

Curriculum Vitae (abbreviated)  
15 July 2020

**Dr. Julie E. Keister**

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**Education**

- 1989 B.S. Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC
- 1996 M.S. Marine-Estuarine-Environmental-Sciences, Chesapeake Biological Laboratory, University of Maryland System, Solomons, MD.
- 2008 Ph.D. Biological Oceanography, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR.

**Employment**

- 2014- Associate Professor, School of Oceanography, University of Washington, Seattle, WA
- 2016- Adjunct Associate Professor, School of Aquatic and Fishery Sciences (SAFS), UW, Seattle, WA
- 2008-2014 Assistant Professor, School of Oceanography, University of Washington, Seattle, WA
- 2012-2016 Adjunct Assistant Professor, School of Aquatic and Fishery Sciences (SAFS), UW, Seattle, WA
- 2003-2008 Ph.D. Candidate, Biological Oceanography, Oregon State University, Corvallis, OR
- 2002-2003 Senior Faculty Research Assistant, Hatfield Marine Science Center, Newport, OR
- 1998-2002 Faculty Research Assistant, Hatfield Marine Science Center, Newport, OR

**Current Research Funding**

- 2020-2022 *"Ecosystem impacts of the jellyfish Aurelia labiata in Puget Sound: insights from mesocosms, monitoring, and ecosystem modeling."* J. Keister (Lead), C. Greene, I. Kaplan, K. Sobocinski, H. Morzaria-Luna. Funded by WA Sea Grant.
- 2020-2021 *"Drivers of inter-annual variability in zooplankton feeding in the Strait of Georgia: A combined model-observation approach."* S. Allen (Lead) and J. Keister. Funded by the UBC-UW Collaborative Research Mobility Award.
- 2019-2022 *"Evaluating Pacific marine coastal community relationships to environmental conditions using multiple targeted metagenomic assays and bioinformatics."* C. Stepien (Lead), R. Feely, J. Keister, M. Galaska, N. Bond, D. Butterfield. Funded by NOAA OAR.
- 2019-2021 *"Puget Sound Zooplankton Monitoring Program."* J. Keister (Lead). Funded by Washington DNR via WA Dept. of Fish and Wildlife.
- 2019-2021 *"Washington State Ocean Acidification Center biological monitoring."* J. Keister. Funded by the WA Ocean Acidification Center.
- 2019-2020 *"Transboundary comparison of zooplankton communities, biomass, and phenology across the U.S. and Canadian regions of the Salish Sea."* I. Pearsall, K. Suchy, J. Keister, I. Perry. Funded by the Pacific Salmon Foundation.
- 2019-2020 *"Ecosystem impacts of jellyfish in Puget Sound: insights from mesocosms, monitoring, and a calibrated ecosystem model."* C. Greene (Lead), I. Kaplan, K. Sobocinski, H. Morzaria-Luna, J. Keister. Funded by NOAA seed grants.
- 2019-2023 *"Marine zooplankton analysis and reporting for King County's Marine Monitoring Program."* J. Keister. Funded by King County.
- 2018-2021 *"Dynamic responses of zooplankton and fish communities to hypoxia: new metagenomics assays in Critical Pacific Northwest Coastal Ecosystems."* C. Stepien (Lead), J.E. Keister, R.A. Feely. Funded by NOAA OAR.

- 2018-2022 *“Metagenomic fluctuations of zooplankton and ichthyoplankton communities in the Salish Sea: association with water chemistry.”* J. Keister (Lead), C. Stepien. Funded by WA Sea Grant.
- 2017-2021 *“Causes and consequences of hypoxia and pH impacts on zooplankton: Linking movement behavior to vertical distribution.”* J. Keister (Lead), D. Grünbaum, J. Mickett. Funded by NSF.

