

The logo for TRaCK (Tropical Rivers and Coastal Knowledge) features a stylized graphic of a river or coastline in shades of blue, green, and yellow, with a small orange circle at the bottom right. The text 'TRaCK' is in a bold, black, sans-serif font.

TRaCK

Tropical Rivers and
Coastal Knowledge

Indigenous values and water allocation research in the Daly River region of Northern Australia

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Elizabeth Sullivan, Jabal Huddleston (Wagiman traditional owners)

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Water management context

- Water reforms – the National Water Initiative
 - Requires inclusion of Indigenous interests in water planning

- Lack of knowledge hampers efforts
 - Indigenous values associated with water
 - Relationships between those values and river flows



Indigenous people – northern Australia

□ Major part of population

- NT 30% Indigenous

- 90% live in remote areas

- Population is young compared to non-Indigenous

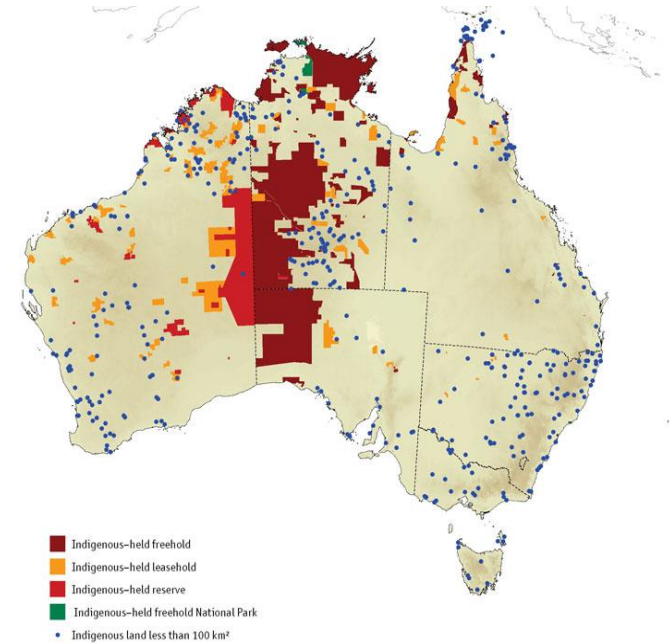
- Proportion of Indigenous people will increase

□ Major land owners (NT)

