

Submission to The Standing Committee on Environment and Planning

Inquiry into Ecosystem Decline in Victoria

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Friends of Bats and Habitat Gippsland

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Summary in relation to the terms of reference

The Grey-headed Flying Fox Colony in Bairnsdale
Friends of Bats and Habitat Gippsland

The extent of the decline of Victoria's biodiversity is severe, directly threatening the ability of keystone species, the Grey-headed Flying Fox to roost, find food, and survive. Logging, bushfires, industrial scale landscape-wide planned burns and drought resulting from land clearance and climate change have reduced the availability of food for this species to the extent of causing an east coast mass starvation event in 2019. Each year extreme heat is increasing and killing thousands of flying foxes. These threats to Grey-headed flying foxes are a threat to biodiversity because east coast forests rely on flying foxes for effective reproduction.

We are watching Grey-headed flying-foxes go extinct. We have deep concerns for the wider implications of the health and sustainability of natural forests in this region, and the entire east coast if the GHFF are removed from the landscape, or they become unable to travel across the landscape as roost sites and foraging areas become more fragmented and less reliable.

This extreme decline in Victoria's biodiversity is the result of human activity and we can change that to prevent ecosystem destruction now.

Vicforests are now logging the remaining long unburnt refuges of forest that didn't burn in the unprecedented Gippsland bushfires of 2019/20. It is too late to transition out native forest logging. Logging native forest needs to end immediately.

Fire is a threatening process. Industrial scale planned burns in remaining unburnt forest refuges must be paused and reviewed, both for efficiency in stopping bushfires and for the ecological damage they cause.

The Bairnsdale Grey-headed Flying fox colony is a vital roosting and breeding colony for the species but European land clearance has pushed this site into a very small limited space on the Mitchell River in the city of Bairnsdale. East Gippsland Shire Council directly threaten to remove even this area of roosting trees, which would directly threaten the ability of this keystone pollinator species to survive, and thus directly threatens Victoria biodiversity.

The impact on people, particularly First Peoples, and ecosystems, if more is not done to address the threats to the Grey-headed flying fox community is that the already remnant areas of whole ecosystems will entirely collapse, and with them the ability of human cultures to care for country and community. These words may seem rhetorical, especially to non-Indigenous readers, but the depth of Gunai Kurnai peoples' interrelationship with Country, described by Europeans as 'ecosystems' and 'biodiversity' is total. This has been documented by European scholars, and the care of First Peoples for country enables us settlers also to live here. The impact of our European extraction of wealth from Gunai Kurnai Country through logging, farming and settler colonialism is destructive and will very soon destroy all of our shared human ability to live and farm with the rising temperatures of climate change. The starvation events now inflicted on Grey-headed flying foxes through human environmental damage will come to affect humans too unless obvious actions are taken to address these threats. This submission describes the basic need for all levels of government and agencies to at least stop attacking the roosting colonies of threatened keystone species, and ideally to support community work that is currently the only attempt to mitigate threats to this ecosystem.

The legislative framework protecting Victoria's environment is inadequate. The protection of the vital maternal roosting colony of the Grey Headed flying foxes in Bairnsdale has been inadequate. While the EPBC acknowledged the importance of the East Gippsland Shire Council revegetating the roost area when they granted them a permit to clear the roost trees, there has been no legislative intervention to redress the Shire's failure to revegetate and thus their failure to honour the conditions of the EPBC permit. Shire concreted the area they were supposed to revegetate (threatening the remaining diminished roost site as well as failing to fulfil the conditions of their EPBC permit) but who is prosecuting them for this in defence of our ecosystems vital for continued human occupation? No one. The legislative framework protecting Victoria's environment is inadequate.

Government programs and funding protecting and restoring Victoria's ecosystems are inadequate and ineffective. East Gippsland Shire Council has clearly and consistently acted in attack against the Grey-headed flying fox colony, with their only motivation being a small but vocal minority of powerful men in the community. This is despite the broad range of groups and many people that Friends of Bats Gippsland represents in our work to support the legislatively protected right of the Grey-headed flying foxes to be allowed to live. There is no ongoing work to protect or restore Victoria's ecosystems in the vicinity of Bairnsdale. This Inquiry must pay attention to the total lack of government programs and funding that even claims to protect and restore Victoria's ecosystems.

