Appendix 4 Bibliography This page is purposely left blank

1 PROPOSED PROJECT DESCRIPTION AND ALTERNATIVES

- Abbe, T., C. Carlstad, D.L. Devier, S. Dickerson-Lange, J. Jay, M. Nelson, L. Embertson, S. Higgins, S. Katz, B. Keller, and K. Fetherston, 2019. *Chehalis Basin Strategy Restorative Flood Protection Advanced Feasibility Evaluation for the North and South Forks of the Newaukum River, Washington.* June 2019.
- Allen, M.R., O.P. Dube, W. Solecki, F. Aragón-Durand, W. Cramer, S. Humphreys, M. Kainuma, J. Kala,
 N. Mahowald, Y. Mulugetta, R. Perez, M. Wairiu, and K. Zickfeld, 2018. "Framing and Context." *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.* Accessed at: https://www.ipcc.ch/sr15/chapter/chapter-1/.
- American Rivers, 2018. A Review of Past and Current Strategies to Reduce Flood Damage in the Chehalis Basin. American Rivers, Northwest Office. February 2018.
- Anchor QEA (Anchor QEA, LLC), 2016. Chehalis Basin Strategy Technical Memorandum: Proposed Flood Retention Facility Pre-Construction Vegetation Management Plan. September 22, 2016. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Anchor QEA, 2017. *Chehalis Basin Strategy Operations Plan for Flood Retention Facilities*. June 2017. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Anchor QEA, 2020a. Fish Species and Habitat Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitat Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA and HDR, 2018. *Chehalis Basin Strategy: Fish Passage CHTR Preliminary Design Report*. February 2018. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Anchor QEA and WSE (Watershed Science and Engineering), 2019. Memorandum to: A. McNamara Doyle and C. Bailey (Office of Chehalis Basin). Regarding: Chehalis River Basin Climate Change Flows and Flooding Results. May 6, 2019.
- Chehalis Basin Board, 2018. Letter to Governor Jay Inslee. Regarding: Chehalis Basin Board's Capital Budget Recommendation for 2019–2021. November 26, 2018. Accessed at: http://chehalisbasinstrategy.com/wpcontent/uploads/2019/01/CBB-Capital-Budget-Recommendation-for-2019-2021.pdf.
- Chehalis Basin Flood Control Zone District, 2018. *Chehalis River Basin Flood Damage Reduction Project: Project Description.* September 27, 2018.
- Chehalis River Basin Flood Authority, 2010. Chehalis River Basin Comprehensive Flood Hazard Management Plan. June 2010.

- Chehalis River Basin Flood Authority, 2019a. Flood Authority Master Contact List 5-15-2019. Last modified May 15, 2019. Accessed at: https://www.ezview.wa.gov/Portals/_1492/images/Updated%20--%20Flood%20Authority%20Contact%20Sheet%20--%205-15-2019.pdf.
- Chehalis River Basin Flood Authority, 2019b. Chehalis Basin Local Projects (2012–21). ArcGIS WebMap. Last modified February 27, 2019. Accessed March 15, 2019. Accessed at: https://www.arcgis.com/home/webmap/viewer.html?webmap=059285349ee046dbb4425f15eba783e1& extent=-125.8633,45.9804,-120.6228,47.6049.
- Corps (U.S. Army Corps of Engineers), 1982a. *Centralia Flood Damage Reduction Study*. November 1982. Accessed at: https://www.ezview.wa.gov/Portals/_1492/images/default/1982%20Record%20of%20Decision%20Centralia %20Flood%20Study.pdf.
- Corps, 1982b. Interim Feasibility Report and Environmental Impact Statement, Centralia, Washington, Flood Damage Reduction.
- Corps, 2003. Centralia Flood Damage Reduction Project, Chehalis River, Washington, General Reevaluation Study.
- Corps, 2012. Centralia Flood Risk Management Project: Close-Out Report. January 2012. Accessed at: https://www.ezview.wa.gov/Portals/_1492/images/default/Centralia_DRAFT_2012_Wrap_Up_Report_Jan_ 2012.pdf
- Doyle, A. (Office of Chehalis Basin), 2018. Memorandum to: Chehalis Basin Board Members. Regarding: Restorative Flood Protection – Next Steps. August 31, 2018.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2018. Determination of Significance and Request for Comments on Scope of Chehalis River Basin Flood Damage Reduction Project Environmental Impact Statement. September 24, 2018. Olympia, Washington.
- EES Consulting, Inc., 2011. Chehalis River Flood Water Retention Project Phase IIB Feasibility Study. Prepared for Chehalis River Basin Flood Authority. April 14, 2011. Accessed at: https://www.ezview.wa.gov/site/alias__1492/flood_authority_projects_studies_water_retention/30016/w ater_retention.aspx.
- ESA (Environmental Science Associates), 2020a. *Water Resources Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020b. Air Quality and Greenhouse Gases Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix A. Prepared for the Washington Department of Ecology. February 2020.
- French & Associates, 2017. Status of Improved Regulatory Standards. February 7, 2017.
- Gendaszek and Welch, 2018. Soil Water Balance Model of Upper Chehalis River Basin, Southwestern Washington: U.S. Geological Survey data release. Accessed at: https://doi.org/10.5066/F78G8K1F.

- HDR (HDR, Inc.), 2017. Combined Dam and Fish Passage Design Conceptual Report. Prepared for the State of Washington Office of Financial Management and the Chehalis Basin Work Group. July 2017. Accessed at: http://chehalisbasinstrategy.com/publications/.
- HDR, 2018. Chehalis River Basin Flood Control: FRE Dam Alternative Combined Dam and Fish Passage Supplemental Design Report. September 2018. Accessed at: http://chehalisbasinstrategy.com/publications/.
- HDR, 2019. Draft Technical Memorandum: Simple Description of Fish Passage Operation. January 9, 2019. Accessed at: http://chehalisbasinstrategy.com/eis/proposed-project/.
- HDR, 2020. FRE Facility Cross-Section Drawing Update. January 27, 2020.
- Karpack L., and S. Sabatine (Watershed Science and Engineering), 2014. Memorandum to Russ Esses, Grays Harbor
 County. Regarding: Elma-Porter Flood Mitigation Project Hydraulic Modeling and Analysis (Draft).
 October 16, 2014.
- Martin, E., 2019. Letter to: Diane Butorac, Washington Department of Ecology, and Bob Thomas and Brandon Clinton, U.S. Army Corps of Engineers. Regarding: Construction Schedule Supplemental Information. September 18, 2019.
- Mauger, G.S., S.Y. Lee, C. Bandaragoda, Y. Serra, and J.S. Won, 2016. Refined Estimates of Climate Change Affected Hydrology in the Chehalis Basin. Prepared for Anchor QEA. Seattle: Climate Impacts Group, University of Washington. Accessed at: https://cig.uw.edu/news-and-events/publications/refined-estimates-ofclimate-change-affected-hydrology-in-the-chehalis-basin/
- Mauger, G.S., and L.M. Karpack, 2019. Memorandum to: Anchor QEA, LLC. Regarding: Putting the new Chehalis DHSVM results in context. January 19, 2019.
- May C., C. Luce, J. Casola, M. Chang, J. Cuhaciyan, M. Dalton, S. Lowe, G. Morishima, P. Mote, A. Petersen,
 G. Roesch-McNally, and E. York, 2018. "Northwest." *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*. Editors, D.R. Reidmiller, C.W. Avery, D.R. Easterling,
 K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart. Washington, DC: U.S. Global Change Research
 Program; pp. 1036–1100.
- MGS Engineering, 2006. Washington 100-year 24-hour Precipitation Map. Created January 2006; accessed March 6, 2019. Accessed at: http://www.mgsengr.com/precipfrqfiles/wa_100y_24h_0120.png
- Mote, P.W., J.T. Abatzoglou, and K.E. Kunkel, 2013. "Climate: Variability and change in the past and the future." *Climate Change in the Northwest*. Editors, M.M. Dalton, P.W. Mote, and A.K. Snover. Washington, DC: Island Press; pp. 25–40.
- NOAA (National Oceanic and Atmospheric Administration), 2016. Northwest River Forecast Center. Cited June 1, 2016. Accessed at: http://www.nwrfc.noaa.gov/rfc/.
- NSD (Natural Systems Design), 2016. Preliminary Scientific and Technical Assessment of a Restorative Flood Protection Approach for the Upper Chehalis River Watershed. September 2016.
- NSD, 2018. "Restorative Flood Protection Newaukum Pilot Feasibility Study Preliminary Findings." Briefing presentation to the Office of the Chehalis Basin Board. September 6, 2018.

- PIE (Pacific International Engineering), 1998a. Chehalis River Basin Flood Reduction Project: DRAFT Interim Report. Prepared for Lewis County. December 1998.
- PIE, 1998b. Chehalis River Basin Flood Control Project, Pre-Feasibility Analysis of Alternatives. Prepared for Lewis County.
- PFR (Pacific Forest Resources, Inc.), 2019. Chehalis Dam Feasibility Study–Road Improvement Requirements for Dam Construction. January 9, 2019. Accessed at: http://chehalisbasinstrategy.com/eis/proposed-project/
- PSU (Portland State University), 2017. Chehalis Water Quality and Hydrodynamic Modeling Model Setup, Calibration, and Scenario Analysis.
- Ruckelshaus Center (William D. Ruckelshaus Center), 2012. *Chehalis Basin Flood Hazard Mitigation Alternatives Report*. December 19, 2012. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Snover, A.K., C.L. Raymond, H.A. Roop, H. Morgan, 2019. "No Time to Waste. The Intergovernmental Panel on Climate Change's Special Report on Global Warming of 1.5°C and Implications for Washington State." Briefing paper prepared by the Climate Impacts Group, University of Washington, Seattle. Updated February 2019.
- Tetra Tech, 2003. *Chehalis Basin Partnership Multi-Purpose Water Storage Assessment*. Prepared in association with Triangle Associates. September 2003.
- Thurston County Emergency Management, 2019. "Chehalis River Flood Information." *Thurston County Washington Emergency Management*. Accessed at: https://www.thurstoncountywa.gov/em/Pages/riverschehalis.aspx.
- USGS (United States Geological Survey), 2019. "The 100-Year Flood." Accessed at: www.usgs.gov/specialtopic/water-science-school/science/100-year-flood?qt-science_center_objects=0#qtscience_center_objects.
- Whitlow, T., and R.W. Harris, 1979. Flood Tolerance in Plants: A State-of-the-Art Review. Prepared for Office, Chief of Engineers, U.S. Army. August 1979. Technical Report No. E-79-2. Accessed at: https://apps.dtic.mil/dtic/tr/fulltext/u2/a075938.pdf.
- WSDOT (Washington State Department of Transportation) 2012. *I-5 Protection from 13th Street to Mellen Street near Centralia and Chehalis.* December 2012.
- WSDOT, 2014. *Chehalis River Basin I-5 Flood Protection near Centralia and Chehalis*. Final Report. November 26, 2014.
- WSE (Watershed Science and Engineering), 2014. Elma-Porter Flood Mitigation Project Hydraulic Modeling and Analysis Draft Memorandum. October 16, 2014. Accessed at: https://www.ezview.wa.gov/DesktopModules/Articles2/ArticlesView2.aspx?tabID=0&alias=1779&ItemID =531&mid=65112&wversion=Staging.
- WSE, 2019. Memorandum to: Bob Montgomery, Anchor QEA. Regarding: Chehalis River Basin Hydrologic Modeling. February 28, 2019.

2 CUMULATIVE IMPACTS ANALYSIS

- Abbe, T.B., and D.R. Montgomery, 1996. "Large Woody Debris Jams, Channel Hydraulics and Habitat Formation in Large Rivers." *Regulated Rivers: Research and Management* 12:201z–221.
- Anchor QEA (Anchor QEA, LLC), 2014. *Water Quality Studies Final Report*. Chehalis Basin Strategy. Prepared for Washington State Office of Financial Management. September 2014.
- Anchor QEA, 2017. Memorandum to: Chrissy Bailey, Washington Department of Ecology. Regarding: Summary of Preliminary Land Use Analyses for the Chehalis Basin Strategy. December 29, 2017.
- ASRP (Aquatic Species Restoration Plan) Steering Committee, 2017. Aquatic Species Restoration Plan: Initial Outcomes and Needed Investments for Policy Consideration. November 2017. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2018/03/ASRP-Initial-Document_2017-11-30.pdf.
- Beechie, T., 2018. Memorandum to: Washington Department of Fish and Wildlife Staff. Regarding: Summary of Watershed Assessment Results, Chehalis River Basin. Chehalis Basin Strategy. Prepared for the Governor's Chehalis Basin Work Group. National Oceanic and Atmospheric Administration. May 14, 2018.
- Collins, B.D., D.R. Montgomery, K.L. Fetherston, and T.B. Abbe, 2012. "The floodplain large-wood cycle hypothesis: A mechanism for the physical and biotic structuring of temperate forested alluvial valleys in the North Pacific coastal ecoregion." *Geomorphology* 2012:139–140; 460–470.
- Dragovich, J.D., M.J. Brunengo, and W.J. Gerstel, 1993. "Landslide inventory and analysis of the Tilton creek-Mineral river area, Lewis County. Part two: soils, harvest age, and conclusions." *Washington Geology* 21(4):18–30.
- Dube, K.V., 2016. Memorandum to: Chrissy Bailey, Washington Department of Ecology. Regarding: Evaluation of Forest Practice Effects on Landslides and Erosion in the Chehalis Basin. August 1, 2019. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2016/09/Appendix-E-Final-Chehalis-Forest-Practices-Landslides.pdf.
- Dyrness, C.T., 1967. Mass soil movements in the H.J. Andrews Experimental Forest. Portland: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. Research Paper PNW-42. Accessed at: http://andrewsforest.oregonstate.edu/pubs/pdf/pub335.pdf.
- Ecology (Washington Department of Ecology), 2017a. State Environmental Policy Act Handbook 2017 Updates. Accessed at: https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance.
- Ecology, 2017b. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Water Resources Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for the Washington Department of Ecology. February 2020.
- Guthrie, R.H., and S.G. Evans, 2004. "Analysis of landslide frequencies and characteristics in a natural system, coastal British Columbia." *Earth Surface Processes and Landforms* 29(11):1321–1339.

- Jakob, M., 2000. "The impacts of logging on landslide activity at Clayoquot Sound, British Columbia." *Catena* 38(4):279–300.
- Ketcheson, G.L., 1977. Hydrologic factors and environmental impacts of mass soil movements in the Oregon Coast Range. M.S. Thesis. Corvallis, Oregon. Oregon State University. Accessed at: https://ir.library.oregonstate.edu/xmlui/handle/1957/10147.
- Montgomery, D.R., K.M. Schmidt, H.M. Greenberg, and W.E. Dietrich, 2000. "Forest clearing and regional landsliding." *Geology* 28(4):311–314.
- Perry, G., J. Lundquist, and R.D. Moore, 2016. Authors' Interpretation [of Literature Review] for Application in the Chehalis. July 2016.
- Pierce, K., M. Hayes, J. Miller, K. Samson, A. Agun, and J. Tyson, 2017. *Changes in the Chehalis River Floodplain* 1938 to 2013. November 2017.
- Robison, G.E., K.A. Mills, J. Paul, L. Dent, and A. Skaugset, 1999. *Oregon Department of Forestry Storm Impacts and Landslides of 1996: Final Report*. Prepared for the Oregon Department of Forestry Forest Practices Monitoring Program. June 1999. Accessed at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/records/region_1/2003/ref1785.pdf.
- Swanson, F.J., and C.T. Dyrness, 1975. "Impact of clearcutting and road construction on soil erosion by landslides in the western Cascades Range, Oregon." *Geology* 3(7):393–396.
- Swanson, F.J., L.E. Benda, S.H. Duncan, G.E. Grant, W.F. Megahan, L.M. Reid, and R.R. Ziemer, 1987. Mass failures and other processes of sediment production in Pacific Northwest forest landscapes. Streamside
 Management: Forestry and Fishery Interactions. Proceedings of a Symposium held at the University of Washington, February 12–14, 1986. Contribution No. 57, Institute of Forest Resources, Seattle, Washington.
- Swanston, D.N., 1974. Slope stability problems associated with timber harvesting in mountainous regions of the western United States. Portland: Pacific Northwest Forest and Range Experiment Station. General Technical Report PNW-21.
- WH Pacific, 2018. Chehalis-Centralia Airport Property Master Plan. April 23, 2018. Accessed at: https://www.ci.chehalis.wa.us/sites/default/files/fileattachments/airport/page/1332/airport_property_mas ter_plan_presentation.pdf.

