



Department of
Primary Industries and
Regional Development



Protect
Grow
Innovate

Remote monitoring of pitfall traps

Using remote cameras and 4G network

Remote trapping



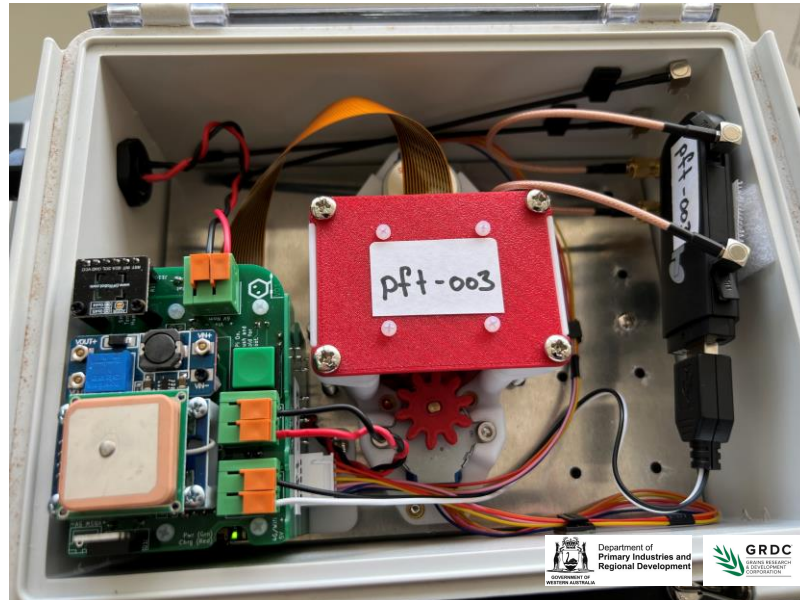
GRDC - National Grains Diagnostic and Surveillance Initiative (NGDSI)

Five year project

- **Near real time identification of biotic threats**
 - **seasonal occurrence**
 - **magnitude**
 - **distribution**

2023 Remote Pitfall Camera

- In 2023 we were able to develop prototypes utilizing:
 - Hasn't been done before
 - Higher resolution cameras
 - Improved power saving
 - Remote access

