2024 NATIONAL FLYING-FOX FORUM

PROGRAM

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GREENLOANING BIOSTUDIES

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BYRON SHIRE COUNCIL

THURSDAY 10TH OCTOBER 2024 – RAMADA BY WYNDHAM MARCOOLA BEACH
923 DAVID LOW WAY MARCOOLA – BEACHFRONT BALLROOM

0830-0900	**REGISTRATION**
QLD TIME	**SESSION 1**
0900-0910	**WELCOME AND HOUSEKEEPING**
0910-0920	**WELCOME TO COUNTRY**
0920-0930	**FORUM OPEN** Cr Tim Burns | Division 3, and Environment and Liveability Portfolio Councillor | Environmental Operations | Sunshine Coast Council
0930-0945	**LEARNING TO GIVE A FLYING-FOX ABOUT BATS** Tyron de Kauwe | Environmental Operations | Sunshine Coast Council
0945-1000	**POPULATION AND MOVEMENT DATA FOR AUSTRALIAN FLYING-FOXES** Adam McKeown[1] | Eric Vanderduys[2] | CSIRO Land & Water, [1]SA & [2]Qld
1000-1010	**COMMONWEALTH UPDATE** Christopher Hicks | Sandra Abell | Peter Latch | Tim McGrath | Department of Climate Change, Energy, the Environment and Water
1010-1020	**QUEENSLAND UPDATE** Michael Messer[1], Lindsay Delzoppo[2] | [1]Governance and Operational Policy | [2]Wildlife and Threatened Species Operations | Department of Environment Science and Innovation
1020-1030	**AUSTRALASIAN BAT SOCIETY FLYING-FOX UPDATE** Jess Bracks, Maree Treadwell Kerr, Sarah Curran, Justin Welbergen | Flying-fox Expert Group Co-Conveners | Australasian Bat Society
1030-1040	**QUESTIONS AND DISCUSSION**
1040-1120	**MORNING TEA**

QLD TIME	SESSION 2
1120-1135	**NEW SOUTH WALES UPDATE** Matthew Mo | Biodiversity and Conservation | NSW Department of Environment and Heritage
1135-1145	**SOUTH AUSTRALIA UPDATE** Jason van Weenen, Liberty Olds | Green Adelaide | Department of Environment and Water
1145-1155	**VICTORIA UPDATE** Leila Brook, Warrick McGrath, Angus Williamson, and Vural Yazgin | Biodiversity Division | Department of Energy, Environment & Climate Action
1155-1205	**AUSTRALIAN CAPITAL TERRITORY UPDATE** Clare Wynter[1] | Dr Veronica Rodriguez[2] | Stephen Bartos[1] | [1]ACT Wildlife | [2]Office of Nature Conservation, ACT Government
1205-1215	**SPECTACLED FLYING-FOX RECOVERY TEAM UPDATE** Maree Treadwell Kerr and Sera Steves | The Spectacled Flying-fox Recovery Team
1215-1225	**20 YEARS OF THE BAT HEALTH FOCUS GROUP** Shana Ahmed | Wildlife Health Australia
1225-1235	**MITIGATING HEAT STRESS IN AUSTRALIAN FLYING-FOXES** Samantha Yabsley[1], Jessica Meade[1], Christopher Turbill[1], Matthew Mo[2], Eliane McCarthy[1], Annabel Dorrestein[1], John Martin[1,3], Justin Welbergen[1] | [1]Western Sydney University | [2]NSW DCCEEW | [3]Ecosure
1235-1245	**THE UTILITY OF GPS TRACKING FOR FLYING-FOX MANAGEMENT** Dr John Martin[1,2], Jessica Meade[2], Eliane McCarthy[2], Samantha Yabsley[2], Annabel Dorrestein[2], Ram Mohan[2], Senna Grady[2], Justin Welbergen[2] | [1]Ecosure | [2]Western Sydney University
1245-1255	**QUESTIONS AND DISCUSSION**
1255-1355	**LUNCH**

QLD TIME	SESSION 3
1355-1405	**DO REHABILITATED AND HAND-REARED FLYING-FOXES SURVIVE IN THE WILD?** Dr Kerryn Parry-Jones[1], Sue Preston[2], Anja Divljan[3] | [1]University of Sydney | [2]Wildlife Animal Rescue and Care Society | [3]Australian Museum
1405-1415	**FLYING-FOX PARALYSIS SYNDROME** Dr Alison Peel | University of Sydney

1415-1425	**WHERE THE BLOODY HELL ARE YOU? THE DECLINING OCCUPANCY OF KU-RING-GAI FLYING-FOX RESERVE** Haley Henning | Natural Areas | Ku-ring-gai Council
1425-1435	**THE APPLICATION OF LONG-TERM FLYING FOX COLONY FOOTPRINT DATA AND HOW IT CAN BE APPLIED TO CONFLICT MANAGEMENT** Jess Gorring and Andrew Evans | Environmental Services | City of Moreton Bay
1435-1445	**FLYING-FOX HABITAT CONSERVATION AND PUBLIC HEALTH MANAGEMENT** Amanda Davis | Griffith University | Bat Conservation and Rescue Qld
1445-1455	**BURDEKIN SHIRE'S JOURNEY - REACTIVE TO PROACTIVE** Dr Preeti Prayaga | Public Health and Environment | Burdekin Shire Council
1455-1505	**QUESTIONS AND DISCUSSION**
1505-1530	**AFTERNOON TEA**
QLD TIME	**SESSION 4**
1530-1540	**FLYING-FOX HABITAT RESTORATION PROGRAM** Emmett Weatherford | Biodiversity Monitoring and Assessment | Shellharbour City Council
1540-1550	**BRINGING BACK FLYING-FOX HABITAT TO THE KYNNUMBOON FLOODPLAIN** Matthew Bloor | Waterways | Tweed Shire Council
1550-1600	**FRANKIE JR'S FLIGHT PATH: NAVIGATING CONSERVATION AND COMMUNITY NEEDS IN BYRON SHIRE'S FLYING-FOX MANAGEMENT PLAN** Claudia Caliari | Biodiversity Team | Byron Shire Council
1600-1610	**QUESTIONS AND DISCUSSION**
1610-1630	**FORUM CLOSE**
1630-1730	**NETWORKING**

FRIDAY 11TH OCTOBER 2024 – RAMADA BY WYNDHAM MARCOOLA SURFAIR CONFERENCE CENTRE

QLD TIME		
0900-1000	STEVE PARISH OAM: A LIFE BEHIND THE LENS	Steve will take us on a 63-year journey back to the early 1960s when little was known about Australia's fauna. His first book was published in the 1974, inspiring the formation of Steve Parish Publishing in 1985. In 2008, he was awarded the OAM for decades of work promoting Australia's nature. In 2004, he was approached to photograph and publish books celebrating Australia's flying mammals, the chiropterans, which he now regards as his greatest challenge and a highlight of his career.

