Pathological findings in 66 wild European otters (Lutra lutra) in Scotland: 2007-2008

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The Scottish Otter Mortality Study

Wild European (Eurasian) otters: Lutra lutra

• Located throughout Europe including UK
• Sentinel species: Top of their food chain
• Coastal and riverine environments
• Monitoring causes of mortality in wild otters is an important component of population studies to assess the conservation status of this species
The Scottish Otter Mortality Study

2007-2008: 66 Wild Otters

• Isle of Skye
• Shetland Islands
• Loch Lomond and the Trossachs National Park
• Other areas of mainland Scotland

Causes of Death in Adult Otters

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma</td>
<td>52</td>
</tr>
<tr>
<td>Motor vehicle accidents</td>
<td>51</td>
</tr>
<tr>
<td>Gun shot wound</td>
<td>1</td>
</tr>
<tr>
<td>Septic infection of wounds</td>
<td>3</td>
</tr>
<tr>
<td>Inanition</td>
<td>3</td>
</tr>
<tr>
<td>Ageing; Dental attrition</td>
<td></td>
</tr>
<tr>
<td>Aspiration pneumonia</td>
<td>1</td>
</tr>
<tr>
<td>Accidental inhalation of plant material</td>
<td></td>
</tr>
<tr>
<td>Undetermined</td>
<td>3</td>
</tr>
</tbody>
</table>

Total adults 62
Otter: Trauma: Road traffic accident

Otter: Trauma: Haemothorax
Male Otter: Found dead in Moray by mouth of River Spey

Otter: Examination of teeth
Otter: Bite wound: Cellulitis

Otter: Tracking cellulitis: Purulent exudate in mediastinum
Otter: Lungs: Consolidation

Otter: Aspiration pneumonia: Inhaled reed
Otter: Aspiration: Suppurative bronchopneumonia

Causes of Death in Otter Cubs

- Died in rescue centres 3
  “Stressed otter syndrome”
- Undetermined 1

Total cubs 4
“Stressed Otter Syndrome”: Gastric haemorrhage

Pathology in Otters

Incidental findings

• Healed fight wounds
• Foot lesions: Abrasions, Cuts
• Adiaspiromycosis: Pulmonary mycosis
• Gastric nematodes
Otter: Foot lesions

Infectious diseases

• Bile fluke
• Viral infections
  • Infectious canine hepatitis
• Bacterial infections
  • Brucella
  • Salmonella
  • Yersinia
Non-infectious diseases

- Urolithiasis?
  - Common in captive Asian short clawed otters
  - Appears to be rare in wild otters
- Anomalies of eye development?
  - Retinal dysplasia?

Collection of Samples

- Genetic analysis
- Pesticide residue analysis
- Stomach contents
- Intestinal contents
- Spleen
- Teeth
Otter: Uterus: Pregnant