

GREAT AUSTRALIAN BIGHT RESEARCH PROGRAM

Sean Pascoe
Jim Innes



Project 6.3 GAB fisheries benchmark study and potential impacts of the development



Sean Pascoe
CSIRO

Objectives

Social and economic benchmarking

- Establish a benchmark of the current economic conditions of the fisheries in the GAB and contribution to local and State economies, and current social indicators of satisfaction where available.

Qualitative assessment of the potential impacts of the development of an oil industry

- Provide a qualitative assessment of the potential impacts of the development of the oil industry in the GAB on the fisheries sectors; and

Review of methods for assessing fisheries impacts of oil spills

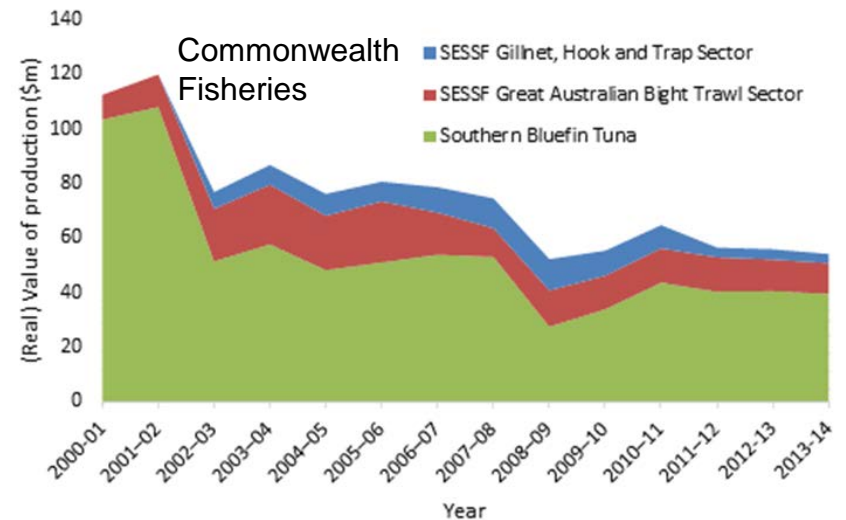
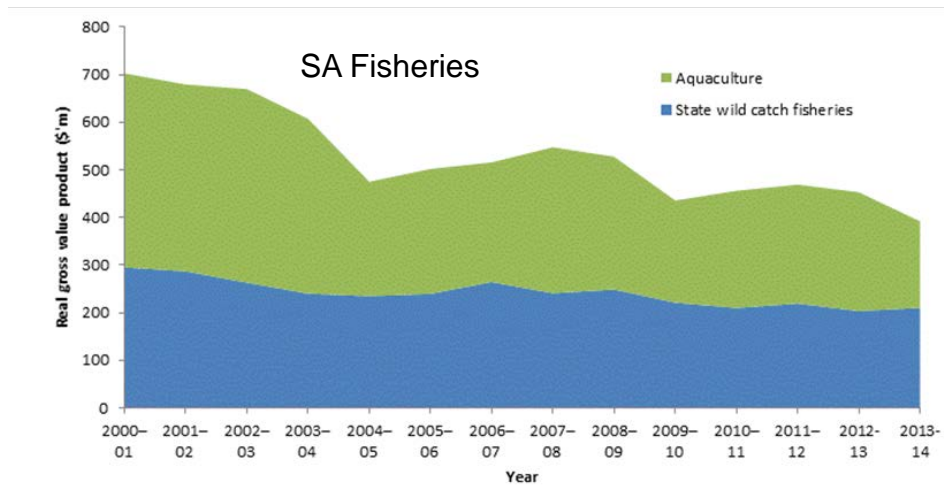
- Review approaches for undertaking social and economic impact assessment of the effects of any oil spills on the fisheries in the region.