## **Talks and Presentations**

### ***Invited Presentations***

- 2019 U. British Columbia: “Climate controls on zooplankton community structure,” Vancouver, Canada
- 2017 Ocean Climate and Biogeochemistry (OCB) Summer Workshop, “North Pacific climate and zooplankton variability,” Woods Hole, MA
- 2016 ICES/PICES Zooplankton Production Symposium, “Qualities of an ecosystem indicator,” Bergen, Norway
- 2016 NOAA Eco-FOCI seminar series, “Zooplankton response to environmental change,” Seattle
- 2015 WA Department of Ecology, “The Strait of Juan de Fuca zooplankton time series,” Seattle
- 2015 U. Victoria, “Diversity in marine zooplankton response to environmental stresses,” Victoria, Canada
- 2014 NOAA NWFSC MonsterJam seminar, “The Zooplankton of Puget Sound,” Seattle
- 2014 King County Science Symposium, “Zooplankton Monitoring in Puget Sound,” Seattle
- 2013 U. Concepción, “Little drifters: Zooplankton as indicators of climate change,” Concepción, Chile
- 2012 UW Oceanography seminar series, “Zooplankton as indicators of climate change in the North Pacific,” Seattle
- 2012 SSMSZ Zooplankton indicators workshop, “Zooplankton as indicators in Puget Sound,” Bellingham, WA
- 2011 AAAS Final U.S. GLOBEC Scientific Investigators Meeting and Celebration, “What the zooplankton taught me about climate: my education in the GLOBEC program,” Washington, D.C.
- 2009 Murdock Foundation, “Zooplankton Ecology,” Seattle, WA
- 2008 UW School of Aquatic and Fishery Sciences Young Investigators Seminar Series, “Variability in mesoscale circulation and cross-shelf transport of zooplankton in the northern California Current,” Seattle, WA

### ***Meetings, symposia, and workshops***

*Invited talks given at each unless otherwise noted as panelist, participant, or expert.*

- 2020 Participant: Puget Sound Marine Waters Working Group, Seattle, WA
- 2019 Invited expert: Salish Sea Marine Survival Workshop, Bellingham, WA
- 2019 Puget Sound Marine Waters Working Group 2018 Overview, Seattle, WA
- 2019 Panelist: Washington Ocean Acidification Center Biennial Science Symposium, Seattle, WA
- 2019 Puget Sound Marine Waters Working Group 2018 Overview, Seattle, WA
- 2018 South Puget Sound Science Symposium, Olympia, WA
- 2018 Salish Sea Marine Survival Workshop, Vancouver, BC, Canada
- 2018 Participant: OOI Cabled Array Workshop, Seattle, WA
- 2018 Puget Sound Marine Waters Working Group 2017 Overview, Seattle, WA
- 2017 Panelist: Washington Ocean Acidification Center Biennial Science Symposium, Seattle, WA
- 2017 Puget Sound Marine Waters Working Group 2016 Overview, Seattle, WA
- 2016 Salish Sea Marine Survival Workshop, Bellingham, WA
- 2016 Pacific Warm Anomalies workshop, Seattle, WA
- 2016 Zooplankton Indicators workshop, Bergen, Norway
- 2016 Puget Sound Marine Waters Working Group 2015 Overview, Seattle, WA
- 2015 Participant: NOAA OA Roundtable, Seattle, WA
- 2015 Pacific Warm Anomalies workshop, Scripps, San Diego, CA
- 2015 Salish Sea Marine Survival Workshop, Richmond, B.C., Canada
- 2014 Participant: Eco-DAS follow-on workshop, Honolulu, HI
- 2014 Salish Sea Marine Survival Workshop, Bellingham, WA
- 2012 Salmon and ecosystem indicators workshop, Bellingham, WA
- 2012 ICES/PICES/GLOBEC Climate-modeling working group, Friday Harbor, WA

- 2010 U.S. GLOBEC Climate Workshop, Friday Harbor, WA
- 2010 Participant: Ocean Acidification workshop, University of Washington, Seattle, WA
- 2009 Murdock Foundation, Seattle, WA
- 2009 Invited expert: Marine Acoustics course, Friday Harbor, WA
- 2008 Ecological Dissertations in the Aquatic Sciences (Eco-DAS) symposium, Honolulu, HI

**Conference Talks and Posters (since 2014)**

Asterisk (\*) denotes graduate student, (+) denotes former post-doc; (\*\*) denotes former undergraduate student author. (oral presentations unless specified; only those as primary presenter are included)

