

# Report on the State of the Region

Natalie Stoeckl



Zula Altai<sup>1,3</sup>  
Leon Appo<sup>5</sup>  
Adriana Chacon<sup>1,7</sup>  
Jon Brodie<sup>2</sup>  
Taha Chaiechi<sup>1</sup>  
Bob Costanza<sup>5</sup>  
Michelle Esparon<sup>1</sup>  
Marina Farr<sup>1</sup>  
Cheryl Fernandez<sup>1</sup>  
Margaret Gooch<sup>6</sup>  
Diane Jarvis<sup>1</sup>  
Ida Kubiszewski<sup>5</sup>  
Silva Larson<sup>1</sup>  
Stephen Lewis<sup>2</sup>  
Putu Mustika (Icha)<sup>1</sup>  
Bruce Prideaux<sup>1</sup>  
Hana Sakata<sup>1</sup>  
Natalie Stoeckl<sup>1,2,3</sup>  
Reneae Tobin<sup>3</sup>



## Socioeconomic Systems and Reef Resilience

Project 10.2, Tropical Ecosystems Hub of the National  
Environmental Research Program

## Social and economic values in the Wet Tropics World Heritage Area

Project 12.3, Tropical Ecosystems Hub of the National  
Environmental Research Program

## Improving Biodiversity Investments

Project 1.3, Northern Australia Hub of the National Environmental  
Research Program

<sup>1</sup>School of Business and the Cairns Institute JCU  
<sup>2</sup>TROPWater, JCU  
<sup>3</sup>Centre for Sustainable Tropical Fisheries and Aquaculture  
& School of Earth and Environmental Sciences, JCU  
<sup>5</sup>Australian National University  
<sup>6</sup>Great Barrier Reef Marine Park Authority  
<sup>7</sup>ARC Centre of Excellence in Coral Reef Studies, JCU  
<sup>8</sup>Centre for Indigenous Education and Research, Australian Catholic University

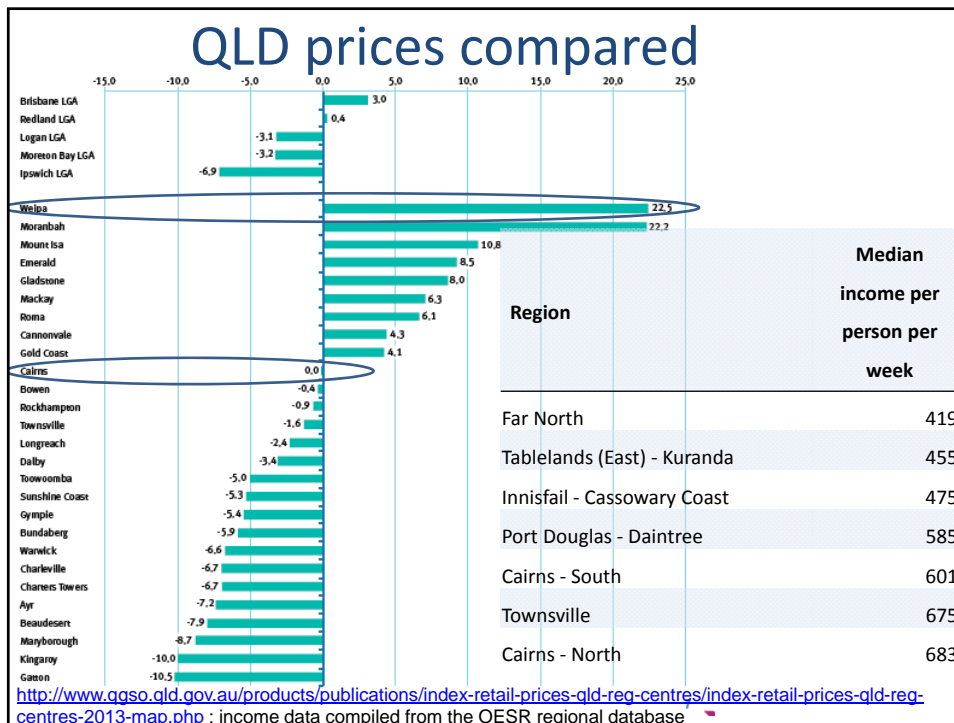


Special thanks to the *Rainforest Aboriginal Peoples*, particularly – Joann Schmider, Robyn Bellafquih, Sandra Levers, Alf Joyce, Phil Rist, Jerry Turpin

