Communication and education to mitigate human/flying-fox conflict

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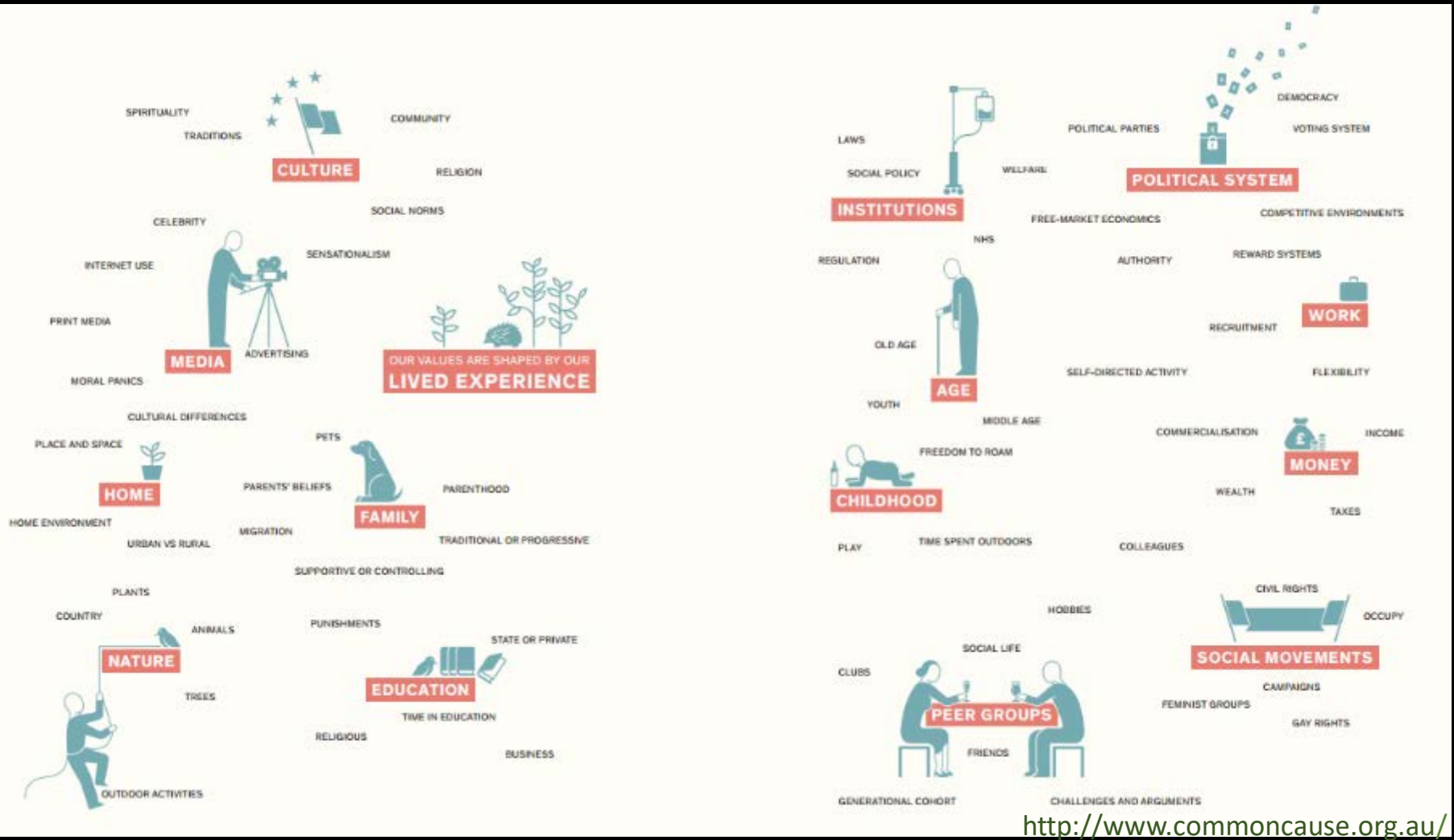
“Urban Bat Wars”

Can flying-fox – human conflict be resolved through education and application of Values Theory?

