

**EXTREME WEATHER IMPACTS ON DUGONG & TURTLES:**  
*Overview from Eastern Queensland stranding data*

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 Queensland Government

**DUGONG & MARINE TURTLES**  
 Commonality of life history traits  
**LIMITED SUSTAINABLE POPULATION LOSSES**

*Biological background*

- BOTH LONG-LIVED SPECIES
- DELAYED 1<sup>ST</sup> BREEDING  
 DUGONG: 4-17 YRS  
 GREEN TURTLE: 30-40 YRS
- LOW REPRODUCTIVE RATE  
 DUGONG: PRODUCE ONE CALF EVERY 3 TO 7 YEARS  
 GREEN TURTLES: 5YR BETWEEN BREEDING SEASONS

*Biological background*

**GREEN TURTLES:**  
 HERBIVORE – SEAGRASS, ALGAE, MANGROVE

SHALLOW HABITATS:  
 SEAGRASS PASTURES  
 CORAL & ROCKY REEFS  
 MANGROVE FORESTS



*Biological background*

**DUGONGS:**  
 HERBIVORE – SEAGRASS SPECIALIST




SPECIALISED SHALLOW HABITATS:  
 SEAGRASS PASTURES  
 CORAL REEFS



*Biological background*

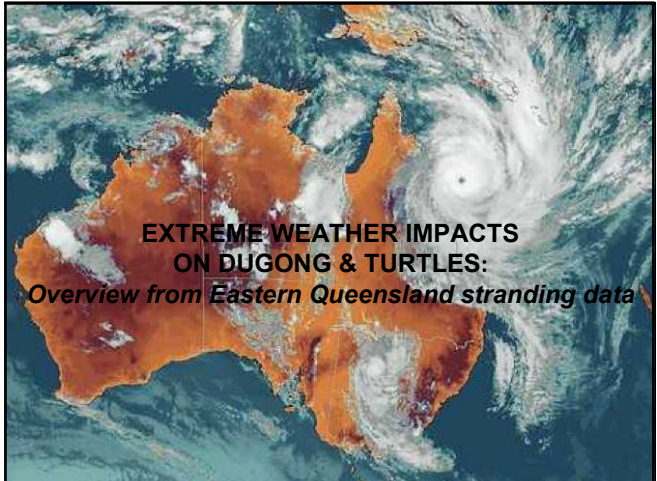
**SATELLITE TELEMETRY RESULTS:**  
**DUGONG MAKE LARGE-SCALE MOVEMENTS**

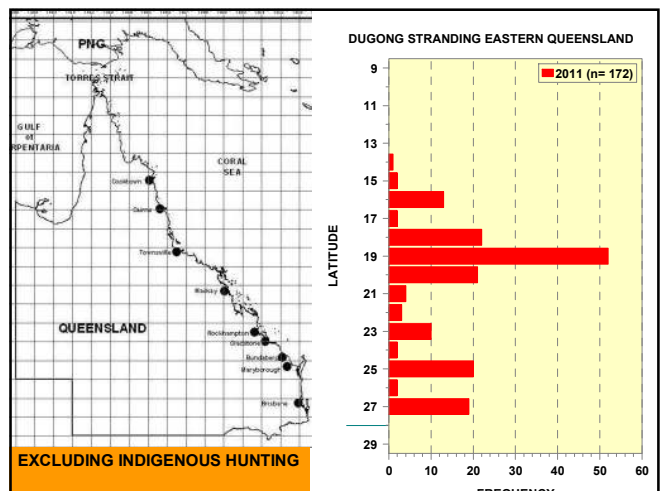
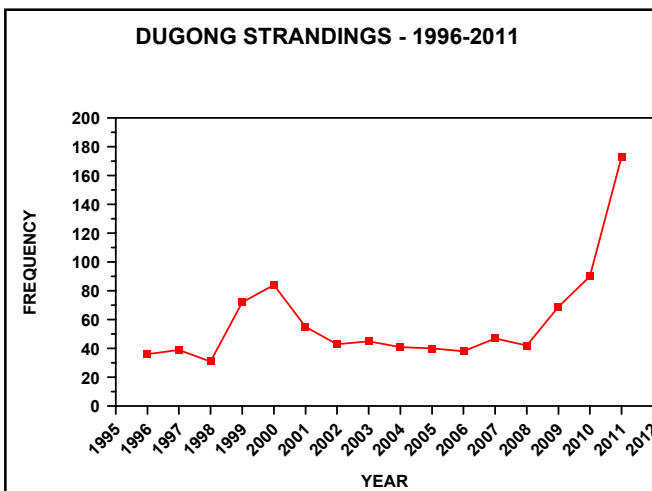
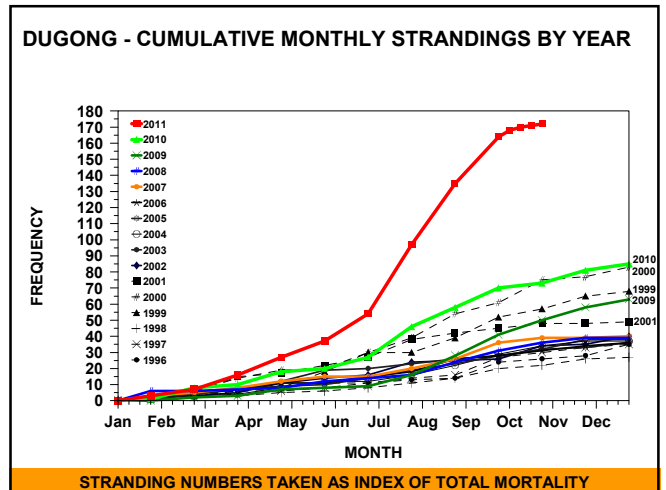
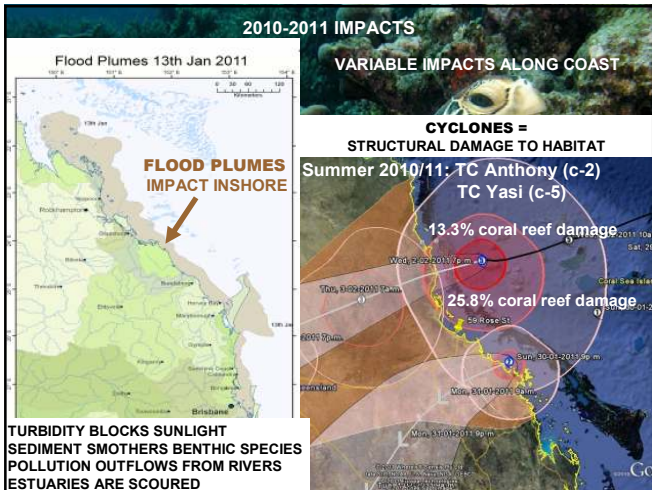
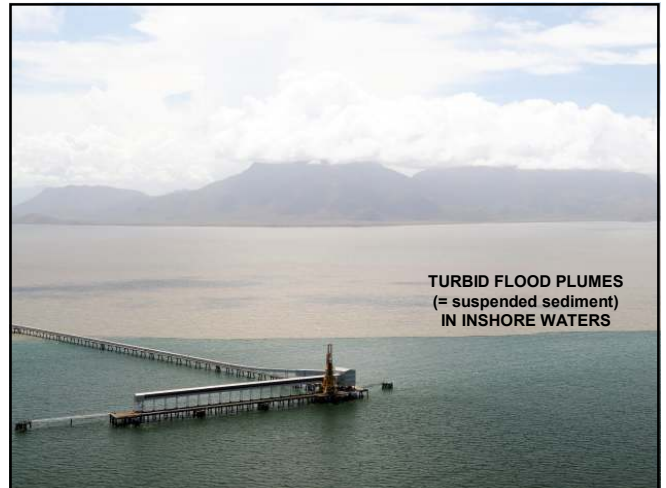
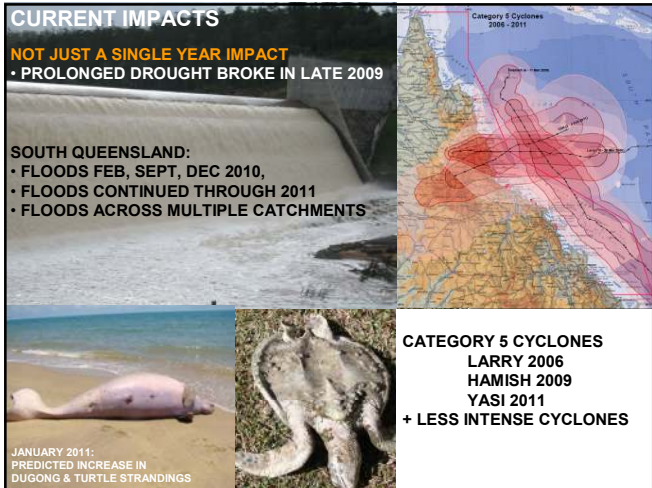
- Dugongs move in response to changes in the quantity of quality seagrass food
- All ages, sizes and sexes
- Movements up to 560km
- Movements fast and direct between bays

