



Managing the Flying-fox Hazard

Cairns Airport

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Flying-foxes



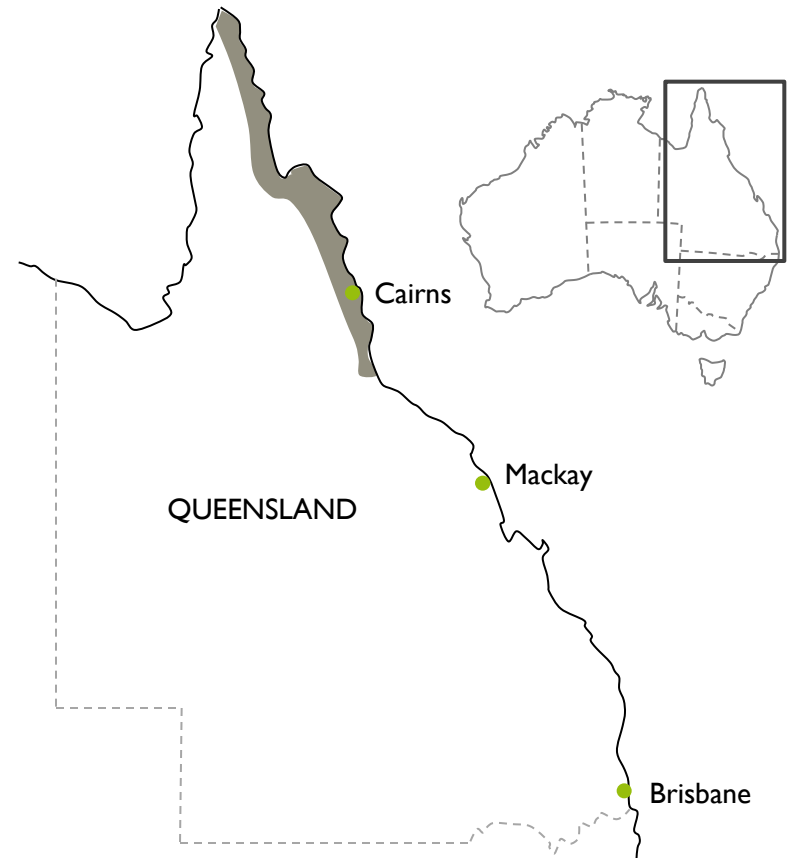
Photo courtesy: Dr Louise Shilton