1000-1030	Morning tea provided - Surfair	
1030-1200	Workshop - Should we be encouraging flying-foxes in or out of urban areas? Facilitated by Jacqueline Nolen – Sunshine Coast Council	Workshop using the World Café method designed to create a safe, welcoming environment in which to intentionally connect multiple ideas and perspectives on a topic by engaging participants in several rounds of small-group conversation. Our World Café Conversation will be exploring the question - Should we be encouraging flying-foxes in or out of urban areas? Guest speakers will provide 'food for thought' before we share in the World Café Conversation.
1200-1330	Lunch provided - Surfair	
1330	Bus pick up at Ramada Marcoola	
1350-1530	Flying-fox management – working with our local residents. with Tyron de Kauwe & Andrew Smith - Sunshine Coast Council	Demonstration of a canopy-mounted sprinkler system located in Emerald Woods Environment Reserve, Mooloolaba. Hear how this system has empowered local residents to be part of the flying-fox management process and enabled the community to co-exist with this incredibly important native species.
1530-1700	First Nations Storytelling in conservation - challenging our relationships with nature with Aunty Bridgette Chilli	Walk on Country with Traditional Owner Aunty Bridgette Chilli. Listen as she shares traditional stories of the flying-fox and First Nations Lore, inviting us to rethink our relationship with nature and our responsibilities in caring for Country.
1700-1900	Networking session and a chance to sample the Little Red Flying-fox Beer at Brouhaha Maleny	'Digest' the experiences of the day while enjoying canapes and a light dinner. We also hope to catch a glimpse of the natural wonder of the flying-fox dusk flyout from Brouhaha Maleny.
1945	Bus returns to Ramada Marcoola	

SATURDAY 12TH OCTOBER 2024 – SUGGESTED ACTIVITY
SUNSHINE COAST COUNCIL 10TH ANNUAL AUSTRALASIAN BAT NIGHT – MALENY

QLD TIME	
1300-2000	Join #frankietheflyingfox for this FREE family event including: • Speaker sessions with bat experts • LIVE native animals up close • Guided roost tours • Kids art activities • Batty stalls • Batty games • Outdoor movie under the stars • And MUCH, MUCH MORE! Tickets available: **TENTH ANNUAL AUSTRALASIAN BAT NIGHT - MALENY TICKETS, SAT 12/10/2024 AT 1:00 PM | EVENTBRITE**

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SPEAKERS

Tyron de Kauwe | Team Lead Engagement, Planning and Wildlife | Sunshine Coast Council

Tyron is a Natural Areas Conservation Officer with a strength in developing novel management techniques for wildlife conservation and conflict issues. Tyron is highly experienced in flying-fox management and conservation and is a member of the SEQ flying-fox managers group and the LGAQ/DES flying-fox special working group. He also presented at Annual flying-fox forum 2019 on novel Heat-stress Autonomous Response Unit, for which he was a Finalist for Sunshine Coast Council CEO Awards 2019 Innovation Category (Project lead). Tyron was also involved in the Queensland-first trial of subsidised services program for flying-fox management.

Adam McKeown | Research Officer | CSIRO

Adam McKeown is an ecologist working for CSIRO on a range of ecological and transport related projects. He has worked on flying-fox population and movement ecology questions on all Australian species for 20 years.

Christopher Hicks | Director Terrestrial Threatened Species | Department of Climate Change, Energy, the Environment and Water

Chris has been working in the department for more than 15 years. His previous work has mostly related to regulation under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). He has led teams that were undertaking assessment of projects under the EPBC Act, managing the Live Import List, issuing CITES permits for trading in endangered species. Chris has also worked in a range of policy roles including managing Australia's national landscape projects with Parks Australia. He contributed to bush fire recovery funding policy with the National Bushfire Recovery Agency. As the Director of Victorian assessments in the Nature Positive Research Division he established a regulatory policy team to develop a regulatory approach for offshore renewable projects. He has recently joined the Biodiversity Division and looks forward to working with the Terrestrial Threatened Species Section to bring his environmental policy and regulation skills in to conservation planning.

Michael Messer | Manager, Governance and Operational Policy | Department of Environment, Science and Innovation

Michael is Manager, Governance and Operational Policy where he is responsible for leading the development, implementation and evaluation of major and innovative policy and operational initiatives and projects for the efficient delivery of Wildlife and Threatened Species Programs such as the $2 Million program of grants for Flying-fox management to Local Councils. Michael has previously led project teams to implement significant reforms to improve rehabilitation and financial assurance outcomes in the resources sector in Queensland.

Lindsay Delzoppo | Director Wildlife Northern Operations | Department of Environment, Science and Innovation

Lindsay is the Director of Northern Wildlife Operations, where he is responsible for: public and stakeholder engagement, delivery of cassowary, crocodile and flying-fox management programs, development of wildlife management policies such as flying-fox codes of practice and roost management guidelines, and investigations and compliance under Queensland's Nature Conservation laws. His previous roles include Director of Environmental Impact Assessment (DEH), Director of Regional Service Delivery (DERM), Director of Sustainable Industries (Environmental Protection Agency), and Regional Director for the far northern region of Queensland (QPWS).

