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Harbour porpoises

- UK smallest cetacean
- Appearance
- Behaviour
- Reproduction
- Nutrition
- Status and Conservation.
Harbour porpoises

- Range
- Habitat
- Distribution.
Sea mammals stranded on Scottish coast
Primarily cetaceans but occasionally pinnipeds
Part of the DEFRA funded UK strandings project
Scottish Government funding for last 2 years.
Mechanics

- Stranded animals are reported to SAC, Inverness
- Transported to VIC Inverness - gross post-mortem examination
- Agreed European-wide protocol – measurements, weights, tissue samples etc.
- Bacteriology
- Histopathology.
Dataset

- 1992 – 2007 inclusive
- n = 605 harbour porpoises stranded on Scottish coast
- primary cause of death ascribed to one of 10 categories.
Primary Classification of Causes of Death

1. Physical trauma 252 (41.7)
2. Pneumonia 79 (13.1)
3. Starvation/hypothermia 54 (8.9)
4. Parasitism 39 (6.4)
5. Neonatal death 38 (6.3)
6. Pregnancy related 12 (2.0)
7. Meningo/encephalitis 5 (0.8)
8. Neoplasia 3 (0.5)
9. Miscellaneous 34 (5.6)
10. Not Established 89 (14.7)
# Secondary Classification of Causes of Death (Physical Trauma n = 252)

1. BND kill  180 (29.8)  
2. Bycatch    37 (6.1)  
3. ? Bycatch  22 (3.6)  
4. Boat strike 1 (0.2)  
5. Other/unknown  12 (2.0).
Secondary Classification of Causes of Death (Pneumonia n = 79)

1. Parasitic  64 (10.6)
2. Bacterial   8 (1.3)
3. Fungal     2 (0.3)
4. Other      5 (0.8)
Secondary Classification of Causes of Death (Neonatal death n = 38)

1. Abortion (pre-term) 1 (0.2)
2. Stillbirth 6 (1.0)
3. Drowning 4 (0.7)
4. Starvation 3 (0.5)
5. Unknown 24 (4.0).
Secondary Classification of Causes of Death (Miscellaneous n = 34)

1. Bacterial 19 (3.1)
2. Orchitis/epididymitis 2 (0.3)
3. Polycystic liver 1 (0.2)
4. Pyelonephritis 1 (0.2)
5. Uterine rupture 1 (0.2)
6. Vertebral osteomyelitis 1 (0.2)
7. Peritonitis 1 (0.2)
8. Interstitial nephritis 1 (0.2).
Geographical Location of Carcasses

- Most carcases found beached
- ~10% due to bycatch
- 70% found in five grid squares
  - NJ (26%) & NH (15%) - Moray Firth
  - NO (11%) & NT (8%) - Firths of Forth & Tay
  - NS (10%) - Firth of Clyde.
Time of Death

- Clear seasonal pattern to carcasses being reported
- More in Spring & early Summer.
## Time of Death

<table>
<thead>
<tr>
<th>Primary COD</th>
<th>Quarter</th>
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<tbody>
<tr>
<td></td>
<td>Q1</td>
</tr>
<tr>
<td>Neonatal Death</td>
<td>0</td>
</tr>
<tr>
<td>Parasitism</td>
<td>17 (44)</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>35 (44)</td>
</tr>
<tr>
<td>Pregnancy related</td>
<td>1 (8)</td>
</tr>
<tr>
<td>Starvation/hypothermia</td>
<td>25 (46)</td>
</tr>
<tr>
<td>Trauma</td>
<td>62 (25)</td>
</tr>
<tr>
<td>BND kills</td>
<td>37</td>
</tr>
</tbody>
</table>
## Length of Porpoises Killed by BND

<table>
<thead>
<tr>
<th>Quarter</th>
<th>No. observed</th>
<th>Mean Length (cm)</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>37</td>
<td>119.6</td>
<td>13.19</td>
</tr>
<tr>
<td>Q2</td>
<td>83</td>
<td>119.2</td>
<td>17.19</td>
</tr>
<tr>
<td>Q3</td>
<td>39</td>
<td>120.7</td>
<td>20.44</td>
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<tr>
<td>Q4</td>
<td>20</td>
<td>123.1</td>
<td>15.58</td>
</tr>
</tbody>
</table>
Conclusions

- 30% of all recorded Harbour porpoise deaths in Scotland are due to bottlenose dolphin attacks!
- Likelihood of being killed by a bottlenose dolphin is related to porpoise body length
- Several causes of death are influenced by season
- Pneumonia, especially verminous, is a notable cause of mortality.
Any questions?

Photographer Ole Bang Nielsen