

# Odontocete / Fisheries Interactions & Current Actions: State of Hawaii

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Hawaii DLNR, Division of Aquatic  
Resources (DAR)



Hawaii  
CORALREEF  
Initiative



# Online Fishing Reports

Division of Aquatic Resources



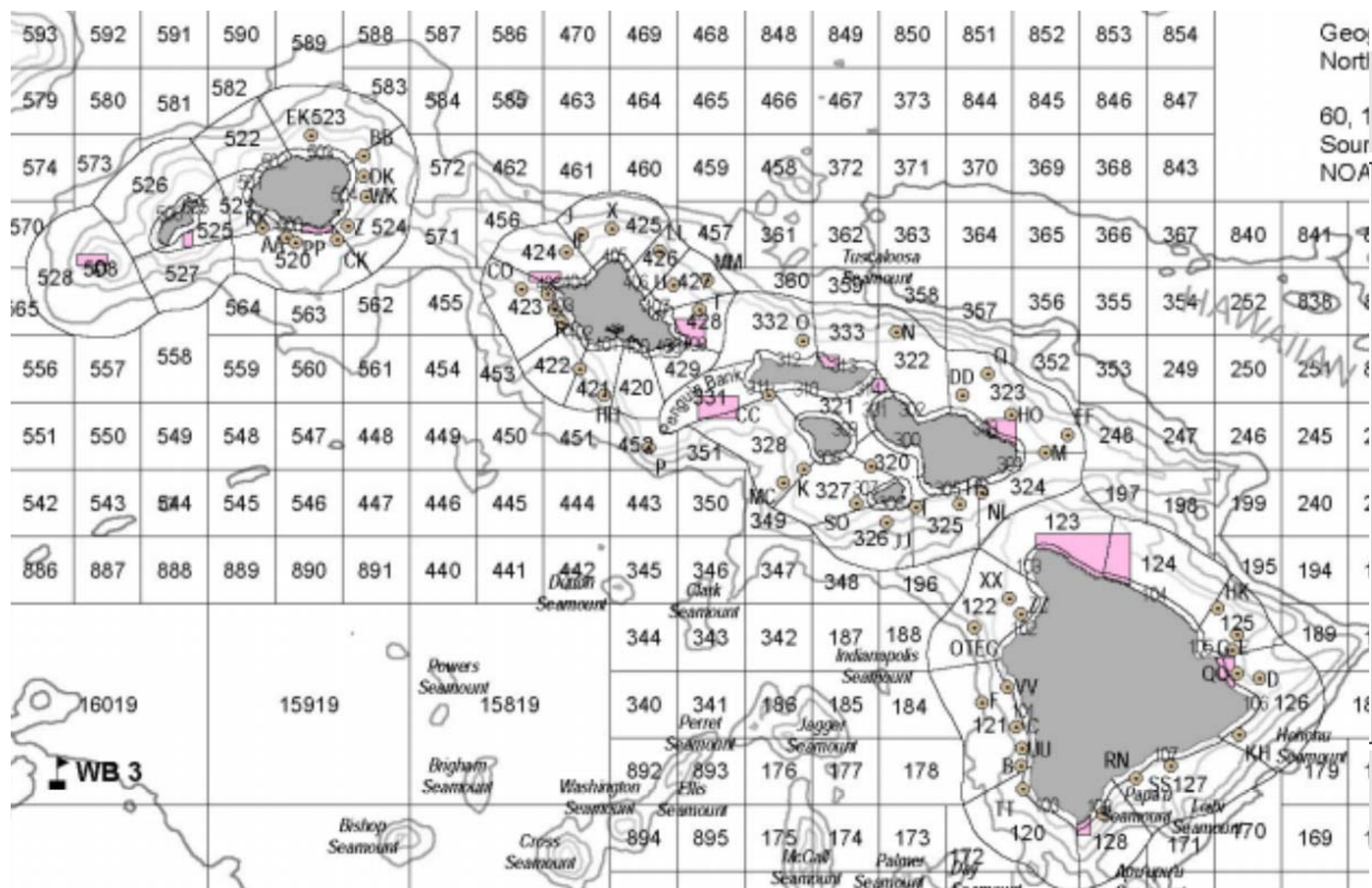
## Rules & Laws on Reporting Fisheries Interactions

- 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/>




- 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

Division of Aquatic Resources, Department of Land and Natural Resources, State of Hawaii  
FR 09/2005





# Online Commercial Fishing Report Form




## Online Fishing Reports

Division of Aquatic Resources



 This is the TEST instance of the web application. Please go to <https://dlnr.ehawaii.gov/cmls-fr> to file your fishing activity report.