Jess Bracks | Principal Wildlife Biologist, Ecosure | ABS Flying-fox Expert Group Co-convener

Jess has 18 years' practical experience with wildlife through positions in the veterinary, zoo and consulting industries. She has extensive experience in risk assessment and managing human/wildlife conflict, with demonstrated successful outcomes developing and implementing mitigation measures for a diverse array of wildlife. Jess is passionate about driving pragmatic wildlife management policy, balancing the needs of community and conservation, and is driving a National Flying-fox Strategy to ensure a consistent and strategic national approach to flying-fox management and conservation.

Matthew Mo | Senior Project Officer | Environment and Heritage

Matthew is a Senior Project Officer working for Saving our Species, the NSW Government's flagship program for threatened species. His current role involves convening the NSW Flying-fox Consultative Committee and the NSW Flying-fox Land Managers' Network, as well as representation on a number of working groups. Matthew has led key flying-fox projects including policy work on flying-fox camp management, recent rounds of the Flying-fox Grants Program, support initiatives for wildlife carers and the phasing out of flying-fox shooting in NSW. He's currently leading a flying-fox stream for the Australian Government's bushfire recovery funding. He enjoys collaboration and has recently worked with local councils to develop flying-fox camp management case studies, and collaborated with wildlife carers, land managers and scientists to estimate flying-fox mortalities during the 2019-20 extreme heat and pup abandonment events. His work has been published in Australian Zoologist, Pacific Conservation Biology, Australian Mammalogy and Human Dimensions of Wildlife.

Jason Van Weenen | Ecologist | Department for Environment and Water

Jason Van Weenen is an ecologist with the South Australian Department for Environment and Water and has been working with threatened species conservation projects and native species management for 26 years. He now sits within the ecology team of the Green Adelaide Landscapes Region and has been involved with flying foxes since their arrival in South Australia in 2010. In his personal time, Jason is committed to the restoration of bushland areas in his care, volunteering in wildlife conservation projects and leading biodiversity conservation activities on one of SA's offshore islands.

Dr Leila Brook | Senior Projects Officer | Department of Energy, Environment and Climate Action

Dr Leila Brook is a Senior Wildlife Projects Officer in the Statewide Wildlife Advisory Services team (SWAS) in the Victorian Department of Energy, Environment and Climate Action. SWAS provides advice to stakeholders and community on wildlife, including flying-foxes, with a particular focus on managing impacts of wildlife and supporting a living with wildlife approach. As part of her role, Leila engages with land managers and members of the public about flying-foxes, undertakes camp monitoring and supports DEECA's emergency response to extreme heat events.

Clare Wynter | ACT Wildlife

Clare Wynter, with her partner Stephen Bartos, are the Flying-fox coordinators for ACT Wildlife, the licenced wildlife rescue and rehabilitation volunteer organisation in the ACT. Clare has been rescuing and caring for flying-fox pups and adults for a number of years in Canberra and also organised the ACT Net swap program that commenced in the spring of 2022. This program is funded by the ACT Government. She is also a member of the Australasian Bat Society.

Dr Veronica Rodriguez | Office of Nature Conservation ACT Government

Veronica is a plant ecologist currently working in the Biodiversity Policy team in the Office of Nature Conservation in the ACT Government. Veronica has done extensive research on the capacity of Australian and Chilean plants to deal with extreme temperatures and she is particularly interested on how alpine species will cope with warmer temperatures. In the ACT Government, Veronica works on Threatened species policy, participating in listing assessments, liaising with the ACT Scientific Committee, and writing action plans to support the recovery of threatened species. She recently wrote the Native Species Conservation Plan for the Grey-headed Flying-fox for the ACT (Grey-headed Flying-fox (Pteropus poliocephalus) Native Species Conservation Plan (act.gov.au)) and discovered the beauty and ecological relevance of this species. Veronica is currently working on the implementation of this plan in close collaboration with ACT Wildlife."

Maree Treadwell Kerr | Spectacled Flying-fox Recovery Team | ABS Flying-fox Expert Group Co-convener

Maree has a Masters of Wildlife Management and is currently undertaking a higher degree examining societal values for flying foxes by assessing impact of education/interpretation programs, including tourism potential, in changing attitudes toward flying-foxes. She is a joint convenor of the Australasian Bat Society's (ABS) Flying-fox Expert Group and created and coordinates the annual ABS Australasian Bat Night program, including coordinating the Cairns Bat Festival since 2015. Maree has presented to national conferences of Wildlife Tourism Australia, Australasian Wildlife Management Society, Australasian Bat Society, and Interpretation Australia on the subjects of bat tourism, interpretation and flying-fox management.

Sera Steves | Spectacled Flying-fox Recovery Team

Sera holds a degree in Biology and Psychology with an Ethology focus and is currently working on her masters in Zoology and Ecology including research on crocodiles and blossom-bats. Sera has been in the zoo industry for 12 years working in both Australia and the United States as a zookeeper, animal trainer and wildlife presenter. Her main focus is birds and reptiles, but bats have been an interest of hers since she was a child. Sera is promoting bats and tourism using a model developed by Bat Conservation International in her home state of Texas.

Shana Ahmed | Wildlife Health Australia

Shana works at Wildlife Health Australia in the Wildlife Disease Surveillance team. She has worked in South Australia and New South Wales in a variety of fields including eco-tourism, bush regeneration and environmental education. Prior to WHA she spent three years working in wildlife rescue and rehabilitation. Shana has long had an interest in bats and greatly enjoys her current work assisting in the coordination of WHA's Bat Health Focus Group. This has inspired her continued passion for bats in Australia.

Samantha Yabsley | Western Sydney University

Samantha is a PhD candidate in the Lab of Animal Ecology at Western Sydney University, studying the impacts of extreme heat on Australian flying-foxes. Her research journey began in 2016 when she had the privilege of undertaking an internship at Hawkesbury Institute for the Environment, whereby she worked closely with Dr Anastasia Dalziell and Prof Justin Welbergen, studying the vocal mimicry of the Superb Lyrebird in the Blue Mountains. In 2021, she completed her Master of Research on the drivers of flying-fox urbanisation with the Animal Ecology Lab at Western Sydney University. Since then, she has been involved in various projects within the lab, including research on the social organisation of the Christmas Island flying-fox, improving the conservation management of the grey-headed flying-fox, the evolution of the superb lyrebird, and testing the efficacy of roost microclimate manipulation on mitigating the impacts of extreme heat on flying-foxes. Samantha began her PhD project in 2022, continuing to focus on the impacts of extreme heat on Australian flying-foxes.