- 2020 J.E. Keister, B. Herrmann, A. Winans, I. Kemp. "Unexpected positive effects of the Pacific Marine Heatwave on zooplankton and juvenile salmon in the Salish Sea," . Poster presentation, 2020 Ocean Sciences Meeting, San Diego, CA.
- 2019 J. E. Keister, B. Herrmann, A. Mandovi\*\*, and P. MacCready. "Climate controls on zooplankton composition and ocean-estuary exchange in the Strait of Juan de Fuca, USA," PICES 2019 Annual Meeting, Victoria, B.C.
- 2019 J. E. Keister, B. Herrmann, A. Mandovi\*\*, and P. MacCready. "Controls on zooplankton composition in the Strait of Juan de Fuca, USA," 2020 Eastern Pacific Ocean Conference, Fallen Leaf Lake, CA.
- 2018 J.E. Keister, J. Bos, B. Herrmann, M. Keyzers, C. Krembs, J. Mickett, J. Newton, W. Ruef, and A. Winans. "Regional and temporal variability in Puget Sound zooplankton: links to juvenile salmon," Salish Sea Ecosystem Conference, Seattle, WA.
- 2018 J.E. Keister, A. Winans, and T. Sandell. Diagnosing the impacts of large-scale climate variability on local ecosystems in the Salish Sea, USA," PICES 2018 Annual Meeting, Yokohama, Japan.
- 2018 J.E. Keister, J. Newton, B. Herrmann, J. Fisher, and W. Ruef. "Inland sea and coastal ocean zooplankton communities show contrasting responses to recent Northeast Pacific climate variability," ICES/PICES Effects of Climate Change on World's Oceans, Washington, D.C.
- 2016 J.E. Keister, M. Trudel, J. Boldt, and B. Herrmann. "Cryptic trophic connections are revealed by a zooplankton time series," PICES 2016 Annual Meeting.
- 2016 J.E. Keister and B. Herrmann. "Climate and local variability influence zooplankton exchange between the coastal ocean and an estuarine fjord," 6<sup>th</sup> International Zooplankton Production Symposium, Bergen, Norway.
- 2016 J.E. Keister, T.E. Essington, L. Li+, M. Sato+, J.K. Horne, S.L. Parker-Stetter, and P. Moriarty\*. "Zooplankton along an oxygen gradient Puget Sound, WA: Effects of hypoxia on euphausiid vertical overlap with fish," 2016 Ocean Sciences meeting, New Orleans, LA.
- 2015 J.E. Keister, A.K. McLaskey\*, P. McElhany, and M.B. Olson. "Differential sensitivities of crustacean zooplankton to ocean acidification," PICES 2015 Annual Meeting, Qingdao, China.
- 2015 J.E. Keister, T.E. Essington, M. Sato+, J.K. Horne, S.L. Parker-Stetter, and A.K. Winans, "Consequences of hypoxia on distributions, species composition, predator-prey interactions, and energy flow in a pelagic marine ecosystem," Poster presentation, ICES/PICES Climate Change Symposium, Santos, Brazil.
- 2014 J.E. Keister, A. McLaskey\*, P. McElhany, and B. Olson. "Testing the effects of ocean acidification on copepod and krill populations," Eastern Pacific Ocean Conference (EPOC), Timberline, OR.
- 2014 J.E. Keister and A. McLaskey\*. "Testing the effects of ocean acidification on copepod and krill populations," Poster presentation, Gordon Conference on Climate Change, Waterville Valley, NH.
- 2014 J.E. Keister, A. Winans, and B. Herrmann. "Effects of hypoxia on zooplankton community structure," Salish Sea Ecosystem Conference, Seattle, WA.
- 2014 J.E. Keister, A. Winans, and B. Herrmann. "Effects of hypoxia on the seasonal cycle of zooplankton communities in Puget Sound, WA," 2014 Ocean Sciences meeting, Honolulu, HI.
- 2014 J.E. Keister, "A zooplankton monitoring program for the Salish Sea," Salish Sea Ecosystem Conference, Seattle, WA.

### Peer-Reviewed Journal Articles

(\*) denotes former graduate student, (+) post-doc; (\*\*) undergraduate student author.

