



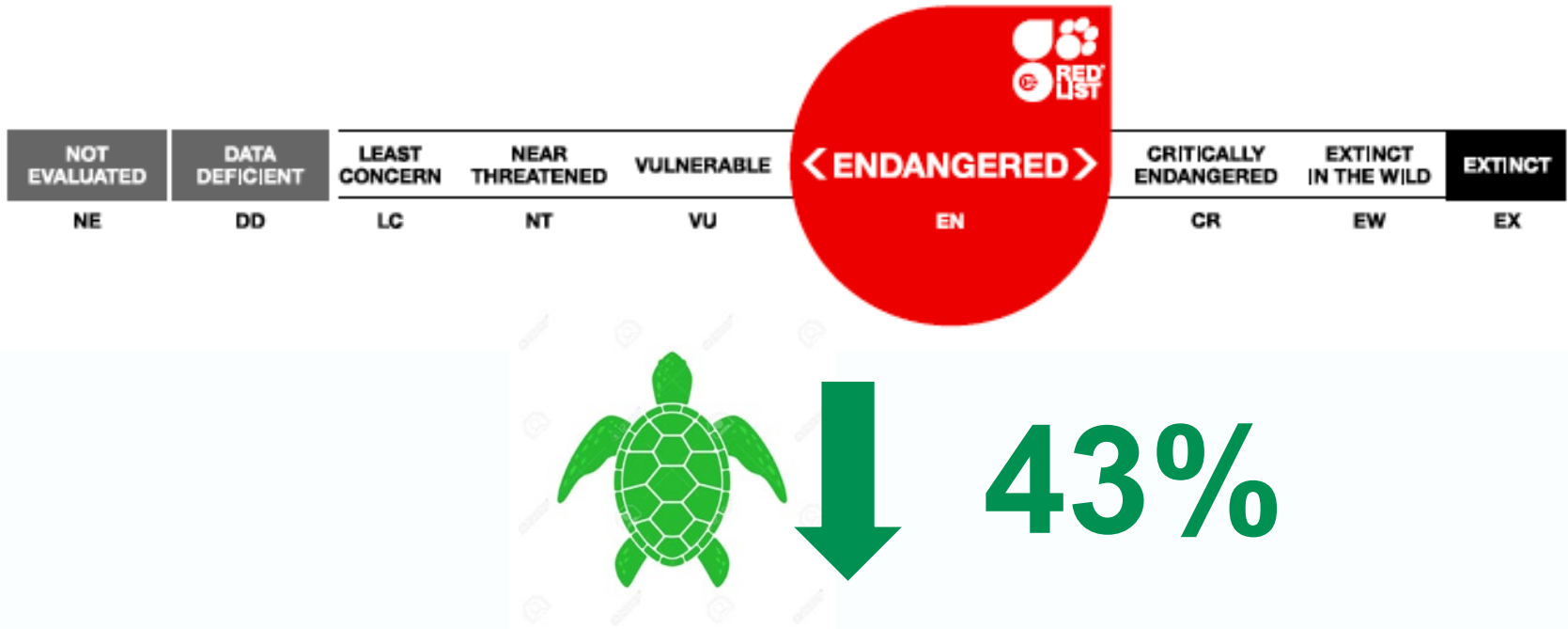
What have we learned after ten years of research on Ningaloo's turtles?

Mat Vanderklift, Richard Pillans, Nick Mortimer, Ben Mayne, Fabio Boschetti, Wayne Rochester, Michelle Coates, Océane Attlan, Dan Axford