Dr John Martin | Senior Ecologist | Ecosure

John is a Senior Ecologist with Ecosure. John has also worked in various roles for the New South Wales government and has significant experience conducting research, implementing management programs, and engaging with stakeholders and the community. Specifically, John has extensive experience researching and managing flying-foxes.

Dr Kerryn Parry-Jones | University of Sydney

Kerryn returned from a holiday in Britain, where she had been working with the Wildfowl Trust on several research projects involving Barnacle Geese and Whooper Swans and announced to her supervisor, Dr Mike Augee, that she wanted to do a PhD on breeding Whoopers in Iceland. He was not impressed. We are all mammal people here at UNSW he said. If you like things that fly, why don't you work on flying-foxes. No-one knows anything about them! Which was true. Kerryn certainly hadn't seen one before and when she searched the scientific literature, very little work had been done on them. This was back in 1985 before they were protected. Mike was also responsible for contacts with wildlife rehabilitators because when she whinged about the lack of information available, he told her to talk to a rehabilitator as "they know more about flying-foxes than anyone else!". And that was true too. Anyway, she got her PhD ("The movements of the Grey-headed Flying-fox in NSW") and has been working on flying-foxes ever since, including for UNSW and the University of Sydney, given interviews and been involved in TV and radio, run a consulting firm (Flying-fox Ecology Pty Ltd), been head of the Flying-fox Section of a rehabilitation group, written scientific papers on their movements and their diet (among other things!) and supervised students from all over the World. All which show, just what can happen if you get fascinated by these amazing flying mammals.

Dr Alison Peel | University of Sydney

Alison recently commenced as a Sydney Horizon Fellow in the Sydney School of Veterinary Science at the University of Sydney. She is a veterinarian and wildlife disease ecologist who started working on bats because they had interesting viruses, but now works on bat viruses so she can keep learning about bat ecology, behaviour and health.

Haley Henning | Ku-ring-gai Council

Haley is a specialist in natural area restoration and management, with extensive experience in fauna monitoring programs and community engagement. Her journey in Flying Fox conservation began in 2018 as a bushcare volunteer and later as a Council bush regenerator at the Ku-ring-gai Flying Fox Reserve (KFFR), where she contributed to habitat restoration for the resident camp. Since joining the Ku-ring-gai Bat Conservation Society (KBCS) in 2019, Haley has been an active member of the Technical Advisory Group for KFFR and has participated in ongoing monitoring efforts and educational outreach, presenting at schools and community events, actively advocating for flying fox appreciation and protection.

In her current role as Ku-ring-gai Council's Natural Areas Officer, Haley manages Council's threatened fauna programs and oversees the ongoing monitoring and management of KFFR. Her work focuses on protecting and enhancing habitat for Flying Foxes and other native species while fostering strong community partnerships to support long-term conservation goals.

Jess Gorring | City of Moreton Bay

Jess is the Team Leader - Environment at the City of Moreton Bay. In this role she leads a team of Council Officer to deliver Council's wildlife management and conservation projects and programs. She is a fauna ecologist with over 15 years' experience and has a passion for urban wildlife management and conservation. Over the last 10 years she has been heavily involved with many aspects of flying fox management including policy, operational works, education, community engagement and research.

Andrew Evans | City of Moreton Bay

Andrew is an ecologist with fifteen years of industry experience, who is passionate about the preservation of Australia's native flora and fauna. In his current role as Senior Environment Officer with City of Moreton Bay he leads a team of three Environment Officers and is often faced with challenging scenarios in managing human-wildlife interactions. He enjoys this work and thrives on the challenges this presents. Andrew has been involved with flying foxes for over ten years, including monitoring, roost management, community engagement, research and education.

Amanda Davis | Griffith University | Bat Conservation and Rescue Qld

Amanda Davis is a marketing, data and technology specialist with a passion for flying-foxes, nature and environmental economics. As well as having held senior management roles in organisations such as The Smith Family and RSPCA, Amanda has also previously been a zookeeper and led flying-fox studies in West Africa. Amanda is vaccinated against Australian Bat Lyssavirus and is currently an active member of Bat Conservation and Rescue Queensland, carrying out rescues, raising orphans, giving talks to community groups and fundraising. Recently graduating with Distinction from Griffith University as a Master of Environment, Amanda's presentation draws on the major research project she completed as part of that, building on her Masters level knowledge of Information Systems and expertise as a Certified Data Management Practitioner. The focus of this flying-fox related research was driven by Amanda's belief in collaborative, interdisciplinary approaches to tackling complex problems.

Emmett Weatherford | Shellharbour City Council

Emmett has worked at Shellharbour City Council for six years, starting out as a Bush Regeneration Officer before moving into the Environment Team as Biodiversity Monitoring and Assessment Officer. As part of his role, he monitors and manages threatened species within the LGA, including the Grey-headed Flying-fox at their permanent maternal camp in Blackbutt Forest Reserve. No matter how many times he is asked, he still cannot pick a favourite bird or favourite tree.

Matthew Bloor | Tweed Shire Council

Matt has worked in environmental management and ecological restoration for over twenty years in Queensland and New South Wales. For the past twelve years, Matt has been working with the Tweed Shire Council, partnering with private landowners, land managers and community groups on projects to improve waterway health. Matt has managed several projects to stabilise severely eroded banks after two record flood events hit the region since 2017. Most recently, he has been managing a project to revegetate around 4 hectares of private land to create flying-fox camp habitat in an area extensively cleared for sugar cane production, near Murwillumbah.

