Barton L., Wespestad V. 1980. Distribution, biology and stock assessment of western Alaska’s herring stocks. In: Proceedings Alaska Herring Symposium. University of Alaska Sea Grant Report 4, pp. 27–53

Bopp L., Resplandy L., Orr J.C., Doney S.C., Dunne J.P., Gehlen M., Halloran P., Heinze C., Ilyina T., Séférian R., Tjiputra J., Vichi M. 2013.Multiple stressors of ocean ecosystems in the 21sst century: projections with CMIP5 models. *Biogeoscinces* **10**, 6225-6245.

Bjorkland R.H., Pearson S.F., Jeffries S.J., Lance M.M., Acevedo-Guitiérrez A., Ward E.J. 2015. Stable isotope mixing models elucidate sex and size effects on the diet of a generalist marine predator. *Marine Ecology Progress Series* **526**, 213-225.

Bowen W.D., Lidgard D. 2012. Marine mammal culling programs: review of effects on predator and prey populations. *Mammal Review* **43**, 207-220.

Carpenter S.R., Kitchell J.F., Hodgson. J.R. 1985. Cascading trophic interactions and lake productivity. *BioScience* **10**, 634-639.

Chasco B.E., Kaplan I.C., Thomas A.C., Acevedo-Gutierrez A., Noren D.P., Ford M.J., Hanson M.B., Scordino J.J., Jeffries S.J., Marshall K.N., Shelton A.O., Matkin C., Burke B.J., Ward E.J. 2018. Competing tradeoffs between increasing marine mammal predation and fisheries harvest of Chinook salmon. *Nature* **7**, 15439.

Chasco B.E., Kaplan I.C., Thomas A., Acevedo-Gutierrez A., Noren D., Ford M.J.,Hanson M.B., Scordino J, Jeffries S., Pearson S., Marshall K., Ward E.J. 2017. Estimates of Chinook salmon consumption in Washington State inland waters by four marine mammal predators from 1970 to 2015. *Canadian Journal of Aquatic and Fishery Sciences***74**, 1173-1194.

Chassot E., Bonhommeau S., Dulvy N.K., Mélin F., Watson R., Gascuel D., Le Pape O. (2010). Global marine primary production constrains fishery catches. *Ecology Letters* **13**, 495- 505.

Chikaraishi Y., Ogawa N.O., Kashiyama Y., Takano Y., Suga H., Tomitani A., Miyashita H., Kitazato H., Ohkouchi N. (2009). Determination of aquatic food-web structure based on compound-specific nitrogen isotopic composition of amino acids. *Limnology and Oceanography Methods* **7**, 740-750.

Choi B, Sun-Yong H., Lee J.S., Chikaraishi Y., Ohkouchi N., Shin K. 2017. Trophic interaction among organisms in a seagrass meadow ecosystem as revealed by bulk δ13C and amino acid δ15N analyses. *Limnology and Oceanography* **62**, 1426-1435.

Corwith H.L., Wheeler P.A. (2002). El Niño related variations in nutrient and chlorophyll distributions off Oregon. *Progress in Oceanography* **54**, 361-380.

Dehn L.A., Sheffield G.G., Follmann E.H., Duffy L.K., Thomas D.L., O’Hara T.M. 2007. Feeding ecology of phocid seals and some walrus in the Alaskan and Canadian Arctic as determined by stomach contents and stable isotope analysis.

DeNiro M.J., Epstein S. (1978). Influence of diet on the distribution of carbon isotopes in animals. *Geochimica et Cosmochinica Ata* **42**, 495-506.

de la Vega C., Mahaffey C., Tuerena R.E., Yurkowski D.J., Yurkowski D.J., Ferguson S.H., Stenson G.B., Nordøy E.S., Haug T., Biuw M., Smout S., Hopkins J., Tagliabue A., Jeffreys R.M. (2020). Arctic seals as tracers of environmental and ecological change. *Limnology and Oceanography Letters*, doi: 10.1002/lol2.10176

Drago M., Cardona L., Crespo E.A., Aguilar A. 2009. Ontogenic dietary changes in South American sea lions. *Journal of Zoology* **279**, 251-261.

