Use of Remote Sensing to Evaluate Risk in Zones of Seismic Testing

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Presented to WIDECAST 2015
Maunabo, Puerto Rico
Turtugaruba

- Leatherback monitoring since 1999
Small nesting population

- Turtle identity
  - External (scars & spots)
- Behavior

- Clutch frequency
  - Average: 7.1 nests
  - Range: 2-11 nests
  - Early starters average 8.3 nests

Leatherback nests at West coast, Aruba
Seismic research 2013

- Permit given by government
  - Mid February – End March
- Local NGO’s concerned
- We could not indicate:
  - internesting locations
  - migration patterns
2013 Leatherbacks

- Three females
- Two March starters
  - 1 or 2 nests
- One April starter
  - 9 nests
- No leatherbacks on other beaches
Seismic research 2014

- Announced
  - July - September
- Turtugaruba publicly concerned
- Dialogue started
  - Data request
  - Expert review?
- WIDECAST involved
  - Scott & Karen Eckert
Win-Win

- **Research**
  - Satellite tracking
    - Answering internesting and migration pattern questions
- **Mitigation**
  - VHF-radio tags
    - Reducing turtle risk
  - Rerouting survey pattern

Preliminary 3D area TBC, around 3,200 km²
Tagging turtles in 2014

- 4 Leatherbacks
- 3 Green turtles
- 1 Loggerhead

- Reset tags / download data on tags of returning females.
2014 Leatherbacks

- No ‘strange’ behavior
- 13 females total
  - 8 on West coast
- No tag detected by radio receiver on research vessel
- Vessel alerted when satellite tracking crossed research zone
Internesting habitat

- Along shelf-break

- Note: Only East coast nesters tagged in 2014
Migration patterns
To be continued in 2015

- Satellite tagging
- Dialogue remains open
Thank you!!

- Repsol
- WIDECAST
- Aruba Cites Authority