Flying-foxes

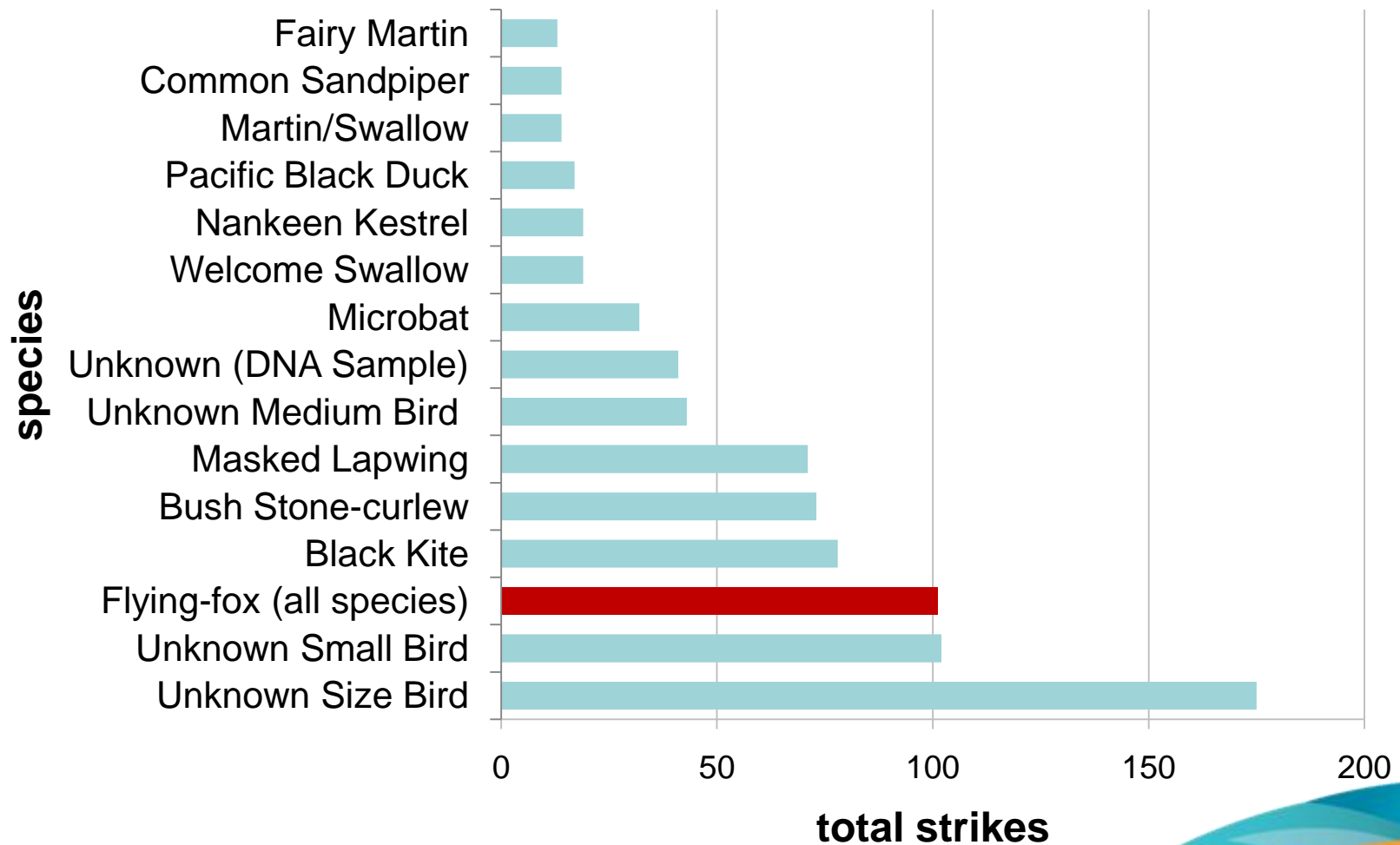


Photo courtesy: Dr Louise Shilton

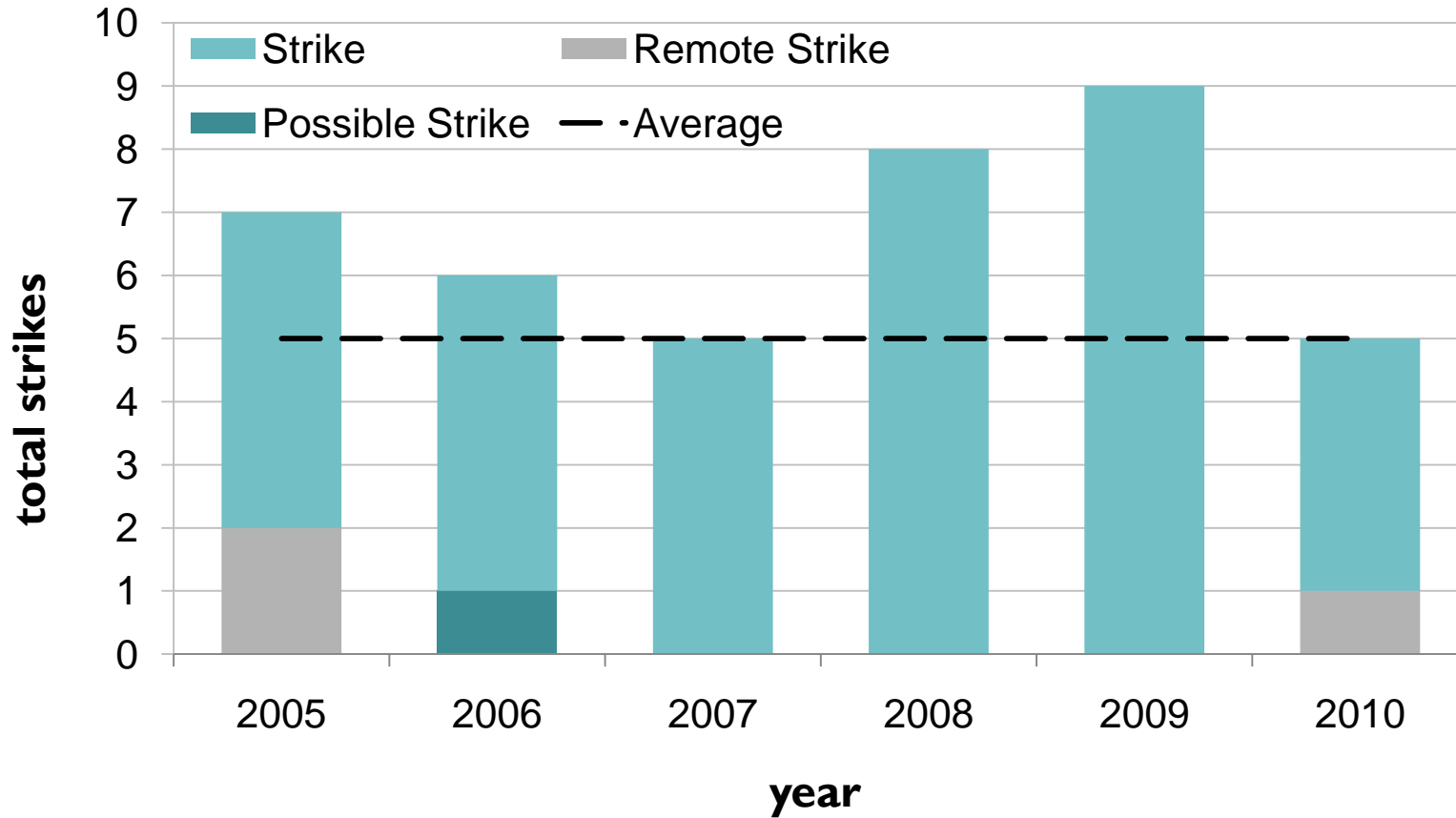
Spectacled Flying-fox (*Pteropus conspicillatus*)



