



Marine Science in WA 2010 Show-&-Tell

Name: Frazer McGregor

Affiliation: Murdoch University

Supervisors: Mike Van Keulen, Anya Waite, Mark Meekan

Newsflash title: Population and Foraging Ecology of Manta rays within Bateman Bay



Population and Foraging Ecology of Manta rays within Bateman Bay

Frazer McGregor – Murdoch University



Study Relevance - to determine the potential effects of tourism pressure at manta aggregation sites.

1 •Over 510 individuals recorded to date – (estimated pop size of over 1200).

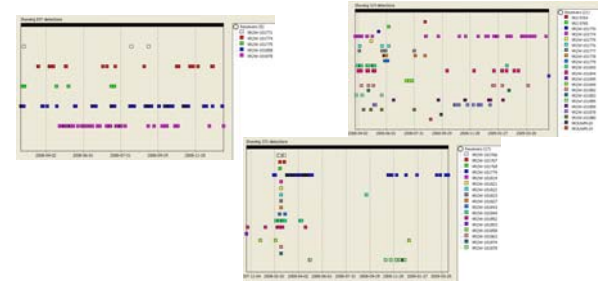


Some Key Findings.....

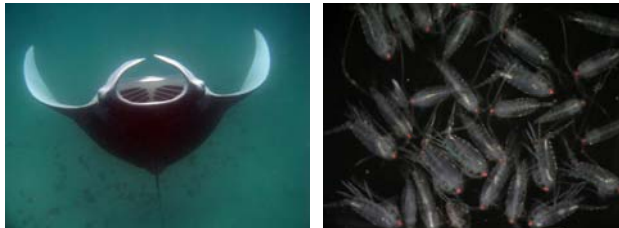


2

•Acoustic data from 38 tagged animals show a largely transient, seasonal or roaming population with small resident focal groups comprising <10% showing strong site fidelity.



3 •Mantas target (with clear foraging thresholds) cyclic pulses of endemic copepod (0.07g-0.15g /m³ dry weight) which build to very high density swarms (>1.0g/m³ dry weight) in late summer.



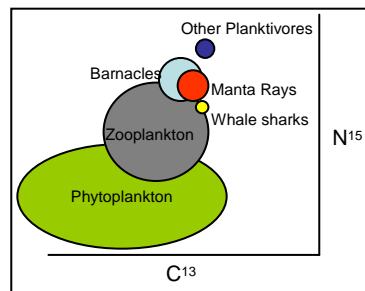
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•Tourism appears highly dependent on a small 'matriarchal' focal group who are likely to introduce new manta rays to cryptic areas during courtship or foraging periods.

•Very important not to break this 'introduction process' through human pressures at key localities Could decrease tourism reliability.



5 •Stable isotope analysis shows manta rays to be more herbivorous than expected with a stable isotope signature closer to that of sedentary barnacles than to planktivorous fish.



Future Work includes...

- Completing genetic analysis of 'coastal' species along WA coastline.
- Expanding links between manta numbers and reef health.
- Investigate visitation of larger migratory 'oceanic' species.
- Expand Photo ID – greater community involvement.
- Promote implementation of 'Manta ray interaction licence'