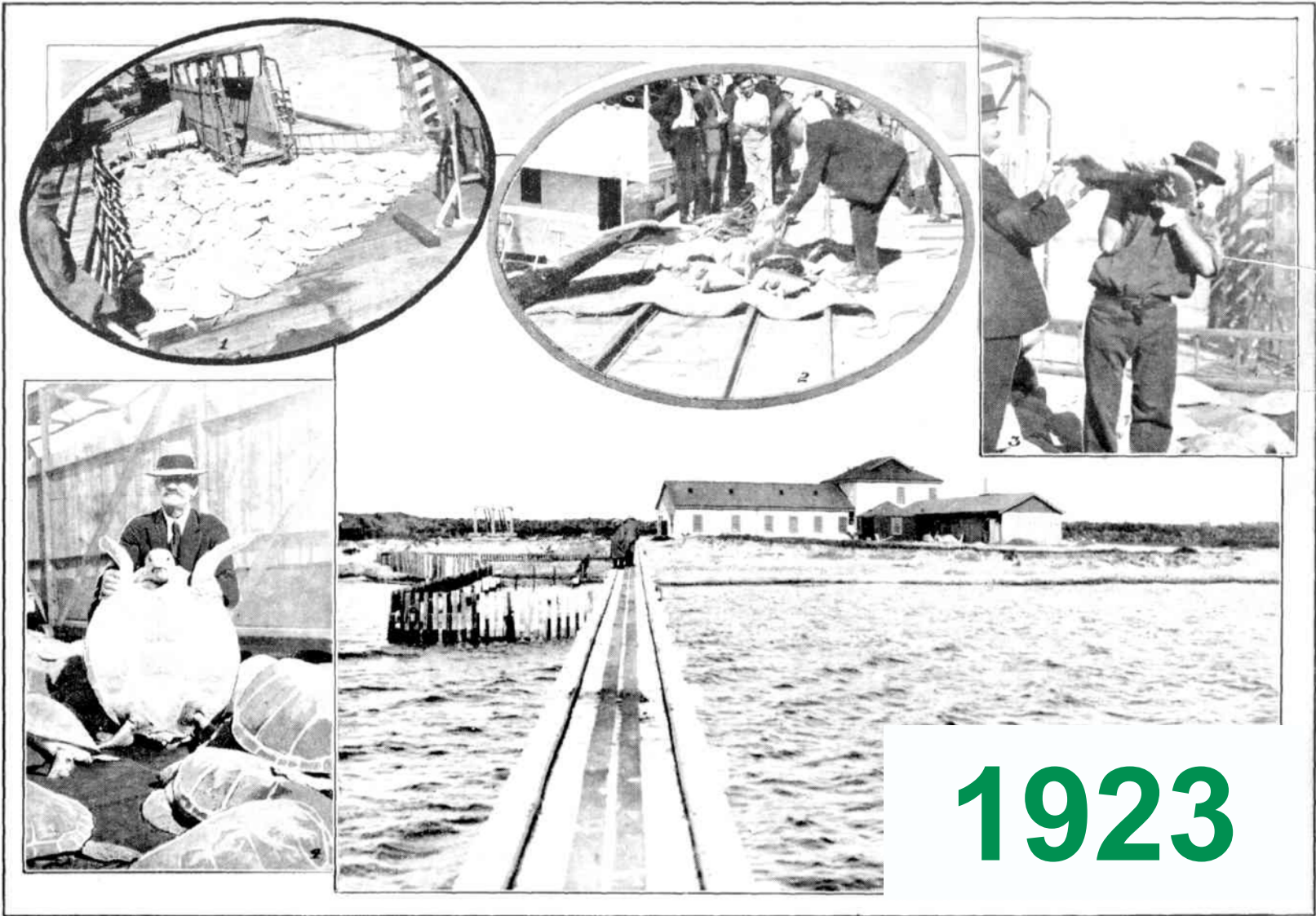
www.csiro.au



Green turtles *Chelonia mydas*



- 2023 IUCN Red List : Endangered
- 19 of 32 'index' populations* declining globally
- 9 of 12 Indian Ocean index populations declining
(* nesting beaches)



Shipping Turtles from Point Samson to the New Factory at Rockingham.

L. Rodocica, Raleigh.

An aerial photograph of a vast, shallow, turquoise ocean. The water is clear, revealing the sandy and rocky seabed. The color of the water transitions from a lighter turquoise in the foreground to a darker, more saturated blue-green in the background. A white rectangular box is positioned in the lower right quadrant of the image, containing the year '2023' in a bold, green, sans-serif font. The bottom of the image features a decorative blue and teal wave-like graphic element.

