Odontocete / Fisheries Interactions & Current Actions: State of Hawaii

Darla White
Marine Wildlife Program
Hawaii DLNR, Division of Aquatic Resources (DAR)
Commercial marine license (CML) fishing reports
- Predator takes catch or bycatch
- Fishing reports are supposed to be accurate
- If not it is a violation of the terms and conditions of the license = honor system

Statute: marine life taken and any other information that the department may require
- Title 13, Subtitle 4: Fisheries, Chapter 74-2(6)

No reporting requirements on the recreational side

https://www.sportfishingmaui.com/
https://dlnr.hawaii.gov/dar/fishing/commercial-fishing/
Commercial Marine Fishing License in Hawaii

- CML Reports Used For Informed Management Decisions
  - Fishing regulations
  - Monitoring the status of marine resources
  - Individual reports are confidential
  - DLNR is permitted to summarize report information in aggregate
Online Commercial Fishing Report Form
Online Commercial Fishing Report Form
Online Commercial Fishing Report Form Predator List

Add Species

Species:
ONO

Lost to Predator?
Yes

# Lost:

Released:

Landed:

Number released, enter "0" if none.

Number of pieces landed.

+ Add Species to List

<table>
<thead>
<tr>
<th>Species</th>
<th>Landed</th>
<th>Lbs</th>
<th>Released</th>
<th>Released (berried)</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
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</table>

+ Continue
Data & Statistics on Fisheries Interactions

**MARINE MAMMAL PREDATOR REPORTS**

<table>
<thead>
<tr>
<th></th>
<th>Dolphin</th>
<th>Porpoise</th>
<th>False Killer Whale</th>
<th>Pigmy Killer Whale</th>
<th>Pilot Whale</th>
<th>Monk Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td># of CML Reporting</td>
<td>216</td>
<td>214</td>
<td>26</td>
<td>3</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td># Reports</td>
<td>553</td>
<td>671</td>
<td>44</td>
<td>3</td>
<td>33</td>
<td>109</td>
</tr>
<tr>
<td># Pieces lost to predation</td>
<td>2,679</td>
<td>3,762</td>
<td>155</td>
<td>17</td>
<td>79</td>
<td>945</td>
</tr>
</tbody>
</table>
Comments on the Current System

- No reconciliation between predator & prey item
  - Could give semblance of accuracy of reports
- Generations of fishers refer to dolphins as ‘porpoise’
  - No species differentiation
- Species identification education of blackfish has been identified
- Marine mammal predators - very small % of reports

(c) Daniel L. Webster/Cascadia Research
Cooperative Conservation and Long-Term Management of False Killer Whales and Other Endangered Cetaceans in Hawaii

Aka: The False Killer Whale Project
Section 6
ESA Funded Projects: Current False Killer Whale Project

1. Robin Baird (CRC) – fill in data gaps
   - Spatial use – satellite tags & photos
   - Abundance estimates
   - Biopsies – reproductive & stress hormones; POP

2. Robin Baird (CRC) – overlap of IFKW and state fisheries
   - Where do fishermen and IFKW spend their time?

3. Kristi West (HPU/UH) – stranding investigations
   - Infectious diseases
   - Anthropogenic impacts

4. DAR – targeted outreach to fishers, boaters, & tour operators
   - Strategic communications plan
   - ID of blackfish species
   - Increase public reporting of strandings
Robin W. Baird, Ph.D. and the awesome team Cascadia Research Collective (CRC)

- Photo Identification – How many are there? Mouth & body scarring?
- Satellite Tag Tracking – Where do they spend their time & why?
- Blubber Samples – What pollutants and stresses impact them?
- Breath Samples via Drone – Can we better measure their health?
Overlap of IFKW & State Fisheries

Where fishermen spend their time*

Where false killer whales spend their time*

*Using 1995-2014 catch data as a proxy

*Based on satellite tag data n=28 groups (2007-2016)
FKW Presence Frequency Map Based on Satellite Tag Data Overlaid on CML Area Grid

WHERE DO THE ENDANGERED FALSE KILLER WHALES SPEND THEIR TIME?

HOW YOU CAN HELP
Be aware in high use areas — they may target your catch and approach your vessel.

Change direction to avoid interactions, such as moving perpendicular to the animals’ swimming direction; bring in lines.

If you hook one, cut the gear close to the animal to avoid trailing line. Remove as much of the gear as possible, safely.