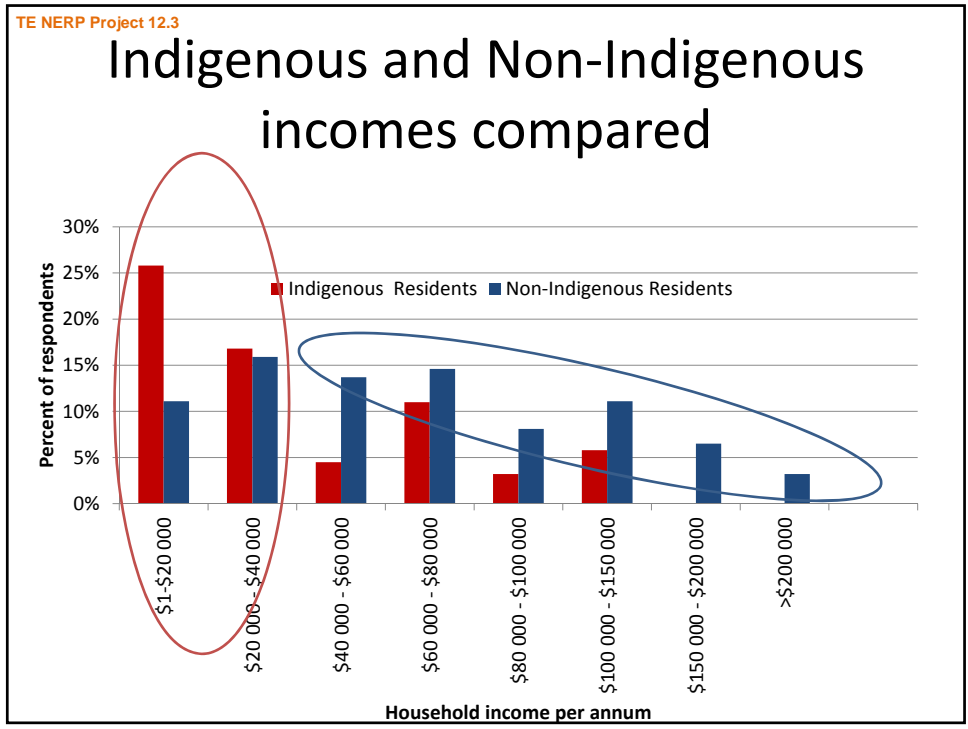
Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

## General background (using ABS data)

- Between 250k and 300k people (depending on where draw regional boundaries)
- Smaller % of pop with post-school Qualifications, and larger % of workforce unemployed than in rest of QLD
- Far North (Cape York):
  - Higher percent of young people than QLD as a whole
  - Much larger share of population Indigenous (> 45%)
  - Government, health and education largest employers; Followed by agriculture and mining
- Cairns area
  - Lower % of Indigenous (10%) than the cape, but still more than QLD
  - Much more dependent on tourism than elsewhere in the north



Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

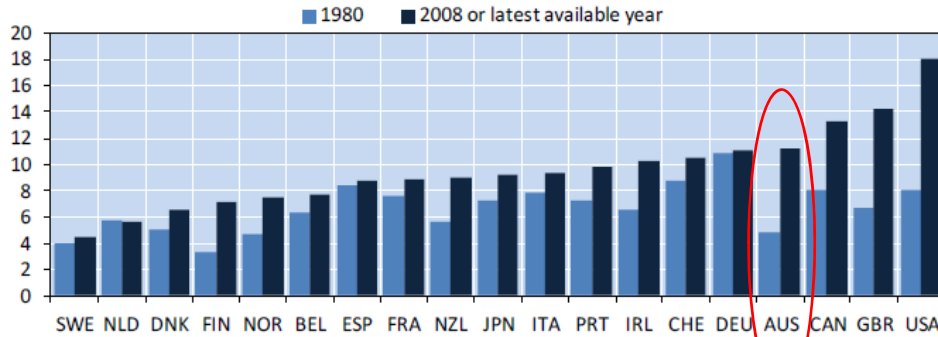


If a man stands with one foot in a freezer and another on a hot stove, the statistician will report that he is, *on average*, comfortable

Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

## Seems freezers and stoves are a increasing problem, worldwide ...

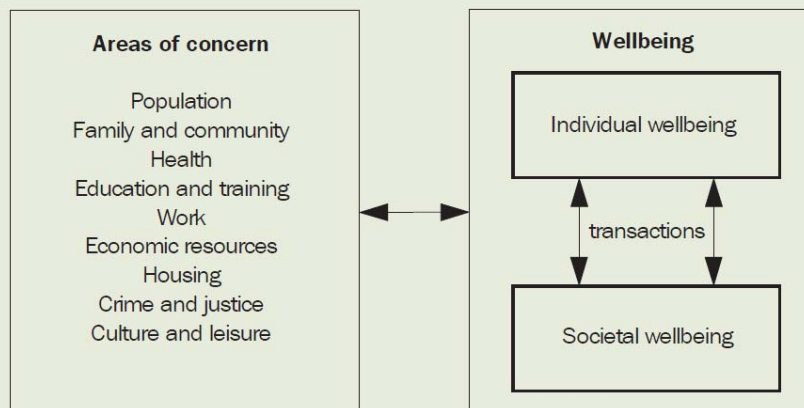
Figure 8. Share of top 1% income recipients in total income



Hoeller, P., Joumard, I., Pisu, M., and Bloch, D. (2012), "Less Income Inequality and More Growth – Are They Compatible?: Part 1. Mapping Income Inequality Across the OECD", OECD Economics Department Working Papers, No. 924, OECD Publishing. <http://dx.doi.org/10.1787/5k9h297wxbnr-en>