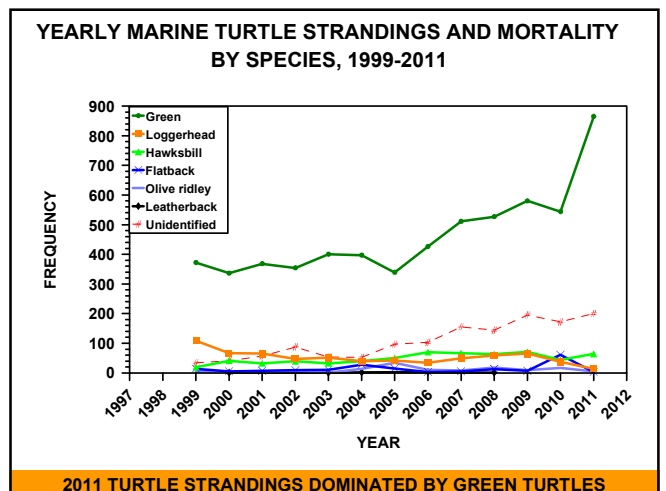
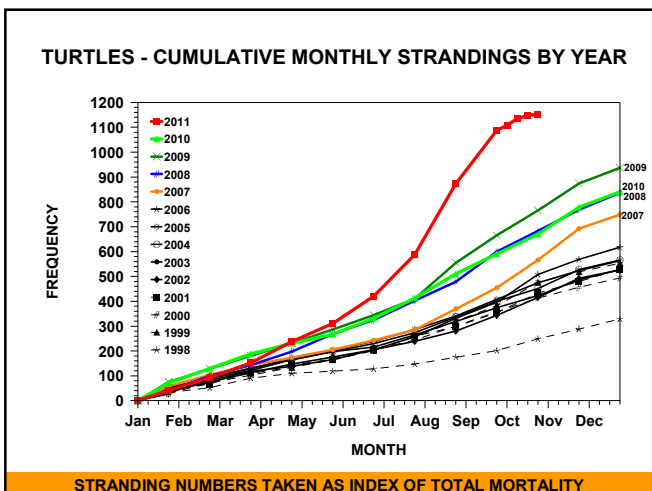
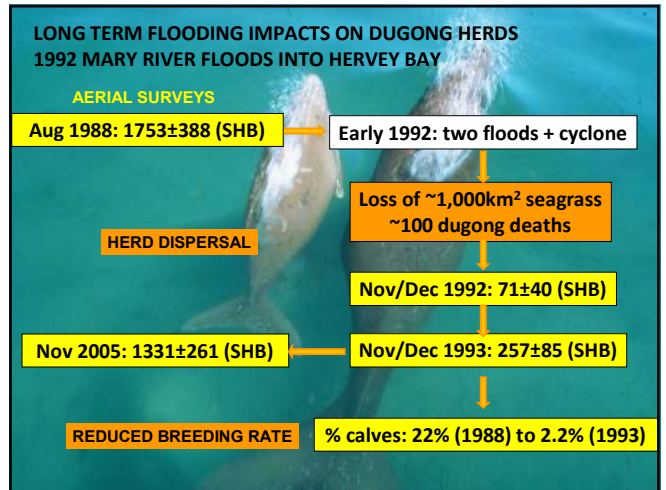
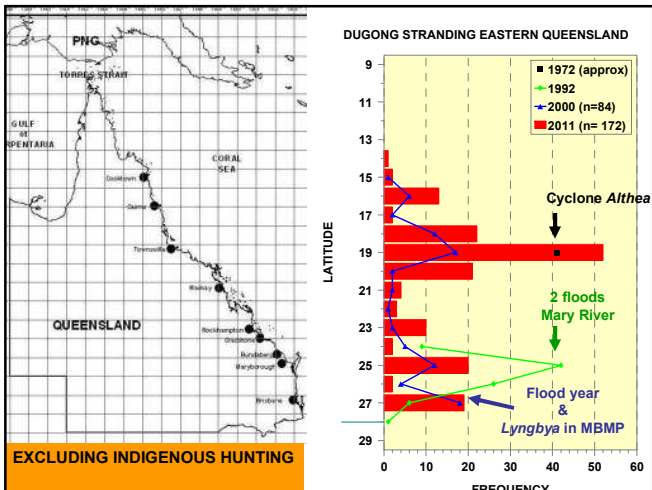
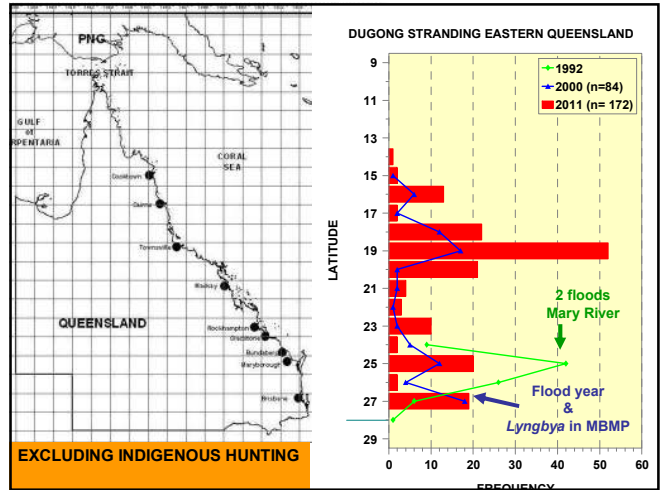
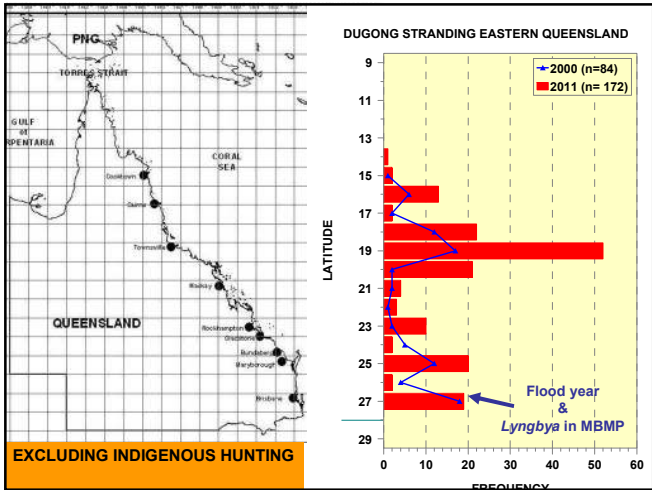