Duguid W.D.P., Boldt J.L., Chalifour L., Greene C.M., Galbraith M., Hay D., Lowry D., McKinnell S., Neville C.M., Qualley J., Sandell T., Thompson M., Trudel M., Young K., Juanes F. 2019. Historical fluctuations and recent observations of Northern Anchovy *Engraulis mordax* in the Salish Sea. *Deep Sea Research II* **159**, 22-41.

Estes J.A., Tinker M.T., Williams T.M., Doak D.F. 1998. Killer whale predation on sea otters linking oceanic and nearshore ecosystems. *Science* **282**, 473-476.

Feddern M.L., Holtgrieve G.W., Ward E.J. 2021. Stable isotope signatures in archival pinniped bone link food web-assimilated carbon and nitrogen to a century of environmental change. *Global Change Biology* In press.

Germain L.R., Koch P.L., Harvey J., McCarthy M.D. (2013). Nitrogen isotope fractionation in amino acids from harbor seals: implicatios for compound-specific trophic position calculations. *Marine Ecology Progress Series* **482**, 265-277.

Greene C., Kuehne L., Rice C., Fresh K., Penttila D. 2015. Forty years of change in forage fish and jellyfish abundance across greater Puget Sound, Washington (USA): anthropogenic and climate associations. *Marine Ecology Progress Series* **525**, 153-170.

Goñi R. (1998). Ecosystem effects of marine fisheries: an overview. *Ocean and Coastal Management* **40**, 37-64.

Hay D.E., Rose K.A., Schweigert J., Negrey B.A. 2008. Geographic variation in North APcific herring populations: Pan-Pacific comparisons and implications for climate change impacts. *Progress in Oceanography* **77**, 233-240.

Heithaus M.R., Frid A., Wirsing A.J., Worm B. (2008). Predicting ecological consequences of marine top predator declines. *Trends in Ecology and Evolution* **23**, 202-210.

Howe E.R., Simenstad C.A. (2015). Using stable isotopes to discern mechanisms of connectivity in estuarine detritus-based food webs. *Marine Ecology Progress Series* **518**: 13-29.

Hunter M.D., Price P.W. (1992). Playing chutes and ladders: heterogeneity and the relative roles of bottom-up and top-down forces in natural communities. *Ecology* **73**, 724-732.

Jeffries S.J., Huber H.R., Calambikidis J., Laake J. 2003. Trends and status of harbor seals in Washington State: 1978-1999. *Journal of Wildlife Management* **67**, 208-219.

Khangaonkar T., Nugraha A., Xu W., Balaguru K. (2019). Salish Sea response to global climate change, sea level rise, and future nutrient loads. *Journal of Geophysical Research* **124**, 3876-3904.

Kordas R.L., Harley C.D.G., Connor M.I. 2011. Community ecology in a warming world: the influence of temperature on interspecific interactions in marine systems. *Journal of Experimental Marine Biology and Ecology* **400**, 218-226.

Lance M.M., Chang W., Jeffries S.J., Pearson S.F., Acevedo-Gutiérrez A. 2012. Harbor seal diet in northern Puget Sound: implications for the recovery of depressed fish stocks. *Marine Ecology Progress Series* **464**, 257-271.

Lance M.M., Jeffries S.J. 2007. Temporal and spatial variability of harbor seal diet in the San Juan Island archipelago. Contract Report to SeaDoc Society Research Agreement No. K004431-25. Washington Department of Fish and Wildlife, Olympia WA. 21 pp.

Magera A.M., Mills Flemming J.E., Kaschner K., Christensen L.B., Lotze H.K. (2013). Recovery trends in marine mammal populations. *PLOS ONE* **8**, e77908.

Marshall K.N., Stier A.C., Samhouri J.F., Kelly R.P., Ward E.J. 2015. Conservation shallenges of predator recovery. *Conservation Letters* **9**, 70-78.