3 AIR QUALITY AND GREENHOUSE GAS DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2019. *Reservoir Water Quality Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- Anchor QEA, 2020. Proposed Project Description and Alternatives. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix 1. Prepared for Washington Department of Ecology. February 2020.
- BAAQMD (Bay Area Air Quality Management District), 2017. California Air Quality Act Air Quality Guidelines. May 2017.
- Bureau of Reclamation, 2017. Sites Reservoir Project Draft Environmental Impact Report/Environmental Impact Statement. Last updated August 2017; accessed April 24, 2019. Accessed at: https://www.sitesproject.org/resources/environmental-review/draft-environmental-impact-reportenvironmental-impact-statement/.
- CAPCOA (California Air Pollution Control Officers Association), 2017. California Emissions Estimator Model, version 2016.3.2. Accessed November 2017. Accessed at: http://www.caleemod.com/.
- CARB (California Air Resources Board), 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
- CEQ (Council on Environmental Quality), 2016. Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, August 1, 2016 (Withdrawn, March 28, 2017). Accessed November 20, 2017. Accessed at: https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg-climate_final_guidance.html.
- Ecology (Washington Department of Ecology), 2011. *ECOconnect News Letter*. Last updated May 18, 2011; accessed April 24, 2019. Accessed at: http://ecologywa.blogspot.com/2011/05/air-time-rounding-upsome-air-quality.html.
- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2019a. Yearly report for Washington's Air Monitoring Network on-line tool. Accessed April 24, 2019. Accessed at: https://fortress.wa.gov/ecy/enviwa/.
- Ecology, 2019b, 2017 Washington State Greenhouse Gas Data. Accessed at: https://ecology.wa.gov/Air-Climate/Climate-change/Greenhouse-gases/2017-greenhouse-gas-data
- Ecology, 2019c. *Diesel Emission*. Accessed April 24, 2019. Accessed at: https://ecology.wa.gov/Air-Climate/Airquality/Vehicle-emissions/Diesel-emissions.
- EPA (U.S. Environmental Protection Agency), 1995. *Compilation of Air Pollutant Emission Factors*. Publication AP-42. Office of Air Quality Planning and Standards, Research Triangle Park, NC. January 1995. Accessed at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissionsfactors.

- EPA, 2004. User's Guide for the AMS/EPA Regulatory Model (AERMOD). Office of Air Quality Planning and Standards, Emissions Monitoring and Analysis Division, Research Triangle Park, North Carolina, EPA-454/B-03-001. September 2004.
- EPA, 2006. AP-42 5th Edition Volume 1, Chapter 13, Miscellaneous Sources. Accessed at: https://www3.epa.gov/ttn/chief/ap42/ch13/index.html.
- EPA, 2014. "Motor Vehicle Emission Simulator (MOVES)." Includes NON-ROAD mode. Versions 2014a and 2014b. Accessed at: https://www.epa.gov/moves.
- EPA, 2017. Our Nation's Air. Accessed at: https://gispub.epa.gov/air/trendsreport/2017/#highlights.
- ESA (Environmental Science Associates), 2009. San Rafael Rock Quarry Amended Reclamation Plan and Amended Surface Mining and Quarrying Permit combined Final Environmental Impact Report. Accessed April 24, 2019. Accessed at: https://www.marincounty.org/-/media/files/departments/pw/land-use/feir-volumei_revised-deir.pdf.
- ESA, 2017. Baylands Soil Processing Use Permit and Grading Plan, Brisbane, California; Air Quality and Greenhouse Gas Evaluation Technical Report. March 2017.
- ESA, 2020. Water Resources Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- IPCC (Intergovernmental Panel on Climate Change), 2018. Framing and Context. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Editors, Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield. In Press.
- Mauger, G.S., J.H. Casola, H.A. Morgan, R.L. Strauch, B. Jones, B. Curry, T.M. Busch Isaksen, L. Whitely Binder,
 M.B. Krosby, and A.K. Snover, 2015. *State of Knowledge: Climate Change in Puget Sound*. Prepared for the
 Puget Sound Partnership and the National Oceanic and Atmospheric Administration. Climate Impacts
 Group, University of Washington, Seattle. Accessed at: https://cig.uw.edu/news-and events/publications/state-of-knowledge-climate-change-in-puget-sound/.
- Mote, P., A.K. Snover, S. Capalbo, S.D. Eigenbrode, P. Glick, J. Littell, R. Raymondi, and S. Reeder, 2014.
 "Chapter 21: Northwest." *Climate Change Impacts in the United States: The Third National Climate Assessment*. Editors, J.M. Melillo, T.C. Richmond, and G.W. Yohe. U.S. Global Change Research Program, 487–513. Accessed at: https://nca2014.globalchange.gov/downloads.
- PSCAA (Puget Sound Clean Air Agency), 2010. Tacoma and Seattle Area Air Toxics Evaluation. October 29, 2010.
- Ren, D., 2010. "Effects of global warming on wind energy availability." Journal of Renewable and Sustainable Energy 2(5). American Institute of Physics. Updated September 1, 2010. Accessed at: http://scitation.aip.org/content/aip/journal/jrse/2/5/10.1063/1.3486072.

- Saint Claire, John (Southwest Clean Air Agency), 2019. Personal communication with Chris Sanchez, Environmental Science Associates. April 1, 2019.
- Stephens, T., 2008. Stronger Coastal Winds Due to Climate Change May Have Far-Reaching Effects. December 18, 2008. Accessed at: https://news.ucsc.edu/2008/12/2644.html.
- SWCAA (Southwest Clean Air Agency), 2007. 2007 Annual Report. Accessed at: http://www.swcleanair.org/docs/annualreports/anrpt2007.pdf.

4 CULTURAL RESOURCES DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2020a. *Fish Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Tribal Resources Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix L. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for the Washington Department of Ecology. February 2020.
- DAHP (Department of Archaeology and Historic Preservation), 2010. Statewide Predictive Model. Last modified 2010; accessed May 2019. Accessed at: http://www.dahp.wa.gov/.
- DAHP, 2019. Washington Information System for Architectural and Archaeological Records Data (WISAARD). Accessed at: http://www.dahp.wa.gov/.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Hajda, Y., 1990. "Southwestern Coast Salish in Northwest Coast." Wayne Suttles, editor. Handbook of North American Indians, Volume 7. William C. Sturtevant, general editor. Washington, DC: Smithsonian Institution, 503–517.
- Herbel, B., and R. Schalk, 2002. An Archaeological Reconnaissance of the Chehalis River Floodplain for the Centralia Flood Damage Reduction Project, Washington. Prepared for U.S. Army Corps of Engineers Seattle Office by Cascadia Archaeology, Seattle. On file, Washington State Department of Archaeology and Historic Preservation, Olympia.
- Holstine, C., 2002. National Register of Historic Places Registration Form Pe Ell Bridge/Weyerhaeuser/Pe Ell Bridge. On file, Washington State Department of Archaeology and Historic Preservation, Olympia.
- Kirk, R., and C. Alexander, 2001. *Exploring Washington's Past: A Road Guide to History*. Revised Edition. Seattle: University of Washington Press.
- Krauss, M.E., 1990. "Kwalhioqua and Clatskanie in Northwest Coast." Wayne Suttles, editor. Handbook of North American Indians, Volume 7. William C. Sturtevant, general editor. Washington, DC: Smithsonian Institution, 530–532.
- Marr, C., D. Hicks, and K. Francis, 1980. *The Chehalis People*. Prepared for the Confederated Tribes of the Chehalis Reservation, Oakville, Washington.

Metsker Map Company, 1948. Metsker's Atlas of Lewis County, Washington. Seattle.

Metsker Map Company, 1960. Metsker's Atlas of Lewis County, Washington. Seattle.

Metsker Map Company, 1962. Metsker's Atlas of Lewis County, Washington. Seattle.

- Nelson, C.M., 1990. "Prehistory of the Puget Sound Region in Northwest Coast." Wayne Suttles, editor. Handbook of North American Indians, Volume 7. William C. Sturtevant, general editor. Washington, DC: Smithsonian Institution, pp. 481–484.
- Ostrander, T., C. Lockwood, K. Wilson, and C. Schneider, 2018. *Chehalis River Basin Flood Damage Reduction Archaeological Resources and Built Environment Existing Conditions*. Prepared by Environmental Science Associates.
- Ostrander, T., J. Kahn, and M. Bever, in review. Chehalis River Basin Flood Damage Reduction, Section 106 Archaeological and Built Environment Assessment of Eligibility and Adverse Effects. Prepared by Environmental Science Associates.
- Rooke, L.C., 2009. Washington State Archaeological Site Inventory Form –Update: Site 45-LE-194. On file, Washington State Department of Archaeology and Historic Preservation, Olympia.
- Shannon, D., S. Kramer, and D.V. Ellis, 2019. *Chehalis River Basin Strategy Traditional Cultural Property Inventory*. Prepared by Willamette Cultural Resources Associates, Ltd., Portland and Seattle.
- Shannon & Wilson and Watershed Geodynamics, 2020. Earth Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for the Washington Department of Ecology. February 2020.
- Spier, L., 1936. "Tribal Distribution in Washington." *American Anthropological Association General Series in Anthropology No. 3.* Menasha, Wisconsin: George Banta Publishing Company.
- USGS (U.S. Geological Survey), 1941. Walville, WA. 15' Series Quadrangle. Reston, Virginia.
- USGS, 1953a. Pe Ell, WA. 15' Series Quadrangle. Reston, Virginia.
- USGS, 1953b. Skamokawa, WA. 15' Series Quadrangle. Reston, Virginia.
- USGS, 1954. Centralia, WA. 15' Series Quadrangle. Reston, Virginia.
- USGS, 1975. Centralia NW, WA. 7.5' Series Quadrangle (Orthophotoquad). Reston, Virginia.
- USGS, 1985. Centralia, WA. 7.5' Series Quadrangle. Reston, Virginia.
- U.S. Surveyor General, 1856. Township 14 North, Range 2 West Survey Map. Accessed May 2019. Accessed at: https://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=PWA&name=t140n020w_001.jpg.
- U.S. Surveyor General, 1891. Township 12 North, Range 5 West Survey Map. Accessed May 2019. Accessed at: https://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=PWA&name=t120n050w_001.jpg.
- Wessen, G., 1990. "Prehistory of the Ocean Coast of Washington in Northwest Coast." Wayne Suttles, editor.
 Handbook of North American Indians, Volume 7. William C. Sturtevant, general editor. Washington, DC:
 Smithsonian Institution, 412–421.

5 ENVIRONMENTAL HEALTH AND SAFETY DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2017. *Chehalis Basin Strategy Operations Plan for Flood Retention Facilities*. June 2017.
- City of Centralia, 2008. *City of Centralia Comprehensive Flood Management and Natural Hazards Mitigation Plan*. December 2008.
- City of Montesano, 2019. *Montesano Treatment Plant Project*. Accessed December 20, 2019. Accessed at: http://cityofmontesano.com/montesano-wastewater-treatment-plant-project/.
- Ecology (Washington Department of Ecology), 1992. Dam Safety Guidelines Technical Note 2: Selection of Design/Performance Goals for Critical Project Elements. Publication No. 92-55F. July 1992. Accessed at: https://fortress.wa.gov/ecy/publications/documents/9255f.pdf.
- Ecology, 1993. Dam Safety Guidelines Part IV: Dam Design and Construction. Publication No. 92-55D. July 1993.
- Ecology, 2013. Guidelines for Developing Dam Emergency Action Plans. Publication No. 92-22. December 2013.
- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2019. *Hazardous Sites List, Site Register Special Issue*. February 27, 2019. Accessed May 7, 2019. Accessed at: https://fortress.wa.gov/ecy/publications/documents/1909042a.pdf.
- EPA (U.S. Environmental Protection Agency), 2019a. "Superfund: National Priorities List (NPL)." Modified February 5, 2019; accessed March 13, 2019. Accessed at: http://www.epa.gov/superfund/sites/npl/.
- EPA, 2019b. "Envirofacts, RCRAInfo Search." Accessed August 8, 2019. Accessed at: https://www3.epa.gov/enviro/facts/rcrainfo/search.html.
- ESA (Environmental Science Associates), 2020a. *Public Services and Utilities Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix I. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020c. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for the Washington Department of Ecology. February 2020.
- Grays Harbor County, 2019. *Emergency Management*. Cited April 29, 2019. Accessed at: http://www.co.graysharbor.wa.us/departments/emergency_management/index.php.

HDR and Shannon & Wilson, 2015. Phase 1 Site Characterization Technical Memorandum.

HDR and Shannon & Wilson, 2017. Phase 2 Site Characterization Technical Memorandum.

- HDR, 2018. Chehalis River Basin Flood Control: FRE Dam Alternative Combined Dam and Fish Passage Supplemental Design Report (Page 21). September 2018. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Holcomb, R. (Southwest Regional Office [SWRO] Spill Response Team Leader, Ecology), 2008. 2007–08 Chehalis River Flood Oil and Hazardous Material Recovery Project Final Report. Memorandum to: J. Sachet, SWRO Spill Unit Supervisor, Ecology. ERTS 603326; PIC Code P6330. December 18, 2007.
- Hoyle-Dodson, Guy (Washington Department of Ecology Dam Safety Office), 2019. Personal communication with Lisa Adolfson, Environmental Science Associates. June 6, 2019.
- Lewis County, 2019. Everbridge Overview and FAQs. Accessed May 7, 2019. Accessed at: https://member.everbridge.net/index/453003085613586#/overview.
- Lewis County Emergency Management, 2016. *Lewis County Multi-Jurisdictional Hazard Mitigation Plan*. Adopted by Lewis County January 25, 2016.
- OSHA (Occupational Safety and Health Administration), 2019. "Fact Sheets on Natural Disaster Recovery: Flood Cleanup." Accessed April 18, 2019. Accessed at: https://www.osha.gov/OshDoc/floodCleanup.html.
- Shannon & Wilson and Watershed GeoDynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for the Washington Department of Ecology. February 2020.
- Thurston County, 2018. *Thurston Community Alert*. Accessed June 6, 2019. Accessed at: https://www.thurstoncountywa.gov/em/emdocuments/Thurston%20Community%20Alert%20Flyer.pdf.
- Thurston County, 2019. "Emergency Management." Accessed June 6, 2019. Accessed at: https://www.thurstoncountywa.gov/em.
- Washington Emergency Management Division, 2018. *Washington State Enhanced Hazard Mitigation Plan*. Effective 2018–2023 (Approved October 1, 2018). Accessed at: https://mil.wa.gov/asset/5d1626c2229c8.
- WSE (Watershed Science Engineers), 2019. FRE Break Scenario Model. Chehalis SEPA EIS. April 5, 2019.

6 ENVIRONMENTAL JUSTICE DISCIPLINE REPORT

- ACS (American Community Survey), 2017. U.S. Census Bureau 2013–2017 American Community Survey 5-Year Estimates.
- Anchor QEA (Anchor QEA, LLC), 2018. SEPA EIS Scoping Summary Report. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for Washington Department of Ecology. December 2018.
- Anchor QEA, 2020a. *Tribal Resources Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix L. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. Land Use Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix G. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Fish Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020d. *Proposed Project Description and Alternatives*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix 1. Prepared for Washington Department of Ecology. February 2020.
- ASPE (Office of The Assistant Secretary for Planning and Evaluation), 2019. "U.S. Federal Poverty Guidelines Used to Determine Financial Eligibility for Certain Federal Programs." Accessed May 31, 2019. Accessed at: https://aspe.hhs.gov/poverty-guidelines.
- CEQ (Council on Environmental Quality), 1997. Environmental Justice: Guidance Under the National Environmental Policy Act. Accessed at: https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.
- DOC (State of Washington Department of Commerce), 2018. *Homelessness in Washington State: 2018 Annual Report*. Report to the Legislature. December 2018. Accessed at: http://www.commerce.wa.gov/wp-content/uploads/2013/01/COMMERCE-Homelessness-2018.pdf.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Air Quality and Greenhouse Gas Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix A. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. *Environmental Health and Safety Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix C. Prepared for Washington Department of Ecology. February 2020.

- ESA, 2020c. *Noise Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix H. Prepared for Washington Department of Ecology. 2020.
- ESA, 2020d. *Public Services and Utilities Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- ESA, 2020e. *Recreation Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- ESA, 2020f. *Transportation Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- ESA, 2020g. Visual Quality Discipline Report. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- ESA, 2020h. Water Discipline Report. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- ESA, 2020i. *Cultural Resources Discipline Report.* Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- Lewis County, 2019. *Lewis County 5-Year Housing and Homelessness Strategic Plan*. Accessed August 8, 2019. Accessed at: https://lewiscountywa.gov/media/documents/5-yr_housing_Strategic_Plan_4-19.pdf.
- NEPA Committee and EJ IWG (Federal Interagency Working Group on Environmental Justice), 2016. Promising Practices for EJ Methodologies in NEPA Reviews. EPA 300B16001. March 2016. Accessed at: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.
- OSPI (Office of the Superintendent of Public Instruction), 2017. *Transitional Bilingual Instructional Program 2016–2017 Annual Report to the Washington State Legislature: Appendix C, School Year Languages Spoken by District*. OSPI Migrant and Bilingual Education Office. Accessed at: http://www.k12.wa.us/MigrantBilingual/BilingualProgram/AnnualReports.aspx.
- Shannon & Wilson and Watershed Geodynamics, 2020. *Earth Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. January 2020.
- U.S. Census Bureau, 2018a. "Glossary." Last Revised May 21, 2018. Accessed May 30, 2019. Accessed at: https://factfinder.census.gov/help/en/index.htm#glossary.htm.
- U.S. Census Bureau, 2018b. "Language Use: About." Last Revised May 10, 2018. Accessed June 10, 2019. Accessed at: https://www.census.gov/topics/population/language-use/about.html.

- USEPA (U.S. Environmental Protection Agency), 1998. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses*. April 1998. Accessed at: https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf.
- WTN (Washington Tracking Network, Washington Department of Health), 2019. "Information by Location." Accessed June 4, 2019. Accessed at: https://fortress.wa.gov/doh/wtn/WTNIBL/.