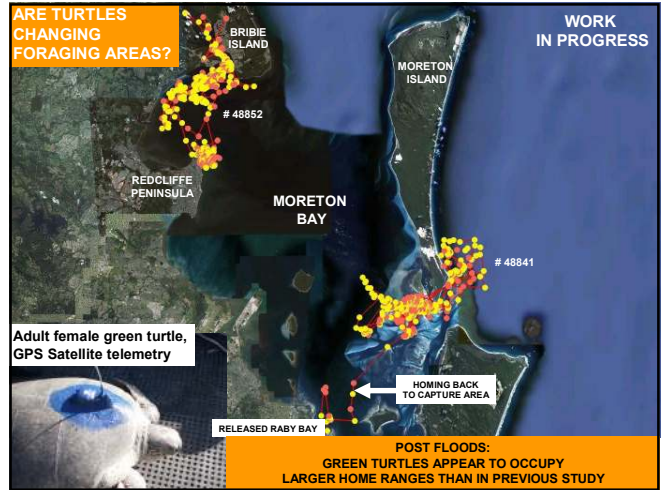
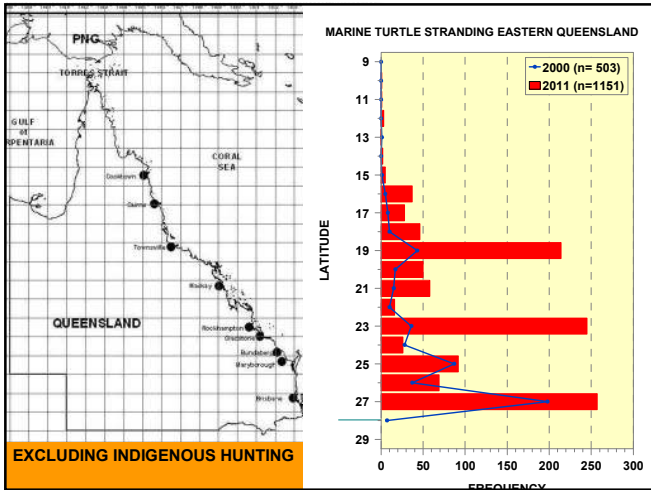
(Based on: Sheppard et al. (2006))

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**WITH NEGATIVE IMPACTS ON SEAGRASS FROM EXTREME CLIMATE EVENTS: TURTLES & DUGONG ARE EXPECTED TO:**

- HAVE REDUCED BODY CONDITION/POOR HEALTH
- MOVE MORE IN SEARCH OF FOOD

**EXPECTED CONSEQUENCES:**

- INCREASED INTERACTION WITH FISHING GEAR
- TURTLES & DUGONG IN POOR HEALTH = REDUCED BREATH-HOLDING CAPACITY
- = INCREASED PROBABILITY OF DROWNING**

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**TURTLES ARE EXPECTED TO:**

- USE DREDGED AREAS & CHANNELS AS "REFUGIA"

**EXPECTED CONSEQUENCES:**

- INCREASED TIME UNDER VESSEL TRAFFIC
- TURTLES & DUGONG IN POOR HEALTH = REDUCED FITNESS & SLOW RESPONSE TIME
- = INCREASED BOATSTRIKE**

**MONITORING FORAGING POPULATIONS HELPS US UNDERSTAND THE PROBLEMS & FIND SOLUTIONS**

**GONAD EXAMINATION (LAPAROSCOPY & ULTRASOUND): DETERMINES SEX, MATURITY & BREEDING STATUS**

