

Long-term associations, life history, and lack of dispersal: unique insights from pygmy killer whales off the island of Hawai'i

Sabre D. Mahaffy¹, Robin W. Baird¹, Brittany L. Hancock-Hanser²

¹Cascadia Research Collective, Olympia, WA USA (mahaffys@cascadiaresearch.org); ²Southwest Fisheries Science Center, La Jolla, CA USA

Why this is interesting

Several species of blackfish are known to live in long-term social groups composed of related adults and their offspring, with offspring remaining in the group for life; however, little is known about the life history and social structure of pygmy killer whales (*Feresa attenuata*).

We used community science and directed research photos from 1987-2018 of a commonly-seen resident group from Hawai'i Island (identified using modularity methods²) to examine sighting history, group structure and associations among individuals.

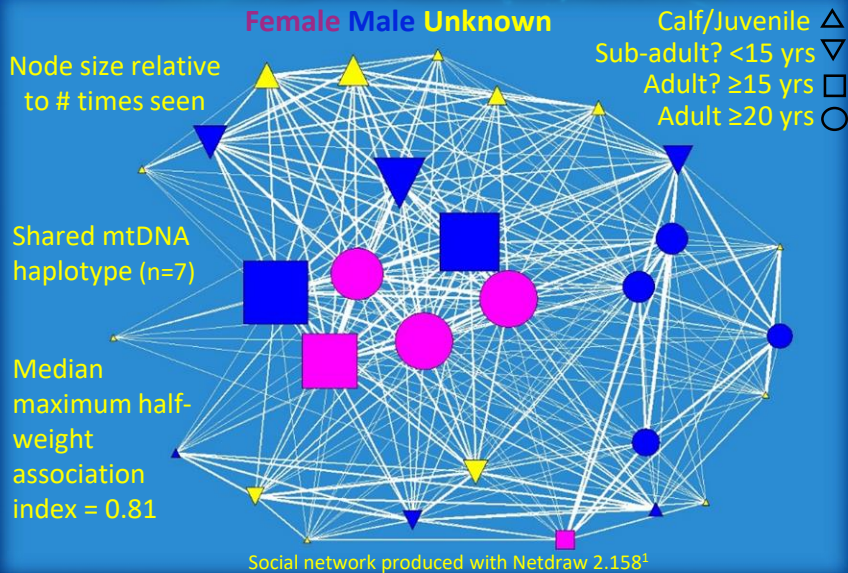
Long-term residency to Hawai'i Island

Adults (seen ≥20 years)

Females (n=3) seen from 24 – 26.1 years

Males (n=4) seen from 24.1 – 31.8 years

Stable, long-term associations of a mixed age/sex group (n=30) over a 19-year period



Lack of dispersal

- Adult females were seen with 3-4 calves
- Older calves associated up to 14.9 years
- Median inter-calving interval = 4.5 years (range: 3-7 years)



Adult female HIFa006 (top left) with three generations of known or suspected offspring

Photo © Cory Fults

- ❖ Male calves remained with the group after onset of sexual maturity and after new calves were born, supporting natal group philopatry; however, more research is needed to confirm lack of dispersal.
- ❖ Limited underwater observations indicate some spatial segregation between mom/calf subgroups and all-male subgroups.
- ❖ This study illustrates the value of long-term datasets for examining social organization and life history of poorly-known species.

For more information: www.cascadiaresearch.org/hawaii

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¹Borgatti, S.P. 2002. Netdraw Network Visualization. Analytic Technologies: Harvard, MA

²Whitehead, H. 2009. SOCPROG programs: analyzing animal social structures. Behavioral Ecology and Sociobiology 63: 765-778.