Please report sightings to 800-747-7329, or online at https://falsekillerwhales.org/

send photos to hawaii@cascadiaresearch.org

Report all interactions and marine animal emergencies to 888-256-9840

Mahalo for your kokua

Note: Blocks are state commercial fishing grids
Whale presence from Cascadia Research satellite tag data
HOW TO TELL THE DIFFERENCE: FALSE KILLER WHALES, SHORT-FINNED PILOT WHALES, PYGMY KILLER WHALES, AND MELON-HEADED WHALES IN HAWAII

There are four species of small black whales resident in Hawaiian waters, two relatively large (false killer whales, short-finned pilot whales) and two relatively small (pygmy killer whales, melon-headed whales). The four look fairly similar but can be discriminated based on relative dorsal fin size and position, head shape, and flipper shape, as well as other characteristics (summarized in table at the bottom). Photos are not to scale.

Prepared by Cascadia Research Collective, Olympia, WA. For more information see www.cascadiaresearch.org/hawaii.htm. To send photos contact Robin Baird or Sabre Mahony at hawaii@cascadiaresearch.org. Illustrations by Ulia Gerber. Rev. 30 Sep. 15.

Blackfish ID Guide

<table>
<thead>
<tr>
<th>Species</th>
<th>Group size typical &amp; range</th>
<th>Behavior towards boats</th>
<th>Behavior during day</th>
<th>Body size range</th>
<th>Typical depths fathoms</th>
<th>Frequency seen?</th>
<th>Group spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot whale</td>
<td>18 (1-95)</td>
<td>Usually indifferent</td>
<td>Usually resting at surface or travel</td>
<td>4'7&quot; - 18'</td>
<td>270-1640</td>
<td>Common</td>
<td>Typically 1-2 subgroups</td>
</tr>
<tr>
<td>False killer</td>
<td>18 (1-41)</td>
<td>Often bowrides</td>
<td>Actively foraging, leaping regularly</td>
<td>5' - 17'</td>
<td>25-2700</td>
<td>Rare</td>
<td>Often over many miles</td>
</tr>
<tr>
<td>Pygmy killer</td>
<td>11 (1-33)</td>
<td>Usually avoids</td>
<td>Usually resting at surface</td>
<td>2'7&quot; - 8'6&quot;</td>
<td>270-1640</td>
<td>Rare</td>
<td>Typically one group</td>
</tr>
<tr>
<td>Melon-headed whale</td>
<td>245 (1-800)</td>
<td>Often bowrides</td>
<td>Usually resting at surface or travel</td>
<td>3'5&quot; - 9&quot;</td>
<td>110-2700</td>
<td>Uncommon but very large groups</td>
<td>Usually very clustered</td>
</tr>
</tbody>
</table>
Kristi West, Ph.D. and the University of Hawaii Stranding Lab

- Causes of mortality
- Disease screening
- Stomach contents: Diet, fishing gear, debris ingestion
- Stress hormones and blubber histology
Sperm Whale: Jan. 12\textsuperscript{th} - present

- Adult male sperm whale
- No sign of fishing gear or plastic ingestion
- Arthritis or Osteonecrosis
1. Correct Identification of FKW from other blackfish species
2. Report sightings and interactions
3. Reduce fishing interactions through avoidance, and highlight the NOAA guidelines for release of the animals
4. Send photos with a good camera of surface shots (as opposed to underwater)
5. Develop outreach materials including stranding reporting and awareness
Section 6
ESA Funded Projects: Future

1) Assess FKW health
   - Analyze existing samples
     - histology; stress & reproductive hormones

2) Research FKW spatial distribution
   - Address gaps through satellite tagging

3) Add protected species sightings to CML fishing reports

4) Targeted outreach to fishers, boaters, and tour operators
   - Identification of blackfish workshops
   - Give fishers info & work together
   - Report sightings & strandings

5) Obtain information on other ESA-listed species
Summary

- State requires reporting of depredation and bycatch through the Commercial Marine License (CML) reports
- Historical and current paper report forms do not link predator to prey
- ESA Section 6 Grant funds research, stranding, & education & outreach efforts
- Focus on identification of blackfish species
- Modification of CML for reporting sightings of protected species
- Targeted outreach to fishers in high use areas
- Develop relationships & trust

Coming soon!!! Marine Protected Species Biologist