Legislative, policy, program, governance and funding solutions to facilitate ecosystem and species protection, restoration and recovery in East Gippsland Shire area in Victoria, especially in the context of climate change impacts, is entirely lacking. This submission outlines the actions the local government has taken to actively destroy the habitat of the vulnerable and threatened Grey-headed flying foxes, a keystone species of biodiversity, in Bairnsdale Victoria.

There are many opportunities to restore Victoria's environment while upholding First Peoples' connection to country, and increasing and diversifying employment opportunities in Victoria, but none are being pursued. If there is any government intent to support First Peoples' connection to country, and increase and diversify employment opportunities in Victoria, there could be designated positions for Gunai Kurnai Community connected people created within all levels of government and within government bodies such as DELWP and the EPBC. This has not been done. There could be even a real consultation with existing Gunai Kurnai organisations such as Gunaikurnai Land and Waters Corporation (GLAWAC) and Gippsland and East Gippsland Aboriginal Co-operative (GEGAC) – real consultation meaning other than a statement on government paper – but this is not being done. If you want opportunities to restore Victoria's environment while upholding First Peoples' connection to country, and increasing and diversifying employment opportunities in Victoria then the first step is to consult with GEGAC and GLAWAC, and with Gunai Kurnai woman Lidia Thorpe, the Greens Senator for Victoria.

The following submission by Friends of Bats and Habitat Gippsland outlines the current ongoing threats to the existence of the Grey-headed Flying Fox in East Gippsland, which are threats to a keystone species responsible for mass pollination of the native forests.

About Friends of Bats and Habitat Gippsland (FOBHG)

We are a diverse group of over 200 residents of Gippsland and beyond. We advocate for protection, conservation, research, innovation and education for bats and their habitat across Gippsland and beyond.

We monitor and survey primarily Grey-headed Flying-fox, *Pteropus poliocephalus* roost sites and forest foraging areas across Gippsland.

Friends of Bats and Habitat Gippsland formed in 2018 in response to concerns about the management of the Grey-headed Flying-fox colony in Bairnsdale by East Gippsland Shire Council under the approval of the Department of Environment.

Friends of Bats and Habitat Gippsland are comprised of representatives from the following local Landcare and environment groups:

- Gippsland Plains Conservation Management Network
- East Gippsland Rainforest Conservation Management Network
- Gippsland Environment Group
- Environment East Gippsland
- Lake Tyers Coast Action
- Eagle Point Landcare Coastcare
- Bairnsdale Urban Landcare Group
- Nungurner Landcare Group
- Bairnsdale Junior Field Naturalists Club
- Friends of the Gippsland Lakes
- East Gippsland Wildlife Rehabilitators Inc
- Victorian Advocates for Animals
- Friends of Bats and Bushcare Inc. Yarra Bend
- Animalia Wildlife Shelter Inc.

Protection Status of Grey-headed Flying-fox, *Pteropus poliocephalus*

- In 2001 Listed as Vulnerable under the EPBC Act
- Listed as Threatened under Flora and Fauna Guarantee Act 1988 (Victoria)
- Listed as Vulnerable (Advisory List of Threatened Vertebrate Fauna in Victoria: 2013 list)
- Listed as Vulnerable (Global Status: IUCN Red List of Threatened Species: 2019.2 list)

There is no approved Conservation Advice for this species.

There is no adopted or made Recovery Plan for this species.

No Threat Abatement Plan has been identified as being relevant for this species.¹

¹ http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=186

Grey-headed Flying-foxes in Victoria

Grey-headed Flying-foxes are two million year residents of the east coast of Australia and are a keystone species in the ecology and evolution of the east coast forests and natural environment.