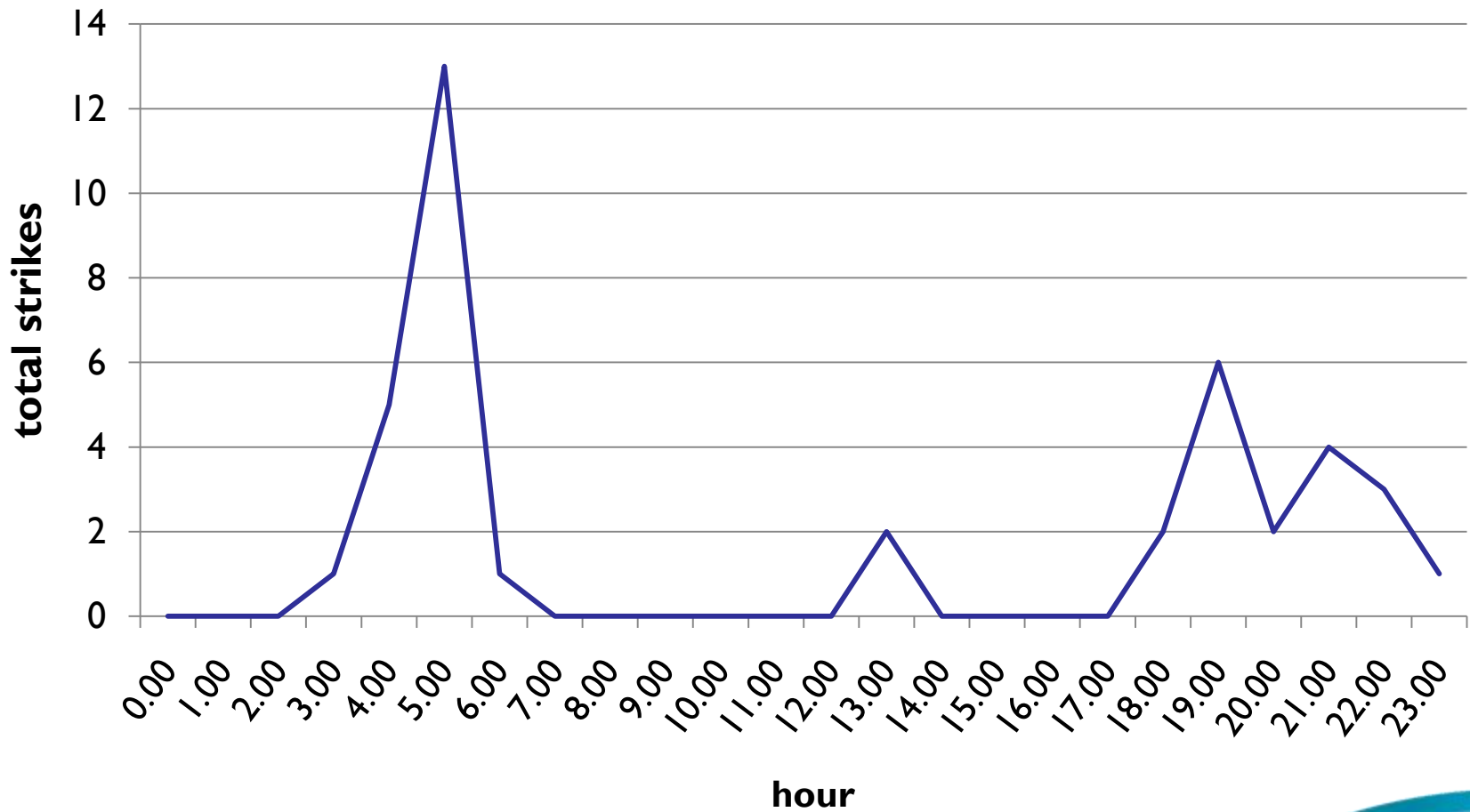
Flying-fox strikes – Cairns Airport



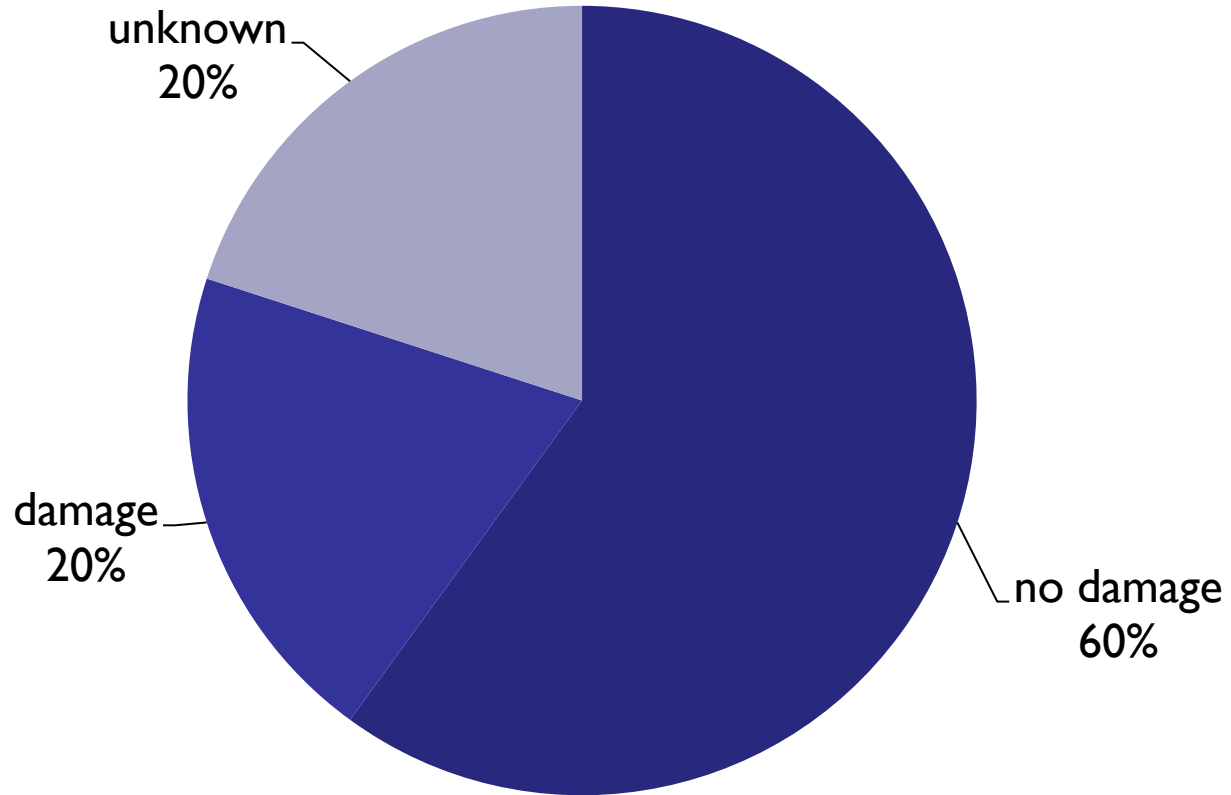
Flying-fox strikes – Cairns Airport



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Flying-fox strikes – Cairns Airport



Cairns Airport study - hypotheses



1. flying-fox recorded on-airport is some function of the number of bats in the region
2. flying-fox recorded on-airport is some function of the resources in the immediate vicinity of the airport.

Cairns Airport study - aim



To reduce the risk of flying-fox strikes

Cairns study - objectives



1. Identify the flying-fox strike risk at Cairns Airport
2. Examine the dynamics of flying-fox camps located in the Cairns region over time
3. Define the resource attractants for flying-foxes within and outside Cairns Airport
4. Identify flying-fox and aircraft conflict in terms of height and time
5. Develop management options for reducing the risk of flying-fox strikes at Cairns Airport.



