relocation of GHFF is recognised by EGSC.

10.4.1 Emergency Dispersals

An emergency dispersal may be required if GHFF relocate to an area that poses an immediate risk to public safety. These areas are set out in the Permit as below (see **Appendix 10** for full document).

"Emergency dispersal means a dispersal response to be undertaken if Grey-headed Flying-fox relocate to an area where:

a) Public health is at immediate risk (this includes but is not limited to, within 100 metres of a hospital or educational institution);

b) There is potential for the spread of disease through vectors (this includes, but is not limited to, within 100 metres of a racecourse or horse stud property); and

c) Anything else, as agreed with the Department."

An emergency dispersal must be undertaken with reference to the following conditions of an emergency disperal:

- A suitably qualified ecologist must be engaged to advise of the best practice dispersal methodology;
- During emergency dispersal a suitably qualified ecologist must be present to oversee best practice dispersal methodology, undertake behavioural monitoring and document the outcomes of the process;
- During emergency dispersal the person taking the action must comply with all recommendations and guidance from a suitably qualified ecologist;
- Emergency dispersal must not be undertaken between 1 August and 30 September;
- For the period of 1 October to 31 March in any given year, emergency dispersal must not be undertaken if flightless dependant young are present (as determined by a suitably qualified ecologist);
- Emergency dispersal must be undertaken 1.5 hours per-dawn and finishing one hour post-dawn to ensure Grey-headed Flying-fox have time to settle elsewhere before the heat of the day;
- Emergency dispersal must not be undertaken during a Hot Day or on or within two days of a Heat Stress Event;
- Once Grey-headed Flying-fox have not returned to the site of emergency dispersal for more than five consecutive days and while absent from the site of emergency dispersal, the person undertaking the action mist implement passive measures; and

- Within five days of the completion of emergency dispersal, the person taking the action must submit a report to the Minister detailing the dispersal methodology implemented and the outcome achieved.

10.4.2 Non-emergency Dispersals

Should GHFF relocate to a site that is considered unacceptable, after a site assessment (see **Section 10.4**), a dispersal may be considered. The conditions for undertaking a dispersal are set out in the permit issued under the *EPBC Act 1999*. The condition pertaining to a non-emergency dispersal is as follows (see **Appendix 10** for full document).

"If the person taking the action proposes to undertake a dispersal then a management plan must be submitted for the Minister's approval. The management plan must be approved by the Minister prior to the commencement of dispersal activities. At a minimum, the plan must address:

a) Proposed methodology for dispersal;

b) Potential direct, indirect, cumulative and facilitative impacts to Grey-headed Flying-fox from the proposed dispersal activity;

c) The presence of pregnant Grey-headed Flying-fox;

d) The presence of dependant young;

e) A commitment that the dispersal will not be undertaken on a Hot Day or on or within two days of a Heat Stress Event;

f) Proposed avoidance and mitigation measures addressing potential impacts to Grey-headed Flying-fox, which must at a minimum include, stop work triggers; and

g) Monitoring and reporting protocols."

Dispersal methodology is based on increasing levels of intensity to create disturbance. Changes to these methods below are subject to approval of DE and DELWP.

Level 1 disturbance is aimed at creating the minimal amount of disturbance to create discomfort on the immediate return of GHFF to the selected roosting site. This can be created through use of spotlights and noise generated by swishing branches underneath and around the roosting trees to discourage settling in the trees. If light levels are sufficient, visual actions will include personnel waving arms.

Level 2 disturbance is aimed in creating increased noise levels in the event GHFF are not influenced by Level 1 intensity. This will be achieved by banging together metal objects to increase noise levels and discouraging GHFF to move away from the noise. Level 2 disturbance will also involve using whipper snippers, chainsaws and lawn mowers to create noise, and increasing levels as movement to continue to move GHFF out of the proposed work site and buffer.

Level 3 disturbance is aimed at creating further increased noise levels and potentially emitting louder and higher frequency noise through the use of amplifiers to play sounds that can be directed at GHFF.

Levels of intensity will be escalated as per the table below:

Intensity Level	*Escalation Trigger*	*Actions Undertaken*
Level 1	Undertaken for 45 minutes. No effect on GHFF, remain undisturbed.	Proceed to Level 2 intensity.
Level 2	Undertaken for 45 minutes. Limited effect on GHFF, remain undisturbed	Proceed to Level 3 intensity.
Level 3	Undertaken for 45 minutes. Limited effect on GHFF, remain undisturbed	The activity will cease and further efforts will need to made on subsequent days as required. Modifications to methodology discussed with DELWP and DE.

10.5 Alternative Site Assessment

If possible it would be preferred to concentrate roosting of the GHFF either further along in established native vegetation or potentially across the river in emerging revegetation. However this cannot be anticipated as indicated by the poor level of success of projects specifically aimed at relocation have shown.

If upon arrival during the normal spring period after Stage One removal is completed and GHFF population relocate to another site, EGSC and DELWP will evaluate the conflict based on the following criteria:

- Land use (primary production, recreation area, school or hospital);
- Size of the site in hectares;
- History/records of GHFF at the site;
- Foraging radius around site;
- Adjacent land use;
- Proximity to a Waterway;
- Proximity to Established Sites;
- Land tenure; and
- Longer term provision of vegetation requirements required for GHFF.

Should there be risk of conflict with the community at the new site, this will be evaluated as part of the consideration of the site's longer term suitability for GHFF. If dispersal of the GHFF is required from a potential conflict site this will be undertaken in consultation with DoE, on a site by site basis.

10.6 Monitoring of GHFF Colony at the Mitchell River Camp Site

Monitoring of the colony is currently occurring every month by DELWP during the period of residency by GHFF. This is done by fly in/fly out counts and undertaken by experienced DELWP and volunteers. Local DELWP staff are considered to have extensive local knowledge of the colony and can readily identify behavioural changes

in relation to disturbance. If required, GHFF experts can be called upon to make additional judgement. Reports will also be provided to DE as required.

Monitoring will include the following;

- Any dispersal actions and associated risks;
- Assessment of the welfare of GHFF in the region to determine a significant impact (i.e. increased reports of injury or death);
- Collation of information as to newly located and reported locations of GHFF occurrences and follow up consultation with land managers of these sites (reporting of impact and effects);
- Levels of conflict with humans arising from new site selection through number of contacts received;
- Any recorded reporting or monitoring undertaken to measure Key Performance Indicators.

10.6.1 Method

Commencement of staged vegetation removal will instigate changes in the current routine of observations. As removal will be undertaken whilst there are no GHFF on site, it can be expected that any changes observed in behaviour upon their arrival back to the Mitchell River will be related to locating alternative territorial sites within the remaining poplars and surrounding vegetation after removal.

When GHFF are confirmed to be back on site after each stage of vegetation removal, DELWP and/or EGSC will be on site each day for 1 week after the bats return and then two times per week for 4 weeks to observe the reactions of GHFF in relation to the removed *P.alba* and will maintain records from each visit pertaining observations of the colony and reactions to the modified site. This will not include population counts. This frequency of monitoring is considered sufficient to document the behavioural response of the population to the removal of the poplars.

After the Stage 1 removal, if GHFF are believed to be showing distress, as determined by a qualified DELWP Officer, an immediate response will be initiated by DELWP to reduce stress levels which will include installation of temporary signage to encourage reduced noise levels and disturbance, possible temporary closure of the walking path under the colony to limit levels of human disturbance as an extreme and continued monitoring of the colony. DELWP Officers will then review the continuation of Stage 2 in light of the response of the bats to removal of Stage 1 vegetation. Should Stage 2 removal continue as proposed, the method of monitoring will continue to determine the GHFF response to Stage 2 and Stage 3 will be reviewed in light of the results from monitoring.

During the period of works, a designated observer will monitor presence or absence of GHFF onsite. If GHFF are in surrounding vegetation whilst actions are occurring, the designated monitor will determine if a breach of the buffer has occurred which calls a stop to all works.

Should GHFF be confirmed to be absent from the area, DELWP will inform EGSC should their arrival back at site be expected in the very near future.

10.6.2 Evaluation

Using the information gathered from the assessment of the response of GHFF to Stage 1 removal an assessment will be made on the continuation of the project to

Stage 2. If DELWP consider that the response of GHFF to Stage 1 is negligible to the long term wellbeing of GHFF then Stage 2 will proceed. If DELWP considers that the effect of Stage 2 on GHFF will impact on their long term wellbeing, they can decide that Stage 2 cannot proceed as proposed. Monitoring of GHFF after Stage 2 removal will inform decisions relating to the commencement of Stage 3 removal. DEPI may also require additional time to assess the reaction of GHFF which may delay the progression of Stages 2 and 3.

This method of monitoring will allow DELWP to make an informed judgement as to the longer term wellbeing of GHFF in relation to the proposed vegetation removal and revegetation on site. Increased observations by both EGSC and DELWP to observe any movement further afield from the immediate site will occur and will include reports from the local community as to existence of new locations.

Newly reported locations will be assessed as to the suitability of longer term roosting and the wellbeing of GHFF longer term in the provision of appropriate resources. If DELWP identify an isolated negative effect (i.e. increased death and injury, abandoned pups) of initial vegetation removal, mitigation and adoption of an alternative strategy will be undertaken in consultation with DELWP and DE.

10.6.3 Reporting

Reporting will be undertaken by both DELWP and EGSC. Regular counts will be recorded on a two week basis during normal occupation and behavioural changes will be recorded at each alternative visit immediately after each stage of vegetation removal. The regular population counts will be recorded by the DELWP and maintained by DELWP, and available to EGSC.

Reports of any dispersal activities will be submitted to DE at the end of each month where activities occur, until advised otherwise. The Project Manager will be required to collate information pertaining to dispersal and submit this report to DE.

An Annual Report will be submitted to DE by EGSC until DELWP decide that the colony has settled and established fidelity to the new site. As such reporting requirements as a condition of the Plan from EGSC will cease from this point.

10.6.4 Improvement

Indications of behavioural, physiological or reproductive cycle changes will prompt an adaptive management approach to the staged vegetation removal process and revegetation actions. Adaptive management strategies will need to be developed in accordance with risk that results from the action and interpreted from monitoring (See **Section 10.7**).This plan will need to be developed in consultation with DELWP, DoE and the local community.

10.7 Key Performance Indicators

Key performance indicators (KPIs) allow evaluation of success in mitigating any negative impacts of the revegetation action on GHFF at the Mitchell River roost site. Measurement of the success will be through establishing a difference between expected behaviour and changes to expected behaviour at the Mitchell River site. Key performance indicators are listed below.

10.7.1 GHFF Continue Reproductive Cycle

There is potential for GHFF to abort foetuses in times of stress (see **Section x.x**). Given that the birthing period occurs before the expected arrival of GHFF at the Mitchell River revegetation site, abortions would not be expected on site.

Increased stress levels may cause interruptions to lactating females. This may influence abandonment of pups attached to the mothers. Monitoring of the colony will include assessment of presence of pups attached to their mothers and rate of abandonment by assessment through ground level searches using binoculars and around the perimeter of the colony. Assessment within the vegetation of the core camp area where the colony is situated would cause additional stress to the colony and may cause additional stress to lactating mothers. Advice will be sought from DELWP prior to any intensive searches being undertaken.

Monitoring of the colony across their period of occupation will include assessment of the key mating period between March and April. Increased stress levels could cease or limit breeding. Monitoring will allow observation whether mating continues throughout the key breeding period, which will indicate if the colony is stressed during this time.

10.7.2 GHFF Maintained as One Population

Isolated populations of GHFF would be occurring across the East Gippsland region during the period of occupation by GHFF at the Mitchell River roost site regardless of any actions undertaken by EGSC.

Collation of data will be influenced by the encouragement of the community to report information pertaining to the GHFF regarding feeding and roosting sites. Additional reports of populations will affect the validity of the data regarding measurements of the maintenance of GHFF as one population. Extraordinary spikes in reports could potentially be attributed to revegetation actions undertaken by EGSC. This will be assessed as part of the Annual Report.

10.7.3 Foraging Distance Maintained or Reduced

Given that there is only a general indication of where GHFF feed in the local area, current measurements of distance of feeding resources are not confirmed. Assessment of any new sites will incorporate assessment regarding foraging distance from newly occupied areas.

With increased community response regarding GHFF within the East Gippsland region there will be collation of information pertaining to the location of foraging resources utilised by GHFF in the area. The urban area would potentially be providing some foraging opportunities but detailed knowledge of such is unavailable at present.

10.7.4 Limited Behavioural Changes

Monitoring of the colony by EGSC and DEPI upon their arrival back on site will give some indication of the levels of stress that GHFF are experiencing as a direct result of any action taken on the Mitchell River site. As such adaptive management of the site will need to be undertaken. Such measures cannot be identified presently due to the unexpected response from GHFF in relation to any action on the Mitchell River site.

10.8 Induction

At least 1 week prior to the commencement of any works on the site, all EGSC and contract staff involved in the vegetation removal program will be inducted at a toolbox talk to ensure they are familiar with the project and its implications to the GHFF colony. Items addressed in the induction will include:

- A background to the project;
- The staged approach to the removal of the vegetation;
- The significance of the Mitchell River camp site to GHFF;
- The identification of GHFF ;
- The listing status of the species under the *EPBC Act* and measures that must be implemented to protect it;
- Stop work procedures in the event that GHFF are observed on the site during the works.

All staff will be made familiar with the Plan prior to the commencement of works. Copies of both the Stop Work Trigger and the GHFF identification sheet will be displayed in a prominent location in the EGSC works depot and on site.

Ensuring that staff and contracted personnel are aware of the project, its impacts and conditions will assist in limiting further impacts on GHFF through an understanding of the project and ecology of GHFF.

10.9 Adaptive Management

The potential risks to the GHFF colony and the mitigation measures for ameliorating these risks are outlined in **Section 10.2**. An adaptive management response will be developed to deal with the different sites that the species could establish a colony at following the removal of the vegetation at the Mitchell River camp. This will be undertaken on a site by site basis.

Should DELWP determine that GHFF are being negatively impacted on by the direct actions of EGSC as outlined within The Plan, an adaptive strategy will need to be developed to manage GHFF at the original Mitchell River site. This will delay the continuation of the project. This adaptive management strategy will need to informed by the monitoring of the GHFF colony after Stage 1 and developed by EGSC, DELWP, DE and the local community. If the negative GHFF reaction occurs after Stage 1 removal, Stage 2 will need to be delayed and modified to consider the welfare of GHFF. If the negative GHFF reaction occurs after Stage 2 removal, Stage 3 will need to be delayed and modified to consider the welfare of GHFF.

11 POTENTIAL IMPACT AND THREAT MANAGEMENT

The following table highlights potential scenarios that could result from EGSC undertaking invasive plant management and revegetation works in the proposed area. The potential scenarios that could result from the staged removal process are documented below.

11.1 Potential Scenarios prior to commencement of Stages 1, 2 and 3

SCENARIO PRIOR TO COMMENCEMENT OF STAGES 1, 2 AND 3	***RISK***	***RESPONSE TO RISK AND MITIGATION MEASURES TO BE ADOPTED***	***STAKEHOLDER RESPONSIBLE***	***KEY PERFORMANCE INDICATORS***
1. GHFF inhabit site continuous (i.e. No migration)	• Increased Community Intolerance • Dangerous Trees presence	• Communication with community as to planned actions and delays • Continued assessment of tree health and implementation of action when required. Should GHFF be present when action required, consultation with DELWP and DE as to appropriate action.	EGSC	• Limited negative reports relating to GHFF • Community informed • Dangerous trees presence mitigated and public safety risk reduced

11.2 Potential Scenarios after Stage One Removal

SCENARIOS after STAGE ONE	***RISK***	***RESPONSE TO RISK AND MITIGATION MEASURES TO BE ADOPTED***	***STAKEHOLDER RESPONSIBLE***	***KEY PERFORMANCE INDICATORS***

1. GHFF Return and Reoccupy Roost Site at Low Population Levels	• Behavioural Changes	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby;	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes
2. GHFF Return and Reoccupy Site at High Population Levels	• Overcrowding; • Fragmentation of Colony; • Behavioural Changes. • Increased Community Intolerance • Behavioural Changes	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby;	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes
3. GHFF Return and Occupy Adjacent Vegetation in the Mitchell River Corridor	• Overcrowding; • Fragmentation of Colony • Behavioural Changes	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby; •	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes

4. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes •
5. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Inappropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources; • Fragmentation of Colony. • Inappropriate Site Occupation	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes

11.3 Potential Scenarios after Stage Two Removal

SCENARIOS after STAGE TWO	***RISK***	***RESPONSE TO RISK AND MITIGATION MEASURES TO BE ADOPTED***	***STAKEHOLDER RESPONSIBLE***	***KEY PERFORMANCE INDICATORS***

1. GHFF Return and Reoccupy Roost Site at Low Population Levels	• Behavioural Changes	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby;	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes •
2. GHFF Return and Reoccupy Site at High Population Levels	• Overcrowding; • Fragmentation of Colony; • Behavioural Changes; • Increased Community Intolerance	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby;	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes
3. GHFF Return and Occupy Adjacent Vegetation in the Mitchell River Corridor	• Overcrowding; • Fragmentation of Colony	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby; • Develop appropriate site management in consultation with DEPI and DoE	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes •

4. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes •
5. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Inappropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources; • Fragmentation of Colony. • Inappropriate Site Occupation • Increased Community Intolerance	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes

11.3 Potential Scenarios after Stage Three Removal

SCENARIOS after STAGE THREE	***RISK***	***RESPONSE TO RISK AND MITIGATION MEASURES TO BE ADOPTED***	***STAKEHOLDER RESPONSIBLE***	***KEY PERFORMANCE INDICATORS***
1. GHFF Return and Occupy Adjacent Vegetation in the Mitchell River Corridor	• Overcrowding; • Fragmentation of Colony	• Monitoring from DEPI and EGSC to determine stress levels of GHFF and implementing methods to limit additional disturbance i.e. install signage asking people to keep distance from the colony, keep quiet and possible temporary closure of paths nearby; • Develop appropriate site management in consultation with DEPI and DoE	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes
2. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources • Overcrowding	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes

3. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Inappropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources; • Fragmentation of Colony • Overcrowding • Inappropriate Site Occupation • Increased Community Intolerance	• Develop appropriate site management in consultation with DEPI and DE	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes

12 SITE MANAGEMENT ACTIONS

Timing of any management action needs to be developed around the presence or absence from GHFF on the Mitchell River. Works will only be undertaken between October to July the following year, with the optimal timing being from the 1st of April until 31st of July to account for the reproductive cycle of GHFF.. No works will be undertaken between 1st of August until the 30th of September unless permission sought and received from DE to avoid key reproductive times in the biology of GHFF.