Flying foxes are the only long distance pollinator of native forests and they tell an amazing story of inter-species co-evolution. Many eucalypts only truly open their flowers and pump out nectar at night, in order to attract the best pollinators - flying foxes. Daytime bees and birds are left to mop up, as most flowers are dead by morning. Over one hundred trees and shrubs rely on flying foxes for effective reproduction.² Between pollination and seed dispersal, a colony of flying foxes is an engine of biodiversity.

Grey-headed Flying-foxes have always visited Victoria. They came here in the past in times of forest mass blossom events and in times of drought further north. Since the Millennium drought of 2001, in response to drought, fires and land-clearing in NSW and QLD, flying foxes have established 40 new camps in Victoria. Grey-headed Flying-foxes came to Victoria as food and habitat refugees and they stayed. 90% of the new camps in Victoria were established within 500 metres of people.³

CASE STUDY: A Grey-headed Flying-Fox Colony of National Significance: Mitchell River Bairnsdale

The Australian government considers the Bairnsdale Grey-headed Flying-fox colony to be a colony of national significance.⁴ This colony forms a vital link in the chain of camps running from Brisbane to Adelaide. It is a whole-of-life-cycle camp in which mating, birthing and raising young to independence occurs.

Bairnsdale is an historic colony, with references to GHFF being here back to the 1850s, the time of European arrival. In the 1950s, the colony was further down the river, away from the town. This roost site was cleared just decades ago, which has forced the GHFF to the current roost spot on the river because it is a stand of mostly White Poplar (*Poplar Alba*) trees which is their last refuge. The poplar trees and ivy of the current site mimic an ancient rainforest that was on this site prior to the land clearing in the 1800s.

During February and March, the Bairnsdale colony can increase in numbers because Gippsland forests are flowering in abundance. Flying foxes travel hundreds of kms to come here to feed. The east coast population of Grey-headed flying-foxes is one mobile colony, the flying fox you see today basking in the sunshine may be the same one you see in Queensland or when you visit Melbourne or Geelong. At dusk you can witness the spectacle as they take to the skies in search of native nectar, pollen and fruit. Flying foxes will take backyard fruit when hungry, but it is the high-energy nectar and protein-rich pollen of flowering eucalypts, banksias, melaleucas and rainforest fruit of Gippsland's coastal and lowland forests that fuel their epic journeys of up to 100kms a night.

The Bairnsdale colony is a typical Australian flying-fox roost site on a large river with a steep escarpment and dense vegetation to protect it from the elements. GHFF like to roost adjacent to large areas of water. In summer they drink by diving into the water, flying back to trees, and licking the water off their fur.

² [Les Hall and Greg Richards](#) Flying Foxes : Fruit and Blossom Bats of Australia. University of New South Wales Press Ltd., 2000

³ Conservation biologist Dr Peggy Eby, March 2019 Biolinks Alliance, Bendigo
<https://biolinksalliance.org.au/peggy-eby-talk?rq=peggy%20eby>

⁴ Australian Government Department of the Environment, Nationally Important Camps of Grey-Headed Flying fox
<http://www.environment.gov.au/system/files/pages/0f6f5576-50e8-4e02-be7c-18e7d3ad7f23/files/map-grey-headed-flying-fox-nationally-important-camps.pdf>

This GHFF colony in Bairnsdale is central to significant areas of native coastal and lowland forests. There is no other vegetation on the Mitchell River that could support a flying fox colony until the Mitchell River National Park, around 30kms upstream.

The Bairnsdale colony has been on Council land at the Bairnsdale Mitchell River site almost continuously since 2001.

Background

East Gippsland Shire Council (EGSC) is responsible for the management of the land on which the Grey headed Flying-fox colony in Bairnsdale is located

In 2015, after 6 years of failed attempts, East Gippsland Shire Council received a permit from the EPBC (Permit 2009/5017) with conditions, to remove all of the roosting trees of the GHFF colony on the Mitchell River.

In February 2013 a version of the EGSC Mitchell River Roost site Management Plan was open for public comment. A total of 12 responses were received on the document, with all 12 responses being in favor of leaving the GHFF colony in-situ.⁵

It appeared that EGSC acted to placate the views of a few noisy and locally influential residents and were happy for untruths about GHFF to be repeated in the local press.