• Yorkey's Knob

Cairns
International
Airport

• Central Swamp

• Cairns Library

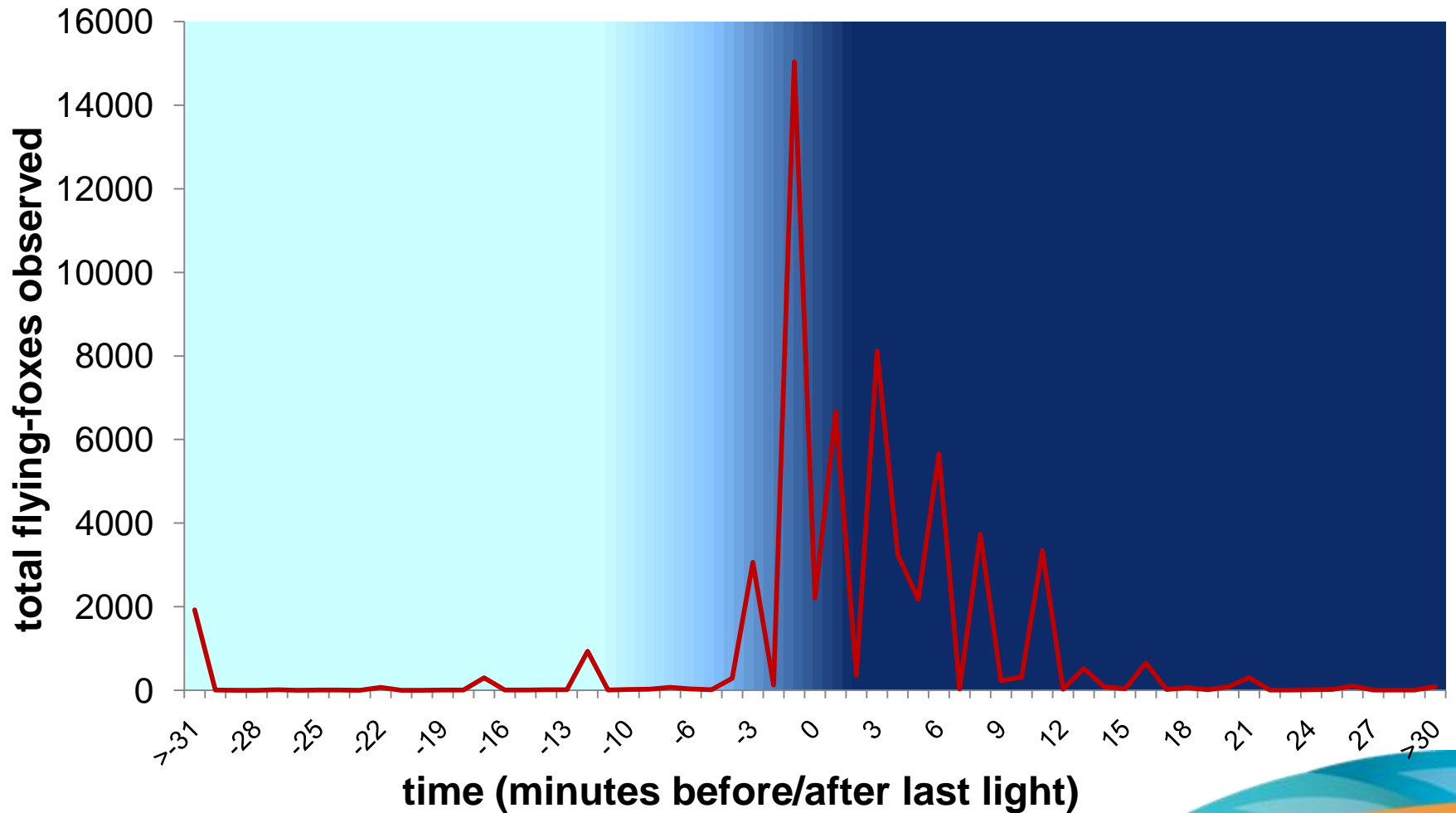


Cairns Airport study – key findings



- The Cairns Central Swamp camp contributed the majority of flying-foxes observed transiting Cairns Airport airspace.
- Camp sizes can indicate the extent of strike risk (i.e. more bats can take longer to transit airspace). However, camp sizes alone are poor predictors risk.
- Flying-fox fly-out times extend from 20 minutes before last light to 10 minutes after last light.
- Pre-dawn return to camps varies.