12.1 Management Actions Stage One, Year One

Action No	Proposed timing	Goal	Objective	Actions	Responsible
1	October–July (No works will be undertaken from 1 August – 30 September unless permission granted from DE)	To continue revegetation actions along the Mitchell River riparian corridor.	Implement Stage One revegetation actions in line with Revegetation Plan	• The first stage of tree removal to create approximately 50m buffer (no roost opportunity) SSE of residential properties on Riverine Street. • Stage One will be clear felled by EGSC Tree Crew or qualified contractors under supervision of Project Manager and Arborist. • All trees in the designated Stage One area will be removed and taken off site. • .	EGSC EGSC EGSC
2	November - June	Determine response of GHFF colony to the first stage of tree removal.	Determine any behavioural, social and reproductive impacts on the GHFF colony.	• Confirm presence/absence of GHFF on site • Assessment of colony response through site visit 2 times a week and document response; • Population counts to be recorded every month whilst site is occupied.	DELWP DELWP and EGSC DELWP EGSC

				• Provide measures to limit further disturbance on site if negative response from GHFF is observed (ie.signage, temp closure of path etc)	EGSC
3	October – July	Improve site amenity and access.	Reduction in human interaction through reducing opportunities for conflict	• Channel all recreational users to northern or southern walks. • Creation of footpath in cleared area to divert human traffic away from revegetation areas if possible.	EGSC EGSC
4	September – June	Increase community knowledge of GHFF.	Increase knowledge within community about GHFF biology, ecology and promote 'Living with Wildlife' theme.	• Commence implementation of EGSC Community Engagement Plan; • Provision of cohesive information from all departments.	EGSC and DELWP EGSC and DELWP.

12.2 Management Actions Stage Two, Year Two

Action No	Proposed timing	Goal	Objective	Actions	Responsible
1	July – June	To determine any negative impacts on GHFF and develop alternative actions as required	To ensure that no negative impacts on GHFF on site as a result of Stage One actions	• Utilise results from monitoring to interpret if negative effects have been observed on GHFF. • Develop an alternative management strategy to limit exposure of GHFF to negative impacts associated with revegetation works.	EGSC and DELWP EGSC
2	October – July (no works will be undertaken from 1 August – 30 September unless permission sought from DE)	To continue revegetation actions along the Mitchell River riparian corridor.	Implement Stage Two revegetation actions in line with Revegetation Plan.	• Stage Two will be clear felled by EGSC Tree Crew or qualified contractors under supervision of Project Manager and Arborist All trees in the designated Stage Two area will be removed and taken off site. • • Undertake invasive plant control in Stage One revegetation area.	EGSC EGSC EGSC
3	November - June	Determine response of GHFF colony to the second stage of tree removal.	Determine any behavioural, social and reproductive impacts on the GHFF colony.	• Confirm presence of GHFF on site • Assessment of colony response through site visit 2 times a week and document response • Population counts to be recorded every month whilst site is occupied.	DELWP DELWP and EGSC DELWP

4	July – June	Increase community knowledge of GHFF.	Increase knowledge within community about GHFF biology, ecology and promote 'Living with Wildlife' theme.	• Continue implementation of EGSC Community Engagement Plan; • Provision of cohesive information from all departments.	EGSC and DELWP EGSC and DELWP.

12.3 Management Actions Stage Three, Year Three

STAGE THREE REMOVAL OF POPLARS -					
Action No	**Proposed timing**	**Goal**	**Objective**	**Actions**	**Responsible**
1	October – July (no works will be undertaken from 1 August – 30 September unless permission sought from DE)	To continue revegetation actions along the Mitchell River riparian corridor.	Implement Stage Three revegetation actions in line with Revegetation Plan.	• The site will be clear felled by EGSC Tree Crew under supervision of Project Manager and Arborist. • All trees in the designated Stage Three area will be removed and taken off site. • Undertake invasive plant control in Stage One and Two revegetation areas.	EGSC EGSC EGSC
2	July - June	Determine response of GHFF colony to the third stage of tree removal.	Determine any behavioural, social and reproductive impacts on the GHFF colony.	• Determine presence of GHFF in region and site that they occupy (ie.adjacent vegetation, historical sites, new sites) • Assessment of colony response through site visit 2 times a week and document response;	DELWP DELWP and EGSC

					EGSC and DELWP
3	July – June	Increase community knowledge of GHFF.	Increase knowledge within community about GHFF biology, ecology and promote 'Living with Wildlife' theme.	• Continue implementation of EGSC Community Engagement Plan; • Provision of cohesive information from all departments.	EGSC and DELWP EGSC and DELWP.

13 ACKNOWLEDGEMENTS

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Arthur Rylar Institute, Melbourne.

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15 APPENDICES

Appendix 1 - Grey-headed Flying Fox Occupation Counts at Bairnsdale Camp

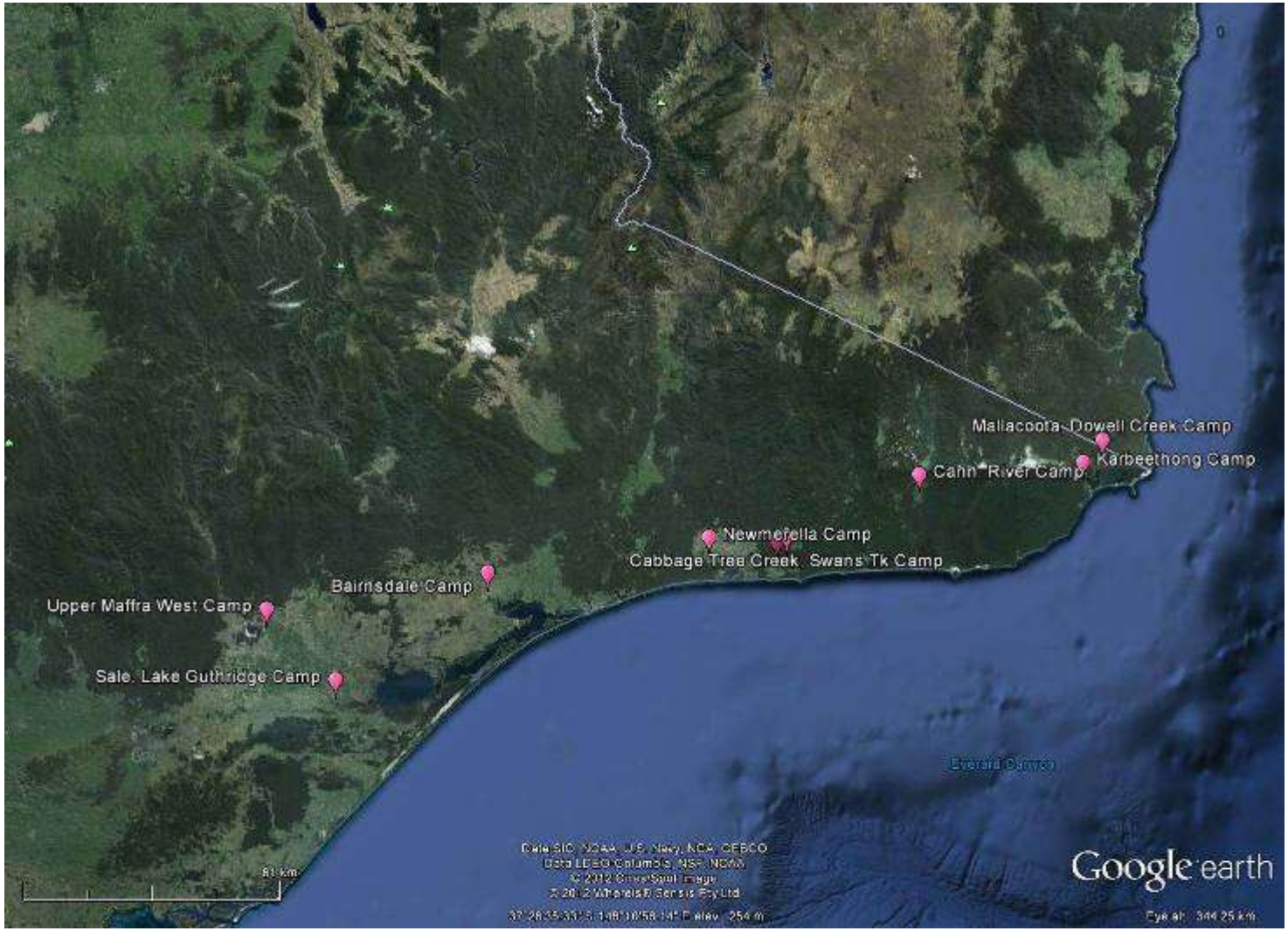
Grey-headed Flying-fox Occupation and Counts at Bairnsdale Camp 1995-2015															
	1995	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
January			3,500	>1,000			(v**)	2,800	4,510	14,700	6,500	10,000	>8,000	8,100	20,310
February			(nc*)	1,600		(v**)	200	3,340	3,730	20,000	9,000	5,200	9,000	7,200	8,880
March			(nc*)	>2,000		1,250	>500	2,070	280	5,500	6,500	4,500	5,500	12,600	6,680
April	1,870		738	(nc*)		11,330	(v**)	3,270	(v**)	3,200	20,000	7,000	163	39,800	5,650
May			>3,000	>1,000		34,110		120		1,000	26,000	(v**)	48	60,000	6,200
June			670	110		950		(v**)		560	525		(v**)	35,000	3,400
July			570	(v**)		(v**)				130	(v**)			12,000	
August			510							30				17,000	
September			420							(v**)			(v**)	13,500	
October		(v**)	350										400	12,000	
November		<200	830					(v**)	(v**)	(v**)	(v**)		526	17,000	
December		(nc*)	750				(v**)	1,250	17,000	400	3,000		1,450	(nc*)	

Source:, DEPI, Gippsland

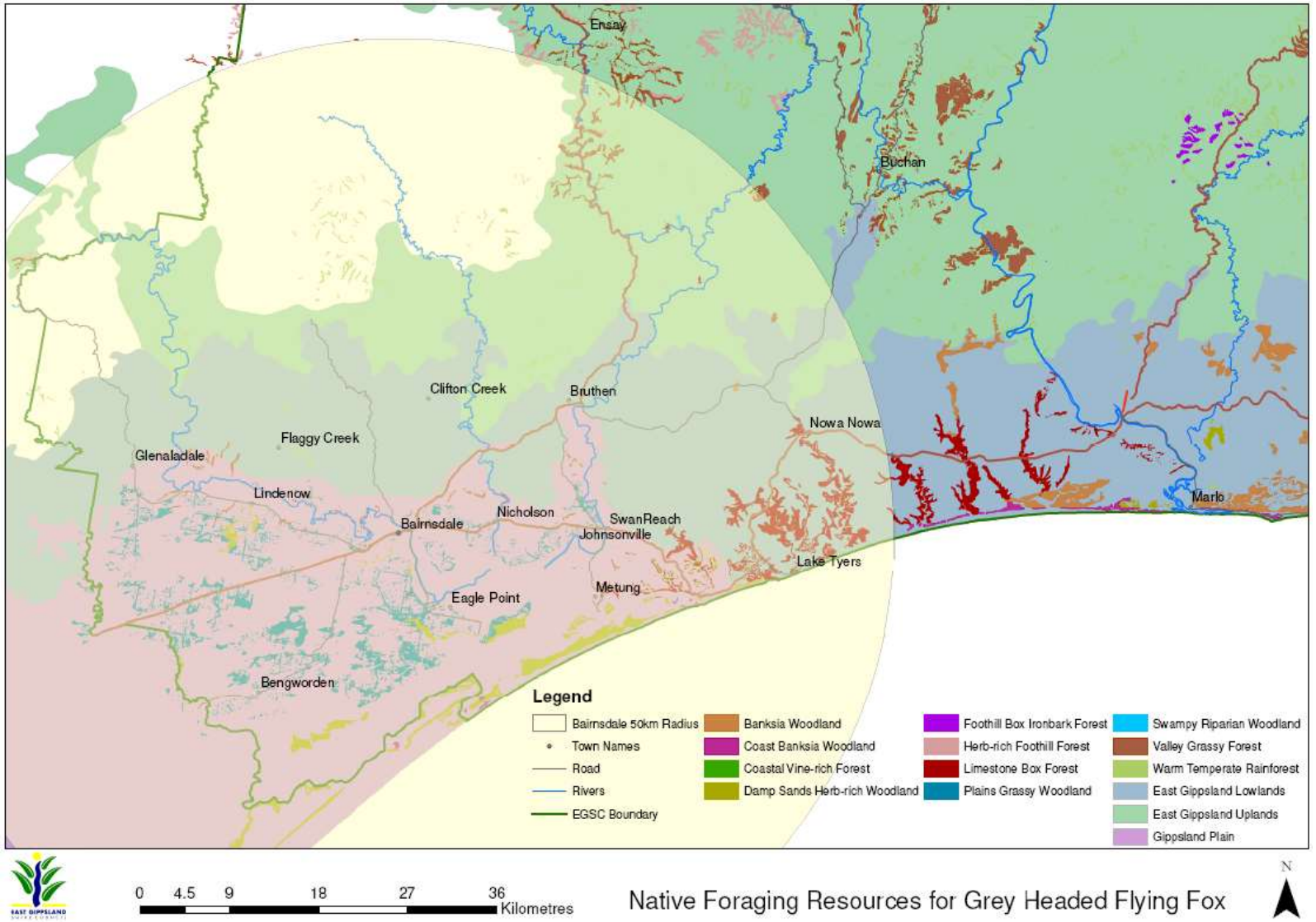
(nc*) No Count
(v**) Vacant

Appendix 2 - Grey Headed Flying-Fox Camps Recorded in Gippsland (map included)

Grey-headed Flying-fox camps recorded in Gippsland 1998 - 2011				
Camp name	Location	Latitude (S)	Longitude (E)	Altitude (m)
Dowell Creek	South of David Creek Track, Croajingolong NP.	37.4693333	149.8003889	10
Karbeethong	Mullet Creek, upstream of Foreshore Rd Karbeethong.	37.5408611	149.8870833	5
Cann River	On north-west side of Cann River township.	37.5648611	149.1496111	80
Cabbage Tree Ck - Swans Tk	End of Swans Tk, Cabbage Tree Palms Reserve.	37.7336389	148.6795833	15
Cabbage Tree Ck - Palms Tk	Downstream of Palms Tk bridge, Cabbage Tree Palms Reserve.	37.7481944	148.6445278	15
Newmerella	Off Collis Rd, Newmerella.	37.7345278	148.4048889	30
Bairnsdale	Mitchell River, Bairnsdale city.	37.8217222	147.6212778	10
Sale	Island in Lake Guthridge, Sale city.	38.1137222	147.0695833	10
Upper Maffra West	Macalister River, east of Lake Glenmaggie	37.9085833	146.8327778	50


Mallacoota, Dowell Creek Camp
Karbeethong Camp
Cann River Camp
Newmerella Camp
Cabbage Tree Creek, Swans Tk Camp
Bairnsdale Camp
Upper Maffra West Camp
Sale, Lake Guthridge Camp
Google earth

Appendix 3 - Grey-headed Flying Fox Vegetation and Feeding Areas within 50km Radius of Bairnsdale



Appendix 4 - Arboricultural Report, Identification of Poplar Trees that require Remedial Works along Mitchell River Walking Track

ARBORICULTURAL REPORT

East Gippsland Shire
Bairnsdale VIC 3875

EAST GIPPSLAND TREE SERVICES

Re: Identification of Poplar trees that require remedial works along Mitchell River Walking Track

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1

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1.0 Terms of Reference:

1.1 To provide a detailed report on Poplar trees located along the Mitchell River walking track.

1.2 To identify trees to be removed for Buffer Zone along western boundary.

1.3 To advise on the recommended works.

2.0 Procedure:

2.1 On June 23rd, 2010 East Gippsland Tree services' Arborist, Mr. David Tarling carried out a ground inspection of poplars located along the southern side of the Mitchell River Walking Track.

3.0 Findings:

3.1 The following mature trees were found and have a direct impact on the safety of the site:

Populus alba (White Poplar)

3.2 All trees have been introduced to the area.

3.3 All trees are showing signs of stress, most likely caused by the impact of the Flying Foxes.

3.4 For the purpose of this report thirty two (32) trees have been assessed with the majority of them being grouped together .