- 2020 \*Moriarty, P.E., T.E. Essington, J.K. Horne, **J.E. Keister**, S. Parker-Setter, and \*M. Sato. Unexpected food web responses to low dissolved oxygen in an estuarine fjord. *Ecological Applications*: doi.org/10.1002/eap.2204.
- 2020 \*McLaskey, A.K., **J.E. Keister**, and L. Yebra. Individual growth rate (IGR) and aminoacyl-tRNA synthetases (AARS) activity as individual-based indicators of growth rate of North Pacific krill, *Euphausia pacifica*. *Journal of Experimental Marine Biology and Ecology* 527: 151360, doi.org/10.1016/j.jembe.2020.151360.
- 2020 \*\*Herrmann, B. and **J.E. Keister**. Species composition and distribution of jellyfish in a seasonally hypoxic estuary, Hood Canal, Washington. *Diversity*, 12, 53: doi:10.3390/d12020053.
- 2020 **Keister, J.E.**, A.K. Winans, and B. Herrmann. Zooplankton community response to seasonal hypoxia: a test of three hypotheses. *Diversity*, 12, 21: doi:10.3390/d12010021.
- 2020 Schwing, F.B., M.J. Sissenwine, H. Batchelder, H.G. Dam, J. Gómez-Gutiérrez, **J.E. Keister**, H. Liu, J.O. Peterson. William (Bill) Peterson's contributions to ocean science, management, and policy. *Progress in Oceanography* 182: 102241.
- 2019 Engström-Öst, J., O. Gliippa, R.A. Feely, M. Kanerva, **J.E. Keister**, S.R. Alin, B.R. Carter, A.K. McLaskey, K.A. Vuori, and N. Bednaršek. Eco-physiological responses of copepods and pteropods to ocean warming and acidification. *Nature Scientific Reports* 9:4748: doi.org/10.1038/s41598-019-41213-1.
- 2019 \*McLaskey, A.K., P. McElhany, S. Bush, M. Maher, A. Winans, and **J.E. Keister**. Early life stages of *Calanus pacificus* are neither exposed nor sensitive to low pH waters. *Journal of Plankton Research* 41(6): 893–896.
- 2019 \*Li, L., **J.E. Keister**, T.E. Essington, and J. Newton. Vertical distribution and abundance of *Euphausia pacifica* in relation to oxygen and temperature in a seasonally hypoxic fjord. *Journal of Plankton Research* 41(2): 188-202.
- 2019 \*McLaskey, A.K., **J.E. Keister**, \*K.L. Schoo, M.B. Olson, and B. Love. Direct and indirect effects of elevated CO<sub>2</sub> are revealed through shifts in phytoplankton, copepod development, and fatty acid accumulation. *PLoS ONE* 14(3): e0213931. doi.org/10.1371/journal.pone.0213931.
- 2018 \*Ruz, P., P. Hidalgo, R. Escibano, **J.E. Keister**, L. Yebra, B. Franco-Cisterna. Hypoxia effects on females and early stages of *Calanus chilensis* in the Humboldt Current ecosystem (23°S). *Journal of Experimental Marine Biology* 498: 61-71.
- 2016 \*Sato, M., J.E. Horne, S. Parker-Setter, T. Essington, **J.E. Keister**, \*P. Moriarty, \*L. Li, J. Newton. Impacts of oxygen on fish and zooplankton prey distributions in a coastal fjord. *Marine Ecology Progress Series* 560: 57–72.
- 2016 \*McLaskey, A.K., **J.E. Keister**, P. McElhany, B. Olson, S. Bush, A. Winans. Development of *Euphausia pacifica* (krill) larvae is impaired under pCO<sub>2</sub> levels currently observed in the Northeast Pacific. *Marine Ecology Progress Series* 555: 65-78.
- 2016 \*\*Grodzins, M., \*P.M. Ruz, and **J.E. Keister**. Effects of oxygen depletion on field distributions and laboratory survival of the marine copepod *Calanus pacificus*. *Journal of Plankton Research* doi:10.1093/plankt/fbw063.
- 2015 \*Sato, M., J.E. Horne, S. Parker-Setter, **J.E. Keister**. Acoustic classification of coexisting taxa in a coastal ecosystem. *Fisheries Research* 172: 130–136.
- 2015 \*Ruz, P., P. Hidalgo, \*S. Yáñez, R. Escibano, **J.E. Keister**. Egg production and hatching success of *Calanus chilensis* and *Acartia tonsa* in the northern Chile upwelling zone (23°S), Humboldt Current System. *Journal of Marine Systems* 148: 200–212.
- 2014 Hirst A.G., **J.E. Keister**, A.J. Richardson, P. Ward, R.S. Shreeve, R.V. Escibano. Re-assessing copepod growth results from the Moulting Rate Method. *Journal of Plankton Research* doi:10.1093/plankt/fbu045.
- 2014 Chiba, S., E. Di Lorenzo, \*A. Davis, **J.E. Keister**, B. Taguchi, Y. Sasai, H. Sugisaki. Large-scale climate control on transport and zooplankton biogeography in the Kuroshio Oyashio Extension region. *Geophysical Research Letters* 40: 5182-5187, doi:10.1002/grl.50999.