The subsequently approved EPBC Permit (2009/5017) required that the roosting trees be removed in a 3 stage process – with one third to be removed each year, over a minimum of 3 years, conditions permitting. The permit effectively allows for a staged removal of the trees and vegetation that constitute the total roosting habitat of this endangered species

The putative reason for the EGSC actions (detailed in the EPBC approved *Mitchell River Revegetation Program GHFF Roost Site - Strategic Management Action Plan (SMAP)* are, variously, that:

1. The trees are "weeds" and "dangerous" and a "health and safety risk" but no signage was ever installed warning members of the public and those plants named "weeds" are *habitat* performing a critical ecosystem service.
2. The GHFF colony is not in a "appropriate location" but GHFF were roosting in a location they chose in dense foliage with an understorey and on a steep escarpment to protect them. It is highly suitable and is away from housing. No other possible suitable roosting site is available for more than 30 kilometres.
3. Local settlers "complain" about the bats but the number of people who support this indigenous species forming Friends of Bats and Habitat Gippsland far outweigh the small number of Shire registered and local press complainers.

Our primary concern was that the permit allows for actions designed to evict the entire colony, without any rational explanation for where the Flying Fox colony will relocate to and without adequate consultation with the community.

⁵ P108: *Mitchell River Revegetation Program GHFF Roost Site Strategic Management and Action Plan*. Appendix 9, Addressed public comments : Available at: https://www.eastgippsland.vic.gov.au/Community/Our_Environment/Biodiversity

Published scientific research overwhelmingly finds that with removal of roost trees, Flying-foxes will not leave, but will take up roost in nearby, often less suitable, multiple sites.⁶

For over ten years, concerned residents and citizens of East Gippsland wrote to the EPBC and local, State and Federal Ministers to intervene and call a halt to East Gippsland Shire Council (EGSC) actions and review the current, inappropriate and destructive EPBC permit application (2009/5017) with the intention of adopting a fresh, community supported approach to the management of the GHFF colony in Bairnsdale as a Conservation Reserve that is habitat for a threatened species.

Concerned residents and citizens lodged various complaints with the Federal EPBC Office of Compliance, DEE regarding the EGSC permit application (2009/5017) that contains several critical errors. One critical error is that it refers to the GHFF colony as a *Summer Camp* when it is clearly a whole-of-life-cycle camp. Another critical error is failure to note that there is also no other suitable roosting habitat for GHFF within many kilometres of this existing site.

The permit to remove roost trees was granted in 2015 and is valid until 2022. How can a permit for removal of threatened species habitat be granted so far into the future?

The *Mitchell River Revegetation Program GHFF Roost Site Strategic Management and Action Plan* was co-designed and co-authored by federal, state and local government bureaucrats and approved by the Commonwealth. Documents obtained under Freedom of Information, show the EPBC worked extensively with EGSC council to help them design and successfully gain the permit.

The *Mitchell River Roost Site Strategic Management and Action Plan* approved by the EPBC polarized our community and did not tackle the issues of conservation, education and facilitating human and non-human co-existence.

We believe that the *Mitchell River Revegetation Program GHFF Roost Site Strategic Management and Action Plan* obfuscated the spirit and purpose of the Environmental and Biodiversity Conservation Act (1999). It appears to be a patchwork of strategies that **circumvent the legislation**.

Lack of monitoring and enforcement of EPBC Permit conditions

Local residents (FOBHG) had to adopt responsibility for monitoring and the implementation of the *Roost Site Strategic Management and Action Plan* approved by the EPBC.

East Gippsland Shire Council cleared one third of the roost site in 2015. No revegetation works or interpretive signage were undertaken until 2019, and the Shire still planned to remove the remaining 2/3rd of total area of roosting trees.