3.5 Ivy was noted covering the ground and most Poplar tree trunks.

3.6 Tree #'s 1-3 details are as follows; *(Fig. 1)*

Botanical Name: ***Populus alba***

Common Name: White Poplar

3

Age:	Mature
Height:	Approx. 25m
DBH:	500mm to 650mm
LCR:	70% to 75%
Crown Diameter:	10m
Structure:	Poor
Overall Health:	Fair to Poor
ULE:	5 to 10 years
Tree Status:	Exotic

3.6.1 All trees are carrying a high amount of deadwood.

3.6.2 Tree #'s 1-3 are located along the western boundary and will impact on private property if failure occurs.

3.7 Tree #'s 4-29 details are as follows; *(Fig. 3)*

Botanical Name:	***Populus alba***
Common Name:	White Poplar
Age:	Semi Mature to Mature
Height:	Approx. 25m
DBH:	300mm to 650mm
LCR:	70% to 75%
Crown Diameter:	Up to 10m
Structure:	Poor

Overall Health:	Fair to Poor
ULE:	5 to 15 years
Tree Status:	Exotic

3.7.1 All trees are carrying a high amount of deadwood.

3.7.2 As well as deadwood, tree #'s 10,16,19,20,23,26-28 have heavily weighted branches extending over the walking track.

3.8 Tree #'s 30-31 details are as follows; *(Fig. 3 & 4)*

Botanical Name:	***Populus alba***
Common Name:	White Poplar
Age:	Semi Mature to Mature
Height:	Approx. 15m to 25m
DBH:	300mm to 400mm
LCR:	70% to 75%
Crown Diameter:	Upto 8m
Structure:	Poor
Overall Health:	Fair to Poor
ULE:	5 to 15 years
Tree Status:	Exotic

3.8.1 Both trees are located along the McCulloch Street Access track.

5

3.8.2 Both trees are carrying a high amount of deadwood.

3.8.3 Both trees have heavy leans over the McCulloch St access track with tree #31 on an extreme angle.

3.8.4 Only trees directly impacting on the western boundary, the Mitchell River Walking Track and the McCulloch St Access Track have been included in the report.

3.9 Tree #32's details are as follows; *(Fig. 5)*

Botanical Name:	***?***
Common Name:	?
Age:	Dead
Height:	Approx. 20m
DBH:	400mm
LCR:	0%
Crown Diameter:	
Structure:	Very poor
Overall Health:	Dead
ULE:	Unsafe
Tree Status:	?

4.0 Comments:

4.1 ***Populus alba*** is an introduced species originating in Spain and Morocco through central Europe to Central Asia.

4.2 Over the years the extensive removal of Poplars around the Mitchell River walking Track has been carried out.

4.3 The small area of Poplars included in the report has been protected due to the annual pilgrimage of the ***Pteropus poliocephalus*** (Grey Headed Flying Fox) in which they use these trees to roost in. *(Fig. 5)*

4.4 The Mitchell River Walking Track is a highly used.

4.5 All trees included in the report have been marked with a number.

4.6 Photos are limited due to the close proximity of trees and the location in which pictures could be taken from, deeming most photos unusable.

4.7 It's hard to determine the useful life expectancy for the majority of trees as the health of these trees will most likely be determined by the number of Flying Foxes that frequent the area.

5.0 Conclusion:

5.1 Thirty two (32) trees have been assessed.

5.2 Tree #'s 1-3 are located and impact on the western boundary.

5.3 Tree #'s 4-29 are located and impact on the Mitchell River Walking Track.

5.4 Tree #'s 30-32 are located and impact on the McCulloch St Access Track.

5.5 All trees are carrying high amounts of deadwood.

5.6 Along with deadwood, tree #'s 10,16,19,20,23,26-28 have heavily weighted branches extending over the Mitchell River Walking track.

5.7 Tree #'s 30 and 31 have heavy leans over the McCulloch St access track with tree #31 on an extreme angle.

5.8 Tree #32 is dead.

6.0 Recommendation:

6.1 Removal of Tree #'s 1-3 to allow a Buffer Zone between Crown and Private land.

6.2 Tree #'s 4-9, 11-15, 17-18, 21-22, 24-25 and 29 require the removal of deadwood.

6.3 Tree #'s 10,16,19,20,23,26-28 require deadwooding and weight reduction.

6.4 Tree #'s 30-32 require removal.

6.5 Deadwooding could be carried out in other trees located along the McCulloch St Access Track.

6.6 Removal of ivy.

7.0 References:

Harris, R.W., Clark, J.R. and Matheny, N.P. (1999) Arboriculture- Integrated Management of Landscape Trees, Shrubs, And Vines, Prentice Hall, Inc

8.0 Appendices:

Appendix 1: Data collection Definitions

The information collected on each specimen was based on the assessors experience and opinion of each of the trees. Included are the descriptions for each of the listed categories. The following information was collected on each tree.

1.1 Botanical name:

The genus, species and common name.

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1.2 Canopy dimensions

Height (approximate) and width (measured) of the canopy in metres.

1.3 DBH

Diameter at breast height (measured at 1.3m above ground level).

1.4 Health

- Excellent
- Good
- Fair
- Poor
- Very Poor
- Dead

1.4.1 Excellent

The tree is demonstrating excellent or exceptional growth. The tree should exhibit a full canopy of foliage and be free of pest and disease problems.

1.4.2 Good

The tree is demonstrating good or exceptional growth. The tree should exhibit a full canopy of foliage, and have only minor pest or diseases problems.

1.4.3 Fair

The tree is in reasonable condition and growing well. The tree should exhibit an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.

1.4.4 Poor

The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood present in the crown. Significant pest and disease problems may be evident or symptoms of stress indicating tree decline.

1.4.5 Very Poor

The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be

present in the canopy or pest and disease problems may be causing a severe decline in tree health.

1.4.6 Dead
The tree is dead.

1.5 Structure

- Good
- Fair
- Poor
- Very Poor
- Failed

1.5.1 Good
The tree has a well defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.

1.5.2 Fair
The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.

1.5.3 Poor
The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.

1.5.4 Very Poor
The tree has a poorly structured crown. The crown is unbalanced or exhibit large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.

1.5.5 Failed

The tree has a very poorly structured crown. A section of the tree has failed or is in imminent danger of failure.

1.6 Useful Life Expectancy (ULE) Rating

- Unsafe
- Less than 5 years
- 5-10 yrs
- 11-20 yrs
- 20-40 yrs
- Greater than 40 years

Useful Life Expectancy is approximately how long a tree can be retained safely and usefully in the landscape.

1.6.1 Unsafe

The tree is considered dangerous in the location and has no significant amenity value.

1.6.2 Less than 5 years

The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and have value for up to five years, but will need to be replaced. During this period, normal inspections and maintenance will be required. If possible, replacement trees should be planted.

1.6.3 5-10 years

The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for up to ten years. During this period, normal inspections and maintenance will be required.

1.6.4 10-20 years

The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for up to twenty years. During this period, normal inspections and maintenance will be required.

1.6.5 20-40 years

The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for up to forty years. During this period, normal inspections and maintenance will be required.

1.6.6 Greater than 40 years

The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for greater than forty years. During this period, normal inspections and maintenance will be required.

1.7 Tree Status

- Exotic
- Native
- Indigenous

1.7.1 Exotic

The species originates in a country other than Australia

1.7.2 Native

The species originates within Australia

1.7.3 Indigenous

The species originates within the local environs.

1.8 Contribution to the Landscape Rating

- High
- Medium
- Low

1.8.1 High

The tree may be significant in the landscape, offer shade and other amenities such as screening. The tree may assist with erosion control, offer a windbreak or perform a vital function in the location (Eg. Habitat, shade, flowers or fruit)

1.8.2 Medium

The tree may offer some screening in the landscape or serve a particular function in the location.

1.8.3 Low
The tree offers very little in the way of screening or amenity.

This report is for use by the client, and no responsibility will be taken for use by any other parties. All recommendations are based on visual ground observations at the time of inspection. The influence that environmental and physical conditions may have on trees may change from day to day, for any given site.

David Tarling
Hort IV. Arb (Melb Uni)

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Appendix 5 - List of Weed Species and Coverage at Roost Site

COMMON NAME	SCIENTIFIC NAME	PERCENT COVER*
English Ivy	*Hedera helix*	51-100%
White Poplar	*Populus alba*	51-100%
Kikuyu	*Pennisetum clandestinum*	11-50%
Broad Leaf Privet	*Ligustrum lucidum*	11-50%
Blackberry	*Rubus fruticosus spp agg*	1-10%
English Oak	*Quercus roba*	1-10%
Peppercorn	*Schinus molle*	1-10%
Panic Veldt Grass	*Erharta erecta*	1-10%
Wild Tobacco Tree	*Solanum mauritianum*	1-10%
Cotoneaster	*Cotoneaster glaucophyllus*	1-10%
Purple Top Verbena	*Verbena bonariensis*	1-10%
Cocksfoot	*Dactylis glomerata*	1-10%
Mirror Bush	*Coprosma repens*	1-10%
Bridal Creeper	*Asparagus asparagoides*	1-10%
Blue Periwinkle	*Vinca major*	1-10%
Dock	*Rumex spp*	1-10%
Japanese Honeysuckle	*Lonicera japonica*	1-10%
Silky Oak	*Grevillea robusta*	0-1%
Banana Passionfruit	*Passiflora mollissima*	0-1%
Cleavers	*Galium aparine*	0-1%
Canary Island Palm	*Phoenix canariensis*	0-1%
Sow Thistle	*Sonchus oleraceus*	0-1%
Agapanthus	*Agapanthus praecox*	0-1%
Dutch Elm	*Ulmus procera*	0-1%

*National Core Attributes for Weed Mapping, Australian Weeds Committee

Appendix 6 - List of Native Species in Adjacent Vegetation

COMMON NAME	SCIENTIFIC NAME
Drooping She Oak	*Allocasuarina verticillata*
Black She Oak	*Allocasuarina littoralis*
Black Wattle	*Acacia mearnsii*
Silver Wattle	*Acacia dealbata*
Boobialla	*Myoporum insulare*
Austral Bracken	*Pteridium esculentum*
Gippsland Red Gum	*Eucalyptus tereticornus* subsp *mediana*
Tree Violet	*Hymenanthera dentata*
Seaberry Salt Bush	*Rhagodia candolleana*
Sweet Pittosporum	*Pittosporum undulatum*
Mat-Rush	*Lomandra longifolia*
Common Tussock	*Poa labillardieri*
River Bottlebrush	*Callistemon sieberi*
Swamp Paperbark	*Melaleuca ericifolia*
River She-Oak	*Casuarina cunninghamiana*
Yellow Box	*Eucalyptus melliodora*
Coast Grey Box	*Eucalyptus bosistoana*
Hazel Pomaderris	*Pomaderris aspera*
Rough Barked Manna Gum	*Eucalyptus viminalis*
Golden -Tip	*Goodia lotifolia*
Common Reed	*Phragmites australis*
Kangaroo Apple	*Solanum aviculare*

Appendix 7 - Revegetation Plan Mitchell River Roost Site

REVEGETATION PLAN

MITCHELL RIVER ROOST SITE

EAST GIPPSLAND SHIRE COUNCIL

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TABLE OF FIGURES

ACRONYMS

The Plan - The Grey Headed Flying Fox Strategic Management and Action Plan
EPBC Act 1999 – *Environment Protection and Biodiversity Conseravtion Act 1999*
DEPI – Department of Environment and Primary Industries
DE – Department of Environment
EGSC – East Gippsland Shire Council
GHFF – Grey Headed Flying Fox

1. Purpose

The Revegetation Plan for the Mitchell River Roost Site has been developed as part of the Grey-Headed Flying Fox Strategic Direction and Action Plan. This plan sets out the design and implementation of revegetation actions on this site and provides methodology for the process.

A wider scale revegetation program is in place to rehabilitate the Mitchell River corridor to enhance the conservation value of this area and provide a safe environment for increasing recreational activities. This project is in addition to other revegetation sites within this corridor.

2. Aims of Revegetation

Revegetation at this site aims to incorporate the following objectives;

2.1 Minimisation of future management issues

By carefully selecting canopy and mid strata species within revegetation works, the balance between creating future management issues such as tree health and dropping limbs, footpath maintenance and creation of a dense vegetation structure is carefully considered.

2.2 Provision of ecosystem services within the riparian corridor

Riparian corridors are known to provide significant environmental benefits through filtering of rainwater, acting as a wildlife corridor and nutrient retention.

2.3 *Provision of longer term habitat resources for native fauna through structure and diversity*

The species selection listed considers the habitat and feeding requirements for all species that currently use the Mitchell River corridor.

2.4 *Incorporation of aesthetic values*

Continuation of the native vegetation corridor along the Mitchell River corridor will provide aesthetic value and benefit to the local community and residents.

2.5 *Replacement of invasive floral species with native floral species*

Invasive species continue to have an impact on environmental, agricultural and social values within the local environment. Native species will enhance the existing values of the area and provide valuable ecological characteristics for all faunal species.

2.6 *Restoration of the area to be representative of pre-European condition with consideration of current utilisation of the area*

Restoration of the area with consideration of the pre-European condition of the site and how it is currently used for recreation and aesthetic amenity**.**

3. Current Site Condition

This revegetation site is currently populated by a high diversity of invasive species which are impacting on native regeneration, and a source of weed spread within the local area. This isolated stand of White Poplar (*Populus alba)* is surrounded by revegetation works with a view to returning the Mitchell River corridor to native vegetation.

The canopy trees currently on site are utilised as a temporary roost site for GHFF over the Summer and Spring periods. These roosting trees are in varying stages of senescence and were determined to have a useful life expectancy of between 5 and 15 years in 2010 (see **Appendix 4** in The Plan).

The vegetation consists of a canopy of White Poplar (*P.alba*) with an understorey dominated by Privet (*Ligustrum lucidum*) and English Ivy (*Hedera helix*) (See **Figure 1**). A species list of invasive plants is included in **Section 7.1**. The high coverage of invasive species on site is limiting the regeneration and establishment of native species through competition.

Analysis of the vegetation with Habitat Hectare scoring through Victoria's *Native Vegetation Framework 2002* cannot be undertaken due to lack of native vegetation cover across the entire site.

Figure 1 - Current vegetation on the Mitchell River Roost Site

Figure 2 - Invasive understorey along the Mitchell River Walking Path

4. Proposed Site Design

The proposed revegetation site is dissected by a walking path which can potentially relocate to the western edge of the site. This relocation will allow safe access from Riverine Street to the Mitchell River Walking path. Creation of this path and buffer will assist in relieving adjacent residents concerns of health issues associated with presence of *Pteropus poliocephalis*, create an aesthetically pleasing outlook onto the Mitchell River, and limit public access to the centre of the revegetation area.

Figure 3 - Areas proposed for Staged Revegetation of the Mitchell River Roost Site

This selected area highlighted complements the existing revegetation area that surrounds the current site and also extends across the Mitchell River, where revegetation efforts have almost entirely been completed.

Retention of some large established deciduous trees will be essential on site. The proposal includes retention of a very large English Oak (*Quercus robur*) as this tree is held in high regard to the local community despite the non indigenous characteristics and appropriateness to the site.

4.1 Revegetation Species Selection

Floral species that could form part of the revegetation could include the following species;

Canopy

- Gippsland Red Gum (*Eucalyptus tereticornus* subsp *mediana*);
- Coastal Grey Box (*E.bosistoana*)
- Blue Box (*E.baueriana*);
- Yellow Box (*E.melliodora*);

Sub-canopy

- Lilly Pilly (*Syzygium smithii*)
- Silver Wattle (*Acacia dealbata*)
- Blackwood (*A.melanoxylon*)
- Coastal Banksia (*Banksia integrifolia*)
- Kangaroo Apple (*Solanum aviculare*)
- Limestone Blue Wattle (*A.caerulescens*)
- River Bottlebrush (*Callistemon sieberi*)
- Sweet Pittosporum (*Pittosporum undulatum*)
- Swamp Paperbark (*Melaleuca ericifolia*)
- Sweet Bursaria (*Bursaria spinosa*)
- Wooly tea-tree (*Leptospermum laevigatum*)
- Tree Violet (*Hymenanthera dentata*)
- Common Boobialla (*Myoporum insulare)*
- White Elderberry *(Sambucus gaudichaudiana*)
- Mat Rush (*Lomandra longifolia*)
- Tall Sedge (*Carex appressa*)
- Tussock Grass (*Poa labillardieri*)
- Flax Lily (*Dianella spp*)
- Tussock Grass (*Poa labillardieri*)
- White Milk Vine (*Marsdenia rostrata*)
- Old Man's Beard (*Clematis aristata*)
- Wonga Vine (*Pandorea pandorana*)
- Purple Coral-pea (*Hardenbergia violacea*)

These species are suited for the riparian corridor and adjoining slope and have formed part of previous revegetation efforts along the Mitchell River corridor. The canopy species will provide structure for many species that could currently and potentially utilise the corridor into the future. The variety of species will provide extensive foraging resources for many urban species including GHFF, microbats, aboreal mammals and avifauna.

5. Summary of Staged Approach

A staged approach as highlighted in **Figure 3** separates the proposed area into three sections allowing removal of invasive species and complementary revegetation actions to be expanded over three years. The benefits of this approach allow;

- Differing age classes of developing vegetation;
- Allows observation of a response from faunal species utilising the site;
- Decreases sedimentation into the Mitchell River in an unexpected rain event;
- Spreads funding requirements over a three year period.