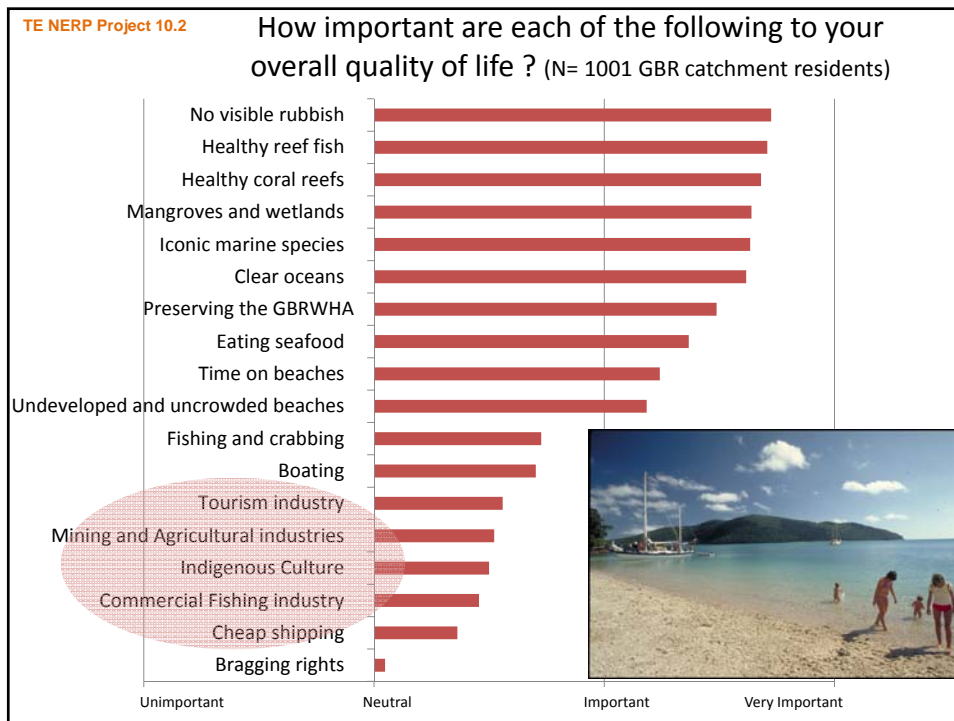
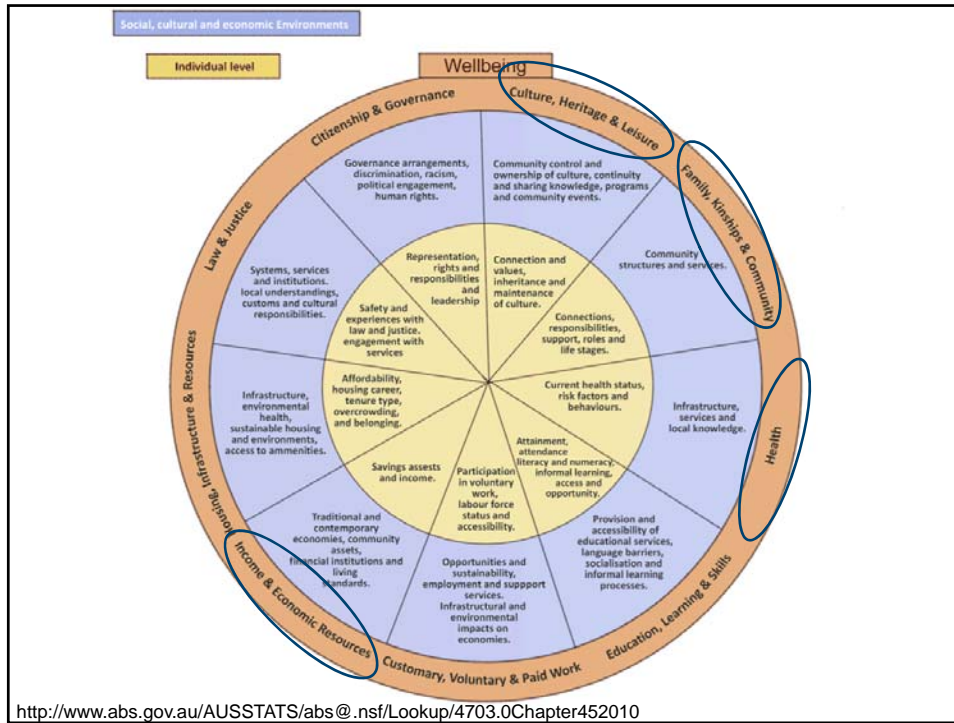
## What else to report on?