7 FISH SPECIES AND HABITATS DISCIPLINE REPORT

- Abdul-Aziz, O.I., N.J. Mantua, K.W. Myers, 2011. "Potential climate change impacts on thermal habitats of Pacific salmon (*Oncorhynchus* spp.) in the North Pacific Ocean and adjacent seas." *Canadian Journal of Fisheries and Aquatic Sciences* 68:1660–1680.
- ADFG (Alaska Department of Fish and Game), 1991. Blasting Standards for the Protection of Fish.
- Anchor QEA (Anchor QEA, LLC), 2014. *Water Quality Studies Final Report*. Chehalis Basin Strategy. Prepared for Washington State Office of Financial Management. September 2014.
- Anchor QEA, 2017. *Reservoir Water Quality Model*. Chehalis Basin Strategy. Prepared on behalf of the Governor's Chehalis Basin Work Group. June 2017.
- Anchor QEA, 2019. Memorandum to: Diane Butorac, Washington Department of Ecology. Regarding: Chehalis River Basin Operations Modeling for Current Conditions and the Flood Retention Expandable Facility. May 28, 2019.
- Anchor QEA, 2020a. *Wildlife Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. Wetlands Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Tribal Resources Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix L. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020d. *Proposed Project Description and Alternatives*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix 1. Prepared for Washington Department of Ecology. February 2020.
- Andersson, E., C. Nilsson, and M.E. Johansson, 2000. Effects of river fragmentation on plant dispersal and riparian flora. *Regulated Rivers: Research & Management* 16, 83–89.
- ASEPTC (Aquatic Species Enhancement Plan Technical Committee), 2014. Aquatic Species Enhancement Plan. Prepared for the Chehalis Basin Work Group. August 29, 2014.
- Ashcraft S., C. Holt, M. Zimmerman, M. Scharpf, and N. Vanbuskirk, 2017. *Final Report: Spawner Abundance and Distribution of Salmon and Steelhead in the Upper Chehalis River, 2013–2017, FPT 17-12.* Washington Department of Fish and Wildlife, Olympia, Washington.
- ASRPSC (Aquatic Species Restoration Plan Steering Committee). 2019. Draft Chehalis Basin Strategy Aquatic Species Restoration Plan Phase I. Publication #19-06-009.
- Barnard, R., J. Johnson, P. Brooks, K. Bates, B. Heiner, J. Klavas, D. Ponder, P. Smith, and P. Powers, 2013. *Water Crossings Design Guidelines*. Washington Department of Fish and Wildlife, Olympia, Washington.

- Beecher, H. (Washington Department of Fish and Wildlife), 2015. Regarding: Weighted Usable Area for Species. Email to: Robert Montgomery (Anchor QEA). November 5, 2015.
- Beechie, T., 2018. Memorandum to: Washington Department of Fish and Wildlife Staff. Regarding: Summary of
 Watershed Assessment Results, Chehalis River Basin. Chehalis Basin Strategy. Prepared for the Governor's
 Chehalis Basin Work Group. National Oceanic and Atmospheric Administration. May 14, 2018.
- Ben-David, M., T.A. Hanley, and D.M. Schell, 1998. Fertilization of Terrestrial Vegetation by Spawning Pacific Salmon: The Role of Flooding and Predator Activity. Oikos 83, 47.
- Bjornn, T.C., and D.W. Reiser, 1991. Habitat Requirements of Salmonids in Streams. In *Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats*, edited by W.R. Meehan. American Fisheries Society Special Publication 19:83–138.
- Blevins, E., L. McMullen, S. Jepsen, M. Blackburn, A. Code, and S. Hoffman-Black, 2018. Conserving the Gems of our Waters: Best Management Practices for Protecting Native Western Freshwater Mussels. Xerces Society for Invertebrate Conservation.
- Blevins, E., 2018. Western Ridged Mussel (*Gonidea angulata*). Xerces Society for Invertebrate Conservation. Presentation dated May 23, 2018.
- Blevins, E. L. McMullen, S. Jepsen, M. Blackburn, A., Code., and S. Hoffman-Black, 2019. Mussel-Friendly Restoration. Xerces Society for Invertebrate Conservation.
- Bohling, J.H., T.A. Whitesel, and M. Brown, 2018. "Genetic characteristics of coastal cutthroat trout inhabiting an urban watershed." *Environmental Biology of Fishes* 101(5):799–811.
- Brown, S.K., T.R. Seamons, C. Holt, S. Ashcraft, and M. Zimmerman, 2017. *Population genetic analysis of Chehalis River basin Chinook salmon* (Oncorhynchus tshawytscha), FPT 17-13. Washington Department of Fish and Wildlife, Olympia, Washington.
- Buchanan, J.B., D.H. Johnson, E.L. Greda, G.A. Green, T.R. Wahl, and S.J. Jeffries, 2001. Wildlife of coastal and marine habitats. Pages 389–422 in D.H. Johnson, and T.A. O'Neil, editors. Wildlife – habitat relationships in Oregon and Washington. Oregon State University Press, Corvallis, Oregon.
- Bunn, S.E., and A.H. Arthington, 2002. Basic Principles and Ecological Consequences of Altered Flow Regimes for Aquatic Biodiversity. *Environmental Management* 30, 492–507.
- Burke, M., K. Jorde, and J.M. Buffington, 2009. Application of a hierarchical framework for assessing environmental impacts of dam operation: Changes in streamflow, bed mobility and recruitment of riparian trees in a western North American river. *Journal of Environmental Management* 90, S224–S236.
- Caldwell, B., J. Pacheco, H. Beecher, T. Hegy, and R. Vadas, 2004. *Chehalis River Basin, WRIAs 22 and 23, Fish Habitat Analysis Using the Instream Flow Incremental Methodology*. Ecology and WDFW, March 2004. Open File Technical Report 04-11-006.
- Campbell, L., A. Claiborne, S. Ashcraft, M. Zimmerman, and C. Holt, 2017. *Investigating Juvenile Life History and Maternal Run Timing of Chehalis River Spring and Fall Chinook Salmon Using Otolith Chemistry.* Washington Department of Fish and Wildlife, Final Report, June 2017.

- Carter, S., J. Peterson, D. Lipton, L. Crozier, M. Fogarty, and S. Gaichas, 2018. Ecosystems, Ecosystem Services, and Biodiversity. Climate Change Impacts in the United States: The Fourth National Climate Assessment: U.S. Global Change Research Program.
- CBS (Chehalis Basin Strategy), 2017a. *Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species Habitat. Final Programmatic EIS.* Washington State Department of Ecology. June 2, 2017.
- CBS, 2017b. Aquatic Species Restoration Plan: Initial Outcomes and Needed Investments for Policy Consideration. Aquatic Species Restoration Plan Steering Committee. November 2017.
- CBS, 2017c. Combined Dam and Fish Passage Conceptual Design Report; Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2017d. Combined Dam and Fish Passage Supplemental Design Report FRX Dam Alternative; Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2017e. Operations Plan for Flood Retention Facilities: Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2018a. Chehalis River Basin Flood Control Combined Dam and Fish Passage Supplemental Design Report: FRE Dam Alternative. Prepared by HDR. September 25, 2018. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2018/09/FRE-Alternative-Supplemental-Report-2018-09-27-reduced.pdf.
- CBS, 2018b. Chehalis Basin Strategy Fish Passage: CHTR Preliminary Design Report. January 2018.
- City of Centralia, 2019. Centralia Municipal Code. Current through March 26, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Centralia/
- City of Chehalis, 2019. Chehalis Municipal Code. Current through April 22, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Chehalis/
- Clemens, B., S. van de Wetering, S. Sower, and C. Schreck, 2013. "Maturation Characteristics and Life-History Strategies of the Pacific Lamprey, *Entosphenus tridentatus*." *Canadian Journal of Zoology* 91(11):775–788.
- Close, D., 2000. Confederated Tribes of the Umatilla Indian Reservation, Pacific Lamprey Research and Restoration Project, Report to Bonneville Power Administration, Contract No. 00000248-1, Project No. 199402600. BPA Report DOE/BP-00000248-1.
- Close, D., M. Fitzpatrick, and H. Li, 2002. "The Ecological and Cultural Importance of a Species at Risk of Extinction, Pacific Lamprey." *Fisheries* 27:19–25.
- Courter, I., D. Child, J. Hobbs, T. Garrison, J. Glessner, and S. Duery, 2013. Resident rainbow trout produce anadromous offspring in a large interior watershed. *Canadian Journal of Fisheries and Aquatic Sciences* 70(5):701–710.
- CRBFC (Chehalis River Basin Flood Control), 2018. Combined Dam and Fish Passage Supplemental Design Report FRE Dam Alternative, Updated September 2018.
- Crozier, L., and R. Zabel, 2006. "Climate impacts at multiple scales: Evidence for differential population responses in juvenile Chinook salmon." *Journal of Animal Ecology* 75(5):1100.

- Crozier, L., R.W. Zabel, S. Achord, and E.E. Hockersmith, 2010. "Interacting effects of density and temperature on body size in multiple populations of Chinook salmon." *Journal of Animal Ecology* 79:342–349.
- Crozier, L.G., M.M. McClure, T.J. Beechie, S.J. Bograd, D.A. Boughton, M.I. Carr, T.D. Cooney, J.B. Dunham,
 C.M. Greene, M.A. Haltuch, E.L. Hazen, D.M. Holzer, D.D. Huff, R.C. Johnson, C.E. Jordan, I.C. Kaplan,
 S.T. Lindley, N.J. Mantua, P.B. Moyle, J.M. Myers, M.W. Nelson, L.A. Weitkamp, and E. Willis-Norton,
 2019. "Climate Vulnerability Assessment for Pacific Salmon and Steelhead in the California Current Large
 Marine Ecosystem". *PLoS ONE* 14(7).
- DNR (Washington Department of Natural Resources), 2018. "Assessment of Climate Change-Related Risks to DNR's Mission, Responsibilities and Operations, 2014–2016; Summary of Results." Accessed at: https://www.dnr.wa.gov/publications/em_climate_assessment010418.pdf?wdva8f.
- DNR, 2019. "Smart Carbon Policy for Washington." Accessed at: https://www.dnr.wa.gov/climate-change.
- Docker, M., 2010. *Microsatellite Analysis of Pacific Lamprey along the West Coast of North America*. Report to the U.S. Fish and Wildlife Service, Arcata, California.
- Durance, I. and S. Ormerod, 2007. Climate change effects on upland stream macroinvertebrates over a 25-year period. Global Change Biology, 13:942–957. doi:10.1111/j.1365-2486.2007.01340.x
- Durban, J.W., H. Fearnbach, L. Barrett-Lennard, M. Groskreutz, W. Perryman, K. Balcomb, D. Ellifrit, M. Malleson,
 J. Cogan, J. Ford, and J. Towers, 2017. Photogrammetry and Body Condition. Availability of Prey for
 Southern Resident Killer Whales. Technical Workshop Proceedings. November 15–17, 2017.
- Ecology (Washington Department of Ecology), 2010. *Quality Assurance Monitoring Plan, Ambient Biological Monitoring in Rivers and Streams: Benthic Macroinvertebrates and Periphyton*. August 2010. Publication No. 10-03-109.
- Ecology, 2011. 2011 Wetlands Inventory. Accessed July 10, 2017. Accessed at: http://waecy.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=22edd2e4e7874badbef2a9 07a3cd4de6.
- Ecology, 2016. EPA-approved water quality assessment. Approved by EPA on July 22, 2016. Accessed at: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-statewaters-303d/EPA-approved-assessment.
- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2019a. Water curtailments for the Chehalis River basin. Accessed at: https://ecologywa.blogspot.com/2019/05/water-curtailments-for-chehalis-river.html. May 30, 2019.
- Ecology, 2019b. "23A160 Chehalis R @ Dryad." River and Stream Water Quality Monitoring. Accessed at: https://ecology.wa.gov/Research-Data/Monitoring-assessment/River-stream-monitoring/Water-qualitymonitoring.

- Ecology, 2019c. "23A070 Chehalis R @ Porter." River and Stream Water Quality Monitoring. Accessed at: https://ecology.wa.gov/Research-Data/Monitoring-assessment/River-stream-monitoring/Water-qualitymonitoring.
- Ecology, 2019d. River and Stream Water Quality Monitoring. Accessed September 20, 2019. Accessed at: https://ecology.wa.gov/Research-Data/Monitoring-assessment/River-stream-monitoring/Water-qualitymonitoring.
- Edwards, A.R, and M.S. Zimmerman, 2018. *Grays Harbor Fall Chum Abundance and Distribution, 2017*. FPA 18-09, Washington Department of Fish and Wildlife. Olympia, Washington.
- Ely, D.M., K.E. Frasi, C.A. Marshall, and F. Reed, 2008. *Seepage Investigation for Selected River Reaches in the Chehalis River Basin, Washington*. U.S. Geological Survey Scientific Investigations Report 2008-5180.
- ESA (Environmental Science Associates), 2020a. *Water Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. *Recreation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix J. Prepared for Washington Department of Ecology. February 2020.
- Eveleens, Roland A., Angus R. McIntosh, and Helen J. Warburton. "Interactive community responses to disturbance in streams: disturbance history moderates the influence of disturbance types." Oikos (2019).
- Fearnbach, H., J.W. Durban, D.K. Ellifrit, and K.C. Balcomb III, 2018. "Using aerial photogrammetry to detect changes in body condition in endangered Southern Resident killer whales." *Endangered Species Research*. Accessed at: https://doi.org/10.3354/esr00883.
- Fisheries Hydroacoustic Working Group, 2008. Memorandum to: Government Agency Staff of the States of Washington, Oregon and California. June 12, 2008. Accessed at: https://www.wsdot.wa.gov/sites/default/files/2018/01/17/ENV-FW-BA_InterimCriteriaAgree.pdf
- Ford, M.J., J. Hempelmann, M.B. Hanson, K.L. Ayres, R.W. Baird, C.K. Emmons, J.I. Lundin, G.S. Schorr, S.K. Wasser, and L.K. Park, 2016. Estimation of a Killer Whale (*Orcinus orca*) Population's Diet Using Sequencing Analysis of DNA from Feces. *PLoS ONE*. 11(1):e0144956. Doi:10.1371/journal.pone.0144956.
- GHLE (Grays Harbor County Lead Entity Habitat Work Group), 2011. The Chehalis Basin Salmon Habitat Restoration and Preservation Strategy for WRIA 22 and 23. Prepared with assistance by Grays Harbor County and Creative Community Solutions, Inc. June 30, 2011. Accessed at: http://www.chehalisleadentity.org/documents/.
- Gladden, J.E., and L.A. Smock, 1990. Macroinvertebrate Distribution and Production on the Floodplains of Two Lowland Headwater Streams. *Freshwater Biology* 24:533–545.
- Grays Harbor, 2017. Grays Harbor County Code. Current through November 13, 2017. Accessed May 8, 2019. Accessed at:

https://library.municode.com/wa/grays_harbor_county/codes/code_of_ordinances?nodeId=GRAYS_HAR BOR_CO_WASHINGTONMUCO.

- Gustafson, R.G., M.J. Ford, D. Teel, and J.S. Drake, 2010. *Status review of eulachon* (Thaleichthys pacificus) *in Washington, Oregon, and California*. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-105, 360 p.
- Haghkerdar, J.M., J.R. McLachlan, A. Ireland, and H.S. Greig, 2019. "Repeat disturbances have cumulative impacts on stream communities." *Ecology and Evolution* 9.5(2019):2898–2906.
- Hansen, M.B., 2017. Seasonal Diet of Southern Resident Killer Whales. Presentation. NOAA Fisheries.
- Hanson M.B., C.K. Emmons, E.J. Ward, J.A. Nystuen, and M.O. Lammers, 2013. Assessing the Coastal Occurrence of Endangered Killer Whales Using Autonomous Passive Acoustic Recorders. J Acoust Soc Am. 134(5):3486– 95. doi: 10.1121/1.4821206.
- Hanson, M.B., R.W. Baird, J.K.B. Ford, J. Hempelmann-Halos, D.M. Van Doornik, J.R. Candy, C.K. Emmons, G.S.
 Schorr, B. Gisborne, K.L. Ayres, S.K. Wasser, K.C. Balcomb, K. Balcomb-Bartok, J.G. Sneva, and M.J. Ford,
 2010. "Species and Stock Identification of Prey Consumed by Endangered Southern Resident Killer Whales in their Summer Range." *Endang. Spec. Res.* 11:69–82.
- Hastings, 2002. Clarification of the Meaning of Sound Pressure Levels and the Known Effects of Sound on Fish. White Paper. August 2002.
- Hatch, D.R., and J.M. Whiteaker, 2009. "A Field Study to Investigate Repeat Homing in Pacific Lampreys." Editors,
 L.R. Brown, S.D. Chase, M.G. Mesa, R.J. Beamish, and P.B. Moyle. *Biology, Management, and Conservation of Lampreys in North America*. Bethesda, Maryland: American Fisheries Society Symposium 72:191–201.
- Hayes, Marc (Washington Department of Fish and Wildlife), 2019a. Personal communication with Larissa Rohrbach (Anchor QEA). Regarding: Prickly sculpin observations. August 16, 2019.
- Hayes, Marc (Washington Department of Fish and Wildlife), 2019b. Personal communication with Larissa Rohrbach (Anchor QEA). Regarding: Olympic mudminnow observations. August 16, 2019.
- Hayes, Marc (Washington Department of Fish and Wildlife), 2019c. Personal communication with Larissa Rohrbach (Anchor QEA). Regarding: Largemouth bass observations. August 16, 2019.
- Hayes, M., J. Tyson, and K. Douville, 2015. 2015 Chehalis ASRP Off-Channel Extensive Surveys: 2nd Progress Report.
 Draft report prepared for EIS development. Habitat Program Science Division, Aquatic Research Section,
 Washington Department of Fish and Wildlife. November 30, 2015.
- Hayes, M., J. Tyson, K. Douville, J. Layman, T. Newman, and K. Young, 2016. 2016 Chehalis Intensive Study in Off-Channel Habitats 3rd (31 December 2016) Progress Report. Chehalis Basin Strategy. Prepared for project distribution. December 31, 2016.
- Hayes, M., J. Tyson, J. Layman, K. Douville, 2019. *Chehalis Intensive Study in Off-Channel Habitats Final Report Draft.* Chehalis Basin Strategy. Prepared for project distribution. March 26, 2019.
- Healey, M., 2011. "The cumulative impacts of climate change on Fraser River sockeye salmon (*Oncorhynchus nerka*) and implications for management." *Canadian Journal of Fisheries and Aquatic Sciences* 68(4):718–37. https://doi.org/10.1139/f11-010 WOS:000291183500012.
- Henning, J., 2004. *An Evaluation of Fish and Amphibian Use of Restored and Natural Floodplain Wetlands*. Final Report EPA Grant CD-97024901-1. Washington Department of Fish and Wildlife, Olympia, Washington.