- Urban flying-foxes - a human problem
- Education can facilitate attitudinal change - Greater the wildlife knowledge – more positive the attitude
- Provision of information on its own will not change attitudes
- We need to understand underlying values
- Effectiveness of education decreases as conflicts escalate

Justin Welbergen

Societal Values



http://www.commoncause.org.au/

Our lived experience, culture, and education shape our world views

Wildlife Value Orientations

Anthropocentric / eco-centric

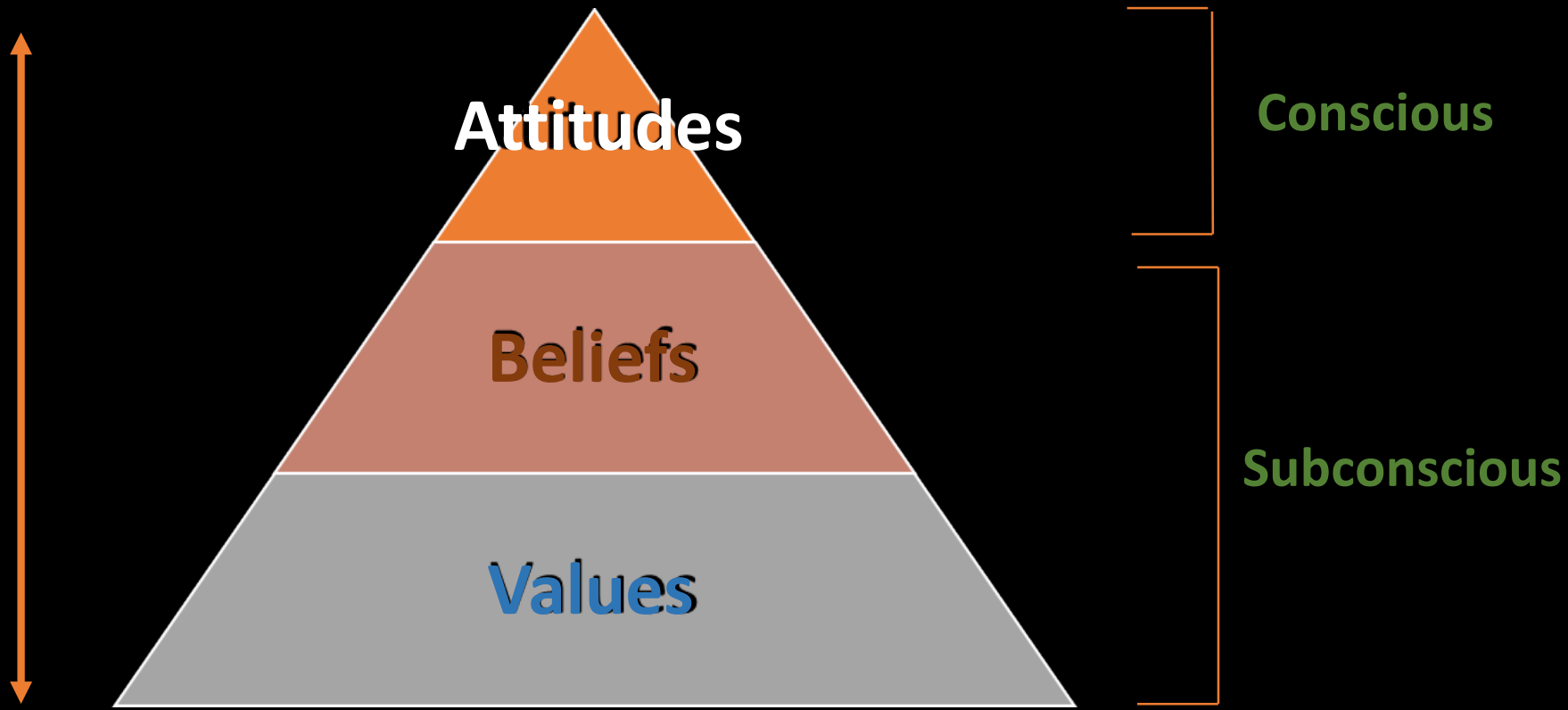
- **Utalitarian -** wildlife as useful to humans
- **Naturalistic –** valuing wildlife as part of nature
- **Ecologistic / Scientific** – wildlife valued for own sake
- **Aesthetic/Symbolic –** valued for beauty and/or symbolism
- **Humanistic –** affection for animals
- **Moralistic –** duty to care for wildlife
- **Dominionistic–** right to control wildlife
- **Negativistic –** fear or indifference to wildlife
- **Neutralistic** – disinterest and apathy. Not connected to nature.