Claudia Caliari | Byron Shire Council

Claudia is a Forest Engineer with a master's degree in Forest Resources. Her professional journey spans Brazil and Australia, involving community groundwork, not-for-profit organisations, and collaborations with public government. In Brazil, her background as a botanist led her to become deeply involved in social movements and eventually to work with Greenpeace in the Amazon region, dealing with environmental and social conflicts in remote communities at the forefront of rainforest protection. In Australia, her experience broadened as she worked with WasteAid, concentrating on waste strategies and community gardens in NSW remote Indigenous communities. This led her to roles encompassing landscape management at Conservation Volunteers Australia and back to her expertise in addressing biodiversity conflicts at Byron Shire Council. Claudia is the author of 2 new plant species and co-authored 7 more, and published a restoration guide for the Brazilian savannah, “Tree Restoration Guide for the Western of Bahia State”, in collaboration with 3 other authors.

ABSTRACTS

LEARNING TO GIVE A FLYING FOX ABOUT BATS

Exploring ways to affect positive behaviour change towards a maligned species

Tyron de Kauwe | Environmental Operations, Sunshine Coast Council

Flying foxes have long standing negative associations as being dark, mysterious, creatures of the night. They have been feared for generations through their proliferation in vampire mythology and more recently through negative media campaigns associated with health concerns and nuisance value.

Misunderstanding and media sensationalism has perpetuated inherent fear of this species, so how do we draw focus back onto their keystone pollinating services and get people to give a flying fox about them?

Sunshine Coast Council has explored inclusive, immersive, interactive and innovative ways of engaging and educating the community on the critical ecosystem services of these farmers of the forest.

The success of the program has been demonstrated environmentally, socially and educationally including transforming 'bat haters' into 'bat cheerleaders'.

The presentation will cover the tools we have developed and future plans, such as:

- Bat Pod - A first of its kind educational podcast which sends students (10-15 years) on a conservation mission with a twist. A choose-your-own-adventure journey where participants tackle a challenge that Council faces on a regular basis – trying to balance the wellbeing of community with conservation of flying fox roosts.
- Bat Map – A Queensland-first interactive and data driven map for Council and community use which shows near-time flying fox population numbers across all current roosts, historic numbers and management actions.
- Guided Roost Tours – Connect with the species by seeing them up close and chatting to bat ecologists
- Follow Frankie board game – A large educational board game
- Co-developed multi-media game – An educational multi-media game following the journey and threats of Frankie the flying fox
- Interpretive signage
- Immersive sound pods and 360' virtual roost tours – We are exploring partnerships to bring people into a roost, without having a potential impact on the species
- And of course, our mascot FRANKIE THE FLYING FOX.

POPULATION AND MOVEMENT DATA FOR AUSTRALIAN FLYING-FOXES

Adam McKeown[1] | Dr Eric Vanderduys[2] | CSIRO Land & Water, [1]SA & [2]Qld

COMMONWEALTH UPDATE

Christopher Hicks, Dr Sandra Abell, Peter Latch, Tim McGrath | Department of Climate Change, Energy, the Environment and Water

QUEENSLAND UPDATE

Michael Messer[1], Lindsay Delzoppo[2] | [1]Governance and Operational Policy | [2]Wildlife and Threatened Species Operations | Department of Environment Science and Innovation

AUSTRALASIAN BAT SOCIETY FLYING-FOX UPDATE

Jess Bracks, Maree Treadwell Kerr, Sarah Curran, Justin Welbergen | Flying-fox Expert Group Co-Conveners | Australasian Bat Society

NEW SOUTH WALES UPDATE

Matthew Mo | Senior Project Officer | NSW Department of Environment and Heritage

SOUTH AUSTRALIAN UPDATE

Jason Van Weenen, Liberty Olds | Green Adelaide | Department for Environment and Water

VICTORIAN UPDATE

Dr Leila Brook, Warrick McGrath, Angus Willianson, Vural Yazgin | Biodiversity Division | Department of Energy, Environment & Climate Action

AUSTRALIAN CAPITAL TERRITORY UPDATE

Clare Wynter[1] and Dr Veronica Rodriguez[2] | [1]ACT Wildlife | [2]Biodiversity Policy, Office of Nature Conservation, ACT Government

SPECTACLED FLYING-FOX RECOVERY TEAM UPDATE

Maree Treadwell Kerr, Sera Steves | The Spectacled Flying-Fox Recovery Team

The Spectacled Flying-fox (SFF) is a priority threatened species. The population declined by 75% between 2004 and 2017, and subsequently 23,000 animals died in a heat stress event in November 2018. The SFF was uplisted to Endangered under the EPBC Act in February 2019, under Queensland legislation in July 2019 and listed as endangered by IUCN in 2020.

The SFF Recovery Team (SFFRT) was formed in late 2021 to draft a new recovery plan and implement recovery actions. The team comprises Traditional Owners, regional NRM bodies, land managers and conservation organisations, rainforest regenerators, wildlife rescue and care organisations, local, state and Commonwealth government representatives, and, importantly, flying-fox researchers and ecologists.

In 2021 the team held a workshop to identify threats to assist drafting the Plan. After a dedicated Commonwealth Officer joined the team, a workshop was held in 2023 to prioritise research and management actions, including incorporating Traditional Ecological Knowledge, for recovery of the species. A workshop outcomes report was prepared to guide drafting the next phase of the Recovery Plan and the Draft Plan was reviewed by SFFRT members and flying-fox experts in late February 2024.

We will give an update on progress of the Plan and present the timeframe for endorsement by the Commonwealth and Queensland governments and proposed public consultation dates. We will describe some current funded recovery actions and research including community and traditional owner engagement in these activities. We will discuss some vital research and management gaps, that are still unfunded, to identify and protect critical foraging habitat and what needs to be done here.

We will finish on an inspiring note with some bold ideas from the new Communications Strategy funded by the Commonwealth to the major Wet Tropics NRM, Terrain, as part of their works program, with the remit: Make the SFF popular.

20 YEARS OF THE BAT HEALTH FOCUS GROUP

Shana Ahmed, Keren Cox-Witton | Wildlife Health Australia

20 years ago, Wildlife Health Australia (then called the Australian Wildlife Health Network) established a Bat Health Focus Group (BHFG) with the goal of identifying areas for future research and to act as a catalyst to improve collaboration, communication and coordination of Australian bat lyssavirus work for the region. Two decades on, the BHFG is an engaged and active group with an expanded scope and membership. The BHFG today uses a collaborative One Health approach and considers all bat health issues in the broader context of biosecurity, public health, livestock health and environmental impacts.