In 2016, 2017 and 2018, tree removal work on the site was stopped due to conditions attached to the EPBC approval which were identified and reported by our volunteer group. This included heavily pregnant and juvenile Flying-foxes present in trees marked for removal. This made us aware of the inadequacy of existing monitoring practices in relation to the threatened fauna assessment and adaptive management responses.

⁶ *Review of past flying-fox dispersal actions between 1990-2013*. Prepared by Billie Roberts and Peggy Eby June 2013

No Commonwealth officer has visited the Mitchell River site either before or since the 2015 signing of approval. When reporting perceived breaches on numerous occasions, the Office of Compliance, DEE stated *'it is not their policy to let the person who reported the breach know the outcome of the reported breaches - unless the matter is to go to court.'* This is not transparent or helpful.

Lack of Agency Co-operation, Communication and Public Education

Volunteers have had to fill the gaps in public education.

In the *Mitchell River Revegetation Program GHFF Roost Site Strategic Management and Action Plan* approved by the Federal Environment Department, East Gippsland Shire Council states it will provide 'Ongoing Community Engagement & Education'. In reality EGSC have delivered very little awareness or education initiatives as required by the condition.

FOBHG has tried in a volunteer capacity to fill an identified gap in local public education to tackle the issues of conservation, education and facilitating human and non-human co-existence, in relation to flying-foxes at this site.

Friends of Bats and Habitat volunteers have had to drive a media campaign^{7 8} with local, state and national print, radio and television media to promote awareness, conservation and education around flying-foxes. FOBHG established social media platforms^{9 10} to share information with (at time of writing over 2000 followers), interested individuals and organisations and to counter the bad press that fear and misinformation around this species had created.

FOBHG lobbied local councillors and MPs and investigated other GHFF roost site management models e.g. Yarra Bend Melbourne¹¹, Bega Valley Shire, and Ku-ring-gai Flying Fox Reserve¹² Sydney, where GHFF colonies on council land are successfully managed as conservation reserves. In these places, the colonies additionally benefit communities as ecological and tourism assets.

Consequences of removing one third of the roosting area at the Bairnsdale Colony in 2015

Removal of the trees forced the flying-fox colony to splinter and create a second roost, 300mtrs away in Plane trees over a bitumen road in a popular picnic area beside the river. This roost was less protected from the elements and predators than the roost that had been destroyed by the EPBC approved permit. It also put flying-foxes in closer contact with the public.

After the one third of roost was removed at Bairnsdale in 2015, the ground lay bare for four years. Twice it was blanket sprayed with herbicide and in between spraying, the weeds accumulated. No revegetation works occurred.

⁷ <https://www.theguardian.com/environment/2018/jun/03/bairnsdales-bat-battle-photo-essay>

⁸ <https://www.australiangeographic.com.au/topics/wildlife/2020/06/grey-headed-flying-foxes-headed-for-mass-starvation-event/>

⁹ <https://www.facebook.com/batfriendsgippsland>

¹⁰ <https://www.facebook.com/batting4bats/>

¹¹ *Friends of Bats and Bushcare Inc Yarra Bend – Parks Victoria Volunteers: A great model for community engagement and conservation <https://www.youtube.com/watch?v=VxmL08el0as> | <https://vimeo.com/255512375>

¹² <http://sydneybats.org.au/ku-ring-gai-flying-fox-reserve/>

Volunteers and residents continued to lobby Shire, DELWP, EPBC, Department of Environment, State and Federal MPs for the EPBC approved roost removal plan to be scrapped and a long term strategic approach that would allow conservation and revegetation of appropriate species at this site. We lobbied to create alternative native vegetation roost sites on the river that would in the future be more suitable locations to support this colony.

Late in 2018 in Far North Queensland, over a couple of hot days, around 20,000, over one third of the entire population of Spectacled Flying-foxes died in extreme heat.

In December 2018 and January 2019, FOBHG contacted DELWP Gippsland and DELWP Head Office Melbourne with concerns that Bairnsdale was forecast for extreme heat events this summer that would potentially cause mass flying-fox fatalities at this site and that we needed to have a heat event response plan in place. We were concerned that the colony had now split into 2 colonies and the splinter colony was roosting in a substandard habitat over a bitumen road and a busy picnic area.