Part 1

BASELINE STUDY

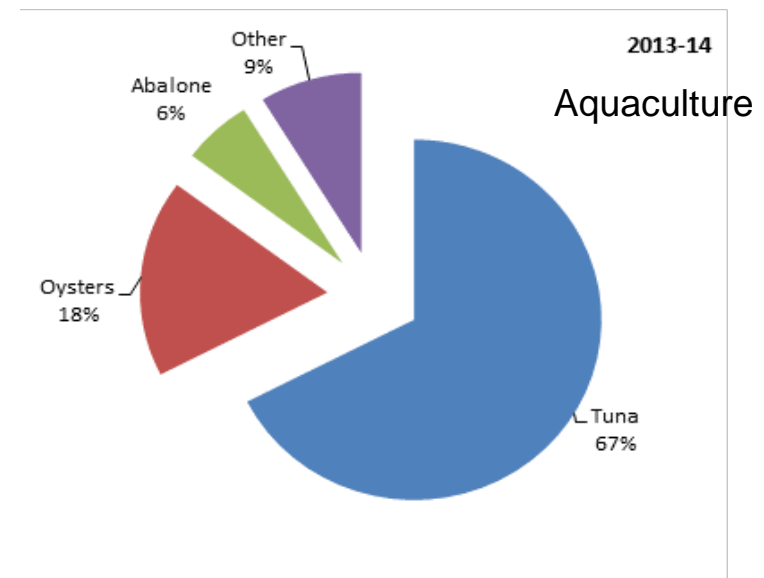
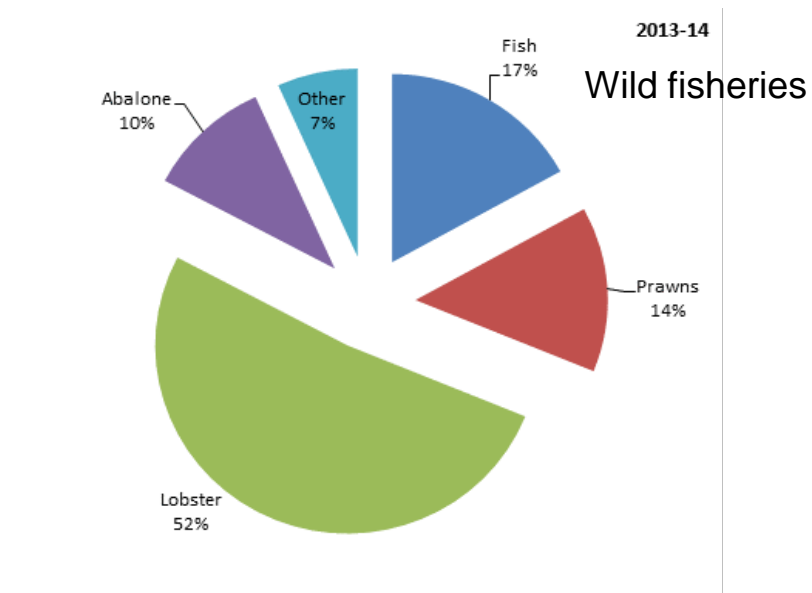
Gross value of production

- Gross value of production around \$500m SA, \$24m WA, \$60m Commonwealth (2013-14)
 - Around 18-20% total Australian fisheries production by value
 - Declined by around 30% since 2000 in real terms
- Aquaculture and wild catch fisheries fairly equal in value in SA