Stage 1 is designed around creation of lower vegetation to provide some microclimatic conditions and marry ecological benefit with personal safety concerns. Planting of lower species next to the proposed pathway will allow management of paths without impacting on surrounding revegetation. This design will also discourage entry into revegetation area through dense swards of grass and sedges.

Stage 2 will consist of a variety of species, with any canopy species planted closer to the centre of the site to mitigate safety concerns such as dropping limbs and to provide a core canopy area. Areas closest to paths will be densely planted with Silver Wattle, Swamp Paperbark, Boobialla, and Mat Rush where possible. This arrangement will deter public access and protect the centre plantings and also provide some ecological requirements for different faunal species on site.

Stage 3 will replicate the principles applied in Stage 2 to ensure continuation of revegetation works that are species rich and structurally diverse.

6. Expansion of Revegetation Area

Previous revegetation works will be supplemented with additional structure and diversity to enhance their ecological attributes through nutrient cycling, soil stabilisation and habitat provision.

The extended revegetation area will incorporate adjacent vegetation to the site and also across the Mitchell River where previous revegetation efforts have taken place. The Mitchell River restoration project will continue in additional areas up and downstream of the current roost site.

7. Weed Control

Initial weed control over each revegetation stage will be required after tree removal and prior to planting. Treatment will occur across the area to manage existing weeds, and secondary treatment will be applied to treat regenerating weeds. Installation of geotextile fabric will limit the capacity of invasive species to recolonise the area and promote the success of planted seedlings.

Application of site-appropriate herbicides across the site will manage invasive plants for a limited time and will be used to ensure minimal impact on the surrounding riparian environment. Utilisation of this herbicide will require many subsequent applications to be effective at controlling the understorey weeds. Secondary weed control will be required once plantings are installed to ensure their survival and to limit competition between weeds and planted vegetation.

7.1 Invasive Species

An assessment of invasive species on site and their abundance was undertaken in 2011 and are listed in **Table 1** below.

Table 1 - Invasive species located within the proposed revegetation areas

COMMON NAME	SCIENTIFIC NAME	PERCENT COVER*
English Ivy	*Hedera helix*	51-100%
White Poplar	*Populus alba*	51-100%
Kikuyu	*Pennisetum clandestinum*	11-50%
Broad Leaf Privet	*Ligustrum lucidum*	11-50%
Blackberry	*Rubus fruticosus spp agg*	1-10%
English Oak	*Quercus roba*	1-10%
Peppercorn	*Schinus molle*	1-10%
Panic Veldt Grass	*Erharta erecta*	1-10%
Wild Tobacco Tree	*Solanum mauritianum*	1-10%
Cotoneaster	*Cotoneaster glaucophyllus*	1-10%
Purple Top Verbena	*Verbena bonariensis*	1-10%
Cocksfoot	*Dactylis glomerata*	1-10%
Mirror Bush	*Coprosma repens*	1-10%
Bridal Creeper	*Asparagus asparagoides*	1-10%
Blue Periwinkle	*Vinca major*	1-10%
Broad-leaf Dock	*Rumex obtusifolius*	1-10%
Japanese Honeysuckle	*Lonicera japonica*	1-10%
Silky Oak	*Grevillea robusta*	0-1%
Banana Passionfruit	*Passiflora mollissima*	0-1%
Cleavers	*Galium aparine*	0-1%
Canary Island Palm	*Phoenix canariensis*	0-1%
Sow Thistle	*Sonchus oleraceus*	0-1%
Agapanthus	*Agapanthus praecox*	0-1%
Dutch Elm	*Ulmus procera*	0-1%

*National Core Attributes for Weed Mapping, Australian Weeds Committee

7.2 Invasive Plant Management Methods

The current limitations on chemical application include the site being located in an Agricultural Chemical Control Area (ACCA) which has been designated by *Agricultural and Veterinary Chemicals (Control of Use) Act 1992* and also in close proximity to waterway.

Any chemical selected will have the following considerations;

- Registered for use in Australia;
- Registered for use on target species as written on chemical label;
- Allowed for use in an ACCA;
- Desired Mode of Action (MOA);
- Risks of off-target damage and toxicity to the environment.

Species will be treated in a method that is suitable for each species, as directed in **Table 2**.

Table 2 - Invasive species treatment methods

English Ivy (*Hedera helix*)	
This species is highly prevalent across the site	Control will be required through severing tap root and application of herbicide. Ground level biomass can be sprayed on the ground.
White Poplar (*Populus alba*)	
This species is highly prevalent across the site.	Removal of standing timber and poisoning and treatment of root suckers will be required annually.
Kikuyu (*Pennisetum clandestinum*)	
This species has a high distribution across the site	Spraying this species will require additional management due to a creeping underground rhizome.
Broad Leaf Privet (*Ligustrum lucidum*)	
High distribution across site and excellent coloniser with high seed numbers.	Removal of standing timber and application to herbicide to the stem of taller individuals. Spraying of smaller level plants on the lower level.
Blackberry (*Rubus fruticosus* spp *agg*)	
Low distribution across site.	Herbicide application and follow up. Removal of dead canes from site will be required and herbicide application on regrowth.
English Oak (*Quercus roba*)	
Low distribution across the site.	Removal of seedlings and application to herbicide to the stem of taller individuals. Spraying of smaller level plants on the lower level. Ensure protection of mature established English Oak.
Peppercorn (*Schinus molle*)	
Low distribution across site. Some larger mature trees.	Removal of seedlings and application to herbicide to the stem of taller individuals. Spraying of smaller level plants on the lower level. Ensure retainment of 2 mature trees along the western boundary at the private public land interface.

Panic Veldt Grass (*Erharta erecta*)	
Low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Wild Tobacco Tree (*Solanum mauritianum*)	
Low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Cotoneaster (*Cotoneaster glaucophyllus*)	
Low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Purple Top Verbena (*Verbena bonariensis*)	
Low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Cocksfoot (*Dactylis glomerata*)	
Low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Mirror Bush (*Coprosma repens*)	
Low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Bridal Creeper (*Asparagus asparagoides*)	
Low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Blue Periwinkle (*Vinca major*)	
Low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Dock (*Rumex spp*)	
Low distribution across site.	Spray mature individuals, retreat if needed.
Japanese Honeysuckle (*Lonicera japonica*)	
Low distribution across site.	Sever taproot and apply herbicide. Remove biomass from structure.
Silky Oak (*Grevillea robusta*)	
Very low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Banana Passionfruit (*Passiflora mollissima*)	
Very low distribution across site.	Sever taproot and apply herbicide. Remove biomass from structure.
Cleavers (*Galium aparine*)	
Very low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Canary Island Palm (*Phoenix canariensis*)	
Very low distribution across site.	Cut and paste of mature individuals and application of herbicide to smaller plants.
Sow Thistle (*Sonchus oleraceus*)	

Very low distribution across site.	Application of herbicide to patches. Retreatment prior to laying weed matting.
Agapanthus (*Agapanthus praecox*)	
Very low distribution across the site.	Remove from ground and destroy. Ensure all tubers have been located and removed.
Dutch Elm (*Ulmus procera*)	
Low distribution across the site	Cut and paste of mature individuals and application of herbicide to smaller plants.

8. Process

8.1 Stage One

Stage One is proposed to remove approximately 40 mature *P.alba* from site and remove the understorey invasive biomass. All native vegetation on site will remain. The process of works is highlighted below;

1. Identify and tag established native canopy species on site to remain.

2. Removal of numbered invasive trees from Stage One area. Poison stumps. Stockpile removed from site.

3. Treat understorey weeds through removal of larger woody weeds and herbicide application to the ground level biomass.

4. Install paths and structure required for new linking footpath from Riverine Street to Mitchell River Walking Path if required.

5. Closure of current footpath further down through the site. Removal of infrastructure relating to this footpath.

6. Apply herbicide to areas requiring installation of geotextile matting.

7. Install geotextile matting and commence revegetation surrounding footpath.

8. Continue revegetation efforts to include entire area.

9. Enhance surrounding vegetation by supplementing previous revegetation areas to increase the diversity and structure of the vegetation.

8.2 Stage Two

Stage Two entails removal of approximately 28 mature *P.alba* trees from site and also removal of the understorey invasive biomass. All native vegetation on site will remain.

1. Identify and tag established native canopy species on site to remain.

2. Removal of numbered invasive trees from Stage Two area. Poison stumps. Stockpile removed from site.

3. Treat understorey weeds through removal of larger woody weeds and herbicide application to the ground level biomass.

4. Apply herbicide to areas requiring installation of geotextile matting.

5. Install geotextile matting and commence revegetation surrounding footpath.

6. Continue revegetation efforts to include entire area.

8.3 Stage Three

Stage Three entails removal of approximately 77 mature *P.alba* trees from site and also removal of the understorey invasive biomass. All native vegetation on site will remain.

1. Identify and tag established native canopy species on site to remain.

2. Removal of numbered invasive trees from Stage Three area. Poison stumps. Stockpile removed from site.

3. Treat understorey weeds through removal of larger woody weeds and herbicide application to the ground level biomass.

4. Apply herbicide to areas requiring installation of geotextile matting.

5. Install geotextile matting and commence revegetation surrounding footpath.

6. Continue revegetation efforts to include entire area.

9. Inspection and Maintenance Schedule

Each area rehabilitated will require ongoing maintenance. This revegetation project incorporates a 4 year maintenance program to ensure on-going management of the site.

Table 3 - Maintenance schedule after revegetation activities commence

	TIMING	ACTION
Surrounding Path Network	Every 3 months	• Inspect for integrity of network and repair as necessary.
Revegetation	Every 6 months	• Assess survival rate of seedlings and replant if necessary.
Weed Control	Every 6 months	• Treat emerging weeds within revegetation area.

10. Standard Operating Procedures (SOP)

10.1 Purpose

This document outlines the process and procedure for implementation of the Revegetation Project within the Grey-headed Flying-fox Strategic Action and Management Plan 2014. This document has been developed to contribute to the long term implementation of the Plan.

Background
East Gippsland Shire Council submitted a referral under the *EPBC Act 1999* to remove a number of invasive White Poplars (*Populus alba*) from the Mitchell River riparian corridor. The application was on the basis that the stand of *P.alba* is habitat for Grey-headed Flying-fox (*Pteropus poliocephalus*) which is classified as Vulnerable under Commonwealth legislation. Part of the approval process was compilation of a Management Plan that details the proposed actions and mitigation strategies that EGSC need in place prior to approval of the action. This document will be utilised as part of the broader Management Plan.

10.2 Scope

SOP for the Mitchell River Revegetation Program must be utilised at any time during revegetation actions along the Mitchell River corridor. This is to ensure safety of public and also incorporate the requirements for the wellbeing of the GHFF.

10.3 Planning Process

10.3.1 Location

All works that these SOP apply to are within the Mitchell River corridor and only applicable to areas under East Gippsland Shire Council management.

10.3.2 Timing of Works

Works can only commence after confirmation from DEPI that GHFF are in low numbers or absent from the area. If GHFF are absent works can be undertaken at any time of the year with consideration for the period from 1 August to 30 September. Works during this time will require permission to be granted by DE as this corresponds with a particularly vulnerable part of the GHFF breeding cycle, when pregnant females in the third trimester can spontaneously abort their pregnancy under relatively low stress conditions. While records show that GHFF are not normally present at the site during this time, the possibility that they could return during this period cannot be discounted (See **Appendix 1** of The Plan).

Wherever possible, works will be timed to occur between 1 April and 31 July to avoid the breeding season. This flexibility takes advantage of the variable nature of GHFF occupancy at the site (See **Appendix 1** of the The Plan).

All staged works requiring machinery will be completed within 15 working days.

Vegetation management works will only be undertaken on weekdays and between the hours of 7am and 4pm. Volunteer activities may be scheduled on weekends to assist with revegetation and other management activities.

10.3.3 Risk Assessment

Risk assessment must be undertaken in accordance with EGSC Occupational Health and Safety Policy. Compilation of Job Safety Analysis (JSA) worksheets is mandatory prior to commencement of any activities on site. The Project Manager is responsible for ensuring that these are compiled and updated daily.

10.3.4 Daily Monitoring

Assessment of the location regarding public and staff safety is continuous throughout the period of works. Assessment of the presence of GHFF will be undertaken at least 2 times per day. Once on arrival at site and also at different periods during the day. Refer to Daily Checklist for Commencement of Works in **Appendix 1**. This must be completed by the Project Manager.

10.3.5 Signage

The local footpath and walking track network must be temporarily closed to facilitate safety of the public and all staff on site during the following actions;

- Felling of any trees;
- Transporting felled trees off site through access points along this network;
- Application of herbicide to treat existing and emerging weeds.

10.4 Additional Activities

See **Section 8** for detailed process for implementing revegetation actions.

10.4.1 Tree Removal

Trees to be removed as part of the *EPBC Act 1999* have been allocated into Stagesin line with the staged revegetation program. Trees to remain on site (native species) will be flagged as trees to keep and avoid damage to where possible.

Each stage will be marked out and trees assessed as to the safest method of removal from the area. These trees have been assessed by an independent arborist. EGSC Arborist will also be available at any point for additional assessments. All staff must be appropriately qualified for their allocated tasks.

10.4.2 Herbicide Application

All personnel and contractors undertaking herbicide application must have passed Chemical Users training and possess or be supervised by a person holding a current Agricultural Chemical Users Permit (ACUP). Appropriate OH&S requirements must be in place and risk assessments undertaken prior to commencement of activities.

Any herbicide application must be in line with applicable legislation, best practice principles and in accordance with on label chemical requirements.

10.5 Reporting

This document, as part of the Strategic Management Plan, is subject to approval by the Department of Environment (DE). Any changes to the procedure must be approved by DE.

The Daily Checklist (**Appendix 1**) assessment prior to commencement of any activity must be retained and submitted as part of an annual report to DE (**Appendix 2**).

Appendix 1

DAILY CHECKLIST FOR WORKS

DATE:……. TIME:…….

NAME:……...

POSITION:……

WORKS REQUIRED:

ASSESSMENT STEPS:

1) Has DELWP confirmed arrival/departure of GHFF?

……

2) Has DEWLP confirmed works can go ahead prior to commencement of the project?

……..

3) Are any Grey-headed Flying Foxes present in the canopy within or around the worksite? **STOP WORK TRIGGER**

……..

4) Are there any Grey-headed Flying-foxes present within the Exclusion Zone? **STOP WORK TRIGGER**

……..

5) Is there any evidence of Grey-headed Flying-fox recent occupation? ie scats or scent?

……

Grey-headed Flying-fox Identification

Species Information

Grey-headed Flying-foxes are a native faunal species that occur along the eastern coast of Australia. They are usually seen at dusk exiting the camp to gather nectar and fruit nearby, and return before dawn to settle into the larger trees for the day.

Key identification characteristics that assist in identifying GHFF are;

- Animal is larger than average bats, up to 1kg in weight and a wingspan of 50cm;
- Has an orange and brown circle of fur around the neck;
- A grey head with greyish fur along the belly ;
- Fur continues along legs to the toes.

Grey-headed flying fox Photo: L Lumsden (Source:DEPI Website)

Identifying presence of GHFF on the Worksite

These key questions will assist in determining if GHFF are present in your work area.

1. NOISE

Is there any noise overhead or around the perimeter from where you are standing?

Can you hear shrieking or unfamiliar noise surrounding you?

2. SIGHT

Are there any black moving shapes in the canopy above you?

3. SMELL

Can you smell unfamiliar odour or 'musk'**?**

If you have answered yes to any of the above questions, please refer to your Supervisor immediately.

