FOI 180819
Document 1

DEPARTMENT OF THE ENVIRONMENT

To: James Tregurtha, Assistant Secretary, South-Eastern Australia Environment Assessments Branch (for decision)

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

Timing: As soon as practicable. The statutory timeframe for a final decision was **31 March 2014**.

Recommendations:

1. Consider the proposed decision and the recommendation report at Attachment A.

Considered / please discuss

2. Consider the responses to the invitation for comment on the proposed decision at Attachment B1.

Considered / please discuss

3. Approve, for each controlling provision, the action as summarised in the table below.

Approved / Not approved

4. Agree to attach the conditions of approval as set out in Attachment C.

Agreed / Not agreed

5. Sign the notice of your decision at Attachment C.

Signed / Not signed

6. If you agree to 3 and 4, accept the reasoning in the Departmental briefing package as the reasons for your decision.

Accepted / Please discuss

7. Sign the letters at Attachment D advising the person proposing to take the action and other relevant parties of your decision.

Signed / Not signed

Summary of recommendations on each controlling provision:

Controlling Provisions for the action	Recommendation	
	Approve	**Refuse to Approve**
Listed threatened species and communities (ss 18, 18A)	Approve with conditions	

James Tregurtha, Assistant Secretary, South-Eastern Australia Environment Assessments Branch: Date: 11/4/14

Comments:

Key Points:

Background

1. On 10 March 2014, as recommended in the Proposed Approval Decision Brief (Attachment A), you wrote to the proponent seeking comments on your proposed decision.

2. On 25 March 2014 and 8 April 2014, the proponent provided comment on the proposed approval conditions (Attachment B1).

3. The Department recommends a number of changes to the proposed conditions reflecting the proponent's comments. A track-changed version of the decision notice, highlighting all changes made from the proposed conditions is provided for your reference at Attachment B2.

4. The matters for consideration and factors to be taken into account for your decision remain as set out in the Proposed Approval Decision Brief (Attachment A).

Issues / Sensitivities

5. The proponent was generally satisfied with the proposed conditions and requested minor amendments to conditions 2, 3, 5 and 6 and clarification of several conditions. Proposed amendments are discussed below and are incorporated in the recommended final approval conditions (Attachment C).

6. Proposed condition 2 required the proponent to implement the Bairnsdale Grey-headed Flying-fox (*Pteropus poliocephalus*) Roost Site Strategic Management Action Plan (the Management Plan) prior to commencing the action. The proponent has requested that the condition be amended to allow the Management Plan to be finalised post approval. The Department recommends accepting the proposed change because the proponent will not be able to commence the action until the final plan is approved. The Department has amended the condition to clarify that prior to the removal of habitat the Management Plan be submitted to the Department for approval and the action may not commence until this approval is given. ✓

7. Proposed condtion 3(b) required the proponent to notify all neighbouring Councils of the proposal prior to the removal of habitat. The proponent requested that condition 3(b) be amended to include only the Wellington Shire Council as the distance between the other Shire Councils and the proposal are significant. The Department recommends accepting the proposed change as it is likely that the Grey-headed Flying-fox would relocate within the East Gippsland Shire Council or within close proximity to the Bairnsdale site, thus excluding the other neighbouring Councils. The condition has been amended to include only the neighbouring Wellington Shire Council. ✓

8. The proponent requested minor administrative changes to clarify conditions 3(c) and (d). The Department has amended condition 3(c) for consistency and provided a definition of the 'Bairnsdale region' and amended condition 3(d) to specify a timeframe in which monies must be spent. These changes are administrative and clarify the intent of the original conditions. ✓

9. The proponent requested condition 5 be amended to remove the restriction of an emergency dispersal not being able to be undertaken between August to September and October to March as they believe it limits their ability to respond to an emergency event. The Department recommends not accepting this request as these times correlate to a particularly vulnerable time of the Grey-headed Flying-foxes breeding cycle. The Department considers that these measures are necessary to reduce potential impacts to the Grey-headed Flying-fox during the critical breeding season and to reduce the likelihood of significant stress, aborted foetuses, dropped young and the desertion of young. It is understood that an emergency response may need to be undertaken quickly to dissuade permanent settlement and the proponent is not limited by the condition in seeking the Minister's advice should a situation arise that involves emergency prcedures for exceptional circumstances.

10. Proposed condition 6 required the proponent to submit a report to the Minister within one month of the completion of Stage One of the proposed action. The proponent requested clarification of timeframes for completing this reporting requirement. The proponent also sought clarification regarding the 'status' of the Grey-headed Flying-fox at condition 6(d).The Department has amended condition 6 to one month prior to the commencement of Stage Two to give the proponent sufficient time to prepare the report and ensure that the key data relating to the proposed action is captured. The Department has amended condition 6(d) to clarify that status refers to the health, condition and location of the Grey-headed Flying-fox. ✓

11. For the reasons discussed above, the Department considers that the amendments to the proposed conditions are appropriate and reasonable and do not affect the acceptability of potential impacts or the enforceability of the final conditions. The Department recommends that you accept the final conditions at Attachment C.

Consultation:

12. The outcome of the consultation is as follows and responses to your proposed decision are at Attachment B.

	Comment
Designated Proponent	The proponent has been provided with a copy of the revised recommended approval conditions and has indicated acceptance of these conditions (Attachment B1).
Monitoring & Audit Section	Comments were sought at the proposed approval decision stage. Comments have been incorporated in the proposed and final conditions.

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Director
Victoria Section
South-Eastern Australia Environment
Assessments Branch
Ph: 02 6274 s22
11 April 2014

s22
Victoria Section

ATTACHMENTS

A: Copy of Proposed Approval Decision Brief, including the Recommendation report

B1: Proponent's responses to invitation for comment on proposed decision

B2: Department's response to invitation for comment on proposed decision

C: Notice of decision FOR SIGNATURE

D: Letters to proponent and relevant State Minister FOR SIGNATURE

FOI 180819
Document 2

DEPARTMENT OF THE ENVIRONMENT

To: James Tregurtha, Assistant Secretary, South-Eastern Australia Environment Assessments Branch, (for decision)

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

Timing: 31 March 2014 - Statutory timeframe.

Recommendations:

1. Note that no conservation advice exists for species likely to be impacted by this proposal.

Noted / please discuss

2. Consider the recommendation report at Attachment A.

Considered / please discuss

3. Consider the finalised preliminary documentation at Attachment B.

Considered / please discuss

4. Agree that the recommended decision on page one of the recommendation report (Attachment A), and summarised in the table below, reflects your proposed decision.

Agreed / Not agreed

5. Sign the letters at Attachment G to consult the proponent on your proposed decision and inform relevant Ministers on your proposed decision.

Signed / Not signed

6. Agree to not publish the proposed decision at Attachment F on the internet for public comment.

Agreed / Not agreed

Summary of recommendations on each controlling provision:

Controlling Provisions for the action	**Recommendation**	
	Approve	**Refuse to Approve**
Listed threatened species and communities (ss 18, 18A)	Approve with conditions	

James Tregurtha, Assistant Secretary, South-Eastern Australia Environment Assessments Branch

Date:

Comments:

Key Points:

Background:

1. The proposed action involves the removal of approximately 0.5 hectares (ha) of White Poplar (*Populus alba*) trees along the Mitchell River, adjacent to the northern side of the town of Bairnsdale, Victoria (Attachment B2, Figure 3). The East Gippsland Shire Council (the proponent) has been undertaking a poplar removal program since 2003 along the Mitchell River to enhance the environment. The poplars are targeted for removal as they are an environmental weed, in a state of senescence and pose a public safety threat in the near future due to dead branches and severe lean angles. The poplar trees to be removed are used by Grey-headed Flying-fox (*Pteropus poliocephalus*) as a 'summer camp' roost habitat.

2. On 25 August 2009, the proposed action was determined to be a controlled action (due to likely significant impacts on listed threatened species and communities, specifically the Grey-headed Flying-fox, (sections 18 and 18A), to be assessed by preliminary documentation. The preliminary documentation is provided at Attachment B.

Issues/ Sensitivities:

3. The proposed action will impact on listed threatened species as it involves the clearance of approximately 0.5 ha of poplar trees that represent habitat for the vulnerable Grey-headed Flying-fox.

4. While the removal of habitat will be timed to occur between 1 April and 31 July, to avoid the breeding season, and only during the species' absence the proposal is still likely to result in a number of direct and indirect impacts on the species as it will be forced to find an alternative summer roost.

5. The Department considers that, given the measures proposed to avoid and mitigate the risks of impact to the species within the referral and preliminary documentation (Attachments B1 and B2), in conjunction with the conditions proposed (as described at Attachment A), significant risks to listed threatened species and communities from the proposed action would not be unacceptable.

6. The Department understands that the proponent has not been subject to any proceedings under Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

7. Your obligations as a decision maker are addressed, along with discussions on potential impacts on matters of national environmental significance, in the recommendation report (Attachment A).

8. The proposal has received local media attention, following the controlled action decision, and remains locally contentious. The nature and timing of any final approval decision may also attract public scrutiny. Public submissions were received against the removal of habitat for the Grey-headed Flying-fox.

Public submissions on assessment documents

9. The department recommends not to publish the proposed decision (Attachment F) on the internet for public comment. Public comment on the proposed decision is not considered necessary due to the extensive public consultation already undertaken for the proposed action and that further public consultation at this stage is not likely to raise additional matters to be addressed.

Number	12	For	0	Against	12	Not specified	00

Consultation:

10. The Approvals and Monitoring South (AMS) Section of the Compliance and Enforcement Branch was consulted on the proposed approval decision and AMS made a number of comments relating to the proposed conditions (Attachment C). The comments primarily related to consistency and clarification of conditions and these comments have been incorporated in the proposed approval conditions. The Department has also made minor amendments to standard conditions 8 and 9, in accordance with this advice.

11. The Department recommends consulting only with the proponent on the proposed conditions. Given the relatively small scale and localised nature of the proposal, and the lack of a significant number of public comments on the assessment to date, the Department does not recommend notifying other parties of the proposed decision and does not recommend publishing the proposed decision on the internet for public comment.

12. The Department does not consider that any Commonwealth Ministers hold administrative responsibilities relevant to the action, to the extent that their comment would be required, and as such does not recommend consulting with any Commonwealth Ministers. The Victorian Minister for Transport, Planning and Local Infrastructure, the Hon Matthew Guy MP, will be informed of the proposed decision as a matter of courtesy.

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Director
Victoria Section
South-Eastern Australia Environment
Assessments Branch
Ph: 02 6274 s22
March 2014

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Victoria Section

ATTACHMENTS

A: Recommendation report

B: Finalised Preliminary Documentation

B1: Referral information

B2: Draft Management Plan

C: Approvals and Monitoring advice

D: Draft Recovery Plan

E: Public submissions

F: Draft Approval Decision Notice

G: Letters to proponent and Minister Guy FOR SIGNATURE

H. Referral decision brief (for reference)

RECOMMENDATION REPORT

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

Recommendation

1. That the 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 be approved subject to the conditions specified below.

Conditions 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**:	**Relevant paragraph in report**
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**.	75
2. The person taking the action must implement and comply with the **Bairnsdale Grey-headed Flying-fox Roost Site Strategic Management Action Plan**.	39 - 49, 64 - 68, 69
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** neighbouring Councils are 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 area, 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 area 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**.	70, 71

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**.	54 – 57, 59
5. The person taking the action may undertake an **emergency dispersal.** Unless negotiated with the **Minister** and approved**,** an **emergency dispersal** must be undertaken in accordance with the following requirements: a) A **suitably qualified ecologist** must be engaged to advise of best practice **dispersal** methodology; b) 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; c) During **emergency dispersal** the person taking the action must comply with all recommendations and guidance from a **suitably qualified ecologist**; d) **Emergency dispersal** must not be undertaken between 1 August and 30 September; e) 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**); f) **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; g) **Emergency dispersal** must not be undertaken during a **Hot Day** or on or within two days of a **Heat Stress Event**; h) 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 i) 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.	58, 60, 61

6. Within one month from the completion of Stage One of the **removal of habitat** (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) The status 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.	68, 69
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, DRAFT Strategic Management and Action Plan, East Gippsland Shire Council, November, 2013.*

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**.

Background

Description of the project and location

2. The proposed action involves the removal of approximately 0.5 hectares (ha) of White Poplar (*Populus alba*) trees and dense vegetation along the Mitchell River, Bairnsdale, Victoria. The proposed action is located approximately one kilometre downstream from the Lind Bridge and adjacent to the northern side of the town (see Attachment B2, Figure 3). The proponent, the East Gippsland Shire Council (EGSC), has been undertaking a poplar removal program since 2003 along the Mitchell River to enhance the environment. The poplars are targeted for removal as they are an environmental weed, in a state of senescence and pose a public safety threat in the near future due to dead branches and severe lean angles.

3. The poplar trees to be removed are used by an important population of Grey-headed Flying-fox (*Pteropus poliocephalus*) as a 'summer camp' roost habitat. The trees represent critical habitat for the Grey-headed Flying-fox (GHFF).

4. The removal of the poplar trees is proposed to be undertaken between 1 April and 31 July in three stages over a three year period, commencing in 2014.

5. The removal of trees is proposed to be by staged removal and revegetation of the area, which the proponent has been deemed the preferable option for the long term management of the site and to manage potential impacts to the GHFF. The proponent deemed no action as an inappropriate course of action due to the poplars continued impact on the Mitchell River environment, concern expressed by residents regarding the impact of GHFF on resident's wellbeing, and the senescing state of the current roost site. The proponent states that the poplars to be removed currently pose a public safety threat in the near future due to dead branches and severe lean angles. The proponent deemed one-off removal of the trees as not being appropriate as it does not allow an adaptive response to managing the potential impacts to the GHFF from removal of their habitat nor prior indication of alternative roosting locations for the GHFF and how these might be managed.

6. The tree removal program has been successfully ongoing for a number of years and is in accordance with the *East Gippsland Environmental Sustainability Strategy 2008-2013*.

Controlling provisions, assessment approach and public consultation

7. The proposal was referred on 28 July 2009 and determined a controlled action on 25 August 2009 due to likely significant impacts on listed threatened species and communities (sections 18 and 18A), in particular the GHFF. On 25 August 2009 it was also determined that the project would be assessed by preliminary documentation (preliminary documentation) that was considered appropriate given the scale of the proposed action and limited impacts on protected matters.

8. The Department received ten public submissions (plus one ministerial) at the referral stage. All issues raised by the public were generally common across the submissions and were not directly opposed to the action; however, considered the action a controlled action likely to have a significant impact on GHFF. No comments were received from State or Commonwealth Ministers at the referral stage.

9. On 4 August 2011, the proponent submitted draft preliminary documentation, in the form of a draft management plan, addressing potential impacts to the GHFF. On initial review, the Department noted deficiencies in the information and determined that the information provided was inadequate and did not meet the preliminary documentation requirements. Following Departmental comments on the adequacy of the documentation the proponent submitted further draft management plans, on 14 October 2011, 17 April 2012, 5 July 2012 and 20 November 2012.

10. On 13 December 2012 the Department determined that the draft preliminary documentation received on 20 November 2012 satisfied the initial preliminary documentation requirements. The draft preliminary documentation was exhibited for public comment for 20 business days between 14 January and 12 February 2013, and in accordance with subdivision 16.2.1 of the EPBC Regulations.

11. On 20 May 2013, the Department was advised by the proponent that 12 public submissions (Attachment E) were received during the publication period. No submissions were received from State or Commonwealth Ministers. Of the 12 public submissions received none were supportive of the proposed action. The issues raised in these submissions related to:

    - Opposition to the removal of the GHFF's habitat;
    - The threat to wildlife in urban locations and the communities perception of them as a problem wherever they are;
    - The potential use of private residences closest to the GHFF camp, including their removal;
    - The potential to increase knowledge and awareness of the GHFF in the community and the utilisation of GHFF as a tourism and educational feature;
    - The risk of the GHFF not being able to find suitable alternative habitat;
    - Management of the GHFF camp to reduce the impacts to local residents whilst enhancing the habitat for GHFF;
    - The value of invasive species providing habitat to native wildlife and the risk that the GHFF will move to equally unpopular roosting trees elsewhere;
    - Whether or not all residents of Bairnsdale have been canvassed in relation to attitudes to the GHFF;
    - That the options have not been costed; and
    - The Response Plan perpetuates the harassment of GHFF and does not consider GHFF welfare.

12. The proponent revised the draft preliminary documentation following the public comment period to address issues raised in the public consultation. This resulted in changes to the preliminary documentation in relation to:

    - Updating the Response Plan to further consider the welfare of the GHFF during dispersals;
    - Amending the date that works will be undertaken to avoid a particularly vulnerable part of the GHFF breeding cycle; and
    - Including comments relating to the explanation of how the preliminary documentation documentation has addressed the concerns of the public.

13. On 12 December 2013, the proponent provided the final preliminary documentation (Attachment B1 and B2) to the Department, which included a summary of public comments and how they have been addressed within the revised preliminary documentation documentation. The final preliminary documentation also addressed further comment that the Department had provided in relation to the management plan.

14. Consistent with the *Environment Protection and Biodiversity Conservation Regulations 2000*, the final preliminary documentation was subsequently published, for information only, for a further 20 business days from 6 January to 3 February 2014.

State Assessment and Approval

15. There is no state assessment relevant to this proposal.

Assessment

Mandatory Considerations – section 136(1)(a) Part 3 controlling provisions

16. The proposal was determined a controlled action under the following controlling provision of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):

    - Listed threatened species and ecological communities (sections 18 and 18A).

This controlling provision is discussed below.

Listed threatened species and ecological communities (sections 18 and 18A)

Grey-headed Flying-fox (*Pteropus poliocephalus*) – Vulnerable

Description

17. The GHFF is one of the largest bats in the world with a weight of 600–1000 grams and a head-body length of 230–289 millimetres. It is distinguishable from other flying-foxes by the collar of orange/brown fully encircling its neck and thick leg fur extending to the ankle.

18. The GHFF is highly mobile and the national population is fluid, moving up and down the east coast in search of food. There are no separate or distinct populations of GHFFs, with constant genetic exchange and movement between camps throughout the entire geographic range of the species. This indicates that there is one single interbreeding population.

19. The GHFF requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feeds in introduced tree species in urban areas and in commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera but in some areas it also utilises a wide range of rainforest fruits. The GHFF roosts in aggregations of various sizes on exposed branches, commonly of emergent trees. Roost sites are typically located near water, such as lakes, rivers or the coast. Male GHFF are very territorial and have high site fidelity, often returning to the same roosting branch every year.

20. The mating season starts in early autumn, after which time larger camps begin to break up, reforming in late spring/early summer as food resources become more abundant. GHFF typically give birth to one pup in late September to early October following a six month gestation period. The young are completely dependent during this time, clinging to their mothers for the first few weeks, and then congregating in crèches when their mothers are off feeding. The pups begin to fly independently at approximately 12 weeks, but continue to be dependent on their mothers for food until at least 16 weeks of age. Lactation usually begins in October and continues for three to four months or sometimes longer. See Table 1 below.

Table 1: Reproductive cycle of GHFF.

<table>
<tr><th colspan="4">Flying–fox breeding cycle</th></tr>
<tr><td>Month</td><td>Time in breeding</td><td colspan="2">Variations</td></tr>
<tr><td>April</td><td>Mating</td><td>First female conceptions recorded</td><td rowspan="6">Most adult females do conceive but are prone to abortions and premature births in response to environmental stress</td></tr>
<tr><td>May</td><td>Mating/ early stages of pregnancy</td><td rowspan="5"></td></tr>
<tr><td>June</td><td>Early stages of pregnancy</td></tr>
<tr><td>July</td><td>Early stages of pregnancy</td></tr>
<tr><td>August</td><td>Mid stages of pregnancy</td></tr>
<tr><td>September</td><td>Mid to late stages of pregnancy
Starting to give birth</td></tr>
<tr><td>October</td><td>Birthing and
Dependant young in colony</td><td rowspan="4">Vast majority of births occur from October to December</td><td rowspan="5">Lactation period from October to April</td></tr>
<tr><td>November</td><td>Birthing and
Dependant young in colony</td></tr>
<tr><td>December</td><td>Birthing and Dependant young in colony</td></tr>
<tr><td>January</td><td>Dependant young in colony</td><td>Males increasingly sexually active from January on and establishing territories</td></tr>
<tr><td>February</td><td>Dependant young in colony</td><td>Increasing frequency of copulation</td></tr>
<tr><td>March</td><td>Dependant young in colony</td><td></td><td></td></tr>
</table>

21. Key threats to the GHFF include: the loss and fragmentation of habitat, which results in a decrease in food sources and roosting sites; conflict between the habitat and foraging needs of GHFF and land owners, in both urban and peri-urban areas, is a widespread and ongoing issue; direct shooting of GHFF, as a result of destruction of commercial fruit crops in New South Wales and Queensland; competition with other flying-foxes including the Black Flying-fox and Little Red Flying-fox may be a threat due to the reduction of available habitat and food resources; electrocution; and pathogens, including Australia Bat Lyssavirus, Hendra virus and the Nipah virus.

Proposed action area

22. GHFF have been recorded at the Mitchell River roost site since 1995, with annual occupation recorded since 2002. The GHFF are generally present at the site between December and May each year and generally absent from July to November (exceptions were in 2003, when they overwintered at the site, and 2005, when the bats were not present). The number of GHFF using the site has varied between seasons (see Table 2) with numbers recorded from a few hundred to tens of thousands of bats, e.g. over 34,000 (recorded in May of 2006), approximately 20,000 (recorded in February 2010) and 26,000 (recorded in May 2011). The local Victorian Department of Primary Industries (DEPI) has been involved in monitoring the colony over this period. A heat stress event was experienced in 2009 leading to the loss of GHFF. It is difficult to attribute the variation of occupation to any one event; however, it is believed that the availability of resources may be a contributing factor.