2023

Video credit: Mark Panhuyzen

Questions we ask

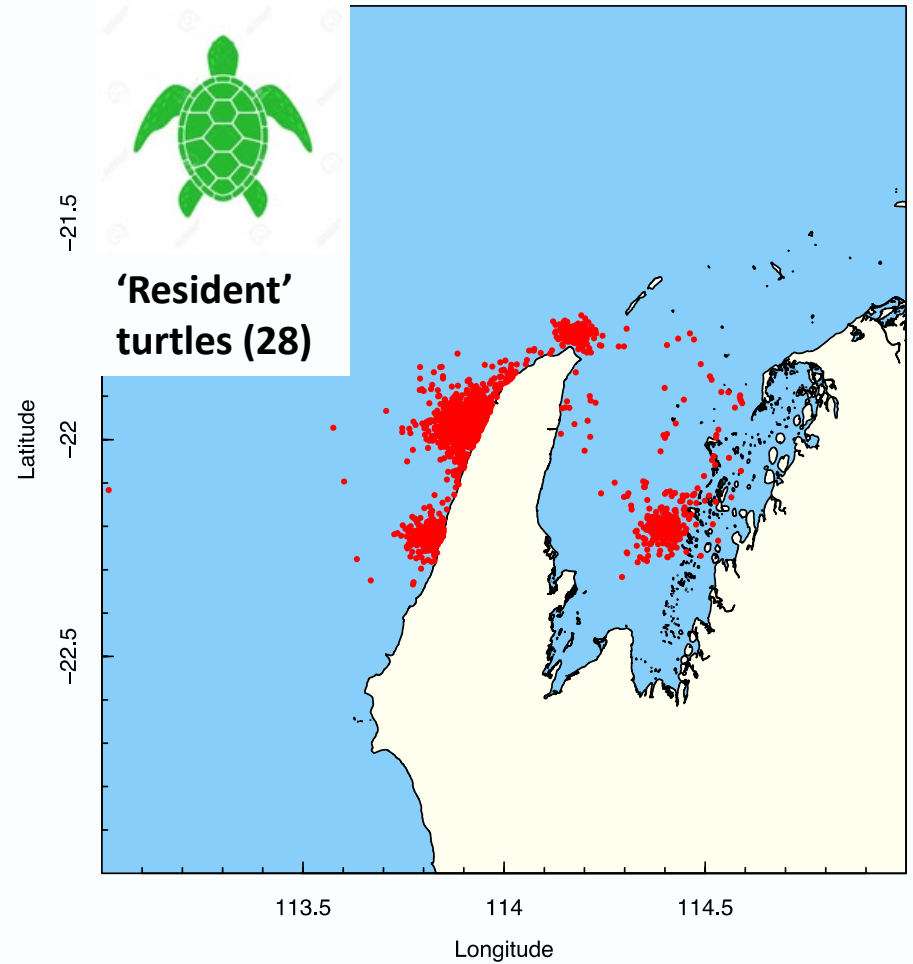
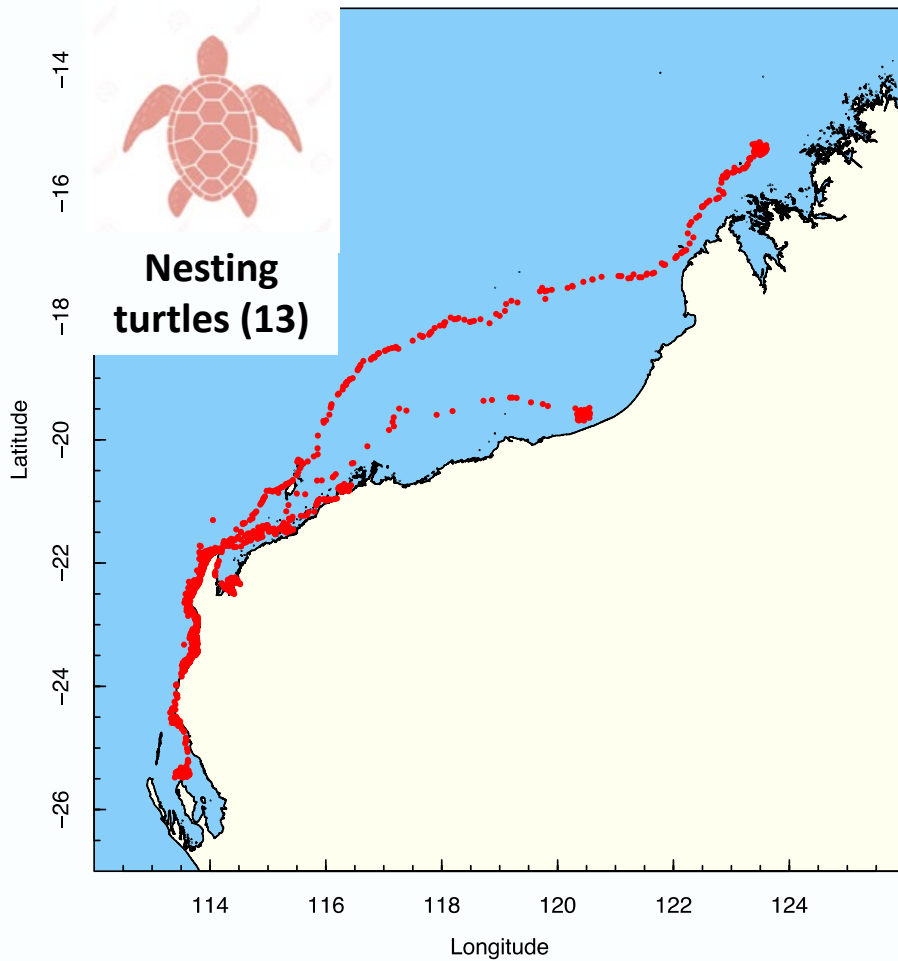
Abundance: How many are there?

Movement: Where do they eat and nest?

Population: How old are they?