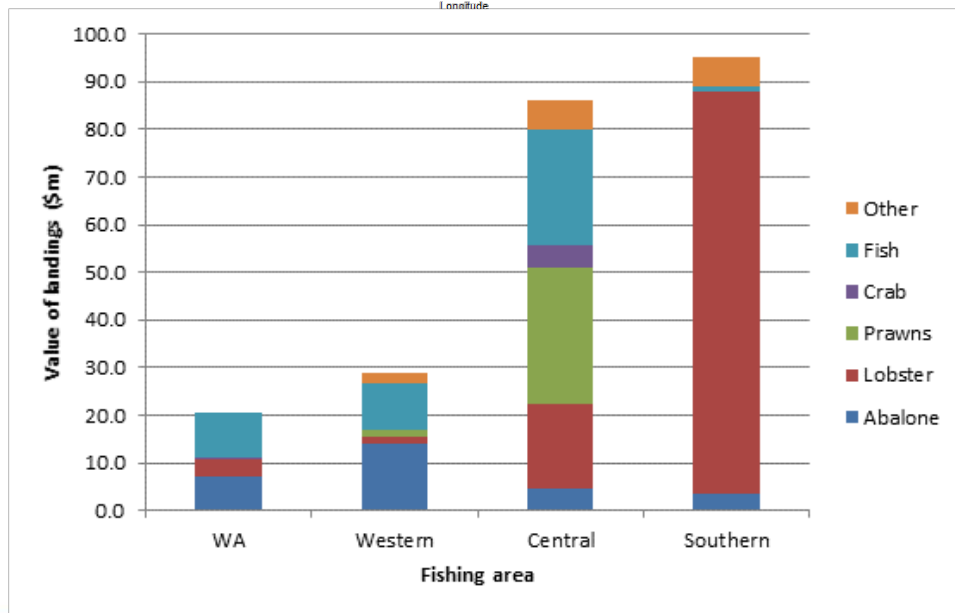
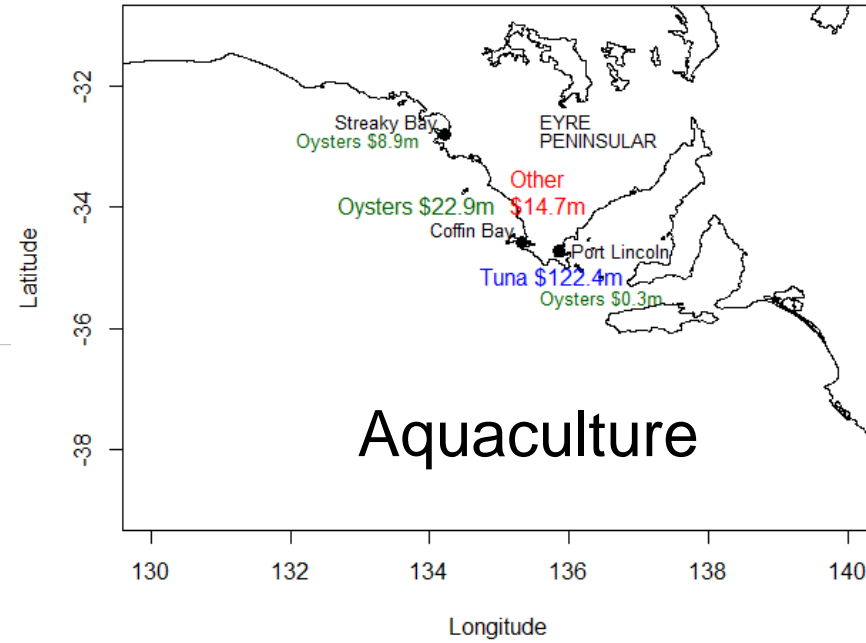
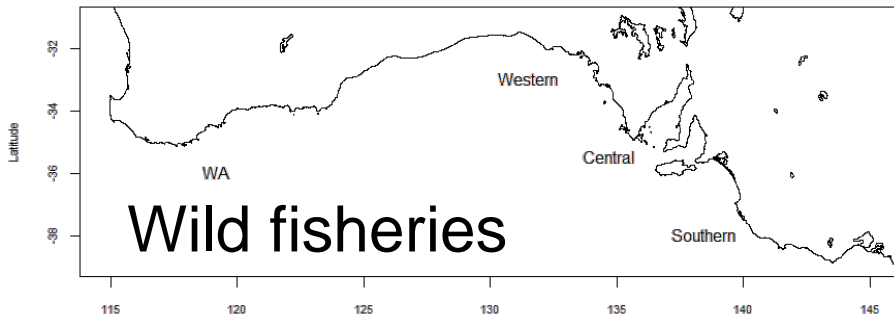