23. The Department considers that the population of GHFF at Bairnsdale is an 'important population', consistent with the Significant Impact Guidelines (EPBC Act Policy Statement 1.1 Significant Impact Guidelines Matters of National Environmental Significance, May 2006) as this population is likely to provide an important source for breeding and dispersal.

24. The 'summer camp' located at the proposed action area is used as a maternity roost and used during the nursery phase of the life cycle. In 2003 the colony remained on site throughout the year with pups being born on site. Both males and females have been recorded at the camp site. During the nursery phase it appears that the males rejoin the females. It is highly likely that the males attempt to court females with pair bonds being formed at this site.

Table 2: Grey-headed Flying-fox Roost Site.

Impact

25. There are a range of potential direct and indirect impacts to GHFF associated with the proposed action. These impacts relate to increased levels of stress that can be difficult to attribute or detect and also relate to problems associated with where they go after they have been dispersed. The following potential impacts have been identified as a result of the proposed action and are discussed further below.

Reduction of habitat

26. The proposed action will involve the removal of approximately 145 poplar trees (0.5 hectares) adjacent to the Mitchell River which have been identified as being utilised by the GHFF as a 'summer camp' and represents habitat critical to the survival of this species, as defined in the Draft National Recovery Plan (July 2009). The Draft National Recovery Plan (July 2009) also identifies the loss of roosting habitat as a threat to GHFF.

27. The Department's Species Profile and Threats Database (SPRAT) states that the impact of the loss of long-term sites, or the degradation of small remnants to the point that they are no longer used, is not known. DEPI have recognised that this stand of poplars are likely to be dead within five years time, hence the camp is not viable in the longer term; however, it is possible that the GHFF may continue to use the dead trees as a camp, should the trees remain.

Fragmentation

28. The proponent has proposed a staged removal of the poplars over a three year period allowing the GHFF to relocate and present enhanced opportunities to manage the relocation to other suitable habitat. The Department notes that partial or whole removal of camp habitat may lead to the GHFF colony dispersing and fragmenting into two or more groups if suitable habitat is not available. Knowledge of the movement patterns of GHFF and the factors influencing the establishment and persistence of camps is currently limited.

Behavioural changes, including disruption to the breeding cycle

29. The proposed action risks disrupting the breeding cycle of an important population of GHFF. The camp site has been identified as a maternity/nursery roost where young are reared by their mothers. The removal of roosting trees is likely to place stress on returning lactating females and young. Other factors such as lack of suitable roost habitat to deal with high risk weather events (high temperatures) may also result in young and adult fatalities. The disruption of the breeding cycle could result in a limited feeding season or no breeding taking place causing impacts on population levels in future years.

30. GHFF are particularly vulnerable to stress, including heat stress during the day, and mass deaths have been attributed to heat wave events. GHFF seek shelter in dense foliage during the heat of the day, and disturbing them may result in heat stress and death. GHFF are also particularly vulnerable during the third trimester of pregnancy, with mass abortions, premature births and dropped young (which is fatal) observed in GHFF in the wild in response to significant stress. Disturbing females with dependant young may result in them seeking refuge elsewhere, temporarily or permanently abandoning their pup in the process. Increased stress as a result of the dispersal may also lead to malnutrition (which is quite difficult to monitor), sleep deprivation due to dispersal measures or death. GHFF may also suffer injury from the dispersal through disorientation due to sudden disturbances. This may increase collisions that can lead to injury or death.

31. It is widely reported and accepted that females abort and abandon young due to stress. The potential for on-going dispersal of the GHFF, following the removal of their habitat, increases the risk of GHFF experiencing significant stress. If the GHFF move to an inappropriate location, following the removal of their habitat, it is likely that this will be within the breeding season for the species, i.e. when they return in the last trimester of pregnancy and are at high risk of aborting foetuses. Aborted foetuses are very small and are quite difficult to detect amongst ground litter.

32. Any follow on dispersals may also cause female GHFF that are carrying dependant young to drop them through stress-induced responses such as panicked flight. The result of this is often fatal. It is also possible that stress associated with follow up dispersal may cause mothers to desert young that are too large for them to carry but not yet fully independent. Dispersals may also result in the disruption to the mating cycle due to males being unable to establish territories and successfully mate due to on-going dispersal within the camp.

Overcrowding and increased competition

33. Removal of habitat may increase the use of the remaining poplars and other tree species within the immediate site. This may impact on the GHFF by reducing the number of selected defendable sites and result in competition due to the reduction of available habitat and food resources placing further pressure on the species. Removal of habitat has the potential to impact on surrounding colonies. GHFF attempting to settle in existing camps may increase overall stress levels due to territorial disputes, increased competition for resources leading to reduced reproductive output, and fragmentation, if the sites are unable to provide sufficient roosting habitat or have insufficient foraging habitat in the vicinity.

Inappropriate Site Occupation

34. This may include selection of alternative habitat that is deemed unsuitable for longer term occupation by the GHFF, due to distance from foraging resources, distance from water or human conflict. Habitat may be deemed unsuitable for occupation due to the potential for conflict with humans. This may be due to:

    - an increased risk or perceived increased risk of disease (e.g. such as the transference of Hendra virus from horses if habitat is close to horses or from Australian Bat Lyssavirus from bites and scratches);
    - concern for health and safety (e.g. local residents have cited health problems associated with proximity to the GHFF camp);
    - a decrease in amenity (e.g. increased noise, odour and damage to roosting and foraging trees); or
    - increased community intolerance.

    Conflict may result in an increased risk to the GHFF from human intervention that is not managed or foul play, such as the recent poisoning of trees at the current campsite.

35. If sites are deemed unacceptable (e.g. a hospital, playground or racetrack) and GHFF are further dispersed from these sites without ongoing management the species is vulnerable to all of the above potential impacts in addition to a cumulative impact of the action of dispersal being undertaken continuously. This would expose the GHFF to a number of stressors that, if not monitored or managed, may seriously impact GHFF.

Unexpected response

36. Unknown and irreversible impacts may occur due to the unpredictable nature of the species. The Department notes that the proponent has taken best endeavours to develop measures to address these potential impacts as far as practicable (see discussion below).

Avoidance and mitigation measures

37. As discussed above, there are a number of potential direct, indirect, facilitative and cumulative impacts to GHFF that could occur as a result of the proposed action. A number of these impacts are difficult to measure and quantify; however, the proponent has proposed a number of measures to reduce these impacts to an acceptable level. The Department considers that while many of these measures represent appropriate avoidance and management of the potential impacts with a high likelihood of effectiveness the Department also considers it necessary to recommend conditions of approval to manage the residual impacts to a level of acceptability.

38. The complete set of avoidance, mitigation, monitoring and reporting proposed by the proponent is included in the Mitchell River Revegetation Program, Bairnsdale Grey-headed Flying-fox Roost Site, DRAFT Strategic Management and Action Plan (the Management Plan) at Attachment B2. The Department recommends an approval condition (condition 2) that requires the proponent to implement the Management Plan. Key mitigation and avoidance measures are discussed below.

Timing of proposed action

39. The proponent has committed to ensuring that the Poplar trees can only be removed after confirmation from DEPI (as the monitoring body) that GHFF are absent from the area. Provided that GHFF are absent, works can be undertaken at any time of the year except between the period from 1 August to 30 September, which corresponds with a particularly vulnerable part of the GHFF breeding cycle, when pregnant females in their third trimester can spontaneously abort their pregnancy under relatively low stress conditions. While the GHFF are not normally present at the site during this time the possibility that they may return during this period cannot be discounted.

40. Therefore, works will be timed to occur between 1 April and 31 July, to avoid the breeding season. The period May to July is outside of the critical stages of the breeding season and considered by experts as a 'safe time' to relocate GHFF. If the GHFF return to the camp during this time the Department considers that the timing of the action will avoid stress during particularly vulnerable parts of the breeding cycle for pregnant and lactating females.

Stop Work Triggers at Mitchell River Roost site

41. To mitigate stress levels on potentially pregnant and lactating GHFF and their pups at the Mitchell River roost site the adoption of stop work triggers have been proposed by the proponent. DEPI will be consulted and approval sought prior to commencement of any scheduled works on the Mitchell River site to ensure that GHFF are not present. If, at any stage during the works, the GHFF return to the site or its vicinity (including the surrounding vegetation), all works must cease and cannot recommence until all GHFF depart. Twice daily checks will be undertaken and recorded by the Project Manager and staff to ensure that works do not commence if the GHFF are present or surrounding the site. The Department considers that these measures are likely to be effective in reducing the risk to GHFF becoming stressed from the proposed action during a particularly vulnerable part of the breeding cycle for pregnant and lactating females.

Staged removal of habitat

42. The proponent has proposed a staged removal of trees that is intended to encourage the GHFF to find suitable habitat at another location and reduce a sudden change in conditions at the site. The staged removal of trees is also intended to assist in the adaptive management of the colony by indicating what potential roost sites the GHFF may move to following the removal of their habitat.

43. The proponent has prepared a Revegetation Plan, included in the Management Plan, which outlines the protocols and management of the habitat removal and revegetation of the site. The removal will be undertaken in three stages with stages two and three reliant on the outcomes of stage one. The number of trees removed at each stage will be different; however, the percentage of habitat removed at each stage is approximately equal based upon the observed distribution of the GHFF at the site in previous years. Therefore, each stage of removal will represent a similar area of habitat being removed (see Table 3).

Table 3: Proposed removal and revegetation stages.

44. The Management Plan states that the removal of poplars at stages one and two will allow the GHFF to occupy the roost site within the remaining trees, with established revegetation areas surrounding the site providing some additional habitat with appropriate microclimatic requirements. The Management Plan states that the remaining area and surrounding vegetation is considered likely to support the population short term until a more suitable site is selected and that it will be sufficient to accommodate the population at high levels. The Department notes that a risk of overcrowding (see above) exists if the expected movement to a more suitable habitat is not undertaken; however, the Department also notes that overcrowding is a natural phenomenon, largely dependent on the number of individuals that choose to roost at Bairnsdale in any given year.

45. The Management Plan states that after each stage of poplar removal DEPI Wildlife Management Officers and a representative of the proponent will be on site each day for one week after the GHFF return and then twice per week for four weeks to observe the reaction of the GHFF in relation to the removed habitat. Records will be maintained at each visit noting observations of the GHFF behaviour and their reactions to the removal of their habitat. The Department considers that this monitoring will be sufficient to document the behavioural response of the GHFF to the removal of habitat.

46. If, after stage one, the GHFF are believed to be showing distress, as determined by a qualified DEPI officer, an immediate response will be initiated by DEPI to reduce stress levels. This may include the installation of temporary signage to encourage reduced noise levels and disturbance, temporary closure of the walking path under the colony and/or continued monitoring. DEPI will then review the continuation of stage two having regard to the response of the GHFF to stage one works.

47. Following stage one, an assessment will be made by DEPI on the continuation of the program. If DEPI considers that the response of GHFF following stage one is negligible to the long term wellbeing of the GHFF then stage two will proceed. If DEPI considers that the effect on the GHFF will negatively impact their long term wellbeing then DEPI will advise the proponent that stage two cannot proceed as proposed. Likewise, any isolated negative effect (i.e. increased death and injury, abandonment of dependents etc.) will prompt mitigation and adoption of an alternative strategy to be undertaken in consultation with DEPI and the Department.

48. If the program proceeds, DEPI will continue to monitor the GHFF after stage two to inform decisions relating to the commencement of stage three. The Department considers that this method of monitoring will ensure that an informed judgement is made regarding the long term wellbeing of the GHFF and continuation of the program. Any movement of the GHFF further afield from the immediate site is expected to be captured by this monitoring and the local community. Newly recorded locations will be assessed as to the suitability of longer term roosting when it is determined where they have moved to.

49. The Department recommends a condition (condition 2) that requires the proponent to implement the Management Plan, which will ensure that the action is undertaken consistent with the staged approach described above. The Department has requested that the proponent add a clause to the Management Plan, prior to finalisation of the Management Plan, to state that if DEPI are unavailable to fulfil the roles as described in the Management Plan that a suitably qualified ecologist will undertake the monitoring and reporting roles described above. This will ensure that the proponent remains responsible for the monitoring and reporting actions discussed.

Alternative available habitat

50. The proponent has identified alternative local roosting sites that may provide habitat for the GHFF. While it is not fully understood what specifically attracts the GHFF to a particular roost site some characteristics, such as a closed, continuous canopy within 50 km of the coast, within close proximity to waterways and within nightly commuting distance of generally less than 20 km of sufficient food resources, are typical. The GHFF have been recorded occupying sites within East Gippsland and at nearby West Gippsland. There is a risk that if a large number of the GHFF relocate to a GHFF camp that is already occupied that significant pressure could be placed on the foraging resources at that site, which in turn could impact the existing population.

51. The proponent's preferred location for the GHFF to relocate to is either further along or across the Mitchell River in existing native vegetation; however, the proponent does recognise the associated difficulties and poor level of success of previous relocation projects. Predicting where GHFF could potentially relocate is not possible due to the unknown response from the GHFF and a lack of information concerning their site selection. Therefore, it is not possible to identify with certainty suitable alternative roost sites for the GHFF; however, the Department recognises that the region has vast areas of potentially suitable habitat that may provide an alternative camp for the GHFF.

52. The Management Plan states that it is possible that colonies will establish camps at new sites during and after the habitat removal and that without tagging it will be impossible to distinguish which new camps are formed as a result of the disturbance to Mitchell River camp and which are new colonies whose establishment is not related to the habitat removal at Mitchell River. Given this uncertainty, the proponent has stated that they are willing to accept the responsibility for the management of any and all colonies that establish within a five year period following Stage three of the revegetation program.

53. The Department considers that the expiry date of the approval captures the responsibility of the proponent within this time frame. In the event that, following the removal of habitat, the GHFF move to a location that requires a dispersal or emergency dispersal within the Bairnsdale region the Council has a responsibility to contact the Department prior to future dispersals. This gives the Department the opportunity to review the proposed dispersals arising from the removal of habitat and assess the potential impacts. Proposed conditions to control the undertaking of dispersals and emergency dispersals are discussed below.

Ongoing dispersal of GHFF

54. The proponent has proposed possible on-going and follow up dispersal of the GHFF if it is required. There is a risk that the GHFF will move to an undesirable location following the removal of their habitat. Examples of undesirable locations may include habitat near to a hospital, school or race course where the concerns for public safety will be heightened (emergency dispersals). In addition, the GHFF may move to a location that is not suitable for long term occupation. The proponent has prepared a Response Plan, which addresses how locations will be assessed for suitability and how the ongoing dispersal will be managed.

55. The Response Plan proposes management techniques used in previously approved GHFF projects, including the Relocation of the Grey-headed Flying-Fox colony from the Royal Botanic Gardens, Sydney (EPBC 2008/4646) and the Management of the Grey-headed Flying-fox Campsite Boundary and Buffer, Yarra Bend, Melbourne, Victoria (EPBC 2011/5958). While these projects involved the relocation and nudging of the GHFF, as opposed to habitat removal and ongoing dispersal, the Department acknowledges that these approved plans are an appropriate reference for management protocols.

56. While the Department acknowledges that the draft Response Plan partly addresses potential impacts to GHFF from ongoing dispersal following the removal of habitat it does not mitigate against the risk of dropped young and the desertion of young from October to February when mothers may be carrying young and a dispersal event may trigger abandonment. It also does not account for how the GHFF may react to stress that may result in injury or death from attempted dispersals and has not provided sufficient detail in relation to what methods of disturbance are to be used for follow up dispersals. Nor does it address the fact that an inappropriate site includes any physical contact with humans being imminent, which is difficult to define and may include the whole township of Bairnsdale being deemed unsuitable habitat for GHFF.

57. Therefore, the Department considers that the information in the draft Response Plan does not take account of key potential impacts to GHFF from ongoing dispersals nor does it contain sufficient information for the Department to appropriately assess the likely impacts to the GHFF due to the lack of information regarding site specific details. As a result the Department has proposed the following conditions to ensure that the proponent adapts the Response Plan, or adopts a new plan, according to the individual circumstances of the new dispersal site and addresses residual concerns before it is approved for use by the Minister. The Response Plan will be removed from the Management Plan, prior to finalisation.

Emergency dispersal

58. The Department has proposed a condition (condition 5) that enables the proponent to undertake an emergency dispersal should GHFF locate to an area compromising human health (i.e. hospital, school) and public safety (race course, horse stud), or anything else, as agreed with the Department. If an emergency response is required, the Department has recommended a condition (condition 5) that requires the proponent to address key concerns relating to GHFF welfare, unless negotiated and approved by the Minister. The Department considers that these measures are necessary to reduce potential impacts to the GHFF during the critical breeding season and to reduce the likelihood of significant stress, aborted foetuses, dropped young and the desertion of young. It is understood that an emergency response may need to be undertaken quickly in order for the GHFF not to settle and thus negotiation and approval by the Minister has been included to ensure that human health is considered alongside the management of an emergency dispersal.

Other dispersals

59. The Department understands that there may be situations where the proponent wishes to disperse a colony that would not be covered by the emergency dispersal protocols outlined above. This may occur as a result of landholder complaints, or for other public interest reasons. The Department recommends a condition (condition 4) that requires the proponent to prepare and submit a dispersal plan prior to the commencement of dispersal activities. This will ensure that the proponent provides a tailored plan for any further dispersal of GHFF that addresses the key concerns of the Department and is commensurate with the risks of that individual dispersal. This will ensure that dispersal can only be undertaken in the "safe window" and will avoid the critical breeding season. This will also reduce impacts to GHFF by minimising aborted foetuses, dropped young and the desertion of young. The Department considers that this approach will avoid, mitigate and minimise potential impacts to the GHFF, including the disruption of the breeding cycle of GHFF, to an acceptable level.

Modification of vegetation

60. The proponent had proposed in the Response Plan that, following dispersal from an inappropriate, site modification of vegetation be undertaken to prevent the GHFF re-occupying that unsuitable site in following years. This may include pruning horizontal branches, which are large enough for roosting, or removing shrubs or ground storey to reduce the humidity of the site and increase access for sunlight, thus changing the microclimate of the potential habitat.

61. The Department considers that any vegetation utilised by the GHFF may constitute critical habitat for the species. Unless further information is provided it is difficult to determine whether or not the habitat represents critical habitat. Even if unoccupied, uncertainty regarding the potential impacts of habitat removal on the GHFF exists. The information provided in the Response Plan does not take account of potential impacts to GHFF from the removal of critical habitat when returning to the roost, which may include the potential impacts discussed above in relation to the removal of the poplars, including impacting the breeding cycle and significant stress. The Department considers that by conditioning that passive measures may only be undertaken following an emergency dispersal it is unlikely that GHFF would have settled long enough for the habitat to be determined critical habitat. In addition, the Department has proposed a condition (condition 5(h)) that passive measures can only be undertaken when GHFF have not returned to the site of emergency dispersal for more than five consecutive days and are not present during the passive measures.

Behavioural changes

62. The Management Plan states that heat stress that may occur as a result of the removal of habitat will be managed in accordance with existing DEPI protocols. Should the GHFF relocate to an area deemed inappropriate for the GHFF that might not have sufficient foliage or be more exposed to heat these protocols will apply. DEPI's key action during heat events is aimed at minimising disturbance to GHFF but also includes being on alert when the temperature reaches over 35 degrees Celsius and when there are consecutive days of hot weather, the use of signage to deter people from disturbing the site and monitoring for deaths following days of heat.

63. The Department considers that this is appropriate for avoidance of additional stress on the GHFF during hot days or heat stress events. Other behavioural responses, such as abortion, abandonment of young, injury and malnutrition, caused by increased stress as a result of dispersal are addressed by the timing of the action and stop work triggers, discussed above, and adaptive management, as discussed below. The Department considers that these are adequate measures to address potential behavioural changes during and following the removal of habitat.

Monitoring, reporting and management

64. The proponent has proposed a monitoring and adaptive management program that involves monitoring the movement, population, stress levels and reproductive cycle of the GHFF to determine the impact of the removal of habitat in order for adaptive management. Various measures have been proposed in the Management Plan that will be undertaken during and after the removal of the GHFF habitat.

65. Methods to be used include assessing the welfare of GHFF in the region to determine impacts from the removal of habitat, monitoring the suitability of roosting habitat and monitoring stress levels as a result of the removal of habitat by observing GHFF behaviour, including the abortion of foetuses, abandoned young, and injured or dead GHFF, collating information on new locations of GHFF, levels of conflict with humans and any recorded reporting or monitoring undertaken to measure key performance indicators.

66. The Management Plan states that reporting will be undertaken by both the proponent and DEPI at the Mitchell River site during occupation. Regular counts will be undertaken on a fortnightly basis during occupation with behavioural changes recorded at each alternative visit immediately after each stage of vegetation removal. Regular population counts will be recorded by DEPI and maintained for future reference. An annual report will be submitted to the Department until the Wildlife Management Officers from DEPI decide that the colony has settled and established fidelity to the new long term site.

67. This monitoring and reporting will determine any detrimental impacts to GHFF and assist in influencing future activities. The success of mitigating any negative impacts on the GHFF from the removal of their habitat at the Mitchell River roost site will be determined by the use of key performance indicators. Key performance indicators will include the continuation of the GHFF reproductive cycle, maintaining the GHFF as one population, maintaining or reducing the foraging distance of the GHFF, limiting the GHFF behavioural changes and implementation of any follow up dispersals that result in the GHFF establishing fidelity to another site that can cater to their ecological requirements with limited impacts to their wellbeing.