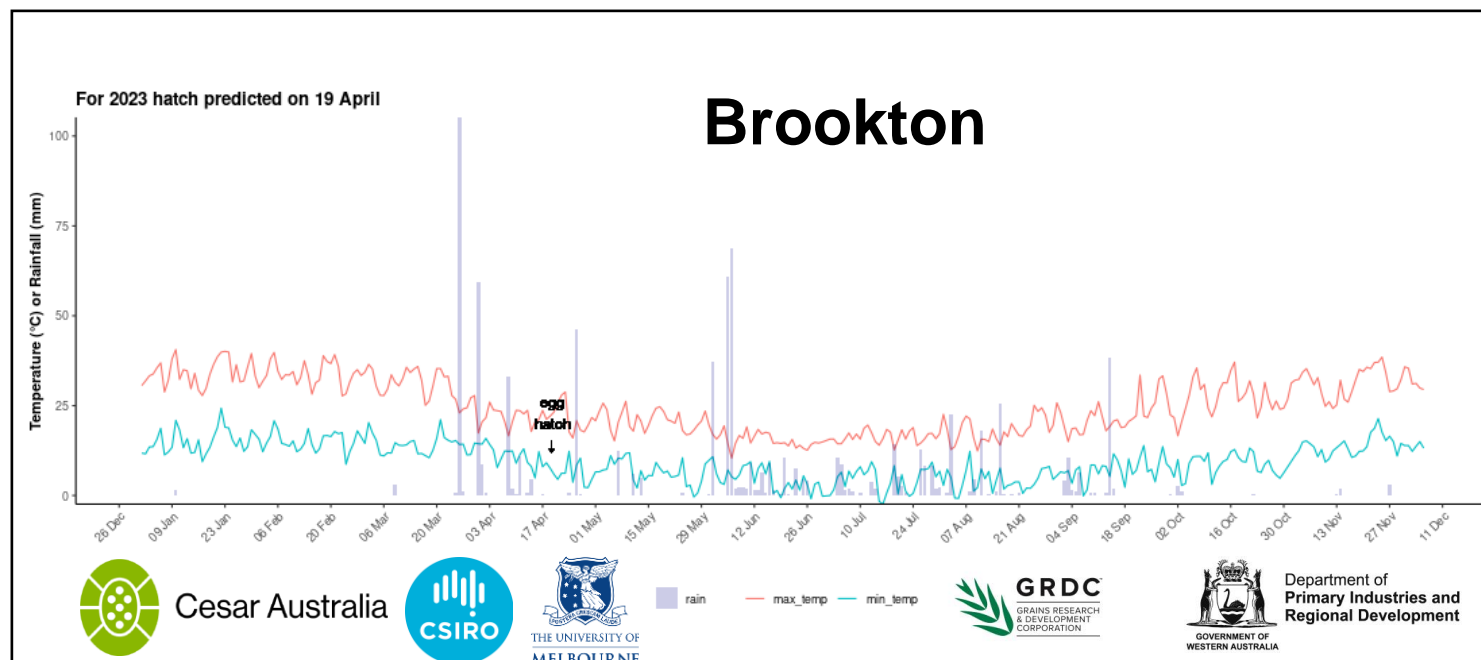


Monitoring RLEM

- **Knowing hatch date to target insecticides**
 - **Optimal spraying is directly after the over summer eggs have hatched**
- **Ground truthing RLEM hatching prediction models**

Detailed hatch information for BROOKTON WA 6306

Year	Estimated hatch
2023	19 April
2022	04 May
2021	01 May
2020	11 May
2019	16 May
2018	24 May
2017	26 May
2016	08 May
2015	29 April
2014	07 May
2013	17 May
2012	18 May