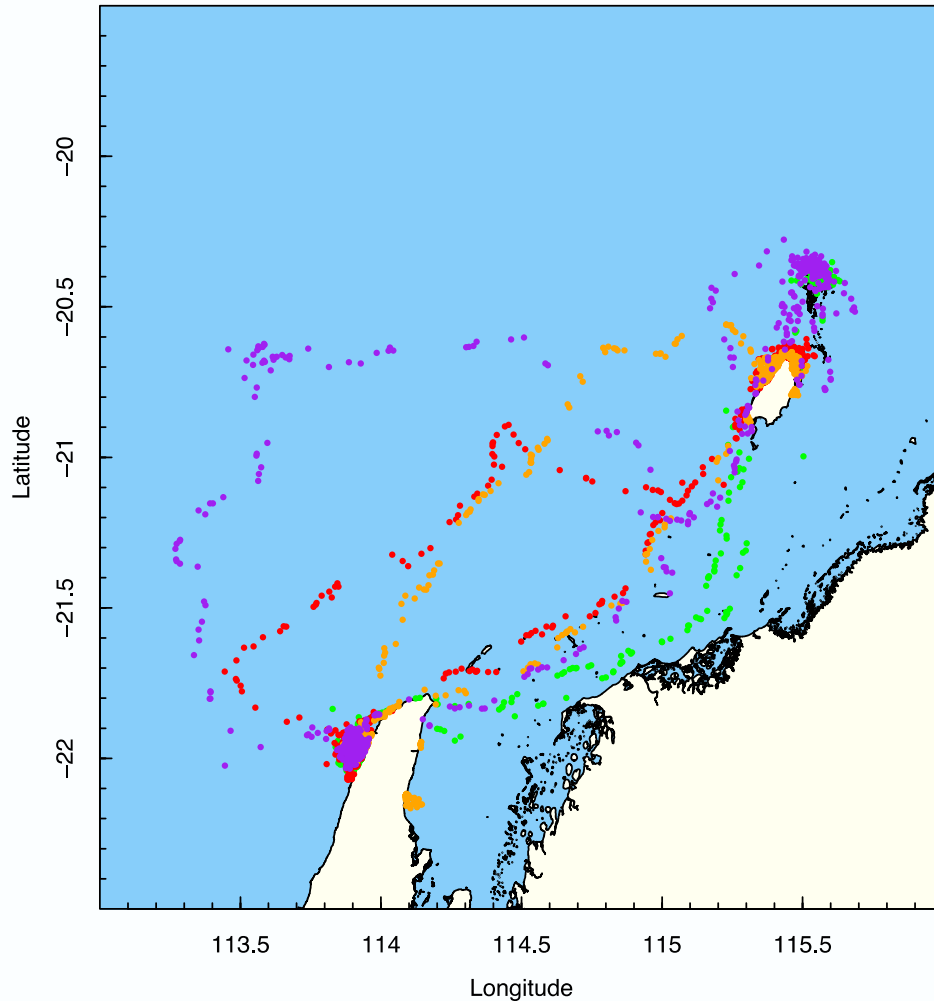


Movement : nesting vs in-water

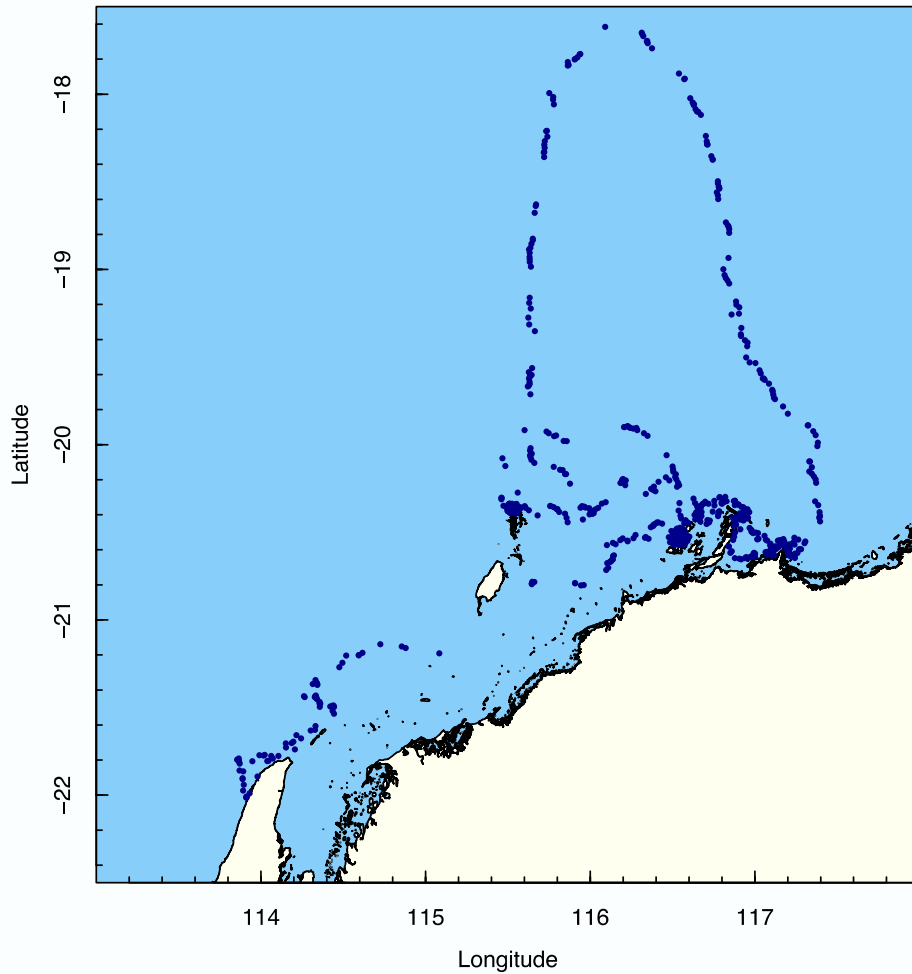


(Average ~220 days)

Movement : where do they nest?



