History and status of crown-of-thorns starfish on the GBR

Hugh Sweatman

Australian Institute of Marine Science

Forum Title:
Drivers of Biodiversity on the GBR, COTS Outbreak Dynamics and Population Control
WHY ARE CROWN-OF-THORNS STARFISH IMPORTANT?

- Live coral cover on reefs of the GBR estimated from manta tows, 1985 - 2012

From De’ath et al 2012, PNAS
WHY ARE CROWN-OF-THORNS STARFISH IMPORTANT?

- 42% of overall mortality was due to crown-of-thorns starfish
- Crown-of-thorns starfish caused a greater proportion of the mortality in the central (48%) and southern (47%) GBR

From De’ath et al 2012, PNAS
HISTORY

• Geological evidence - COTS “always” present on GBR
• Oral history – Pearl shell & Trochus divers recall large numbers on individual reefs going back to 1930s
• Three recorded “waves” of outbreaks
  • 1966 - 1974
  • 1979 - 1991
  • 1994 – present (few relic outbreaks on reefs south of Mackay)
• Wave no. 4? - 2010 - present
AIMS MANTA TOW SURVEYS
LIZARD IS TO CAIRNS 2012-13

- Low density of starfish
- Some starfish
- Outbreak densities
Low density of starfish
Some starfish
Outbreak densities
Low density of starfish
Some starfish
Outbreak densities
QUESTIONS

• Why do outbreaks seem to originate around 14 30’ S (~Lizard Is)?

• Will the swathe of damage from TC Yasi act as a fire break?
THANK YOU

Hugh Sweatman – h.sweatman@aims.gov.au

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