

Deborah A. Giles Ph.D.

KILLER WHALE BIOLOGIST

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Current Employment**Research Scientist, Center for Conservation Biology, University of Washington**

2009-present

Research: Southern Resident killer whale health monitoring

- Train and handle scent detection canine to locate, collect whale feces samples
- Captain research vessel to locate, collect samples to assess stress, nutrition, hormones and toxicants
- Conduct killer whale behavioral research
- Develop and procure funding

Science & Research Director, Wild Orca

2017-present

- Collaborate with state and federal partners, NGOs and advocacy organizations
- Develop, coordinate and facilitate research projects focused on Southern Resident killer whales
- Present/lecture at local, state, federal and NGO workshops, meetings and hearings
- Serve as primary media contact, interpreting latest scientific research as "the voice of the whales"
- Organize, participate in education & outreach opportunities to engage the public and policymakers

Killer Whale Research Scientist, NOAA/NMFS

2018-present (also 2010-2014)

Utilize specialized equipment to record whale and vessel location data, to assess underwater acoustics as recorded by a suction-cup tag attached to a Southern Resident killer whale.

Resident Scientist & Lecturer, Friday Harbor Labs, University of Washington

2017-present

Marine Mammals of the Salish Sea & Marine Biology

Other Community Engagement & Outreach

- Co-organizer: Southern Resident killer whales *Community Action- Look Forward* (CALF) workshop series
- Coordinator: *Intertwined Fates: The Orca-Salmon Connection*
- Founder & Senior Coordinator: *San Juan Island Naturalist Program*

Recent and Ongoing Advisory

- Governor Inslee's *Southern Resident Killer Whale Recovery Task Force: Prey & Vessel Working Groups*
- Governor Inslee's *Lower Snake River Dams Stakeholder Engagement Process*
- Science Advisor, Orca Salmon Alliance (OSA)
- Science Advisor, Killer Whale Tales
- Science Advisor, Orca Network
- Steering Committee, Salish Sea Ecosystem Advocates

Employment History**Research Director, Center for Whale Research**

2015-2017

- Collaborate with state, federal and NGO partners
- Develop, procure and administer grants
- Manage staff and research vessels
- Present data for local, state, federal and NGO workshops

- Serve as primary media contact, author press releases
- Facilitate annual photo ID and demography on Southern Resident killer whales

Research Assistant: Marine Mammal Stranding Network, The Whale Museum

2005-2014

Respond to alert calls and assist with assessing condition of potentially stranded marine mammals. Collect remains for necropsy at University of Washington Friday Harbor Labs.

Killer Whale Research Assistant, Cascadia Research Collective

2005-2010

Research: Focal Behavioral Observations of Fish-Eating Killer Whales: Improving Our Understanding of Foraging Behavior and Prey Selection. Assist with spotting, identifying, and tracking whales. Retrieve field samples (fish scales, prey tissue), process for analysis.

Research Assistant: Soundwatch, The Whale Museum

2005-2008

Boater Education Program: Captain vessel conducting patrols to educate boaters on best practices around marine wildlife. Collect data on vessels quantities and activities around whales.

Killer Whale Research Assistant, NOAA/NMFS

2007

Research: Southern Resident Killer Whale Winter Range Tracking. Deploy, retrieve and monitor acoustic and CTD (conductivity, temperature, depth) equipment. Conduct and process plankton tows and water samples for salinity, nutrients, and toxins. Locate, record marine mammals sightings.

Killer Whale Research Assistant, University of Washington

2006-2007

Research: Effects of Vessels on Behavior of Southern Resident Killer Whales. Assist with spotting, identifying, and tracking individual killer whales from land-based field sites.

Biological Science Technician, NOAA/NMFS

2006

Research: Behavior of Southern Resident Killer Whales in the Presence of Vessels in San Juan Islands. Collect vessel density and attribute data. Locate, identify individual whales, monitor movements, and identify group social behaviors.

Research Assistant, Cascadia Research Collective

2005-2007

- *The Northeast Minke Whale Project:* On-the-water surveys for minke whales in the Northeast Pacific.
- *Research: Trends in Contaminants in Puget Sound Harbor Seals.* Record field data, photograph deceased pups, bag and label biopsy specimens for lab analysis of toxicity levels.

Education

Ph.D. Geography, Biogeography, Conservation Biology, University of California, Davis 2014

M.A. Geography, Conservation Biology, University of California, Davis 2007

B.A. Philosophy, minor in Nature and Culture, University of California, Davis 2004

