Sea Otters (*Enhydra lutris*): an update on the species status

Angela Doroff
Marine Mammals Management Office
U.S. Fish & Wildlife Service
Region 7 - Alaska
An Update On:

- Population Status and History
- Population Stocks in Alaska
  - Monitoring Plan and Recovery Team
- Population Status in Russia and Japan
- Population Status in Canada
- Population Status in California and Washington States
- Conservation Concerns
History: Before the Fur Trades

- Sea otters once ranged across the Pacific rim from Japan to the Pacific coast of Mexico

- Estimates of the world population prior to exploitation were 100,000 - 300,000
Past and Present Sea Otter Distribution
Subspecies of *Enhydra lutris*

- **Enhydra lutris lutris**
  - Russia and Japan: Commander Islands, Kamchatka Peninsula, Kuril Islands

- **Enhydra lutris kenyoni**
  - Alaska: translocations to SE Alaska, Pribilof Islands, Alaska, British Columbia, Canada, Washington, and Oregon

- **Enhydra lutris nereis**
  - California: translocation to San Nicholas Island
Distribution in Alaska

http://alaska.fws.gov/fisheries/mmm/seaotters/reports.htm
**Enhydra lutris kenyoni:** Distribution and Status for Alaska: 2007

- Southeast 10,563
- Southcentral 15,090
- Southwest 47,676
- Total 73,329

Conservation: Marine Mammal Protection Act (1972); SW Stock listed under Endangered Species Act
## Southwest Stock: Threatened Status

<table>
<thead>
<tr>
<th>Management Unit</th>
<th>Year</th>
<th>Adj Count or Estimate</th>
<th>Population Trend</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Aleutian</td>
<td>2000</td>
<td>6,250</td>
<td>-73%</td>
<td>Doroff et al. (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Estes et al. (2005)</td>
</tr>
<tr>
<td>Bristol Bay</td>
<td>2000</td>
<td>11,253</td>
<td>-39%</td>
<td>Burn and Doroff (2005)</td>
</tr>
<tr>
<td>South Alaska Peninsula</td>
<td>2001</td>
<td>4,724</td>
<td>-74%</td>
<td>Burn and Doroff (2005)</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td></td>
<td></td>
<td>Doroff et al. (in prep.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bodkin et al. (2003)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>47,676</strong></td>
<td><strong>-49 to -63%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Alaska Population Stock Assessment
## Southcentral Stock

<table>
<thead>
<tr>
<th>Survey Area</th>
<th>Year</th>
<th>Unadjusted Estimate</th>
<th>Adjusted Estimate</th>
<th>CV</th>
<th>N&lt;sub&gt;M&lt;/sub&gt;</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Gulf of Alaska</td>
<td>2000</td>
<td>198</td>
<td>428</td>
<td>0.378</td>
<td>314</td>
<td>USGS unpublished data</td>
</tr>
<tr>
<td>Cook Inlet/Kenai Fiords</td>
<td>2002</td>
<td>2,673</td>
<td>0.271</td>
<td>2,136</td>
<td></td>
<td>Bodkin &lt;i&gt;et al.&lt;/i&gt; (2003b)</td>
</tr>
<tr>
<td>Prince William Sound</td>
<td>2003</td>
<td>11,989</td>
<td>0.179</td>
<td>10,324</td>
<td></td>
<td>Bodkin &lt;i&gt;et al.&lt;/i&gt; (2003a)</td>
</tr>
<tr>
<td><strong>Current Total</strong></td>
<td></td>
<td><strong>15,090</strong></td>
<td></td>
<td></td>
<td><strong>12,774</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Previous SAR Total</strong></td>
<td></td>
<td>16,552</td>
<td></td>
<td></td>
<td>13,955</td>
<td></td>
</tr>
<tr>
<td>Survey Area</td>
<td>Year</td>
<td>Unadjusted Estimate</td>
<td>Adjusted Estimate</td>
<td>CV</td>
<td>N_MIN</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>-----</td>
<td>-------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>North Gulf of Alaska</td>
<td>2000</td>
<td>15</td>
<td>32</td>
<td>0.378</td>
<td>24</td>
<td>USGS unpubl. data</td>
</tr>
<tr>
<td>Glacier Bay</td>
<td>2002</td>
<td></td>
<td>1,266</td>
<td>0.15</td>
<td>1,117</td>
<td>Bodkin and Esslinger (2006)</td>
</tr>
<tr>
<td>Northern Southeast Alaska</td>
<td>2002</td>
<td></td>
<td>1,838</td>
<td>0.17</td>
<td>1,594</td>
<td>Bodkin and Esslinger (2006)</td>
</tr>
<tr>
<td>Southern Southeast Alaska</td>
<td>2003</td>
<td></td>
<td>5,845</td>
<td>0.14</td>
<td>5,198</td>
<td>Bodkin and Esslinger (2006)</td>
</tr>
<tr>
<td>Yakutat Bay</td>
<td>2005</td>
<td></td>
<td>1,582</td>
<td>0.334</td>
<td>1,203</td>
<td>USFWS unpubl. data</td>
</tr>
<tr>
<td><strong>Current Total</strong></td>
<td></td>
<td></td>
<td><strong>10,563</strong></td>
<td></td>
<td><strong>9,136</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Previous SAR Total</strong></td>
<td></td>
<td></td>
<td><strong>12,632</strong></td>
<td></td>
<td><strong>9,266</strong></td>
<td></td>
</tr>
</tbody>
</table>
Population Monitoring Plan