68. The Department considers that this monitoring and reporting is adequate to capture most activities and outcomes of the proposed action on GHFF; however, has proposed a condition (condition 6) to ensure that other key matters of interest to the Department are included in the annual report. Other key matters of interest to the Department include annual reporting of activities undertaken, the outcomes of these activities, the data collected from the activities, the status of GHFF colonies in the Bairnsdale region, adaptive management and future activities planned.

Adaptive Management

69. The Management Plan states that indications of behavioural, physiological or reproductive cycle changes will prompt an adaptive management approach to the removal of habitat in consultation with DEPI, the Department and the local community. Adaptive management strategies will be developed to reduce potential impacts to GHFF in accordance with the risk to the GHFF and monitoring results. The Department considers that, given the unpredictability of GHFF and the high risk of unexpected responses, an adaptive management response is acceptable for the management of potential impacts to GHFF. The Department has proposed a condition (condition 6) that the management plan be updated accordingly for currency and to incorporate lessons learned from the staged removal of habitat. The condition states that this information must be submitted to the Minister in an annual report.

Compensatory measures

70. The Department considers that there is a risk of residual impacts to the GHFF as a result of the proposed action and therefore recommends a condition (condition 3) that requires the proponent to:

    - nominate a contact for public enquires;
    - notify neighbouring Councils about the habitat removal of habitat;
    - undertake revegetation of GHFF habitat in accordance with expert advice; and
    - provide community education with the provision of resources such as interpretative signage at GHFF habitat to the value of $5,000.

71. The Department considers that this is appropriate compensation given the level of management that the proponent has already committed to in the Management Plan. In addition, this compensation may assist DEPI in resourcing funds for the continued management of GHFF as a consequence of the removal of habitat.

Conclusion

72. With the proposed mitigation measures as well as the recommended conditions of approval, the Department considers that impacts to the GHFF are at an acceptable level. The Department considers that the impacts to the GHFF have been adequately compensated for and adequately minimised. On this basis, the Department considers that the mitigation and avoidance measures contained in the Plan, and implementation of the recommended proposed conditions will ensure that **the proposed action does not result in unacceptable impacts to listed threatened species and ecological communities, in particular the GHFF.**

Other listed threatened species and ecological communities

73. The Department considers that the removal of 0.5 hectares of poplar trees along the Mitchell River is unlikely to impact on any other listed threatened species or ecological community. This is because the site does not constitute potential habitat and is unlikely to support populations of any other listed threatened species.

Considerations for Approval and Conditions

Recommended Proposed Conditions

74. This section includes a summary of the recommended proposed conditions and reasons why the Department believes they are necessary for the protection of matters of national environmental significance. The complete list of recommended proposed conditions is provided in the table at the start of this document. The Department is confident that the recommended proposed conditions are reasonable and appropriate having regards to the nature and scale of potential impacts. The Department therefore considers that the proposed action will not result in unacceptable impacts to threatened species and ecological communities as long as it is undertaken in accordance with the recommended proposed conditions.

75. Proposed condition 1 and 2 limit the person taking the action to undertaking the proposed action in the 0.5 hectare area identified in the assessment documentation and in the manner described in the assessment documentation. These conditions reflect commitments made by the proponent and will ensure that the proposed action is undertaken in the manner described.

76. Proposed condition 3 is recommended to ensure that the person taking the action makes appropriate effort in providing communication to the public and neighbouring councils in regard to the proposed action and that adequate compensation is provided for the provision of long-term education and revegetation of GHFF habitat in the Bairnsdale area. Compensation is deemed appropriate to compensate for the risk of unavoidable impacts to the GHFF.

77. Condition 4 is recommended to ensure that, if ongoing dispersal is required, and the dispersal is not an emergency dispersal, that the person taking the action must provide a plan to the Minister for approval prior to undertaking that dispersal and the plan must address key concerns to the satisfaction of the Minister.

78. Condition 5 is recommended in the scenario that the GHFF move to an area that is considered a human health and safety risk and to ensure that, unless negotiated with the Minister, that the key concerns of the Department are addressed in undertaking that emergency dispersal.

79. Condition 6 is recommended to ensure that the person taking the action provides adequate reporting to the Minister that addresses key concerns that are not addressed in the Management Plan or in the standard conditions. This proposed condition includes a mechanism for incorporating currency and adaptive management into the future management of the GHFF.

80. Conditions 7 to 14 are standard conditions recommended for the majority of proposals assessed and approved under the EPBC Act. They include reporting and publishing protocols as well as specifying requirements for independent audits. These conditions also specify the steps necessary to review or vary plans or programs which are a requirement of this approval.

Mandatory considerations – section 136(1)(b) Economic and social matters

81. The proponent has addressed economic and social matters within the Management Plan (Attachment B2). The public submissions also raised a number of social and economic issues. These are discussed below.

Concerns of Public Safety

82. The current condition of the poplar trees has been considered to be a safety risk to recreational users of the walking path that passes near to the trees along the Mitchell River. Unsafe trees and branches were identified in an independent arboricultural report undertaken in 2010, and reviewed in 2011, to inspect and highlight trees of safety concern to the public (see Attachment B2, Appendix 4).

83. On 30 June 2011, the proponent sought approval from the Department to undertake urgent arboricultural works within the stand of poplar trees representing critical habitat for the GHFF. The works consisted of the removal of 11 trees, dead wooding of 22 trees and some removal of ivy. The Department noted the proponent's advice that the trees and dead wood presented a safety risk to users of the Mitchell River walking track and that the proposed works were urgently required to assure the safety of the community, which utilise the track.

84. While the Department considered that the works are a component of the broader tree removal program referred to the Department it was considered that, given the number of trees proposed to be removed, the current absence of GHFF from the site and the requirement to assure public safety, the action was unlikely to significantly impact the GHFF colony and did not represent a significant breach of national environmental law, as long as the action was undertaken in the manner described.

85. The proponent undertook these works to ensure the immediate safety of track users but notes that the condition of the poplars are an ongoing concern and will require subsequent management to provide a safe environment for the community.

Health risks and concerns

86. The proponent has cited the risk of disease from the GHFF as a common concern of the resident's of Bairnsdale. In particular, the diseases Australian Bat Lyssavirus, Hendra virus and Nipah virus have been mentioned as diseases potentially fatal to other animals, who may also act as vectors to humans, and humans. While the risk of exposure to these diseases is considered limited, public concern remains high especially when considered in relation to the increased opportunity for human/domestic animal contact and possible disease transmission. The Department notes that there may be the possibility, or perception of, increased exposure of the disease to humans as a result of the colony dispersing to sites near to human habitation. In particular, Hendra virus has become more prominent in the national press recently resulting in stronger community concerns. Negative public perception of the GHFF has intensified with the discovery of three zoonotic viruses that are potentially fatal to humans: Hendra virus, Australian Bat Lyssavirus (ABLV) and Menangle virus.

87. The Management Plan states that no animal is to be handled at any point during the dispersal by persons other than the authorised officers from DEPI. In addition, all personnel involved in dispersal actions will be required to wear Personal Protective Equipment (PPE) during dispersal actions. The Management Plan states that the Project Manager is responsible for the safety and wellbeing of all personnel and will be First Aid Level 2 qualified and have first aid requirements on site at all times.

88. The Management Plan states that the Australian Bat Lyssavirus is a rabies-like virus that has been identified in five species of bats. It states that infection of humans is extremely rare (only three fatal cases have been documented in Australia to date, with less than 1% of wild GHFF carrying the virus). Effective pre-exposure and post-exposure protection from ABL is available through a vaccine that can be administered by medical practitioners.

89. The Nipah virus is closely related to the Hendra virus and also occurs naturally in some species of bats; however, has not occurred in Australia to date. It was first identified in 1999 in Asia and has caused disease in animals (mostly pigs) and in humans through contact with infectious animals.

90. Outbreaks of Hendra virus in Queensland and New South Wales in 2011 raised concerns about the proximity of flying-foxes to urban and peri-urban areas. Flying-foxes are natural 'hosts' of Hendra virus, meaning that they carry the virus but it has little effect on them. There is no evidence to suggest they can directly transfer the virus to humans. It is believed that the virus may be transmitted from flying-foxes to horses via exposure to urine or birthing fluids although this has not been confirmed. On rare occasions, humans have contracted the virus through close contact with infected horses. The disease risk to the general bat population and to humans remains an active area of research.

91. The Department acknowledges that Hendra virus and Menangle virus is common in GHFF; however, there is no evidence that the infections can be transmitted directly to humans. The disease can only be transferred to humans through a vector such as a horse or pig. The Department considers that while there is a risk that the proposed removal of habitat and ongoing dispersal may lead to increased human/flying-fox interface an increase in the contraction of these two diseases to humans is low. The Department considers that the inclusion of health provisions within the Management Plan and increased community awareness of these diseases will further reduce these risks.

Social impacts

92. The Management Plan prepared by the proponent states that the GHFF campsite currently impacts on local residents, especially those living to the north-west of the roost site, along Riverine Street, Bairnsdale. The proponent states that many local residents find the campsite difficult to tolerate close to their properties and have cited health problems associated with the presence of the camp. It is stated that the main concerns relate to the odour and noise levels of the GHFF and the general detraction from the amenity of the area.

93. Increased noise levels occur during dawn and dusk when the GHFF return to camp to roost, and mothers locate their young in the camp or exit the camp to forage. The GHFF communicate through vocalisation, which includes defending their selected territories. This pattern often clashes with the rest patterns of humans with noise levels increasing in the early dawn hours.

94. The odour associated with a GHFF camp is not largely caused by faeces or urine but the scent secreted by the GHFF during the breeding season as males mark their territories and, to a lesser extent, by females scenting to locate young in the camp, from October through to March. It is stated that residents find the odour of the GHFF offensive and that the smell is so overwhelming that their ability to use outside areas is restricted and impacts on their personal lives.

95. The Management Plan also states that partial defoliation of trees by the GHFF results in a negative visual impact to the site. Defoliation is a natural process at GHFF camps and should be considered alongside the important role that the GHFF plays in pollinating and seed dispersal of native flora that assists in the evolution and regeneration of forests that provide for many life forms and natural processes.

96. There are also concerns to humans if the GHFF relocate to people's backyards, public areas and/or commercial fruit crops, and the problem is shifted from the current camp site to other areas. If the GHFF relocate to a site such as a member of the public's backyard, the proponent has proposed a number of measures to manage this particular social impact, including a public awareness campaign and ongoing dispersal activities. It should be noted that there may be unpredictable social impacts related to the movement of GHFF that have not been accounted for. This is planned to be addressed through an adaptive management approach to the GHFF management.

Community consultation

97. The Management Plan states that consultation has been undertaken by both the proponent and DEPI to engage local residents regarding the issues of managing the GHFF campsite and the necessity to provide a carefully planned approach to continue the poplar removal program and revegetation efforts. The proponent states that they will develop an engagement plan for the implementation of the Management Plan with reference to the EGSC Community Engagement Policy (see Attachment B2, Appendix 8). This will require the provision of information, such as fact sheets, website information, displays and ongoing consultation with the community.

98. The proponent considers that the promotion of a positive image for the GHFF within the local region is of high importance when managing the GHFF longer term. The proponent will actively promote DEPI's theme of 'Living with Wildlife' in relation to the management of the GHFF within the East Gippsland Shire. This will include on site signage should the GHFF permanently relocate to an acceptable area under the proponent's management.

Revegetation

99. Revegetation of the Mitchell River corridor has been an ongoing project with collaboration of the East Gippsland Catchment Management Authority, Bairnsdale Urban Landcare Group, Advance TAFE and other educational institutions. The program has been nominated for State Landcare Awards in 2009.

100. Revegetation of the entire corridor has resulted in the Mitchell River roost site being one of the final sites to be revegetated as part of this ongoing project. The proponent has stated that continuation of the revegetation program protects investment of funding and significant volunteer inputs into provision of biodiversity values along the corridor. As the roost site vegetation is almost completely populated with invasive species the reinfestation of revegetated areas through both seed and vegetative spread remains a possibility. Revegetation efforts continue along the Mitchell River riparian corridor in line with the Mitchell River Environs Local Structure and Development Plan 1998.

Economic matters

101. The Management Plan states that the value of properties has reduced due to the close proximity of the GHFF roost and the loss of amenity.

102. If the GHFF relocate to a commercial fruit crop, the impact this could have to the financial return of the fruit crop could be detrimental, especially if the entire crop is destroyed. The economic impact of the GHFF on fruit growers in other areas of Australia varies between seasons from minimal or no impact to significant loss. The proponent has not fully addressed this concern; however, as the GHFF have caused damage to commercial fruit crops since the time of European settlement it would be questionable whether the removal of habitat or ongoing dispersal would actually lead to an increase to the risk of impacts to commercial fruit crops, when the impact is already present due to GHFF natural behaviour to search for food resources during their daily migratory pattern. It should also be noted that increased numbers of GHFF in localities including commercial crop regions in Victoria may be a result of adverse weather conditions in Queensland.

103. In some areas of Australia GHFF roost sites and dusk exit flights are increasingly being recognised as attractions for eco-tourism, e.g. camps in Port Macquarie, Brisbane and Yarra Bend in Melbourne. The Management Plan states that with careful management the Bairnsdale GHFF colony may provide an opportunity to develop into an eco-attraction that would benefit not only the relationships between humans and the GHFF but local tourism.

Factors to be taken into account – section 136(2)(a) Principles of ecologically sustainable development

104. The principles of ESD, as defined in Part 1, section 3A of the EPBC Act, are:

(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;

(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

(c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;

(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;

(e) improved valuation, pricing and incentive mechanisms should be promoted.

105. In formulating this recommendation, the Department has taken into account the principles of ecologically sustainable development. In particular:

(a) This report and the assessment documentation provided contain information on the long-term and short-term economic, environmental, social and equitable considerations that are relevant to the decision and are presented for your consideration.

(b) Any lack of certainty related to the potential impacts of the projects is addressed by conditions that restrict environmental impacts, impose strict monitoring and adopt environmental standards which, if not achieved, require the application of response mechanisms in a timely manner to avoid adverse impacts.

(c) The proposed conditions will ensure protection of EPBC listed species and communities. Those conditions allow for the project to be delivered and operated in a sustainable way to protect the environment for future generations and preserve EPBC listed species and communities in perpetuity.

(d) The Department has considered the importance of conserving biological diversity and ecological integrity for this project and the advice provided within this document reflects that consideration.

(e) The Department's advice includes reference to and consideration of a range of information on the social and economic costs, benefits and impacts of the project.

Factors to be taken into account – section 136(2)(bc) – preliminary documentation

106. In accordance with section 136(2)(bc)(i), the finalised preliminary documentation relating to the action, given to the Minister under section 95B(3) is at Attachment B1 and B2 of the proposed decision briefing package.

107. In accordance with section 136(2)(bc)(ii), this document forms the recommendation report relating to the action given to the Minister in accordance with section 95C.

Person's environmental history – section 136(4)

108. The information provided in the referral documentation advises that no legal proceedings have been taken against the proponent under a Commonwealth State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources. The Department is likewise unaware of any such proceedings.

109. Subject to consultation with the proponent on the proposed approval conditions the Department has no reason to consider that they would be unwilling or unable to undertake this proposal in accordance with the recommended decision and conditions.

110. The Department is not aware of any proceedings against the East Gippsland Shire Council or its executive officers under Commonwealth, State or Territory law for the protection of the environment. The Department is not aware of any reason that the East Gippsland Shire Council would not be able to comply with the recommended proposed conditions.

Requirements for decision about listed threatened species and communities - section 139 (1)

111. Section 139(1) of the EPBC Act states that in deciding whether or not to approve for the purposes of subsection of section 18 or section 18A the taking of an action, and what conditions to attach to such an approval, you must not act inconsistently with:

a) Australian obligations under:

i. the Biodiversity Convention; or

ii. the Apia Convention; or

iii. CITES: or

b) a recovery plan or threat abatement plan.

The Biodiversity Convention

112. The Biodiversity Convention is available at: http://www.austlii.edu.au/au/other/dfat/treaties/ATS/1993/32.html

113. The objectives of the Biodiversity Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

114. The proposed approval decision is not considered to be inconsistent with the Biodiversity Convention, which promotes environmental impact assessment (such as this process) to avoid and minimise adverse impacts on biological diversity. The ultimate aim is conservation of listed threatened species and communities in the wild.

115. This has been considered in, and is consistent with, the recommended approval which requires species specific mitigation, management and compensation measures for listed threatened species and communities.

Convention on the Conservation of Nature in the South Pacific (APIA Convention)

116. The APIA Convention is available at: http://www.austlii.edu.au/au/other/dfat/treaties/ATS/1990/41.html

117. The APIA Convention was suspended with effect from 13 September 2006. While this Convention has been suspended, Australia's obligations under the Convention have been taken into consideration. The proposed action is considered to be not inconsistent with the Convention which has the general aims of conservation of biodiversity.

118. The APIA Convention encourages the creation of protected areas which, together with existing protected areas, will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations, and regions and objects of aesthetic interest or historic, cultural or scientific value. The proposed approval requires the proponent to secure, protect and improve large areas of primary value habitat to compensate for residual impacts to listed threatened species and communities.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

119. CITES is available at: http://www.austlii.edu.au/au/other/dfat/treaties/ATS/1976/29.html

120. The proposed action has no implications for CITES as it does not involve international trade.

Conclusion

121. The Department considers that likely impacts on listed threatened species and communities and in relation to water resource dependent listed threatened species will be avoided and mitigated by the proponent to a reasonable degree under the proposed conditions, and that residual impacts will be appropriately compensated for. Approving the proposed action subject to the proposed conditions would therefore not be inconsistent with the Biodiversity Convention, CITES or the Apia Convention.

Recovery Plans and Threat Abatement Plans

122. The action is considered to have, or likely to have, a significant impact on the following listed threatened species and communities:

- Grey-headed Flying-fox (*Pteropus poliocephalus*).

123. The Recovery Plans relevant to the proposed action is as follows, and is provided at Attachment D:

- *DECCW 2009, Draft National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus. Prepared by Dr Peggy Eby and by the Department of Environment, Climate Change and Water, NSW for the Australian Government Department of the Environment, Water, Heritage and the Arts*.

124. There are no Threat Abatement Plans relevant to this action.

Conclusion

125. The Department has considered all relevant Recovery Plans and Threat Abatement Plans and is of the view that approval of this action would not be inconsistent with the above obligations.

Requirements for decision about listed threatened species and communities - section 139 (1)

126. Section 139(2) of the EPBC Act requires that if you are considering whether to approve, for the purposes of a subsection of section 18 or section 18 A, the taking of an action; and the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community; you must, in deciding whether to so approve the taking of the action, have regard to any approved conservation advice for the species or community.

Conservation Advice

127. No approved conservation advice is available for the GHFF, as the only species likely to be significantly impacted by the action. As such, in approving this action you would not be acting inconsistently with any conservation advice.

128. Listing advice does exist for the GHFF and includes justification against the following criteria; a decline in numbers, geographic distribution, population size and the decline in numbers or distribution and probability of extinction in the wild.

Conclusion

129. The Department considers that approving the proposed action in the manner recommended will not be inconsistent with any conservation advice or listing advice.

Bioregional plans

130. In accordance with section 176(5) the Minister is required to have regard to a relevant bioregional plan in making any decision under the EPBC Act to which the plan is relevant.

131. Marine bioregional plans have been developed for the Commonwealth marine area to support the decision-making process for marine-based industries under the EPBC Act. As part of this process, new Commonwealth marine reserves have been identified by the department for the conservation of marine ecosystems and biodiversity of Australia's oceans. These reserves are intended to meet Australia's commitments to establish a National Representative System of Marine Protected Areas.

132. Five marine regions have been identified as part of the bioregional planning process, including Southwest, North-west, North, East (Temperate East and Coral Sea) and South-east Marine Regions.

Conclusion

133. The Department does not consider there to be any relevant bioregional plan for the purposes of the Minister's decision-making.

Minister not to consider other matters

134. In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, you must not consider any matters that you are not required or permitted, by Subdivision B, Division 1, Part 9 of the EPBC Act, to consider.

Any other information the Minister has on the relevant impacts of the action; and

135. All information on the relevant impacts of the action is available in this Recommendation Report (including in the Attachments).

Other

Time frame for approval

136. It is recommended that the approval be valid until 1 July 2022. This allows for the undertaking of the proposed action (approximately three years) and a buffer of five years of monitoring and adaptive management. After this time it is considered reasonable that further dispersals may need to be considered independently of this approval.

Consultation

137. The department has consulted with the Department's Compliance and Enforcement Branch, the Species Information and Policy Section and New South Wales and Queensland 1 Sections in the preparation of the Recommendation Report.

Considerations in deciding on condition – section 134

138. In accordance with section 134(1), the Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

(a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or

(b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).

139. As detailed in the assessment section above, all recommended conditions attached to the proposed approval are necessary or convenient to protect, repair and/or mitigate impacts on a matter protected by a provision of Part 3 for which this proposed approval has effect.

140. In accordance with section 134(4), in deciding whether to attach a condition to an approval the Minister must consider:

a. any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action;

As detailed in the State Assessment and Approval section above, the Department has considered all state requirements. The Department considers that the recommended proposed conditions are not inconsistent with state requirements.

aa. information provided by the person proposing to take the action or by the designated proponent of the action;

The information provided by the person proposing to take the action has been considered. Documentation provided by the person taking the action is at Attachment B1 and B2 of the proposed decision briefing package.

b. the desirability of ensuring as far as practicable that the condition is a cost effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

The Department considers that the conditions proposed (as discussed above) are a cost effective means of achieving acceptable impacts on protect matters.

