Port of Hay Point Capital Dredging

Case Study

EIS Monitoring and Evaluation

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HAY POINT CAPITAL DREDGING

Project Overview:

- PCQ undertook capital dredging of apron area and departure path to increase port efficiency and capacity.
- Dredging occurred from 9 May – 17 October 2006, whereby ~ 8.6 million cubic metres of material were dredged to achieve ~ 1.8 m increase in depth.
- Largest dredging project to occur in southern hemisphere in 2006 using world's biggest trailer hopper suction dredger, the *WD Fairway*.

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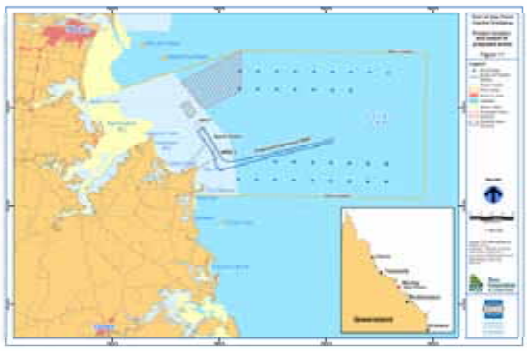

WD Fairway

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Environmental Assessment Required

- Project of 'state significance' (CG) and 'controlled action' (EPBC).
- Bilateral Agreement between the CW and Qld was applicable and level of assessment would be an EIS.
- Key risks to project:
  - Approval timeframe (7 approvals < 6 months).
  - Practicality of approval conditions (i.e. risk of project being stopped; workable mgmt).

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PCQ's Approach to the EIS

- Work collaboratively with agencies from project concept phase, involving them in development of:
  - EIS, methodologies for technical studies & management strategies.
- Proactive process = reduced approval timeframes (1-2 months).
- Agency issues identified early on and addressed in EIS. Supplement EIS minor and approved in matter of weeks.
- Involving agencies early and obtaining their input throughout the EIS = BEST PRACTICE.

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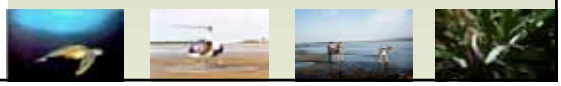
Importance of Baseline Data

- Status of existing environment.
- Identify organism tolerances & predict potential impacts (EIS).
- Helps develop or fine tune monitoring program.
- Data to compare to, determine if impact is occurring, what is "normal" & what isn't etc.
- "Real data" to reassure stakeholders (not just ltre)
- Best practice: obtain as much as possible within time available.



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Cases of Monitoring & Evaluation

- Marine resources survey (July 04) ~ 4000 ha marine plants identified (5 % cover).
- IMP baseline.
- Coral surveys to identify status of fringing coral reef communities around islands.
- Water quality monitoring – 2 months.

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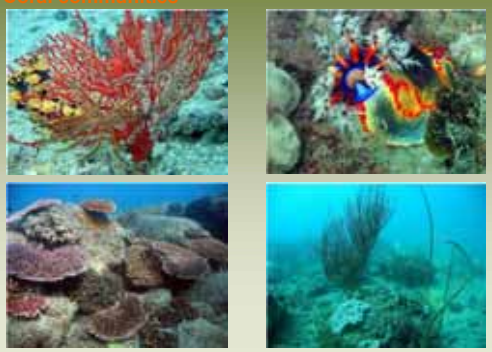
Coral communities



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Monitoring and Evaluation Cases - Seagrass

- PCQ committed to a 3 year (compensation) research project – CoG/DPIF condition (no net loss).
- Marine plant surveys undertaken prior to dredging (Mar 06) identified no marine plants.
- Research program based on marine plants being present and monitoring before, during & after.
- PCQ potentially obtained a permit & committed to research program that wasn't required.
- Lessons: Timing of baseline important (cover various seasons) if basing EIS on it.

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Monitoring and Evaluation – Water Quality

- Input into hydrodynamic model (EIS).
- Helped establish coral turbidity tolerances/ thresholds.
- Water quality triggers (for monitoring).
- Hydrodynamic model under estimated turbidity for high wind/wave conditions.
- Agencies uneasy – past focus on water quality. Look at what coral was doing.
- Lessons: Plume ≠ impact. More baseline data needed covering range of conditions. Monitoring needs to aid management – not just gather data.

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Monitoring and Evaluation – Coral

- Important to demonstrate to agencies that reef communities were not of regional significance.
- Tolerant of highly turbid environments.
- EIS predicted 20 % mortality. Actual result: < 1 % mortality.
- This result eased concerns from high turbidity.
- Lessons: Focus on monitoring biota and its response. Other factors (such as water quality) trigger further investigation. Look at regional significance of habitat – monitor (and report) accordingly.

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Should it be addressed in legislation

- Some agencies have policies that specify baseline or monitoring required.
- Legislation should not specify baseline data required or monitoring – TOR should.
- Agencies/stakeholders need to identify up front, how much baseline they require.
- Monitoring should be tailored to high risk issues – as identified in EIS.

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Finally……

- Adaptive management – dependant on environmental outcomes of project.
- Under-predicted impacts = more monitoring.
- Over-predicted impacts = reduced monitoring.
- Don't monitor for the sake of monitoring – management tool.