

The Orca Pod (pod... podcast... get it?)

Information compiled by Kate Hruby, February 2020

## WHAT IS AN ORCA WHALE?

- General:
  - Types of orca are separated because they all eat different things, so they're known as different ecotypes of the same species. The food separation also contributes to different looks of the whales, movement and social behavior, which means none of the different ecotypes reproduce with each other either.
  - Different groups have different languages based on the group's traditions and culture. Very few animals besides humans do this, basically just birds and whales (Abramson 2018)
  - No inbreeding between types (IUCN 2017)
  - Most wide-ranging mammal, second only to humans. Can live everywhere, but like colder, highly productive, near-shore habitats best (IUCN 2017)
  - Can migrate thousands of miles, from the poles to the tropics (IUCN 2017)
  - There are transients and residents, but there is also a 3<sup>rd</sup> type: offshore. These mostly eat fish and sharks (Hanson 2014)
  - Globally, there are tens of thousands of individuals (at least 50,000 individuals worldwide), but that does not separate them out into their own groups, which, with more research, could be different species (Reeves 2017)
- Transients:
  - Transients eat marine mammals like seals (Hanson 2014), sea birds and sometimes squid
- Residents:
  - Residents eat fish, mainly salmon (Hanson 2014)
  - Prefer chinook salmon because they are the largest of the Pacific salmon (Holt 2019)
  - Residents travel together in large groups led by the oldest females (Holt 2019)

## THE WHITE WHALE (Filatova 2016)

- Happens in transients and residents
- White whales spotted in Russia have mostly been residents
- White whales spotted in British Columbia have been transients
  - 50's, 70's, 2009... and now in 2019!
- The normal white patches on the whales stay white, while the skin that is normally black is a creamy or super light grey color. Residents are often creamy while transients are grey.
- Still some question as to how these whales are white, but all the theories boil down to the genes
  - The white genes can also come along with health issues, like a reduced life span and skin issues

- White happens in about 1 out of every 1,000 whales, which is actually pretty high compared to other mammals that can have similar skin color changes
  - For example, in humpback whales, only one white whale has ever been seen, compared to the more than 10 for orcas
- According to the Puget Sound Express, the current white calf belongs to the T46B pod and it's alphanumeric ID is T46B1B (The mother is T46B1). <https://www.pugetsoundexpress.com/meet-the-white-or-gray-killer-whale/>

## WHALE SOUNDS

- Echolocation:
  - Use echolocation clicks to find food... Start with slow clicks at the surface, then dive down a couple hundred feet and the clicks get faster and faster until they buzz. When fish are caught, the whales stop making clicks and bring their food back up to the surface to eat it (Holt 2019)
  - Slow clicks = searching for food, increasing clicks = coming closer to prey, rapid clicks (buzz) = about to get (or try to get) prey (Holt 2019)
  - Slow and regular clicks happen around 9 ft deep, fast clicks around 240 ft deep, buzzes at 390 ft (240 and 390 are medium depths). Then they would eat their food around 70 ft. Chinook salmon habitat is around 100 ft or deeper (Holt 2019)
  - 74% of the recorded clicks were slow clicks, suggesting whales are looking for prey at shallow depths before they dive down to get it (Holt 2019)
- Social noise:
  - Pulsed calls and whistles are social signals (Holt 2019)
  - Each female-led unit (pod) has its own "unique vocal dialect... [made up of] shared called types." These languages are taught to the babies of the pod by the other whales in the family. (Abramson 2018).
  - Orcas make sound through their nose, and they basically have two voice boxes, so they can make two sounds at the same time (Abramson 2018).

## SOUTHERN RESIDENTS

- Population:
  - 77 in 2017 (Reeves 2017), 74 in 2018 (WDFW 2020), 73 in 2019 (Center for Whale Research 2020)
  - July 2019 numbers: J Pod=22, K Pod=17, L Pod=34 (Center for Whale Research 2020)
  - L pod had spike in the 90's, J pod a spike around 2015 then a big drop (Center for Whale Research 2020)
- Live capture:
  - Population depleted because of live capture (Reeves 2017)
  - 1962-1977: at least 65 individuals were captured (Reeves 2017)

## ORCA CONSERVATION

- Threats to population:
  - Threats include oil drilling, fishing, disease, climate change, shipping lane transportation, whale watching, hunting and pollution (Reeves 2017)
  - “Three primary threats to the whales are: (1) a lack of prey; (2) toxic contaminants; and (3) disturbance from noise and vessel traffic” (WDFW 2020)
  - Boats
    - Boat traffic disturbs not only the path that orcas can take, but the noise also makes it harder for the whales to hear when they are talking with each other or trying to echolocate to find prey (Holt, 2019)
  - Pollution
    - Bioaccumulation of toxins (PCBs) are bad, especially in transient orcas because they eat higher up in the food chain. “The southern resident and transient Killer Whales of British Columbia and Washington are considered among the most PCB-contaminated cetaceans in the world” (Reeves 2017)
  - Food
    - Chinook salmon populations are low (Holt 2019)
    - Chinook salmon populations in the pacific northwest are 10% what they once were (Center for Whale Research 2020)
- Environmental law:
  - Data deficient, which means we need more research and information before we can say whether the world population is increasing or decreasing. This label will stay until we can determine if the different types are different species or just different groups (Reeves 2017)
  - Smaller populations of whales are specialized, and some have been recognized as having a high extinction risk (Reeves 2017)
  - Southern Resident Killer Whale named Endangered under the Canadian Species at Risk Act in 2003 and the U.S. Endangered Species Act in 2005 (Reeves 2017)
- Conservation efforts:
  - 2019: Washington State Governor signed laws that keep boats at least 300 yards away from southern resident orcas at all times, and if any boat is within half a mile of the whales, they have to slow down (which reduces ship strikes and vessel noise) (WDFW 2020)
  - Similar laws in Canada (bewhalewise.org 2019)
  - Habitat protections (building restrictions on things like dams), regulations on fishing (need a license), and increasing hatchery fish (WDFW 2020)

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