Key species by value – South Australia

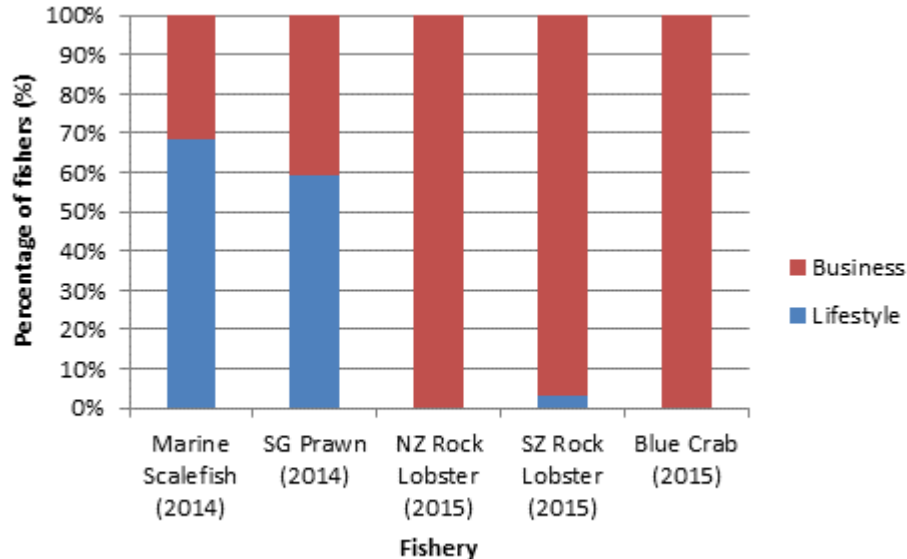
- Wild fisheries dominated by lobster and abalone
- Aquaculture dominated by tuna ranching and oysters



Spatial distribution of value (2013-14)