141. In preparing this report and recommending whether to attach a condition to an approval, the Department has considered:

a. No other conditions have been imposed or are likely to be imposed under a law of a state or self-governing Territory or another law of Commonwealth;

The information provided by the person proposing to take the action has been considered. Documentation provided by the person taking the action is at Attachment B1 and B2.

b. the desirability of ensuring as far as practicable that the condition is a cost effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

The department considers that the conditions proposed (as discussed above) are a cost effective means of achieving acceptable impacts on protect matters.

Conclusion

142. The proposed action is likely to impact on an EPBC Act listed threatened species. The Department considers that the likely impacts of the proposed action on protected matters will be acceptable, provided that the action is undertaken in accordance with the recommended conditions and consistent with the mitigation and avoidance measures proposed by the proponent. Having considered all matters required to be considered under the EPBC Act, the Department recommends that the proposed action be approved, subject to the recommended conditions.

Material used to prepare Recommendation Report

143. Relevant documents considered by the Department in the formulation of this recommendation report include:

(a) Referral documentation and attachments (Attachment B1);

(b) Mitchell River Revegetation Program, Bairnsdale Grey-headed Flying Fox Roost Site, DRAFT Strategic Management and Action Plan, East Gippsland Shire Council, November, 2013 (Attachment B2); and

(c) Commonwealth/state policies and guidelines including:

- Department of the Environment and Heritage, 2003, *EPBC Administrative Guidelines on Significance: Supplement for the Grey-headed Flying-fox, What you need to know about the Grey-headed Flying-fox for the 2003–2004 fruit season*.

- Department of the Environment, Water, Heritage and the Arts, 2009, *Significant Impact Guidelines 1.1 Matters of National Environmental Significance*, Department of Environment, Water, Heritage and the Arts, Canberra.

- Department of the Environment, Water, Heritage and the Arts, 2010, *Survey guidelines for Australia's threatened bats: Guidelines for detecting bats listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*.

- Department of the Environment website, including information on diseases in Australian flying-foxes, http://www.environment.gov.au/node/16394.

- Department of Sustainability, Environment, Water, Population and Communities, 2012, *Flying-foxes and national environmental law Information Sheet*.

- The Department's Species Profile and Threats Database (SPRAT).

- NSW Department of Environment, Climate Change and Water, 2009, *Draft National Recovery Plan for the Grey-headed Flying-fox (Pteropus poliocephalus)*. Prepared by Dr Peggy Eby and by the Department of Environment, Climate Change and Water, NSW for the Australian Government Department of the Environment, Water, Heritage and the Arts.

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister. To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be taken. These decisions are made within 20 business days, provided that sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's web site:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.
- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act). If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referral Business Entry Point (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act. Information is available on the Department's web site.

What information do I need to provide?

Schedule 2 of the EPBC Regulations sets out the information that must be included in a referral. Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in green text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below two megabytes (2mb) as they will be published on the Department's website for public comment (Note: the Minister may decide not to publish information that is commercial-in-confidence). To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referral Business Entry Point for advice. Attachments larger than two megabytes (2mb) may delay processing of your referral.

How do I submit a referral?

Referrals may be submitted by mail, fax or email.

Mail to:

Referral Business Entry Point
Environment Assessment Branch
Department of the Environment, Water, Heritage and the Arts
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are appreciated.

Fax to: 02 6274 1789

- Faxed documents must be of sufficiently clear quality to be scanned into electronic format.
- Address the fax to the mailing address, and clearly mark it as a 'Referral under the EPBC Act'.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment (**Note: the Minister may decide not to publish information that is commercial-in-confidence**).

The Department will write to you at the end of 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral, including:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action has, will have or is likely to have a significant impact it is called a *controlled action* and the particular matters upon which the action may have a significant impact (such as World Heritage or threatened species) are known as the *controlling provisions*.

The proposed action is subject to a public assessment process before it can be considered for approval. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

Compliance audits

The Department may audit your project at any time to ensure that it was completed in accordance with the information provided in the referral or the particular manner specified in the decision. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes.

For more information

- call the Department of the Environment, Water, Heritage and the Arts Community Information Unit on 1800 803 772 or
- visit the web site www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Project title: East Gippsland Shire Council Poplar Removal Program – Grey-headed Flying-Fox Zone

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(j).

1.1 **Short description**

East Gippsland Shire Council Poplar tree removal program on the Mitchell River. Removal of poplar trees used as a seasonal roost habitat by Grey–headed Flying Fox.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

	Latitude			Longitude		
location point	degrees	minutes	seconds	degrees	minutes	seconds
Poplar site	-37	49	12	147	37	22

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If area less than 5 hectares, provide the location as a single pair of latitude and longitude references. If area greater than 5 hectares, provide bounding location points.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Do not use AMG coordinates.

1.3 **Locality**

The site is adjacent to the northern side of the town of Bairnsdale on the Mitchell River approximately 1km downstream of the Lind Bridge (Bairnsdale – Wy Yung Road crossing of Mitchell River).

1.4 **Size of the development footprint or work area (hectares)**

The area of intended tree removal is approximately 0.5Ha

1.5 **Street address of the site**

59-100 Riverine Street

1.6 **Lot description**

EGSC committee of management Crown land.

1.7 **Local Government Area and Council contact (if known)**

East Gippsland Shire Council application

1.8 **Timeframe**

The tree felling component of the project will be completed in a two week time frame commencing late March 2010. Tree poisoning (none impact) usually occurs three months prior to tree falling.

1.9 **Alternatives**

Does the proposed action include alternative timeframes, locations or activities?

	No
X	Yes, you must also complete section 2.2

1.10 **State assessment**

X	No

	Is the action subject to a state or territory environmental impact assessment?		Yes, you must also complete Section 2.4
1.11	**Component of larger action** Is the proposed action a component of a larger action?	X	No
			Yes, you must also complete Section 2.6
1.12	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	X	No
			Yes, provide details:
1.13	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?		No
		X	Yes, provide details: The project has been funded from EGSC, EGCMA and Landcare. It is possible that funding may be procured from AG however there are no grant applications presently pending.

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.6.

2.1 Description of proposed action

East Gippsland Shire Council has been undertaking a Poplar removal program since 2003 along the Mitchell River, adjacent to the township of Bairnsdale between the Lind Bridge and the Princess Highway Bridge. The Poplars are targeted for removal by this ongoing program as they are an environmental weed, in a state of senescence and will pose a public safety threat in the near future due to dead branches and severe lean angles. The Poplar removal programs next scheduled stage of action will remove trees used by GHFF as 'summer camp' habitat. It is intended the trees will be removed and burnt nearby during April 2009. The operation process of removal will require that trees maybe completely removed on level ground or felled with stumps remaining in the ground on slopes. The trees will NOT be removed if bats are present at the time of scheduled operations. Revegetation activities will commence following removal. The program represents a concerted community effort by East Gippsland Shire Council, East Gippsland Catchment Management Authority and the Bairnsdale Urban Landcare Group. The program has been nominated for State Landcare Awards in 2009.

2.2 Alternative locations, time frames or activities that form part of the referred action

The extent of the poplar distribution along the Mitchell River in the program activity zone will allow for continued removal of poplar species. Staged removal of the area of poplars used by the GHFF is an option while allowing the poplar program to continue. It is considered that the staged removal could occur over a three year period allowing the GHFF opportunities to relocate and present enhanced opportunities to manage the relocation to other suitable habitat.

2.3 Context, planning framework and state/local government requirements

The poplars are recognised as environmental weeds and do not require approval under the native vegetation framework for removal. The program has been successfully ongoing for a number of years and is in accordance with East Gippsland Environmental Sustainability Strategy 2008-2013.

2.4 Environmental impact assessments under Commonwealth, state or territory legislation

Proposal is not considered to be subject to environmental impact assessment.

2.5 Consultation with Indigenous stakeholders

Indigenous stakeholders are not considered to be effected by this proposal.

2.6 A staged development or component of a larger project

The project is an ongoing program, the proposed activities represent one particular years work but it is not considered that this project represents a component of a larger project.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of significance;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

Note that even if your action will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

3.1 (a) World Heritage Properties

Description

None in area within 1km of site (protected matters search tool).

Nature and extent of likely impact

Address any impacts on the World Heritage values of any World Heritage property

---

3.1 (b) National Heritage Places

Description

None in area within 1km of site (protected matters search tool).

Nature and extent of likely impact

Address any impacts on the National Heritage values of any National Heritage place

---

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

Gippsland Lakes is listed as Ramsar wetland. The Poplar program intends to enhance native vegetation in the Mitchell River environment, a major tributary of the Gippsland Lakes.

Nature and extent of likely impact

The proposed project is considered to have a positive impact on the health of the Gippsland Lakes. Erosion control measures to minimise run off from ground disturbance will be undertaken and work will not be undertaken in periods of high erosion incidence. Address any impacts on the ecological character of any Ramsar wetlands

---

3.1 (d) Listed threatened species and ecological communities

Description
Removal of poplar trees presently used as habitat by Grey- headed Flying-fox.

Nature and extent of likely impact

Loss of habitat for GHFF at present summer camp site. It is anticipated that the GHFF will relocate to find other suitable habitat. The camp is presently used by 3-5000 bats (on average) over summer and is closely monitored by the Department of Sustainability and Environment. While other suitable habitat is without question available locally it is the potential human interaction of any new habitat adopted by the bats that is of concern. Where possible the bats will be encouraged to adopt habitat of low human contention.

Address any impacts on the members of any listened threatened species or any threatened ecological community, or their habitat

---

3.1 (e) Listed migratory species

Description

Nature and extent of likely impact

Address any impacts on the members of any listed migratory species, or their habitat

---

3.1 (f) Commonwealth marine area

Description
12 species listed within 1km (protected matters search tool)

Nature and extent of likely impact

This is a terrestrial site in the riparian zone, ground disturbance will be minimised and work will only be undertaken in dry conditions to avoid any potential run off.

3.1 (g) Commonwealth land

Description

If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

Nature and extent of likely impact

Address any impacts on any Commonwealth land

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, or actions taken on Commonwealth land

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:

- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area; or
- will be taken on Commonwealth land.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	**Is the proposed action a nuclear action?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))

3.3 Other important features of the environment

Provide a description of the following features of the project area and the affected area.

3.3 (a) Soil and vegetation characteristics

Deep alluvial soils on river flats with limestone escarpment and exposed limestone on steeper slopes. The pre settlement ecological vegetation community is warm temperate rainforest however the site is heavily invaded with weed species, predominantly poplar and ivy and the site is not now considered to represent the warm temperate rainforest ecological vegetation community.

3.3 (b) Water flows, including rivers, creeks and impoundments

Site is adjacent to the Mitchell River.

3.3 (c) Outstanding natural features, including caves

Underlying limestone escarpement.

3.3 (d) Gradient (or depth range if action to be taken in a marine area)

3.3 (e) Buildings or other infrastructure

Site is adjacent to the urban area, separated by a road.

3.3 (f) Marine areas

3.3 (g) Kinds of fauna & flora

3.3 (h) Current state of the environment in the area

The Mitchell River environs are heavily infested with weed species and the program has provided an opportunity for rehabilitation to be undertaken. Extensive areas of the Mitchell River environs are now revegetated with native species.

Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

3.3 (i) Other important or unique values of the environment

The area is part of a linear walking path in the urban area that provides many residents with a recreational opportunity.

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

3.3 (j) Tenure of the action area (eg freehold, leasehold)

3.3 (k) Existing land / marine uses of area

3.3 (l) Any proposed land / marine uses of area

4 Measures to avoid or reduce impacts

The poplar trees will NOT be removed if GHFF are present at the time of intended operations. If the GHFF are present operation works will be postponed until the GHFF have departed the site.

The staged removal of trees may help to encourage the bats to find suitable habitat at another location and reduce any sudden change in conditions at the site.

It is anticipated that a three year staged removal program would represent a practical option for the limited size of the site if this option was required to be exercised.

The Minister for the Environment, Heritage and the Arts may decide that a proposed action is not a controlled action if the action will be undertaken in a particular manner that will ensure that any potential significant impacts are avoided or reduced by mitigation measures to the extent that they will not be significant (Subsection 77A(1) of the EPBC Act).

To be considered, any such measures must:

- clearly form part of the referral (eg be identified in the referral form and fall within the responsibility of the person proposing to take the action),
- be concrete and prescriptive, and
- be clearly effective in avoiding or mitigating significant impacts.

Examples of relevant measures to avoid or reduce impacts may include the timing of works to avoid critical periods for listed species, avoidance of habitat important for listed species from direct and indirect impacts, application of specific design measures to avoid or reduce impacts, or adoption of specific work practices to reduce or avoid impacts.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making a decision on significance (but are relevant at the assessment and approval stages if your project proceeds to these stages).

Refer to the Guideline on Particular Manner Decisions under the EPBC Act available at the Department's web site.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is
- how the measure is expected to be effective
- the timeframe or workplan for the measure.

5 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. significant impacts on the matters protected under the Act are likely) and the reasons why. If you think that the action is a controlled action, you must also identify the relevant protected matters in section 5.3. (An action is a controlled action if it has, will have, or is likely to have a significant impact on a matter protected by a provision of Part 3 of the EPBC Act).

5.1 Do you THINK your proposed action is a controlled action?

	No, complete section 5.2
X	Yes, complete section 5.3

5.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is not a controlled action (ie. NOT LIKELY to have significant impacts).

5.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) of the EPBC Act that you think are likely to be impacted (controlling provisions).

	Matters likely to be impacted
	sections 12 and 15A (World Heritage)
	sections 15B and 15C (National Heritage places)
	sections 16 and 17B (Wetlands of international importance)
X	sections 18 and 18A (Listed threatened species and communities)
	sections 20 and 20A (Listed migratory species)
	sections 21 and 22A (Protection of the environment from nuclear actions)
	sections 23 and 24A (Commonwealth marine environment)
	sections 26 and 27A (Protection of the environment from actions involving Commonwealth land)
	section 28 (Protection of the environment from Commonwealth actions)
	Sections 27B and 27C (Commonwealth Heritage places outside the Australian Jurisdiction)

Specify the key reasons why you think the proposed action is a controlled action (ie. LIKELY to have significant impacts).

The proposed action will remove habitat presently used by GHFF. It is considered that the impact will be minimal as suitable habitat is likely to be found by the bats at other nearby locations.

6 Environmental history of the responsible party

NOTE: If a decision is made that a proposal needs approval under the Act, the Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach for actions that need approval under the Act.

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** The project will be undertaken by EGSC and coordinated by the Sustainability Units Environment Officer.	X	
6.2	**Has the party taking the action ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		X
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework**		X
6.4	**Has the person proposing to take the action previously referred an action under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)**		X

7 Information sources and attachments

(For the information provided above)

7.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

7.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

7.3 Attachments

Indicate the documents you have attached. All attachments must be less than two megabytes so they can be published on the Department's website. Attachments larger than two megabytes (2mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)		
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)		
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.3)		
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.4)		
	copies of any flora and fauna investigations and surveys (section 3)		
	technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 3 and 4)		
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

8 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action; or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: East Gippsland Shire Council Poplar Removal Program – Grey-Headed Flying-Fox Zone

8.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

The Minister may also request additional information from this person, for the purposes of deciding whether the action is a controlled action, the controlling provisions that apply, and for the making of an approval decision (if applicable).

If approval for the action is required and is granted, it will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions of approval.

If the Minister decides that the action is a controlled action, the Minister must also designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[2].

Name	Ian Bate
Title	Environment Officer
Organisation	East Gippsland Shire Council
ACN / ABN (if applicable)	
Postal address	PO Box 1618, Bairnsdale, VIC 3875
Telephone	0438 011198
Email	ianba@egipps.vic.gov.au
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be nominated as the proponent for this action.
Signature	I A Bate. Date 24/7/09

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Business Entry Point (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If a person other than the person proposing to take action is to be nominated as the proponent, please contact the Referrals Business Entry Point (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

8.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Ian Bate
Title	Environmental Officer
Organisation	East Gippsland shire Council
Postal address	PO Box 1618, Bairnsdale VIC 3875
Telephone	0438 011198
Email	ianba@egipps.vic.gov.au
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading.
Signature	 Date 24/7/09

If the referring party is a small business (fewer than 20 employees), estimate the time taken, in hours and minutes, to complete this form (include your time reading the instructions, working on the questions and obtaining the information and time spent by all employees in collecting and providing this information).

Hours	Minutes

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than two megabytes (2mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

FOI 180819
Document 4a

Present GHFF Camp Location

FOI 180819
Document 4b

FOI 180819
Document 4c

Mitchell River Revegetation Program

Bairnsdale Grey-headed Flying Fox Roost Site

DRAFT Strategic Management and Action Plan

East Gippsland Shire Council
November 2013

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF ACRONYMS

DE	Department of Environment (Commonwealth)
DEPI	Department of Environment and Primary Industries (State)
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 seasonal campsite on the Mitchell River. Numbers have varied from a few hundred to records of over 34,000 individuals in 2006. 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 becoming 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 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, dispersal 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 through the documented Response Plan.

2 INTRODUCTION

2.1 Purpose of this Plan

This plan has been prepared by East Gippsland Shire Council and in consultation with Department of Environment and Primary Industries (DEPI), Gippsland. This partnership in preparing the plan reflects the responsibilities relating to GHFF and the roost site with EGSC being the land manager and DEPI 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 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

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

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

3 BACKGROUND

3.1 Regional Information

East Gippsland Shire is located in the far eastern corner of Victoria, between 280 and 550 Kilometres from Melbourne. It 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 or localities generally centred on community and sporting facilities.

GHFF have been recorded in Victoria at Geelong and Melbourne intermittently in the 1880's (DECCW 2009). GHFF occupy other sites within East Gippsland and have also been recorded in nearby West Gippsland (see **Appendix 3**). Nelson (1964) refers to a site at Dowell's Creek in Mallacoota as being a seasonal GHFF camp, with intermittent sightings at Orbost and Bairnsdale.

3.2 Bairnsdale Township

Bairnsdale is the principal commercial and retail centre in East Gippsland. The town has a population of approximately 11,000 residents. The town 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 annual occupation recorded since 2002. 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 Environment and Primary Industry (DEPI); (Formerly Department of Sustainability and Environment)
- 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 faunal species that can be found along the Eastern Coast of Australia from Bundaberg in 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.

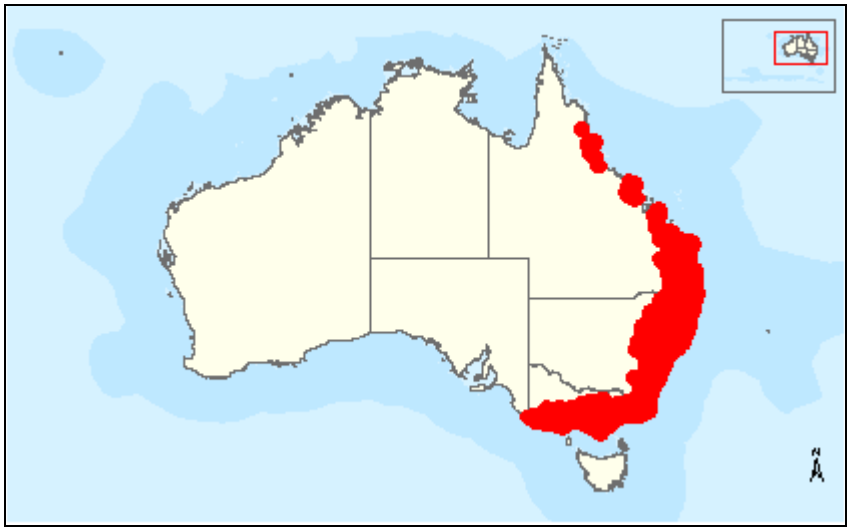

Figure 2 - Range of GHFF in Australia (DE 2013)

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. Peak births occur between October and November (Tidemann and Nelson 2004). This species generally lactates after birth 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. 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 primarily related to the food available in the local area.

Species within the Myrtaceae family that is preferentially sought by GHFF exhibit differing flowering periods across a spatial scale. The availability of each species can also exhibit seasonal variation annually.

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. Camps are used as day refuges by animals that forage in surrounding areas as part of migration stopovers.

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 ROOST SITE

The current roost site is considered to be an inappropriate location to support a GHFF colony of the population size seen in recent years. 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 (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 is a linking footpath down the embankment between the river walk and Riverine Street. 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 and incorporates the Port of Bairnsdale and Howitt Park. The walking track has very high usage all year round.

5.2 Roost Site Vegetation Condition

The roost site is situated amongst a predominantly over mature stand of 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. White Poplar is a short lived tree species with non durable heartwood. It is estimated that the crown ratio of the trees inspected (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 presence of GHFF. There are a number of trees that have already fallen within the stand which is 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 poplars has resulted in defoliation of the canopy across their distribution on site. Lack of a canopy encourages germination and spread of

weed species, and added is the enrichment of the soil through faecal drop. Repeated defoliation accelerates the decline of the stand as this decreases the resistance of trees to pathogens and also interrupts photosynthetic processes. Presence of fruit bearing weed species like Wild Tobacco (*Solanum mauritianum*) and Broad Leaved Privet (*Ligustrum lucidum*) at the roost site is potentially another cause of spread through consumption by GHFF.

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 environs 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. 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 BAIRNSDALE 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 area is the proposed non-native vegetation removal.