Cairns Airport study – key findings

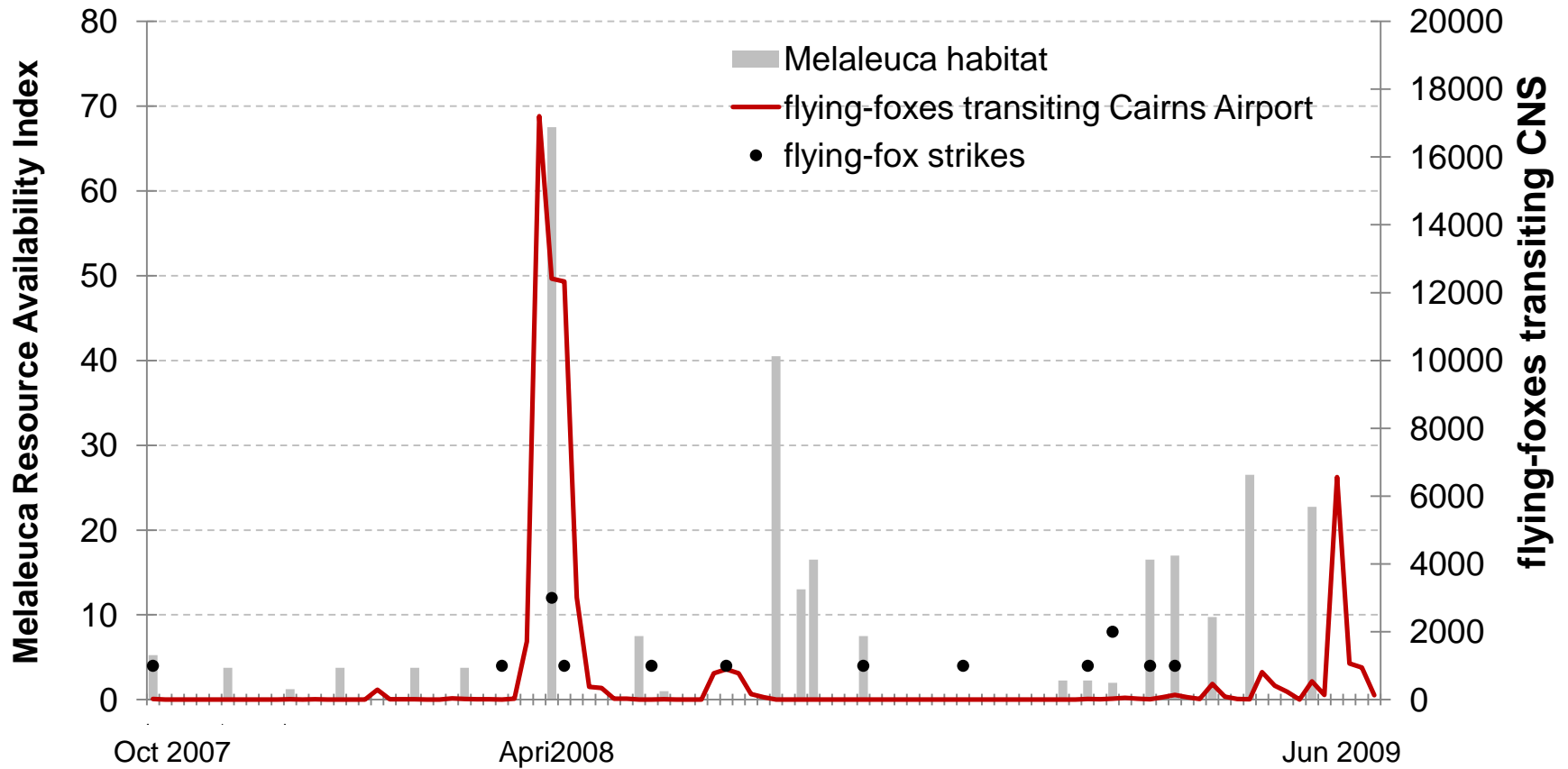


Cairns Airport study – key findings



- Peaks in flying-fox activity at Cairns Airport correspond with peaks in *Melaleuca* habitat flowering throughout the Cairns region, and in particular with *M. leucadendra*.