25 January 2019: Over 2000 Flying-foxes died while roosting in substandard habitat in extreme heat at Bairnsdale and Maffra¹³

On January 25, local residents and FOBHG monitored the colony. The temperature peaked at 45.4 degrees around 2pm.

An eyewitness account "At 9 am Flying-foxes were starting to move down low in the trees and were fanning themselves. But by 1pm they were going into heat stress. The worst affected area was in the Plane trees beside the road. We rushed out and bought spray packs and came back and started trying to spray the clumps and carry water but by then there were dead and dying bats dropping out of trees all around us, dead and dying bats all over the road... I've never seen anything like it. And all while people were there having picnics under the trees.

An incident control team from DELWP arrived about 6pm, but it was too late by then. It was just a nightmare ... DELWP was just euthanising and bagging them"¹⁴

In Bairnsdale on the night of Jan 25, babies cried for dead mothers all night and then they too perished in the days that followed. DELWP spent 3 days bagging and euthanising dead animals in Bairnsdale alone. Of all those dead and dying, only four pups were saved. We could have done so much better.

The situation was declared a Natural Emergency by the Department of Environment, Land, Water and Planning and Victoria Police.¹⁵

There was nothing natural about this mass death. East Gippsland Shire Council had removed the dense vegetation that would have protected the flying-foxes from the extreme heat, with approval from the Federal Department of Environment. Most fatalities occurred where flying foxes were roosting in the busy picnic area. This is because away from the main colony there was no mid or understory vegetation, and these trees were adjacent to asphalt roads.

¹³ <https://www.theage.com.au/national/victoria/nightmare-over-2000-flying-foxes-perish-during-victorian-heatwave-20190129-p50uag.html>

¹⁴ <https://www.theage.com.au/national/victoria/nightmare-over-2000-flying-foxes-perish-during-victorian-heatwave-20190129-p50uag.html>

¹⁵ <https://petergardner.info/2019/01/bairnsdales-bats-and-the-climate-emergency/>

On 25 January 2019, many more flying foxes died of extreme heat across Vic and SA. Many of us who witnessed these terrible events are still trying to come to terms with it.

Post Mass Death Event at Bairnsdale

Gippsland was gripped by drought and Friends of Bats and Habitat continued to receive calls from across Gippsland of injured and trapped flying foxes in barbed wire and fruit netting. Experienced volunteer bat rescuers were driving from Melbourne to rescue trapped and injured flying foxes in Gippsland.

FOBHG established partnerships with Animalia Wildlife Shelter Inc. and Wildlife Victoria to recruit and create a network of trained vaccinated volunteer flying-fox rescuers across Gippsland.

Friends of Bats and Habitat Gippsland researched available information in regard to water invention and triage for flying-fox heat events. We networked with every scientist, researcher, flying fox rescuer and rehabilitator on the east coast we could find who had worked with flying foxes and heat events. We watched training videos and attended forums.

Animalia Wildlife Shelter Inc committed to supplying an experienced heat event team to Bairnsdale to manage and train the people on the ground for future heat events using water intervention, triage and hydration on site.

What we learnt from the Mass Death Event

There were only a couple of people vaccinated and no one was trained to handle flying-foxes in Gippsland. DELWP doesn't rescue and/or rehabilitate wildlife.

We learnt that flying foxes go into heat stress when the temperature reaches 38 degrees. How fatal this is depends upon how long the temperature remains over 38 degrees and how young the juveniles are in the colony. We knew you could hydrate bats using spray backpacks of water, but if we could drop the temperature over a bigger area, by installing sprinklers, it would save on human energy and intervention, cause less stress to bats and be more efficient. This had been used in other places in VIC, NSW, QLD and SA with great success.

We knew from what happened at Bairnsdale and from research that dense upper, middle and understory vegetation was key factor aiding flying fox survival and keeping them cooler in extreme heat events. We lobbied Shire and DELWP for permission and support to under-plant appropriate local native rainforest species in the existing 2/3 remaining roost area of the colony and to install interpretive signage.