from Kellert 1996

Our world view determines how we think about wildlife

Changing attitudes

Closest to surface – easiest to change



Deepest – hardest to change

Adapted from Fulton 1997

Education potential

Characteristic	Group	Likely effectiveness of education	Priority for education
Attitude towards bats	Positive	improve knowledge only	Low
	Ambivalent	Potential to change attitudes	High
	Negative	Limited	Medium
Potential for bat conservation influence	Decision makers- eg Government	Very important	High
	Influential – eg industry bodies, media	Important	High
	Directly impacted – eg orchardists and residents near camps	Important	High
	Not impacted – general public	Important to build support for bat conservation	Medium

from Booth 2007

Research Questions

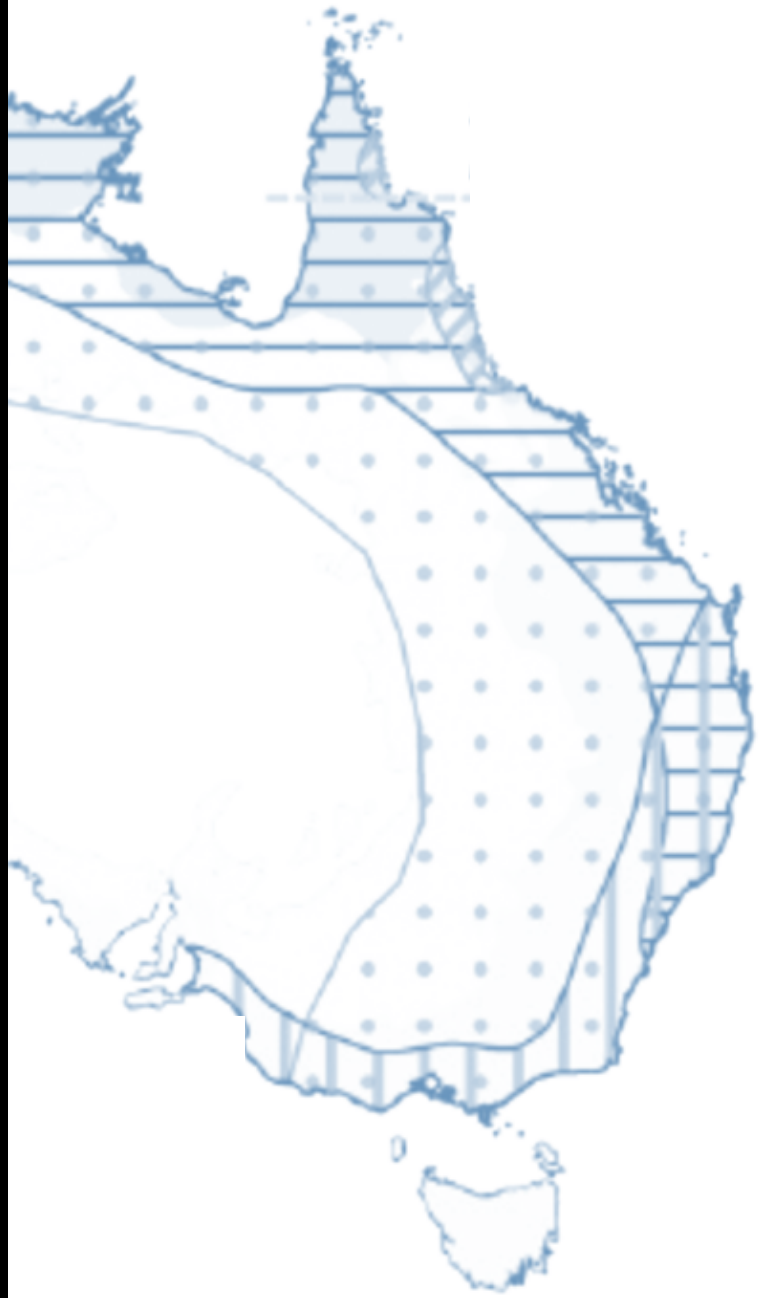
- How do education/ interpretation programs affect attitudes?
- What components are most effective in influencing attitudinal change?
- Are there better ways to educate and engage people and deliver messages?