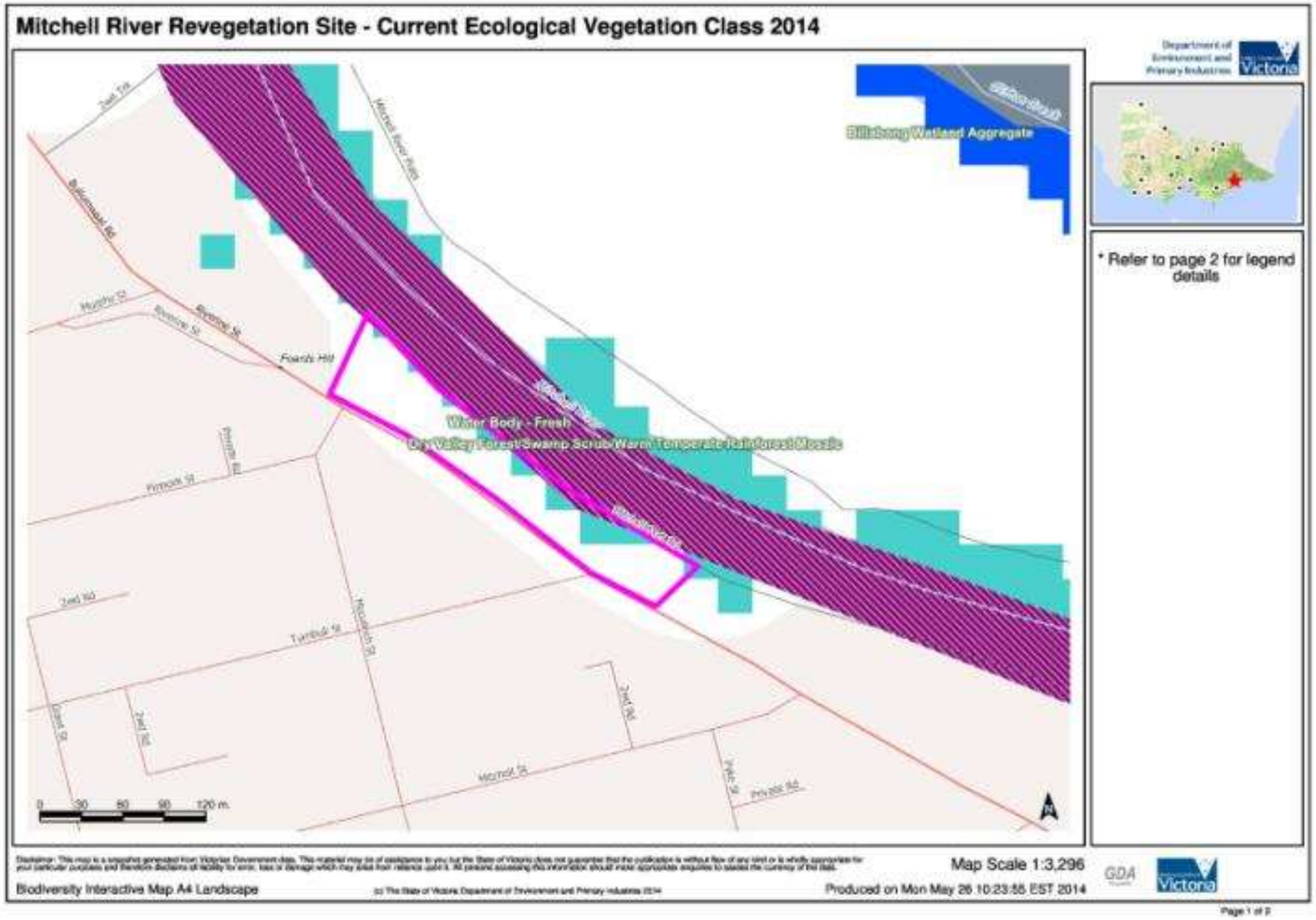
Appendix 2

OPERATING PROCEDURES - MITCHELL RIVER REVEGETATION PROGRAM

REPORT – IMPLEMENTATION OF DAILY CHECKLIST on Mitchell River Roost Site

Date of Activity	Daily Checklist Completed	Stop Work Action Triggered	Response to Stop Work Action
Example 01/01/2001	*Yes*	*Yes*	*No works undertaken*

Appendix 3



Mitchell River Revegetation Site - Current Ecological Vegetation Class 2014
Billabong Wetland Aggregate
Water Body - Fresh
Forde's Hill
Pimlico St
Turnbull St
* Refer to page 2 for legend details
0 30 60 90 120 m
Map Scale 1:3,296
Biodiversity Interactive Map A4 Landscape
Produced on Mon May 26 10:23:55 EST 2014
GDA
Victoria
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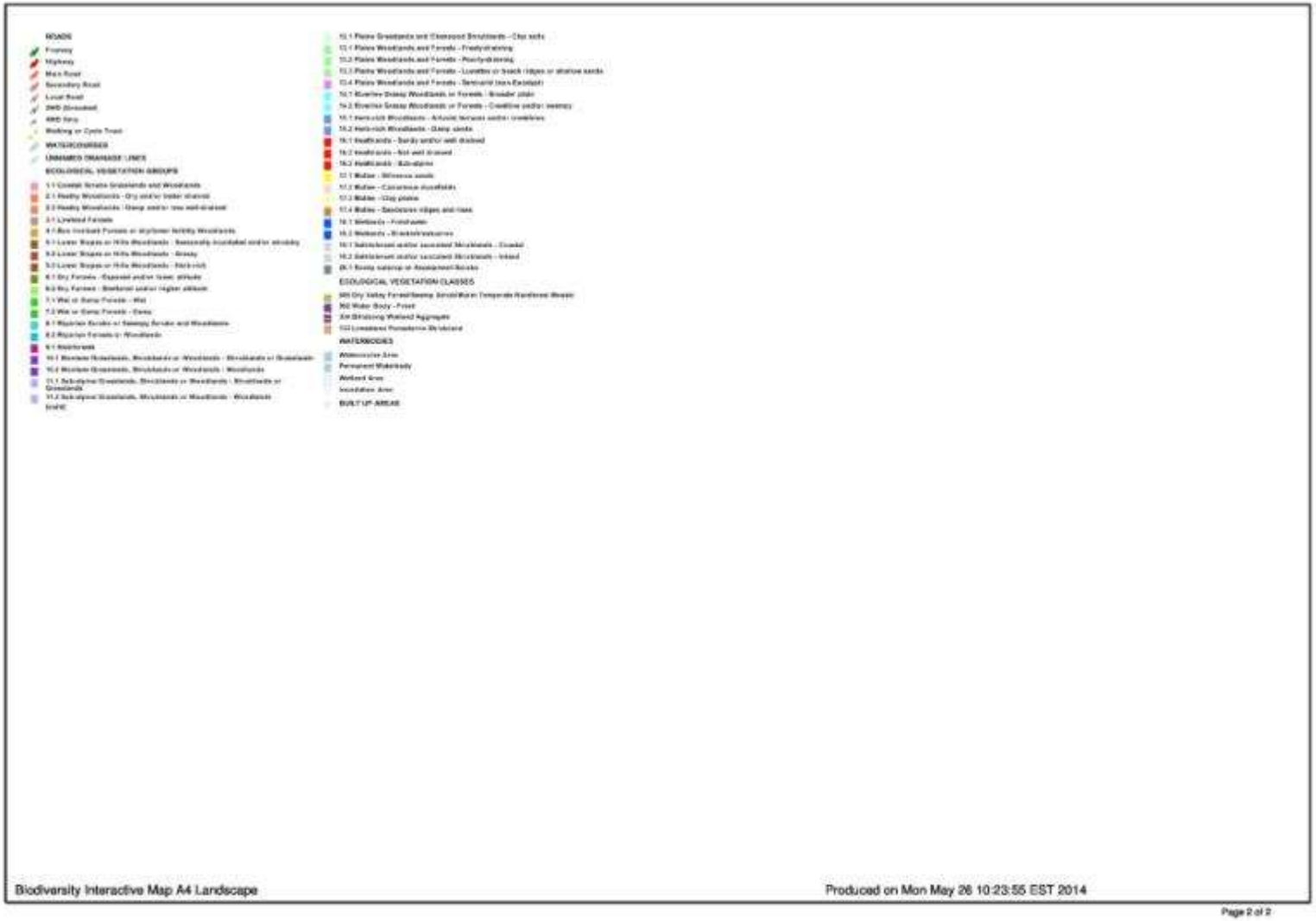
ROADS
Freeway
Highway
Main Road
Secondary Road
Local Road
2WD Unsealed
4WD Only
Walking or Cycle Track
WATERCOURSES
UNNAMED DRAINAGE LINES
ECOLOGICAL VEGETATION GROUPS
ECOLOGICAL VEGETATION CLASSES
WATERBODIES
BUILT UP AREAS
Biodiversity Interactive Map A4 Landscape
Produced on Mon May 26 10:23:55 EST 2014
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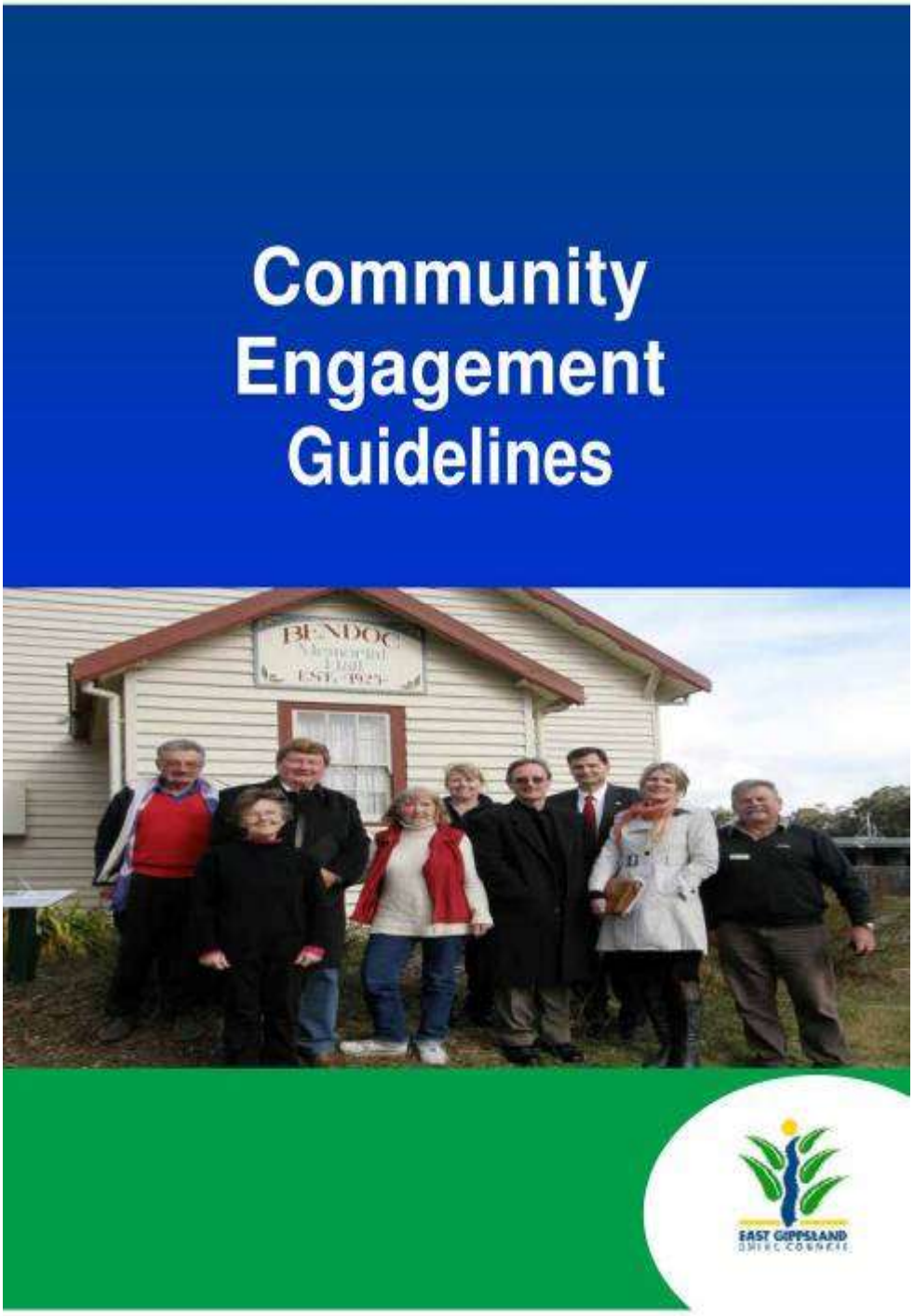
Appendix 8 - EGSC Community Engagement Guidelines


Community
Engagement
Guidelines
EAST GIPPSLAND

Community Engagement Guidelines

Introduction

These Community Engagement Guidelines have been developed to ensure a consistent and effective approach to community engagement within Council. They provide the steps and processes to achieve good community engagement outcomes.

The Guidelines are part of a Toolkit for community engagement. The other parts of the Toolkit are:

- Community Engagement Policy. Articulates the strategic direction and Council's public commitment to community engagement.
- "Undertaking a Project – Process Flowchart". This flowchart aligns engagement with the Initiation Approval Form process and ensures that good internal engagement is undertaken. Internal engagement is essential to ensure that all projects meet the Strategic Fit of Council. Thorough and consistent internal engagement will help to build a culture of engagement.

Purpose

The purpose of these Community Engagement Guidelines is to:

- implement the strategic direction detailed in the Community Engagement Policy;
- ensure a consistent approach to community engagement throughout the organisation;
- ensure community engagement activities are consistent with relevant Objectives in the Integrated Communications Strategy, Council's Strategic approach to community planning through *OurPlace, OurPlan, OurFuture* and the Council Plan; and
- provide a framework around which targeted training can be delivered to Council Officers.

Legislative Basis

Council's commitment and approach to community engagement is guided by the *Local Government Act 1989* and the *Local Government (Best Value Principles) Act 1999*.

Local Government Act 1989 – the role of a Council includes taking into account the diverse needs of the local community in decision making and fostering community cohesion and encouraging active participation in civic life.

Local Government Act (Best Value Principles) Act 1999 – It is a requirement of Local Government to be responsive to the needs of its community, develop a program of regular consultation with its community in relation to the services it provides and report regularly to its community.

Definitions

Consultation and engagement are often used interchangeably. They are different but connected:

Engagement: We can consult by simply putting an ad in the paper and asking for feedback, but when we engage we invite a deeper contribution and strengthen our relationship with others.

Consultation: A two-way flow of information. It allows Council to be informed of community attitudes and opinions and communities to be informed of Council directions, services and activities. It is a way of giving information and a way of obtaining feedback. Consultation is what you do. Engagement is how you do it.

Community: Communities include people who live and/or work in the area (for example residents, business people and volunteers) and people who share the values, interests and concerns of people living and working in the area (for example non-resident rate-payers, community groups and organisational representatives). These two groups are not mutually exclusive.

Community Engagement

Successful community engagement relies on good facilitation and governance skills, self awareness, and a willingness to support, challenge and inspire people and communities to be the best they can be, reaching for common understanding and common good. Authentic, not tokenistic, engagement of communities is central to creating meaningful, sustainable and shared outcomes.

A sound engagement process is[1]:

Respectful: Each community is unique. Each person is unique. Everyone has skills, talents, qualities and wisdom to contribute. Respectful behaviour includes listening and acknowledging differing points of view and contributions.

Inclusive: An inclusive process provides opportunities to participate while respecting an individual's choice to participate or not. An inclusive process takes into account that communities are diverse and that diversity is an asset.

Appreciative: Great things have already been achieved, some things are working really well and there is plenty to build on.

Collaborative: A collaborative process acknowledges that working together strengthens relationships, organisations, communities and places and achieves better outcomes.

Empowering: Processes encourage leadership, promote knowledge and skill development and provide opportunities for participation in decision making.

Realistic: Change takes time and that can be challenging. Processes that are inclusive can be slow moving and often resources are limited. Action and adequate discussion/debate need to be thoughtfully balanced. Stage the implementation of plans with short term wins and long term projects.

Flexible: Have plans and be open to opportunities.

Transparent and communicative: Telling the ongoing story, letting people know where the process is at and being honest about achievements and challenges.

Celebratory: Celebrate the journey, contributions and achievements.

[1] Village Well, *Place Making & the Art of Authentic Engagement*, pg 4.

Community Engagement Steps

How do you know when you need to engage the community?

- *When there is a legal reason for doing so (for example: planning applications).*
- *When you want to hear a range of views before you make a decision.*
- *When you want the community to understand your rationale for change.*
- *When you want input to help make a decision.*

1. Determine Outcome, Benefit and Strategic Fit

An outcome is an actual impact, benefit or change for the stakeholders. Be clear about what you are trying to achieve. For example, you may need to explain a new local law, obtain park user input to upgrade a local park or find out what people think of a current service.

Refer to the Council Plan, Community plans, strategies or Policies that might impact on your project. Are there any relationships to other Council projects?

There might be an opportunity to link your community engagement activities so that communities do not suffer from "consultation fatigue". It is highly likely that a combined project or engagement activity would result in a more comprehensive and strategic outcome.

2. Determine The Scope And Proposal Of Your Engagement Activity

Scoping a project means identifying what is included in your project and what is not included in your project.

Important factors to be identified during the scoping stage include:

- what is your budget for community engagement for example, for advertising, hall hire?
- what is your timeframe for completing the project?
- what is the level of risk around this project? For example, are people supportive, is the community divided on the matter, is it high profile, is it politically sensitive?
- are there other issues, not related to this project that the community is focussed on?
- is there a legislative requirement to engage with people on the matter? For example, some planning applications have legislative requirements to place notices on site or for information to be mailed to landowners who may be affected;
- will your project outcome be inclusive and accessible (refer to "Participation and Partnership Guide" on the Hive)?

3. Who Will Your Engagement Activity Impact On (Internal And External Stakeholders)?

- who will the project affect, for example will it only affect one or two people, people in the immediate township area or the whole Shire?
- who are the stakeholders? For example, residents, other agencies, absent ratepayers, businesses?
- who are the internal stakeholders, for example other Business Units or Council Officers?
- are there any special interest groups that need to be engaged eg disabled, businesses, youth, etc?

4. Determine Level Of Engagement And Methods

You are now ready to identify the level of engagement most suited to your project. The International Association of Public Participation (IAP2) Spectrum will assist you in determining this.

The Spectrum depicts five levels of engagement. The levels of engagement, ranging from Inform to Empower, allow for varying ranges of community input. Each level has a promise to public relevant to the level and type of engagement you are undertaking. Refer to Appendix 1.

Some examples specific to East Gippsland Shire Council have been included at the bottom of the table. For further information on IAP2, please refer to the website: http://www.iap2.org.au/

5. Facilitation

Most community engagement activities that are at a level beyond Inform require some form of facilitation. Appropriate facilitation can make or break the community engagement process. You need to think about:

- whether you have the skills and confidence to be the facilitator yourself;
- whether you ask someone else in the organisation to help you; or
- whether you appoint an external facilitator

You may choose to appoint an external facilitator if you need a 'neutral' person to front an event.

When appointing an external facilitator, the following will need to be undertaken:

- preparation of a project brief;
- project management – supervision of facilitator; and
- contracts (in some cases) – refer to Council's Contracts Co-ordinator for advice.