A lot has changed for Australia's flying-foxes in the past two decades. Research developments mean our understanding of their health, ecology and behaviour have progressed, and new challenges for their continued survival have arisen. The BHFG demonstrates how One Health focused, inclusive stewardship can make a real contribution to policy development, reporting, research, incident response and overall collaboration across multiple sectors to the benefit of flying-foxes. This presentation will highlight several of the key achievements from this group since its commencement in 2004 as well as providing a summary of more than 15 years of Australian bat lyssavirus testing data collated by the BHFG.

MITIGATING HEAT STRESS IN AUSTRALIAN FLYING-FOXES

Samantha Yabsley[1], Jessica Meade[1], Christopher Turbill[1], Matthew Mo[2], Eliane McCarthy1, Annabel Dorrestein[1], John Martin[1,3], Justin Welbergen[1] | [1]Western Sydney University | [2]NSW DCCEEW | [3]Ecosure

Extreme heat events (EHEs) are a serious concern for the conservation management of flying-foxes (*Pteropus* spp.), as exposure to air temperatures (Ta) > 42°C can result in mass mortality, sometimes at biblical scales. To address this, land managers and wildlife rehabilitators sometimes use sprinklers to cool the roosting environment or flying-foxes directly. However, until recently there has been a lack of empirical evidence to support the use of sprinklers for heat stress mitigation. There are concerns that sprinklers may exacerbate heat stress under certain starting weather conditions because high humidity is known to impair evaporative cooling in other mammals. We used an automated split-system sprinkler in a grey-headed flying-fox (*P. poliocephalus*) roost near Sydney, Australia, to examine the effects of sprinklers on roost microclimatic conditions. Experiments were conducted across a range of ambient starting conditions, including during an EHE where flying-foxes died throughout the region. On average, sprinklers decreased Ta and increased dewpoint temperature, and during the EHE the sprinklers resulted in microclimatic conditions not known to be associated with mortality, thus providing local protection from the lethal conditions that prevailed elsewhere in the roost. However, the effects of the sprinklers were highly localised to the treatment area, and during the EHE the flying-foxes relocated from the sprinkler treatment site hours before they were activated,highlighting some important challenges for management. While our findings are promising, further research is needed to understand flying-fox behavioural and thermoregulatory responses to altered microclimatic conditions.

THE UTILITY OF GPS TRACKING FOR FLYING-FOX MANAGEMENT

Dr John Martin[1,2], Jessica Meade[2], Eliane McCarthy[2], Samantha Yabsley[2], Annabel Dorrestein[2], Ram Mohan[2], Senna Grady[2], Justin Welbergen[2] | [1]Ecosure | [2]Western Sydney University

Learning about the movement behaviour of flying-foxes has profoundly informed their conservation and management, and in turn, associated community education initiatives. Grey-headed flying-foxes (*Pteropus poliocephalus*) have been shown to be nomadic, moving short (~10 km) and long (~300 km) distances between several hundred roosts spanning South Australia to Queensland. Roost occupancy may be continuous or variable, and the number of flying-foxes can rapidly fluctuate. Yet, most of the time this species moves to multiple foraging sites within ~20 km of the site where they are roosting. Here we report on the movement behaviour of 10 adult female grey-headed flying-foxes caught at the Campbelltown roost in 2023 in southwest Sydney, NSW. GPS tracking provided new understanding of local foraging movements to natural and urban areas surrounding the roost. Tracking showed the connectivity between local roosts and roosts across the species distribution. Grey-headed flying-foxes were recorded moving to western NSW, Victoria, Queensland, and South Australia from the Campbelltown camp. Valuable new information about the movement behaviour of all four mainland Australian flying-fox species remains to be assessed through future GPS tracking projects across each species distribution.

DO REHABILITATED AND HAND-REARED FLYING-FOXES SURVIVE IN THE WILD?

Dr Kerryn Parry-Jones[1], Sue Preston[2], Anja Divljan[3] | [1]University of Sydney | [2]Wildlife Animal Rescue and Care Society | [3]Australian Museum

Flying-foxes that sustain injuries, fall ill, or are orphaned may find refuge in the care of rehabilitation societies across Eastern Australia. Following rehabilitation, these flying-foxes are released back into the wild, with uncertainty surrounding the success of the rehabilitation process and the survival of the released individuals. There was a general belief that hand-reared flying-foxes would struggle to adapt to the wild and that a significant number would die shortly after release. To address these concerns, a banding project was initiated in 1986 to assess the effectiveness of rehabilitation efforts and the viability of reintegrating flying-foxes into their natural habitat.

The primary objective of the project was to evaluate the success of rehabilitating flying-foxes in the wild, as well as to study their movements, longevity, and potential impact on species conservation. Over the course of 38 years, a total of 14,011 rehabilitated flying-foxes, predominantly the vulnerable Grey-headed Flying-fox (*Pteropus poliocephalus*), were banded and released under the Australian Bird and Bat Banding Scheme (ABBBS). While a significant number of banded flying-foxes remain unaccounted for post-release, those that have been recovered demonstrate that rehabilitated individuals can thrive in the wild, have extensive travel patterns, and contribute to the conservation of these species.

FLYING-FOX PARALYSIS SYNDROME

Dr. Alison Peel[1], on behalf of the Joint Flying Fox and Lorikeet Paralysis Syndromes Working Group
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In recent summers, wildlife rehabilitators and veterinarians in southeast Queensland and New South Wales (NSW) have reported large numbers of flying foxes, presenting with neurological signs, including paralysis, protruding tongue, inability to swallow and respiratory difficulties. Affected species have included black flying-foxes (*Pteropus alecto*), grey-headed flying-foxes (*P. poliocephalus*), and little red flying-foxes (*P. scapulatus*). Many affected bats die or are euthanased, although cases with less severe symptoms often recover with supportive care. Laboratory investigations have failed to definitively identify a cause of this paralysis syndrome, now known as “Flying Fox Paralysis Syndrome (FFPS)”. Importantly, bats infected with Australian Bat Lyssavirus (ABLV) can present similarly and should always be a consideration for bats presenting with neurological signs.