- 45% of land mass

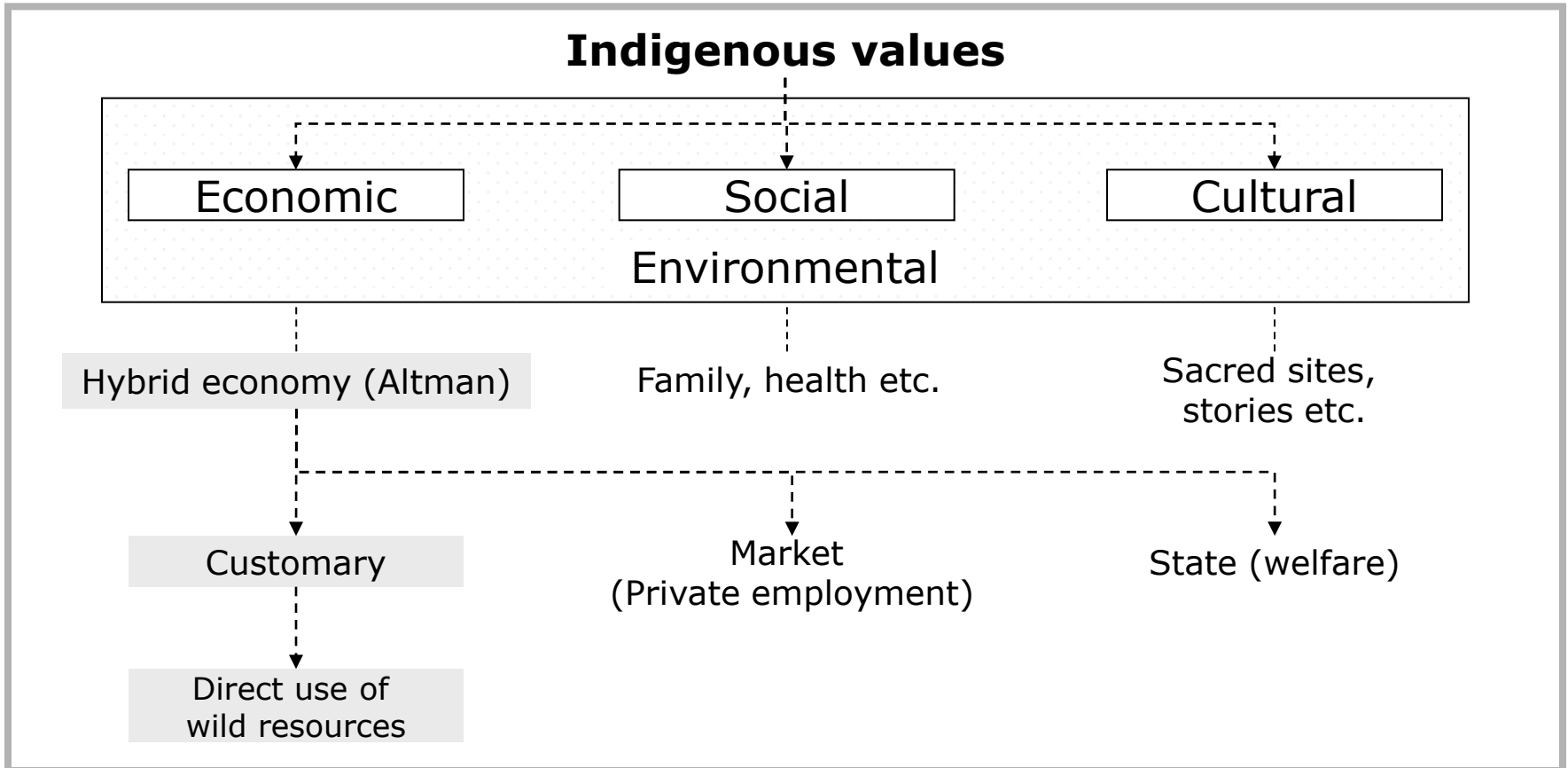
- 85% of coastal areas

- Substantial natural resource management (NRM) stakeholders



Indigenous values and water

Indigenous values



Customary use of Aquatic species

- Harvest and consumption can be high in Indigenous communities
- Direct link between people, livelihoods and healthy rivers



Project approach

Stage 1: Resource and values assessment

- Cultural mapping
- Qualitative social research
- Household surveys

(Year 1-2)



Stage 2: Economic valuation

- Quantification of harvest (# and weight)
- Calculation of replacement value

(Year 2-3)



Stage 3: Impact assessment

- Modelling of flow regimes, and potential flow alterations
- Assessment of impact and cost to Indigenous livelihood
- Social and cultural impacts of flow alteration