Cairns Airport study – key findings

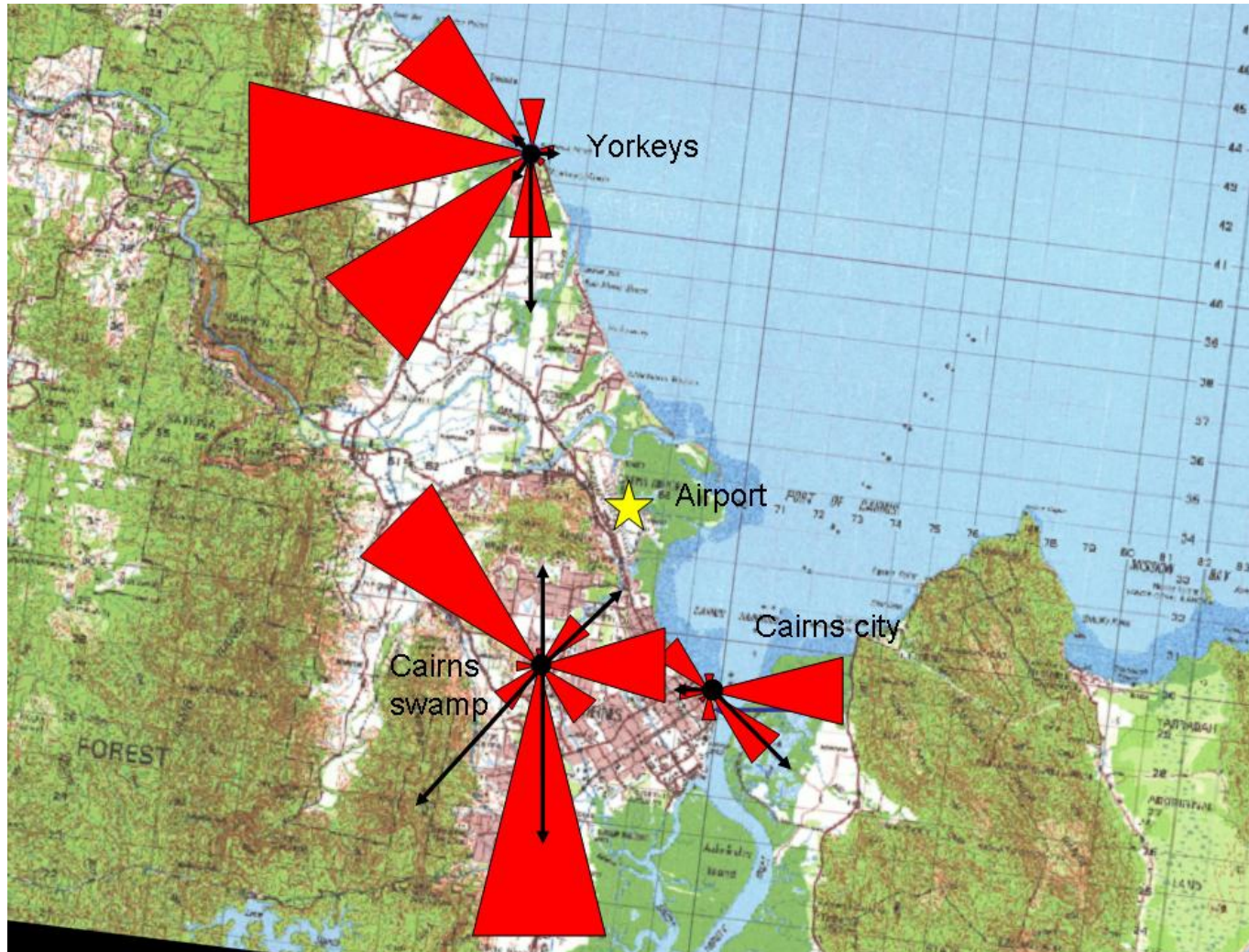


Cairns Airport study – key findings



- In response to available attractants, a greater proportion of flying-foxes headed towards Cairns Airport.

Cairns Airport study – key findings



Management Strategies - BWC Reports



Bird/Bat Watch Condition Reports issued to airlines/ATC during periods of high FF presence. Allows airlines to adjust schedules accordingly so that they are not departing/arriving during time of high FF strike risk (dawn & dusk flying-fox recorded on-airport is some function of the number of bats in the region)

LEVEL	TRIGGER	RESPONSE
1	>10 flying-foxes observed	Initiate Action Plan
2	> 50 flying-foxes observed	Activate Moderate BWC
3	> 100 flying-foxes observed	Activate Severe BWC
4	Flying-fox strikes > 15 / 5yrs	Review Action Plan