Currently, a toxicosis is considered the most likely cause of FFPS, however screening for botulism, pesticides or plant-related toxins have not yet produced any conclusive results. While some localised clustering of cases has been observed, the wide-ranging movements of flying-foxes make it very difficult to determine where bats are exposed and to identify the causative agent.

Similarities have been identified between the clinical presentation, timing, and geographic distribution of flying fox paralysis cases with Lorikeet Paralysis Syndrome, which primarily affects rainbow lorikeets (*Trichoglossus haematodus*). Therefore, a multidisciplinary team is working to jointly investigate the cause of both Flying Fox Paralysis Syndrome and Lorikeet Paralysis Syndrome (LPS). Currently, this includes representatives from government, universities, wildlife veterinary hospitals, wildlife carer organisations, and a non-governmental coordinating body (Wildlife Health Australia). This talk will provide an update on current knowledge and actions within the joint LPS-FFPS working group.

WHERE THE BLOODY HELL ARE YOU? THE DECLINING OCCUPANCY OF KU-RING-GAI FLYING-FOX RESERVE

Haley Henning | Natural Areas | Ku-ring-gai Council

Where the bloody hell are you? The declining occupancy of Ku-ring-gai Flying Fox Reserve

We've protected your reserve;
We've removed the weeds and planted trees;
We've monitored your environment;
We've buffered the neighbours and educated the community…
So, *"where the bloody hell are you?"*

Since 1991 the Ku-ring-gai Flying Fox Reserve in Gordon, NSW, has been under a conservation agreement to protect and enhance roosting habitat for the Grey-headed Flying Fox. Ku-ring-gai Council has managed the reserve and monitored the colony in conjunction with Ku-ring-gai Bat Conservation Society (KBCS) since the 1980's. A Technical Advisory Group was formed and draws from expert advice across operational and strategic council teams, volunteer organisations including KBCS, and independent Flying-fox experts.

There has been long term bush regeneration and bushcare programs targeting priority weeds and maintaining habitat, including multiple revegetation efforts. Colony extents, flyout counts, noise levels and microclimate data have been consistently monitored to help us track and understand population fluctuations.

Council has worked to improve co-existence between the flying-fox colony and the local community. Through educational outreach and targeted mitigation strategies, we actively seek to foster a deeper appreciation for this critical species while minimising the impact on nearby residents.

Despite all our efforts, a gradual downward trend in occupancy can be seen through the years. Now, the camp has been largely vacant for 3 years with only small, transient groups stopping by unpredictably.

And so, just like Lara Bingle, we find ourselves asking – *"where the bloody hell are you?"*

Is the recent decline related to local management actions, or is there something happening outside the Flying Fox Reserve in Gordon that has impacted the camp? Understanding the potential causes for this decline is essential for guiding priority actions for long-term management of the reserve.

THE APPLICATION OF LONG-TERM FLYING FOX COLONY FOOTPRINT DATA AND HOW IT CAN BE APPLIED TO CONFLICT MANAGEMENT

Jess Gorring and Andrew Evans | Environmental Services | City of Moreton Bay

City of Moreton Bay (Council) has over 50 flying fox colonies within its local government area, and the majority are located within the urban footprint with varied levels of community conflict. In 2020, Council adopted it's Statement of Management Intent (SoMI) for managing flying fox colonies. This SoMI is based on the principle of co-existence between flying foxes and the community and does not support dispersal. The SoMI supports education, monitoring, research and on ground works to encourage co-existence with flying foxes through buffers, deterrents, etc.

Regular monitoring of flying fox colonies has been a key element of Council's flying fox management and has been used for community education and to inform on ground actions. Recently Council has digitised its long-term flying fox colony footprint dataset. The digitalisation of this data has allowed for GIS analysis of site occupancy and potential factors that influence site occupancy of a colony such as seasons, lifecycle stages and influx events.

This presentation will focus on the following:

- An overview of potential influencing factors to colony footprints and what this could mean for on ground actions; and
- How Council is implementing this dataset into community engagement.

FLYING-FOX HABITAT CONSERVATION AND PUBLIC HEALTH MANAGEMENT

Amanda Davis | Griffith University | Bat Conservation and Rescue Qld

This presentation addresses aspects of three of the themes from the National Flying-fox Strategic Vision:

- species and habitat conservation
- policy and research
- responsibilities, stewardship, education.

'Can flying-fox habitat conservation be a tool in public health management in Queensland?' was a Master of Environment research project which aimed to investigate whether habitat conservation can be proven to help keep flying-foxes away from humans, thereby reducing the number of human-bat interactions which can lead to bat bites and scratches and require costly Australian Bat Lyssavirus (ABLV) post exposure vaccinations. The initial quantitative analysis of monthly ABLV vaccinations in Queensland's Hospital and Health Service areas over 14 years, and the degree to which different factors influence these, showed differences across Queensland. The study revealed challenges in data availability and quality which have potential to hamper similar analyses in future. The study also highlighted the variety of geographic boundaries of bodies which play a role in flying-fox conservation, human health management, and local area governance in Queensland.

Information from the study has been combined with Bat Conservation and Rescue Queensland's bat rescue records to support a successful application for free billboard advertising in the Greater Brisbane area in January 2025 which aims to:

1) increase positive attitudes towards bats by raising awareness of the pollination benefits provided by flying-foxes and showing beautiful photographs of them
2) reduce the number of people requiring ABLV vaccinations in high-vaccination rate areas, by promoting the message that members of the public should not handle a bat themselves and so reducing public health risks
3) increase bats in trouble's chances of survival by encouraging members of the public to contact a rescue organisation if they see a bat needing help

In addition, the study has helped illuminate how the removal of flying-fox habitat for a proposed urban development has potential cross-boundary human impacts with implications for not only Local Government Authorities operations, but demand for medical attention in Hospital and Health Service areas.