### Trip Details

 Edit General Trip Info

Trip Date(s): 05/04/2019

Date(s) Fished: 05/04/2019

Vessel Used: HA-9876-CF

Charter Trip: No









Port of Departure: Maunalua Bay


Port of Landing: Maunalua Bay


License Name: JACK LORD

License #: 31183

Expiration Date: 05/13/2020

| Day   | Wind Speed | Buoy/Area-Subarea  | Method   | Hours | Number of Net Sets or Throws | Lines, Traps or Length (ft.) | Net Height (ft.) | Any Catch?   | Species   | Landed ? | Lbs ? | Lost to Predator ?   | Released ? | Released (berried) ? | Released (min size) ? | Remove  |
|---|------------|--|--|-------|------------------------------|------------------------------|------------------|--|---|----------|-------|----------------------|------------|----------------------|-----------------------|---|
| 05/04/2019<br> | 0-10       | Area: 331<br>  | TROLLING - JAIT<br>  | 6.5   |                              | 5                            |                  | <input checked="" type="radio"/> Yes<br><input type="radio"/> No | YELLOWFIN TUNA<br>  | 0        | 0     | 1 to F. Killer Whale |            |                      |                       |  |

 Continue

 Close

# Online Commercial Fishing Report Form

## Add Species

Species:

YELLOWFIN TUNA

Lost to Predator?

Yes

# Lost:

1

Predator Type: **Required**

--

Released:

Number released, enter "0" if none.

Landed:

Number of pieces landed.

Lbs:

Total pounds of landed fish.

+ Add Species to List

| Species | Landed | Lbs | Released | Released (berried) | Released (min size) | Lost to Predator | Remove |
|---------|--------|-----|----------|--------------------|---------------------|------------------|--------|
| --      | --     | --  | --       | --                 | --                  | --               | --     |

+ Continue

✕ Cancel

# 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

| Species | Landed | Lbs | Released | Released (berried) |
|---------|--------|-----|----------|--------------------|
|---------|--------|-----|----------|--------------------|

|    |    |    |    |    |
|----|----|----|----|----|
| -- | -- | -- | -- | -- |
|----|----|----|----|----|