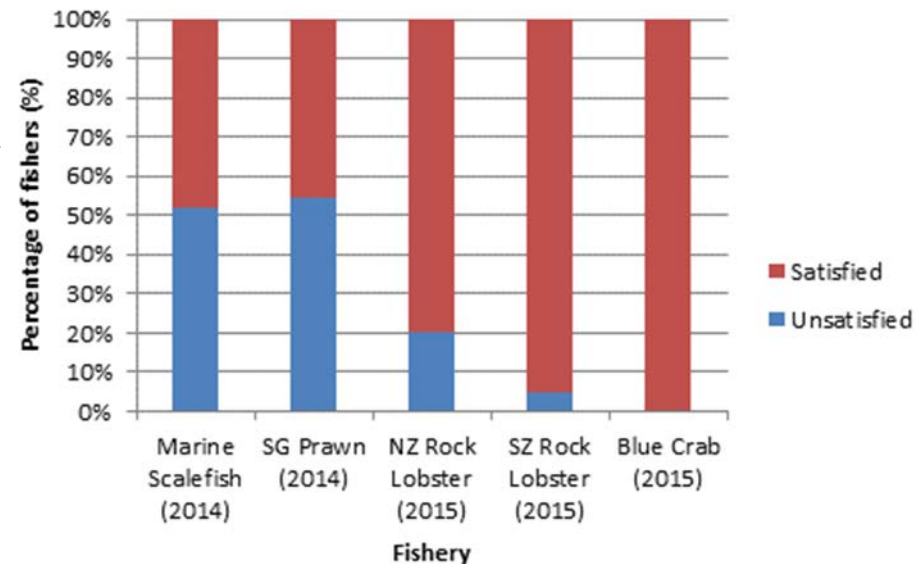


Satisfaction with income and attitude towards fishing



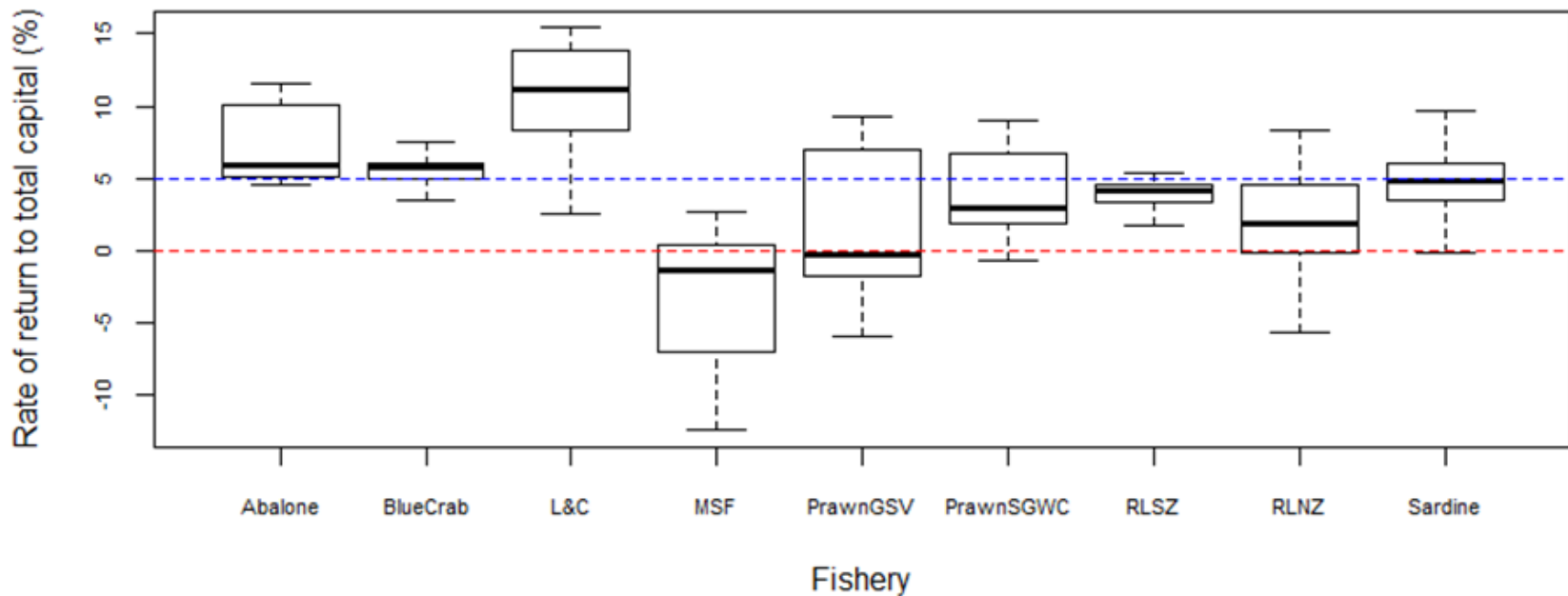
MSF and Spencer Gulf Prawn fisheries have a large “lifestyle” component