Research overview

- Media Content Analysis
- Assess communication programs (before and after questionnaires)
  - Formal education (Schools)
  - Public interpretive programs
  - Community Engagement Programs
- Host communities and bat tourism
- Interpretive signage experiments textual content analysis
- Participatory learning (student projects and citizen science)

Study Area

- East coast Australia:
  - Far North Queensland
  - Central Qld & SE Qld
  - Northern Rivers NSW, Hunter, Central Coast & Sydney
  - Melbourne & Regional Vic
  - Adelaide
  - Canberra
- Differing levels and histories of conflict
- Capital and regional cities / towns



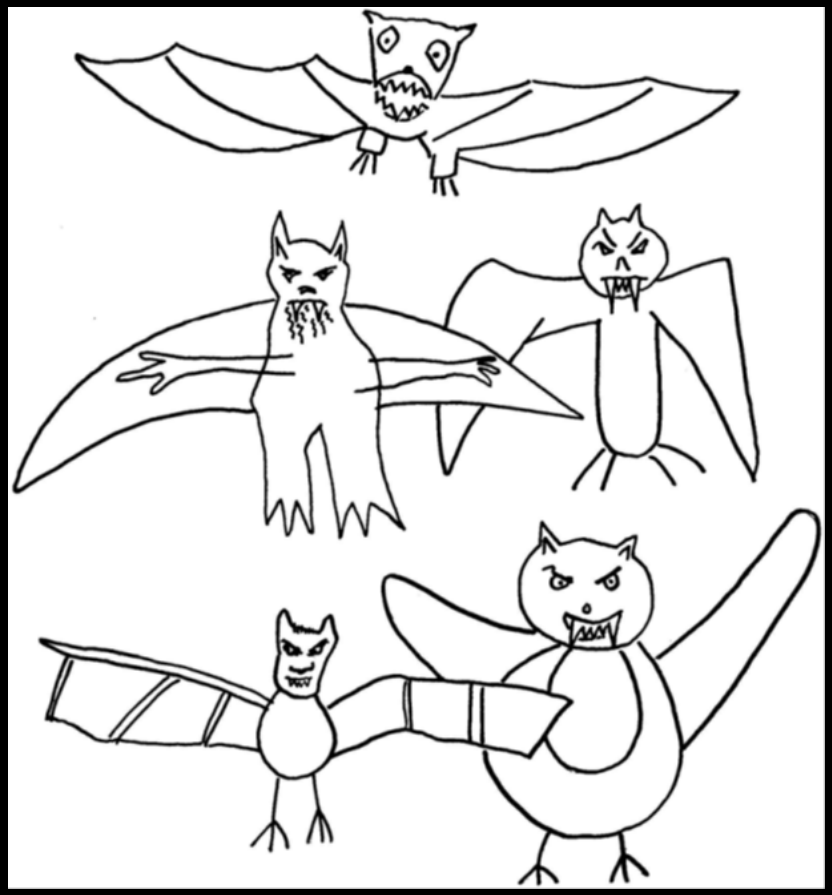
Distribution map from Westcott & McKeown 2014