Movement : where do they nest?



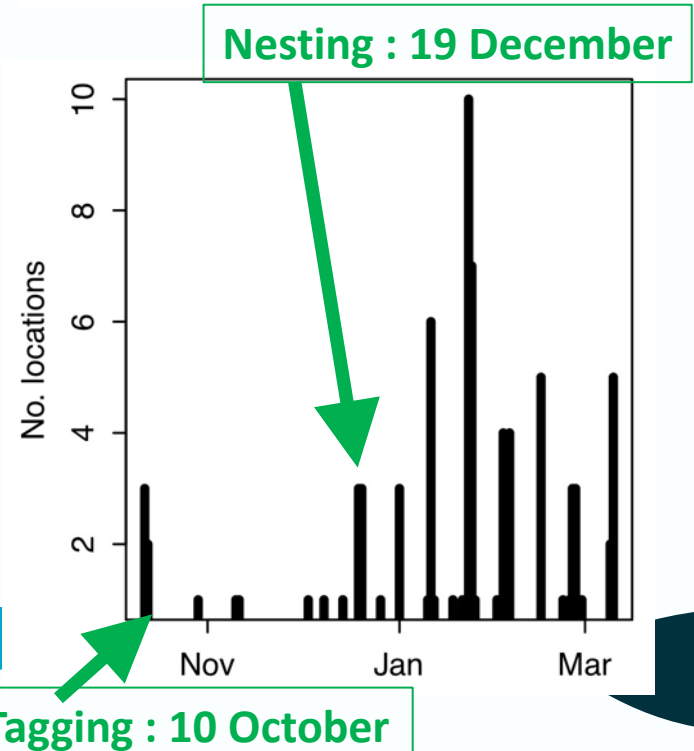
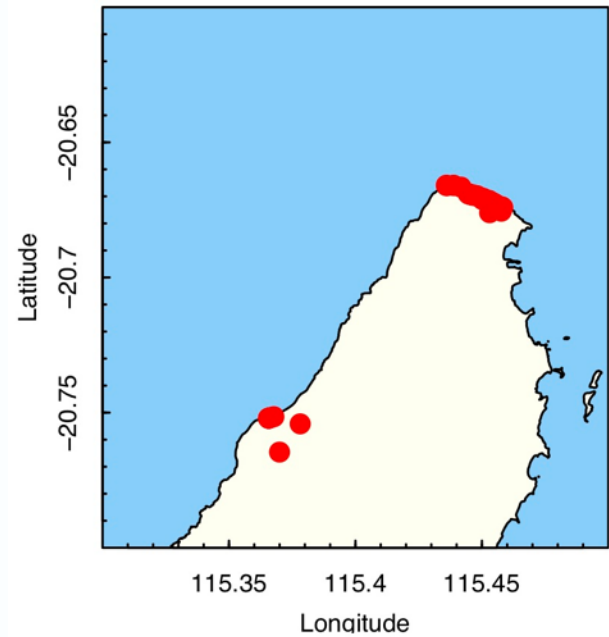


