Evaluation of Wing Fractures and Impact on Survival and Re-release

Katherine O’Neill
March 11, 2013
History

- Pacific Wildlife Care (PWC)
- Established: 1984
- **Mission**: To rehabilitate and return to their natural habitat orphaned, pollution-damaged and injured wildlife; to educate our community to value wildlife including the need to represent the environment we share with them.
- Morro Bay Facility opened Spring 2007
Objective

- To analyze data on birds with wing fractures and establish a triage to help PWC make the most cost effective decisions for treating birds admitted to the center.
Goals

1. Learn to train new volunteers and perform everyday operations.

2. Assist Dr. Shannon Riggs with procedures.

3. Look for trends in the relationship between wing fractures and recovery.
Data Collection

- Collected data using Animal Care Records from 2007 to 2013*

- WRMD

- Entered all relevant data into Excel
Case ID: 359
Western Gull: Closed fx at radius
Case ID: 556
Scrub Jay: Closed fx mid-diaphyseal R ulna
### Data

- On average:
  - 80% of cases are birds
  - 11% of bird cases are wing fractures

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cases</th>
<th>Total Bird Cases</th>
<th>Total Non Bird Cases</th>
<th>Wing Fx</th>
<th>% Wing Fx</th>
<th>% Survival</th>
<th>% Bird Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>719</td>
<td>601</td>
<td>118</td>
<td>70</td>
<td>11.65</td>
<td>10.00</td>
<td>83.59</td>
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<tr>
<td>2008</td>
<td>1432</td>
<td>1094</td>
<td>338</td>
<td>107</td>
<td>9.78</td>
<td>5.61</td>
<td>76.40</td>
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<tr>
<td>2009</td>
<td>1336</td>
<td>1049</td>
<td>287</td>
<td>115</td>
<td>10.96</td>
<td>10.43</td>
<td>78.52</td>
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<tr>
<td>2010</td>
<td>1476</td>
<td>1200</td>
<td>276</td>
<td>123</td>
<td>10.25</td>
<td>5.69</td>
<td>81.30</td>
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<tr>
<td>2011</td>
<td>1735</td>
<td>1460</td>
<td>275</td>
<td>132</td>
<td>9.04</td>
<td>2.27</td>
<td>84.15</td>
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<td>2012</td>
<td>1540</td>
<td>1210</td>
<td>330</td>
<td>152</td>
<td>12.56</td>
<td>5.26</td>
<td>78.57</td>
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<tr>
<td>2013</td>
<td>2018</td>
<td>1523</td>
<td>495</td>
<td>173</td>
<td>11.36</td>
<td>16.76</td>
<td>75.47</td>
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Number Released by Fracture Location

- Coracoid
- Metacarpals
- Joint
- Shoulder
- Elbow
- Humerus
- Radius/ULna
- Wrist

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Number of cases

0 10 20 30 40 50 60 70 80 90 100

Number Released by Fracture Location

Fracture Location:
- Wrist
- Radius/ULna
- Humerus
- Shoulder
- Elbow
- Joint
- Metacarpals
- Coracoid

Number of cases:
- Released 2013
- Broken 2013
- Broken 07-12
- Released 07-12

Number Released by Fracture Location

![Bone diagram](http://scioly.org/wikiindex.php/Ornithology)

- **Coracoid**: Released 2013
- **Metacarpals**: Broken 2013
- **Joint**: Released 2013
- **Shoulder**: Broken 07-12
- **Elbow**: Released 2013
- **Humerus**: Broken 07-12
- **Radius/Ulna**: Released 2013
- **Wrist**: Broken 07-12

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- Elbow
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- Coracoid

Number of cases

- Released 2013
- Broken 2013
- Broken 07-12
- Released 07-12

P-value < .0001
Triage

- Cost to treat: $250 – 300
- Variable by amount of time spent at the center
- Additional injuries
- Medications
Triage

Secondary Injuries?

Yes

Severe

Moderate/Mild

Address these first

No

Location of Fracture

Coracoid

Metacarpals

Radius/Ulna

Humerus

Wrist

Elbow

Shoulder

Treat

Treat

Treat

Observe and Rest

Observe and Rest

Euthanize

Euthanize
Considerations

- I would like to thank Pacific Wildlife Care
- Dr. Plummer and the Animal Science Department
- Dr. Kevin Ross
Works Consulted

Questions?