Action taken post Mass Death Event

Friends of Bats and Habitat Gippsland lobbied Shire and DELWP for input into a long term plan to conserve this species in Gippsland into the future.

We lobbied Shire for the area that was cleared in 2015 to be successional replanted with local native rainforest species. Friends of Bats volunteers offered to purchase and plant appropriate species but we were unable to get permission from Shire to plant anything on this site.

We lobbied DELWP Gippsland to meet with Friends of Bats to explore options of water intervention during heat events at this site.

We lobbied Shire to install water points that could be used in future heat events at the Bairnsdale colony.

East Gippsland Shire and DELWP stalled FOBHG requests to meet during 2019

East Gippsland Shire committed to take a more strategic approach to managing the roost site and said they would not cut down anymore of the roost vegetation and closed the roost area to the public.

In winter 2019, when flying foxes were absent from the roost site, East Gippsland Shire constructed a concrete footpath that zig zagged the entire length and breadth of the original 1/3 roost site that had been removed in 2015.

Concerned that heat levels would rise at this site, Friends of Bats lobbied for a more environmentally friendly option of footpath, but Shire went ahead with the concrete. This amounted to over 600 square metres of concrete being poured into the old roost site.

In 2019 after nearly 18 years of flying-foxes continuous habitation at this site, East Gippsland Shire Council engaged Friends of Bats and Habitat Gippsland to create interpretative signage that was installed at the Bairnsdale roost site.

2019 Thousands of flying foxes die from Mass Starvation

The east coast population of Grey-headed flying-foxes is one mobile colony. The Bairnsdale colony had been empty during winter/spring of 2019 for the longest period since in nearly 20 years of continuous habitation at this site

During winter and spring of 2019 with drought gripping most of the east coast and bushfires in NSW and QLD, from Brisbane to Bega, GHFF died in mass starvation events, mass abortion events and mass abandonments and deaths of pups.^{16 17 18}

In early November 2019, flying foxes carrying small pups and pregnant females started to fly in to Bairnsdale. Pups were born here and a small colony re-established itself at Bairnsdale.

December 2019

By the middle of December, East Gippsland was alight with bushfires. The season was forecast to be catastrophic. We were incredibly concerned that we were going to witness another mass death here at Bairnsdale and nothing had been put in place to mitigate this happening again.

Friends of Bats had improved our knowledge of heat events and recruited vaccinated and experienced volunteers to assist with heat events.

In the middle of December, we realised that however horrendous and preventable the previous January had been, no one was coming to save the flying-foxes and we would be seeing the same again this summer, with potentially thousands more flying-foxes dying in our backyards and town.

¹⁶ <https://www.abc.net.au/news/2019-12-14/mass-baby-bat-deaths-from-drought-and-bushfire/11793826>

¹⁷ <https://www.abc.net.au/news/2019-09-19/bat-population-under-threat-in-queensland-mass-starvation-event/11528566>

¹⁸ <https://www.winghamchronicle.com.au/story/6395685/flying-foxes-are-dying-of-starvation-due-to-drought/>

Friends of Bats purchased fire-fighting pumps, sprinklers and plumbing, portable water tanks and trailers, fire-fighting water spray back packs, triage tent and assorted sundries. We spent around \$5000 of our own money. We organised a volunteer team to support triage at the site. We recruited fit people who could work under direction, in extreme heat, to operate backpacks to wet down roost vegetation and hydrate flying foxes.

30 December Gippsland was forecast to be catastrophic day with bushfires and extreme heat and strong winds. The colony was small, mostly mothers and very young juvenile pups who were most susceptible to dying in extreme heat.

On the 29 December we installed the sprinklers under the colony and tested the pumps. That evening we went to check everything was still there and it had been dismantled. DELWP staff were guarding the colony site and said DELWP would be managing the heat event and no members of the public would be allowed on-site.

East Gippsland Shire officers had dismantled the sprinklers earlier in the day and as members of the public we were told we had no authority to be there, no authority to put sprinklers on Shire land and no authority to interfere with wildlife.