Martínez del Rio C., Wolf N., Carleton S.A., Gannes L.Z. 2009. Isotopic ecology ten years after a call for more laboratory experiments. *Biological Reviews* **84**, 91-111.

Mantua N.J., Hare S.R. (2002). The Pacific Decadal Oscillation. Journal of Oceanography **58**, 35-44.

McClelland J.W., Montoya J.W. (2002). Trophic relationships and the nitrogen isotopic composition of amino acids in plankton. *Ecology* **83**, 2173-2180.

McMahon K.W., McCarthy M.D., Sherwood O.A., Larsen T., Guilderson T.P. (2015). Millennial-scale plankton regime shifts in the subtropical North Pacific Ocean. *Science* **350**, 1530-1533.

McMahon K.W., Michelson C.I., Hart T., McCarthy M.D., Patterson W.P., Polito M.J. (2019). Divergent trophic responses of sympatric penguin species to historic anthropogenic exploitation and recent climate change. *PNAS* **116**, 25721-25727.

McMahon K.W., McCarthy M.D. 2016. Embracing variability in amino acid δ15N fractionation: mechanisms, implication, and applications for trophic ecology. *Ecosphere* **7**, e01511.

Moore J.K., Fu W., Primeau F., Britten G.L., Lindsay K., Long M., Dney S.C., Mahowald N., Hoffman F., Randerson J.T. 2018. Sustained climate warming drives declining marine biological productivity. *Science* **359**, 1139-1143.

Mohamedali T, Roberts M, Sackmann BS, Kolosseus A. 2011. Puget Sound dissolved oxygen model: nutrient load summary for 1999–2008. Publication no. 11-03-057, Washington State Department of Ecology, Olympia, Washington.

Nelson B.W., Walters C.J., Trites A.W., McAllister M.K. 2018. Wild Chinook salmon productivity is negatively related to seal density and not related to hatchery releases in the Pacific Northwest. *Canadian Journal of Fisheries and Aquatic Sciences* **76**, 447-462.

Nielsen J.M., Popp B.N., Winder M. 2015. Meta-analysis of amino acid stable nitrogen isotope ratios for estimating trophic position in marine organisms. *Oecologia* **178**, 631-642.

Ohlberger J., Schindler D.E., Ward E.J., Walsworth T.E., Essington T.E. 2019. Resurgence of an apex predator and the decline in prey body size. *PNAS* **116**, 26682-26689.

Orr A.J., Banks A.S., Mellman S., Huber H.R., Delong R.L., Brown R.F. 2004. Examination of the foraging habits of Pacific harbor seal (*Phoca vitulina richardii*) to describe the use of the Umpqua River, Oregon, and their predation in salmonids. *Fishery Bulletin* **102**, 108- 117.

Ostfeld, R.S., Keesing, F. (2000). Pulsed resources and community dynamics of consumers in terrestrial ecosystems. *Trends in Ecology and Evolution* **15**, 232-237.

Peterson W.T., Keister J.E. (2002). 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.

R Core Team (2019). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.

Reum J.C., Essington T.E., Greene C.M., Rice C.A., Fresh K.L. 2011. Multiscale influence of climate on estuarine populations of forage fish: the role of coastal upwelling, freshwater flow and temperature. *Marine Ecology Progress Series* **425**, 203-215.

Rykaczewski R.R., Dunne J.P. (2010). Enhanced nutrient supply to the California Current Ecosystem with global warming and increased stratification in an earth system model. *Geophysical Research Letters* **37**, L21606.

Siple M.C., Francis T.B. (2016). Population diversity in Pacific herring of the Puget Sound, USA. *Oecologia* **180,** 111-125.

Shelton A.O., Francis T.B., Feist B.E., Williams G.D., Lindquist A., Levin P.S. 2017. Forty years of seagrass population stability and resilience in an urbanizing estuary. *Journal of Ecology* **105**, 458-470.

Sherwood O.A., Guilderson T.P., Batista F.C., Schiff J.T., McCarthy M.D. (2014). Increasing subtropical North Pacific Ocean nitrogen fixation since the Little Ice Age. *Nature* **505**, 78- 81.