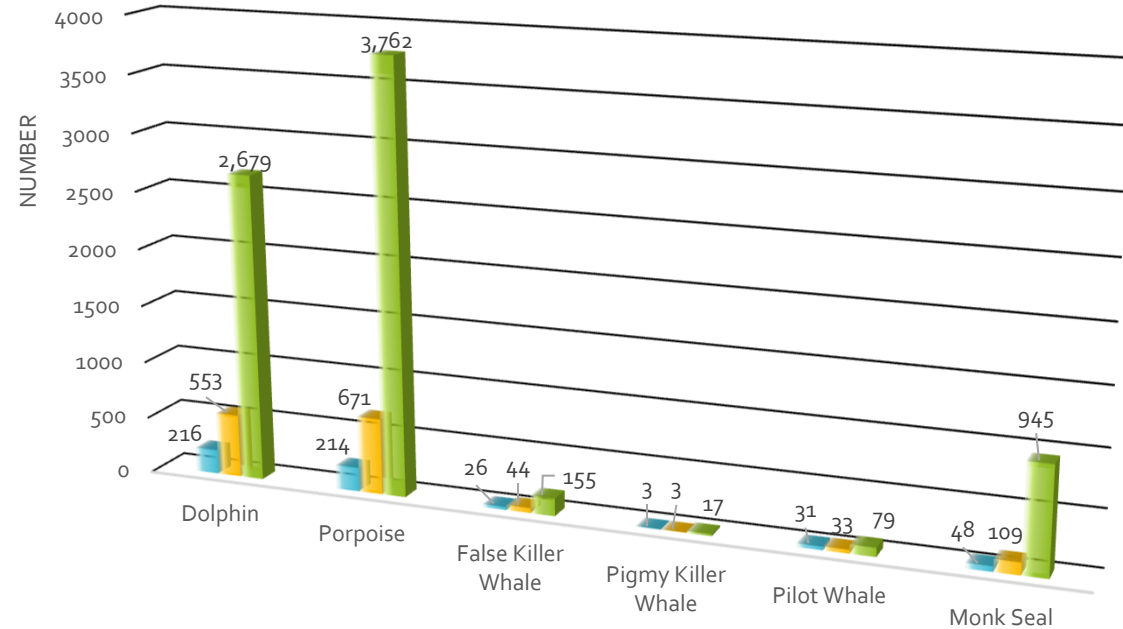
+ Continue



- Kawalea
- Mahimahi
- Mako
- Marlin
- Monk Seal
- Oceanic Whitetip Shark
- Octopus
- Ono
- Papio, Uluu (misc.)
- Pigmy K. Whale
- ✓ Pilot Whale
- Porpoise
- Puffer
- Samoan Crab
- Sasa
- Shark (misc.)
- Shrimp
- Sting Ray
- Thresher Shark
- Tiger Shark
- Tombo
- Turtle
- Uku
- Unknown
- Walu
- White Crab
- White Papio/ulu
- White Tip Shark
- Yellowfin Ahi

# Data & Statistics on Fisheries Interactions

## MARINE MAMMAL PREDATOR REPORTS



|                            | Dolphin | Porpoise | False Killer Whale | Pigmy Killer Whale | Pilot Whale | Monk Seal |
|----------------------------|---------|----------|--------------------|--------------------|-------------|-----------|
| # of CML Reporting         | 216     | 214      | 26                 | 3                  | 31          | 48        |
| # Reports                  | 553     | 671      | 44                 | 3                  | 33          | 109       |
| # Pieces lost to predation | 2,679   | 3,762    | 155                | 17                 | 79          | 945       |



## 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



© Paul Johnson/Paulphin photography

## Section 6 ESA Funded Projects: Current False Killer Whale Project



© Robin W. Baird/Cascadia Research

- 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





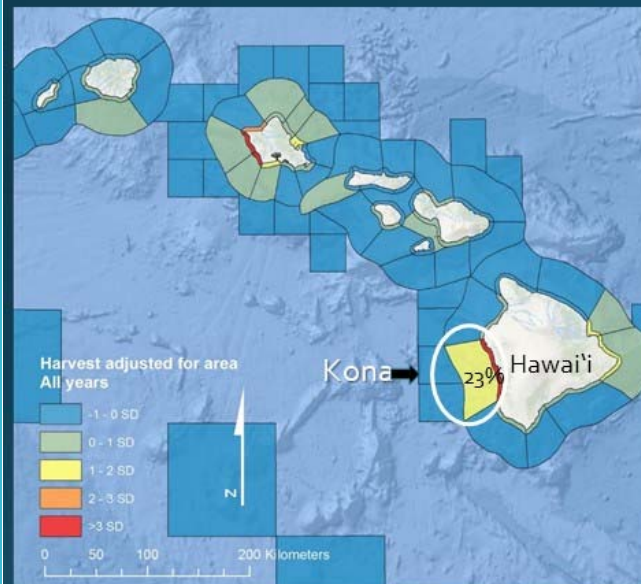
## Robin W. Baird, Ph.D. and the awesome team Cascadia Research Collective (CRC)

- 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?



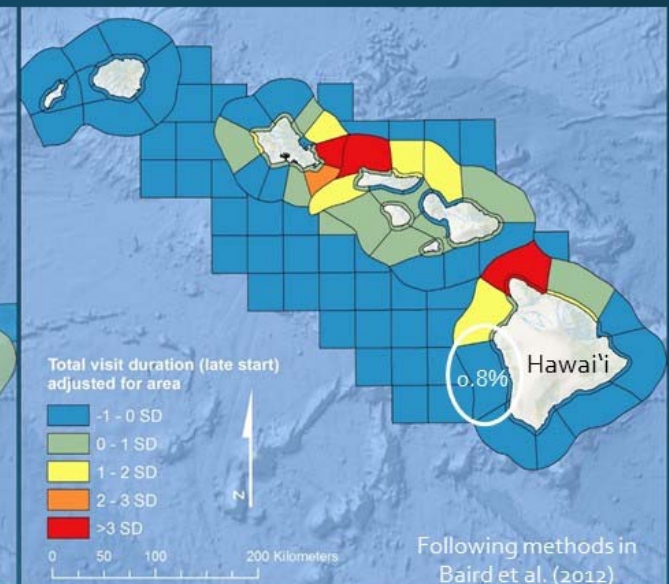
# Overlap of IFKW & State Fisheries

Where fishermen  
spend their time\*



\*Using 1995-2014 catch data as a proxy

Where false killer whales  
spend their time\*



\*Based on satellite tag data n=28 groups (2007-2016)