- Henning, J.A., R.E. Gresswell, and I.A. Fleming, 2006. "Juvenile Salmonid Use of Freshwater Emergent Wetlands in the Floodplain and Its Implications for Conservation Management." North American Journal of Fisheries Management 26:367–376.
- Henning, J.A., R.E. Gresswell, and I.A. Fleming, 2007. "Use of Seasonal Freshwater Wetlands by Fishes in a Temperature River Floodplain." *Journal of Fish Biology* 71(2):476–492.
- Hershey A.E. and G.A. Lamberti, 1998. Stream Macroinvertebrate Communities. In Naiman R.J. and R.E. Bilby editors, River Ecology and Management. New York, New York: Springer.
- Hill, A., and L. Karpack, 2019. Memorandum to: Andrea McNamara Doyle and Chrissy Bailey, Office of Chehalis Basin. Regarding: Chehalis River Basin Climate Change Flows and Flooding Results. May 6, 2019.
- Hiss, J., and E.E. Knudsen, 1993. Chehalis River Basin Fishery Resources: Status, Trends, and Restoration. Olympia:
 U.S. Fish and Wildlife Service, Western Washington Fishery Resource Office. July 1993. Accessed at:
 https://www.fws.gov/wafwo/fisheries/Publications/FP069.pdf.
- Holt, C., 2019. (Washington Department of Fish and Wildlife), 2019b. Personal communication with Larissa Rohrbach (Anchor QEA). Regarding: White sturgeon observations. August 16, 2019.
- Hughes, R.M., and A.T. Herlihy, 2012. "Patterns in catch per unit effort of native prey fish and alien piscivorous fish in 7 Pacific Northwest USA rivers." *Fisheries* 37(5):201–211.
- ICF (ICF International), 2016. Draft EDT modeling results for Chehalis Basin Strategy Programmatic EIS. Prepared for the Washington Department of Ecology.
- IPCC (Intergovernmental Panel on Climate Change), 2013. Climate Change 2013: The Physical Science Basis.
 Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on
 Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V.
 Bex and P.M. Midgley (editors)]. Cambridge University Press, Cambridge, United Kingdom and New York,
 NY, USA, 1535 pp.
- Jansson, R., C. Nilsson, M. Dynesius, and E. Andersson, 2000. Effects of river regulation on river-margin vegetation: a comparison of eight boreal rivers. *Ecological Applications* 10, 203–224.
- Jeffries, S.J., P.J. Gearin, H.R. Huber, D.L. Saul, and D.A. Pruett, 2000. *Atlas of Seal and Sea Lion Haulout Sites in Washington*. Washington Department of Fish and Wildlife, Wildlife Science Division, Olympia, Washington.
- Jepsen, J., 2009. *Species Fact Sheet: Western Ridged Mussel*. Edited by S.F. Jordan and R. Huff. The Xerces Society for Invertebrate Conservation. December 2009.
- Jolley, J.C., G.S. Silver, J.E. Harris, E.C. Butts, and C. Cook-Tabor, 2016. *Occupancy and Distribution of Larval Pacific Lamprey and Lampetra spp. in Wadeable Streams of the Pacific Northwest.* Vancouver: U.S. Fish and Wildlife Service, Columbia River Fish and Wildlife Conservation Office.
- Keefer, M.L., G.A. Taylor, D.F. Garletts, G.A. Gauthier, T.M. Pierce, and C.C. Caudill, 2010. "Prespawn Mortality in Adult Spring Chinook Salmon Outplanted Above Barrier Dams." *Ecology of Freshwater Fish* 19:361–372.
- Kolden, K.D., and C.A. Aimone-Martin, 2013. *Blasting Effects on Salmonids*. Prepared for the Alaska Department of Fish and Game Division of Habitat. June 2013.

- Kuehne, L.M., and J.D. Olden, 2014. "Ecology and Conservation of Mudminnow Species Worldwide." *Fisheries* 39(8):341–351.
- Lamberti, G.A., S.V. Gregory, L.R Ashkenas, R.C. Wildman, and K.M.S. Moore, 1991. "Stream ecosystem recovery following a catastrophic debris flow." *Canadian Journal of Fisheries and Aquatic Sciences* 48:196–208.
- Langness, O.P., L.L. Lloyd, S.M. Schade, B.J. Cady, L.B. Heironimus, and B.W. James. Studies of Eulachon in Oregon and Washington. Fish Program Report Number FPT 18-07. September 28, 2018.
- Lawrence, D.J., J.D. Olden, and C.E. Torgersen, 2012. "Spatiotemporal patterns and habitat associations of smallmouth bass (*Micropterus dolomieu*) invading salmon rearing habitat." *Freshwater Biology* 57(9):1929–1946. September 2012.
- Lawrence, D., B. Stewart-Koster, J. Olden, A. Ruesch, C. Torgersen, J. Lawler, D. Butcher, and J. Crown, 2014. "The Interactive Effects of Climate Change, Riparian Management, and a Nonnative Predator on Stream-Rearing Salmon." *Ecological Applications* 24(4):895–912.
- Lepori, F., and N. Hjerdt, 2006. "Disturbance and Aquatic Biodiversity: Reconciling Contrasting Views." *BioScience* 56:809–818.
- Lestelle, L., M. Zimmerman, C. McConnaha, and J. Ferguson, 2019. Spawning Distribution of Chehalis Spring-Run Chinook Salmon and Application to Modeling. Memorandum to Aquatic Species Restoration Plan Science and Review Team. April 8, 2019.
- Lewis County, 2019. Lewis County Code. Current through March 11, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/LewisCounty/
- Ligon, F.K., W.E. Dietrich, and W.J. Trush, 1995. Downstream Ecological Effects of Dams. *BioScience* 45, 183–192.
- Losee, J.P., T.R. Seamons, and J. Jauquet, 2017. "Migration patterns of anadromous Cutthroat Trout in South Puget Sound: A fisheries management perspective." *Fisheries Research* 187:218–225.
- Luzier, C., and S. Miller, 2009. *Freshwater Mussel Relocation Guidelines*. Pacific Northwest Native Freshwater Mussel Workgroup. September 17, 2009.
- Lytle, D.A., and N.L. Poff, 2004. Adaptation to natural flow regimes. Trends in Ecology & Evolution 19, 94–100.
- Mackay, R.J., 1992. "Colonization by lotic macroinvertebrates: A review of processes and patterns." *Canadian Journal of Fisheries and Aquatic Sciences* 49:617–628.
- Mallette, C., ed., 2014. *Studies of Eulachon Smelt in Oregon and Washington*. Prepared by ODFW and WDFW for NOAA Fisheries. September 2014.
- Mantua, N., I. Tohver, and A. Hamlet, 2010. "Climate change impacts on streamflow extremes and summertime stream temperature and their possible consequences for freshwater salmon habitat in Washington State." *Climatic Change* (2010) 102:187–223. DOI 10.1007/s10584-010-9845-2.
- Marchetti, M.P., and P.B. Moyle, 2001. Effects of Flow Regime on Fish Assemblages in a regulated California Stream. *Ecological Applications* 11, 530–539.

- Marshall, A., 2018. Sculpin Species Identification and Distribution in the Chehalis River Floodplain Off-Channel Surveys. Final Report for 2015–2017. Washington Department of Fish and Wildlife, Fish Program, Science Division. 20 pp. [April]
- Martin, E., 2019a. Letter to: Diane Butorac, Washington Department of Ecology, and Bob Thomas and Janelle Leeson, U.S. Army Corps of Engineers. Regarding: Chehalis River Basin Water Retention Facility – Project Alternatives History and Alternative Selection, Additional Information. March 15, 2019.
- Martin, E., 2019b. Letter to: Diane Butorac, Washington Department of Ecology, and Bob Thomas and Brandon Clinton, U.S. Army Corps of Engineers. Regarding: Construction Schedule Supplemental Information. September 18, 2019.
- Mauger, G.S., S.Y. Lee, C. Bandaragoda, Y. Serra, and J.S. Won, 2016. *Refined Estimates of Climate Change Affected Hydrology in the Chehalis Basin*. Prepared for Anchor QEA. Seattle: Climate Impacts Group, University of Washington. Accessed at: https://cig.uw.edu/news-and-events/publications/refined-estimates-ofclimate-change-affected-hydrology-in-the-chehalis-basin/.
- McConnaha, C., 2018. Effect of water temperature in EDT. Chehalis Basin Scientific Review Team.
- McConnaha, W., J. Walker, K. Dickman, and M. Yelin, 2017. *Analysis of Salmonid Habitat Potential to Support the Chehalis Basin Programmatic Environmental Impact Statement*. Prepared by ICF Portland, Oregon, for Anchor QEA, Seattle, Washington.
- McElhany, P., M. Ruckelshaus, M. Ford, T. Wainwright, and E. Bjorkstedt, 2000. *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units*. NOAA Technical Memorandum NMFS-NWFSC-42. Accessed at: http://www.nwfsc.noaa.gov/publications/.
- McMullen (ICF International), 2019. Personal communication with John Ferguson and Robert Montgomery (Anchor QEA). Regarding: floodplain habitat quantification. September 18, 2019.
- Meixler, M.S., M.B. Bain, and M.T. Walter, 2009. "Predicting Barrier Passage and Habitat Suitability for Migratory Fish Species." *Ecological Modelling* 220:2782–2791.
- Mittan, K., 2015. "Westport Marina Struggling with Sea Lions." *The Daily World*, Aberdeen, Washington. May 31, 2015.
- Mongillo, P.E. and M. Hallock, 1999. Washington State Status Report for the Olympic Mudminnow. WDFW Fish Program, Freshwater Division. October 1999.
- Mote, P., A.K. Snover, S. Capalbo, S.D. Eigenbrode, P. Glick, J. Littell, R. Raymondi, and S. Reeder, 2014. Chapter 21: Northwest. In Climate Change Impacts in the United States: The Third National Climate Assessment, edited by J.M. Melillo, T.C. Richmond, and G.W. Yohe. U.S. Global Change Research Program, 487–513. Available from: http://nca2014.globalchange.gov/report/regions/northwest.
- Moyle, P., 2002. Inland Fishes of California. Berkeley, California: University of California Press.
- Mundahl, Neal D., and Ashley M. Hunt. "Recovery of Stream Invertebrates After Catastrophic Flooding in Southeastern Minnesota, USA." *Journal of Freshwater Ecology* 26.4(2011):445–457.

- Myers, J.M., J.J. Hard, E.J. Connor, R.A. Hayman, R.G. Kope, G. Lucchetti, A.R. Marshall, G.R. Pess, and B.E. Thompson, 2015. Identifying historical populations of steelhead within the Puget Sound distinct population segment. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-128.
- Naiman, R.J., J.J. Latterell, N.E. Pettit, and J.D. Olden, 2008. Flow variability and the biophysical vitality of river systems. *Comptes Rendus Geoscience* 340, 629–643.
- Nedeau, E.J., A.K. Smith, J. Stone, and S. Jepsen, 2009. Freshwater Mussels of the Pacific Northwest. Second Edition. Portland: The Xerces Society for Invertebrate Conservation. Accessed at: http://xerces.org/sites/default/files/2018-05/09-002_02_XercesSoc_Freshwater-Mussels-of-the-PNW_web.pdf.
- Negishi, J.N., M. Inoue, and M. Nunokawa, 2002. "Effects of Channelization on Stream Habitat in Relation to a Spate and Flow Refugia for Macroinvertebrates in Northern Japan." *Freshwater Biology* 47:1515–1529.
- Niemi, G.J., P. DeVore, N. Detenbeck, D. Taylor, D. Lima, J. Pastor, J.D. Yount, R.J. Naiman, 1990. "Overview of case studies on recovery of aquatic systems from disturbance." *Environmental Management* 14:571–587.
- Nilsson, C., and K. Berggren, 2000. Alterations of Riparian Ecosystems Caused by River Regulation. *BioScience* 50:783–792.
- NMFS (National Marine Fisheries Service), 2005. *Green Sturgeon* (Acipenser medirostris) *Status Review Update.* Santa Cruz Laboratory, Southwest Fisheries Science Center, NOAA Fisheries. February 2005.
- NMFS, 2006. *Recovery Plan for the Puget Sound Chinook Salmon* (Oncorhynchus tshawytscha). National Marine Fisheries Service, Northwest Region. Seattle, WA.
- NMFS, 2011. Anadromous Salmonid Passage Facility Design. NMFS, Northwest Region, Portland, Oregon.
- NMFS, 2015. Southern Distinct Population Segment of the North American Green Sturgeon (Acipenser medirostris), 5-Year Review: Summary and Evaluation. Accessed at: https://repository.library.noaa.gov/view/noaa/17034.
- NMFS, 2016. 2016 5-Year Review: Summary & Evaluation of Lower Columbia River Chinook Salmon Columbia River Chum Salmon Lower Columbia River Coho Salmon Lower Columbia River Steelhead National Marine Fisheries Service West Coast Region Portland, Oregon.
- NMFS, 2018. Proposed Recovery Plan for The Puget Sound Steelhead Distinct Population Segment (Oncorhynchus mykiss). National Marine Fisheries Service, Northwest Region. Seattle, WA.
- NOAA (National Oceanic and Atmospheric Administration) Fisheries and WFDW (Washington Department of Fish and Wildlife), 2018. Southern Resident Killer Whale Priority Chinook Stocks Report. June 22, 2018.
- Normandeau Associates, 2012. Appendix D: PHABSIM Instream Flow Study. Normandeau Associates, Inc.: Chehalis River Basin Flood Authority.
- NWFSC (Northwest Fisheries Science Center), 2015. Status Review Update for Pacific Salmon and Steelhead Listed under the Endangered Species Act: Pacific Northwest. December 21, 2015.
- Office of the Governor, 2018. Executive Order 18-02, Southern Resident Killer Whale Recover and Task Force. State of Washington. March 14, 2018. Accessed at: https://www.governor.wa.gov/sites/default/files/exe_order/eo_18-02_1.pdf

- Ohlberger, J., Buehrens, T.W., Brenkman, S.J., Crain, P., Quinn, T.P., and Hilborn, R., 2018. Effects of past and projected river discharge variability on freshwater production in an anadromous fish. *Freshwater Biology* 2018(63):331–340. https://doi.org/10.1111/fwb.13070.
- Pacheco, Jim (Washington Department of Ecology), 2019a. Email to: Larissa Rohrbach (Anchor QEA). Regarding: Dataset. June 18, 2019.
- Pacheco, Jim (Washington Department of Ecology), 2019b. Email to: Larissa Rohrbach (Anchor QEA). Regarding: Dataset. August 5, 2019.
- Pacific County, 2017. Pacific County Code. Current through March 13, 2017. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Pacific/
- PFMC (Pacific Fishery Management Council), 2019. Review of 2018 Ocean Salmon Fisheries: Stock Assessment and Fishery Evaluation Document for the Pacific Coast Salmon Fishery Management Plan. (Document prepared for the Council and its advisory entities.) Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 101, Portland, Oregon 97220-1384.Pierce, K., Jr., M. Hayes, J. Miller, K. Samson, A. Agun, and J. Tyson, 2017. *Changes in the Chehalis Floodplain – 1938–2013.* Chehalis Basin Strategy. Prepared for project distribution. June 29, 2017.
- Pinay, G., J.C. Clement, and R.J. Naiman, 2002. Basic Principles and Ecological Consequences of Changing Water Regimes on Nitrogen Cycling in Fluvial Systems. *Environmental Management* 30, 481–491.
- Poff, L.N., J.A. Allan, M.B. Bain, J.R. Karr, K.L. Prestegaard, B.D. Richter, R.E. Sparks, and J.C. Stromberg, 1997. The natural flow regime: a paradigm for river conservation and restoration. *BioScience* 47:769–784.
- Poff, N.L., and J.K.H. Zimmerman, 2010. Ecological responses to altered flow regimes: a literature review to inform the science and management of environmental flows. *Freshwater Biology* 55, 194–205.
- Popper, A.N., A.D. Hawkins, R.R. Fay, D.A. Mann, S. Bartol, T.J. Carlson, S. Coombs, W.T. Ellison, R.L. Gentry, M.B.
 Halvorsen, S. Lokkeborg, P.H. Rogers, B. L. Southall, D.G. Zeddies, W.N. Tavolga. Sound Exposure
 Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards
 Committee S3/SC1 and registered with ANSI. April 20, 2014.
- Prince, D., S. O'Rourke, T. Thompson, O. Ali, H. Lyman, I. Saglam, T. Hotaling, A. Spidle, and M. Miller, 2017. "The Evolutionary Basis of Premature Migration in Pacific Salmon Highlights the Utility of Genomics for Informing Conservation." *Science Advances* 3(8). August 16, 2017.
- Quinn, T.P., 2005. The Behavior and Ecology of Pacific Salmon and Trout. Seattle: University of Washington Press.
- Resh, V.H., A.V. Brown, A.P. Covich, M.E. Gurtz, H.W. Li, G.W. Minshall, S.R. Reice, A.L. Sheldon, J.B. Wallace, and R. Wissmar, 1988. The role of disturbance in stream ecology. *Journal of the North American Benthological Society* 7:433–455.
- Ronne, L., A.R. Edwards, and M.S. Zimmerman, 2018. *Grays Harbor Fall Chum Abundance and Distribution, 2018*. FPA 19-05, Washington Department of Fish and Wildlife. Olympia, Washington.
- Ronne, L., 2019. Contribution of Steelhead, Coho and Chinook from upper Chehalis basin above the proposed dam site to the Grays Harbor populations. Memorandum to WDFW files date January 22, 2019.