6. Resources

You will need to consider the resources you need to support your community engagement activity. This could include:

- the number of staff required to be involved;
- any special equipment needed eg microphone, data projector, whiteboard, pens;
- facilities such as a meeting room (please ensure it is accessible for people with disabilities) and catering (consider any dietary requirements);
- background information/supporting documentation to be provided in advance or at the time; and
- any specific funding needed to facilitate engagement.

7. Communication

This is when you will let people know about your engagement activity.

At the start of any engagement activity it is important for all stakeholders to have an understanding of their role in the decision making process and also an understanding of the project and its background and constraints.

Some engagement activities will be undertaken purely to advise of a decision that has already been made and some will allow for stakeholders to directly influence the decision.

Use the beginning of the process to inform stakeholders of:

- the nature of the project, including background, constraints and relevant strategies and/or legislation;
- the level of participation intended:
- the engagement activities that will be undertaken (public meeting, workshops);
- who will be involved – Council Officers, agencies, community groups;
- how decisions will be made and who will make them;
- what is and what is not negotiable; and
- when and how feedback will be given.

Many engagement activities will require you to maintain an information flow throughout the process. Identify ways to develop and maintain an information flow with your stakeholders throughout your engagement activity.

Ways to present information include:

- as a project brief for consultants or stakeholders
- Discussion Paper
- Fact Sheet
- FAQ's about….

Refer to the Integrated Communications Strategy and the Corporate Communications and Strategy Team to assist you with Communication methods. Appendix 2 also provides some examples of how communication tools link with, and support, an engagement activity.

8. Action

To keep you on track you will need to develop a plan to implement your engagement activity. Create a list and identify each task that needs to be done, who is responsible and when it has to be finalised by.

9. Monitoring

Ongoing monitoring of the process will be required to ensure that your expected outcome is being achieved.

Closely monitoring the process will allow for continuous improvement and help you to identify and address issues that may arise, such as:

- low levels of participation and actions in response to this;
- identify further opportunities that may exist within the scope of the activity;
- additional stakeholders who can be engaged; and
- whether any additional activities are required.

10. The End Result and Feedback

Once your engagement activity is complete you will need to take steps to inform stakeholders of the outcome.

Ask yourself:

- has the outcome been conveyed to stakeholders?
- do you need to maintain an information flow and how will this be done?
- does a report need to be prepared for a Council meeting? If so, consider the relevant approval steps prior to the report being considered at the Council meeting.
- do actions to achieve the outcome need to be incorporated into Council's processes?

11. Evaluation

The evaluation process provides an opportunity to reflect on the success of your engagement activity and to determine some important factors surrounding it:

- did the engagement activity successfully achieve your desired outcome?
- what can you learn from the process and what can be improved, or would you do differently, next time?
- is there an opportunity for you to share your experience with your colleagues?

An Evaluation Checklist is provided for completion at the end of the project. Completing this form will allow the organisation to monitor its success with engagement activities. The Checklist is available at Appendix 3 and also electronically on the Hive Community Engagement page.

APPENDIX 1

IAP2 Public Participation Spectrum

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decision to the maximum extent possible.	We will implement what you decide.
Example techniques to consider:**	Example techniques to consider:	Example techniques to consider:	Example techniques to consider:	Example techniques to consider:
• Fact Sheets • Web Sites • Displays	• Focus groups • Surveys* • Public meetings • Community Events	• Forums or Workshops • Advisory Group	• Local Community Planning Group • Expert Committees	• Citizen juries • Council elections • Delegated decisions
East Gippsland Shire Council example:	***East Gippsland Shire Council example:***	***East Gippsland Shire Council example:***	***East Gippsland Shire Council example:***	***East Gippsland Shire Council example:***
• *Road Closure* • *Rubbish collection dates* • *Display of waterwise garden techniques*	• *Council Plan* • *Budget* • *Planning Permit Applications*	• *Health and Wellbeing Strategy* • *Designing the Paynesville Community Centre* • *Raymond Island Access* • *A new Waste Management Strategy for the Shire*	• *Community Plans* • *New or upgraded Recreation Facilities*	• *Raymond Island Blitz* • *Opening of a new community garden*

**Conducting Citizen Surveys:*
Please refer to dataworks document 4004580 – "Conducting Citizen Surveys" for more detailed information on Council requirements when conducting certain types of surveys.

***Additional engagement techniques:*
There are numerous engagement techniques available for use, in addition to the ones listed in this table. For information on additional techniques talk to staff in the Strategic Planning Business Unit or refer to:

Department of Sustainability and Environment "Effective Engagement Toolkit"
http://www.dse.vic.gov.au/effective-engagement/toolkit

APPENDIX 2

Communication Tools

Good Communication supports an engagement activity. Council's Integrated Communications Strategy lists a number of communications methods that can utilised when engaging with stakeholders. These methods will assist you to communicate with stakeholders and maintain an information flow throughout and after your engagement activity. This matrix provides some examples of how activities link with communication tools.

Legend:

1 Always
2 Sometimes
3 Not appropriate

Engagement Activity	Advise of a new or amended service (Inform)	Advise of activity that will impact on certain groups (Inform)	Provide opportunity to comment on strategic project (Consult)	Provide opportunity to comment on a proposed change that may impact a community (Consult)	Work with stakeholders to include their ideas in a project outcome (Involve)	Gather ideas on how to manage a program (Involve)	Create a partnership and share resources to develop and identify solutions (Collaborate)	Develop an ongoing dialogue to receive input, advice and determine solutions (Collaborate)	Allow stakeholders to implement their decisions (Empower)
(example)	Rubbish collection dates	Road Closure for Event	Local Streetscape Project	New footpath location	Raymond Island Access	New Waste Management Strategy	Upgrading a Recreation Facility	Community Plans	Paynesville Ferry Shelter
Communication Tool									
Direct Mail	2	1	2	2	2	2	2	2	2
Email (if addresses available)	2	2	2	2	2	2	2	2	2
Local N'paper/ Shire Weekly Advertisement	1	1	1	1	1	1	1	1	2
Local N'paper/ Quarterly Community Connect	2	3	2	2	2	2	2	1	2
Shire website	1	1	1	1	1	1	1	1	2
Online engagement portal	3	3	2	2	2	2	2	2	2
Social Media e.g Twitter/ Facebook/ Blog	2	2	2	2	2	2	2	2	2
Media Release	2	2	1	2	1	1	1	1	2
Factsheet/ Brochure	2	2	1	1	1	1	2	1	3
On-hold message	3	3	3	3	3	2	3	3	2
Public Display/ Meeting	2	3	1	2	1	2	2	2	2
Local community newsletter	2	2	1	1	1	2	2	2	2
Targeted Stakeholder Meeting	3	2	1	2	1	2	1	1	1

APPENDIX 3

Internal Evaluation Checklist

Project Title:	
Business Unit:	
Project Manager:	
Date:	

✓ *(copy and paste this tick into the appropriate boxes)*

1. Did your engagement activity help to successfully complete the project?

	Yes
	No (please identify the reasons…)

2. What level of engagement did you use?

	Inform		Collaborate
	Consult		Empower
	Involve		

3. What method/s of engagement did you use e.g. workshop, survey, community event, formed a Reference Group?

_____

4. What communication method/s did you use e.g direct mail, Shire website, local newspaper, community newsletters?

_____

5. How did you provide feedback on the completion of the project?

_____

6. Do you need to provide further or on-going feedback? How will this be done?

	Yes – how will this be done?
	No

7. Was your project Shire wide or place based?

	Shire wide
	Place Based (please name place/s):

8. What other Business Units did you work with on this project?

_____

9. What were the benefits of working with the other Business Units?

	Able to utilise additional resources and knowledge
	Improved outcome e.g. additional elements where able to be included in project outcome due to combined funding/resources
	Avoided over-consultation of community
	Other:

10. How did your engagement activity improve the outcome of your project?

	Created community discussion
	Discovered information didn't previously know
	Was able to utilise community expertise
	Resolved conflict
	Other:

11. Would you do anything differently to improve the process next time?

_____

12. Has your project increased the capacity of the community eg to sustain an activity/event, utilise resources, build and retain knowledge?

_____

Note: Once completed please submit this page to the "Tell us How your Engagement Activity went" section on the Hive Community Engagement page. This information will only be used to help monitor the organisations engagement activities.

APPENDIX 4

Case Study

This case study illustrates each of the steps provided in the guidelines.

1. Determine the Outcome, Benefit and Strategic Fit

Council has known for some time that the people in Swan Reach would like to have their park upgraded. There is evidence that there are a lot of families moving to the area and providing play equipment for children is important. The current playground equipment is old and no longer meets safety standards. Money has been allocated in the current financial year budget to upgrade the equipment and improve the facilities in the park.

Council would like the input of the local community in upgrading the park to ensure it meets their needs.

There is no current community plan for the area but Council is currently working on an Urban Design Framework for Swan Reach. This will provide an opportunity to combine community engagement activities.

2. Scope and Proposal of your Community Engagement

A portion of the funding that has been allocated to upgrade the park can be used to support community engagement.

This project is looking at upgrading the local park and construction of a new toilet block, not the access roads into the park or the health of the river next to the park.

You have four months to complete the project so you will need to structure your engagement activities within this timeframe.

Swan Reach residents have begun writing to Council over a few months asking for the park to be upgraded so you think most are supportive of the upgrade.

The park upgrade will include the construction of a new toilet block. Legislation requires this to be advertised to allow for objections.

Cultural heritage issues will need to be considered as the proposed works are within 200m of a waterway. Waterways and the 200m buffer on either side are automatically classed as sensitive cultural heritage areas and therefore require consultation with the appropriate organisations. The relevant Registered Aboriginal Party (RAP) will be contacted.

You might also consult with Gippsland Ports as the park is located next to the river where this is a Gippsland Ports jetty and with Council's Rural Access Project Officer in regard to accessibility of the park for people with disabilities.

3. Who will your engagement activity impact on (Internal and External Stakeholders)?

The following stakeholders will need to be involved in the project as it directly affects them: Swan Reach residents, Lower Tambo Landcare Group, Business and Tourism Association, Registered Aboriginal Party (RAP), Gippsland Ports and Council Officers who are responsible for playgrounds and maintenance of Council infrastructure.

4. Determine level of engagement and methods

The upgrade of the Swan Reach Park fits into the Collaborate column of the Spectrum. You have decided to have some conversations with some of the identified stakeholder groups to suggest the formation of a local group (Park Upgrade Group) to provide advice and help formulate ideas for the upgrade with Council. You expect that the Park Upgrade Group will help confirm the style and positions of the playground equipment within the budget restrictions you have. The Park Upgrade Group may also advise on the location of the toilet block in relation to the playground, plus seats and tables for parents and carers of children using the playground.

A number of the stakeholders identify people who should be on the Park Upgrade Group.

5. Facilitation

Officers in the Asset Maintenance area have a good technical understanding of how to upgrade a park and they have identified a Council Officer from their area who will meet regularly with the Park Upgrade Group to provide advice and discuss options.

6. Resources

The following resources are required:

- Asset Maintenance Council Officer time;
- other Council Officers time as required (for example Strategic Projects Planner, Rural Access Project Officer);
- Park Upgrade Group;
- venue to meet that is central and comfortable; and
- background paper so that Park Upgrade Group have a clear understanding of their role and the scope of the upgrade.

7. Communication

You have contacted the people who were suggested to be on the Park Upgrade Group to invite them to an initial meeting to discuss the intent and scope of the park upgrade. Use this meeting to clearly advise the Group of their role and what level of input they will have in the decision making process.

The Asset Maintenance Council Officer will prepare a background paper on the park upgrade, land use constraints, relevant sections of the Urban Design Framework and what budget Council has available for this project to provide in advance of the first meeting of the Park Upgrade Group.

8. Action

You have prepared a checklist for the Park Upgrade Group meetings including the meeting dates, room bookings, agenda items, responsible Council Officers and tasks. Timelines for the implementation of subsequent actions (steps 9, 10 and 11) are identified.

9. Monitoring

Two issues have been identified during the Park Upgrade Group Meetings:

- Park Upgrade Group members have suggested that as a lot of teenagers use the park as a meeting place and for sport, they should be asked for their ideas. Local sporting groups were targeted and as a result young people joined the Park Upgrade Group.
- After realising there are some very diverse views about how the available funds should be spent on the upgrade, the Park Upgrade Group suggested a workshop to help prioritise ideas.

Steps 5, 6, 7 and 8 will now need to be re-visited to organise the workshop:
5: The Assets Maintenance Area has decided to engage an external facilitator to run a two hour workshop to help prioritise ideas.
6. The local primary school hall has been booked to hold the workshop. This venue is suitable in size and has good heating, lighting and acoustics. A whiteboard, markers and a microphone will need to be booked for the meeting.
7. The workshop will be promoted via Community Connect, an article in the local newsletter, posters being placed in local shops, schools, kindergartens and businesses. Attendees will be provided with the background briefing paper prior to the meeting (via email or hardcopy once they have RSVP'ed).
8. Checklist for planning workshop prepared and timelines for implementation of subsequent actions identified (steps 9, 10 and 11) prepared. Allocates tasks to relevant Council Officers and when the tasks need to be completed.

10. The end result and Feedback

A report detailing the upgrade plan was presented to Council and adopted with some minor amendments. These and the reasons behind the changes were communicated to the Park Upgrade Group and the outcome communicated to the broader community and workshop attendees via articles in the local newspaper and local newsletter and plans being placed in local shop windows.

Implementation of the plans and budget allocation has been allocated to the relevant Business Unit of Council.

11. Evaluation

The engagement activity achieved the desired outcome – plans for the upgrade of the park have been developed with the input of the local community.

The Park Upgrade Group and workshop were successful ways of obtaining input, although next time seeking nominations for the Park Upgrade Group would be considered more carefully to ensure a wider representation from the outset.

You will complete the Internal Evaluation Checklist and recommend the process you used to upgrade the park as a useful one to colleagues who are working on similar sized projects that are not highly controversial.

Appendix 9 - Addressed Public Comments

Addressing Public Comment on Preliminary Documentation on Referral 2009/5017

East Gippsland Shire Council

Acronyms
DEPI – Department of Environment and Primary Industries (State)
EGSC – East Gippsland Shire Council
EPBC Act 1999 – Environmental Protection and Biodiversity Conservation Act 1999
FFG Act 1988 – Flora and Fauna Guarantee Act 1988
GHFF – Grey-headed Flying-fox
DE – Department of Environment (Commonwealth)
The Plan – Draft Grey-headed Flying-fox Strategic Action and Management Plan

Submission	Key Points	EGSC Response to Submission
1	*1.1* It is my preference that GHFF and its habitat is not removed.	*1.1* This comment is regarding the action, as opposed to commenting on The Plan. Thankyou for your comment.
2	*2.1* Please do not relocate them and destroy their habitat.	*2.1* This comment is regarding the action, as opposed to commenting on The Plan. Thankyou for your comment.
3	*3.1* Recreation of rainforest to suit the species.	*3.1* There is an extensive program proposed to reinstate vegetation along the Mitchell River which will include some rainforest species as stated in the Revegetation Plan and this list has been expanded to include additional species. EGSC is aware of other revegetation programs historically to enhance rainforest gullies, and it is hoped that these programs have been successful.
	3.2 Community groups in revegetation activities of different land tenures to enhance habitat.	*3.2* The Mitchell River revegetation program has been driven by community groups and government agencies throughout its lifespan and this is anticipated to continue. EGSC do not have funding to extend to revegetation activities on land other than what they are the responsible land manager but will support programs that aim to revegetate GHFF habitat in appropriate locations.
4	*4.1* 'I must strong oppose this illegal action' and 'the action	*4.1* East Gippsland Shire Council submitted a referral under the *EPBC Act 1999* to remove the stand of White Poplar and revegetate the proposed site with the knowledge that this was a summer

Submission	Key Points	EGSC Response to Submission
	you are proposing is liable to fines and jail'.	campsite of GHFF. As such EGSC are aware any management works or action needed to be referred under the Act for approval by the Commonwealth. EGSC has not undertaken any illegal activity regarding the roost site. EGSC has sought permission through the *EPBC Act 1999* to undertake revegetation of the area. EGSC understands that if works commenced without permission under the *EPBC Act 1999* the action is illegal and liable to fines.
	4.2 This is a breeding colony of endangered mammals.	*4.2* The roost site can be considered as a breeding site for GHFF given the period of occupation on site as stated in ***Section 6.1.1*** of The Plan. GHFF are not currently listed as Endangered under any legislation, they are listed as Vulnerable under the *EPBC Act 1999* and Threatened under Victoria's *Flora and Fauna Guarantee Act 1988*.
	4.3 People who want all wildlife eradicated from urban areas.	*4.3* EGSC has been methodically revegetating the Mitchell River corridor over an extended period of time with assistance from community groups and government agencies. As such the vegetation is in different aged stands and is currently able to provide habitat requirements to a range of species that choose to utilise the area. GHFF have been observed using the resources in these revegetated areas.
5	*5.1* EGSC has a moral and statutory responsibility to respect threatened species.	*5.1* EGSC is not responsible for enforcing environmental legislation pertaining to listed threatened species (such as the *EPBC Act 1999* or *FFG Act 1988*). As a land manager, EGSC refers to legislation to undertake land management works. EGSC referred the proposed action to the Federal Government to ensure that all legislation applicable to this project has been considered and the process followed accordingly.
	5.2 The Poplars provide the habitat that GHFF requires that would have been part of their original habitat prior to destruction for human settlement.	*5.2* EGSC recognises that the current roost site provides requirements that are preferred by GHFF. The condition of the vegetation on the proposed site is considered to be unsafe and in varying stages of senescence. If no action is to occur, the roost site will continue to 'fall over' thus creating a public safety risk and also further restrict the roosting opportunities for GHFF on site. Revegetation of the area is considered as the best option to reduce risk and also to replace vegetation on site that all faunal species can utilise. Existing revegetation stands close by will be able to provide some of the resources that are preferred by GHFF. It cannot be predicted where GHFF will occupy if they abandon the Mitchell River camp site. EGSC are aware of the possibility that the dispersed GHFF will reside in an inappropriate site following the removal of the poplars. Three scenarios are possible: (1) the colony establishes at a site that is acceptable in the longer term, in which case EGSC will provide stewardship for the welfare of the local GHFF population and camp site vegetation including the permanent