turtleViewR



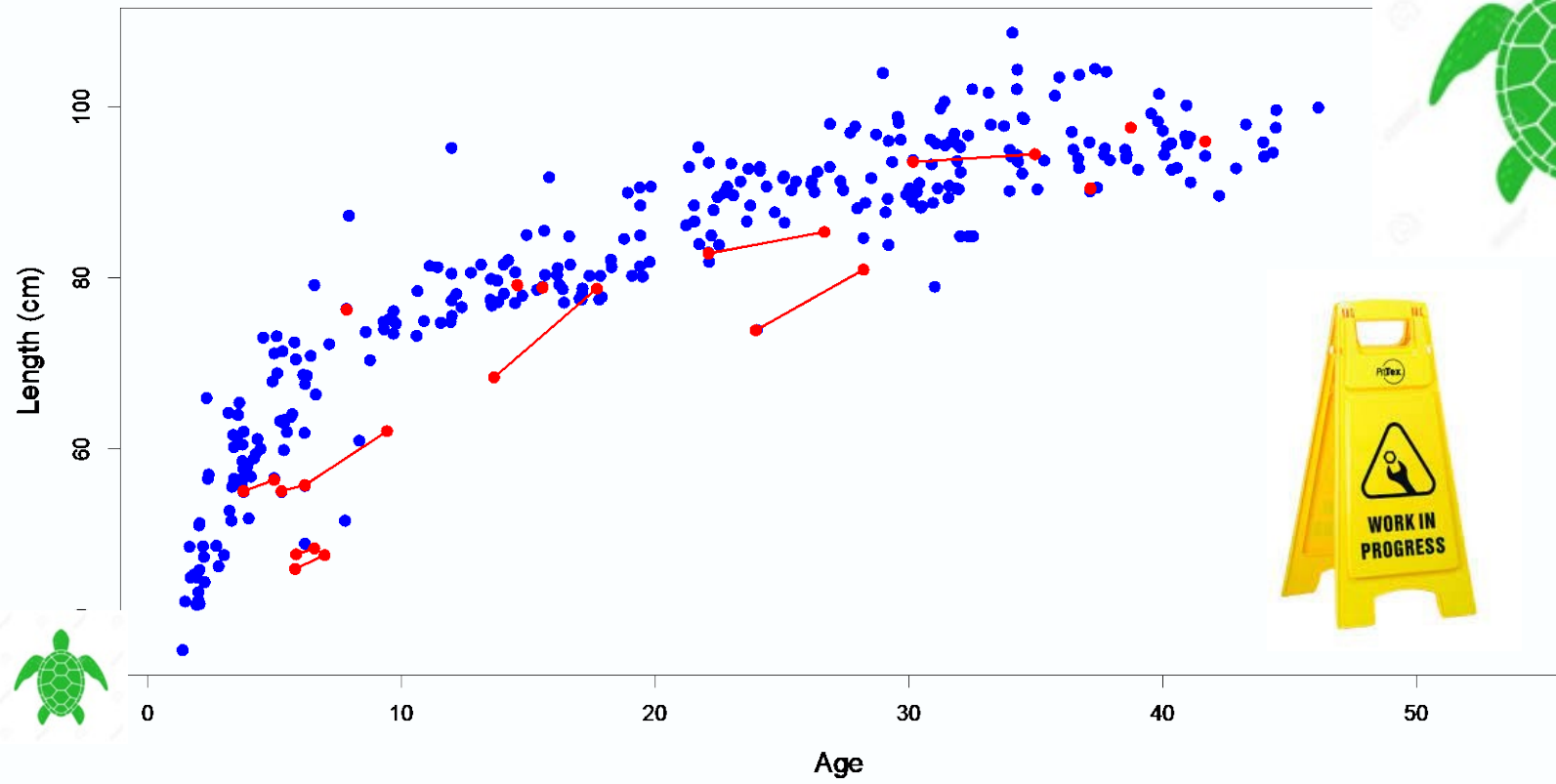
Nesting activity

- Satellite locations above tide mark
- 95 cm, 105 kg – Barrow island
- 8 events, 10-12 day intervals
- Range 4-8 nesting events per turtle



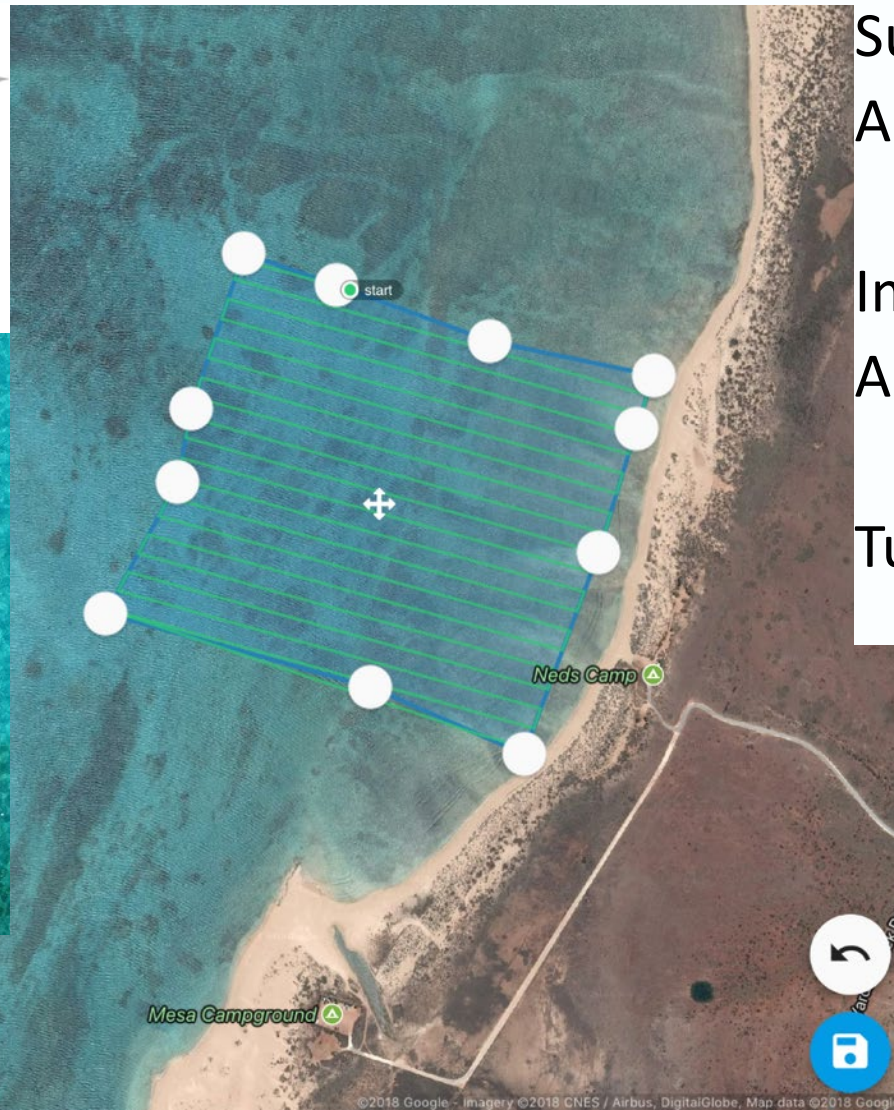
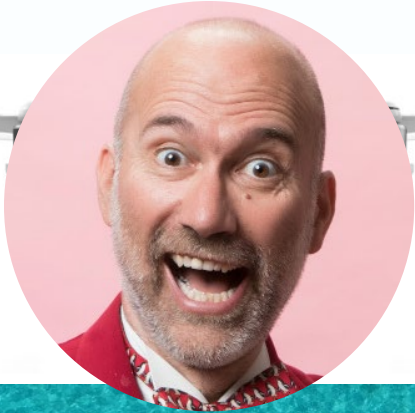
Questions we ask