Meanwhile the bushfires in East Gippsland were escalating and Vic Emergency was telling people were to evacuate the entire region. We figured DELWP might be too busy the following day to guard the colony from us and we decided to just reassemble all the sprinklers, and in the morning try and build a relationship with DELWP in the hope they would let us use water to mitigate the catastrophic day ahead.

30 December 2020, Bairnsdale

At 9am it was 38 degrees, the temperature at which flying foxes start to go into heat stress.

At 11am it was 42 degrees and DELWP said we could turn on the sprinklers.

Within 20 minutes of running sprinklers under the roost, the temperature under the roost had dropped by 15 degrees. The bats moved down low in the trees and mothers moved juveniles to the coolest places around the edge of the sprinklers. The outside temperature continued to rise with drying gale force hot north west winds. The fires burning in East Gippsland became mega storms that afternoon, a massive fire was burning just 15kms north of the town.

At 2pm the outside temperature peaked at 44.4 degrees and the flying foxes roosting furthest away from the sprinklers, closest to the bitumen road were clumping and starting to drop out of trees from severe heat stress.

The heat triage team went into action. The backpack team started to gently spray the vegetation. Flying foxes that dropped were brought out of the main colony without disturbance and taken to triage for heat stress and dehydration. 100 flying foxes that were treated in triage were released back onsite the same day. 35 flying fox pups were taken into triage that would be successfully released back at Bairnsdale in autumn.

At 6pm the temperature was still 39 degrees. The day had over 8 hours in the death zone temperature and the fatalities were around 300 flying foxes, mostly juveniles. This was in stark contrast to the previous year when with no intervention, over 2000 flying foxes died.

DELWP Gippsland Wildlife officers said it was a success and thanked us. And they were a great team to eventually work with. January 2020 had 3 more extreme heat event days with sustained temperatures over 38 degrees. DELWP worked with us and we ran sprinklers and

spray back-pack teams on those three days and had no more heat deaths and no flying-foxes were taken into triage as the sprinklers prevented the heat stress. It was one of the few good news stories in all the trauma unfolding as Gippsland burnt.¹⁹

The temperature under the roost around the sprinklers was around 15 degrees lower than the outside temperature. It made the difference between life and thousands of preventable deaths.

Sadly the temperature on the old roost site that was now a massive concrete path was 15 degrees hotter over the footpath than the surrounding area.

Conclusion

We are watching species become extinct. The laws designed to protect threatened species are broken.

After nearly 20 years of Grey-headed flying foxes being state, federally and internationally listed as threatened and vulnerable to extinction: There is no approved Conservation Advice for this species. There is no adopted or made Recovery Plan for this species. No Threat Abatement Plan has been identified as being relevant for this species.²⁰

A Shire Council is not the right management authority, doesn't have adequate resources and is not qualified to manage the complex nature of a site that is significant habitat for a threatened species.

DELWP needs to work with the community to build relationships, to work with, resource and support the members of the public and the volunteer wildlife rescuers and rehabilitators who bring with them years of hands on experience and expertise.

Flying foxes are the canaries in the coal mine. Each year extreme heat is increasing and killing thousands of flying foxes. Heat events kill people too.²¹ Local native rainforest species urgently needs to be planted to cool down urban and peri-urban areas – for people and for bats. A project to re-generate rainforest and other associated vegetation types along the Mitchell River within the town and immediately beyond is a project that public and private landholders and active parts of the community could support and champion.

Native forest destruction - the habitat of flying foxes and everything else that lives in a forest - by logging and industrial scale planned burns need to stop immediately.

¹⁹ Nothing like a cool shower to beat the heat! | DEWLP Gippsland Wildlife Response Officers have been working with community volunteers to hydrate Bairnsdale's grey-headed flying fox colony.

<https://www.facebook.com/watch/?v=2759226677529150>

²⁰ http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=186

²¹ <http://petergardner.info/2019/02/more-on-bairnsdales-bat-die-off/>