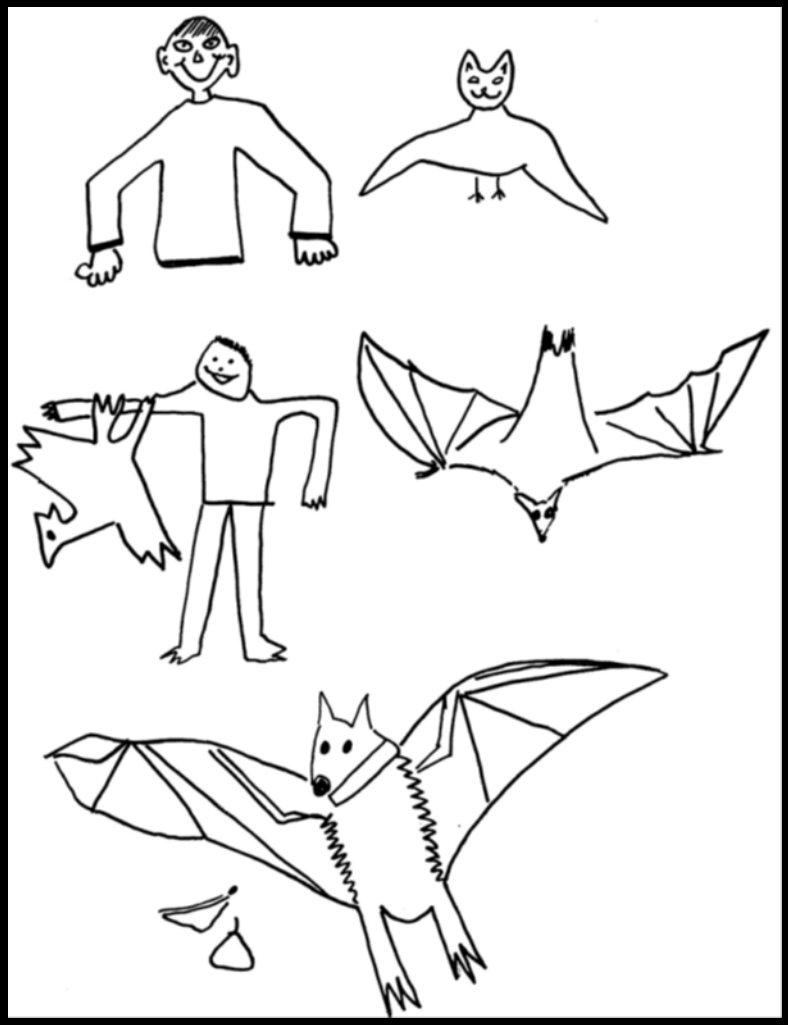
Media

- Media a major source of information for public
- Importance of language and framing
- Methodology: Content analysis
- Gives a background and context to education and interpretive assessments

Formal Education - Schools

Before and after quasi-experiments





From Ford 2002

Informal Education – public programs

- Target audience- ambivalent public
- Survey and interviews of participants and local organisers

Community Engagement

- Are messages getting to the right audiences?
- What interpretive techniques are used to convey messages?
- Target audience: council staff & community residents
- Methodology: Surveys and semi-structured interviews
  - before and after educational/ engagement program
  - assessment long term attitudinal and behavioural change

Interpretive Signage

- Content analysis
- Signage Experiments
  - Survey for effectiveness of delivery of key messages
    - Tourism industry
    - Interpretation specialists
    - Flying-fox experts
    - General public
  - Observational experiments

Participatory Learning

Attitudinal change through participation

Understanding → exploration→ connection

- Student Projects & Citizen Science
- Examples of projects
  - Observational studies (behaviour)
  - Monitoring (local population counts)
  - Feeding observations
  - Habitat management (restoration and regeneration)

Photo: Centennial Parklands

Host Communities and Bat Tourism

- Can economic benefits to local communities and businesses overcome perceived negative impacts of a flying-fox colony?

- Case Study: Survey of local businesses and residents in Cairns to look at attitudinal change.