Submission	Key Points	EGSC Response to Submission
		protection of the site; (2) the colony establishes at sites that are acceptable in the short term, but are unlikely to be suitable in the longer term and (3) the colony relocates to a site that is considered inappropriate (a risk to the welfare of bats and people). The appropriateness of each site will be assessed a Site Assessment and documented on a site by site basis. This assessment includes a determination on whether dispersal is appropriate for the site where the bats ultimately reside. If after this assessment the GHFF are deemed to have moved to an inappropriate site, an emergency response will be implemented. The emergency response will involve dispersing the colony from the site. EGSC have developed dispersal protocols that take into account the welfare of GHFF.
	5.3 In some other places, flying foxes and bats provide a feature of tourism to their areas with guided educational observation of GHFF	*5.3* EGSC are not aware of any business conducting tours that incorporate the Mitchell River camp site specifically as part of a guided educational observation, however acknowledge that informal tours may occur without our knowledge. Should GHFF move to an area that is suitable where tourism opportunities present, we will investigate such opportunities. As established GHFF educational opportunities exist in existing colonies elsewhere in Victoria, persons wishing to learn more about the species can visit these areas to see GHFF in their native habitat. The Naturally Magic campaign promotes the entirety of East Gippsland and specifically its natural outlooks and beauty. The GHFF will still be present in the region, and we would consider that the presence of Poplars along the riverbank is not in keeping with the Naturally Magic tourism campaign.
	5.4 The private residence that is closest to the colony should be purchased and used for scientific purposes or tourism.	*5.4* The purchase of the private residence adjacent to the site has not been considered. Given the cost of purchasing said property and renovating to meet standards for the tourist public or scientific groups would be expected to be more expensive than revegetating the area proposed. EGSC is not aware of any scientific programs specifically interested in researching the Bairnsdale summer colony of GHFF and as such purchase for this reason is unfounded.
	5.5 The current proposal does not meet the requirement of no or minimal impact.	*5.5* EGSC is aware that this action does not meet the requirement of 'no or minimal impact'. As such the action has been referred through the *EPBC Act 1999* with reference to Matters of National Environmental Significance : Significant Impact Guidelines 1.1
	5.6 In no circumstances should the poplars be removed until	*5.6* Existing revegetation within the Mitchell River corridor has the capacity to provide resources to the GHFF. Given the unpredictability of the GHFF population regarding movement and habitat

Submission	Key Points	EGSC Response to Submission
	alternative habitat of suitable height is grown.	selection, EGSC cannot anticipate that GHFF will choose to utilise other revegetated areas nearby. EGSC commits through The Plan to assist GHFF locate a suitable area should they decide to depart the area completely.
6	*6.1* EGSC has a moral and statutory responsibility to respect threatened species	*6.1* See 5.1
	6.2 The Poplars provide the habitat that GHFF requires that would have been part of their original habitat prior to destruction for human settlement.	*6.2* See 5.2
	6.3 In some other places, flying foxes and bats provide a feature of tourism to their areas with guided educational observation of GHFF	*6.3* See 5.3
	6.4 The private residence that is closest to the colony should be purchased and used for scientific purposes or tourism.	*6.4* See 5.4
	6.5 The current proposal does not meet the requirement of no or minimal impact.	*6.5* See 5.5
	6.6 In no circumstances should the poplars be removed until alternative habitat of suitable height is grown.	*6.6* See 5.6
7	*7.1* EGSC use your power to	*7.1* This comment is regarding the action, as opposed to commenting on The Plan. However, EGSC

Submission	Key Points	EGSC Response to Submission
	change attitudes and encourage awareness of GHFF.	has committed to assist in the education about 'Living with Wildlife' for a number of species that utilise urban areas.
8	*8.1* No work has been done to ensure that these rare wildlife are properly managed at this site	*8.1* EGSC acknowledges that little work has been done to date to manage the GHFF habitat on the Mitchell River. Given that once the referral has been submitted (in 2009), any works on site need approval from DoE. Works have not been undertaken for this reason. ***See 4.1***
	8.2 The action will likely cause stress to the colony and they may not be able to find an alternative site with the right shade and temperature.	*8.2* EGSC's proposed staged action is expected to prompt a response from the GHFF colony. Possible actions that the GHFF may undertake is movement into surrounding vegetation, fragmentation across a wider area or abandonment of the camp. EGSC will receive assistance from DEPI in gauging the reaction of the GHFF colony to determine increased stress levels that can be attributed to the action. EGSC will also assess each new site of GHFF if they relocate to be able to respond to the movement of GHFF into other areas and facilitate their occupation at a suitable site. EGSC acknowledges that the roost site on the Mitchell River provides the correct conditions for the species in regards to location, roost tree species and microclimate. However, given the senescing state of the poplar trees, revegetation is the only long term strategy for the camp site. EGSC has therefore opted for a staged replacement of the non-native vegetation at the camp site with native species. A Revegetation Plan has been developed to guide this process. This plan sets out the design and implementation of proposed revegetation actions on this site and provides methodology for the process. EGSC acknowledges that it will be some time before the revegetated overstorey species will reach the size of the poplars currently on the site and therefore suitable for occupation by GHFF. However, the life expectancy of these poplar trees is thought to be 5-15 years so the habitat is expected to decline, even in the absence of intervention. A staged habitat removal and revegetation program is the best hope for the long viability of the Mitchell River camp site.
	8.3 If there was a more suitable summer camp for them, they'd have moved to it.	*8.3* GHFF develop a familiarity with roosting sites as part of their annual migration and are able to return to these stopover sites as it suits. As such, GHFF would not be looking for new sites to occupy if their existing roost and its location stored in their memory. Undertaking a third of the removal is anticipated to prompt a response from GHFF to locate another site which will provide their habitat requirements, whether the alternative site is immediately adjacent or a small distance away.

Submission	Key Points	EGSC Response to Submission
		EGSC acknowledges that it is impossible to predict with certainty the response of the colony to the proposed habitat removal program. EGSC has evaluated relocation case studies involving the Royal Botanic Gardens, Melbourne. The difficulties and risks associated with the relocation of GHFF colonies is acknowledged by EGSC. Should GHFF relocate to an inappropriate site, such a site will be assessed as to its longer term suitability for GHFF occupation.
	8.4 We hope the biological and ecological details of these animals are well known to Council staff who make decisions on their future management	*8.4* EGSC is aware of the ecology and habitat requirements of GHFF and has developed the Strategic Management and Action Plan to guide the management of the colony into the future. This document has been developed in consultation with DEPI experts and has drawn upon knowledge gained from the management of colonies in Melbourne and elsewhere in Australia.
	8.5 The Shire could, for less cost, provide noise abatement measures for the few houses that are affected.	*8.5* Noise is not the only consideration for management of the GHFF colony. The Plan documents a number of issues that have been raised regarding presence of GHFF camps and amelioration of all these issues would cost excessively. It is important to recognise that a number of issues exist on site, and not all specifically relating to residents concerns. Key issues include risk to public safety through unsafe falling limbs, completion of the revegetation of the Mitchell River corridor and providing a safe environment for the community.
	8.6 Signs to prevent people from deliberately disturbing the Flying-foxes would also help to reduce daytime noise (they are out feeding at night)	*8.6* There have been observations of people deliberately disturbing GHFF at the Bairnsdale site, which are handled by the DEPI. EGSC do not support disturbance of GHFF at any time and incidences of wildlife disturbance are reported to DEPI as the responsible wildlife manager. EGSC has previously installed temporary signage relating to health concerns after detection of disease in a deceased GHFF collected from the Bairnsdale site. Altering individuals to the presence of GHFF is considered to heighten fears regarding disease (which is well publicised) and attract more negative connotations to the GHFF colony. The risk of disease transmission is very low and is only present when GHFF are handled or the disease transmitted through another vector (see ***Section 7.2*** of The Plan).
	8.7 The public walkway could be detoured around the colony to avoid complaints about the droppings.	*8.7* The Mitchell River Walking path is a highly important recreational asset and is utilised by many members of the community for its physical attributes, and absence of vehicular traffic. Realignment of this path would incur high costs given development of a new path network and discourage local community members from using the path given the increased incline, distance and exposure to high traffic volumes.

Submission	Key Points	EGSC Response to Submission
	8.8 Plans by the Shire to remove roosting cover is contrary to objectives of the Action Plan for Australian Bats, including population stabilisation, and development of non-destructive methods for camp management.	*8.8* EGSC is aware of the Action Plan for Australian Bats and the objectives. Regarding stabilisation of the population, there is no published information regarding the current population level of GHFF within Australia and EGSC does not anticipate the action influencing population levels but measurement of such broad information is impossible to obtain given this. The action proposed in Referral 2009/5017 outlines a staged removal and revegetation for the area to minimise risk and stress to the colony. If no action were to take place on site, the roost site will continue to senesce and degrade highly restricting available roosting space in a short period of time, forcing GHFF to relocate. Camp management at the Bairnsdale site needs to consider public safety risks along with providing alternative habitat through revegetation of the Mitchell River corridor for all species.
9	*9.1* A further management option exists, involving progressive restoration of the whole site.	*9.1* The current proposal of the three year staged removal was developed to provide a balanced approach to management of the site given the interests of involved departments and individuals. This option is considered to incorporate concerns over public safety, GHFF conservation and management and also logistics of operations regarding revegetating the site and the methodology proposed to be used.
	9.2 An alternative roost site could be established away from residential areas upstream along the Mitchell and quickly revegetated.	*9.2* Given the unpredictable nature of GHFF, investment in establishing a roost site without knowing if GHFF will relocate is a risky expense. Relocation attempts undertaken from the Royal Botanic Gardens in Melbourne shows the unpredictability and expenses incurred from the presumption that GHFF would relocate to the preferred Ivanhoe site, when the GHFF selected Yarra Bend as their new campsite. The staged approach proposed by EGSC will prompt a response from GHFF which may include the population seeking a new campsite which can then be enhanced to provide additional resources that the GHFF may require at the new site and encourage annual occupation.
10	*10.1* Removing species of trees to plant others. Invasive species still provide habitat.	*10.1* EGSC acknowledge that invasive species do provide habitat for native and introduced wildlife. Replacing the Poplar with a wider suite of species is anticipated to provide more ecological niches for all fauna.
	10.2 Removing an animal habitat.	*10.2* See **5.2**
	10.3 Why is EGSC establishing new habitats?	*10.3* The Mitchell River revegetation program has created a significant corridor of native flora of different stages that provides some habitat characteristics for native fauna and will develop further.
	10.4 The disease issue.	*10.4* The Plan specifically states at ***Section 7.2*** the low risk of transmission to human population of all

Submission	Key Points	EGSC Response to Submission
		three diseases listed for GHFF to be vectors of.
	10.5 Have all residents of Bairnsdale been canvassed to discover if they find the colony disturbing?	*10.5* EGSC has not canvassed local residents to determine if they find the GHFF colony 'disturbing'. Community consultation is outlined in Section 8 of the draft Strategic Management and Action Plan. Consultation has been undertaken by DEPI and EGSC to engage local residents regarding the issues of managing a GHFF campsite and the necessity to provide a carefully planned approach to continue the poplar removal program and revegetation efforts. • Media (radio and newspaper) statements and interviews with DEPI; • Key stakeholder meetings to present possible management options and associated issues; • Establishment of a working group of regulatory authority officers; • Meetings with technical experts including biologists and ecologists (Tony Mitchell, Lindy Lumsden, William Peel) on site to discuss habitat requirements and site issues; • Regular briefing and update of process and progress of the management of the site to residents significantly impacted on by the site; • Ongoing consultation with the Department of Environment, Water, Population and Communities to develop the management plan; • On site signage providing information regarding interaction with GHFF; • Ongoing involvement (4 years) with the Bairnsdale Urban Landcare Group in relation to GHFF site management; • DEPI website FAQ's used as a reference for resident requests of information; and • Evaluation of other GHFF management sites in other states to ensure up to date information in management trends. Initial involvement has been limited and undertaken separately by both EGSC and DEPI up to this stage. Exact dates of occurrences of each process is difficult to obtain, but has been ongoing since 2007. Community consultation is an ongoing process and will continue and increase as management options are implemented to ensure that available information is current and collation of shared information to manage the roost site into the future. Given that the revegetation program is the focus of the application, community consultation on GHFF has not been undertaken to a large extent. The referral process is the opportunity for comment on the action and The Plan. It is anticipated that the majority of residents would not find the colony disturbing but do not live in the immediate vicinity of the camp and as such only local

Submission	Key Points	EGSC Response to Submission
		residents are affected.
	10.6 Are the residents of Bairnsdale informed about all things pertaining to GHFF?	***10.6*** EGSC are not wildlife managers and provision of information pertaining to GHFF are handled by the DEPI or enquirers are directed to the website of the DEPI. See ***Section 8.1*** of The Plan. EGSC has committed to provide information on GHFF as part of The Plan.
	10.7 Has anyone researched how many people actually go to see GHFF at the site?	***10.7*** EGSC has not undertaken any visitor number research pertaining to the GHFF colony and its visitation rate.
11	***11.1*** There will be impact on the GHFF population as death will occur with no roosting area. This is not 'no or minimal impact' as stated in The Plan.	***11.1*** The staged approach has been developed to allow GHFF time to adjust and/or find another roost site that can support the summer population. The surrounding revegetation will be able to provide some temporary roost while GHFF adjust. EGSC agrees that, due to familiarity, the bats will return to the Mitchell River site for as long as roosting suitable habitat remains. EGSC also agrees that removing the poplar trees will progressively reduce the area and therefore the carrying capacity of the habitat. EGSC's proposed staged action is expected to prompt a response from the GHFF colony. Possible scenarios are that the GHFF colony may undertake is movement into surrounding vegetation, fragmentation across a wider area or abandonment of the camp. Protocols have been established to ensure that the action presents an acceptable risk to the species by timing actions to avoid sensitive periods in the species reproductive cycle. There is no evidence to suggest that "thousands of these animals will fly around until they are totally exhausted and will die". The species is highly mobile and is able to move vast distances to find suitable camp sites throughout the year in response to food availability, climate and stages of the reproductive cycle. Therefore, it is likely that most GHFF have roosted in multiple camps and know of their locations and will reside in these camps or settle at a new camp site (Tidemann and Nelson 2004).
	11.2 Why wasn't the problem with the Poplars acknowledged in the early stages of the revegetation work?	***11.2*** It has been acknowledged in *Mitchell River Environs Local Structure and Development Plan 1998* and also in *Riparian Management Guidelines: Lower Mitchell and Lower Tambo Rivers 2004* that the Poplars needed to be removed as part of revegetation effort along the corridor.
	11.3	***11.3***

Submission	Key Points	EGSC Response to Submission
	Why wasn't planting native trees amongst the Poplar instigated in 2003 allowing growth prior to the proposed action?	Revegetation within the stand of Poplar would have been ruined when works commenced to fell mature Poplars. The vegetative characteristics of White Poplar and other invasive species would outcompete any native species that could be utilised.
	11.4 Research into the Mitchell River roost site.	***11.4*** Given the senescing nature of the vegetation at the camp site, it is not likely to be a suitable roost site for GHFF in the longer term. EGSC has assessed management options for the colony at the site. While detailed research into noise levels and the option for buffers between residents and the colony has not been undertaken, these studies are not deemed to be of high value due to the limited lifespan of the roost site and the incompatibility of the camp's predominant vegetation with Council's strategy for revegetating the Mitchell River riparian zone. It is not the concern of residents in relation to disease, noise and smell that is the main driver for the proposal to relocate the camp. The main concern of EGSC is the condition of the existing roost trees which are deemed a public safety risk and the inappropriate nature of the vegetation from the perspective of revegetation of the Mitchell River with indigenous plant species.
	11.5 Arborist report advice is not heeded given a ULE of 5-10 years	***11.5*** Vegetation is declining in health on site. EGSC agrees that the Arborist report undertaken in 2010 highlights a minimum of 5 ULE for all trees assessed. The report also highlights at the time of the report all trees were stressed, most likely due to presence of GHFF. The report also states "It's hard to determine the useful life expectancy for the majority of trees as the health of these trees will most likely be determined by the number of Flying Foxes that frequent the area". Given that the ULE is still very low at 5 years in 2010, EGSC expects that the decline of the site will be ongoing and require management before 2015.
	11.6 Was any consideration given to or research carried out with regard to the GHFF campsite and how it could be replaced with minimal disturbance?	***11.6*** It is considered that the staged approach takes into account consideration of all factors relating to the campsite. See ***Sections 5.6***, ***9.1*** and ***11.3***
12	***12.1*** An assessment of how the Bairnsdale colony fits in with the social order of GHFF	***12.1*** EGSC are land managers and rely on other organisations to research and monitor native wildlife. EGSC consider that assessment of the ecological characteristics of the GHFF population should be undertaken by persons qualified to undertake scientific research. EGSC are happy to work in