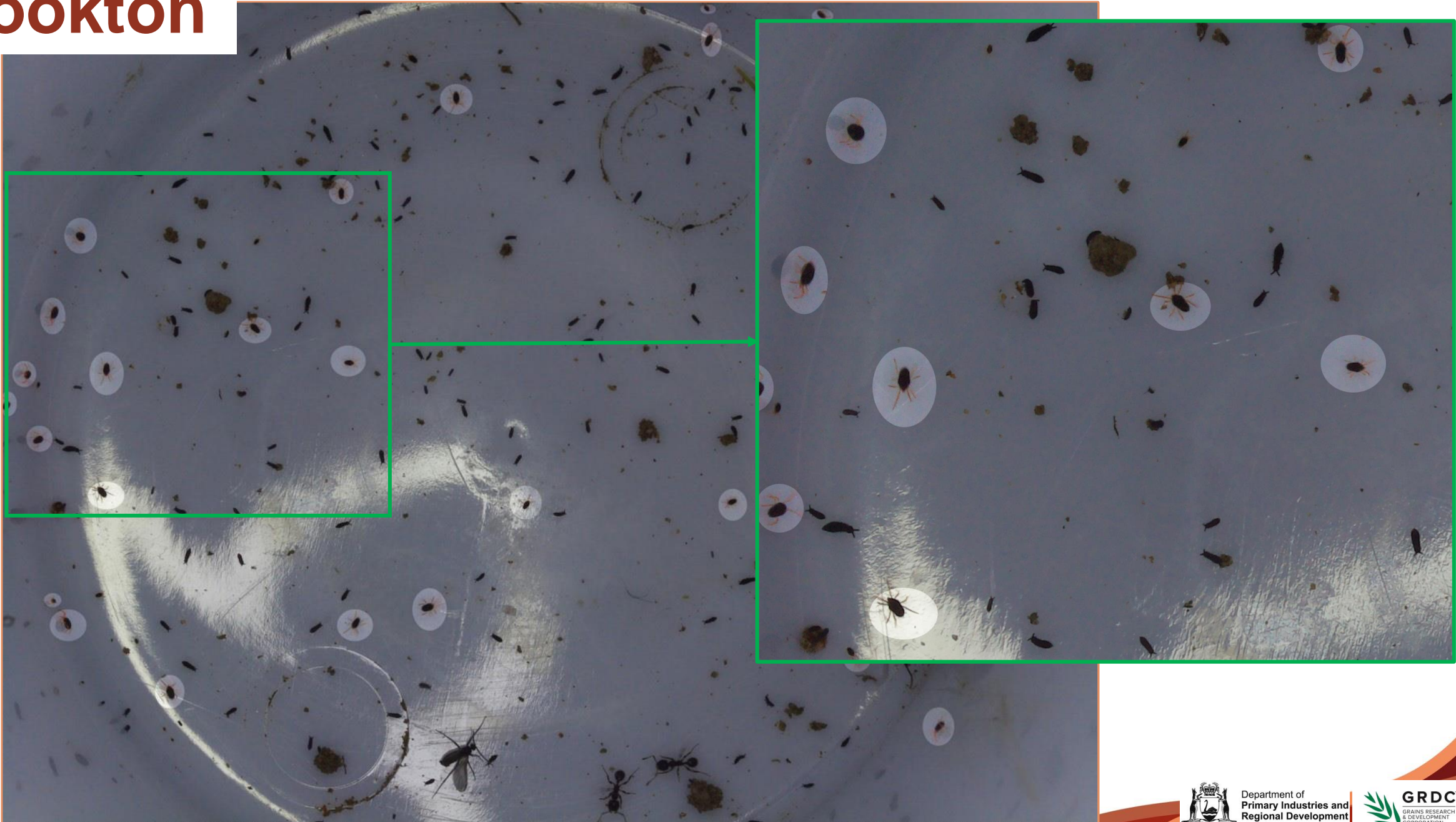


Brookton



- We had reports that this was a problem area for RLEM.