Management Strategies - BWC Reports



<h2>Cairns Airport</h2>	
<h3>Bird Watch Report</h3>	<h3>No.2009/06</h3>
<h2>Condition: Severe – Flying Fox</h2>	
<p>Legend</p> <p>Bird Watch condition SEVERE. Heavy concentration of birds on or immediately above the active runway or other specific locations that represent an immediate hazard to safe flying operations (>100 FF in a 10 min period).</p> <p>Bird Watch condition MODERATE. Concentrations of birds observable in locations that represent a probable hazard to safe flying operations (>50 and <100 FF in a 10 min period).</p> <p>Bird Watch condition LOW. Normal bird activity on and above the airfield with a low probability of hazard.</p> <p>Bird Watch ALERT. Weather, time of day and seasonal conditions which make an influx of birds onto the airfield likely.</p>	
Reissue date: 25 June 09	Review date: 29 June 09
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Management Strategies - BWC Reports



Details

Location:

Flying Foxes over Rwy 15/33 and within Southern approaches (see attached flight path map). Observed up to 300 ft over the airport at dusk.

Recent observations indicate that Flying Fox are crossing Rwy 15/33 south of Twy B5 and proceeding in a North-easterly direction during the evening fly out.

Time of Day: (All times local)

Any time between dusk and dawn there maybe isolated Flying Foxes but peak times are between 1800 to 1830 hrs. Low numbers during the return fly in during the morning period 0400 and 0600 hrs have also been observed.

Management Strategies - BWC Reports



Type and Number of Birds / Wildlife:

Observations on the night of Wednesday 24 June 2009 recorded approximately 6500 Flying foxes in a 10 minute period with the peak between 1820 to 1830 local time. This is a significant increase in Flying fox numbers from the previous night when 300 were observed.

Flying Fox overflight of the airport occurred earlier this year and is related to flowering of Melaleuca trees.

The Flying foxes depart from colonies south west of the airport and track north crossing the airport at heights of approx 200 - 300 ft AGL.

The fly out can occur anytime between 1700 hrs and 1915 hrs depending on cloud cover and weather conditions, but peak activity has previously happened in a 15 minute period between 1805 and 1820 hrs.

Management Strategies - BWC Reports



Bird/wildlife management strategies implemented:

- Airport Safety Officers are monitoring the Flying Fox movements and reporting the presence, numbers, direction and approx flying height via Air Traffic Control to all arr and dep aircraft.
- A Notam covering the presence of Flying Foxes has been issued.
- A hazard report has been placed on the ATIS.
- Airline operators are requested to advise aircrews by INTAM.
- Cairns Airport Pty Ltd Apron Coordinators will provide fly out / fly in advice to airline movement control 30 mins prior to expected peak time, at the commencement of the peak period, and at the end of the peak period.
- Should the mass fly outs reoccur, Airline operators are requested to review their operating schedules during the peak fly in / fly out period.
- Pilots are requested to delay their arrival or departure on advice from the Airport Safety Officer / ATC in the likely event of a peak fly out / fly in occurrence.
- Should significant numbers of Flying Fox be reported, pilots are requested to use full length departures when Rwy 15 is operational to avoid Flying Fox crossing south of Twy B5.

Management Strategies - BWC Reports



Issue of NOTAM

CNS Notam has been issued. Review date 28 June 09.

C0227/09

REVIEW C0224/09

INCREASED FLYING FOX ACTIVITY

APRX 6500 OBSERVED CROSSING SOUTHERN END OF AIRPORT DRG 10MIN
EVENING FLY OUT. FLIGHT DIRECTION SW TO NE UP TO 300FT AGL.

EARLY MORNING FLY IN MORE SCATTERED.

REF BIRDWATCH REPORT 2009/06

FROM 06 250424 TO 06 282130

DAILY 1930/2130 0800/0830

Management Strategies – stakeholder response



Airservices Australia:

- Developed internal BWC Procedure
- Place hazard warning on ATIS
- Pass advice from Airport Safety Officers to aircraft

Airlines:

- Carry additional fuel during Severe and Moderate BWC periods
- Authorise pilot discretion in delaying departure and arrival times
- Issue BWC reports internally through INTAMS

Management Strategies



- *M. leucadendra* flowering most intense during March – June therefore CAPL can be predictive with regards to peak flyout periods
- Outside of peak flowering periods FF presence is sporadic and generally numbers are low
- Airport Safety Officers monitor FF numbers ongoing

Management Strategies



The combined approach of proactive and routine:

- monitoring resource availability, in particular *Melaleuca* habitat, in the vicinity of Cairns Airport
- monitoring flying-fox at Cairns Airport
- monitoring the local FF population in colonies

Has allowed development of a **predictive** risk model and development of FF Action Plans