### A FRAMEWORK FOR MEASURING WELLBEING

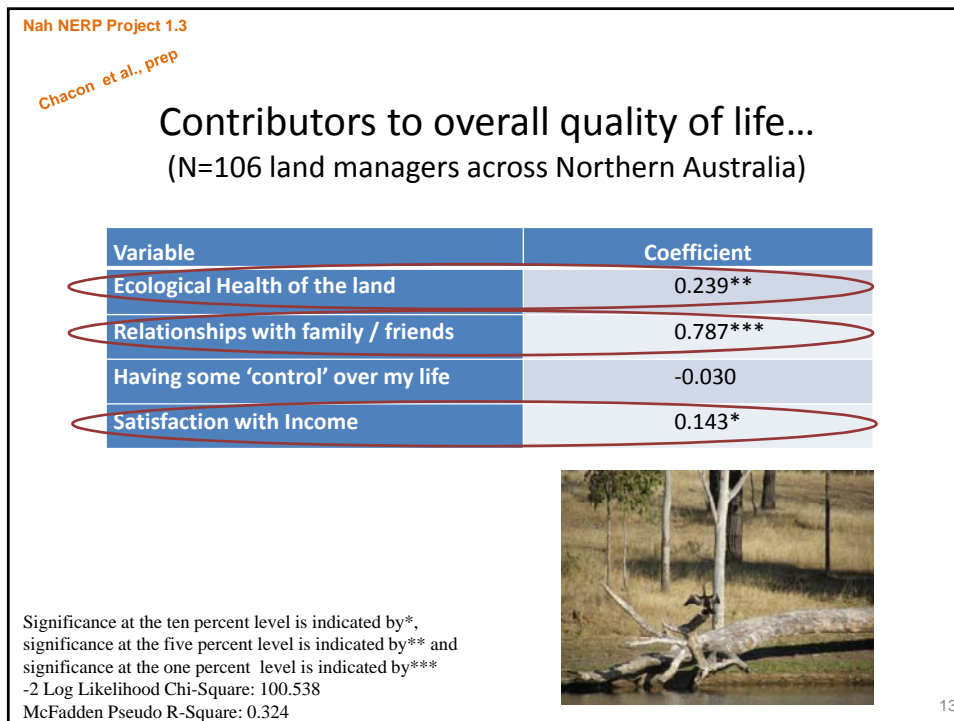
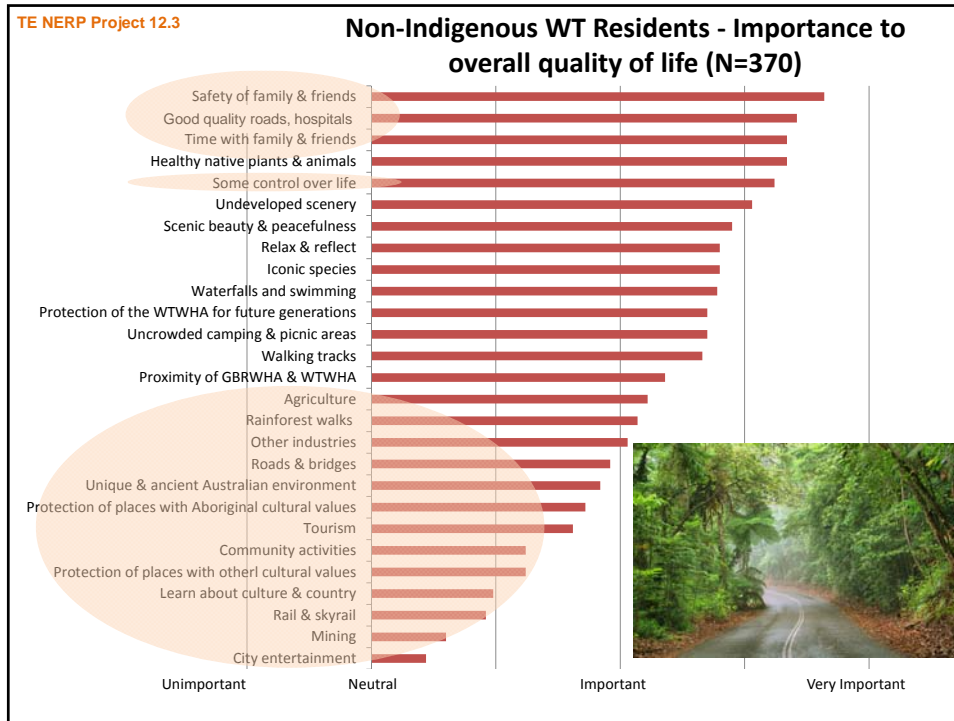