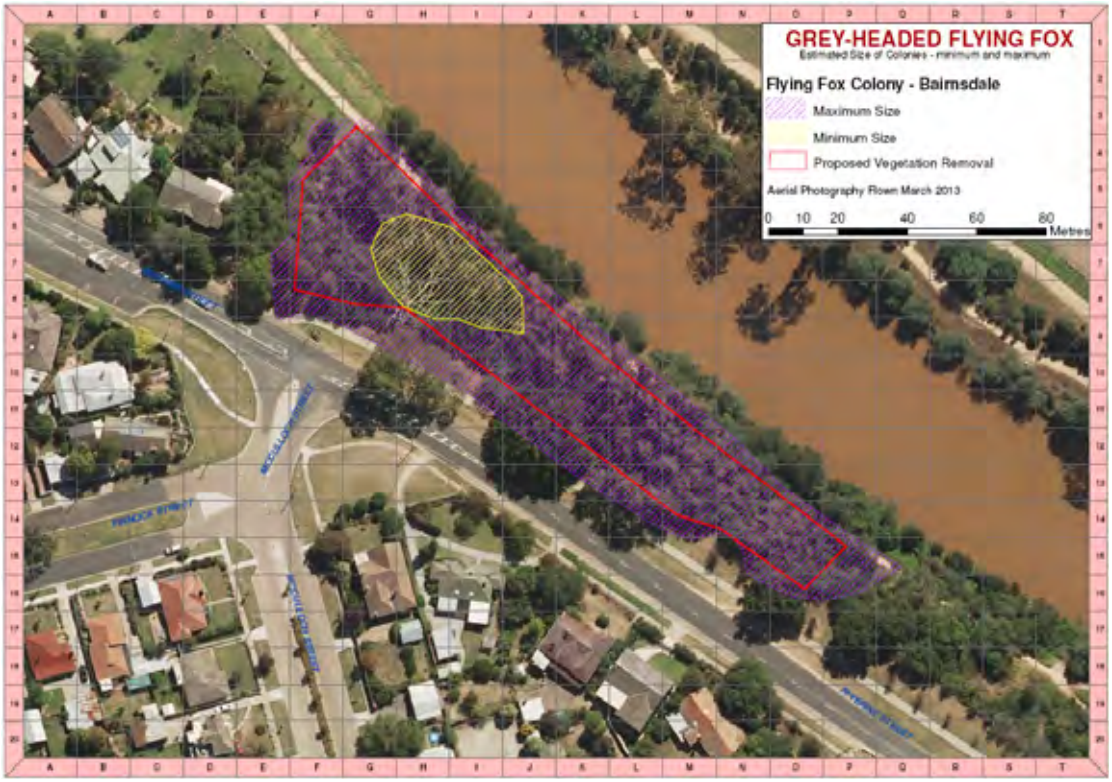

Figure 6 - Grey Headed Flying Fox Roost Site

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 Bairnsdale roost site has predominately been in December with initially low numbers. Some young have been observed being carried by females which is the normal 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) and GHFF has been observed at the site with seasonal variability during this period (**See Appendix 1**).

Based on occupation counts carried out by DEPI, the species is most likely to be present at the Bairnsdale site, between December and May. Bats 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 bats were not recorded

in any month. Counts suggest that the number of bats fluctuates between months and is highly variable, which is suggestive of a transient GHFF population.

6.1.2 Habitat Attributes

The location and nature of the Bairnsdale roost site provides a home base or central point as a 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).

It can be concluded that the main role of the roost site in Bairnsdale is that it primarily acts as a central stopover as part of a southbound feeding migration from winter camps in New South Wales and Queensland. 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 in1995) 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) to satisfy nutritional requirements (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 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.

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 a secondary food source, and occurs when natural food sources are low or exhausted. 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 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 washing nectar from flowering Eucalypts which they would normally preferentially feed on. 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. 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.

Approval was sought from DE and works were undertaken meeting the conditions as stated in line with Section 74AA of the *EPBC Act 1999*. EGSC considered that works were essential to mitigate the risks at that time. However, the condition of the poplars are an ongoing concern and will require subsequent management to provide a safe environment for the community.

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 are also at risk of becoming infected with GHFF associated 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 GHFF carry the virus. 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 provided they do not handle bats.

Hendra virus is naturally found in some species of GHFF, and can infect horses which may then 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 GHFF. 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 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 has 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 should be put in context when compared to the important role that GHFF plays as an important pollinator and seed-disperser of native flora which 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. Impacts on local orchards have varied between seasons. The impact on the equine industry has been an issue in other States.

In other areas 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 and 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 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 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 DEPI Wildlife Management staff and volunteers though static and fly out counts during the time they are present. This is an ongoing DEPI 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. DEPI 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 DEPI Gippsland for use but due to resourcing, local DEPI 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 DE under the *EPBC Act 1999*. Revegetation efforts continue 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 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 DE 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;
- Draft preliminary documentation (i.e. The Plan) was published for public comment in February 2013 by EGSC.

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.

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 addressed as part of the referral process. The responses to Public Comments are attached to the Plan as **Appendix 10.**

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 a cohesive approach to provide a consistent message.

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 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 the following actions towards longer term management;

9.1.1 Do Nothing Approach

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

Positives

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

Negatives

- Continued impact on the Mitchell River environment and the lack of a continuous native riparian corridor to restore the appropriate function of the 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 GHFF longer term given the senescing state of current roost site; and
- General amenity of the area.

9.1.2 One-off Replacement of Existing Non-native Vegetation

Complete removal of existing vegetation on site has been considered and is not considered to be appropriate due to the following:

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 Non-Native 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 which will provide habitat longer term 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, revegetation 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 which and will give an indication as to the reaction of GHFF.

Close consultation between EGSC and DEPI, and also the feasibility of this option 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 incorporated the staged revegetation approach.

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

Works can only commence after confirmation from DEPI that GHFF are absent from the area. 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 return during this period cannot be discounted (**Appendix 1**).

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 (**Appendix 1**).

Machinery works will be completed within 10 working days and timing of revegetation activities will be varied given plant availability and other factors but the Stop Work Triggers apply at all times. If at any stage during the works GHFF return to the site, all works must cease and cannot recommence until all GHFF depart.

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 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.

10.2.1 Fragmentation of Colony

Risk

Case studies of documented dispersal techniques detail the effects of the action towards fragmentation of the existing colony into 2 or more sub populations. Undertaking proposed action 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 allows implementation of the Response Plan in assessing the suitability of new sites.

Stages One and Two allow the GHFF colony to occupy the 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. GHFF arrival on site during management actions is a stop work trigger, and works will be suspended until the population disperses.

10.2.2 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. Overcrowding could also result in a fragmentation of the colony.

Mitigation

Surrounding vegetation has been utilised by GHFF historically. 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.

10.2.3 Disruption to the Breeding Cycle

Risk

Removal of roosting habitat is recognised as potentially having associated impacts through disruption of 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 fledlings. 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 DEPI Wildlife Management Unit, 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.

Whilst GHFF is on site, no works will be undertaken to avoid added disturbance from noise and increased human interactions. 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 May.

10.2.4 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. Emergent mature trees such as Gippsland Red Gum 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 through implementation of the Response Plan.

EGSC proposes that the staged approach of vegetation removal is considered to be appropriate to manage this risk. With the assistance of the DEPI Wildlife Management Unit, 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

10.2.5 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 through implementation of the Response Plan. This plan will assess the suitability of the site with regards to longer term provision of ecological requirements such as 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.

10.2.6 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
Adoption of stop work triggers is considered to be sufficient to limit stress levels of GHFF at the site on commencement of occupation by GHFF. Irrespective of the proposed revegetation action, DEPI 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.

10.2.7 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 removal on site is unknown. The staged approach prompts a reaction from the GHFF colony, which will assist in determining a new suitable location through implementation of the Response Plan. Entire desertion of the camp is not expected after Stage One removal, but given the unpredictable nature of this species, cannot be unanticipated. The Response Plan allows for reaction to a complete dispersal of the campsite, incorporating this risk.

10.2.8 Increased Community Intolerance

Risk
Potential for unauthorised action and associated welfare issues against GHFF to displace from roosting site. 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 DEPI 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
EGSC has developed a Response Plan for appropriate methodology for determining when and if GHFF should be disturbed from new sites. Implementation of the Response Plan by EGSC will ensure EGSC, with cooperation from DEPI, ,work cohesively to determine the suitability of new sites to ensure the longer term provision of requirements for GHFF and also the risk to community.

10.3 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 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 commence in line with the Response Plan should GHFF relocate to another roost site.

EGSC has evaluated relocation case studies including the Victorian 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 Alternative Site Assessment

If possible it would be preferred to concentrate roosting of the GHFF either further along in native vegetation or potentially across the river (and this will hopefully be achieved by the proposed staged removal) however this as indicated by the poor level of success of projects specifically aimed at relocation cannot be guaranteed.

If upon arrival during the normal spring period after Stage One removal is completed, GHFF population relocate to another site that will result in some form of conflict or problem with the community, implementation of a Response Plan will assist in

determining the longer term acceptability of the site. EGSC and DEPI 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;
- 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.

If dispersal of the GHFF is required from a potential conflict site this will be undertaken in a coordinated manner in alignment with the documented Response Plan.

10.5 Monitoring of Colony at the Mitchell River Camp Site

Monitoring of the colony is currently occurring every month by the DEPI during the period of residency by GHFF. This is done by fly in/fly out counts and undertaken by experienced DEPI Wildlife Management Officers. These individuals 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 undertaken in line with the Response Plan as to methodology and results;
- 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.

10.5.1 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 will be related to locating alternative territorial sites within the remaining poplars and surrounding vegetation.

When the GHFF are confirmed to be back on site after each stage of vegetation removal, DEPI Wildlife Management Officers and 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. The 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 DEPI Officer, an immediate response will be initiated by DEPI 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 and continued monitoring of the colony. DEPI 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, an assessment in line with the Stop Work Trigger will be undertaken on a twice daily basis by EGSC. Once prior to commencing works on site to ensure GHFF are not present, and also during the period of work (i.e. upon recommencement of works post break). DEPI's monitoring program will not alter until GHFF are present or arrival is imminent.

10.5.2 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 DEPI considers that the response of GHFF to Stage 1 is neglible to the long term wellbeing of GHFF then Stage 2 will proceed. If DEPI considers that the effect on GHFF will jmpact 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 DEPI Wildlife Management Officers to make an informed judgement as to the longer term wellbeing of GHFF in relation to the proposed revegetation on site. Increased observations by both EGSC and DEPI 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 (see Response Plan), and the wellbeing of GHFF longer term in the provision of appropriate resources. If DEPI identify an isolated negative effect (i.e. increased death and injury, abandoned fledglings) of initial vegetation removal, mitigation and adoption of an alternative strategy will be undertaken in consultation with DEPI and DE.

10.5.3 Reporting

Reporting will be undertaken by both DEPI 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 DEPI and maintained by the DEPI, 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 until Wildlife Management Officers from the DEPI 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.

10.5.4 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 DEPI, DE and the local community.

10.6 Key Performance Indicators

Key performance indicators 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.

10.6.1 GHFF Continue Reproductive Cycle

There is potential for GHFF to abort foetuses in times of stress. Given 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 DEPI 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.

10.6.2 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.

10.6.3 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 are subject to the process in the Response Plan (**Appendix 9**) regarding foraging distance of 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.

10.6.4 Limited Behavioural Changes

Implementation of the Stop Work Triggers will result in limited significant stress on the GHFF colony. Effects of machinery noise and movement and potential injury to GHFF will be limited by adoption of Stop Work Triggers as detailed in the Revegetation Plan (**Appendix 7**) and Response Plan (**Appendix 9**).

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.

10.6.5 Response Plan Implemented

Successful implementation of the Response Plan mitigates a number of impacts that result from GHFF moving to an alternative site. Success will be measured through GHFF establishing a fidelity to another site that can cater to their ecological requirements with limited impacts to their wellbeing

10.7 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.

A stop work trigger flowchart has been provided within the Revegetation Plan and Response Plan and all staff will be made familiar with these documents 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.

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.

10.8 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 has been developed as detailed in the Response Plan 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.

Should DEPI 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, DEPI, 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 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; • Implement Response Plan for Site Assessment.	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented
4. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented
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	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented

11.2 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 • Response Plan implemented
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 • Response Plan implemented

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; • Implement Response Plan for Site Assessment.	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented
4. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented
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	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented

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; • Implement Response Plan for Site Assessment.	DEPI and EGSC	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented
2. GHFF Return and Abandon Modified Mitchell River Roost Site and Occupy Appropriate Site	• Unexpected Response from GHFF; • Increased Distance from Foraging Resources • Overcrowding	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented

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	• Implement Response Plan for Site Assessment.	EGSC and DEPI	• GHFF continue reproductive cycle • GHFF maintained as one population • Foraging distance maintained or reduced • Limited behavioural changes • Response Plan implemented

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 if GHFF are present on site during these periods. No works will be undertaken between 1st of August until the 30th of September 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)	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 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. • Implement Stop-work Triggers in line with Standard Operating procedure for Revegetation Plan.	EGSC EGSC EGSC EGSC and DEPI
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 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. • Implement Response Plan	DEPI DEPI and EGSC DEPI 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	• Close footpath that dissects current roost site. • Channel all recreational users to northern or southern walks. • Creation of footpath in cleared area to divert human traffic away from revegetation areas.	EGSC 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 DEPI EGSC and DEPI.

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 DEPI EGSC
2	October – July (no works will be undertaken from 1 August – 30 September)	To continue revegetation actions along the Mitchell River riparian corridor.	Implement Stage Two 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 Two area will be removed and taken off site. • Implement Stop-work Triggers in line with Standard Operating procedure for Revegetation Plan. • Undertake invasive plant control in Stage One revegetation area.	EGSC 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. • Implement Response Plan	DEPI DEPI and EGSC DEPI EGSC

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 DEPI EGSC and DEPI.

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)	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. • Implement Stop-work Triggers in line with Standard Operating procedure for Revegetation Plan. • Undertake invasive plant control in Stage One and Two revegetation areas.	EGSC 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	DEPI DEPI and EGSC

				and document response; • Implement Response Plan;	EGSC and DEPI
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 DEPI EGSC and DEPI.

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15 APPENDICES

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

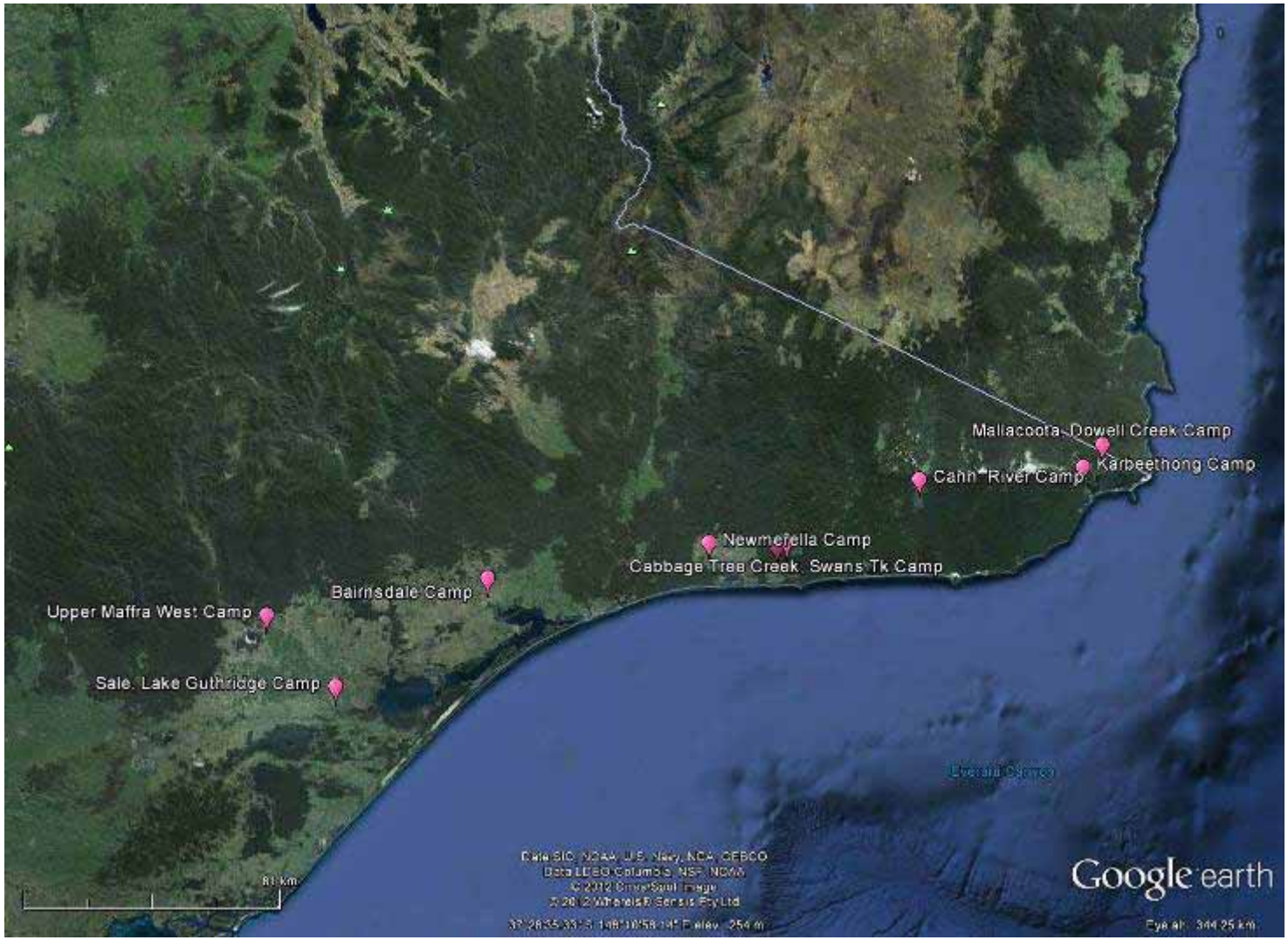
Grey-headed Flying-fox Occupation and Counts at Bairnsdale Camp 1995-2011												
	1995	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
January			3500	>1000			(v**)	2800	4510	14700	6500	10000
February			(nc*)	1600		(v**)	200	3340	3730	20000	9000	5200
March			(nc*)	>2000		1250	>500	2070	280	5500	6500	4500
April	1870		738	(nc*)		11330	(v**)	3270	(v**)	3200	20000	7000
May			>3000	>1000		34110		120		1000	26000	(v**)
June			670	110		950		(v**)		560	525	
July			570	(v**)		(v**)				130	(v**)	
August			510							30		
September			420							(v**)		
October		(v**)	350									
November		<200	830					(v**)	(v**)	(v**)	(v**)	
December		(nc*)	750				(v**)	1250	17000	400	3000	

Source:, DEPI, Gippsland

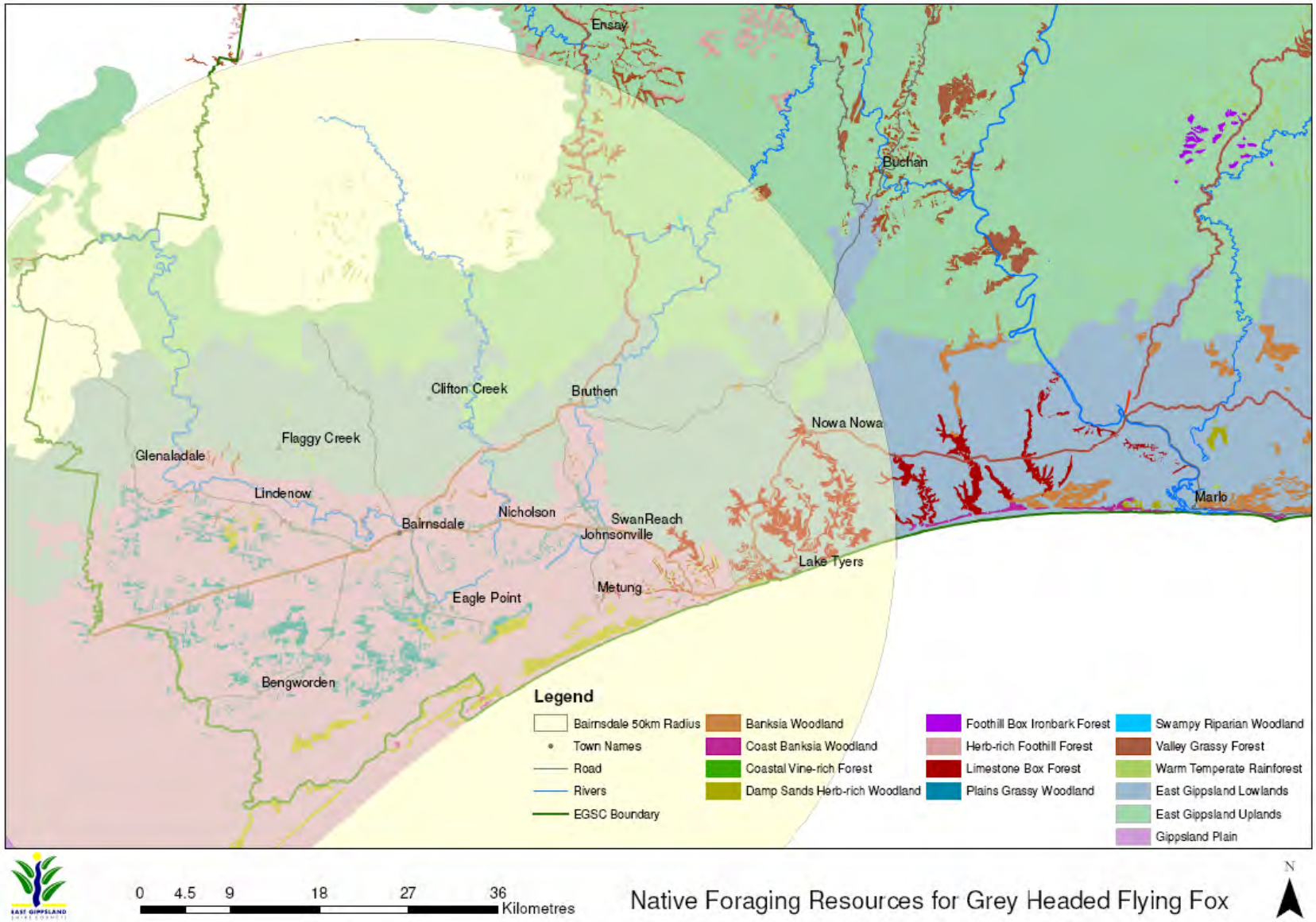
(nc*) No Count
(v**) Vacant

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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Figures

Appendices

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.