Submission	Key Points	EGSC Response to Submission
	across their range should have been undertaken. With consideration to a) reduction in size of GHFF at Mitchell River affect viability of other GHFF colonies	with any research by qualified scientific professionals. a) GHFF camps are comprised of many individual bats which regularly move between camps throughout their national distribution. Broadscale movement of individuals between camps is a feature of the species' spatial ecology. The count data collected for the Mitchell River camp demonstrates the highly variable nature of the numbers within the camp over time. For this reason, the permanent loss of or reduction in the size of the Mitchell River GHFF camp is unlikely to threaten the species at a national level or even at a state level. Similarly, the habitat removal program is not likely to affect the viability of GHFF camps elsewhere in the species' range. The fluid nature of the composition of colonies and the highly mobile nature of the species suggests that the bats will either find an alternative existing camp and reside there or establish a camp at a new location.
	b) forced cohabitation with Black Flying-fox c) competition with other GHFF within the range cause decline of other species	b&c) Grey-headed Flying-foxes frequently occur in mixed-species camps with Black Flying-foxes. The two species have probably coexisted in this way for millennia where their ranges overlapped in central Queensland. However, Black Flying-foxes are increasing their distribution through a southward range extension and there is evidence that they may now be competing and displacing GHFF. The dispersal of GHFF from the Mitchell River site is not likely to lead to a marked increase in competition with Black Flying-foxes over what is already occurring due to processes such as climate change that is facilitating the southward migration of Black Flying-foxes (DECC 2009).
	d) increased incidence of mortality from disease with constriction of sites amongst GHFF	d) There is no evidence to suggest that the loss or diminishment of the Mitchell River camp will result in increased disease prevalence in the GHFF population. It is important to note that within their distribution, GHFF occur as one large, highly mobile population with a high degree of exchange of individuals between camp sites. Dispersal of animals from the Mitchell River camp to these new locations is therefore not likely to lead to increase in disease prevalence or mortality over and above what is already occurring.
	e) importance of large colonies for the survival of the species? f) total numbers needed for survival of the species	e&f) Large colonies (camps) are clearly important to the survival of GHFF. Camps are used as daytime refugia for the bats, for socialisation, conception, birth and rearing young. The EGSC acknowledges that the camp site on the Mitchell River is important habitat for GHFF, although identification of critical habitat for this species has not been defined under the EPBC Act or in any approved or finalised National Recovery Plan for the species. The effect that fragmentation of this colony such that it splits up and establishes several new, smaller colonies or joins other existing

Submission	Key Points	EGSC Response to Submission
		colonies is unknown but it is important to bear in mind that the latter already occurs as (i) GHFF are not always present at the Mitchell River camp (therefore the individuals must be at another colony or colonies in their range) and (ii) the number of bats at the Mitchell River camp varies significantly both monthly and annually suggesting that the bats are adapted to having variable numbers within the camp site and hence this is not considered likely to affect the survival of the species. An assessment of the importance of the Mitchell River camp relative to other camps within the species' range has not been undertaken but it is unlikely that its removal is likely to result in a decline of the species at a national scale.
	g) the trend towards increasing urbanisation threaten the species or the associated dependant flora	g) EGSC are not sure of the context of this question and its relevance to the proposal. This is philosophical question relating to the species changing ecology and it is not appropriate to address it here.
	h) chemical pollution in urban areas where GHFF locate affect their mortality, vulnerability to disease or reduce breeding success	h) EGSC are not sure of the context of this question and its relevance to the proposal. This is philosophical question relating to the species changing ecology and it is not appropriate to address it here.
	12.2 None of the options have been costed.	*12.2* All options have been preliminarily costed for a comparison of each option against one another. The staged replacement option is preferred with consideration to cost and GHFF welfare.
	12.3 The effects of the staged removal may be more detrimental that a one-off replacement.	*12.3* The staged removal was developed in response to concern about the effects of one-off revegetation to GHFF upon their return to the Bairnsdale site regarding their welfare. This option does consider the possible effects of the proposed action on GHFF. EGSC acknowledges that GHFF may settle at a new site that is inappropriate from the perspective of the welfare of the bats and local residents. An assessment will be made as the appropriateness of the site or sites in which the colony establishes. A site analysis will be undertaken to see if the site meets the ecological requirements for GHFF longer term. If a site is deemed to be inappropriate, the bats will be dispersed until they settle at a site that is deemed to be appropriate. All activities have been developed with the welfare of the bats in mind and include stop work triggers and protocols to ensure the health and wellbeing of the bats is

Appendix 10 - Permit issued under *Environmental Protection and Biodiversity Conservation Act 1999*

Australian Government
Department of the Environment

Approval

East Gippsland Shire Council Poplar Removal Program – Grey-headed Flying-fox (*Pteropus poliocephalus*) Summer Camp, Bairnsdale, Victoria (EPBC 2009/5017).

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	East Gippsland Shire Council
proponent's ABN	81 957 967 765
proposed action	To remove 0.5 hectares of poplar trees as part of the East Gippsland Shire Council poplar removal program which provide a 'summer camp' roost site for Grey-headed Flying-foxes (*Pteropus poliocephalus*) in Bairnsdale, Victoria [see EPBC Act referral 2009/5017].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved.

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 1 July 2022.

Decision-maker

name and position	James Tregurtha Assistant Secretary South-Eastern Australia Environment Assessments Branch
signature	
date of decision	11 APRIL 2014

Conditions attached to the approval

The following measures must be taken to ensure the protection of **listed threatened species and communities** (sections 18 & 18A), specifically the **Grey-headed Flying-fox (Grey-headed Flying-fox)**:

1. The person taking the action must not remove or adversely impact more than 0.5 hectares of **Grey-headed Flying-fox habitat** at the **Mitchell River Roost Site**.

2. Prior to the **removal of habitat** the person taking the action must submit the **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan** to the **Department** for approval. The person taking the action must implement and comply with the approved **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan**.

3. The person taking the action must ensure that:

    a) Prior to the **removal of habitat** at the **Mitchell River Roost Site a Hotline** with a dedicated contact phone number and email address is set up to respond to public enquiries;

    b) Prior to the **removal of habitat** at the **Mitchell River Roost Site** the Wellington Shire Council is notified of the proposal and provided with contact details to respond to enquiries;

    c) Undertake revegetation of long-term **Grey-headed Flying-fox habitat** within the **Bairnsdale region**, in accordance with expert advice on **Grey-headed Flying-fox** ecology, subject to negotiation with and approval by, the **Department**. If a long-term **Grey-headed Flying-fox** camp is not established within the **Bairnsdale region** then revegetation or improvement of **Grey-headed Flying-fox habitat** within the **Bairnsdale region** must be undertaken; and

    d) At least $5,000 is spent on community education resources relating to **Grey-headed Flying-fox**, including, but not limited to, educational signage at a site of **Grey-headed Flying-fox habitat** within twelve months of the completion of Stage Three (as detailed in the **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan**).

4. If, following the **removal of habitat** at the **Mitchell River Roost Site,** the person taking the action proposes to undertake a separate **dispersal** then a management plan must be submitted for the **Minister's** approval. The management plan must be approved by the **Minister** prior to the commencement of **dispersal** activities. At a minimum, the plan must address:

    a) Proposed methodology for **dispersal**;
    b) Potential direct, indirect, cumulative and facilitative impacts to **Grey-headed Flying-fox** from the proposed **dispersal** activity;
    c) The presence of pregnant **Grey-headed Flying-fox**;
    d) The presence of **dependant young**;
    e) A commitment that the **dispersal** will not be undertaken on a **Hot Day** or on or within two days of a **Heat Stress Event**;
    f) Proposed avoidance and mitigation measures addressing potential impacts to **Grey-headed Flying-fox**, which must at a minimum include, **stop work triggers**; and
    g) Monitoring and reporting protocols.

    Condition 4 does not apply to an **emergency dispersal**.

5. The person taking the action may undertake an **emergency dispersal**. Unless otherwise negotiated with the **Minister** and approved, an **emergency dispersal** must be undertaken in accordance with the following requirements:

   - A **suitably qualified ecologist** must be engaged to advise of best practice **dispersal** methodology;
   - During **emergency dispersal** a **suitably qualified ecologist** must be present to oversee best practice **dispersal** methodology, undertake **behavioural monitoring** and document the outcomes of the process;
   - During **emergency dispersal** the person taking the action must comply with all recommendations and guidance from a **suitably qualified ecologist**;
   - **Emergency dispersal** must not be undertaken between 1 August and
   - 30 September;
   - For the period 1 October to 31 March in any given year, **emergency dispersal** activities must not be undertaken if **flightless dependant young** are present (as determined by a **suitably qualified ecologist**);
   - **Emergency dispersal** must be undertaken 1.5 hours pre-dawn and finish one hour post-dawn to ensure **Grey-headed Flying-fox** have time to settle elsewhere before the heat of the day;
   - **Emergency dispersal** must not be undertaken during a **Hot Day** or on or within two days of a **Heat Stress Event**;
   - Once **Grey-headed Flying-fox** have not returned to the site of **emergency dispersal** for more than five consecutive days and while absent from the site of **emergency dispersal**, the person taking the action must implement **passive measures**; and
   - Within five days of the completion of **emergency dispersal**, the person taking the action must submit a report to the **Minister** detailing the **dispersal** methodology implemented and the outcome achieved.

6. One month prior to the commencement of Stage Two (as detailed in the **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan**) and on the same date every subsequent year in which **removal of habitat** or **emergency dispersal** occurs, the person taking the action must submit a report to the **Minister** that addresses the following:

   a) Details of the activities undertaken that year relating to **removal of habitat** or **emergency dispersal**;
   b) Details of the associated outcomes of these activities;
   c) The data collected (in accordance with these conditions of approval and the **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan**);
   d) Information about the health, condition and location of **Grey-headed Flying-fox** colonies in the **Bairnsdale region**;
   e) Details of how information gained has been incorporated into the future management of **Grey-headed Flying-fox** (adaptive management), including, but not limited to, the future **removal of habitat** or **dispersal** activities associated with the action;
   f) Details of any activities planned to occur in the following year;
   g) Written and signed confirmation by a **suitably qualified ecologist** verifying the accuracy of the data, information, analysis and conclusions contained within the report; and
   h) Raw data must be made available to the **Department** upon request.

7. Five days prior to the **commencement** of the action, the person taking the action must advise the **Department** verbally and in writing of the actual date of **commencement**.

8. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.

9. Within three months of every 12 month anniversary of the **commencement** of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. Non-compliance with any of the conditions of this approval must be reported to the **Department** within 48 hours of the non-compliance occurring.

10. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

11. If the person taking the action wishes to carry out any activity otherwise than in accordance with the management plans as specified in the conditions, the person taking the action must submit to the **Department** for the **Minister's** written approval a revised version of that management plan. The varied activity shall not commence until the **Minister** has approved the varied management plan in writing. The **Minister** will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If the **Minister** approves the revised management plan, that management plan must be implemented in place of the management plan originally approved.

12. If the **Minister** believes that it is necessary or convenient for the better protection of **listed threatened species and communities** to do so, the **Minister** may request that the person taking the action make specified revisions to the management plans specified in the conditions and submit the revised management plans for the **Minister's** written approval. The person taking the action must comply with any such request. The revised approved management plan must be implemented. Unless the **Minister** has approved the revised management plan, then the person taking the action must continue to implement the management plan originally approved, as specified in the conditions.

13. If, at any time after five years from the date of this approval, the person taking the action has not **substantially commenced** the action, then the person taking the action must not **substantially commence** the action without the written agreement of the **Minister**.

14. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within one month of being approved.

Definitions

Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan means the document titled *Mitchell River Revegetation Program, Bairnsdale Grey-headed Flying Fox Roost Site, Strategic Management and Action Plan, East Gippsland Shire Council, 2014.*

Bairnsdale Region means the administrative district of the city of Bairnsdale.

Behavioural monitoring means the monitoring by a **suitably qualified ecologist** of **Grey-headed Flying-fox** behaviour to identify behaviour outside of normal patterns of behaviour and changes in those patterns. As a guide, behaviour outside of normal patterns may include **Grey-headed Flying-fox** exhibiting sickness, malnutrition, abnormal flight, disorientation, injury, aggression towards a person undertaking an activity evidence of abandoned young, evidence of aborted young or, at worst case, death.

Commencement means any preparatory works associated with the **removal of habitat** from the **Mitchell River Roost Site**, such as the tagging of trees, introduction of machinery or clearing of vegetation, excluding fences and signage.

Department means the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

Dependant young means:

- Newborn – totally dependent and carried by mother;
- Flightless dependant young – dependent on mother, but no longer carried large distances, unable to move easily around the camp; and
- Flying dependant young – dependent on mother, but able to move around the camp, can fly short distances.

Dispersal means any action, including, but not limited to, active physical harassment, taken to remove **Grey-headed Flying-fox** from a site of habitation.

Emergency dispersal means a **dispersal** response to be undertaken if **Grey-headed Flying-fox** relocate to an area where:

a) Public health is at immediate risk (this includes, but is not limited to, within 100 metres of a hospital or educational institution);
b) There is potential for the spread of disease through vectors (this includes, but is not be limited to, within 100 metres of a racecourse or horse stud property); and
c) Anything else, as agreed with the **Department**.

Grey-headed Flying-fox means the native flying-fox species *Pteropus poliocephalus* listed as vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999*.

Grey-headed Flying-fox habitat means any patch of land, including non-native vegetation, which may be used by the native flying-fox species *Pteropus poliocephalus* listed as vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999*, to forage, breed, shelter or disperse, as determined by a **suitably qualified ecologist**.

Flightless dependant young means **Grey-headed Flying-fox** that are dependent on their mother, but no longer carried large distances and that are unable to move easily around the camp.

Heat Stress Event means a hot weather event lasting one day or more that is extremely stressful and harmful to animals, defined as when temperatures exceed 35°C before 31 December or 38°C over consecutive days from 1 January.

Hot Day means a day when the ambient temperature is predicted to reach 30°C before 10am AEST, or reach greater than 35°C over the day.

Hotline means a point of contact, where members of the public can contact the person taking the action to report any injured **Grey-headed Flying-fox**, the establishment of a new camp of **Grey-headed Flying-fox** and to discuss general concerns regarding **Grey-headed Flying-fox**.

Listed threatened species and communities means a matter listed under sections 18 and 18A of the *Environment Protection and Biodiversity Conservation Act 1999*, specifically the **Grey-headed Flying-fox**.

Mitchell River Roost Site means the 0.5 hectare area defined at Appendix A as **Grey-headed Flying-fox habitat** along the Mitchell River, Bairnsdale, within which **removal of habitat** is to occur.

Minister means the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister.

Passive measure means actions that do not involve active physical harassment of **Grey-headed Flying-fox**, which allow for ongoing maintenance of a successful dispersal area and that act as a deterrent against the animals re-establishing at the site, including, but not limited to, the trimming of branches and removal of limbs. It does not include the permanent **removal of habitat** critical to the survival of **Grey-headed Flying-fox**.

Removal of habitat means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ring-barking, uprooting or burning of **Grey-headed Flying-fox habitat**.

Stop work triggers means site or animal conditions that indicate that the activity should cease.

Substantially commence means the **removal of habitat** at the **Mitchell River Roost Site**.

Suitably qualified ecologist means a practising ecologist with tertiary qualifications from a recognised institute and demonstrated expertise in scientific methodology, animal or conservation biology in relation to the **Grey-headed Flying-fox**.

Appendix A

Australian Government
Department of the Environment

VARIATION TO CONDITIONS ATTACHED TO APPROVAL

East Gippsland Shire Council Poplar Removal Program – Grey-headed Flying-fox (*Pteropus poliocephalus*) Summer Camp, Bairnsdale, Victoria (EPBC 2009/5017).

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Person to whom the approval is granted	East Gippsland Shire Council ABN: 81 957 967 765
Approved action	To remove 0.5 hectares of poplar trees as part of the East Gippsland Shire Council poplar removal program which provide a 'summer camp' roost site for Grey-headed Flying-foxes (*Pteropus poliocephalus*) in Bairnsdale, Victoria [see EPBC Act referral 2009/5017].

Variation

Variation of conditions of approval	The variation is: Delete condition 4 attached to the approval dated 11 April 2014 and substitute the condition specified below.
Date of effect	This variation has effect on the date the instrument is signed

Person authorised to make decision

Name and position	Shane Gaddes Assistant Secretary Compliance and Enforcement Branch
Signature	S. Gaddes
Date of decision	10 April 2015

Condition attached to the approval

see over.

Condition attached to the approval

4. If the person taking the action proposes to undertake a **dispersal** then a management plan must be submitted for the **Minister's** approval. The management plan must be approved by the **Minister** prior to the commencement of **dispersal** activities. At a minimum, the plan must address:

   a) Proposed methodology for **dispersal**;
   b) Potential direct, indirect, cumulative and facilitative impacts to **Grey-headed Flying-fox** from the proposed **dispersal** activity;
   c) The presence of pregnant **Grey-headed Flying-fox**;
   d) The presence of **dependant young**;
   e) A commitment that the **dispersal** will not be undertaken on a **Hot Day** or on or within two days of a **Heat Stress Event**;
   f) Proposed avoidance and mitigation measures addressing potential impacts to **Grey-headed Flying-fox**, which must at a minimum include, **stop work triggers**; and
   g) Monitoring and reporting protocols.

Condition 4 does not apply to an **emergency dispersal**.