

Perth's metropolitan waters

Major issues

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This talk

1. State of environment framework

- The condition (state) of the environment (environmental & socio-economic), past & present
- Pressures (past, present & future)
- The current management responses

2. Major gaps in management & science

Major studies

Past

1. 1976-79 Cockburn Sound study
2. 1990-1994 Southern Metropolitan Coastal Waters Study
3. 1990-1994 Perth Coastal Water Study

Ongoing / recent

1. Industry
(Water Corporation, Cockburn Cement/DolR)
2. Fisheries
(ongoing Rock lobster, abalone, and in Cockburn Sound – crabs, pink snapper)
3. Recreational fishing
(creel surveys 1996/97, 2001/2002, 2005/06, 2007/2008)
4. SRFME (2001-2006)
5. WAMSI (2005-2010)

Condition of the environment

1. The physical environment

- The shoreline
- The seabed

2. Ecosystem health

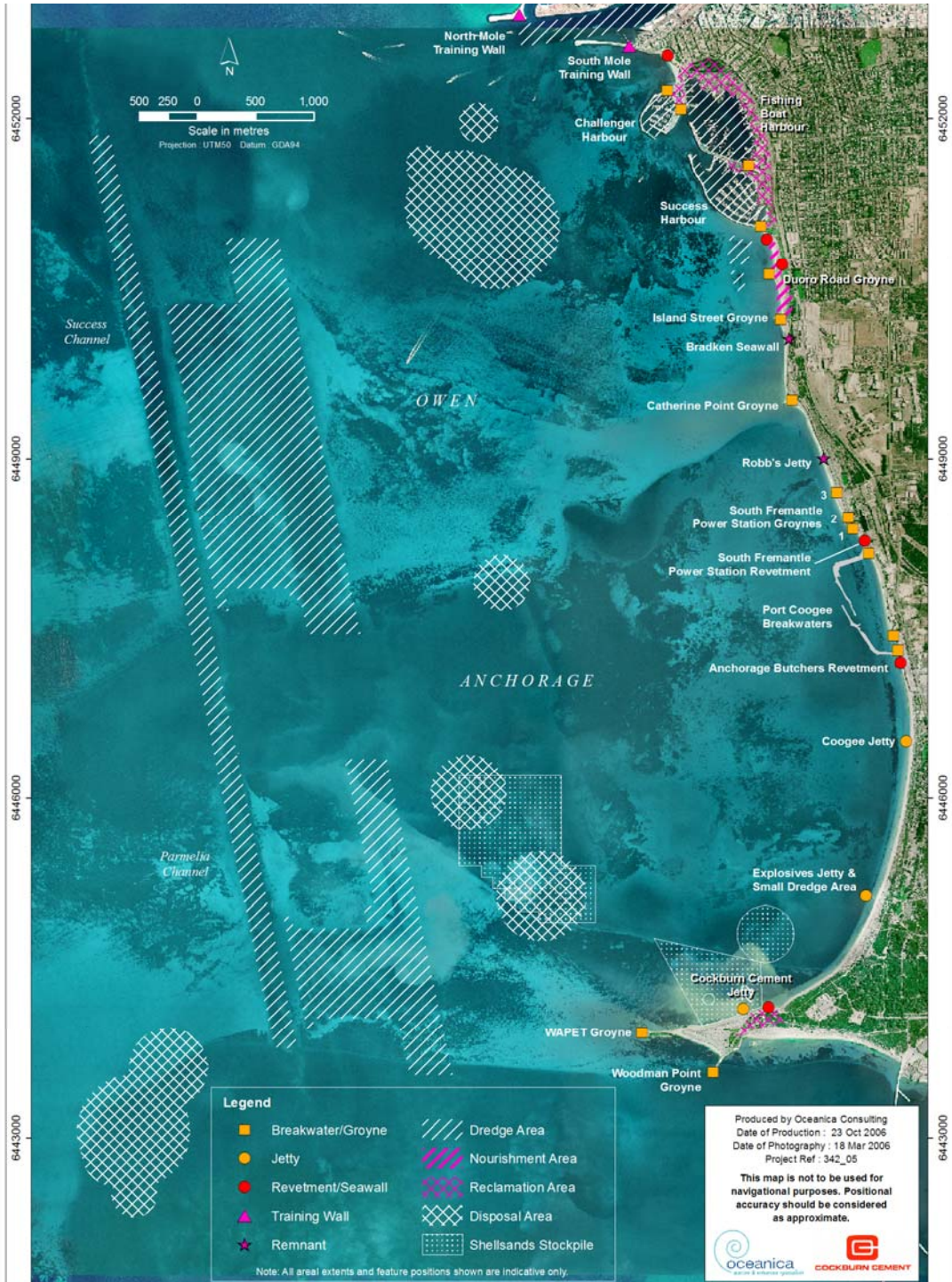
- Water quality
- Sediment quality
- Biodiversity
- Introduced species

3. Seafood safe for eating (pathogens, contaminants)

4. Environment suitable for recreation & aesthetics

5. Fish stocks

Offshore waters, & linkages
with inshore waters ?