Brookton



Captured: 10/08/2023, 13:00:01 Last Location Fix: -32.38786, 117.15193

DPIRD Pitfall Trap 3

Voltage: 3.09V Temp: 14.36°C Rel. Humidity: 53.54%

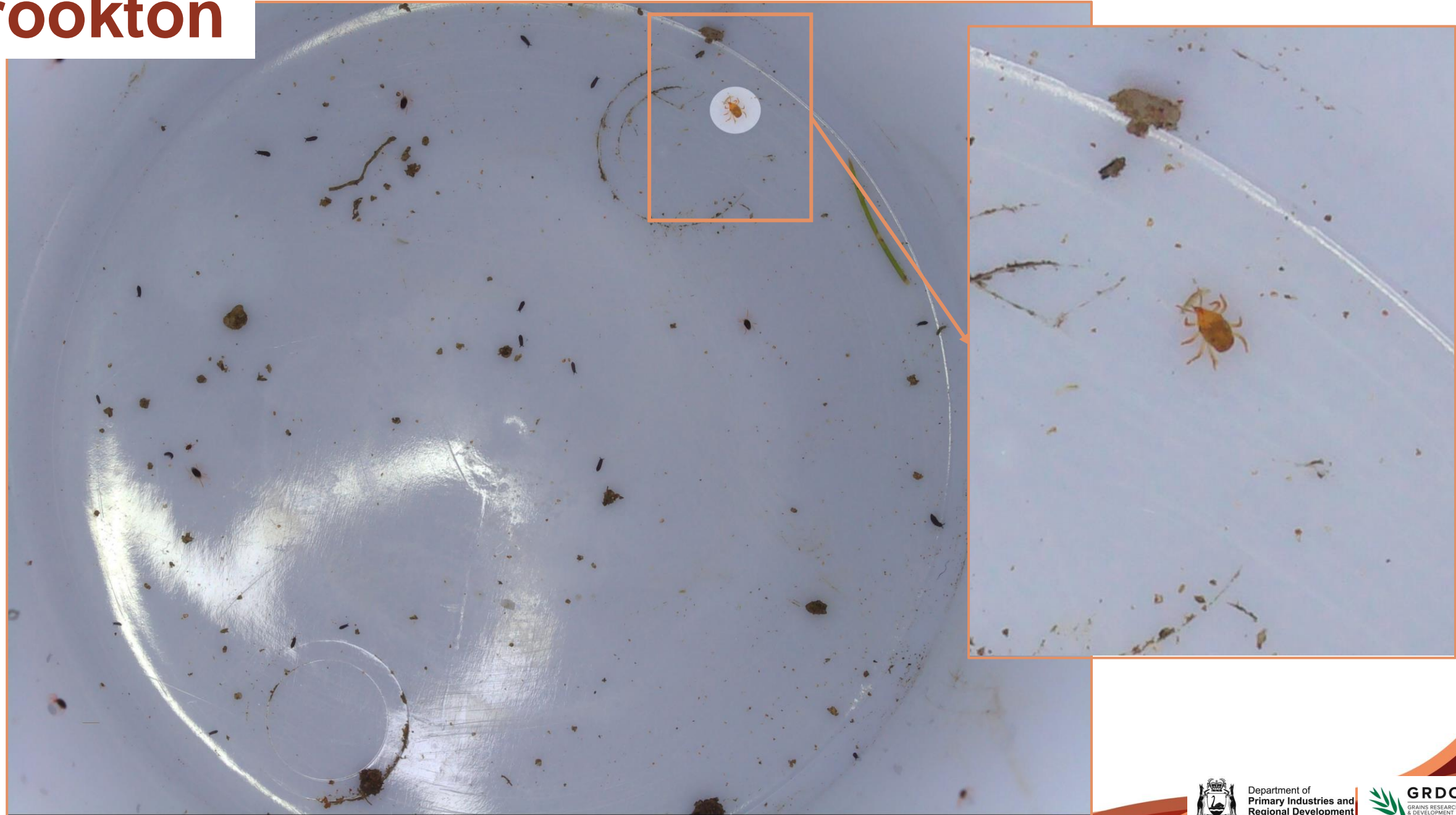


Department of
Primary Industries and
Regional Development



GRDC
GRAINS RESEARCH
& DEVELOPMENT
CORPORATION

Brookton