Sherwood O.A., Lehmann M.F., Schubert C.J., Scott D.B., McCarthy M.D. (2011). Nutrient regime shift in the western North Atlantic indicated by compound-specific δ15N of deep-sea gorgonian corals. *PNAS* **108**, 1011-1015.

Smith B.D., McFarlane G.A., Saunders M.W. 1990. Variation in Pacific Hake (*Merluccius productus*) summer length-at-age near southern Vancouver Island and its relationship to fishing and oceanography. *Canadian Journal of Fisheries and Aquatic Sciences* **47**, 2195-2211.

Smith R.S., Weldon L.M., Hayward J.L., Henson S.M. 2017. Time lags associated with effects of oceanic conditions on seabird breeding in the Salish Sea region of the northern California Current system. *Marine Ornithology* **45**, 39-42.

Steingass S. 2017. Dietary composition of four stocks of Pacific harbor seal (*Phoca vitulina richardii*) in the northern California Current Large Marine Ecosystem as synthesized from historical data, 1931-2013. *Northwestern Naturalist* **98**, 8-23.

Steneck R.S. (2012). Apex predators and trophic cascades in large marine ecosystems: learning from serendipity. *PNAS* **109**, 7953-7954.

Surma S., Pitcher T.J., Kumar R., Varkey D., Pakhomov E.A., Lam M.E. Herring supports northeast Pacific predators and fisheries: insights from ecosystem modelling and management strategy evaluation. 2018. PLoS ONE **13**, e0196307.

Strom S.L., Brady Olson M., Macri E.L., Mordy C.W. (2006). Cross-shelf gradients in phytoplankton community structure, nutrient utilization, and growth rate in the coastal Gulf of Alaska. *Marine Ecology Progress Series* **328**, 75-92.

Thomas A.C., Lance M.M., Jeffries S.J., Miner B.G., Acevedo-Gutiérrez A. (2011). Harbor seal foraging response to a seasonal resource pulse, spawning Pacific herring. *Marine Ecology Progress Series* **441**, 225-239.

Thomas A.C., Nelson B.W., Lance M.M., Deagle B.E., Trites A.W. (2017). Harbour seals target juvenile salmon of conservation concern. *Canadian Journal of Fisheries and Aquatic Sciences* **74**, 907-921.

Vander Zanden H.B., Arthur K.E., Bolten A.B., Popp B.N., Lagueux C.J., Harrison E., Campbell C.L., Bjorndal K.A. 2013. Trophic ecology of a green turtle breeding population. *Marine Ecology Progress Series* **476**, 237-249.

Ware D.M., Thomson R.E. (2005). Bottom-up ecosystem trophic dynamics determine fish production in the Northeast Pacific. *Science* **308**, 1280-1284.

Washington Department of Fish & Wildlife and Puget Sound Indian Tribes and. 2017. Comprehensive Management Plan for Puget Sound Chinook: Harvest Management Component. Northwest Indian Fisheries Commission, Olympia, WA. 247 pages.

Wilson K., Lance M., Jeffries S., Acevedo-Gutiérrez A. 2014. Fine-scale variability in harbor seal foraging behavior. PLoS ONE **9**, e92838.

Wright B.E., Riemer S.D., Brown R.F., Ougzin A.M., Bucklin K.A. 2007. Assessment of harbor seal predation on adult salmonids in a Pacific Northwest estuary. *Ecological Application* **17**, 338-351.

Xu J., Fan X., Zhang X., Xu D., Mou S., Cao S., Zheng Z., Miao J., Ye N. 2012. Evidence of coexistence of C3 and C4 photosynthetic pathways in a green-tide-forming alga, *Ulva prolifera*. *Plos ONE* **7**, e37438.

Zhao L., Castellini M.A., Mau T.L., Trumble S.J. 2004. Trophic interactions of Antarctic seals as determined by stable isotope signatures. *Polar Biology* **27**, 368-373.