How old are they?



Questions we ask

How many are there?



Surveys: 120 km²

Analysed: 70 km²

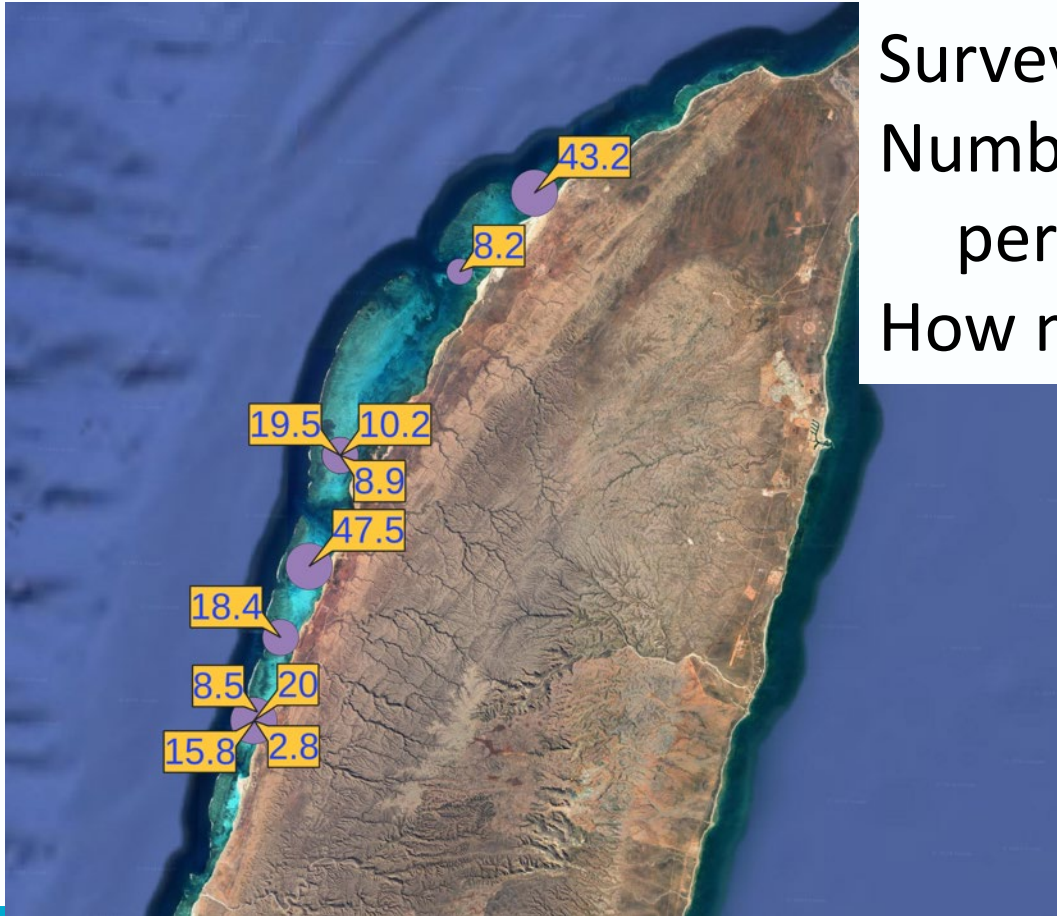
Images: 83,000

Analysed: 60,992

Turtles: 1,156

Questions we ask

How many are there?



