
Setting the Context

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Crawley WA

Structural coral communities need specific & effective protection

There is a clear threat...

- Coral reefs and coral communities form keystone habitats
- Corals are declining worldwide and under threat from global and local pressures
- Coastal developments have not stopped and may increase in intensity
- Unless management is effective, we will lose much of our coral systems

But is our response sustainable?

- Developers and the community will accept additional management costs if the benefits are demonstrable;
- But where there is uncertainty, management must invoke a precautionary approach;
- So are we making the best use of what we know now about coral spawning to limit the extent to which we must invoke precaution and target the right threat ?

Do we understand enough to manage efficiently?

What we know?

- From 'some' to 'many' coral species spawn over a few days in one or two months each year.
- We can usually predict the 'window' in which some spawning will occur, but more than a few weeks out we can't be accurate about what proportion of species or individuals will spawn in which month.
- Some recruitment from larvae over the life cycle of corals is necessary to sustain the local population.
- Marine works need expensive infrastructure which costs a lot to put on standby.

What don't we know?

- How susceptible to raised sedimentation are the various parts of the coral supply chain? And for how long?
- How do we determine when reducing a part of the impact will help?
- How significant to the population is a reduction in the recruit supply for a year?

We know there's a supply chain



We know management can't just cover one link

- Gametogenesis - months prior to spawning
- Spawning Window - 4-5 days (February, March or April in WA)
- Fertilisation - a few hours following spawning
- Larval development - days
- Larval competency - weeks over which larvae may settle if they find the correct spot
- Settlement cues & processes
- Settlement to reproduction

Do we know more than we think?

Research has progressed our understanding of spawning?

- We know more about spawning for lots of species in lots of places
- We know it's not the single big bang we originally thought
- Why has our improved understanding lead to a more precautionary approach?

What should our aim be?

- Better predictions of spawning timing and intensity
- Better understanding of risk
- Better focus of management on key processes