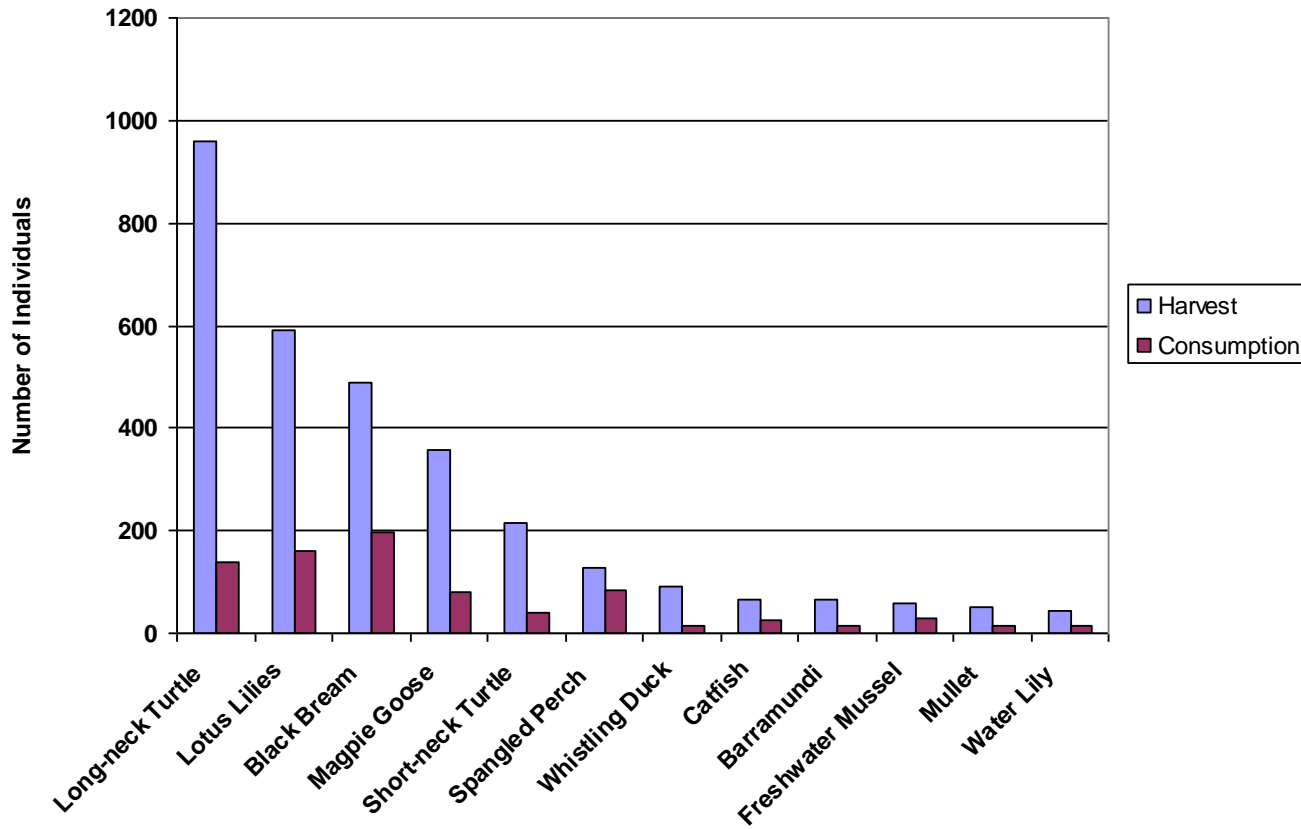
(Year 3)

Quantification of Indigenous harvest

- A year of relationship building
- Household surveys
 - 4 times per year (seasonal changes)
 - 2 years (touching on inter-annual variability)
 - 2 surveys in a month
 - Gathers a month of data each time but reduces to a 2 week recall period



Preliminary results



Flow links

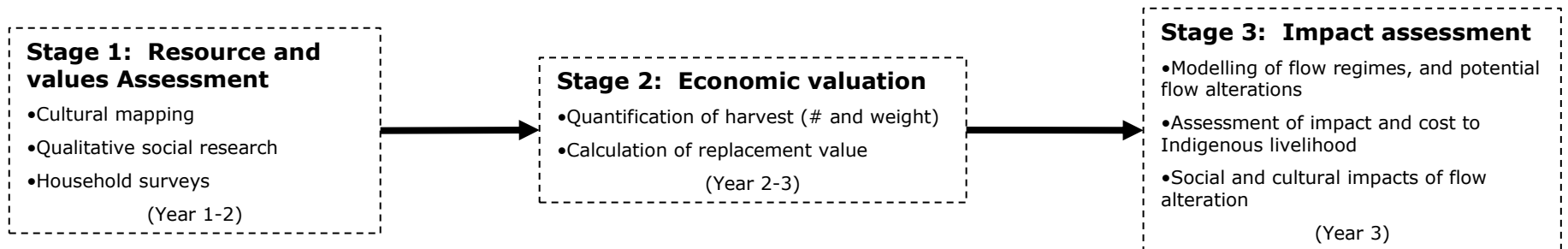
- Many of the commonly used species have strong flow links
- Long-necked Turtle
 - Nest underwater
 - Require distinct wetting/drying regime
- Black Bream
 - Spawn in wet season in response to monsoonal rains (so presumably rising water levels or other flow trigger)
 - Found in a large variety of habitat types (billabong, creek)

Flow management – interim implications

- Suite of important species may be distinct from other stakeholders
- Management objectives may also be different
 - Biodiversity target vs Indigenous target
 - Maintenance of populations and species richness vs abundance via extensive distribution and high catch rates
- Environmental flows in current form may not be an acceptable surrogate
- Water allocation planning will need to specifically deal with Indigenous requirements through Indigenous participation and research

Future work

- Continue quantification of customary use
- Combine quantitative work with socio-cultural work
 - richer narrative of the value of water
- Length-weight relationships and potential replacement value
 - Working towards a \$AUD valuation of customary use
- Participatory river country monitoring using Indigenous indicators



Acknowledgements

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