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.

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

Draft Version	***Date***	***Updated***
1.0	Oct 2012	April 2013
1.1	April 2013	Sept 2013
1.2	Sept 2013	Nov 2013

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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 Grey-headed Flying-fox over the Summer and Spring period. 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.

Retention of two mature Peppercorn (*Schinus molle*) along the private land and public land interface will provide some screening to local residents during revegetation activities. These trees are proposed to be removed at a later date when revegetation has established enough to provide privacy to landowners west of the site.

These trees will act as an invasive seed source for a period of years and will require additional management on an annual basis to ensure that seedlings of these species cannot establish.

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*)
- Black-Anther Flax Lily(*Dianella tasmanica*)
- 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 Grey-headed Flying-Fox, 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. 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 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 glyphosphate biactive 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;
- 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 40 *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 28 *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 77 *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 2012. 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 absent from the area. 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 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 will be completed Works will be completed within 10 working days. If at any stage during the works bats return to the site, all works must cease and cannot recommence until all GHFF depart.

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 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 must be undertaken 2 times per day, on arrival at site and also 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* referral have been numbered on site. These trees have been allocated into Stages, to allow for easier identification in line with the staged revegetation program.

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 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 Sustainability, Environment, Water, Population and Community (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 COMMENCEMENT OF WORKS

DATE:……. TIME:…….

NAME:……...

POSITION:……

WORKS REQUIRED:

ASSESSMENT STEPS:

1) Has DEPI confirmed arrival of GHFF?

…….

2) Has DEPI confirmed works can go ahead prior to commencement of works?

……..

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

……..

4) Are there any Grey-headed Flying-foxes present in surrounding vegetation?

……..

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

…….

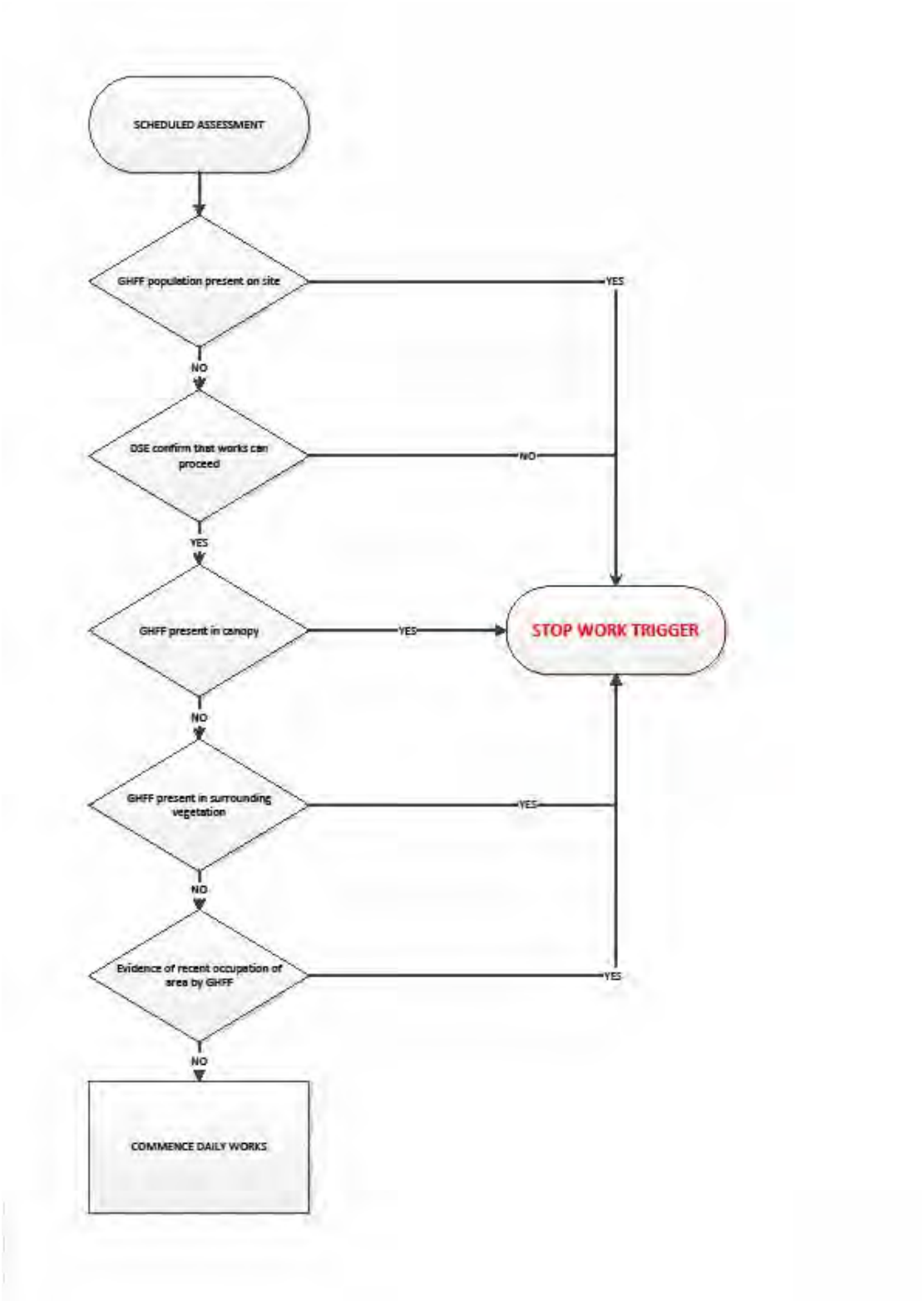


Figure 1 – Basic Steps for Daily Scheduled Assessment

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

When in the area 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.

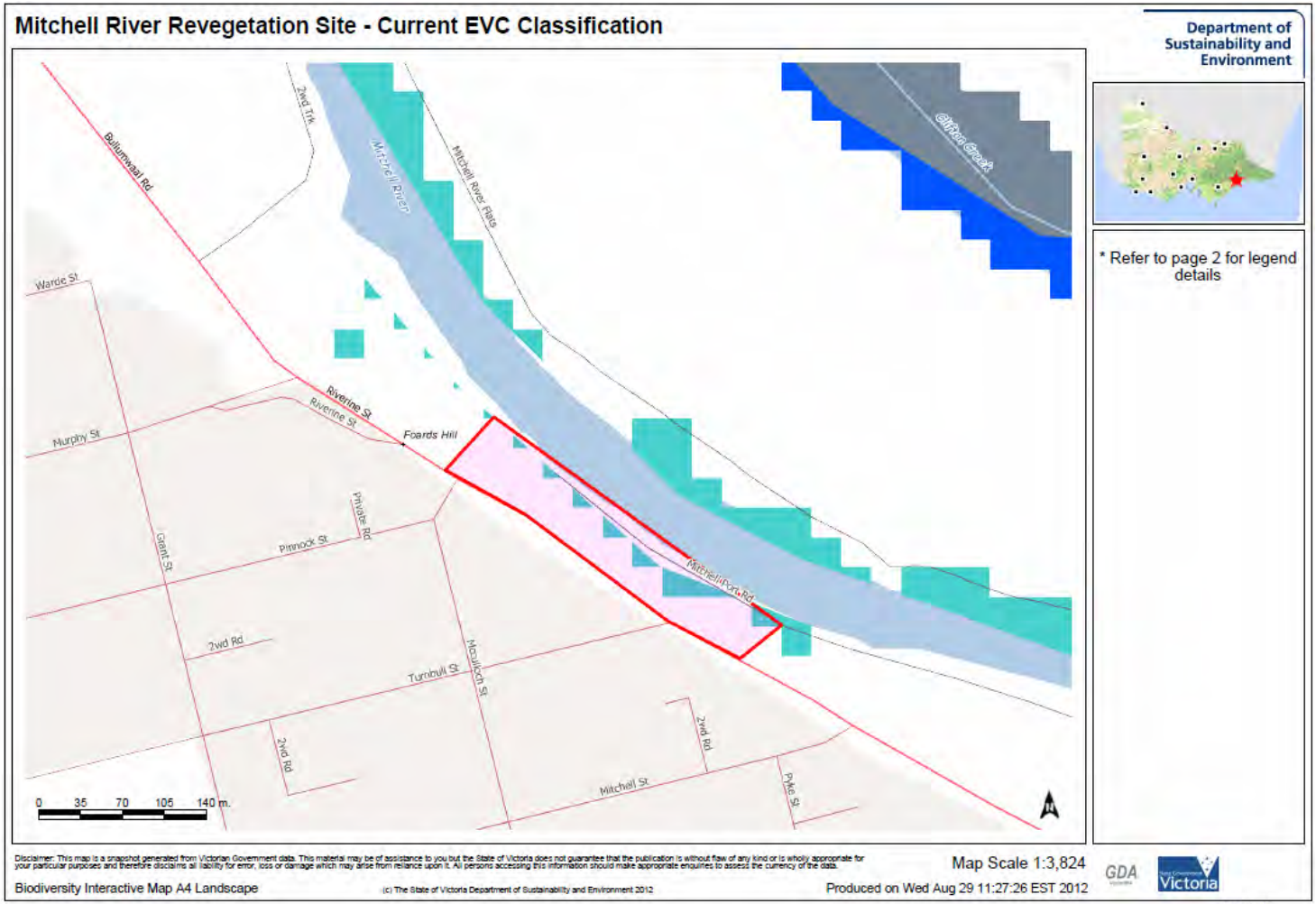
Appendix 2

OPERATING PROCEDURES - MITCHELL RIVER REVEGETATION PROGRAM

REPORT – IMPLEMENTATION OF STOP WORK TRIGGERS 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 EVC Classification
Department of Sustainability and Environment
* Refer to page 2 for legend details
Ballumwaal Rd
2wd Trk
Mitchell River
Mitchell River Flats
Clifton Creek
Warde St
Riverine St
Riverine St
Foards Hill
Murphy St
Private Rd
Pinnock St
Grant St
Mitchell Port Rd
2wd Rd
Turnbull St
Mouilloch St
2wd Rd
2wd Rd
Mitchell St
Pyke St
0 35 70 105 140 m.
Disclaimer: This map is a snapshot generated from Victorian Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of the data.
Map Scale 1:3,824
Biodiversity Interactive Map A4 Landscape
(c) The State of Victoria Department of Sustainability and Environment 2012
Produced on Wed Aug 29 11:27:26 EST 2012
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

- 1.1 Coastal Scrubs Grasslands and Woodlands
- 2.1 Heathy Woodlands - Dry and/or better drained
- 2.2 Heathy Woodlands - Damp and/or less well drained
- 3.1 Lowland Forests
- 4.1 Box Ironbark Forests or dry/lower fertility Woodlands
- 5.1 Lower Slopes or Hills Woodlands - Seasonally inundated and/or shrubby
- 5.2 Lower Slopes or Hills Woodlands - Grassy
- 5.3 Lower Slopes or Hills Woodlands - Herb-rich
- 6.1 Dry Forests - Exposed and/or lower altitude
- 6.2 Dry Forests - Sheltered and/or higher altitude
- 7.1 Wet or Damp Forests - Wet
- 7.2 Wet or Damp Forests - Damp
- 8.1 Riparian Scrubs or Swampy Scrubs and Woodlands
- 8.2 Riparian Forests or Woodlands
- 9.1 Rainforests
- 10.1 Montane Grasslands, Shrublands or Woodlands - Shrublands or Grasslands
- 10.2 Montane Grasslands, Shrublands or Woodlands - Woodlands
- 11.1 Sub-alpine Grasslands, Shrublands or Woodlands - Shrublands or Grasslands
(cont)
- 11.2 Sub-alpine Grasslands, Shrublands or Woodlands - Woodlands
- 12.1 Plains Grasslands and Chenopod Shrublands - Clay soils
- 13.1 Plains Woodlands and Forests - Freely-draining
- 13.2 Plains Woodlands and Forests - Poorly-draining
- 13.3 Plains Woodlands and Forests - Dunes or beach ridges or shallow sands
- 13.4 Plains Woodlands and Forests - Semi-arid (non-Eucalypt)
- 14.1 Riverine Grassy Woodlands or Forests - Broader plain
- 14.2 Riverine Grassy Woodlands or Forests - Creekline and/or swampy
- 15.1 Herb-rich Woodlands - Alluvial terraces and/or creeklines
- 15.2 Herb-rich Woodlands - Damp sands
- 16.1 Heathlands - Sandy and/or well drained
- 16.2 Heathlands - Not well drained
- 16.3 Heathlands - Sub-alpine
- 17.1 Mallee - Siliceous sands
- 17.2 Mallee - Calcareous dunefields
- 17.3 Mallee - Clay plains
- 17.4 Mallee - Sandstone ridges and rises
- 18.1 Wetlands - Freshwater
- 18.2 Wetlands - Brackish/estuarine
- 19.1 Salt-tolerant and/or succulent Shrublands - Coastal
- 19.2 Salt-tolerant and/or succulent Shrublands - Inland
- 20.1 Rocky outcrop or Escarpment Scrubs

WATERBODIES

- Watercourse Area
- Permanent Waterbody
- Wetland Area
- Inundation Area

BUILT UP AREAS

Biodiversity Interactive Map A4 Landscape

Produced on Wed Aug 29 11:27:26 EST 2012

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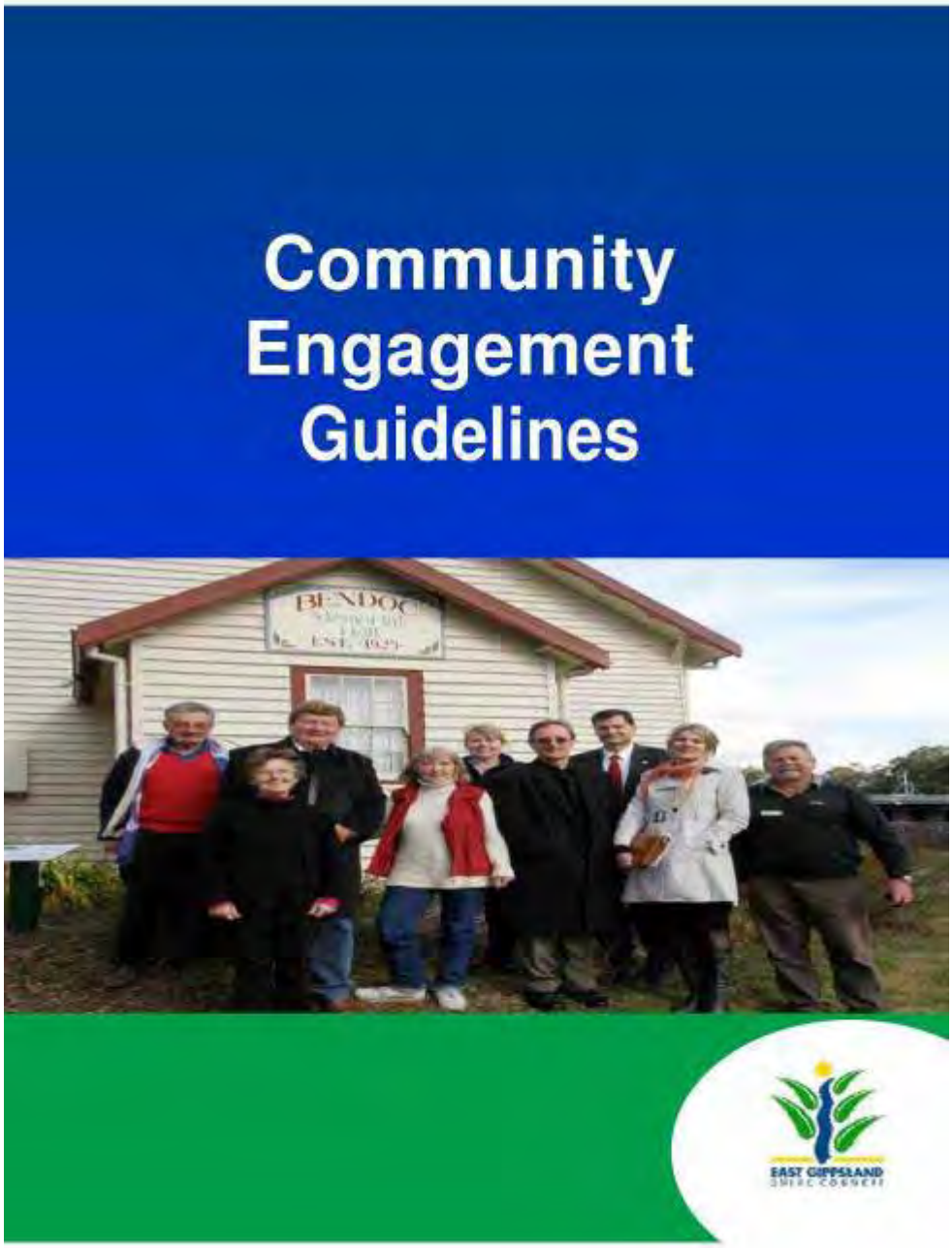
Appendix 8 - EGSC Community Engagement Guidelines



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 - Response Plan

RESPONSE PLAN

GHFF MANAGEMENT PLAN

EAST GIPPSLAND SHIRE COUNCIL

Version	*Date*	*Updated*
1.0	Sept 2012	May 2013
1.1	May 2013	Sept 2013
1.2	Sept 2013	Nov 2013

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1 Introduction

1.1 Purpose

The purpose of this Response Plan is to manage GHFF populations impacted by revegetation of the Grey Headed Flying Fox Roost site on the Mitchell River as part of referral 2009/5017 by the East Gippsland Shire Council under the *EPBC Act 1999*.

1.2 Objectives

This Response Plan has been developed as part of the GHFF Management and Strategic Directions Plan to provide continued guidance on management of the GHFF within the East Gippsland Shire. The key objectives of the Response Plan are to minimise the potential impacts of any disturbance actions to GHFF and to ensure any impacts are identified and mitigated.

1.3 Application

This Response Plan will be utilised by East Gippsland Shire Council (EGSC) with assistance from Department of Environment and Primary Industries (DEPI) to respond appropriately to GHFF management in a rapid, consistent and effective manner.

As no GHFF are to be disturbed from the Mitchell River roost site, a Stop Work Trigger has been incorporated into planning of any revegetation works on this site to ensure identification of the physical presence and signs of occupation prior to any works commencing on each day of the revegetation project.

1.4 Timeframe

This Response Plan is effective subject to approval from the Department of Sustainability, Environment, Water, Populations and Communities regarding referral **2009/5017** made by East Gippsland Shire Council under the *Environmental Protection and Biodiversity Conservation Act 1999* (*EPBC Act 1999*).

This document will be utilised in line with the staged approach of revegetation as documented in the GHFF Management Plan.

1.5 Background

East Gippsland Shire Council submitted an referral under the *EPBC Act 1999* to remove a population 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 this Commonwealth legislation. Part of the approval process was compilation of a Management Plan that detailed the proposed actions and mitigation strategies that EGSC need in place prior to approval of the action. The Response Plan will be utilised as part of the broader Management Plan.

1.6 Definitions and Acronyms

Camp – Area(s) currently being used by a significant number of GHFF.

DE – Department of Environment

Dependant Young –

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

DEPI – Department of Environment and Primary Industries

EGSC – East Gippsland Shire Council

EPBC Act 1999 - *Environmental Protection and Biodiversity and Conservation Act 1999*

Heat Stress Event – A heat stress event can be defined as hot weather event lasting one day or more that is extremely stressful and harmful to animals, defined as when temperatures exceed 35°C before December 31 or at or over 38°C.

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

Significant Stress – GHFF experiencing significant stress as identified by the discretion of DEPI Wildlife Management Staff but can include sickness, malnutrition, abnormal flight, disorientation, injury, aggression, evidence of abandoned or aborted young, death.

Site – The location of the GHFF colony

SOP – Standard Operating Procedure

The Plan – Grey-headed Flying-fox Strategic Action and Management Plan 2013

1.7 Roles and Responsibilities

Determination of the roles and responsibilities will assist in implementation of the Response Plan

ROLE	RESPONSIBILITIES
Department of Environment	• Regulate the implementation of the Response Plan, the Plan and authorise changes to the Plan and Response Plan
East Gippsland Shire Council	• Public Land Manager. • Responsible for implementation of the Plan. Implement dispersal actions in line with the

	Plan. • Assist DEPI in monitoring GHFF Colony • Respond to community issues regarding GHFF • Provision of Communication actions in line with the Plan
Department of Environment and Primary Industries	• Wildlife Manager. • Assist with dispersal actions as required. • Monitor GHFF Colony. • Respond to community issues regarding GHFF
Project Manager	• Implement the Plan. • Manage the Plan and assist with monitoring. • Responsible for Report Compilation and reporting to DE and DEPI.
Participants	• Implement any activity as directed by DEPI and/or Project Manager.
Residents and Community	• Notify DEPI and EGSC of issues with dispersal and GHFF management.

6

2 Planning

This section highlights the planning process for implementation of any response to GHFF management after commencement of the staged removal of vegetation on the Mitchell River Site.

2.1 Detection

Detection of new populations of GHFF emerging after commencement of revegetation activities will rely largely on reports from the community and through liaison with other agencies.

2.2 Verification

All reports from the community will need to be verified as to the exact location and population levels. Co-ordinates in GDA94 (UTM) will be taken at each site and an assessment of population levels at that time. The assessment process will commence as to whether the site will be acceptable or unacceptable in accordance with Step 1 of the assessment process as listed in **Section 3**.