<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4160.0>

Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised



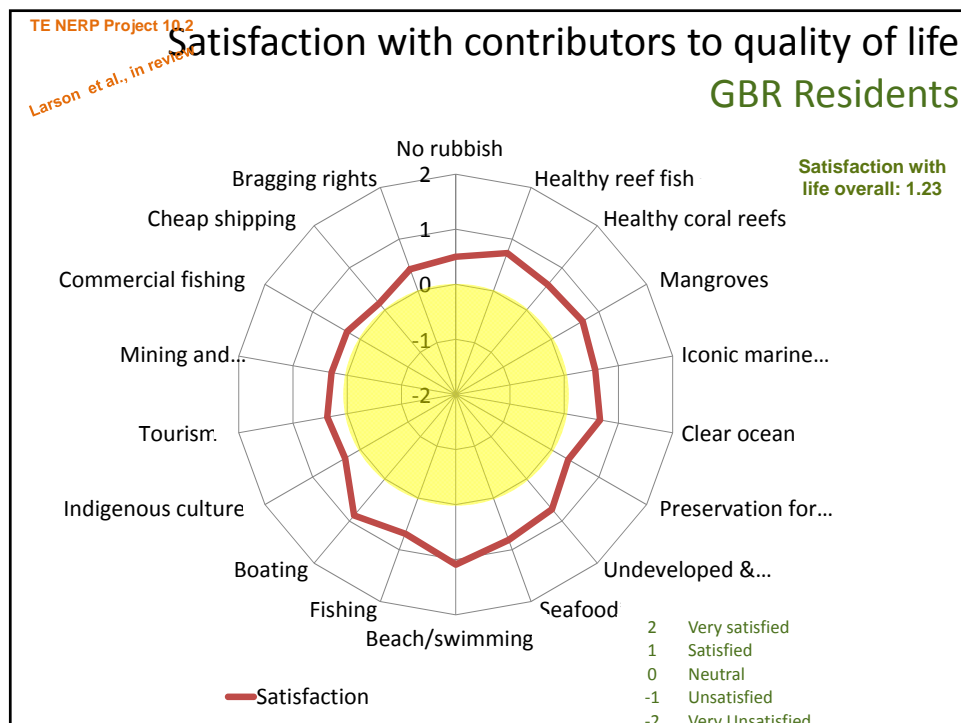
Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised



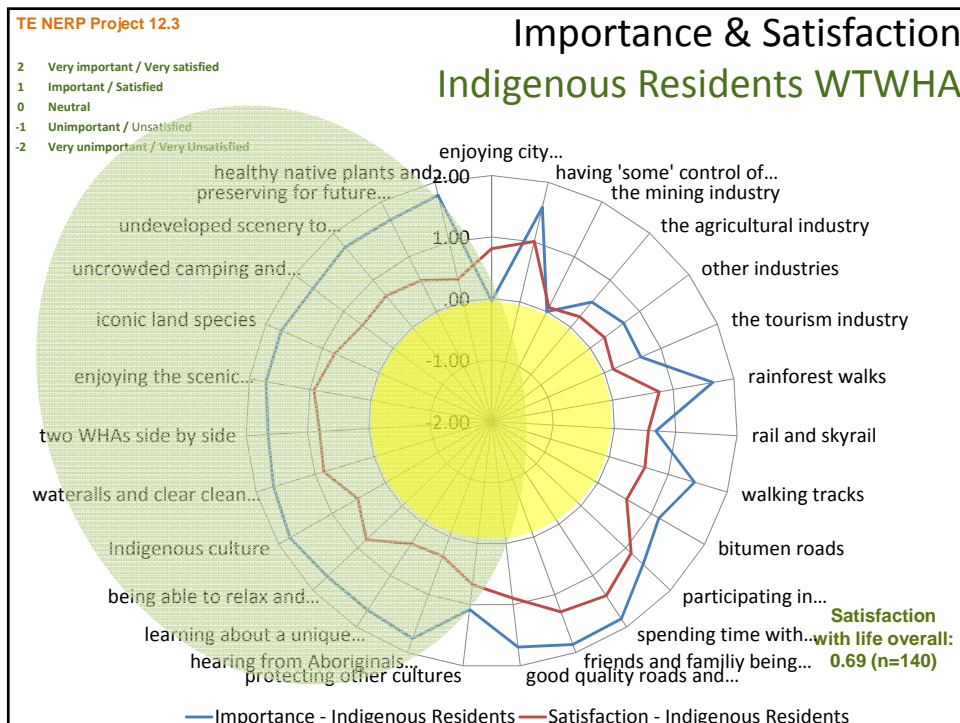
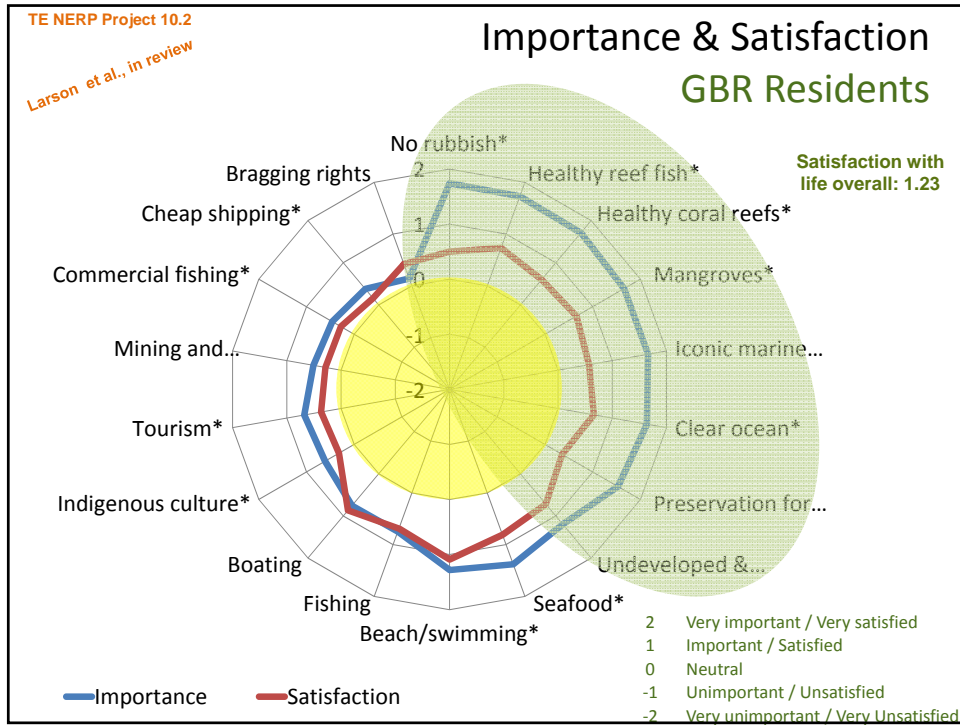
Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