Captured: 10/08/2023, 11:54:29 Last Location Fix: -32.38786, 117.15193

DPIRD Pitfall Trap 3

Voltage: 3.094V Temp: 19.06°C Rel. Humidity: 52.36%

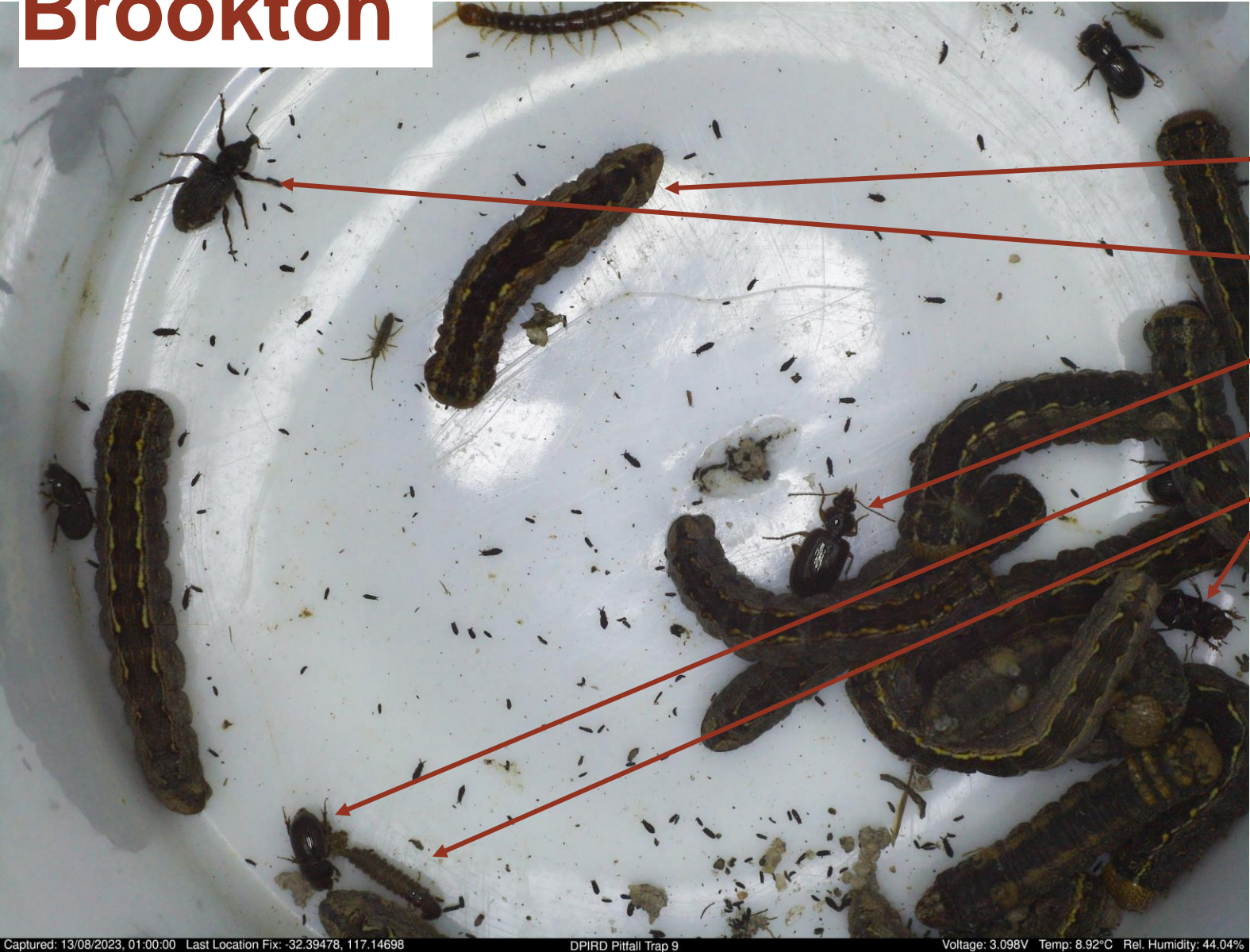


Department of
Primary Industries and
Regional Development



GRDC
GRAINS RESEARCH
& DEVELOPMENT
CORPORATION

Brookton



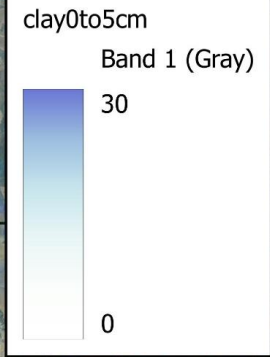
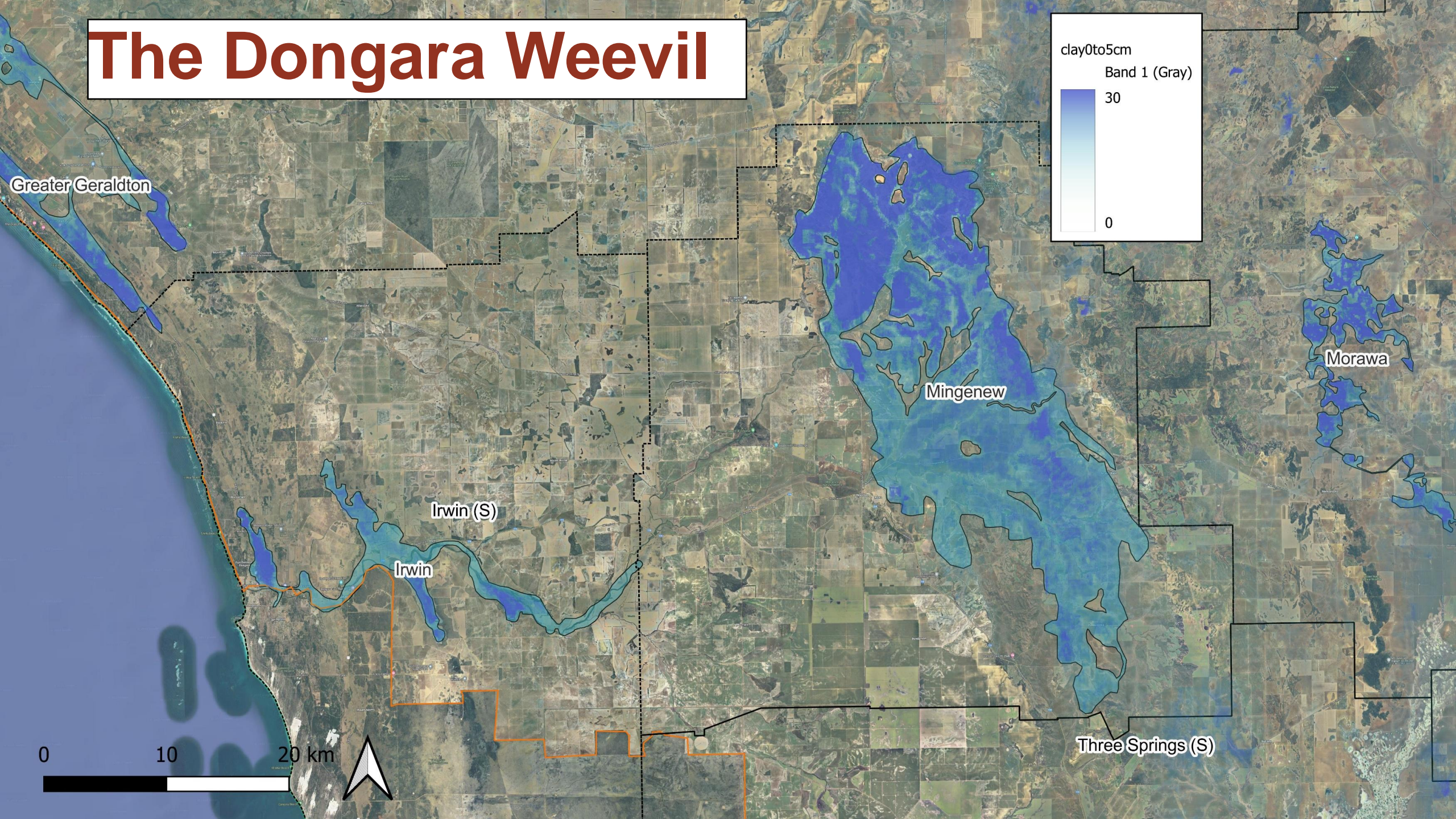
- Brown pasture looper caterpillars in the trap
- Vegetable weevil
- Carabid beetles
- cockchaffer
- Small scarab beetles

Captured: 13/08/2023, 01:00:00 Last Location Fix: -32.39478, 117.14698

DPIRD Pitfall Trap 9

Voltage: 3.098V Temp: 8.92°C Rel. Humidity: 44.04%

The Dongara Weevil



0 10 20 km



Greater Geraldton

Irwin (S)