2.3 Notification

The DEPI, EGSC and landowner or land manager will be notified as to the confirmed location of GHFF populations.

2.4 Assessment

Assessment process will commence in line with **Section 3** of this Response Plan. If a dispersal is required due to the site being unsuitable, the assessment will incorporate identification of the presence of lactating females or flightless dependant young.

2.5 Surveillance

Monitoring of new sites will need to be conducted daily to measure population level fluctuations. If the site is not subject to an emergency dispersal, this will give an indication of whether the GHFF population will establish a fidelity to the site.

2.6 Response

The appropriate response will be in line with documented Disturbance Procedures if required which could result in dispersal from new site. All dispersal actions will be implemented in line with the level of incident hierarchy, documented in **Section 4** on this Response Plan.

3 Site Assessment

Assessment of any site will be essential in determining the suitability for the longer term presence of GHFF in meeting their ecological requirements and limiting opportunity for conflict with the community.

Any assessment will incorporate use of multi-criteria decision analysis (a decision support tool) which will allow a consistent approach to new site assessments.

3.1 Site Analysis

Using the information available from existing methods for analysis of suitability of new sites and also documented research of GHFF ecology, a scoring system has been developed to provide a consistent approach to assessment of new sites.

Using the factors as described in **Section 3.2** a scoring system is applied where each factor scored in line with the importance of each factor for GHFF ecology.

Factor	Reasoning	Measure
3.2.1 Land Use	Given the risks associated with the presence of GHFF on public health, it is considered that areas where risk to the public is high automatically disqualifies the suitability of the site for short and long term presence of GHFF.	Qualitative -1 to 1 Scale of Suitability (1 being the best)
3.2.2 Size	The highest population count at the Bairnsdale site of over 34,000 individuals needs to be accommodated at a new site. Five hectares is considered to be average for other camps.	Quantitative Area in Hectares (ha) 0-4 Scale of Suitability (4 being the best)
3.2.3 Foraging Radius around Site	The further the colony shifts away from the roosting site will alter the distance from the original foraging resources.	Quantitative Distance (km) 0-4 Scale of suitability (4 being the best)
3.2.4 History of GHFF Use	If GHFF have been recorded using the site previously it indicates that it provided a resource that the utilised, and as such may be able to provide resources should GHFF return to the site.	Qualitative 0-2 Scale of suitability (2 being the best)
3.2.5 Adjacent Land Use	A measure of suitability to minimise conflict with community and wellbeing through noise, odour or other impacts, minimise impact to agricultural areas and recreational areas.	Qualitative 0-4 Scale of suitability (4 being the best)
3.2.6 Proximity to Waterway	GHFF are known to select camps nearby to watercourses. General habitat characteristics of GHFF highlight roosting in close proximity to waterways.	Quantitative Distance (km) 0-2 Scale of Suitability (2 being the best)
3.2.7 Proximity to Established Sites	Other sites that accommodate GHFF during the season could potentially support increases population sites.	Quantitative Distance (km) 0-4 Scale of Suitability (4 being the best
3.2.8 Land Tenure	Public land is considered to be appropriate for assessment as to the longer term occupation of the site. Private land could potentially be suitable but assessment will only commence on consent from the landowner.	Qualitative 0-1 Scale of Suitability (1 being the best)

3.2.9 Vegetation Structure	Long term acceptance by GHFF will require sufficient ecological resources to support an extended population and exhibit preferential characteristics. These include structure, canopy dynamics, location, foraging resources and nearness to water. Given the research highlighting preferential characteristics of GHFF in other established camps, increased numbers of characteristics can potentially be more suitable for the longevity of the site to establish a campsite.	Qualitative 0-4 Scale of Suitability (4 being the best)

3.2 Assessment Factors

3.2.1 Land Use

The use of the land in the immediate vicinity of where the population has relocated will be assessed to ensure it does not require an **emergency dispersal** (**see Section 4**). Such locations are areas where;

- Public health and safety is at immediate risk (eg. Hospitals, Medical Centres, Educational Institutions, Aged Care Facilities, Daycare Centres, Airports);
- There is potential for spread of disease through vectors (eg. Racecourses, Horse Stud properties, perceived risk to domestic livestock);
- Colony has relocated near to susceptible individuals where health is of concern;
- Where physical contact with humans is imminent.

Should the site be deemed inappropriate and subject to an emergency dispersal, it will not be assessed by any other factors in the assessment process. All other areas that are deemed not to be subject to an emergency dispersal will be assessed for suitability in line with this Response Plan.

LAND USE	Public health not at risk	**1**
	Further Assessment	**0**
	Public health at risk	**-1**

3.2.2 Size

The size of any new potential site will need to accommodate a population of up to 34,000 individuals as counted in May 2006 at the Mitchell River site. Roberts (2005) suggests that a minimum of 1ha is sufficient to accommodate GHFF populations at an alternative site. A size of 5ha or above of continuous vegetation is considered to be sufficient to accommodate a population size at the highest levels recorded. A larger site also allows regeneration of defoliated trees by reduction of roosting site pressure.

The assessment that supported the relocation of GHFF from the Botanic Gardens in Melbourne suggest that most camps are between 5-6ha, and contain a core area of between 0.5 to 2 ha. As such areas that are under 5 hectares in size are regarded as unsuitable as they will not support a GHFF at its maximum size as counted at the Bairnsdale site.

SIZE	Greater than 5 hectares on continuous vegetation	**4**

	Greater than 5 hectares of fragmented vegetation	**3**
	Less than 5 hectares but can sustain lower population levels	**2**
	Less than 1.5ha size of Mitchell River Site	**1**
	Less than 1 hectare	**0**

3.2.3 Foraging Radius around Site

Given that GHFF typically habitat within a 20km area of the roosting site, distance of food source will limit the longer term acceptance of the site by GHFF. Locations closest to the original site are considered to be better suited for long-term occupation as this decreases the foraging distance from their original food source.

DISTANCE FROM ORIGINAL SITE	Less than 5 km from original site	**4**
	between 5 and 10 km from original site	**3**
	between 10 and 15 km from original site	**2**
	between 15 and 20 km from original site	**1**
	over 20+ km	**0**

3.2.4 History of GHFF Use

If GHFF have been recorded using the site previously it indicates that it provided a resource that the utilised, and as such may be able to provide resources should GHFF return to the site.

HISTORY OF USE BY GHFF	GHFF known to have utilised site previously in more than one instance	**2**
	GHFF known to have utilised site previously in one instance	**1**
	GHFF not known to have utilised site previously	**0**

3.2.5 Adjacent Land Use

Adjacent land use will be assessed as to whether there is opportunity for justified conflict to arise with the community. Such areas could include recreational parks or visitor nodes, impacts on agricultural production, or proximity to residential areas and be considered to impact on health or wellbeing through noise, odour or other impacts.

Acceptable adjacent land use could be tracts of forest or areas of no public interface

ADJACENT LAND USE	Adjacent land use will not impact on or be impacted on by GHFF (0%)	**4**
	Some adjacent land use will be impacted on (25% or less)	**3**
	Some adjacent land use will be impacted on by GHFF (25%-75%)	**2**
	Adjacent land use will be impacted in by GHFF (75% and over)	**1**
	Adjacent land will be impacted on by GHFF(100%)	**0**

3.2.6 Proximity to Waterway

GHFF preferentially select sites that are in close proximity to a waterway. This allows GHFF to drink locally and also to use the water source to cool during heat events. A distance of 500m from a waterbody is considered unacceptable for a roosting site given the species requirements for a water source

PROXIMITY TO WATERWAY	Less than 500 m from fresh waterbody	**2**
	Less than 500 m from an estuarine waterbody	**1**
	Greater than 500 m from a waterbody	**0**

3.2.7 Proximity to Established Sites

Established GHFF sites will be able to accommodate additional individuals should the population relocate. Assessment of these sites will be undertaken as to the longevity and suitability for increased population levels.

DISTANCE TO ESTABLISHED SITES	Less than 5 km from original site	**4**
	between 5 and 10 km from original site	**3**
	between 10 and 15 km from original site	**2**
	between 15 and 20 km from original site	**1**
	over 20+ km	**0**

3.2.8 Land Tenure

Land tenure is an important consideration in determining the acceptability of any alternative sites. EGSC is land manager for a number of areas of Public Land, typically associated with urban areas. Other public space will be considered and appropriate land managers will be consulted as to the long-term acceptability and security of the site. Private landholders will need to be consulted as to their acceptance of the GHFF roosting population should they relocate to private land tenure. Private land will not be considered as suitable within the initial assessment due to the inability to assume acceptance by the landowner.

LAND TENURE	Public Land Tenure	**1**
	Private Land Tenure	**0**

3.2.9 Vegetation Structure

Vegetation selected by GHFF as a roosting site is considered to have some similar characteristics across all sites as highlighted in **Section 4.1.5** in The Plan.

- Closed canopy;
- Continuous canopy area > 1 ha;
- Within 50km of the coast and at less than 65 asl;
- 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.

Given the damage that a GHFF colony can do to existing vegetation, assessment of the vegetation type and categorising in line with Ecological Vegetation Classification

(EVC) (under *Native Vegetation Framework 2002 or successor*) will assist in determination of impacts from GHFF roosting on potentially endangered vegetation communities.

VEGETATION TYPE	Site contains predominantly riparian vegetation	**4**
	Site contains some riparian vegetation or preferential vegetation for GHFF	**3**
	Site contains assorted vegetation types mixture of preferential and non-preferential	**2**
	Site contains some roost trees, lacks microclimatic requirements	**1**
	Site contains unsuitable vegetation	**0**

CLOSED CANOPY	Site has closed canopy	**1**
	Site has open canopy	**0**

CONTINUOUS CANOPY	Site has continuous canopy greater than 1 ha	**1**
	Site does not have continuous canopy greater than 1 ha	**0**

CANOPY HEIGHT	Canopy height 8m and above	**1**
	Canopy height below 8m	**0**

LOCATION	Site located within 50km of coast	**1**
	Site located further than 50km of coast	**0**
	Site under 65m asl	**1**
	Site above 65m asl	**0**

FORAGING DISTANCE	Sufficient resources less than 20km from new site	**1**
	Sufficient resources greater than 20km from new site	**0**

3.3 Results of Assessment

If the assessment of Land Use denotes that the site is unsuitable and should be subjected to an emergency response (see **Section 5**), disturbance actions shall be implemented as soon as practicable.

Assessment of each remaining site within the given criteria will allow determination if the population can roost temporarily to avoid impacts on the breeding cycle of the colony or remain on site longer term. The assessment results and appropriate actions for each scenario are discussed further in **Section 4**.

4 Contingency and Mitigation

Three situations can result as part of the assessment process;

- GHFF occupy an inappropriate site
- GHFF occupy a temporarily acceptable site
- GHFF occupy an acceptable longer term suitable site.

Each situation will be assessed through the Site Assessment method (**Section 3**) to determine if the site is acceptable for occupation. This assessment will determine if dispersal is appropriate at each site. To reduce and where possible eliminate impacts on GHFF Stop Work triggers will be utilised to determine if disturbance actions should be implemented.

4.1 GHFF occupy an inappropriate site

It cannot be determined or predicted where GHFF will occupy if they abandon the Mitchell River Roost site. Should GHFF relocate to an area of immediate risk to health and wellbeing or where risk of disease transmission is heightened, an emergency response will be implemented in line with **Section 5**.

4.2 GHFF Occupy a Temporarily Acceptable Site

Temporary sites would be considered to not meet the longer term ecological requirements of GHFF but provide enough to temporarily host the population for the season and allow continuation of the breeding cycle at that site. As such, dispersal from these sites would only be implemented at the end of the key breeding period (May-June), if required at all. Modification of vegetation may be all that is required to prevent re-occupation in following years.

4.3 GHFF Occupy an Acceptable Long-Term Site

If the site is determined to be suitable for longer term occupation (ie seasonally every year), EGSC will provide stewardship for the welfare of the local GHFF population and roost vegetation and aim towards permanent protection of the site. Undertaking any action regarding land stewardship will be negotiated with each landholder and cannot be determined at present.

5 Emergency Response

An **emergency response** will be undertaken should GHFF relocate to an area where;

- Public health is at immediate risk (ie Hospitals, Medical Centres, Educational Institutions)
- Potential for spread of disease through vectors (ie Racecourses, Horse Stud properties, perceived risk to domestic livestock);
- Located near to susceptible individuals;
- Where contact with humans is imminent.

An emergency response is considered to be an immediate reaction where a report of GHFF presence is confirmed and determined to present a risk to public health. These sites have priority over other sites for dispersal actions. The disturbance actions will be the same for each site and are detailed in **Section 7**.

Timing of arrival and occupation within the East Gippsland area is usually limited to between November and May as seen in recent years. Given that GHFF normally birth between September to October, with a lactation period of up to 12 weeks, dispersal actions need to account for the presence of lactating females in an emergency situation and limit the amount of stress caused to the animals.

6 Dispersal Team Structure

The structure will be dependent upon the level of incident. EGSC utilise the Australasian Inter-service Incident Management System

To ensure that GHFF welfare is accommodated, DEPI Wildlife Management personnel will be available to assist.

Key Points

- All personnel involved in dispersal operations must operate under the chain of command and reporting arrangements established by the AIIMS structure. Any person operating outside of these structures will be asked to cease involvement immediately.
- All volunteer communication queries will be put through to the Incident Co-ordinator via the Project Manager in the field (except in an emergency where human safety is at risk).
- Dispersal Team Leaders will have no more than five personnel reporting to him/her at any one time, as per AIIMS requirements.

6.1 Level 1 Incident

A **Level 1** Incident will involve an Incident Controller and one dispersal team (including the Project Manager).

Figure 1 - Level 1 Incident Reporting Structure

A Level 1 Incident is considered to be able to be managed by 3 personnel. This situation would result from an isolated population occurrence at another location after vegetation removal. Assessment would take place to determine if an emergency dispersal is required from a confirmed site. The Incident Controller will determine if additional resources will be required to implement a Level 1 Incident Response.

6.2 Level 2 Incident

A **Level 2** Incident will involve an Incident Controller, Project Manager and a dispersal team for each site up to 5 sites. Within the reporting structure, the Incident Controller will be responsible for the Project Manager. The Project Manager will be responsible for the deployment and management of dispersal teams, with each team having a nominated Dispersal Team Leader.

Figure 2 - Level 2 Incident Reporting Structure

A Level 2 Incident is considered to be managed by multiple staff and volunteers. This situation would result from up to 5 scattered populations occurring across the region and requiring substantial increased resourcing. Assessment would take place to determine if an emergency dispersal is required from each confirmed site.

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6.3 Level 3 Incident

A **Level 3** Incident will involve an Incident Controller, Operations Officer (s), Project Manager and multiple dispersal teams with each team having a nominated Dispersal Team Leader.

Figure 3 - Level 3 Incident Reporting Structure

A Level 3 Incident will be managed by multiple staff from multiple agencies and volunteers. This situation would result from over 5 scattered populations occurring across the region and potentially also triggered in times of extended heat events. This would involve a multiple agency and welfare group response and require substantial co-ordination from the Incident Management Team. Additional Operations Officers and associated Team Leaders and Assistants can be recruited if the number of sites involved increases beyond 10 sites.

6.4 Documentation

To ensure that information is current, a weekly Situation Report will be compiled by the Project Manager during the works program to ensure that all agencies involved have current information for distribution. The template for this Report is included in **Appendix 2.**

7 Disturbance Procedures

7.1. Personnel Induction

All personnel involved with any disturbance procedures need to be aware and involved in the following

- The Occupational Health and Safety Policy of the East Gippsland Shire Council and associated requirements of all personnel involved in disturbance actions ;
- Any hazards and risks that have been identified and entered into Safe Work Method Statements (SMWS) that are applicable to the task;
- The necessity to report all actions to their Supervisor and Project Manager;
- Only DEPI personnel that have been vaccinated against Australian Bat Lyssavirus and trained in animal welfare are able to handle GHFF;
- The procedures for implementing each disturbance level;
- The key reasons behind the action and the necessity for accurate reporting; and
- Understand that confrontation with the public may be experienced and not to aggravate the situation, and to report immediately to the Project Manager.

These points will be covered at every pre-dispersal meeting and prior to commencement of any disturbance action.

7.1.1 Occupational Health and Safety Requirements

GHFF are carriers of some diseases that are considered to be harmful to human health. These include Australian Bat Lyssavirus, Nipah virus and Hendra virus. Any potential contact with GHFF needs to controlled and mitigated.

The Project Manager is responsible for the safety and wellbeing of all individuals on site. The Project Manager will be First Aid Level II qualified and will have First Aid requirements onsite at all times.

No animal is to be handled at any point during the dispersal actions by another other than authorised officers from the DEPI.

During dispersal actions all personnel involved will be required to wear Personal Protective Equipment (PPE) including approved safety glasses, wide brimmed hats, long pants and long sleeved shirts, earplugs during times of excessive noise levels and also gloves when walking through areas of vegetation. Additional personal safety items will be required also including sunscreen and additional drinking water.

Volunteers involved with the activity will be subject to the following requirements;

- All staff and volunteers attend a pre-dispersal brief with the Project Manager prior to participating in dispersal operations to ensure they are familiar with the procedure and protocols;
- If driving a 4x4 vehicle off road, all staff or volunteers must have 4WD Accreditation;
- Wear approved PPE;
- Participate in only one incident role at any given time; and
- Read and understand these protocols, register their attendance at the beginning and end of each shift, and sign the Self Declared Health Checklist (**Appendix 1**).

7.2 Communication of Activities

Effective communication is imperative to ensure the success of dispersal actions. Prior to dispersal the following steps should be implemented within the Emergency Reporting Structure detailed in **Section 6**.

- Affected residents and the local media should be informed prior to the dispersal attempt to minimise unexpected disturbance to the community (e.g. pamphlet drops, notice to residents, notification in newspaper, radio announcement).
- All persons involved in the operation must be briefed about their role and responsibility during the operation. This includes the instructions in occupational health and safety requirements in **Section 7.1.1**.
- Tasks should be delegated to personnel according to their experience and their responsibility

All points of contact in both DEPI and EGSC will be provided with a summary of the process and frequently asked questions relating to undertaking dispersal activities.

7.3 Dispersal Procedure

Each staged tree removal on the Mitchell River Roost Site may precipitate movement of GHFF to other sites in the region. Planning for potential movement to inappropriate sites must be put in place each spring to ensure that if monitoring by the community, EGSC or DEPI detects any new roosting sites are being selected by GHFF in the East Gippsland region. Prompt dispersal actions are important to prevent GHFF developing fidelity to an inappropriate site.

When it is determined that GHFF are roosting in a site it will be necessary to make a decision promptly as to whether it is a site requiring an emergency response or a site where temporary or permanent residence may be appropriate taking into account disruption of the breeding cycle.

Given the inability to predict where GHFF will select for a roost site, dispersal could occur on any land tenure, be it public or private land. All land managers will be consulted and involved as their cooperation is critical to accessing the site and implementing dispersal actions. Permits to disperse will be sought from DEPI under the *Wildlife Act 1975*.

7.3.1 Adaptive Management Actions to Minimise Impacts to GHFF from Dispersals

Inappropriate Sites

It is recognised that in the event GHFF reside in an area that poses a risk to public safety as a result of the staged removal of the poplars on the Mitchell River, the camp will need dispersed as soon as possible until the GHFF are settled in an appropriate location. Therefore, there will be different approaches to disposal of GHFF from sites, depending on the time of the year.

Time of year: May-July

Stage in the breeding cycle: early pregnancy

Dispersal conditions: GHHFF have been present at the Mitchell River camp during this period and large numbers of bats have been recorded historically in the month of May. During this period, pre-dawn and evening disturbances will be used to encourage bats to leave the site. To minimise stress, a limit of three dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period.

Time of year: August-September

Stage in the breeding cycle: late pregnancy

Dispersal actions: It is recognised that abortion during the later stages of pregnancy may occur. Bats will not be dispersed from any sites during this period..

Time of year: October-February

Stage in the breeding cycle: non-flying, dependent young and independent but flightless pups

Dispersal actions: DEPI Officers will conduct pre-dispersal evening fly-out surveys of the colony to determine if there are any independent but flightless pups. If any young are observed that are no longer being carried by their mother but are incapable of sustained flight are observed, no dispersal activity will occur. If mothers are carrying dependent young, evening and pre-dawn disturbance will be used to encourage the bats to leave the area. Disturbance will cease if flightless young are found during the disturbance. To minimise stress, a limit of two dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period.

Time of year: March-April

Stage in the breeding cycle: mating and conception

Dispersal actions: To prevent disturbances to mating events, which occur during the day at the camp site, only evening and pre-dawn disturbances will be used to disperse the colony during this period dawn and evening disturbances will be used to encourage bats to leave the site. To minimise stress, a limit of three dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period.

Temporarily Acceptable Sites

Wherever possible, dispersal actions at temporarily appropriate sites will be restricted to the period May-June, but given that the species is often absent in the Bairnsdale area during this period, an adaptive management response will need to be implemented, so that EGSC can disperse the colony from temporarily appropriate sites when the bats arrive, with the exception of the period August - September. Therefore, the adaptive management response for inappropriate sites will be implemented. Modification of vegetation will be implemented when bats are absent

as another means to discourage the colony from re-establishing at temporarily appropriate sites.

Acceptable Long-term Sites

Management of colonies which establish at sites deemed to be temporarily acceptable will be carried out in accordance with the contingencies outlined in **Section 4** of the Response Plan.