# FKW Presence Frequency Map Based on Satellite Tag Data Overlaid on CML Area Grid

## 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.

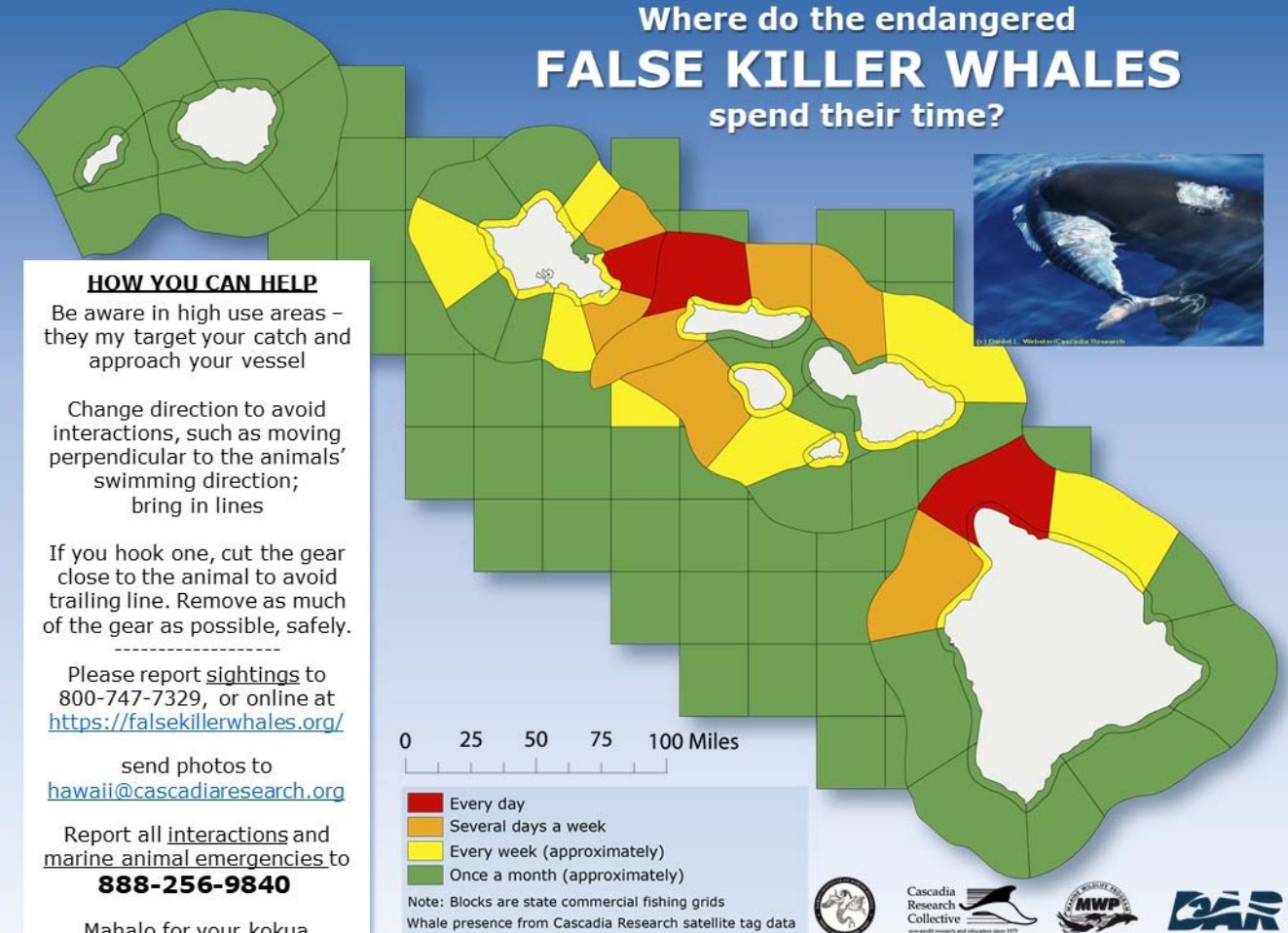
Please report sightings to 800-747-7329, or online at <https://falsekillerwhales.org/>

send photos to [hawaii@cascadiaresearch.org](mailto:hawaii@cascadiaresearch.org)