- 2013 E. Di Lorenzo, \*V. Combes, **J.E. Keister**, P.T. Strub, A. Thomas, P.J.S. Franks, M. Ohman, A. Bracco, S. Bograd, W.T. Peterson, F. Schwing, S. Chiba, B. Taguchi, S. Hormazabal, C. Parada. Synthesis of Pacific Ocean Climate and Ecosystem Dynamics. *Oceanography* 26(4): 68-81, doi.org/10.5670/oceanog.2013.76.
- 2013 Ross, T., **J.E. Keister**, and A.L. Lopes. On the use of high-frequency broadband sonar to classify biological scattering layers from a cabled observatory in Saanich Inlet, British Columbia. *Methods in Oceanography* doi:10.1016/j.mio.2013.05.001.
- 2013 **Keister, J.E.** and L.B. Tuttle. Effects of bottom-layer hypoxia on spatial distributions and community structure of zooplankton in a sub-estuary of Puget Sound, WA, USA. *Limnology and Oceanography* 58: 667-680.
- 2011 \*\*Salmi, M., H.P. Johnson, I. Leifer, and **J.E. Keister**. Behavior of methane seep bubbles over a pockmark on the Cascadia Continental Margin. *Geosphere* 7: 1273-1283, doi:10.1130/GES00648.1.
- 2011 **Keister, J.E.**, E. Di Lorenzo, C.A. Morgan, \*V. Combes, and W.T. Peterson. Zooplankton species composition is linked to ocean transport in the Northern California Current. *Global Change Biology*, doi: 10.1111/j.1365-2486.2010.02383.x.
- 2010 **Keister, J.E.**, D.L. Pascual, J. Clasen, K. Hopfensperger, N. Kelly, J. K. Llopiz, S.M. Moseman, and L.E. Petes. Climate and anthropogenic change in aquatic environments: a cross-ecosystem perspective. p. 1-16. In P.F. Kemp [ed.], *Eco-DAS VIII Symposium Proceedings*. ASLO: doi:10.4319/ecodas.2010.978-0-9845591-1-4.1.
- 2009 **Keister, J.E.**, T.J. Cowles, W.T. Peterson, and C.A. Morgan. Do upwelling filaments result in predictable biological distributions in coastal upwelling ecosystems? *Progress in Oceanography* 83: 303-313.
- 2009 **Keister, J.E.**, W.T. Peterson, and S.D. Pierce. Zooplankton distribution and cross-shelf transport of carbon in an area of complex mesoscale circulation in the northern California Current. *Deep-Sea Res. I*, doi:10.1016/j.dsr.2008.09.004.
- 2008 **Keister, J.E.** and P.T. Strub. Spatial and interannual variability in mesoscale circulation in the northern California Current System. *Journal of Geophysical Research* C04015, doi:10.1029/2007JC004256.
- 2008 Suchman, C.L., E.A. Daly, **J.E. Keister**, W.T. Peterson, and R.D. Brodeur. Prey selection and predation potential of scyphomedusae in a highly productive upwelling region. *Marine Ecology Progress Series* 358: 161-172.
- 2005 Huyer, A., J.H. Fleischbein, **J. Keister**, P.M. Kosro, N. Perlin, R.L. Smith, and P.A. Wheeler. Two coastal upwelling domains in the Northern California Current System. *Journal of Marine Research* 63: 901-929.
- 2005 **Keister, J.E.**, T.B. Johnson, C.A. Morgan, and W.T. Peterson. Biological indicators of the timing and direction of warm-water advection during the 1997/98 El Niño off the central Oregon coast, USA. *Marine Ecology Progress Series* 295: 43-48.
- 2003 **Keister, J.E.** and W.T. Peterson. Zonal and seasonal variations in zooplankton community structure off the central Oregon coast, 1998-2000. *Progress in Oceanography* 57: 341-361.
- 2003 Peterson, W.T. and **J.E. Keister**. Interannual variability in copepod community composition at a coastal station in the northern California Current: a multivariate approach. *Deep Sea Research II* 50: 2499-2517.
- 2003 Breitburg, D.L., A. Adamack, K.A. Rose, S.E. Kolesar, M.B. Decker, J.E. Purcell, **J.E. Keister**, and J.H. Cowan, Jr. The pattern and influence of low dissolved oxygen in the Patuxent River, a seasonally hypoxic estuary. *Estuaries* 26 (2A): 280-297.
- 2002 Peterson, W.T., **J.E. Keister**, and L.R. Feinberg. The effects of the 1997-99 El Niño/La Niña events on hydrography and zooplankton off the central Oregon coast. *Progress in Oceanography* 54: 381-398.
- 2002 Peterson, W.T. and **J.E. Keister**. The effect of a large cape on distribution patterns of coastal and oceanic copepods off Oregon and northern California during the 1998-1999 El Niño-La Niña. *Progress in Oceanography* 53: 389-411.
- 2000 **Keister, J.E.**, E.D. Houde, and D.L. Breitburg. Effects of bottom-layer hypoxia on abundances and depth distributions of organisms in Patuxent River, Chesapeake Bay. *Marine Ecology Progress Series* 205: 43-59.

