Entanglement and Ingestion of Marine Debris in Cetaceans of South Carolina

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Entanglements Background

- Worldwide, 15 cetacean species (19.2%) affected by marine debris entanglement
- In US, 9 cetacean species (11.5%)
- Commonly line (rope or mono), net fragments
- Packing straps, rubber gaskets
Species stranded in SC 1992-2012

- L. acutus 1
- B. physalus 1
- B. edeni 1
- S. attenuata 2
- E. glacialis 3
- S. coeruleoalba 3
- P. macrocephalus 4
- Kogia sp. 4
- P. vitulina 5
- S. frontalis 5
- P. electra 6
- M. novaeangliae 6
- M. densirostris 7
- F. attenuata 8
- M. europaeus 9
- G. macrorhynchus 9
- Z. cavirostris 10
- K sima 19
- K breviceps 94
- T truncatus 886
Bottlenose Dolphins Involved with Human Interaction

Number of Interactions

- Cpot
- Rope
- ShrimpT
- Boat
- Mono/H-L
- Other

category
South Carolina Entanglements

- Bottlenose dolphins only (possible one Ziphius)
- Majority are line (rope) entanglements and most Active (crab pot fishery)
- A few monofilament entanglements
- A couple ALDFG
SC Bottlenose Dolphin Marine Debris Entanglements

- 72.20% rope
- 16.70% netting
- 11.10% mono line
- 0% derelict trap
Cuvier’s Beaked Whale Entanglement
Problems Defining Entanglement Rates

- Currently nearly impossible to define at the population level
- Rely mostly on strandings
- At-sea entanglements rarely observed and if observed not always recorded
- Lack of distinction between Active gear and ALDFG
Percent Marine Debris Entanglement of Bottlenose Dolphins in SC
Percent Marine Debris Entanglement of Bottlenose Dolphins in SC
Unreported Marine Debris Entanglements
Ingestion of Marine Debris

• Four species in SC: bottlenose dolphin (Tt), pygmy sperm whale (Kb), Cuvier’s beaked whale (Zc), humpback whale (Mn)
Ingested Material of Bottlenose Dolphins

- Wallet and plastic wrapper
- Fish tag
Ingested Material of Cuvier’s Beaked Whale

- Plastic bags, cotton rope, human doll
- 4 of 10 with ingested material; 1 depredation
Ingested Material of Pygmy Sperm Whales

- Plastic bags, wrapper, monofilament line
- ~10% of stomachs examined
Depredation
Recording Marine Debris

• When recording findings from observation, it is important to keep consistency in documenting marine debris entanglements as human interaction.
• Marine debris entanglements might get misrepresented as “Fishery Interaction”.

NMFS Level A Data Sheet

<table>
<thead>
<tr>
<th>Findings of Human Interaction:</th>
<th>□ YES □ NO □ Could Not Be Determined (CBD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Yes, Choose one or more:</td>
<td>□ 1. Boat Collision □ 2. Shot □ 3. Fishery Interaction</td>
</tr>
<tr>
<td>□ 4. Other Human Interaction:</td>
<td></td>
</tr>
<tr>
<td>How Determined (Check one or more):</td>
<td>□ External Exam □ Internal Exam □ Necropsy</td>
</tr>
<tr>
<td>□ Other:</td>
<td></td>
</tr>
<tr>
<td>Gear Collected? □ YES □ NO</td>
<td>Gear Disposition: ______________________</td>
</tr>
<tr>
<td>Other Findings Upon Level A:</td>
<td>□ YES □ NO □ Could Not Be Determined (CBD)</td>
</tr>
</tbody>
</table>
Changing The Way We Record Marine Debris

Adding marine debris as its own entity would improve our understanding of its effects.
Another Solution

- Centralized database in conjunction with the MDP where reports of marine debris entanglements and ingestion could be reported
- Individual reports can be sent and maintained
- Allows for easy searching/query run
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Questions?