- Rubenson, E., and J. Olden, 2019. "An invader in salmonid rearing habitat: current and future distributions of smallmouth bass (Micropterus dolomieu) in the Columbia River Basin." *Canadian Journal of Fisheries and Aquatic Sciences* 10.1139/cjfas-2018-0357.
- Scharpf, Mike (Washington Department of Fish and Wildlife), 2019. Personal communication with John Ferguson (Anchor QEA). Regarding: Updated WDFW spawner escapement and total return data. October 7, 2019.
- Schroder, S. and K. Fresh (editors), 1992. *Results of the Grays Harbor Coho Survival Investigations, 1987–1990.* State of Washington Department of Fisheries Technical Report number 118, Olympia, Washington.
- Seamons, T.R., C. Holt, S. Ashcraft, and M. Zimmerman, 2017. *Population genetic analysis of Chehalis River watershed winter steelhead* (Oncorhynchus mykiss). Washington Department of Fish and Wildlife, Olympia, Washington.
- Seamons, T.R., C. Holt, L. Ronne, A. Edwards, and M. Scharpf, 2019. *Population genetic analysis of Chehalis River watershed coho salmon* (Oncorhynchus kisutch). Washington Department of Fish and Wildlife, Olympia, Washington.
- Sedell, J.R., G. Reeves, F.R. Hauer, J.A. Stanford, and B.A. Hawkins, 1990. "Role of Refugia in Recovery from Disturbances: Modern Fragmented and Disconnected River Systems." *Environmental Management* 14, 711–724.
- Shannon & Wilson and Watershed GeoDynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.
- Sharma, S., L.M. Herborg, and T.W. Therriault, 2009. "Predicting Introduction, Establishment and Potential Impacts of Smallmouth Bass." *Diversity and Distributions* 15:831–840.
- Shuter, B.J., J.A. MacLean, F.E.J. Fry, and H.A. Regier, 1980. "Stochastic simulation of temperature effects on firstyear survival of smallmouth bass." *Transactions of the American Fisheries Society* 109, 1–34.
- Shuter, B.J., and J.R. Post, 1990. "Climate, population viability, and the zoogeography of temperate fishes." *Transactions of the American Fisheries Society* 119, 314–336.
- Small, M., A. Edwards, A. Terepocki, T. Seamons, L. Ronne and M. Scharpf, 2019. Chum salmon population structure in the Chehalis Basin. Final report dated June 21, 2019. Washington Department of Fish and Wildlife, Olympia, Washington.
- Smith, C., and M. Wenger, 2001. Salmon and Steelhead Habitat Limiting Factors, Chehalis Basin and Nearby Drainages Water Resource Inventory Areas 22 and 23. Washington State Conservation Commission Final Report. May 2001. Accessed from: https://salishsearestoration.org/images/8/8c/Smith_%26_Wengar_2001_chehalis_basin_salmonid_limiti ng_factors.pdf.
- Snyder, C.D., and Z.B Johnson, 2006. "Macroinvertebrate assemblage recovery following a catastrophic flood and debris flows in an Appalachian mountain stream." *Journal of the North American Benthological Society* 25:825–840.

- Sommer, T.R., M.L. Nobriga, W.C. Harrell, W. Batham, and W.J. Kimmerer, 2001. "Floodplain Rearing of Juvenile Chinook Salmon: Evidence of Enhanced Growth and Survival." *Canadian Journal of Fisheries and Aquatic Science* 58:325–333.
- Southern Resident Orca Taskforce, 2018. Report and recommendations. November 16, 2018.
- Stanford, J.A., and J.V. Ward, 1988. "The Hyporheic Habitat of River Ecosystems." Nature 335:64–66.
- Strayer, D.L., 2008. *Freshwater mussel ecology: a multifactor approach to distribution and abundance*. Volume 1. University of California Press.
- Streif, B., 2007. Pacific Lamprey (Lampetra tridentata) fact sheet. U.S. Fish and Wildlife Service. Accessed at: https://www.fws.gov/pacificlamprey/Documents/Fact%20Sheets/111407%20PL%20Fact%20Sheet.pdf
- Thompson, T., M. Bellinger, S. O'Rourke, D. Prince, A. Stevenson, A. Rodrigues, M. Sloat, C. Speller, D. Yang, V. Butler, M. Banks, and M. Miller, 2019. "Anthropogenic habitat alteration leads to rapid loss of adaptive variation and restoration potential in wild salmon populations." *Proceedings of the National Academy of Sciences* 116(1):177–186.
- Thompson, T., S. O'Rourke, and M. Miller, 2019. *Genetic Analyses in the Chehalis River, WA Provide Insight for Monitoring Spring-Run Chinook.* Draft report submitted to the Washington Department of Fish and Wildlife.
- Thurston County, 2018. Thurston County Code. Current through December 11, 2018. Accessed May 8, 2019. Accessed at: https://library.municode.com/wa/thurston_county/codes/code_of_ordinances?nodeId=THCOCOWA
- Timothy, J., 2013. *Alaska* Blasting Standard for the Proper Protection of Fish. Technical Report No. 13-03. Alaska Department of Fish and Game. November 2013.
- Torgerson, C.E., and D.A. Close, 2004. "Influence of Habitat Heterogeneity on the Distribution of Larval Pacific Lamprey (*Lampetra tridentata*) at two spatial scales." *Freshw Biol* 49:614–630.
- U.S. Forest Service, undated. NorWeST StreamTemp web page. Accessed at: https://www.fs.fed.us/rm/boise/AWAE/projects/NorWeST.html.
- USFWS (U.S. Fish and Wildlife Service), 2011. *The Fish Files: Pacific Lamprey Redd Surveys in the Chehalis and Willapa River Basins*. Accessed September 16, 2016. Accessed at: http://the-fish-files.blogspot.com/2011/06/pacific-lamprey-redd-surveys-in.html.
- USFWS, 2012. Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards. Washington Fish and Wildlife Office, Lacey, Washington. June 2012. Accessed at: https://www.fws.gov/wafwo/pdf/FishExclusionProtocolsandStandards6222012%20DR.pdf.
- USGS (U.S. Geological Survey), 2019. National Hydrography Dataset. Accessed April 14, 2019. Accessed at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography.
- Vander Zanden, M.J., J.D. Olden, J.H. Thorne, and N.E. Mandrak, 2004. "Predicting occurrences and impacts of smallmouth bass introduction in north temperate lakes." *Ecological Applications* 14, 132–148.

- Van Glubt, S., C. Berger, and S. Wells, 2017. Technical Memorandum Chehalis Water Quality and Hydrodynamic Modeling: Model Setup, Calibration, and Scenario Analysis. Prepared for Washington Department of Ecology. April 2017.
- Wade, A.A., T.J. Beechie, E. Fleishman, N.J. Mantua, H. Wu, J.S. Kimball, D.M. Stoms, and J.A. Stanford, 2013.
 "Steelhead Vulnerability to Climate Change in the Pacific Northwest." *Journal of Applied Ecology* 50:1093–1104.
- Wahl, T.R., B. Tweit, and S.G. Mlodinow (Editors). 2005. Birds of Washington: status and distribution. Oregon State University Press, Corvallis, Oregon.
- Wainwright, T., and L. Weitkamp, 2013. "Effects of Climate Change on Oregon Coast Coho Salmon: Habitat and Life-Cycle Interactions." *Northwest Science* 87(3):219–242.
- Wald, A.R., 2009. Report of Investigations in Instream Flow High Flows for Fish and Wildlife in Washington. Washington State Department of Printing. Olympia, WA
- Walther, E., M. Zimmerman, P. Westley, and M. Litz, 2019. Quantifying the Freshwater Range of Occurrence for Salmonids to Guide Restoration Efforts in the Chehalis River Basin, Washington. Unpublished report.
- Ward, J.V., K. Tockner, D. B. Arscott and C. Claret, 2002. Riverine landscape diversity. Freshwater Biology. 47:517–539.
- Ward, E., J. Anderson, T. Beechie, G. Pess, and M. Ford, 2015. "Increasing hydrologic variability threatens depleted anadromous fish populations." *Global Change Biology.*
- Ward, J.V., and J.A. Stanford, 1983. The intermediate-disturbance hypothesis: An explanation for biotic diversity patterns in lotic ecosystems. Pages 347–356 in Fontaine T.D. and S.M. Bartell, editors. *Dynamics of Lotic Ecosystems*. Ann Arbor (MI): Ann Arbor Science.
- Waterstrat, F.T., 2013. Characteristics of three western pearlshell (Margaritifera falcata) populations in the Chehalis River Basin, Washington State. M.S. Thesis, Department of Environmental Studies, Evergreen State College, Olympia, Washington. August 2013.
- WDF (Washington Department of Fisheries), 1975. A Catalog of Washington Streams and Salmon Utilization, WRIA 22 & 23. Accessed at: https://www.streamnetlibrary.org/?page_id=95.
- WDFW (Washington Department of Fish and Wildlife), 2013. Threatened and Endangered Wildlife in Washington:
 2012 Annual Report. Olympia: Listing and Recovery Section Wildlife Program, Washington Department of
 Fish and Wildlife. August 2013. Accessed at: http://wdfw.wa.gov/publications/01542/.
- WDFW, 2019a. "Priority Habitats and Species List." Olympia, Washington. Accessed at: https://wdfw.wa.gov/species-habitats/at-risk/phs/list.
- WDFW, 2019b. "Priority Habitats and Species: Maps." Accessed at: https://wdfw.wa.gov/species-habitats/atrisk/phs/maps.
- WDFW, 2019c. "SCoRE Interactive Map." Accessed June 18, 2019. Accessed at: https://fortress.wa.gov/dfw/score/score/maps/map_details.jsp?geocode=wria&geoarea=WRIA22_Lower _Chehalis.
- WDFW, 2019d. Fish Passage Inventory, Assessment, and Prioritization Manual. Olympia, Washington.

- WDFW, 2019e. "Climate Change." Accessed September 17, 2019. Accessed at: https://wdfw.wa.gov/specieshabitats/habitat-recovery/climate-change.
- WDFW, 2019f. Fish Passage and Diversion Screening Inventory Database Natural Barrier Assessment Report. Survey Date: July 15, 2003.
- WDFW, 2019g. Fishing Rule Change: Chehalis River and its tributaries close to fishing. July 2, 2019.
- WDFW, 2019h. Fish Passage and Diversion Screening Inventory Database Natural Barrier Assessment Report: Rainbow Falls. Print Date: April 17, 2003.
- Whiteley, A.R., P. Spruell, and F.W. Allendorf, 2006. "Can Common Species Provide Valuable Information for Conservation?" *Molecular Ecology* 15(10):2767–2786.
- Wiles, G.J., 2015. *Washington State Periodic Status Review for the Steller Sea Lion*. Washington Department of Fish and Wildlife, Olympia, Washington.
- Winkowski, J., 2019. *Development and methods of the Chehalis Thermalscape Model*. Olympia, Washington: Washington Department of Fish and Wildlife.
- Winkowski, J.J., and M.S. Zimmerman, 2017. Summer Habitat and Movements of Juvenile Salmonids in a Coastal River of Washington State. *Ecol Freshw Fish* 27:255–269. https://doi.org/10.1111/eff.12344.
- Winkowski, J., and M. Zimmerman, 2019. Thermally Suitable Habitat for Juvenile Salmonids and Resident Trout under Current and Climate Change Scenarios in the Chehalis River, WA.
- Winkowski, J.J., E.J. Walther, and M.S. Zimmerman, 2018. *Summer Riverscape Patterns of Fish, Habitat, and Temperature across the Chehalis River Basin.* Washington Department of Fish and Wildlife. Olympia, Washington. FPT 18-01.
- Winkowski, Marie (Washington Department of Fish and Wildlife), 2019. Email to: Larissa Rohrbach (Anchor QEA). Regarding: Dataset. July 22, 2019.
- Winkowski, M., E. Cropper, and N. Kendall, 2019. *Chehalis Basin Fish Density Study, Pilot Study 2018 Final Report*. WDFW Fish Program, Science Division. June 2019.
- Winkowski, M., and N. Kendall, 2018. Validation of Habitat Preferences for Select Native Freshwater Fishes in the Chehalis River, Washington State. Washington Department of Fish and Wildlife Olympia, Washington.
- Winkowski, M., N. Kendall, and E. Cropper, 2019. *Movement and Home Range Study of Select Native Fishes in the Chehalis River, Washington State.* Final Report. WDFW Fish Program, Science Division. June 2019.
- Winkowski, M., N. Kendall, and M. Zimmerman, 2016. *Upper Chehalis Instream Fish Study 2015*. Washington Department of Fish and Wildlife Fish Program, Science Division. FPT 16-11. Olympia, Washington.
- Wofford, J.E.B., R.E. Gresswell, and M.A. Banks, 2005. "Influence of Barriers to Movement on Within-Watershed Genetic Variation of Coastal Cutthroat Trout." *Ecological Applications* 15(2):628–637.
- Wohl, E., B.P. Bledsoe, R.B. Jacobson, N.L. Poff, S.L. Rathburn, D.M. Walters, and A.C. Wilcox, 2015. "The Natural Sediment Regime in Rivers: Broadening the Foundation for Ecosystem Management." *BioScience* 65:358– 371.

- Woodbury, D., and J. Stadler, 2008. "A Proposed Method to Assess Physical Injury to Fishes from Underwater Sound Produced During Pile Driving." *Bioacoustics* 17:289–297.
- WSDOT (Washington State Department of Transportation), 2016. "Marine Mammal and Fish Injury Disturbance Thresholds for Underwater Construction Activity." September 2016. Accessed at: https://www.wsdot.wa.gov/sites/default/files/2018/01/17/ENV-FW-FishMM_Thresholds.pdf.
- WSE (Watershed Science and Engineering), 2019. Chehalis River Basin Hydrologic Modeling. Memorandum from Larry Karpack and Colin Butler, WSE to Bob Montgomery, Anchor QEA. February 28, 2019.
- Wydoski, R.S., and R.R. Whitney, 2003. *Inland fishes of Washington*. Second edition, revised and expanded. Bethesda: American Fisheries Society in association with the University of Washington Press.
- Young, M.K., R.J. Smith, K.L. Pilgrim, K.S. McKelvey, and M.K. Schwartz, 2017. Genetic patterns in sculpins (Cottus) inferred from mtDNA sequences: Chehalis River Basin. Final Report. U.S. Forest Service, Rocky Mountain Research Station, National Genomics Center for Wildlife and Fish Conservation, 800 East Beckwith Avenue, Missoula, Montana, USA. 29 pp.
- Yun, S., A. Widbill, M. Siefkes, M. Moser, A. Dittman, S. Corbett, W. Li, and D. Close, 2011. "Identification of Putative Migratory Pheromones from Pacific Lamprey (*Lampetra tridentata*)." Canadian Journal of Fisheries and Aquatic Sciences 68:2194–2203.
- Zimmerman, Mara, and Curt Holt (Washington Department of Fish and Wildlife), 2016. Personal communication with Chip McConnaha (ICF International). Regarding: Chum salmon spawning distribution in the Chehalis Basin. March 2016.

7.1 Attachment E-1 Species Tables

- AllAboutBirds.org, 2020. "Welcome to Our Bird Guide ID help and life history info for 600+ North American species." Last modified: January 30, 2020; accessed January 31, 2020. Cornell Lab of Ornithology. Accessed at: https://www.allaboutbirds.org/guide/
- Ecology, 2019. State of Washington Department of Ecology Watershed Health Monitoring Web Database. Accessed at: https://apps.ecology.wa.gov/eim/search/WHM/WHMSearch.aspx?State=newsearch&Section=all. Accessed on May 17, 2019.
- Cederholm, C. J., D. H. Johnson, R. E. Bilby, L.G. Dominguez, A. M. Garrett, W. H. Graeber, E. L. Greda, M. D. Kunze,
 B.G. Marcot, J. F. Palmisano, R. W. Plotnikoff, W. G. Pearcy, C. A. Simenstad, and P. C. Trotter, 2000.
 Pacific Salmon and Wildlife Ecological Contexts, Relationships, and Implications for Management. Special
 Edition Technical Report, Prepared for D. H. Johnson and T. A. O'Neil (Managing directors), Wildlife Habitat Relationships in Oregon and Washington. Washington Department of Fish and Wildlife, Olympia,
 Washington.
- Hamer, M., A. Annanie, J. Evenson, I. Keren, and M. Hayes, 2017. Waterfowl and Waterbird Abundance and Utilization of Aquatic Off-Channel Habitats in the Chehalis Floodplain. Washington Department of Fish and Wildlife, Wildlife Program.

