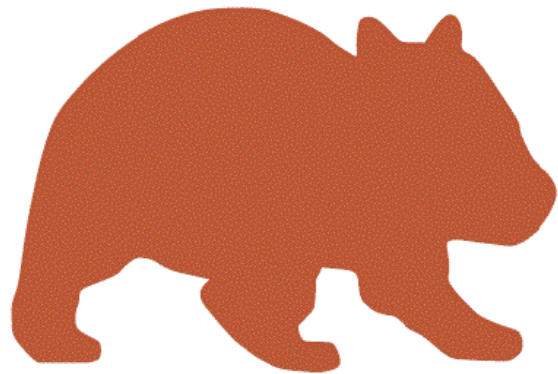




# WomSAT

Wombat Survey and Analysis Tool



WomSAT.org.au

Julie M. Old

[j.old@westernsydney.edu.au](mailto:j.old@westernsydney.edu.au)

# Treatment Station Limitations

- Our ecological studies (spotlighting and ‘designating a mange score’) suggest around 20% of wombats in our study populations are affected
- Ineffective in areas with very high wombat numbers (due to shared burrows and difficulty targeting specific wombats)
- Not all burrows can be accessed
- Flaps must be checked regularly and effective treatment plans strictly followed
- Long term use of anti-parasitic treatments may lead to mite resistance
- No short-term solution for wider population

# Sarcoptic Mange in Wombats

## What Do We Need To Know?

1. Why are wombats so badly affected by sarcoptic mange, and are there factors that influence prevalence?  
Immunological, Stress and/or Nutrition?
2. Where are the wombats with and without sarcoptic mange located, and are the numbers significant?
3. What are the other threats to wombats?

# Immunology

- MHC diversity in wombat populations
- Diversity in MHC genes can be correlated to the level of 'immunological fitness' of an individual or group of individuals

Old et al. Aust Mammal. 2019: *In Press*

# Stress & Other Diseases

- Optimised faecal metabolites now able to be measured in captive and wild wombats to assess stress levels

Sengupta et al.<sup>a</sup> Aust Mammal. 2019: *Under Review*;

Sengupta et al.<sup>b</sup> Aust Mammal. 2019: *Under Review*

- For Carers too!
- Other parasites and disease impacts

# Diet and Nutrition

- Dietary items
- Different locations
- Impacts of season on nutrition of dietary items

# The Other Questions

1. Where are the wombats with and without sarcoptic mange located, and are the numbers significant?
2. What are the other threats to wombats?

- Last survey of sarcoptic mange in wombats was conducted in 1998
- Surveyed 66 areas and mange was reported in 93% of the surveyed areas



# Wombat Survey and Analysis Tool

- Online Citizen Science mapping tool
  - Raise the profile of wombats by increasing public knowledge
  - Record and monitor sarcoptic mange occurrence and distribution in 'real time'
  - Record other threats to wombats eg. road kill
- ➔ Development of a management plan in the longer term
- Website runs through NSW DPI

# How to Use WomSAT

<https://www.youtube.com/watch?v=OLZndknDWIY&t=21s>

# Wombat Survey and Analysis Tool



Screenshot of WomSAT app

- Android and iPhone app
- Available to the public
- Report wombat sightings
- Report evidence of wombat activity e.g. burrows/scats

# Wombat Survey and Analysis Tool

All Records **Add Sighting** Add Burrow My Data

1. Date observed
2. Time observed
3. Click on the map, or type your coordinates:  
Latitude   
Longitude
4. Status?  
 Live wombat  
 Dead wombat, cause of death, if known:
5. Gender?  
 Male  
 Female  
 Unknown
7. Mange score?  
 1 - None ([see image](#))  
 2 - Mild ([see image](#))  
 3 - Severe ([see image](#))  
 Unknown
8. Notes (250 character limit)
9. Email address
11. If you have a photograph of this sighting, please upload it  
 No file chosen

- Report status (alive or dead)
- Report sarcoptic mange level
- Upload photograph of sightings
- Real-time data

# Preliminary Road Kill Data

- Real-time data collection provides managers with up-to-date information at local, regional and national scales
- Road mortality hotspots identified

# Preliminary Sarcoptic Mange Data

- Predictions based on WomSAT data 2014 to 2019

# Your Help is Needed

- Become a #WombatWarrior
  - Learn more about wombats, sarcoptic mange and other threats to wombats
  - Increase the profile of wombats

# How to become a #WombatWarrior

- Download the app for Android and iPhone
- Check out the website: [WomSAT.org.au](http://WomSAT.org.au)
- Start mapping your wombat sightings and wombat burrows
- #WombatWednesday



# Acknowledgements

- Everyone that has allowed us to survey their properties, Volunteers, Wildlife carers, Citizen scientists, #WombatWarriors
- Candice Skelton, Blaire Vallin, Rowan Thorley, Chandni Sengupta, Sujatha Sengupta, Eden Hermsen, Danielle Beard, Alisha Westerberg, Allie Hercus, Nikki Hunter, Fiona McDougall, Dan Tilden, Allison Zaguirre, Rebecca Carman, Mike Swinbourne, Ricky Spencer, Amelia Cook, Hayley Stannard, Jack Wolfenden, Phillip Gauke
- Peter West, NSW DPI
- Emirates Airlines and Wolgan Valley One and Only
- Wildlife Disease Association
- Wombat Protection Society
- WIRES
- Wildlife Victoria

# Questions?

Connect with us: [WomSAT.org.au](http://WomSAT.org.au)

[WomSAT@outlook.com](mailto:WomSAT@outlook.com)

@WomSAT

#WombatWednesday



[WomSAT.org.au](http://WomSAT.org.au)