### **Submitted manuscripts**

Khangaonkar, T., A. Nugraha, P. Lakshitha, **J.E. Keister**, and A. Borde. Projections of algae, eelgrass, and zooplankton ecological interactions in the inner Salish Sea – for future climate and altered oceanic states. *In revision at the Journal of Ecological Modeling*.

\*Bedoya-Valestt, S., M. Cornejo-D'Ottone, P. Hidalgo, L. Florez-Leiva, and **J.E. Keister**. Effects of ocean acidification on the nitrogen fluxes of *Calanus pacificus* (Calanoid) in Puget Sound, Washington. *Submitted to Global Biogeochemical Cycles*. Provided funding, edited manuscript.

\*Hiltunen, M., U. Strandberg, **J.E. Keister**, A.K. Winans, D.A. Beauchamp, M. Kotila, and M.T. Brett. Zooplankton fatty acid composition: taxonomic and seasonal patterns in Puget Sound, Washington. *Submitted to Marine Ecology Progress Series*. Collaborated on idea, provided funding, led sampling, edited manuscript.

### **Book Chapters**

1999 Iverson, T.K., **J.E. Keister**, and R.D. McDonald. Summary of the Evaluation of Fish Passage through Three Surface Spill Gate Designs at Rock Island Dam in 1996. *In: Innovations in Fish Passage Technology*. AFS Publications, M. Odeh, Ed, 224 pp.

### **Non-Refereed Publications, Reports, Databases, and Other Products**

2020 Fisher, J., D. Kimmel, T. Ross, S. Batten, E. Bjorkstedt, M. Galbraith, K. Jacobson, **J. Keister**, A. Sastri, K. Suchy, S. Zeman, and I. Perry. Copepod responses to, and recovery from, the recent marine heatwave in the Northeast Pacific. *PICES Press* vol. 28(1): 65-70.

2019 Greene, C., B. Curry, J. Newton, **J. Keister**, I. Kemp, D. Beauchamp, E. Lessard, K. Stark, and G. Hannach. Linking environmental and biotic variation to growth and survival of juvenile Chinook salmon in Puget Sound. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.