## Key Message...

- Well-being/Quality of life of Northern residents influenced by many different things.
- Similarities to elsewhere with
  - Safety of family/friends likely to ‘top all’
  - Economic factors key
  - But environment also very important (perhaps more important than the economy for many)

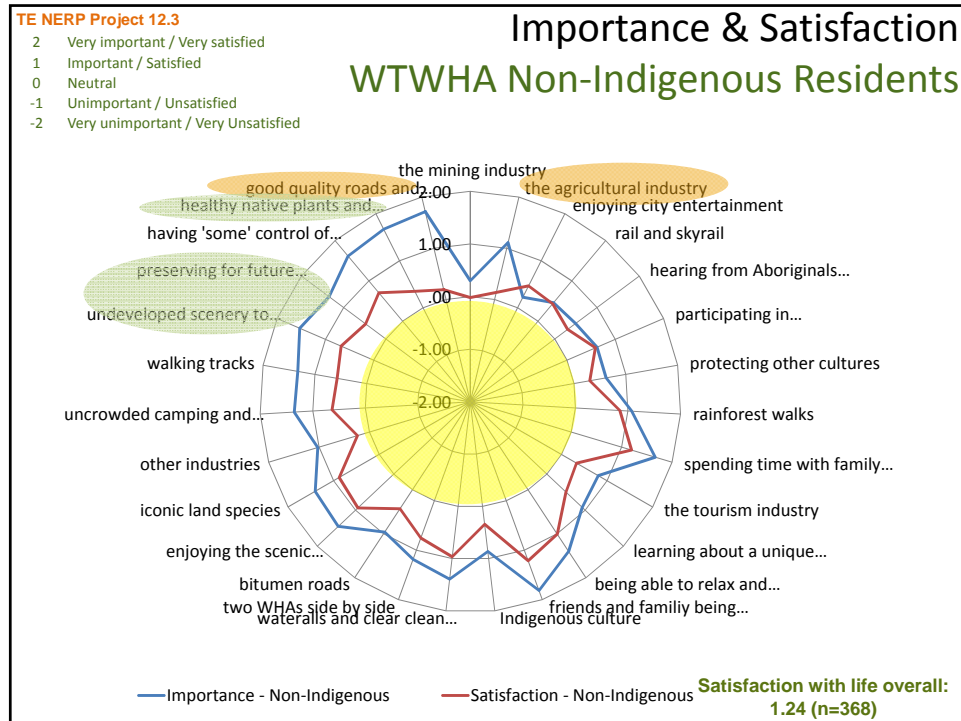


Results associated with papers ‘in prep’ or ‘under review’ are preliminary only so should not be definitively quoted; results may change as models are finalised



Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised





TE NERP Projects 10.2 and 12.3

## Key Message...

- For many, the biggest 'gaps' between importance and satisfaction linked to
  - environmental values
- For non-Indigenous residents of WTWHA, big 'gaps' also evident for
  - roads, hospitals, schools and
  - the agricultural industry

Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised


**KEY CHALLENGE:**

**Natural and Economic Systems  
are truly dynamic and interlinked**

*Dirk Gently's Holistic Detective Agency* by  
Douglas Adams\* ....



Reconstitution of [West Indian Ocean coelacanth](#), by  
Citron / CC-BY-SA-3.0 - Own work



\*Thanks to Diane Jarvis for this reference

TE NERP Project 10.2  
Jarvis et al (2013)  
Chaiechi et al., in review

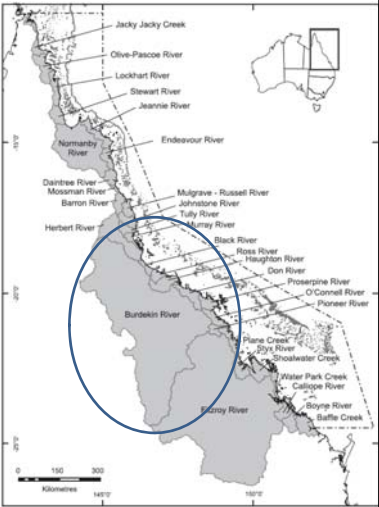
**Factors linking the economy to the environment**

Used historical/time series data in a **vector auto regression model** to look at the link between