Re-Dispersals

It is impossible to determine cumulative impacts on GHFF from re-dispersals and therefore re-dispersals will be limited. In the event that a colony establishes at an inappropriate site as defined in the Response Plan, re-dispersals can occur until the colony settles in a site that is either temporarily acceptable or acceptable in the long term. In this case of a colony settling in a temporarily acceptable site, only one re-dispersal will occur in any 12 month period to limit cumulative impacts.

7.3.2 Behavioural changes

It is acknowledged by EGSC that the disturbance activities associated with dispersals may cause stress to GHFF. This has been minimised by restricting dispersals from temporarily acceptable sites to the period May-July, which is has the least impact in terms of the disruption to the reproductive cycle. Heat stress during dispersal will be managed in accordance with the protocols set out in **Section 7.4** Stop Work Triggers

7.3.3 Levels of Intensity

Increasing levels of intensity will be required should GHFF ignore or be unaffected by the lowest intensity disturbance created on the dispersal site.

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.

Level 2 disturbance is aimed in creating increased noise levels in the event GHFF ignore or are unaffected 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 or leave the site all together.

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.

7.3.4 Disturbance Actions

The Dispersal Team(s) should be placed to cover the entire campsite. People should be placed directly beneath roost trees. Three intensity levels are considered so that increasing levels of noise and disturbance, which may disturb local residents and are only strictly necessary to prevent roosting by GHFF, are only used if required.

Intensity Level	*Escalation Trigger*	*Actions Undertaken*
Level 1	Undertaken for 45 minutes. No effect on GHFF, remain undisturbed.	Proceed to Level 2 intensity, if no Stop Work Trigger has been identified.

Level 2	Undertaken for 45 minutes. Limited effect on GHFF, remain undisturbed	Proceed to Level 3 intensity, if no Stop Work Trigger has been identified.
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.

If a site is repeatedly used by GHFF over time where disturbance is unsuccessful it may also be appropriate to consider using non-lethal automated systems using lights or noise devices triggered by GHFF visits such as that which are used to prevent GHFF from raiding fruit trees. Individual systems would need to be designed for any one site and may be sourced from appropriate suppliers of such equipment. Any such systems would be implemented through a permit from DEPI and with consultation of Department of Sustainability Environment Water Populations and Community.

7.3.5 Modification of Selected Sites

If appropriate for the circumstances of the site and it is determined to be an effective and necessary, a site might be modified to reduce the attractiveness of the site for GHFF roosting.

Actions may include:

- Pruning horizontal branches large enough for roosting;
- Removing shrubs or groundstorey to reduce the humidity of the site and increase access for sunlight.

Any vegetation modification work would only occur when the site is unoccupied in daylight hours and after GHFF have been dispersed from the site. Consultation with DEPI in relation to State vegetation removal requirements under the *Native Vegetation Framework 2002* will also be undertaken.

7.3.6 Monitoring and Reporting on Disturbance Actions

Each Dispersal Team Leader will be required to collate and provide information for every site and every occurrence of disturbance. Collection of information is highly important to influence future activities and to determine any detrimental impacts on GHFF. The template for reporting is included at **Appendix 3**.

Monitoring of sites that have been subjected to dispersal actions will be monitored on a daily basis by either EGSC or the land manager to ensure that dispersal actions have been successful and to implement further immediate action should GHFF return after dispersal actions have ceased. A dispersal will be considered successful is GHFF do not return to the site after actions are implemented and do not return to the site in following seasons.

Monitoring will include collation of information of GHFF movement and camp size fluctuations before and after any dispersal actions. Collation of information about the fluctuations of camp sizes and behaviour at new sites may be an indicator of whether GHFF establish a fidelity to the site.

7.3.7 Responsibility for new colonies

It is possible that colonies establish camps at new sites during and after the staged removal of the vegetation at the Mitchell River camp site. Without tagging, it will be impossible to distinguish which new camps are the formed as a result of the disturbance to Mitchell River camp and which are new colonies whose establishment is not related to the revegetation works at the Mitchell River site. Given this uncertainty, EGSC accepts the responsibility for the management of any and all colonies that establish within a 5 year period following Stage 3 of the revegetation program. New colonies that establish after 5 years will not be the responsibility of EGSC to manage as part of any approval conditions stipulated under the EPBC Act.

7.4 Stop Work Triggers

7.4.1 Revegetation of Mitchell River Roost Site

To mitigate stress levels on potentially pregnant and lactating females within the colony, adoption of Stop Work Triggers and appropriate timing of works will be essential in ensuring GHFF welfare on the Mitchell River revegetation site.

The DEPI will be consulted and approval sought prior to commencement of any scheduled works onsite to ensure GHFF are not occupying the roosting site.

No works are to be undertaken on site whilst GHFF are present or within the vicinity of the site. Works have been timed to facilitate limited interaction with the GHFF during their usual period of absence from the Bairnsdale site.

Twice daily checks will be undertaken and recorded by the Project Manager and staff to ensure that works do not commence if GHFF are present or surrounding the site and that works will cease if any GHFF arrive on site whilst works are being undertaken. The Stop Work Trigger template for Revegetation activities is included in Appendix 5.

7.4.2 Dispersal of GHFF

The following Stop Work Triggers for dispersal actions was developed as part of the Yarra Bend Standard Operating Procedure and can be utilised as part of dispersal actions undertaken by EGSC with assistance from DEPI. This stop work trigger was developed to limit the impacts on the behaviour and to limit potential impacts on breeding and lactating females on site

A stop work trigger will apply if the following are determined by EGSC and DEPI;

- Any female GHFF are giving birth in the area(s) subject to the dispersal activity;
- More than 5% of dependant young subject to the dispersal activity are Flightless dependant young;
- The day of the proposed activity is a Hot Day, predicted to reach 30°C before 10am or reach greater than 35°C over the day
- A Heat Stress Event have been declared by a Senior DEPI Manager either the day of or within two days on the proposed dispersal activity
- More than 5% of GHFF subject to the dispersal activity are showing signs of Significant Stress; or

- Anything else at the discretion on the Project Manager or the DEPI Wildlife Management Unit.

The Stop Work Trigger is assessed in the Pre-planning Phase of the Daily Activities Report as attached in Appendix 3.

8 Data Collection and Reporting

Data collection will be paramount in determining the appropriateness of dispersal actions at each site. Collection of information about the population characteristics of each satellite community will enable identification of any applicable stop-work triggers prior to any actions commencing.

Reporting will be undertaken by EGSC to fulfil the requirements of the proposed actions regarding GHFF management and will incorporate statistics and information on GHFF dispersal activities.

To ensure currency of information, all aspects of the project including potential dispersal will be recorded and utilise the following documents.

- Stop Work Trigger – Revegetation (Daily)
- Nudging Activities Daily Report – Dispersal (Each Site)
- Dispersal Actions Summary – (Monthly and Annually)

Reports of dispersal activities will be submitted to SEWPAC 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 SEWPAC.

An Annual Report will be submitted to SEWPAC until Wildlife Management Officers from the DEPI decide that the colony has settled and established fidelity to the new site. As such reporting requirements from EGSC will cease from this point.

9 Review and Updating

This Response Plan is subject to review at any point given feedback on the positive or negative effects of any dispersal activities. Such advice can be given by involved agencies including the DEPI and SEWPAC.

The Project Manager will assess the currency and validity of the Response Plan and The Plan annually and propose changes. Such changes will need to be assessed as to whether the proposed change is classified as a 'significant change' and is subject to approval by SEWPAC and other applicable authorities.

Advice can be obtained by the Monitoring and Approvals Section with SEWPAC at post.approvals@environment.gov.au. All Response Plan changes must also be registered internally and the current copy distributed to applicable staff and departments.

Appendix 1 – Volunteer Registration

VOLUNTEER Self-Declared Health Checklist

It is important for people working with GHFF who have been diagnosed with certain medical conditions to advise their supervisors of their condition. Some conditions may need special arrangements to be made or certain precautions to be taken to ensure safe working conditions are implemented and that the best medical history be provided to first-aid or ambulance officers, in the event of an incident.

Volunteers who require additional confidential advice regarding an existing medical condition may be referred to their treating doctor or to the Fire Agency medical advisors for further assessment.

The following list of medical conditions may impact on your safety in the bush and you should seek further clarification regarding your involvement and safe management.

Please tick where relevant:

☐ Severe allergies, for example bees, wasps, plants, pollens, foods etc.
☐ Any heart condition including angina, valvular heart disease, high blood pressure, palpitations or arrhythmias.
☐ Respiratory problems including asthma requiring regular treatment or any other chronic lung disease.
☐ Any history of fits, faints or blackouts.
☐ Any chronic neurological disease.
☐ Joint or muscle problems that may affect your mobility or balance.
☐ Diabetes, especially if there is a history of hypoglycaemia or insulin reactions.
☐ Acute infections including respiratory, soft tissue and urinary tract infections.
☐ Any other medical condition for which you are receiving on-going medical treatment or medication.

If you have ticked any of the above, please describe your condition:

_____
_____
_____

Please note that the above list is indicative of conditions that may affect a person's safe working practice in certain locations. It is not exclusive. If you have concerns about your medical history, please seek further advice before commencing your involvement in volunteer wildlife activities.

I declare that the information I have provided it true and correct, and consent for it to be utilised, under the circumstance where it may assist in my treatment in the event of an incident.

Signed:
First Name: _____ Surname: _____
Date: _____

EGSC and DEPI commits that the information provided will be managed in accordance with the Information Privacy Act 2000, Health Records Act 2001 or the (Cth.) Privacy Act 1988 and where relevant, the Freedom of Information Act 1982 and the OH&S Act 2004

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Appendix 2 – Situation Report

Grey-headed Flying-fox
SITUATION REPORT

Incident Name: Mitchell River Revegetation Site

District: **Region:**

Date: **Report Number:**

Works undertaken on site:

Stop Work Trigger Action:

1 Monitoring of Colony
Eg. Have GHFF Arrived on site
Eg. Current population levels

2 Communications
Eg. Distribution of Information to Community
Eg. On-site Signage installed

3 Community Response
Eg. Number of responses received from the community

4 Incident Organisation and Management Framework
Eg. Task Force Meetings Dates and Actions
Eg. Emergency Response

GHFF Situation Report 3/12/2013 2:11:59 PM

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Appendix 3 – Dispersal Activities Daily Report

Grey Headed Flying Fox DISPERSAL REPORT

Phase 1: Pre Planning	PROJECT MANAGER:	DATE:
Temperature on Date of Dispersal:	Predicted at 10am:	Predicted at 12pm:
Site Information:	Population Levels:	Proportion of 'Flightless Dependant Young':
Stop Work Trigger if 'Yes' to any of the below the Stop Work Trigger is activated		
Are any female GHFF in the area(s) subject to the disturbance activity giving birth?	Yes ☐ No ☐	
Of the dependent young subject to the nudging activity, are more that 5% 'Flightless Dependant Young'		Yes ☐ No ☐
Is the day of the proposed nudging activity a Hot Day (predicted to reach 30°C before 10am or reach greater than 35°C over the day?		Yes ☐ No ☐
Has a Heat Stress Event been declared by a Senior DEPI Manager either for the day of the disturbance activity or the day either side?		Yes ☐ No ☐
Are more than 5% of GHFF subject to the activity showing signs of Significant Stress?		Yes ☐ No ☐
Are there any other reasons preventing activities from taking place? If Yes:		Yes ☐ No ☐
Any Other Information: **STOP WORK TRIGGER ACTIVATED**		Yes ☐ No ☐

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Phase 2: Dispersal Survey	Pre-dispersal Meeting Held?:	No of Personnel:	
Has OHS been discussed?	Have SWMS been revised and distributed?	Issues Raised:	
Dispersal Activity Commence:	Dawn:	End of Activity:	
Length of time at each intensity?	Level 1: Reason for implementing Level 2:	Level 2: Reason for implementing Level 3:	Level 3: Reason for ceasing activities:
Additional Stop-work Triggers encountered during dispersal activity? Yes ☐ No ☐	If so, which was triggered?		
Are any GHFF showing signs of Significant Stress: Yes ☐ No ☐ Number of GHFF? Percentage of population? Signs for Significant Stress? Actions taken?			

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Phase 3: Post Dispersal Survey		
Were any deceased GHFF located on the dispersal site? Yes ☐ No ☐	Number of Deceased:	Presumed cause of death:
Did GHFF return to the dispersal site? Yes ☐ No ☐	Number returned:	
Where did the GHFF go (if known) or what direction did they head off?	New location:	Direction flown:
Costs of Dispersal Actions:	Hours of personnel involved:	Equipment utilised:

Appendix 4 – Dispersal Report Template

SUMMARY REPORT ON DISPERSAL ACTIONS

Date of Report:

Compiled By:

Dispersal Summary.

Number of dispersals undertaken:

Number of sites that were subject to dispersal:

Number of sites subject to repeated dispersal:

Numbers of GHFF subject to dispersal (max, min and average):

Time spent undertaking dispersal actions (max, min and average):

Time spent undertaking dispersal actions at each intensity level (max, min and average):

Summary of any Stop-work Triggers prior to and during the dispersal:

Summary of Significant Stress observed, actions taken and results:

Summary of GHFF injury and deaths as result of dispersal actions:

Data Analysis:

Brief outline of how the dispersal actions were implemented and the success of implementation given the outcomes regarding number of GHFF experiencing signs of Significant Stress.

Recommendations:
Discuss any changes to the Response Plan for approval.

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Appendix 5 – Stop Work Trigger Mitchell River Revegetation Site

DATE:..... TIME:.....

NAME:.....

POSITION:.....

WORKS REQUIRED:

ASSESSMENT STEPS:

1) Has DSE confirmed arrival of GHFF?

.....

2) Has DSE confirmed works can go ahead prior to commencement of works?

.....

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

.....

4) Are there any Grey-headed Flying-foxes present in surrounding vegetation?

.....

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

.....

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Figure 1 – Basic Steps for Daily Scheduled Assessment

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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

When in the area 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.

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Appendix 10 - 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 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 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.

Submission	Key Points	EGSC Response to Submission
	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 you are proposing is liable to fines and jail'.	***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 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.

Submission	Key Points	EGSC Response to Submission
	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 has developed a Response Plan which responds to 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 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 as described in the Response Plan. This assessment includes a determination on whether dispersal is appropriate for the site where the bats ultimately reside. If after this assessment the bats 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 the bats. These are outlined in the Response Plan.
	5.3 In some other places, flying foxes and bats provide a feature of tourism to their areas with guided	***5.3*** EGSC are not aware of any business conducting tours that incorporate the Mitchell River camp site 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

Submission	Key Points	EGSC Response to Submission
	educational observation of GHFF	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 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 alternative habitat of suitable height is grown.	***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 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	***6.2*** See 5.2

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	that would have been part of their original habitat prior to destruction for human settlement.	
	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 change attitudes and encourage awareness of GHFF.	***7.1*** This comment is regarding the action, as opposed to commenting on the The Plan. However, EGSC 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	***8.1*** EGSC acknowledges that little work has been done to date to manage the GHFF habitat

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	ensure that these rare wildlife are properly managed at this site	on the Mitchell River. Given that once the referral has been submitted (in 2009), any works on site need approval from DE. 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 has also developed a Response Plan 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 is 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

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		site is immediately adjacent or a small distance away. 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. Sites to which the colony relocates will be assessed using the Site Assessment process in the Response Plan and site-specific contingencies have developed for the establishment of a roost at an inappropriate site.
	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 well aware of the ecology and habitat requirements of GHFF and has developed a 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

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		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.
	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.
	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

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		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 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;

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		• 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 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	***11.1*** The staged approach has been developed to allow GHFF time to adjust and/or find

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	GHFF population as death will occur with no roosting area. This is not 'no or minimal impact' as stated in The Plan.	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 Why wasn't planting native trees amongst the Poplar instigated in 2003 allowing growth prior to the proposed action?	***11.3*** 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	***11.4*** Given the senescing nature of the vegetation at the camp site, it is not likely to be a

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	River roost site.	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	***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

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	the social order of GHFF 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	population should be undertaken by persons qualified to undertake scientific research. EGSC are happy to work in 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.

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	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 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

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	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 the bats 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 using a scoring system based on previous assessments of GHFF camp sites as outlined in the Response Plan. 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 dispersal 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 monitored. Protocols for site assessments and dispersal are outlined in the Response Plan.
	12.4 No matter where the GHFF go, people will always perceive these to be a problem	***12.4*** EGSC has committed to assisting with education pertaining to GHFF as part of the Plan through the Living with Wildlife theme to contribute towards a more positive image for GHFF. EGSC cannot influence how information on GHFF are provided by the media. EGSC reiterate the stance of the DEPI regarding provision of information pertaining to GHFF through referring individuals to the DEPI website and contacting DEPI directly. Please see ***Sections 8.2*** and ***8.3*** of The Plan for more detail.
	12.5 There is no need for the walking path to go through the colony.	***12.5*** See **8.5**.
	12.6 Poplars are one of many invasive species allowed to persist on private and public	***12.6*** EGSC agrees that Poplars are an issue in other areas, as are many invasive species. The revegetation program for the Mitchell River corridor has been undertaken over many years and removed a variety of species. This program is driven by the community and

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	land.	has involved many other organisations and continuation of the program will protect previous investment of grant funding, and immeasurable hours of community input into revegetating the riparian corridor.
	12.7 Remove the houses on the river side of Riverine Street.	***12.7*** This proposal would cost a significant amount on money, and does not provide an effective solution to the issues.
	12.8 Harassment of GHFF in the Response Plan does not seem consistent with caring for the species well-being	***12.8*** The Response Plan has detailed methods for issuing disturbance to GHFF should they choose to occupy an unacceptable site after revegetation commences at the Mitchell River site. Disturbance to any GHFF will occur should the area be considered to be unacceptable for a new roost site. Disturbance of GHFF will not occur on the revegetation site at any point and no revegetation works will be undertaken in August-September to remove any risk to females that are in the later stages of pregnancy should they arrive at the Mitchell River Camp. Stop-work triggers will allow assessment of the surrounding environment for presence of GHFF prior to any works being undertaken during their residency. The welfare of the species has been addressed in the dispersal protocols outlined in the Response Plan as follows: **Adaptive Management Actions to Minimise Impacts to GHFF from Dispersals** **Inappropriate sites** It is recognised that in the event GHFF reside in an area that poses a risk to public safety as a result of the staged removal of the poplars on the Mitchell River, the camp will need dispersed as soon as possible until the GHFF are settled in an appropriate location. Therefore, there will be different approaches to dispersal of GHFF from sites, depending on the time of the year. **Time of year:** May-July

Submission	Key Points	EGSC Response to Submission
		Stage in the breeding cycle: early pregnancy **Dispersal conditions:** GHFF have been present at the Mitchell River camp during this period and large numbers of bats have been recorded historically in the month of May. During this time, pre-dawn and evening disturbances will be used to encourage bats to leave the site. To minimise stress, a limit of three dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period. **Time of year:** August-September **Stage in the breeding cycle:** late pregnancy **Dispersal actions:** It is recognised that abortion during the later stages of pregnancy may occur. Bats will not be dispersed from any sites during this period.. **Time of year:** October-February **Stage in the breeding cycle:** non-flying, dependent young and independent but flightless pups **Dispersal actions:** DEPI Officers will conduct pre-dispersal evening fly-out surveys of the colony to determine if there are any independent but flightless pups. If any young are observed that are no longer being carried by their mother but are incapable of sustained flight are observed, no dispersal activity will occur. If mothers are carrying dependent young, evening and pre-dawn disturbance will be used to encourage the bats to leave the area. Disturbance will cease if flightless young are found during the disturbance To minimise stress, a limit of two dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period.

Submission	Key Points	EGSC Response to Submission
		Time of year: March-April **Stage in the breeding cycle**: mating and conception Dispersal actions: To prevent disturbances to mating events, which occur during the day at the camp site, only evening and pre-dawn disturbances will be used to disperse the colony during this period dawn and evening disturbances will be used to encourage bats to leave the site. To minimise stress, a limit of three dispersal periods of up to 20 days duration will apply. Within each 20 day period disturbance events will occur at evening and pre-dawn/early morning periods. Each dispersal period will be separated by a 5 day period. **Temporarily acceptable sites** Wherever possible, dispersal actions at temporarily appropriate sites will be restricted to the period May-June, but given that the species is often absent in the Bairnsdale area during this period, an adaptive management response will need to be implemented, so that EGSC can disperse the colony from temporarily appropriate sites when the bats arrive, with the exception of the period August - September. Therefore, the adaptive management response for inappropriate sites will be implemented. Modification of vegetation will be implemented when bats are absent as another means to discourage the colony from re-establishing at temporarily appropriate sites. **Acceptable long-term sites** Management of colonies which establish at sites deemed to be temporarily acceptable will be carried out in accordance with the contingencies outlined in Section 4 of the Response Plan. **Re-dispersals** It is impossible to determine cumulative impacts on GHFF from re-dispersals and

Submission	Key Points	EGSC Response to Submission
		therefore re-dispersals will be limited. In the event that a colony establishes at an inappropriate site as defined in the Response Plan, re-dispersals can occur until the colony settles in a site that is either temporarily acceptable or acceptable in the long term. In this case of a colony settling in a temporarily acceptable site, only one re-dispersal will occur in any 12 month period to limit cumulative impacts. The welfare of the bats has also been addressed by enacting a stop work trigger if any of the following occur: • Any female GHFF are giving birth in the area(s) subject to the dispersal activity; • More than 5% of dependant young subject to the dispersal activity are Flightless dependant young; • The day of the proposed activity is a Hot Day, predicted to reach 30°C before 10am or reach greater than 35°C over the day • A Heat Stress Event have been declared by a Senior DEPI Manager either the day of or within two days on the proposed dispersal activity • More than 5% of GHFF subject to the dispersal activity are showing signs of Significant Stress; or • Anything else at the discretion on the Project Manager or the DEPI Wildlife Management Unit.