2019 **Keister, J.E.**, A.K. Winans, B. Herrmann, J. Bos, and I. Kemp. Bottom-up links to juvenile salmon growth and survival in Puget Sound, WA, USA. . North Pacific Anadromous Fish Commission Technical Report No. 15: 106–107 <https://npafc.org/technical-report/>; <https://npafc.org/workshop-presentations-2019/>

2019 Winans, A., B. Herrmann, M. Hiltunen, U. Strandberg, M. Brett, and **J.E. Keister**. Quantifying juvenile salmon prey quality and exploring trophic linkages in Puget Sound, WA, USA. North Pacific Anadromous Fish Commission Technical Report No. 15: 107–108. <https://npafc.org/technical-report/>; <https://npafc.org/workshop-presentations-2019/>

2019 Puget Sound Zooplankton database: Publicly provided database of mesozooplankton species composition, abundance, and biomass from 16 sites in Puget Sound and the San Juan Islands, collected, ~bi-weekly, 2014-2019, as part of the Salish Sea Marine Survival Project. Available at <https://green2.kingcounty.gov/ScienceLibrary/Document.aspx?ArticleID=556>

2018 **Keister, J.** and M. Crewson. Improving salmon survival forecasts through prey field monitoring and indicator development. Final report to the NOAA Saltonstall-Kennedy program, 17 Dec. 2018. Available at: [http://faculty.washington.edu/jkeister/jk\\_pubs.php](http://faculty.washington.edu/jkeister/jk_pubs.php).

2019 Hiltunen, M., U. Strandberg, **J. Keister**, D. Beauchamp, and M. T. Brett. Fatty acid composition of zooplankton prey for juvenile salmonids in Puget Sound. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.

2018 Connelly, K.A. J.R. Gardner, M.M. Gamble, J.W. Chamberlin, A. Winans, **J.E. Keister**, and D.A. Beauchamp. Marine survival of Puget Sound Chinook: size-selective mortality growth limitation and bioenergetics of sub-yearling Chinook salmon in Puget Sound, Washington. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.

- 2017 **Keister, J.E.**, B. Herrmann, and A. Winans. The Zooplankton Monitoring Program, 2014-2015. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.
- 2017 Chamberlin, J., M. Gamble, K. Connelly, J. Gardner, R. Barsh, M. O'Connell, **J. Keister**, D. Beauchamp, M. Schmidt, B. Beckman, and K. Warheit. Assessing early marine growth in juvenile Chinook salmon: factors affecting variability in individual growth in Northern Puget Sound. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.
- 2017 Ohman, M., N. Mantua, **J. Keister**, M. Garcia-Reyes, and S. McClatchie. "ENSO impacts on ecosystem indicators in the California Current System." *CLIVAR Variations*, 15(1): 8-15.
- 2015 Kemp, I. and **J.E. Keister**. Zooplankton community patterns in Puget Sound: description of a 20-year qualitative dataset. SSMSP Technical Report. Available at: <https://marinesurvivalproject.com/resources>.
- 2013 **J.E. Keister**. *Zooplankton Sampling Protocol. A procedural guide to developing zooplankton monitoring programs in the Salish Sea*. Developed for the Salish Sea Marine Survival Program at the request of regional agencies and tribes to promote consistent sampling protocols throughout the Salish Sea, 9 pp. Available at: [http://faculty.washington.edu/jkeister/jk\\_outreach.php](http://faculty.washington.edu/jkeister/jk_outreach.php). Used by >15 groups in the Salish Sea and coastal Washington.
- 2013 *Identification guide to the zooplankton of Puget Sound*. Developed a pictorial guide in collaboration with Washington Sea Grant for use by regional outreach and education groups. Available from WA Sea Grant and at <https://lltk.org/zooplankton-puget-sound/>. Distributed to >250 users to date.
- 2012 **Keister, J.E.**, D. Bonnet, R. Escibano, D.L. Mackas, S. Chiba, C. Johnson. Zooplankton population connections, community dynamics, and climate variability. An Introduction to the Proceedings of the 5<sup>th</sup> International Zooplankton Production Symposium. *ICES Journal of Marine Science* 69: 347-350, doi: 10.1093/icesjms/fss034.

#### **Edited Volumes**

- 2019 The Effects of Hypoxia on Marine Food Webs and Ecosystems: 8 articles published in a special issue of *Diversity*, <https://www.mdpi.com/si/25846>.
- 2012 Zooplankton Population Connections, Community Dynamics, and Climate Variability: Proceedings of the 5th International Zooplankton Production Symposium: 16 articles published in the *ICES Journal of Marine Science* 69(3): 347-492. <https://academic.oup.com/icesjms/issue/69/3>