- Hayes, M., J. Tyson, and K. Douville, 2015. 2015 Chehalis ASRP Off-Channel Extensive Surveys: 2nd Progress Report.
 Draft report prepared for EIS development. Habitat Program Science Division, Aquatic Research Section,
 Washington Department of Fish and Wildlife. November 30, 2015.
- Hayes, M., J. Tyson, J. Layman, K. Douville, 2019. *Chehalis Intensive Study in Off-Channel Habitats Final Report Draft.* Chehalis Basin Strategy. Prepared for project distribution. March 26, 2019.
- Hershey, A.E. and G.A. Lamberti, 1998. "Stream Macroinvertebrate Communities." In Naiman R.J. and R.E. Bilby editors, *River Ecology and Management*. New York, New York: Springer.
- Hiss, J., and E.E. Knudsen, 1993. Chehalis River Basin Fishery Resources: Status, Trends, and Restoration. Olympia:
 U.S. Fish and Wildlife Service, Western Washington Fishery Resource Office. July 1993. Accessed at:
 https://www.fws.gov/wafwo/fisheries/Publications/FP069.pdf.
- HMWSTS (Habitat Mapping and Wildlife Surveys Technical Sub-Committee), 2014. *Habitat Mapping and Wildlife Studies Technical Memorandum*. Prepared for the Chehalis Basin Work Group. September 3, 2014.
- Hughes, R.M., and A.T. Herlihy, 2012. "Patterns in catch per unit effort of native prey fish and alien piscivorous fish in 7 Pacific Northwest USA rivers." *Fisheries* 37(5):201–211.
- Nedeau, E.J., A.K. Smith, J. Stone, and S. Jepsen, 2009. Freshwater Mussels of the Pacific Northwest. Second Edition. Portland: The Xerces Society for Invertebrate Conservation. Accessed at: http://xerces.org/sites/default/files/2018-05/09-002_02_XercesSoc_Freshwater-Mussels-of-the-PNW_web.pdf.
- NMFS (National Marine Fisheries Service), 2019. NOAA Fisheries Species Directory. Accessed at: https://www.fisheries.noaa.gov/species-directory/threatened-endangered. Accessed on August 28, 2019.
- Small, M., G. Gee, J. Tyson, and M. Hayes, 2017. Chehalis Basin Warmwater Fish Genetic ID. Molecular Genetic Laboratory, Science Division, Fish Program, and Aquatic Research Section, Science Division, Habitat Program, Washington Department of Fish and Wildlife, Olympia, Washington, USA.
- WDFW (Washington Department of Fish and Wildlife), 2019a. "Priority Habitats and Species List." Olympia, Washington. Accessed at: https://wdfw.wa.gov/species-habitats/at-risk/phs/list.
- WDFW, 2019b. "Priority Habitats and Species: Maps." Accessed at: https://wdfw.wa.gov/species-habitats/atrisk/phs/maps.
- Wydoski, R.S., and R.R. Whitney, 2003. *Inland Fishes of Washington*. Second edition, revised and expanded. Bethesda: American Fisheries Society in association with the University of Washington Press.

7.2 Attachment E-2 Salmonid Impacts Modeling Methods

- CBS (Chehalis Basin Strategy), 2017. *Combined Dam and Fish Passage Conceptual Design Report.* Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2018. Chehalis River Basin Flood Control Combined Dam and Fish Passage Supplemental Design Report FRE Dam Alternative. Updated September 2018.

- Dube, Kathy (Watershed Geodynamics), 2019a. Personal communication with John Ferguson (Anchor QEA). January 17, 2019.
- Dube, Kathy (Watershed Geodynamics), 2019b. Personal communication with John Ferguson (Anchor QEA) and Chip McConnaha (ICF International). April 3, 2019.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ferguson, J., 2019. Memorandum to: Diane Butorac, Washington Department of Ecology. Regarding: Juvenile
 Salmonid Fish Passage Estimates for State Environmental Policy Act Environmental Impact Statement.
 Chehalis River Basin Flood Damage Reduction Proposed Project. May 6, 2019.
- Goode, J. R., J. M. Buffington, D. Tonina, D. J. Isaak, R. F. Thurow, S. Wenger, D. Nagel, C. Luce, D. Tetzlaff, and
 C. Soulsby, 2013. "Potential Effects of Climate Change on Streambed Scour and Risks to Salmonid Survival in Snow-Dominated Mountain Basins." *Hydrological Processes* 27(5):750–765.
- Hill, Adam (Anchor QEA), 2019. Personal communication with Chip McConnaha (ICF International). April 18, 2019.
- Hill, A. and L. Karpack, 2019. Memorandum to: Andrea McNamara Doyle and Chrissy Bailey, Office of Chehalis Basin. Regarding: Chehalis River Basin Climate Change Flows and Flooding Results. May 6, 2019.
- Isaak, D. J., S. J. Wenger, E. E. Peterson, J. M. Ver Hoef, D. E. Nagel, C. H. Luce, S. W. Hostetler, J. B. Dunham, B. B. Roper, S. Wollrab, G. L. Chandler, D. L. Horan, and S. Parkes-Payne, 2017. "The NorWeST summer stream temperature model scenarios for the Western U.S.: A crowd-sourced database and new geospatial tools foster a user community and predict broad climate warming of rivers and streams." Water Resources Research 53.
- Karpack, L., and C. Butler, 2019. Memorandum to: Bob Montgomery, Anchor QEA. Regarding: Chehalis River Hydrologic Modeling. Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species Habitat. February 28, 2019.
- Logerwell, E., N. Mantua, P. Lawson, R. Francis, and V. Agostini, 2003. "Tracking Environmental Processes in the Coastal Zone for Understanding and Predicting Oregon Coho (*Oncorhynchus kisutch*) Marine Survival." *Fisheries Oceanography* 12:554–568.
- Mauger, G.S., S.-Y. Lee, C. Bandaragoda, Y. Serra, J.S. Won, 2016. *Effect of Climate Change on the Hydrology of the Chehalis Basin.* Report prepared for Anchor QEA, LLC. Climate Impacts Group, University of Washington, Seattle.
- McConnaha, C., 2019. Memorandum to: Chehalis ASRP Scientific Review Team. Regarding: Procedure for Rating Water Temperature in the Chehalis ASRP EDT Model. Aquatic Species Restoration Plan. March 21, 2019.
- McConnaha, C., and J. Ferguson, 2019. Memorandum to: SEPA EIS file. Regarding: Parameterizing bed scour in the Chehalis EDT model. Chehalis River Basin Flood Damage Reduction Proposed Project. April 25, 2019; revised September 9, 2019.
- McElhany, P., M. Ruckelshaus, M. Ford, T. Wainwright, and E. Bjorkstedt, 2000. *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units*. NOAA Technical Memorandum NMFS-NWFSC-42. Accessed at: http://www.nwfsc.noaa.gov/publications/.
- Montgomery, Robert (Anchor QEA), 2019. Personal communication with Chip McConnaha (ICF International) and John Ferguson (Anchor QEA). Regarding: Analysis of FRE operations in FRE_draft_summary 2019_04_04.xls. April 5, 2019.
- Van Glubt, S., C. Berger, and S. Wells, 2017. *Technical Memorandum Chehalis Water Quality and Hydrodynamic Modeling: Model Setup, Calibration, and Scenario Analysis*. Prepared for Washington Department of Ecology. April 2017.
- Watershed Dynamics and Anchor QEA, LLC., 2017. *Chehalis Basin Strategy: Geomorphology, Sediment Transport, and Large Woody Debris Report.* June 2017.
- Winkowski, J., 2019. *Development and Methods of the Chehalis Thermalscape Model*. Olympia, Washington: Washington Department of Fish and Wildlife.
- Zimmerman, Mara, and Curt Holt (Washington Department of Fish and Wildlife), 2016. Personal communication with Chip McConnaha (ICF International). March 2016.

7.3 Attachment E-3 Fish Passage Associated with the Proposed Action

- Anchor QEA (Anchor QEA, LLC), 2019a. Memorandum to Diane Butorac, Washington Department of Ecology from Adam Hill, PE, Anchor QEA. Chehalis River Basin Operations Modeling for Current Conditions and the Flood Retention Expandable Facility. May 28, 2019.
- Anchor QEA (Anchor QEA, LLC), 2019b. Memorandum to Diane Butorac, Washington Department of Ecology from Adam Hill, PE, Anchor QEA. Chehalis River Basin Operations Modeling and Flood Modeling Results for Future Climate Conditions and Flood Retention Expandable Facility. May 28, 2019.
- Barnard, R., J. Johnson, P. Brooks, K. Bates, B. Heiner, J. Klavas, D. Ponder, P. Smith, and P. Powers, 2013. *Water Crossings Design Guidelines*. Washington Department of Fish and Wildlife, Olympia, Washington.
- Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and F.W. Lagomarsino, 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-27.
- CBS (Chehalis Basin Strategy), 2016. Appendix J, Programmatic EIS. Chehalis Basin Strategy Technical Memorandum from M. Kuziensky, A. Hill, and E. Pipkin, Anchor QEA, LLC, to R. Montgomery and G. Summers, August 31, 2016, Proposed Flood Retention Facility Pre-Construction Vegetation Management Plan.
- CBS, 2017a. Combined Dam and Fish Passage Conceptual Design Report; Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.

- CBS, 2017b. Combined Dam and Fish Passage Supplemental Design Report FRX Dam Alternative; Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2017c. Operations Plan for Flood Retention Facilities: Reducing Flood Damage and Restoring Aquatic Species Habitat. June 2017.
- CBS, 2017d. Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species Habitat. Final Programmatic EIS. Washington State Department of Ecology. June 2, 2017.
- CBS, 2018a. Chehalis River Basin Flood Control Combined Dam and Fish Passage Supplemental Design Report FRE Dam Alternative. Updated September 2018.
- CBS, 2018b. Chehalis Basin Strategy Fish Passage: CHTR Preliminary Design Report. January 2018.
- CBS, 2019a. Memorandum to Diane Butorac, Washington Department of Ecology from John Ferguson, Anchor QEA. Juvenile Salmonid Fish Passage Estimates for State Environmental Policy Act Environmental Impact Statement. May 6, 2019.
- CBS, 2019b. Memorandum to Diane Butorac, Washington Department of Ecology from John Ferguson, Anchor QEA. Adult Salmonid Fish Passage Estimates During Flood Retention Expandable Construction, State Environmental Policy Act Environmental Impact Statement. Draft Memorandum dated May 7, 2019.
- Colotelo, A., R. Harnish, and B. Jones, and 10 other authors, 2014. *Passage Distribution and Federal Columbia River Power System Survival for Steelhead Kelts Tagged Above and at Lower Granite Dam, Year 2.* PNNL-23051, prepared for the U.S. Army Corp of Engineers, Walla Walla District, Walla Walla Washington, by Pacific Northwest National Laboratory, Richland, Washington.
- Ferguson, J., 2019. Personal communication with Ed Meyer, senior fish passage engineer, NMFS Portland. April 2, 2019.
- Holt, C., 2019. (Washington Department of Fish and Wildlife), 2019b. Personal communication with Larissa Rohrbach (Anchor QEA). August 16, 2019.
- Johnson, G., S. Anglea, N. Adams, and T. Wik, 2005. "Evaluation of a Prototype Surface Flow Bypass for Juvenile Salmon and Steelhead at the Powerhouse of Lower Granite Dam, Snake River, Washington, 1996–2000." North American Journal of Fisheries Management 25:138–151.
- Kock, T., N. Verretto, N. Ackerman, R. Perry, J. Beeman, M. Garello, and S. Fielding, 2019. "Assessment of Operational and Structural Factors Influencing Performance of Fish Collectors in Forebays of High-head Dams." *Transactions of the American Fisheries Society* 148:464–479.
- Mayer, K., M. Schuck and D. Hathaway, 2008. Assess Salmonids in the Asotin Creek Watershed, 2007 Annual Report, Project No. 200205300, Report for Bonneville Power Administration, P.O. Box 3621, Portland, OR 97208.
- Narum, S., D. Hatch, A. Talbot, P. Moran, and M. Powell, 2008. "Iteroparity in Complex Mating Systems of Steelhead Oncorhynchus mykiss (Walbaum)." Journal of Fish Biology 2008(72):45–60.
- Nielsen, J., S. Turner and C. Zimmerman, 2011. "Electronic Tags and Genetics Explore Variation in Migrating Steelhead Kelts (*Oncorhynchus mykiss*), Ninilchik River, Alaska." *Canadian Journal of Fisheries and Aquatic Sciences* 68:1–16.

- NMFS (National Marine Fisheries Service), 2011. *Anadromous Salmonid Passage Facility Design*. NMFS, Northwest Region, Portland, Oregon.
- Penney, Z. and C. Moffitt, 2014. "Proximate Composition and Energy Density of Stream-Maturing Adult Steelhead During Upstream Migration, Sexual Maturity, and Kelt Emigration." *Transactions of the American Fisheries Society* 143(2):399–413.
- Ploskey, G., M. Weiland, J. Hughes, C. Woodley, Z. Deng, T. Carlson, J. Kim, I. Royer, G. Batten, A. Cushing, S. Carpenter, D. Etherington, D. Faber, E. Fischer, T. Fu, M. Hennen, T. Mitchell, T. Monter, J. Skalski, R. Townsend, and S. Zimmerman, 2012. *Survival and Passage of Juvenile Chinook Salmon and Steelhead Passing Through Bonneville Dam, 2010.* PNNL-20835 Rev 1, Final Report, Pacific Northwest National Laboratory, Richland, Washington.
- R2 Resource Consultants, Inc., 1998. Annotated Bibliography of Literature Regarding Mechanical Injury with Emphasis on Effects from Spillways and Stilling Basins. Contract No. DACW57-96-D-0007, Task Order No.
 O3. Prepared for: U.S. Army Corps of Engineers, Portland District.
- Ruggles, C.P., and D.G. Murray, 1983. *A Review of Fish Response to Spillways*. Canadian Technical Report of Fisheries and Aquatic Sciences No. 1172. Department of Fisheries and Oceans, Halifax, Nova Scotia, Canada.
- WDFW (Washington Department of Fish and Wildlife), 2000. Draft Fishway Guidelines for Washington State.
- Winkowski, J., and M. Zimmerman, 2017. "Summer Habitat and Movements of Juvenile Salmonids in a Coastal River of Washington State." *Ecology of Freshwater Fish* 2017:1–15.
- Winkowski, M., N. Kendall, and M. Zimmerman, 2016. *Upper Chehalis Instream Fish Study 2015*. Washington Department of Fish and Wildlife Fish Program, Science Division. FPT 16-11. Olympia, Washington.
- Wydoski, R.S., and R.R. Whitney, 2003. *Inland Fishes of Washington*. Second edition, revised and expanded. Bethesda: American Fisheries Society in association with the University of Washington Press.

8 EARTH DISCIPLINE REPORT

- Abbe, T., 2000. Patterns, Mechanics, and Geomorphic Effects of Wood Debris Accumulations in a Forest River System. Doctoral dissertation. Seattle, Washington. University of Washington; Department of Geological Sciences.
- Anchor QEA (Anchor QEA, LLC), 2019. *Reservoir Water Quality Report*. Chehalis Basin Strategy. Prepared on behalf of the Governor's Chehalis Basin Work Group. May 2019.
- Anchor QEA, 2020a. *Fish Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Wetlands Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- ASRPSC (Aquatic Species Restoration Plan Steering Committee). 2019. Draft Chehalis Basin Strategy Aquatic Species Restoration Plan Phase I. Publication #19-06-009.
- Atwater, B.F., and E. Hemphill-Haley, 1997. *Recurrence Intervals for Great Earthquakes of the past 3500 years at Northeastern Willapa Bay, Washington*. U.S. Geological Survey Professional Paper 1576.
- Brake, D., M. Molnau, and J.G. King, 1997. Sediment Transport Distances and Culvert the Spacings on Logging Roads within the Oregon Coast Mountain Range. Presented at 1997 Annual International ASAE Meeting Minneapolis, MN. Paper No. IM-975018.
- Bunn, S.E., and A.H. Arthington, 2002. "Basic Principles and Ecological Consequences of Altered Flow Regimes for Aquatic Biodiversity." *Environmental Management* 30:492–507.
- CBS (Chehalis Basin Strategy), 2017. Combined Dam and Fish Passage Conceptual Design Report. Prepared for State of Washington Recreation and Conservation Office and Chehalis Basin Workgroup. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2017/07/FRO-FRFA-Final-Conceptual-Combined-Dam-Fish-Passage-Design-Report_COMPILED.pdf.
- Chavez, J.W., and G.L. Fenves, G.L., 1995. "Earthquake Analysis of Concrete Gravity Dams Including Base Sliding." *Earthquake Engineering & Structural Dynamics* 24(5):673–686.
- Comiti, F., A. Lucía, and D. Rickenmann, 2016. "Large wood recruitment and transport during large floods: A review." *Geomorphology* 269 (2016) 23–39.
- Computers & Structures, Inc., 2000, SAP2000, https://www.csiamerica.com/products/sap2000.
- Cornforth, D.H., 2005. Landslides in Practice: Investigation, Analysis, and Remedial/Preventive Options in Soils. New York: John Wiley and Sons, Inc.