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

Mahalo for your kokua

## Where do the endangered **FALSE KILLER WHALES** spend their time?





# Blackfish ID Guide

## 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](http://www.cascadiaresearch.org/hawaii.htm)  
To send photos contact Robin Baird or Sabre Mahaffy at [hawaii@cascadiaresearch.org](mailto:hawaii@cascadiaresearch.org). Illustrations by Uko Gorter. Rev 30 Sep 16.



false killer whale



pygmy killer whale

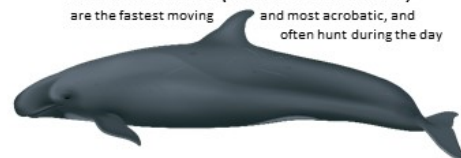


short-finned pilot whale



melon-headed whale

**False killer whales (*Pseudorca crassidens*)**  
are the fastest moving and most acrobatic, and often hunt during the day



**Pygmy killer whales (*Feresa attenuata*)**  
have rounded tips to the flippers and a rounded head when viewed from above. They have a clear boundary to the cape and more white linear scars than melon-headed whales.



**Short-finned pilot whales (*Globicephala macrorhynchus*)**

have a dorsal fin that is larger and further forward on the back than other species. Adult males are ~3' larger than adult females and have a much larger dorsal fin



adult male

**Melon-headed whales (*Peponocephala electra*)**

have pointed flippers and a pointed head when viewed from above. They have a very diffuse boundary between the dark dorsal cape and the lighter side of the body that is only visible under very good lighting conditions



Illustrations are to scale

| Species      | Group size typical & range | Behavior towards boats | Behavior during day                  | Body size range | Typical depths fathoms | Frequency seen?                | Group spread            |
|--------------|----------------------------|------------------------|--------------------------------------|-----------------|------------------------|--------------------------------|-------------------------|
| Pilot whale  | 18 (1-195)                 | Usually indifferent    | Usually resting at surface or travel | 4'7" - 18'      | 270-1640               | Common                         | Typically 1-2 subgroups |
| False killer | 18 (1-41)                  | Often bowrides         | Actively foraging, leaping regularly | 5' - 17'        | 25-2700                | Rare                           | Often over many miles   |
| Pygmy killer | 11 (1-33)                  | Usually avoids         | Usually resting at surface           | 2'7" - 8'6"     | 270-1640               | Rare                           | Typically one group     |
| Melon-headed | 245 (1-800)                | Often bowrides         | Usually resting at surface or travel | 3'5" - 9'       | 110-2700               | Uncommon but very large groups | Usually very clustered  |



## 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<sup>th</sup> - present



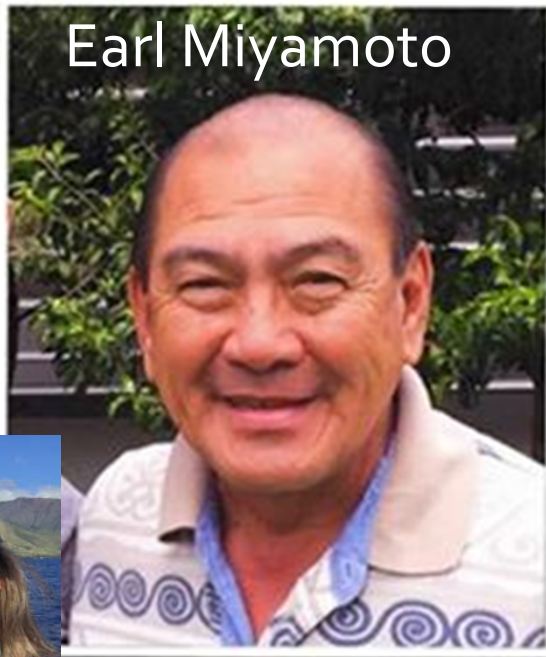
- Adult male sperm whale
- No sign of fishing gear or plastic ingestion
- Arthritis or Osteonecrosis







Earl Miyamoto



Darla White



Maui

Mimi Orly - Kauai



Susannah Welch



Hilo

Jeff Milisen West HI



Kristen Kelly - Oahu



Kehau Kimokeo - Maui



## Insular False Killer Whale Outreach Objectives

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