Publications

- Giles, D.A., J.K. Gaydos, J.K. Olson, M.N. Weiss (in prep). *Phocoenacide: the killing of porpoise by fish eating killer whales*
- Holt, Marla M., J.B. Tennessen, M.B. Hanson, C.K. Emmons, **D.A. Giles**, J.T. Hogan, M.J. Ford. 2021. Vessels and their sounds reduce prey capture efforts by endangered killer whales (*Orcinus orca*). *Marine Environmental Research*, Vol 170, 105429
- Weiss Michael N., D.W. Franks, **D.A. Giles**, S. Youngstrom, S.K. Wasser, K.C. Balcomb, D.K. Ellifrit, P. Domenici, M.A. Cant, S. Ellis, M.L. Nielsen, C. Grimes, D.P. Croft. 2021 Age and sex influence social interactions, but not associations, within a killer whale pod. *Proc. R. Soc. B*.2882021061720210617
- Holt, Marla M., J.B. Tennessen, E.J. Ward, M.B. Hanson, C.K. Emmons, **D.A. Giles**, J.T. Hogan, 2021. Effects of vessel distance and sex on the behavior of endangered killer whales. *Frontiers in Marine Science*, 7:582182, doi: 10.3389/fmars.2020.582182
- Holt, Marla M., M.B. Hanson, C.K. Emmons, D.K. Hass, **D.A. Giles**, J.T. Hogan, 2019. Sounds associated with foraging and prey capture in individual fish-eating killer whales, *Orcinus orca*. *Journal of the Acoustical Society of America* 146, 3475
- Holt, Marla M., J.B. Tennessen, M.B. Hanson, C.K. Emmons, **D.A. Giles**, J.T. Hogan, B.M. Wright, S. Thornton, 2019. How acoustics informs understanding of foraging behavior and effects of vessels and noise on killer whales. *Journal of the Acoustical Society of America* 146, 2897
- Tennessen, J.B., M. Holt, E.J. Ward, B. Hanson, C. Emmons, **D.A. Giles**, Jeffrey Hogan, 2019. Hidden Markov models reveal temporal patterns and sex differences in killer whale behavior. *Scientific Reports* 9, 14951
- Tennessen, J.B., M. Holt, B. Hanson, C. Emmons, **D.A. Giles**, Jeffrey Hogan, 2019. Kinematic signatures of prey capture from archival tags reveal sex differences in killer whale foraging activity. *Journal of Experimental Biology. Journal of Experimental Biology (2019)* 222
- Ellis, S., D.W. Franks, S. Natrass, T.E. Currie, M.A. Cant, **D.A. Giles**, K. C. Balcomb, D. P. Croft, 2018. Analysis of ovarian activity reveal repeated evolution of post-reproductive lifespans in toothed whales. *Scientific Reports* 8, No. 12833
- Lundin, Jessica, Gina M. Ylitalo, **Deborah A. Giles**, et al., 2018. Pre-oil spill baseline profiling for contaminants in Southern Resident killer whale fecal samples indicated possible exposure to vessel exhaust. *Marine Pollution Bulletin* 136 (448–453)
- S. Ellis, D. W. Franks, S. Natrass, M.A. Cant, D.L. Bradley, **D.A. Giles**, K. C. Balcomb, D. P. Croft, 2018. Post-reproductive lifespans are rare in mammals. *Ecology and Evolution* Vol. 8, (5)
- S. Ellis, D. W. Franks, S. Natrass, M.A. Cant, M. N. Weiss, **D. Giles**, K. C. Balcomb, D. P. Croft, 2017. Mortality risk and social network position in resident killer whales: sex differences and the importance of resource abundance. *Proc. R. Soc. B* 2017 284 20171313; DOI: 10.1098/rspb.2017.1313.
- Lacy, Robert C., Rob Williams, Erin Ashe, Kenneth C. Balcomb, Lauren J.N. Brent, Christopher W. Clark, Darren P. Croft, **Deborah A. Giles**, Misty McDuffee, Paul Paquet, 2017. Evaluating anthropogenic threats to endangered killer whales to inform effective recovery plans. *Scientific Reports* 7, Article number: 14119
- Wasser, SK, Jessica Lundin, Katherine Ayres, Elizabeth Seely, **Deborah Giles** et al., 2017. Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident Killer Whales. *PLoS ONE* 12(6)
- Lundin, J., et al., 2016. Modulation in Persistent Organic Pollutant Concentration and Profile by Prey Availability and Reproductive Status in Southern Resident Killer Whale Scat Samples. *Environ. Sci. Technol.*, 2016, 50 (12)
- Houghton, J., Marla Holt & **Deborah Giles**, 2015. The relationship between vessel traffic and noise levels received by killer whales (*Orcinus orca*). *PLoS ONE* 10(12)
- **Giles, D.A.**, and Kari Koski, 2012. From Voluntary Guidelines to Regulations: The Evolution of Adaptive Management Practices for Vessel-based Whale Watching in the Trans-Boundary Waters of British Columbia and Washington State. *Journal of International Wildlife Law and Policy*, 15(1)
- **Giles, Deborah A.**, Rose Cendak, and Kari Koski, 2010. Measuring vessel compliance with Washington State boating laws and regional “Be Whale Wise Boating Guidelines” in the presence of Southern Resident Killer Whales (2007–2009). NMFS Contract Report No. AB133F07SE3026
- **Giles, Deborah A.** and Rose Cendak, 2009. An Assessment of Vessel Effects on the Spatial Structure of Southern Resident Killer Whale groups and Measuring Vessel Compliance with Boating Guidelines. NMFS Contract Report No. AB133F07SE3026

- Bunting, J.E., **D.A. Giles**, et al., 2011. A Primer of Conservation Behavior. Book Review Animal Behavior, Volume 81, Issue 1, pages 353-355