- Corps (U.S. Army Corps of Engineers), 2003. *Centralia Flood Damage Reduction Project, Chehalis River, Washington, General Reevaluation Study: Final Environmental Impact Statement*. June 2003.
- DNR (Washington Department of Natural Resources), 2010. Digital Geology of Washington State at 1:100,000 Scales, Version 3.0. Washington Department of Natural Resources Division of Geology and Earth Resources. June 2010.
- Dubé, K. (Watershed GeoDynamics), 2016. Memorandum to: Chrissy Bailey, Washington Department of Ecology. Regarding: Evaluation of Forest Practice Effects on Landslides and Erosion in the Chehalis Basin. August 1, 2016.
- Dubé, K., W. Megahan, and M. McCalmon, 2004. *Washington Road Surface Erosion Model (WARSEM) Manual*. Prepared for Washington Department of Natural Resources. February 20, 2004.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Elliot, B. (Watershed Science & Engineering), 2014. *Chehalis Basin Strategy: Reducing Flood Damage and* Enhancing Aquatic Species - Development and Calibration of Hydraulic Model. February 7, 2014.
- Elliot, B., and L. Karpack (Watershed Science & Engineering), 2014. Memorandum to: H&H Technical Committee. Regarding: Chehalis Basin Strategy: Reducing Flood Damage and Enhancing Aquatic Species – Development and Calibration of Hydraulic Model. June 22, 2014.
- Entrix, 2009. Assessment of the December 2007 Flood Event in the Upper Chehalis Basin. Prepared for Washington Forest Law Center. September 14, 2009.
- ESA (Environmental Science Associates), 2020a. *Environmental Health and Safety Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix C. Prepared for Washington Department of Ecology. February 2020.
- ESA (Environmental Science Associates), 2020b. *Water Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- Fenves, G., and A.K. Chopra, 1987. "Simplified Earthquake Analysis of Concrete Gravity Dams." *Journal of Structural Engineering* 113(8):1688–1708.
- Gendaszek, A.S., 2011. Hydrologic Framework and Groundwater/Surface-Water Interactions of the Chehalis River Basin, Southwestern Washington. Prepared in cooperation with the U.S. Army Corps of Engineers, Washington Department of Ecology, and the Chehalis Basin Partnership. U.S. Geological Survey Scientific Investigations Report 2011–5160. Accessed at: http://pubs.usgs.gov/sir/2011/5160/pdf/sir20115160.pdf.
- Geoengineer, EAGD-SLIDE, https://www.geoengineer.org/software/166-EAGD-SLIDE.
- GeoEngineers, Inc., and Herrera Environmental Consultants, Inc., 2009. *Comprehensive Flood Hazard Management Plan for the Confederated Tribes of the Chehalis Reservation*. Unpublished report prepared for the Confederated Tribes of the Chehalis. March 17, 2009.
- Geo-Slope International, 2014a. SEEP/W v 8.0: Calgary, Alberta, Geo-Slope International.

Geo-Slope International, 2014b. SLOPE/W v 8.0: Calgary, Alberta, Geo-Slope International.

- Glancy, P.A., 1971. Sediment Transport by Streams in the Chehalis River Basin, Washington, October 1961 to September 1965. U.S. Geological Survey Water-Supply Paper 1798-H.
- Global Geophysics, 2015. *Report on the Geophysical Surveys for Chehalis Dam, Pe Ell, WA*. Prepared for Anchor QEA, LLC. May 29, 2015.
- Global Geophysics, 2016. *Report on the Geophysical Surveys for Chehalis Dam Phase 2, Pe Ell, WA*. Prepared for Anchor QEA, LLC. July 29, 2016.
- Goldfinger, C., C.H Nelson, and J.E. Johnson, 2003. "Holocene Earthquake Records from the Cascadia Subduction Zone and Northern San Andreas Fault Based on Precise Dating of Offshore Turbidites." *Annual Review of Earth and Planetary Sciences* 31:555–577.
- Gupta, H.K., 1992. Reservoir-Induced Earthquakes. New York: Elsevier Science.
- Gurnell A.M., H. Piégay, F.J. Swanson and S.V. Gregory, 2002. "Large wood and fluvial processes." Freshwater Biology 2002(47):601–619.
 https://andrewsforest.oregonstate.edu/sites/default/files/lter/pubs/pdf/pub3010.pdf.
- HDR and Shannon & Wilson, 2015. Phase 1 Site Characterization Technical Memorandum.
- HDR and Shannon & Wilson, 2016. Phase 2 Site Characterization Technical Memorandum.
- Hill, A. (Anchor QEA), and L. Karpack (Watershed Science & Engineering), 2019. Memorandum to: Andrea McNamara Doyle and Chrissy Bailey, Office of Chehalis Basin. Regarding: Chehalis River Basin Climate Change Flows and Flooding Results. May 6, 2019.
- Hogan, D.L. and D.S. Luzi, 2010. Channel Geomorphology: Fluvial Forms, Processes, and Forest Management
 Effects. In Compendium of Forest Hydrology and Geomorphology in British Columbia. Pike et al. (editors).
 B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. and FORREX Forum for Research and Extension in
 Natural Resources, Kamloops, B.C. Land Manag. Handb. 66. Accessed at:
 www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh66.htm.
- Kuziensky, M., A. Hill, and E. Pipkin (Anchor QEA), 2016. Memorandum to: B. Montgomery and G. Summers, Anchor QEA. Regarding: Proposed Flood Retention Facility Pre-construction Vegetation Management Plan. August 31, 2016.
- Lytle, D.A., and N.L. Poff, 2004. "Adaptation to natural flow regimes." Trends in Ecology & Evolution 19:94–100.
- Megahan, W.F., and G.L. Ketcheson, 1996. "Predicting Downslope Travel of Granitic Sediments from Forest Roads in Idaho." *Water Resources Bulletin* 32(2):371–382.
- Montgomery, D.R. and H. Piégay, 2003. "Wood in rivers: interactions with channel morphology and processes." *Geomorphology* 51 (2003) 1–5.
- Naiman, R.J., J.J. Latterell, N.E. Pettit, and J.D. Olden, 2008. "Flow Variability and the Biophysical Vitality of River Systems." *Comptes Rendus Geoscience* 340:629–643.
- Poff, N.L., J.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestegaard, B.D. Richter, R.E. Sparks, and J.C. Stromberg, 1997. "The Natural Flow Regime." *BioScience* 47:769–784.

- Poff, N.L., and J.K.H. Zimmerman, 2010. "Ecological Responses to Altered Flow Regimes: A Literature Review to Inform the Science and Management of Environmental Flows." *Freshwater Biology* 55:194–205.
- Reiter, M., 2008. *December 4–7, 2007 Storm Events Summary*. Prepared for Weyerhaeuser Western Timberlands. February 8, 2008.
- Revey, G.F., 1996. "Practical methods to control explosives losses and reduce ammonia and nitrate levels in mine water." *Mining Engineering* July:61–64.
- Sarikhan, I.Y., K.D Stranton, T.A. Contreras, M. Polenz, J. Powell, T.J. Walsh, and R.L. Logan, 2008. *Landslide Reconnaissance Following the Storm Event of December 1–3, 2007, in Western Washington*. Washington Department of Natural Resources Open File Report 2008-5. November 2008.
- Schmidt, L.J. and J.P. Potyondy, 2004. *Quantifying Channel Maintenance Instream Flows: An Approach for Gravel-Bed Streams in the Western United States.* Gen. Tech. Rep. RMRS-GTR-128. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Shannon & Wilson, 2009. Reconnaissance-Level Geotechnical Report, Proposed Chehalis River and South Fork Dam Sites, Lewis County, Washington.
- Shannon & Wilson, 2014a. Preliminary Desktop Landslide Evaluation.
- Shannon & Wilson, 2014b. *Quarry Rock Desktop Study*.
- Shannon & Wilson, 2015. Landslide Reconnaissance Evaluation of the Chehalis Dam Reservoir.
- Shannon & Wilson, 2016. *Phase 2 Chehalis Dam Geotechnical Data Report.* Prepared for the Chehalis Basin Work Group.
- Shannon & Wilson, 2017. Phase 2 Chehalis Dam Landslide Evaluation Technical Memorandum.
- Shannon & Wilson, 2019a. Rock Quarry Characterization, Potential RCC Aggregate Sources for Dam Site.
- Shannon & Wilson, 2019b. Phase 3 Chehalis Dam Geotechnical Data Report.
- Smith, C.J., and M. Wenger, 2001. Salmon and Steelhead Habitat Limiting Factors, Chehalis Basin and Nearby Drainages Water Resource Inventory Areas 22 and 23. Washington State Conservation Commission Final Report.
- Surian, N., L. Mao, M. Giacomin, and L. Ziliani, 2009. "Morphological effects of different channel-forming discharges in a gravel-bed river." *Earth Surface Processes and Landforms* 34:1093–1107.
- Troost, K.G., D.B. Booth, and W.T. Laprade, 2003. "Quaternary geology of Seattle." *Western Cordillera and adjacent areas: Boulder, Colorado.* Editor, T.W. *Swanson.* Geological Society of America Field Guide 4:267–284.
- Wald, A.R., 2009. Report of Investigations in Instream Flow High Flows for Fish and Wildlife in Washington. Washington State Department of Printing. Olympia, Washington.
- Wang, K., R.E. Wells, S. Massotti, R.D. Hyndman, and T. Sagiya, 2003. "A Revised Dislocation Model of Interseismic Deformation of the Cascadia Subduction Zone." *Journal of Geophysical Research* 108(B1), paper ETG 9.
- Ward J.V., K. Tockner, D. B. Arscott, and C. Claret, 2002. "Riverine Landscape Diversity." *Freshwater Biology* 47:517–539.

- Watershed GeoDynamics and Anchor QEA, 2012. *Appendix B: Geomorphology/Sediment Transport/Large Woody Debris Report of the Chehalis River Fish Study*. Prepared for the Chehalis River Basin Flood Authority. April 2012.
- Watershed GeoDynamics and Anchor QEA, 2014. *Geomorphology and Sediment Transport Technical Memorandum*. Prepared for the Chehalis Basin Workgroup. June 2014.
- Watershed GeoDynamics and Anchor QEA, 2017. *Geomorphology, Sediment Transport, and Large Woody Debris Report*. Prepared as part of the Chehalis Basin Flood Strategy for the Washington State Recreation and Conservation Office. June 2017.
- Watershed GeoDynamics, 2019a. *Geomorphology and Sediment Transport*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for Washington Department of Ecology and U.S. Army Corps of Engineers. May 2019.
- Watershed GeoDynamics, 2019b. Memorandum to: Diane Butorac (Washington Department of Ecology), Bob
 Thomas and Brandon Clinton (U.S. Army Corps of Engineers). Regarding: Chehalis River Basin: Retrieval of
 Scour Monitors and Accelerometers Placed in the Chehalis River over Winter 2018–2019.
 September 3, 2019.
- Watershed Science & Engineering, 2014. *Re-evaluation of Statistical Hydrology and Design Storm Selection for the Chehalis River Basin*. Technical memorandum prepared for the Hydrological and Hydraulic Technical Committee. January 31, 2014.
- Wells, R.E., and K.J. Coopersmith, 1994. "New Empirical Relationships Among Magnitude, Rupture Length, Rupture Width, Rupture Area, and Surface Displacement." *Bulletin of the Seismological Society of America* 84(4):974–1002.
- Wells, R.E., and M.G. Sawian, 2014. Preliminary geologic map of the eastern Willapa Hills, Cowlitz, Lewis, and Wahkiakum Counties, Washington. U.S. Geological Survey Open-File Report 2014-1063. Accessed at: http://pubs.usgs.gov/of/2014/1063/.
- Weyerhaeuser, 1994a. Chehalis Headwaters Watershed Analysis. July 1994.
- Weyerhaeuser, 1994b. Stillman Creek Headwaters Watershed Analysis. September 1994.
- Wohl, E., B.P. Bledsoe, R.B. Jacobson, N.L. Poff, S.L. Rathburn, D.M. Walters, and A.C. Wilcox, 2015. "The Natural Sediment Regime in Rivers: Broadening the Foundation for Ecosystem Management." *BioScience* 65:358– 371.

9 LAND USE DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2016. Build Out Analysis. Appendix L of the Chehalis Basin Strategy Programmatic Environmental Impact Statement. Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species Habitat. Prepared for Washington State Department of Ecology. June 29, 2016. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2016/09/Appendix-L-Build-Out-Analysis.pdf.
- Anchor QEA, 2017a. Draft Memorandum to: Chrissy Bailey, Washington Department of Ecology. Regarding: Chehalis Basin Finished Floor Analysis – 2017 Update. October 6, 2017.
- Anchor QEA, 2017b. Memorandum to: Chrissy Bailey, Washington Department of Ecology. Regarding: Summary of Preliminary Land Use Analyses for the Chehalis Basin Strategy. December 29, 2017.
- Anchor QEA, 2020a. *Wetlands Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. Fish Species and Habitats Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Chehalis Tribe (Confederated Tribes of the Chehalis Reservation), 2014. *Confederated Tribes of the Chehalis Indian Reservation's Park and Recreation Plan*. March 26, 2014. Accessed at: https://www.chehalistribe.org/wpcontent/uploads/2018/09/final-chehalis-tribal-park-plan.pdf.
- City of Chehalis, 2019. "Chehalis-Centralia Airport." Accessed May 2, 2019. Accessed at: https://www.ci.chehalis.wa.us/airport/available-twin-city-town-center-properties.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2019. Floods and Floodplain Planning. Accessed June 27, 2019. Accessed at: http://www.ecy.wa.gov/programs/sea/floods/.
- ESA (Environmental Science Associates), 2020a. *Recreation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix J. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.

- ESA, 2020c. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for Washington Department of Ecology. February 2020.
- FEMA (Federal Emergency Management Agency), 2018a. National Flood Insurance Program Community Rating System. Accessed June 27, 2019. Accessed at: https://toolkit.climate.gov/tool/fema-national-floodinsurance-program-community-rating-system.
- FEMA, 2018b. October 2018 NFIP Flood Insurance Manual Appendix F: Community Rating System. October 2018. Accessed at: https://www.fema.gov/media-library-data/1538670889773-81423feb161c06426ac157a409123f3d/app-f_crs_508_oct2018.pdf
- FEMA, 2019a. National Flood Hazard Layer Database. FEMA Geoportal. Accessed April 19, 2019. Accessed at: https://msc.fema.gov/portal/home.
- FEMA, 2019b. "Conditional Letter of Map Revision." Accessed May 7, 2019. Accessed at: https://www.fema.gov/conditional-letter-map-revision.
- French & Associates, 2014a. *Floodplain Management Analysis Lewis County*. Prepared for the Chehalis River Basin Flood Authority. September 2014.
- French & Associates, 2014b. *Chehalis River Basin Repetitive Flood Loss Strategy*. Prepared for the Chehalis River Basin Flood Authority. November 2014.
- OFM (Office of Financial Management), 2017. "Growth Management Act Population Projections for Counties: 2010 to 2040 (2017 Projections)." Accessed September 12, 2019. Accessed at: https://ofm.wa.gov/washingtondata-research/population-demographics/population-forecasts-and-projections/growth-management-actcounty-projections/growth-management-act-population-projections-counties-2010-2040-0.
- Shannon & Wilson and Watershed Geodynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.
- U.S. Census Bureau, 2016. Quick Facts for Lewis and Grays Harbor County. Accessed January 24, 2016. Accessed at: http://www.census.gov/quickfacts/table/PST045215/53027,53041,00.
- USGS (U.S. Geological Survey), 2016. National Land Cover Database. Accessed May 14, 2019. Accessed at: https://www.mrlc.gov/data.
- DNR (Washington Department of Natural Resources), 2019a. Forest Practices Applications. Accessed March 18, 2019. Accessed at: http://geo.wa.gov/datasets/wadnr::forest-practices-applications.
- DNR, 2019b. Forest Riparian Easements Database. Accessed April 25, 2019.
- WSDA (Washington State Department of Agriculture), 2019a. Agricultural Land Use Database. Accessed April 25, 2019. Accessed at: https://agr.wa.gov/departments/land-and-water/naturalresources/agricultural-land-use.
- WSDA, 2019b. Washington Dairies 2019 Database. Accessed April 25, 2019. Accessed at: http://geo.wa.gov/datasets/26add7da921d4aa68ccb50ce191c6182_0.

WSE (Watershed Science & Engineering), 2014. Draft Memorandum to: Structure Survey Technical Committee. Regarding: Chehalis Basin Strategy: Reducing Flood Damage and Enhancing Aquatic Species - Description of Structures Database/Methodology for Finished Floor Estimation. November 7, 2014.

