

# Lab: Whale of a Tail

Adapted from Blue Ocean Society for Marine Conservation

**Objective:** Identify and catalog whale flukes as a method of mark and recapture among whale populations.

**Background Information:** Whales are mammals. They bear live young, nurse their young, and need to come up to the surface for air. Whales are also migratory. Whales typically move towards the poles to feed in the summer and move towards the equator in the winter to breed. The order that includes whales, dolphins and porpoises is Cetacea, and there are two suborders – Mysticeti (the baleen whales) and Odontoceti (the toothed whales). Baleen whales have hundreds of baleen plates, made of keratin, which they use to filter their food from seawater. This allows large baleen whales to eat tons of prey per day without ingesting thousands of gallons of water. Toothed whales have cone-shaped or spade-shaped teeth that they use to catch one or two fish at a time. Odontocetes are often found in pods, and may feed cooperatively. The pods also have a well-defined social structure. Scientists often use the whale’s tail, called a fluke, or the dorsal fin to identify individuals because of unique scar patterns and fin shape.

**Activity Part One:** A pod of whales is coming your way! We’ll call it the Falcon pod. As you see the individual whale tails, quickly record identifying characteristics by drawing or taking a picture of the fluke. After the Falcon pod has left the region, analyze your data to identify and name individual whales.

**Activity Part Two:** The pod of whales has joined a superpod! As in part one, quickly record individual whales as their fluke becomes visible. After the superpod has left the region, analyze your data and estimate the size of the superpod using the “mark and recapture” method.

**Results:**

1. Name each whale in the Falcon pod and describe identifying characteristics of each.


2. Identify the “known” Falcon pod whales in the superpod to estimate the size of the superpod.
  - A. number of unique whales originally identified in the Falcon pod = \_\_\_\_\_
  - B. total number of unique whales seen in superpod = \_\_\_\_\_
  - C. calculate the percentage of whales in the superpod that are from the Falcon pod = \_\_\_\_\_
  - D. calculate the estimated size of the superpod by dividing the number of whales in the Falcon pod by the percentage you calculated in C. \_\_\_\_\_

**Analysis:**

3. How might identification of whales by tail fins be useful during whale migrations?
4. What are some difficulties in using tail fins as an identification tool?
5. Why are whale populations important to ocean ecosystems?
6. How would population data be used to make decisions about protecting whale species?