These are also the two fisheries that have the greatest level of dissatisfaction



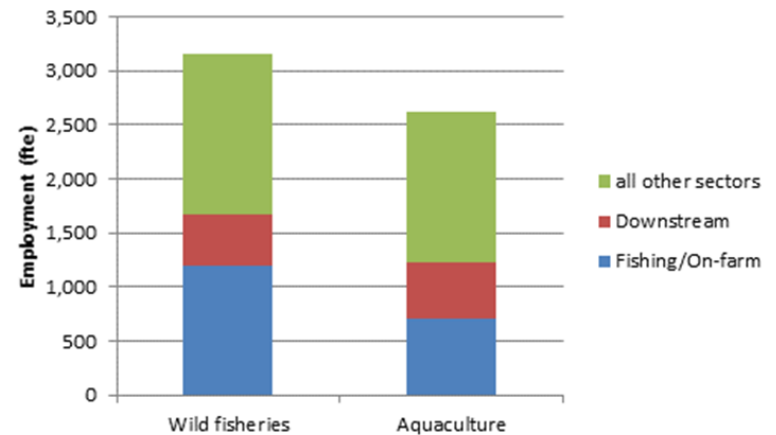
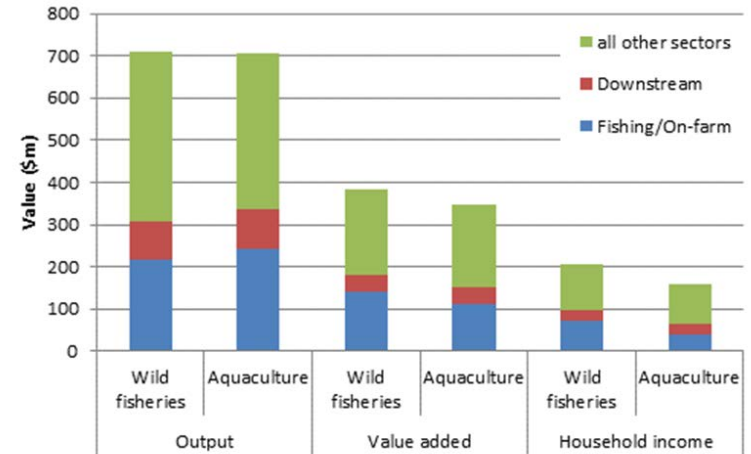
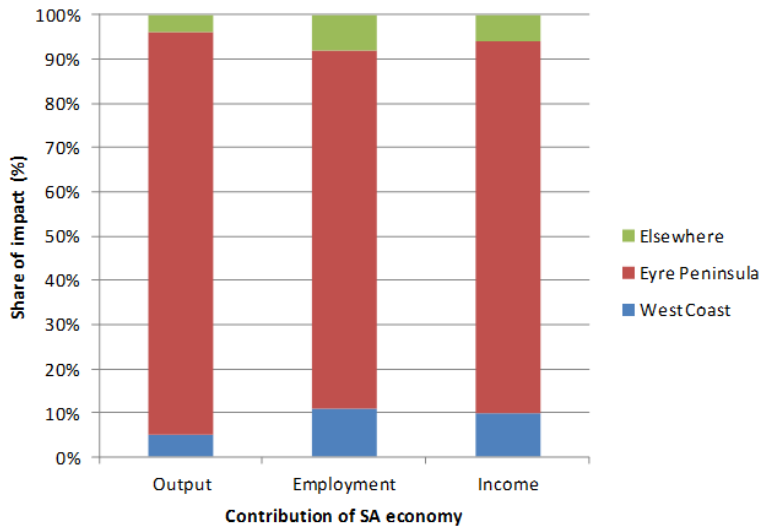
Profitability of the SA wild catch sectors