'Pressures'

Past & present

1. Industrial discharge, sewage discharge
2. Commercial shipping
dredging, oil spills, sullage, ballast water, marine pests, antifoulants
3. Commercial fishing
removal of target species, damage to seabed, bycatch
4. Recreation
marinas, boat harbours, boat ramps, boat use, beach use, rubbish, fishing*
5. Diffuse nutrients/contaminants
groundwater, storm water, river discharge, atmospheric deposition

Future

1. More people
more urban areas & more recreation**
2. More shipping
3. Mariculture
4. Climate change
Less rainfall, increased sea temperature, increased sea level, more 'storminess', changes in currents, acidification

Management

Environmental management frameworks

- National measures (EPBC Act, Sea dumping, Ballast discharge, Antifoulants)
- Environmental Protection Act
- Environmental Values for Perth Coastal Waters
- Conservation and Land Management Act
- Fisheries
 - commercial managed fisheries
 - recreation bag limits, minimum sizes, gear, closures, etc

Other frameworks?



- Dept Planning & Infrastructure
- Dept Tourism



Gaps

Science gaps

- Potential impact of climate change
- Inshore and offshore processes (main patterns, key influences, linkages)
- Impacts of recreational use (local and tourism)

Management gaps

- Strategic planning / vision for sustainable development (setting limits & how to get there)
- Mechanism for getting agencies communicating (DEC, Fisheries, Dept for Planning & Infrastructure, Dept Tourism, Dept Sport & Recreation)

Current fisheries research themes

status of knowledge

Balance between sustainable exploitation & biodiversity conservation

- Few “science gaps” for most of the established fisheries in the Metro Region
 - Robust monitoring systems in place for the collection of biological samples and catch and effort data for each sector
 - Ongoing assessment for sustainable exploitation of key indicators in all fisheries in Metro waters
 - Negative impacts on the ecosystem identified and prioritised through EBFM process
 - Projects in place, or being developed to deal with many of these important issues (WAMSI, NHT, FRDC)
- Remaining “gaps” associated with consequences of recent major changes to management arrangements for demersal scalefish

Fisheries Science Gaps & Requirements

Creation of a large recreational-only line “fishery” for demersal scalefish in waters off the Perth Metropolitan area

- ~50 000 licensed vessels (15 000 target fish), 31°S-33°S & out to 250m isobath
- Major shift in focus from commercial to recreational sector
- A need to achieve significant reductions in recreational demersal line-fishing effort
- Requires development of new and innovative monitoring and assessment methodology

Fisheries Science Gaps & Requirements

Research needs

- Develop new methodology to enhance recreational stakeholder partnerships in research – incentives, education and training
- Better job of “selling” the current survey methodology – and move to develop “census” methodology
- To better measure and manage factors responsible for improved efficiency of recreational fishers (Web-based chat rooms)
- Understand the impacts of the proposed “offshore” effort reductions on nearshore boat-based and shore-based target species, and hitherto infrequently targeted species (e.g. wrasses)
- Closer inter-agency collaboration DoF, DPI, Tourism, DOIR, to better understand consequences for fishing effort of improved access through powerboat purchase, marina construction, development, etc – can re-align research priorities?



Understand social and economic consequences of no more fresh commercial demersal scalefish being caught in Metro waters



To summarize...

1. We've come a long way since the 1970s: environment & fish stocks in reasonable condition at present
2. The 'low hanging fruit' have been managed (commercial development / industries / fishing)
3. We now face effects that are harder to predict & manage
 - Climate change
 - Major population increases (2.22 million in Perth / Peel by 2031)
 - Urban development -diffuse nutrients, contaminants
 - Recreational use - marinas, boat harbours, boat ramps, boat use*, beach use, fishing
4. Need science to work out these effects – and to what extent they can be mitigated with available management tools / strategies