BURDEKIN SHIRE'S JOURNEY - REACTIVE TO PROACTIVE

Dr Preeti Prayaga | Public Health and Environment | Burdekin Shire Council

Burdekin Shire Council (Council) has a relatively small flying fox population and human/flying fox conflict compared to other councils, however considering public expectations, Council faces increasing pressure from the public to solve instances of interactions and is therefore shifting from a reactive approach to proactive.

Historically all human/flying fox incursions have occurred around the township of Home Hill and Ayr with one roost existing away from the township for more than three decades. Council initiated reactive nudging/dispersal 3 to 4 times a year from early 2000 which reached its peak to 30 plus times a year from 2020 stretching Council resources and establishing three new areas of infestation within the town. Numbers range from hundreds of predominately black flying foxes, to a few thousand. Consultants were engaged post COVID when infestation were detected at 4 sites, in the two to three thousand range to conduct active dispersal in September 2022 at a huge cost. This reduced the population to nil at some sites to a maximum of 2 to 10 for a period. Continuous monitoring and nudging are undertaken to maintain the low numbers.

Council invested in training and resources and the modes of disturbance techniques were changed based on the

Flying fox response.
The council is interacting with other local governments and specialists within the field to build knowledge and expertise within the team.
The council views long-term management as essential to move away from reactive management and is currently implementing a long-term flying fox management plan.
The highlighted challenges are;

- Community perception and expectation
- Landscape – limited access to alternative open space to develop habitat
- Limited resources

To address challenges, the key components of the long-term management plan, include community education, development of key stakeholder relationships and review of policies and procedures.

FLYING-FOX HABITAT RESTORATION PROGRAM

Emmett Weatherford | Biodiversity Monitoring and Assessment | Shellharbour City Council

In May of 2022, Shellharbour City Council commenced a project as part of the Flying-fox Habitat Restoration Program, assisted by the New South Wales Government through its Environmental Trust in association with Local Government NSW.
The Shellharbour LGA is home to one permanent maternal Grey-headed Flying-fox colony (though other species of Flying-fox have also rarely been observed using the camp), in Blackbutt Forest Reserve.
The project covers an area of 2 hectares across two sites, Blackbutt Forest Reserve and Croom Reserve, and aims to provide new foraging habitat opportunities by revegetating land that is currently covered by a mix of exotic grasses and annuals.
To date, the habitat restoration side of the project has encountered a variety of challenges, including having to change site locations, difficulty sourcing seed and plant stock, staff shortages, and concerns about site damage through vandalism. Despite this, we have managed to complete the first stage of planting within schedule, getting 16,000 new plants into the ground, with survival rates of ~95%.
There is also a community engagement and education component to the project, which has so far had positive results. This has included in-person events such as a Dusk Fly-out Picnic and Nature Talk, kids' library story-times, Nature Talks in the Library, targeted workshops with local residents concerned about the project, community and school planting days, as well as several articles in our Sustainable Shellharbour e-Newsletter and social media posts about the project.
We are also undertaking monitoring of both the habitat restoration and community engagement aspects of the project, though at this early stage, no clear impacts are evident.

BRINGING BACK FLYING-FOX HABITAT TO THE KYNNUMBOON FLOODPLAIN

Matthew Bloor | Waterways | Tweed Shire Council

Council received funding from Local Government NSW through the Flying-Fox Habitat Restoration Program to create 4 hectares of flying-fox camp habitat on private property at Kynnumboon, near Murwillumbah, NSW. The intent of the program is to reduce human/flying-fox conflict by being proactive in creating potential roost habitat away from urban areas. The project combines habitat creation on 3.2ha of land previously under sugar cane cultivation, restoration works in 0.8 hectares of existing riparian vegetation, monitoring and annual community engagement activities. Around 12,000 native plants have been planted on the project site since June 2023. In

total, 145 species are establishing on the site, including pioneers, secondary and mature phase rainforest trees, plus selected sclerophyll and wetland species providing important foraging resources for flying-foxes. A constructed wetland has been created to capture and retain water from 2 hectares of the project area. Community engagement and participation has involved over 200 volunteers planting around 3,000 trees at two public events. Indigenous cultural heritage assessment, monitoring and inductions have been delivered by the Tweed Byron Local Aboriginal Land Council. The site has also been used to run workshops on propagating and raising native plants and Aboriginal use of plants. Further community engagement activities will be delivered each year to raise the profile of flying-fox conservation in the Tweed Shire. The eight-year project is part-funded by Tweed Shire Council and will be completed in 2030.

FRANKIE JR'S FLIGHT PATH: NAVIGATING CONSERVATION AND COMMUNITY NEEDS IN BYRON SHIRE'S FLYING-FOX MANAGEMENT PLAN

Claudia Caliari | Biodiversity Team | Byron Shire Council

Byron Shire Flying-Fox Camp Management Plan 2024-2029 is a comprehensive framework to balance community concerns with the flying-fox conservation needs. This updated plan builds on the previous 2018-2023 version, incorporating new research, best practices, and First Nations knowledge to enhance management strategies.

Byron Shire is home to the Black Flying-fox and the endangered Grey-headed Flying-fox. These species, vital for pollination and seed dispersal, face significant challenges due to their complex ecological roles, pressures from habitat clearing and sensitivity to environmental changes. The plan addresses these challenges by expanding its scope to include information on all known urban and rural camps, not just the urban ones previously presented. This reflects a shift towards a more holistic approach, recognizing the interconnected nature of flying-fox populations across their habitats.

Key successes of the revised plan include its integration of recent scientific findings, improved community engagement, and incorporation of First Nations perspectives. The plan navigates through critical issues such as climate change impacts, habitat fragmentation, and historical conflicts between flying-foxes and agriculture. It also responds to community feedback, which emphasized the need for better habitat management, education about flying-foxes, and mitigation of impacts from climate change and inappropriate netting practices.

Challenges remain, particularly in managing the impacts of flying-foxes on local communities while ensuring their conservation. The plan aims to bridge this gap by providing clear science-based guidelines for managing flying-fox populations and fostering greater community understanding and collaboration using creative strategies, such as Frankie Jr. histories.

Overall, the Flying-Fox Camp Management Plan 2024-2029 represents a significant step forward in managing and conserving Byron Shire's flying-foxes, supporting both ecological health and community well-being.