a) Rate of return to capital (%) by fishery



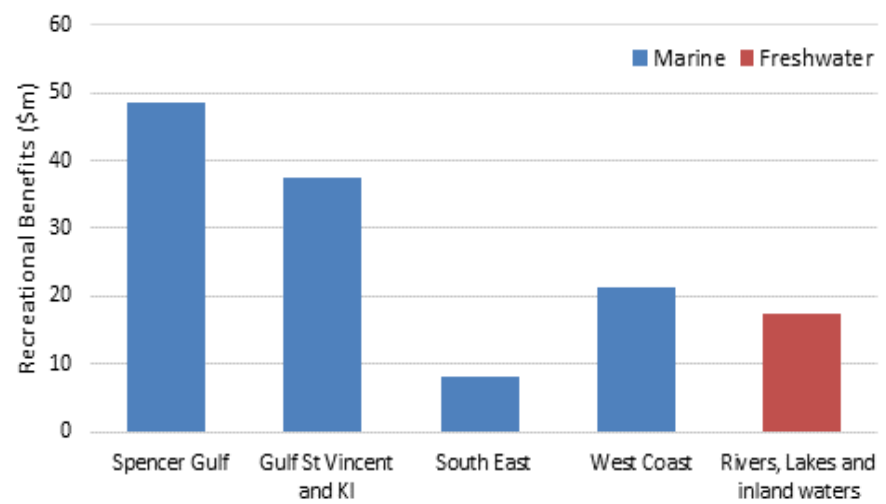
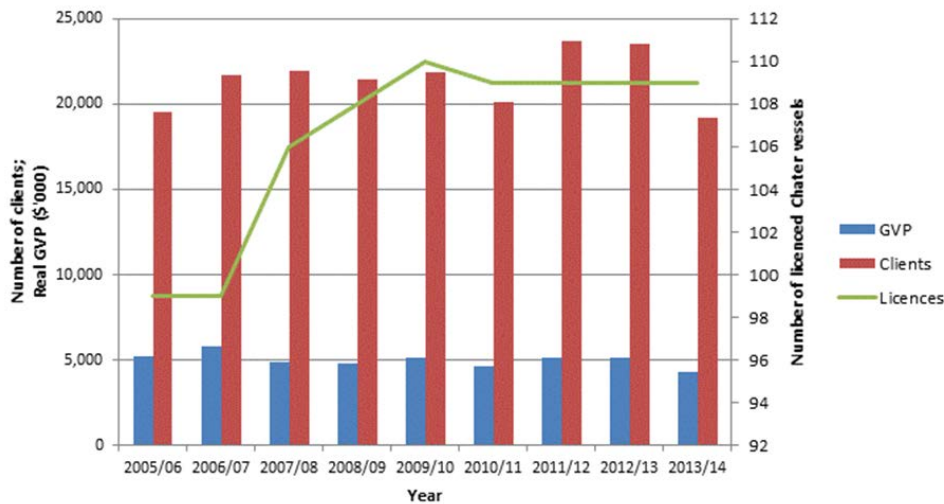
Broader contribution to the SA economy

- Total output around \$1.4 billion
- Household incomes
 - fishing \$200m
 - aquaculture \$150m



Recreational fishing

- Charter boat sector: \$4.3m GVP; \$10.6m associated expenditure; \$14.9m flow on effect (\$25.5m total, 2013-14)
- Non-charter boat sector: approx. \$115m benefits



Part 2

Potential impacts of the development

Potential negative interactions with fishing

- Onshore
 - Competition for resources
 - labour (i.e. crew)
 - services (e.g. engineers, welders, mooring/storage space);
 - Inflationary impacts in the local economy
 - increased cost of living due to increased demand i.e. housing, food
- Offshore
 - Loss of access
 - Small area affected
 - Invasive species
 - Dredging impacts
 - if dredging undertaken
 - Increased traffic
 - Leakages and spills

Potential positive interactions with fishing

- Improved harbour facilities
- Improved transport systems
- More services longer term
- Larger local population