References and acknowledgements

Values toward wildlife: Sifuna 2011, Kansky 2014; Knight 2008; Howard 2006

Education effectiveness and conflict: Howard 2006; Madden 2004; Madden & McQuinn 2014; West 2002; Peterson et al 2010, 2013; Marshall et al 2007; Madden 2014; Booth 2007

Education and audience receptivity: Howard 2006; Peterson 2010, 2013; Madden 2014; Ogra 2009; Conover 2002; Rabinowitz et al 2005; Kidd & Kidd 2006

Participatory Education: Brossard et al 2005, Douglas 2010, Squires et al 2016

Children and education: Ford 2002

Values theory: Kellert 1996;Fulton 1997; http://www.commoncause.org.au/

Thankyou to the wonderful photographers

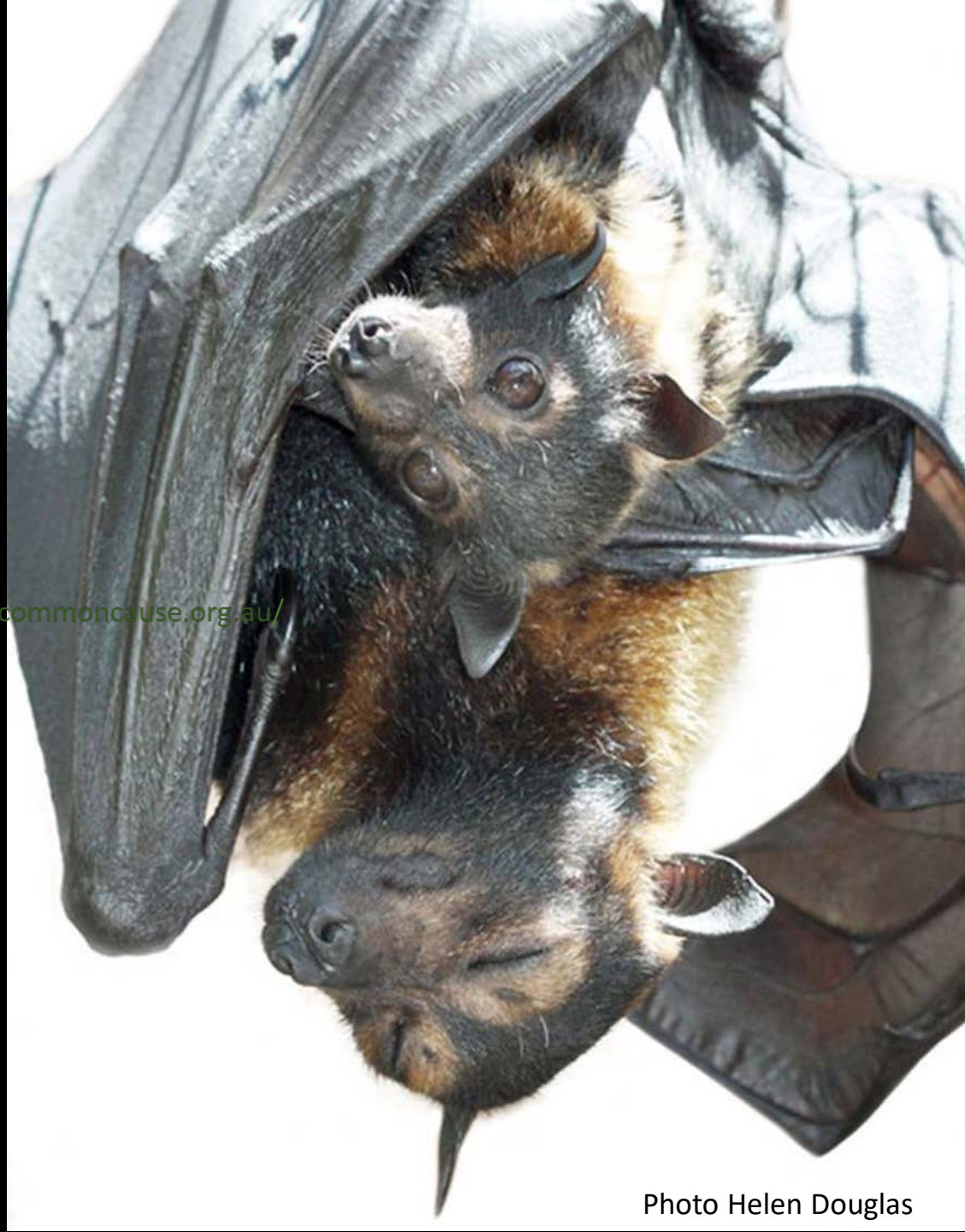


Photo Helen Douglas