Irwin

Mingenew

Morawa

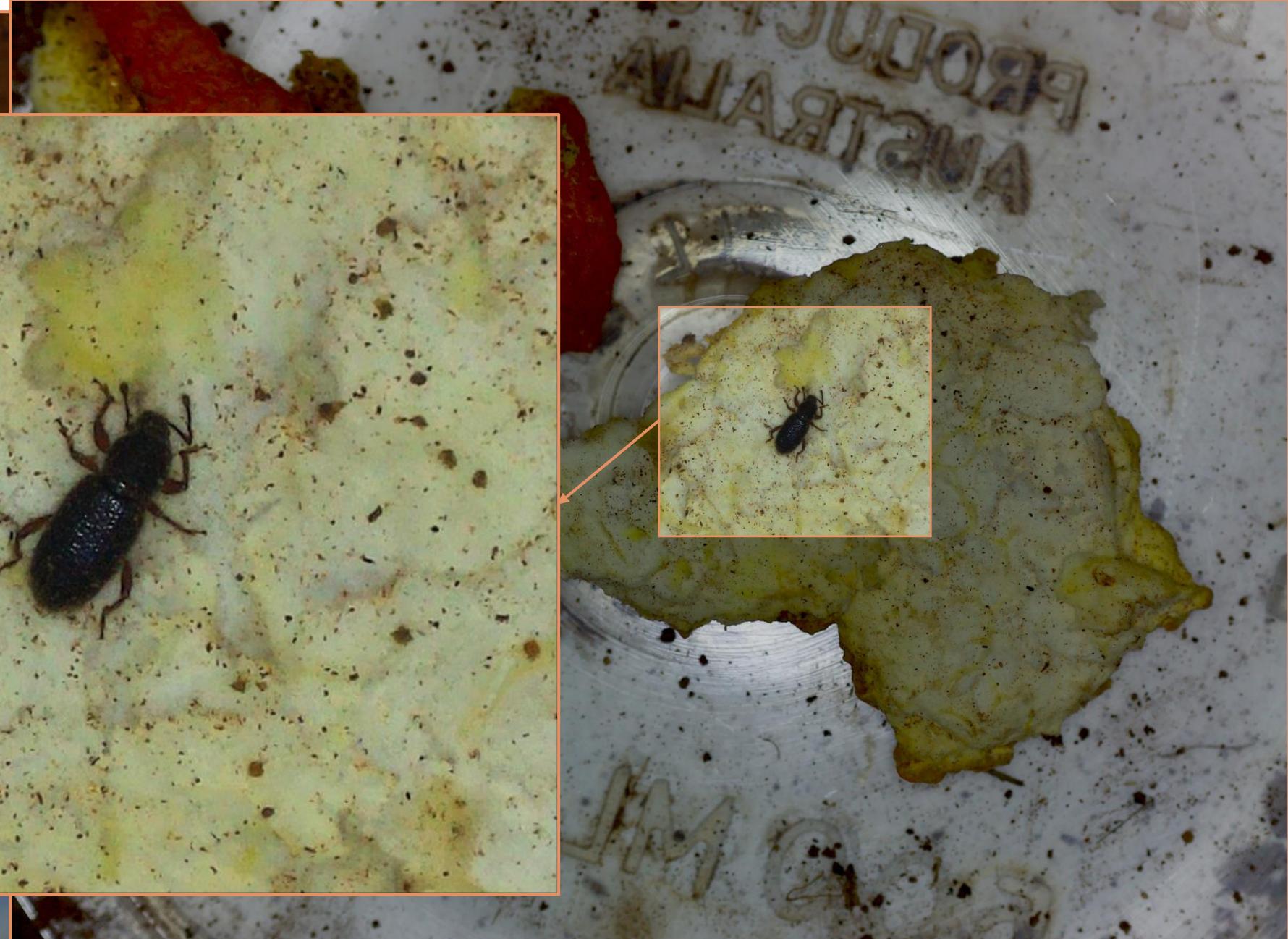
Three Springs (S)

Dongara



- We wanted use pitfall traps to monitor the Dongara weevil pitfall traps
 - Weevils are 2mm
 - Elusive

Dongara



Dongara

Soil Mites

Also, some more predatory mites

Where to now?

- **Some more development**
- **Network of pitfall traps**

- **Priorities:**
 - **RLEM**
 - **Lucerne Flea**
 - **Weevils**
 - **Dongara, Desiantha, Vegetable,**

Thank you

dpird.wa.gov.au    

Important disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

Copyright © State of Western Australia (Department of Primary Industries and Regional Development), 2023.