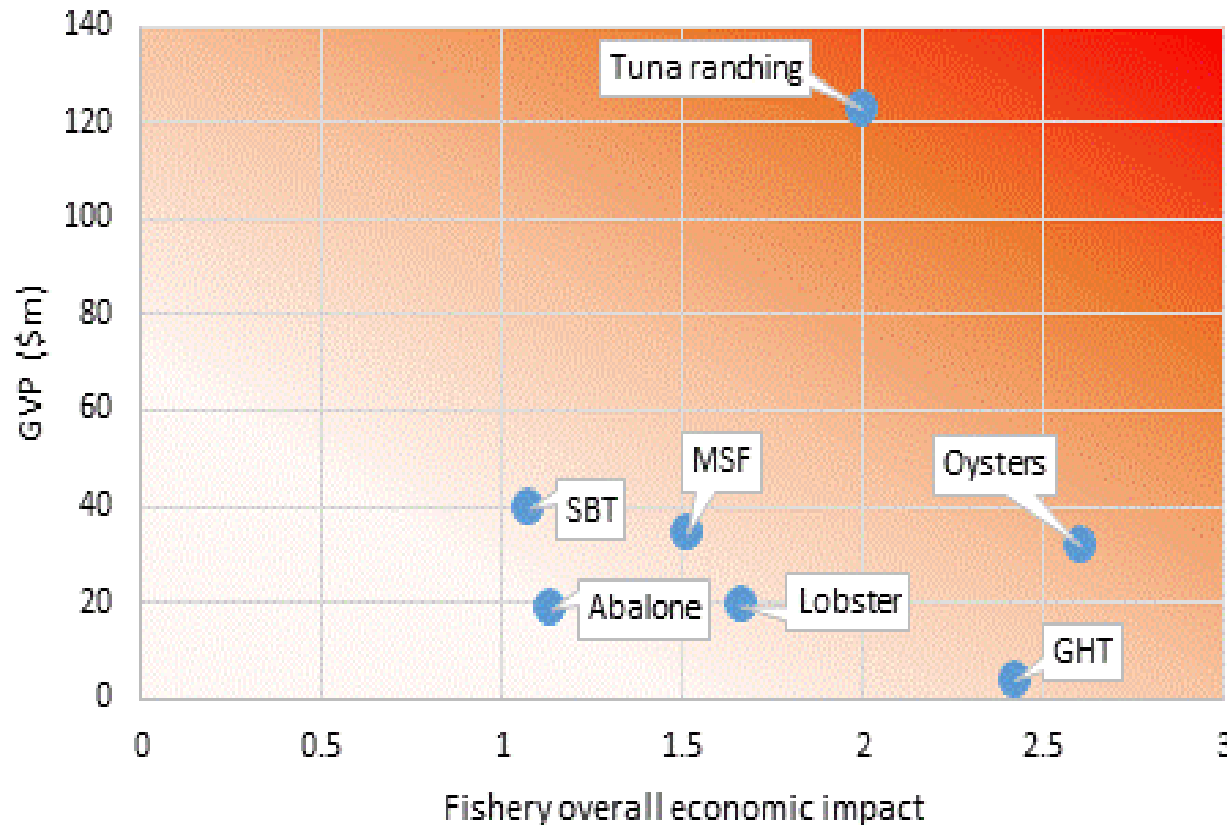
Likely impact of these interactions?

- Relatively small
 - There has been a substantial history of competition with shipping in the region
 - Major export ports for agricultural produce as well as minerals
 - Mining has been well established in the state, which would already have had an impact (if any) on labour demand in the fisheries
 - Some evidence that satisfaction with income in some fisheries is low
 - May provide an opportunity for these fishers to exit the fishery

Potential impacts of an oil spill

- **Biophysical**
 - Can potentially affect the stock size through adult or juvenile mortality
 - Can negatively affect the habitats (which also then affects the stock size)
- **Market based impacts**
 - Fishery may be closed for health reasons for an extended period
 - Market prices may decrease due to concerns about tainted seafood
- **Fisher adaptation**
 - In some fisheries, fishers may be able to change location to reduce direct impact, but at a higher fishing cost
 - Aquaculture – may be able to erect barriers to reduce oil impact

Potential impact of an oil spill relative to value (based on qualitative modelling)



0=no impact
1=low impact
2=medium impact
3=high impact

- Aquaculture most at risk
- Link between SBT and tuna ranching not factored in

Science impact

- Documenting the baseline economic conditions is important in the event that any problems do eventuate
- The qualitative impact assessment provides a guide as to which fisheries may be most adversely affected in the event of an oil spill, and hence where attention needs to be paid to mitigate these impacts if they should occur