- Within each stock, identify survey regions
- Identify methods appropriate for each region
- Survey interval
  - Trend sites
  - Abundance surveys
- Analytical method to determine temporal dynamics
Recovery Team Progress

- 4th Recovery Team to meet October 2007
- Draft recovery plan for the SW population stock based on recovery units
Enhydra lutris lutris: distribution and status in Russia and Japan 2007

Method of Population Assessment: Skiff-based surveys

- Commander Is. >7,000
- Kamchatka 2,500
- Kuril Islands 13,000
- Hokkaido 2

• Total 22,502

Conservation: Protected status: Commander Islands, Listed Red-book
Sea Otter Survey Data for Bering Island, Russia

Population Status Russia & Japan
**Enhydra lutris kenyoni:** Distribution and Status Canada 2007

- Translocated from the U.S. during 1969-72
- Population Estimate: 3,185
- Growth Rates: 18.6% per year on Vancouver Is. & 12.4% on Central B.C. coast
- Conservation: Listed as Threatened under Species at Risk Act (SARA): COSEWIC recommends down-listing to a species of Special Concern

The range of the sea otter in Canada as of 2004 (blue shaded areas). Canada-U.S. borders (dashed line)
Enhydra lutris kenyoni: Distribution and Status Canada

Details of growth rate estimates are in Nichol et al. 2005 -

Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
http://www.sararegistry.gc.ca/status/showDocument_e.cfm?id=1434

-recommends downlisting sea otters to a species of Special Concern.
-a decision will be made in 2008/09.
Enhydra lutris: Distribution and Status 2007

- California (E.l. nereis)
  - Abundance Estimate 3,026
  - Translocation to San Nicholas Island

- Washington State (E.l.kenyoni)
  - Abundance Estimate 782
  - 3yr average(2004-06)

Conservation: Marine Mammal Protection Act (1972); Threatened under Endangered Species Act, CA and listed as threatened by the State of WA
Figure 3. Number of southern sea otters counted during spring surveys, plotted as 3-year running averages. (Example: values for 2006 are the averages of the 2005, 2006, and 2007 counts.)
Conservation Issues

- Pollution
- Vulnerability to catastrophic and chronic oil spills
- Illegal harvest/killing
- Interaction with Fisheries
- Predation
- Vulnerability to storms and shore-fast sea ice
- Food limitation in regions at equilibrium density

Randall Davis, TAMU
Sea Otter - Human Interactions

- Harbor and Terrestrial Run-off Pollutants
- Foraging on Fish Waste
- Collisions with Boats
Selendang Ayu Oil Spill

Conservation Issues
Resource Conflicts
Fisheries and Sea Otters
Other...

- Aleutian Islands, Alaska, U.S.A
  - Population estimated to be approximately 3% of the historical carrying capacity

- Unusual Mortality Event
  - Increased mortality due to disease
Thank you!