Surveys >200 ha

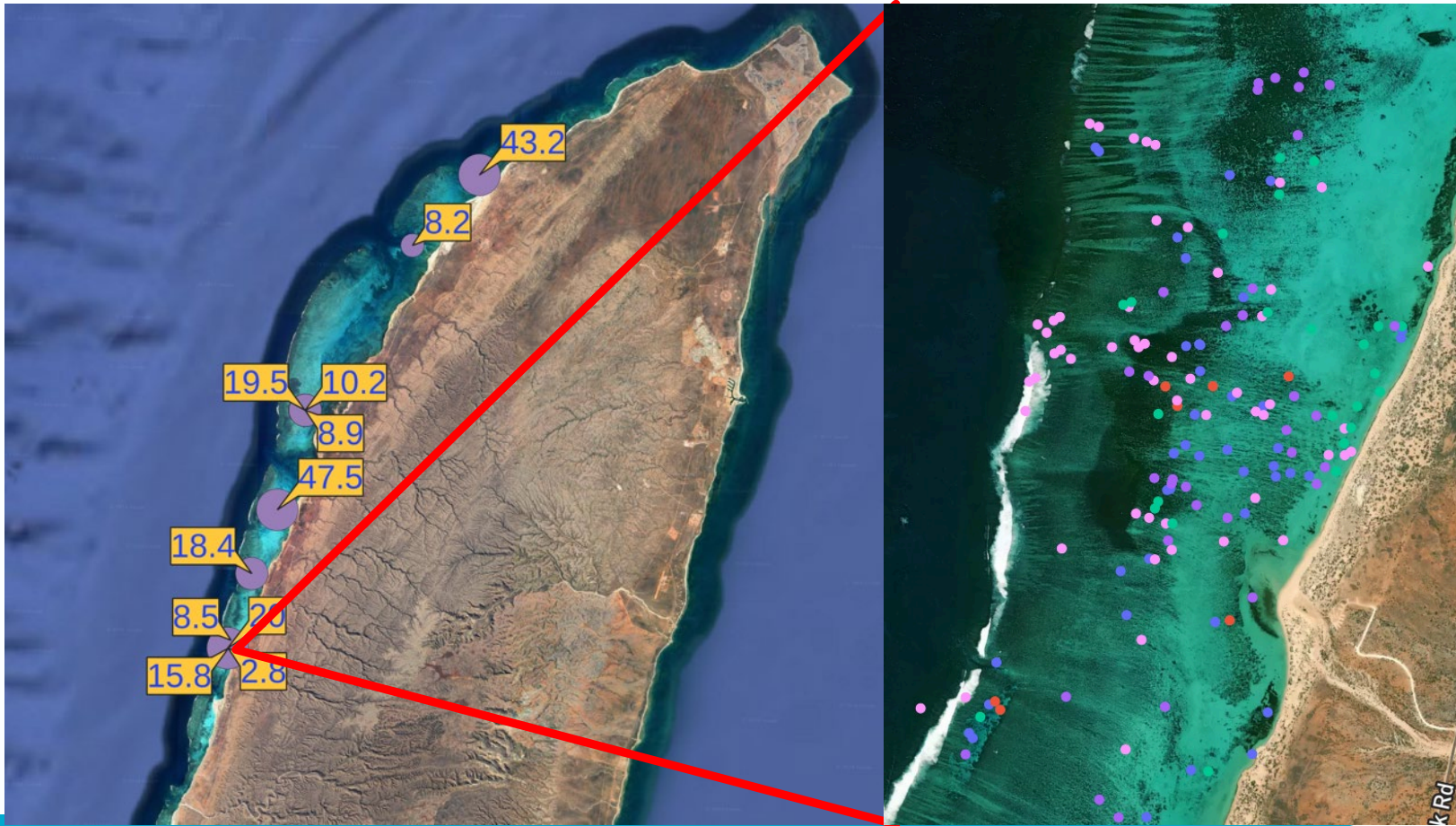
Number of visible turtles
per km²

How many are not visible?



Questions we ask

How many are there?



The punchlines

- Nesting females originate from a wide area
- Non-nesting green turtles don't leave Ningaloo
 - ... except when they nest
 - ... then they go to the Pilbara
- Rapid growth until ~80 cm then slow growth
 - ... largest turtles are >50 years old
- Turtle abundance varies and order of magnitude
 - ... ~10 visible turtles, many more not visible

Acknowledgements

- Shout out to Michelle Coates and Océane Attlan
- Dani Rob, Peter Barnes, and so many DBCA Exmouth staff
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- Exmouth community volunteers too numerous to mention
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- Woodside/BHP-CSIRO Ningaloo Outlook Marine Research Partnership
- Tony Tucker and DBCA Turtle Program staff
- The whole Ningaloo Outlook team!