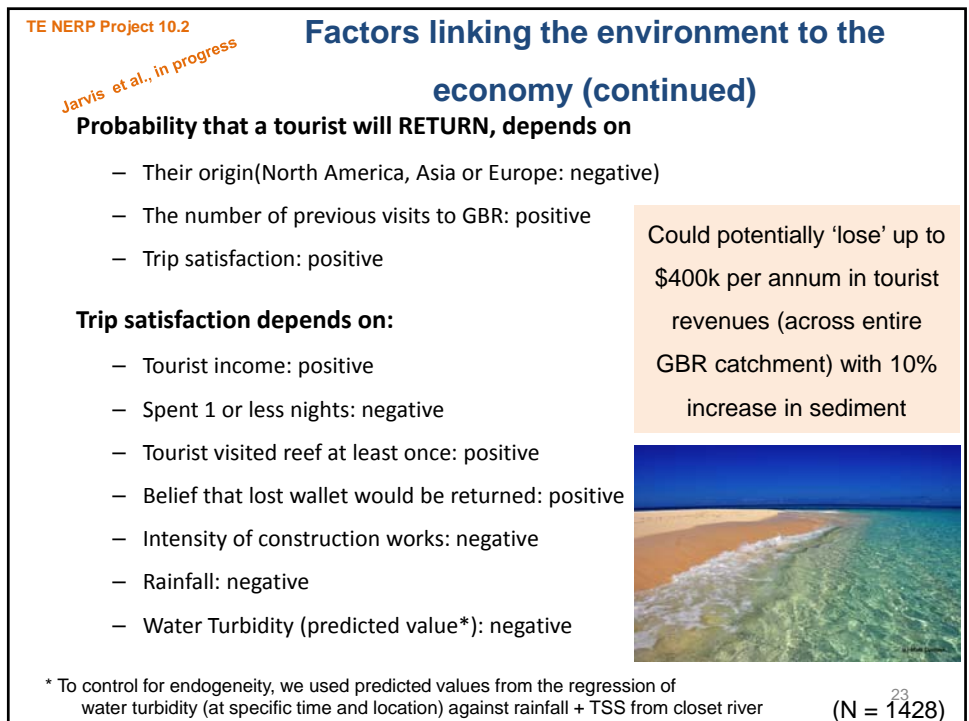
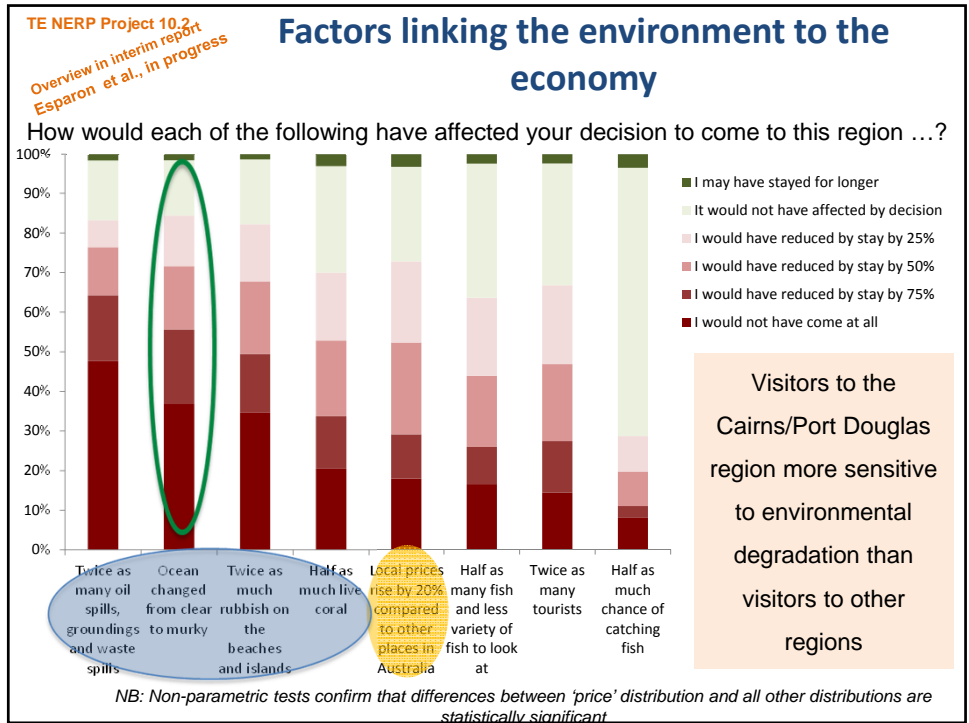
- **Sediment loads**
  - Coral samples collected and used to hind-cast estimates of annual sediment load
- and:
- **Prices** (e.g. beef, gold, wages and interest rates)
- **Land use** (specifically: cattle numbers)
- **Climate** (e.g. rainfall, temperature, extreme events)

Found that  
(after controlling for rainfall and extreme events)

- Higher beef prices => more cattle => more sediment
- Higher gold prices associated with less sediment



Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised



Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised


Nah NERP Project 1.3  
Phi Thran et al., prep

## Other factors linking the environment to the economy

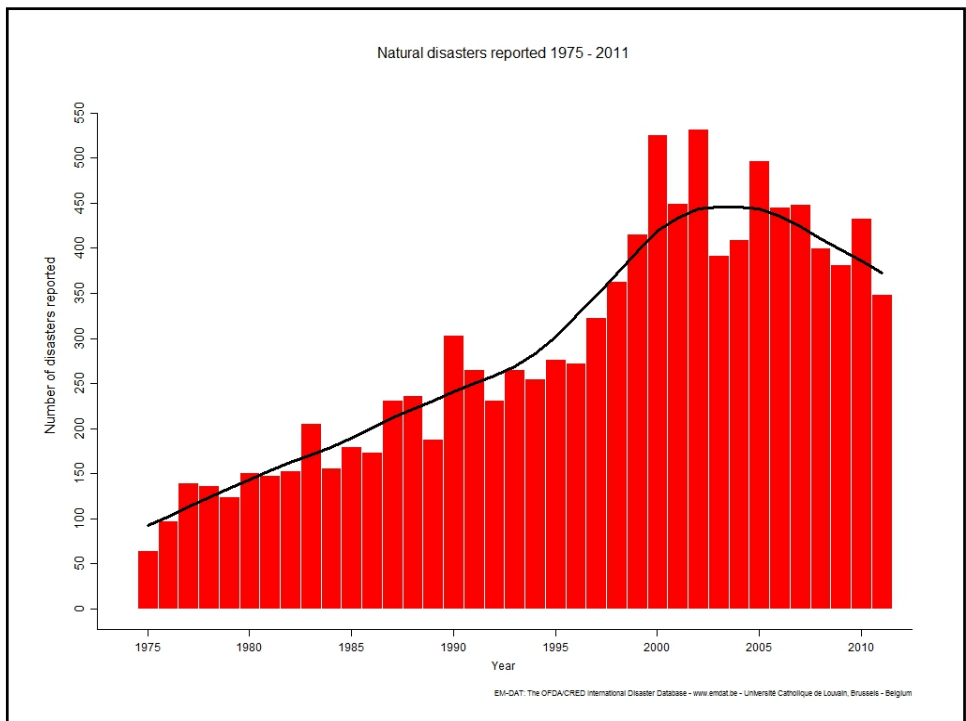
### Contributors to overall on-farm production... (N=106 land managers across Northern Australia)

(Constant)	-2.020
Capital Equipment (LN)	.763***
Labour (LN)	1.131***
Land Area (LN)	-.225***
Poor Soils (% of property)	-1.241***
Recent/Current Drought	-1.238***

Suggests that if you compare two 'similar' properties, the one that has experienced drought, is likely to produce about 1/3 of that produced by the other property



25



Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

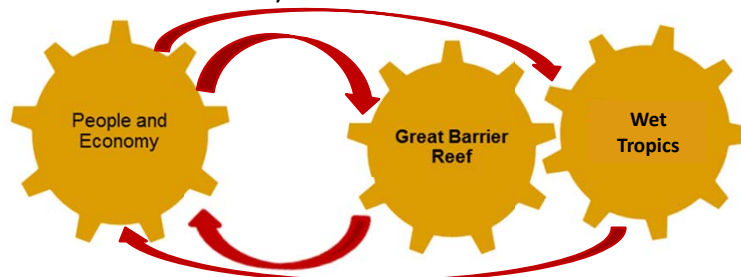
## In sum ...

- Our quality of life depends on multiple things, including, but not limited to
  - family & friends; culture; environment; economy
- We are tracking relatively well across a range of factors, but may need to watch the 'gap' between importance and satisfaction relating to
  - environment and Indigenous culture
  - roads, hospitals, schools and agriculture
- Potentially vulnerable to some types of change, since people in this region so reliant upon environment for livelihoods and wellbeing.
- If we damage the environment, it may 'bite back'.
  - Likely to also be the case if we degrade or damage culture
  - Or fail to consider inequality (remember the lost wallet ? ☺).

## Natural and Human Systems are truly dynamic and interlinked

**Changes in the economy affect the people and the environment.  
These changes generate feed backs**

E.g. Changes in the economy can have negative impacts on society  
and/or the environment



Social and environmental values are important to people:  
deterioration can thus have a real, negative, impact on the  
economy and on well-being

Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

### Natural and Human Systems are truly dynamic and interlinked

**Changes in the economy affect the people and the environment.  
These changes generate feed backs**

E.g. Changes in the economy can have **positive** impacts on society and/or the environment

Social and environmental values are important to people:  
**Improvements** can thus have a real, **positive**, impact on the economy and on well-being

### Natural and Human Systems are truly dynamic and interlinked

**Changes in the economy affect the people and the environment.  
These changes generate feed backs**

E.g. Changes in the economy can have **positive** impacts on society and/or the environment

Social and environmental values are important to people:  
**Improvements** can thus have a real, **positive**, impact on the economy and on well-being

Results associated with papers 'in prep' or 'under review' are preliminary only so should not be definitively quoted; results may change as models are finalised

Thank you.