10 NOISE AND VIBRATION DISCIPLINE REPORT

- AirNav, 2019. *Airport Summary for Chehalis-Centralia Airport.* Accessed April 25, 2019. Accessed at: https://www.airnav.com/airport/KCLS.
- Anchor QEA (Anchor QEA, LLC), 2020a. *Fish Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Bureau of Reclamation, 2017. Sites Reservoir Project Draft Environmental Impact Report/Environmental Impact Statement. Last updated August 2017; accessed April 24, 2019. Accessed at: https://www.sitesproject.org/resources/environmental-review/draft-environmental-impact-reportenvironmental-impact-statement/.
- Caltrans (California Department of Transportation), 2009. *Technical Noise Supplement*. Accessed at: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed: April 17, 2019.
- DWR (California Department of Water Resources), 2019. 2017 Storm Damage DWR Rehabilitation Phase 4 and 5 Repair Sites Initial Study Negative Declaration. April 2019.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- EPA (U.S. Environmental Protection Agency), 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* EPA No. 550/9-74-004. Washington, D.C.: Office of Noise Abatement and Control. March 1974.
- ESA (Environmental Science Associates), 2009. San Rafael Rock Quarry Amended Reclamation Plan and Amended Surface Mining and Quarrying Permit Combined Final Environmental Impact Report. Accessed April 24, 2019. Accessed at: https://www.marincounty.org/-/media/files/departments/pw/land-use/feir-volumei_revised-deir.pdf.
- ESA, 2017. Baylands Soil Processing Use Permit and Grading Plan, Brisbane, California; Air Quality and Greenhouse Gas Evaluation Technical Report. March 2017.
- FHWA (Federal Highway Administration), 2004. *Traffic Noise Model*. Accessed April 17, 2019. Accessed at: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/.
- FHWA, 2006. Construction Noise Handbook. Prepared by U.S. Department of Transportation Research and Innovative Technology Administration. Publication # FHWA-HEP-06-015 August 2006. Accessed April 17, 2019. Accessed at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/.
- FHWA, 2011. Noise Analysis and Abatement Guidance. Three-Part Approach to Highway Traffic Noise Abatement.

- FTA (Federal Transit Administration), 2018. *Transit Noise and Vibration Impact Assessment Manual*. Accessed: April 17, 2019. Accessed at: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment.
- H.M. Pitt Labs, 2006. Industrial Hygiene Noise Survey. January 23, 2006.
- Lewis County, 2018. *Lewis County Comprehensive Plan*. Accessed April 25, 2019. Accessed at: https://lewiscountywa.gov/departments/community-development/comprehensive-plan/.
- ODOT (Oregon Department of Transportation), 2000. White Paper: *Rock Blasting and the Community*. Accessed April 17, 2019. Accessed at: https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Material-Source.aspx.
- OPR (Governor's Office of Office of Planning and Research), 2017. *State of California General Plan Guidelines*, Appendix D, Noise Element Guidelines, Figure 2. Accessed June 13, 2019. Accessed at: http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf.
- WSDOT (Washington State Department of Transportation), 2017. "WSDOT Traffic Sections (AAQDT) on-line tool for 2017." Accessed April 25, 2019. Accessed at: http://geo.wa.gov/datasets/67a3529cc4044859abcd292a05540835_1?geometry=-126.135%2C45.949%2C-117.022%2C47.27.

11 PUBLIC SERVICES AND UTILITIES DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2020a. *Land Use Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix G. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wetlands Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Wildlife Habitat and Species Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for the Washington Department of Ecology. February 2020.
- Boisfort Valley Water, 2019. Boisfort Valley Water CCR Report. Accessed August 26, 2019. Accessed at: https://boistfortwater.com/index.php?option=com_content&view=category&layout=blog&id=5&Itemid=10.
- Brown and Caldwell, 2008. *Lewis County Comprehensive Flood Hazard Management Plan*. Prepared for Lewis County. July 2008.
- City of Centralia, 2008. *City of Centralia Comprehensive Flood Management and Natural Hazards Mitigation Plan*. December 2008.
- City of Centralia, 2014. City of Centralia, Washington Comprehensive Emergency Management Plan. Accessed at: http://mrsc.org/getmedia/6390e6d7-d754-441b-922c-69cbfd203712/c4cemp.pdf.aspx.
- City of Centralia, 2015. *General Sewer Plan*. Accessed April 23, 2019. Accessed at: http://www.cityofcentralia.com/Files/Full_CentraliaGeneralSewerPlanUpdate2015_Draft.pdf.
- City of Centralia, 2018. *Centralia Comprehensive Plan 2018–2040*. Adopted August 28, 2018. Accessed at: http://www.cityofcentralia.com/SIB/files/Comprehensive%20Plan/2018_Centralia_CPlan_Adopted_Versi on_August_8_2018_compressed.pdf.
- City of Chehalis, 2017. *Chehalis Comprehensive Plan 2017*. Adopted June 26, 2017. Accessed at: http://www.ci.chehalis.wa.us/building/chehalis-comprehensive-plan-2017.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Environmental Health and Safety Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix C. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.

- ESA, 2020c. *Transportation Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for Washington Department of Ecology. February 2020.
- FEMA (Federal Emergency Management Agency), 2007. Risk Management Series Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds. FEMA 577. June 2007. Accessed at: https://www.fema.gov/media-library/assets/documents/10672.
- Gray & Osborne Inc., 2015. Town of Pe Ell Water System Plan. July 2015.
- Grays Harbor County, 2019. "Grays Harbor County Fire Districts." Accessed April 26, 2019. Accessed at: http://www.co.grays-harbor.wa.us/GIS/Maps/GHC_Fire.pdf.
- Grays Harbor County, 2001. Grays Harbor County Comprehensive Flood Hazard Management Plan 2001. Accessed December 23, 2019. Accessed at: http://www.co.graysharbor.wa.us/departments/public_services/planning_division/planning_information/comprehensive_plan .php.
- Greater Grays Harbor Inc., 2019. "Utilities." Accessed April 23, 2019. Accessed at: http://www.graysharbor.org/business/utilities-communications.php.
- Lewis County, 2010. *Lewis County Comprehensive Emergency Management Plan.* Accessed April 23, 2019. Accessed at: https://lewiscountywa.gov/media/attachment/4818/FinalCEMPB122210.pdf.
- Lewis County, 2017. "Fire Districts Map." Accessed April 23, 2019. Accessed at: https://maps.lewiscountywa.gov/maps/EmergServices/FireDistMaps/firedistricts.pdf.
- Lewis County, 2018. Lewis County Comprehensive Plan. Accessed April 23, 2019. at: https://lewiscountywa.gov/departments/community-development/comprehensive-plan/.
- Lewis County Emergency Management, 2016. *Lewis County Multi-Jurisdictional Hazard Mitigation Plan*. Adopted by Lewis County January 25, 2016.
- NPMS (National Pipeline Mapping System), 2019. "Public Viewer." Accessed April 23, 2019. Accessed at: https://pvnpms.phmsa.dot.gov/PublicViewer/.
- PSE (Puget Sound Energy), 2019. "Puget Sound Energy Service Area." August 2019. Accessed August 20, 2019. Accessed at: https://www.energysmartonline.org/documents/EnergySmart-PSE-Territory-Map.pdf.
- Radio-Locator, 2019. "Radio Locator: Centralia, WA." Accessed May 9, 2019. Accessed at: http://radiolocator.com/cgi-bin/locate?select=city&city=Centralia-Chehalis&state=WA&b.
- Ruckelshaus Center (William D. Ruckelshaus Center), 2012. *Chehalis Basin Flood Hazard Mitigation Alternatives Report.* December 19, 2012. Accessed May 15, 2019. Accessed at: https://s3.wp.wsu.edu/uploads/sites/2180/2013/06/chehalis-report-12-19-12.pdf.
- Shannon & Wilson and Watershed Geodynamics, 2020. Earth Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for the Washington Department of Ecology. February 2020.

- The Chronicle, 2018. "Centralia PD to Continue Use at Old Wastewater Treatment Plant." *The Daily Chronicle*. December 13, 2018. Accessed June 12, 2019. Accessed at: http://www.chronline.com/news/centralia-pd-to-continue-use-of-old-wastewater-treatment-plant/article_5f52a306-fefc-11e8-98b0-0b6ebb88843c.html.
- Thurston County, 2019. "Thurston County Fire Districts & Stations." Accessed May 29, 2019. Accessed at: https://www.geodata.org/thumb_2017.aspx?thumb=FireDistricts(54x35).
- Washington Emergency Management Division, 2018. *Washington State Enhanced Hazard Mitigation Plan*. Effective 2018–2023 (Approved October 1, 2018). Accessed April 25, 2019. Accessed at: https://mil.wa.gov/asset/5d1626c2229c8.
- Washington State Fire Marshal's Office, 2018. *Washington State Fire Services Resource Mobilization Plan*. Revised May 2018.

12 RECREATION DISCIPLINE REPORT

- American Whitewater Association, 2019. *National Whitewater Inventory*. Accessed at: https://www.americanwhitewater.org/content/River/state-summary/state/WA/.
- Anchor QEA (Anchor QEA, LLC), 2020a. *Fish Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. Land Use Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix G. Prepared for the Washington Department of Ecology. February 2020.
- Brown and Caldwell, 2008. *Lewis County Comprehensive Flood Hazard Management Plan*. Prepared for Lewis County. July 2008.
- Chehalis River Basin Flood Authority, 2010. Chehalis River Basin Comprehensive Flood Hazard Management Plan. June 2010.
- City of Centralia, 2019. Borst Park. Accessed at: http://www.cityofcentralia.com/Page.asp?NavID=444.
- Discover Lewis County, 2018. *Two New Willapa Hills Trail Bridges Now Open*. Accessed at: https://discoverlewiscounty.com/blog/two-new-willapa-hills-trail-bridges-now-open.
- Discover Lewis County, Washington State University Extension, and Lewis County Farm Bureau, 2018. 2018 Lewis County Farm Guide. Accessed at: https://discoverlewiscounty.com/FarmGuide.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Air Quality and Greenhouse Gas Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix A. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020b. *Noise and Vibration Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix H. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020c. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020d. Visual Quality Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix M. Prepared for the Washington Department of Ecology. February 2020.

- ESA, 2020e. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for the Washington Department of Ecology. February 2020.
- FEMA (Federal Emergency Management Agency), 2012. Final Environmental Assessment: Rainbow Falls State Park Entrance Project, Lewis County, Washington. FEMA-1734-DR-WA. April 2012.
- Lewis County, 2017. *Lewis County Shoreline Master Program Environment Designations, Policies, & Regulations*. Adopted by the Board of County Commissioners October 16, 2017. Accessed at: https://lewiscountywa.gov/media/oldSite/default/files/users/commdev/2017_10_16_smp_bocc_adopte d.pdf.
- Washington State Recreation and Conservation Office, 2018. *Washington State Recreation and Conservation Plan* 2018–2022. Accessed at: https://www.rco.wa.gov/StateRecPlans/.
- WDFW (Washington Department of Fish and Wildlife), 2018. *Washington State Sport Catch Report 2016*. Accessed at: https://wdfw.wa.gov/sites/default/files/publications/02002/wdfw02002.pdf.
- Weyerhaeuser, 2019. *Premier Outdoor Recreation FAQ*. Accessed at: https://www.weyerhaeuser.com/application/files/6015/3124/8012/Permit_FAQs_3-1-2018.pdf.
- WSP (Washington State Parks), 2019a. *Rainbow Falls State Park*. Accessed at: https://parks.state.wa.us/570/Rainbow-Falls.
- WSP, 2019b. Rainbow Falls State Park Brochure and Map. Accessed at: https://parks.state.wa.us/DocumentCenter/View/9321/Rainbow-Falls-State-Park-PDF?bidId=.
- WSP, 2019c. Willapa Hills State Park Trail. Accessed at: http://parks.state.wa.us/1023/Willapa-Hills-Trail.

13 TRANSPORTATION DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2020a. *Environmental Justice Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix D. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wetlands Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Wildlife Species and Habitat Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for the Washington Department of Ecology. February 2020.
- Anchor QEA, 2020d. *Project Description and Alternatives*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix 1. Prepared for the Washington Department of Ecology. February 2020.
- Ashmore, Kim (City of Centralia Public Works), 2019. Email to: Linda Amato (Environmental Science Associates). Regarding: Roadway flooding, closure and detours in Centralia and surrounding areas. April 22, 2019.
- Briggs, Craig (Washington State Department of Transportation), 2019. Email to: Linda Amato (Environmental Science Associates). Regarding: Commercial Vehicle Detour Pass System. June 27, 2019.
- City of Chehalis, 2017. *Comprehensive Plan Transportation Element*. Chehalis Comprehensive Plan 2017, Adopted June 26, 2017. Accessed at: http://www.ci.chehalis.wa.us/building/chehalis-comprehensive-plan-2017.
- DNR (Washington Department of Natural Resources), 2013. *Guidelines for Forest Roads*, Section 3. August 2013. Accessed at: https://www.dnr.wa.gov/publications/fp_board_manual_section03.pdf?ph6ri72.
- DNR, 2017. Forest Practices Illustrated. Accessed at: http://file.dnr.wa.gov/publications/fp_fpi_complete.pdf.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Public Services and Utilities Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix I. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- FDOT (State of Florida Department of Transportation), 2013. Quality/Level of Service Handbook.
- FHWA (Federal Highway Administration), 2009. *Manual on Uniform Traffic Control Devices*. Revised 2012. Accessed at: https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm

- Gernhart, Bart (Washington State Department of Transportation), 2019. Personal communication with Karmen Martin (Environmental Science Associates). Regarding: Roadway flooding, closure and detours at WSDOT facilities in Lewis County. April 9, 2019.
- Grays Harbor County, 2019. 2020–2025 Transportation Improvement Program. Adopted on June 18, 2019. Accessed at: https://www.co.pierce.wa.us/ArchiveCenter/ViewFile/Item/6479.
- Grimes, Aaron (Thurston Regional Planning Council), 2019. Email to: Linda Amato (Environmental Science Associates). Regarding: Projected ADT for 2040. April 4, 2019.
- Hurley, Gary (Lewis County Public Works), 2019a. Email to: Linda Amato (Environmental Science Associates).
 Regarding: Roadway flooding, closure and detours in Lewis County and Flood Inundation Maps (1996 and 2007). April 12, 2019.
- Hurley, Gary (Lewis County Public Works), 2019b. Personal communication with Linda Amato (Environmental Science Associates). Regarding: Roadway flooding, closure and detours in Lewis County. April 12, 2019.
- Kroll, Michael (Lewis County Public Works), 2019. Email to: Linda Amato (Environmental Science Associates).
 Regarding: Traffic counts (2017, 2025, 2030) for selected roadways and traffic projection spreadsheet.
 April 1 and 2, 2019.
- Lewis County, 2008a. 1996 Modeled Inundation Area Map, Twin Cities. February 19, 2008.
- Lewis County, 2008b. 2007 Flood, Approximate Inundation Area Map, Twin Cities. February 19, 2008.
- Lewis County, 2008c. 2007 Flood, Approximate Inundation Area Map, Western Lewis County. April 1, 2008.
- Lewis County, 2018a. 2019–2024 Transportation Improvement Program. Adopted on November 19, 2018.
- Lewis County, 2018b. *Road Atlas Book*. February 28, 2018. Accessed at: http://maps.lewiscountywa.gov/topic/road-atlas/.
- Lewis County, 2018c. *Lewis County Comprehensive Plan, Transportation Element 2018–2020.* February 20, 2018. Accessed at:

https://lewiscountywa.gov/media/oldSite/default/files/users/commdev/e_2018_02_20_transportationel ement.pdf.

- NCHRP (National Cooperative Highway Research Program), 2016. *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual*. Washington, DC.
- Rubin, Will, 2019. "Officials Celebrate First Phase of China Creek Flood Project." Chrononline.com. May 2019.
- Ruckelshaus Center (William D. Ruckelshaus Center), 2012. *Chehalis Basin Flood Hazard Mitigation Alternatives Report*. December 19, 2012.
- Sahlin, Rick (City of Chehalis Public Works), 2019a. Personal communication with Linda Amato (Environmental Science Associates). Regarding: Roadway flooding, closure and detours in Chehalis and surrounding areas. April 11, 2019.
- Sahlin, Rick (City of Chehalis Public Works), 2019b. Email to: Linda Amato (Environmental Science Associates). Regarding: Roadway flooding, closure and detours in Chehalis and surrounding areas. April 11, 2019.

- Shannon & Wilson and Watershed Geodynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.
- St. Charles, Joe (Washington State Department of Transportation), 2019. Email to: Linda Amato (Environmental Science Associates). Regarding: WSDOT traffic counts (2017). March 6, 2019.
- Thurston Regional Planning Council, 2018. 2019–2022 Regional Transportation Improvement Program.
- Wilson, Rob (Grays Harbor County Public Works), 2019. Email to: Karmen Martin (Environmental Science Associates). Regarding: Roadway flooding, closure and detours in Grays Harbor County. December 6, 2019.
- WSDOT (Washington State Department of Transportation), 2007. 2007–2026 Washington State Highway System *Plan.* December 2007.
- WSDOT, 2014. Travel Costs Associated with Flood Closures of State Highways near Centralia/Chehalis, Washington. September 2014.
- WSDOT, 2016a. Washington State Public Transportation Plan. June 2016. Accessed at: https://www.wsdot.wa.gov/sites/default/files/2019/10/15/PT-Report-WashingtonStatePublicTransportationPlan-2016.pdf.
- WSDOT, 2016b. *Development Services Manual*, Chapter 4. April 2016. Accessed at: https://www.wsdot.wa.gov/Publications/Manuals/M3007.htm.
- WSDOT, 2017a. Washington State Freight System Plan. December 2017. Accessed at: https://www.wsdot.wa.gov/publications/fulltext/freight/Freight-Plan-2017SystemPlan.pdf.
- WSDOT, 2017b. *Washington Aviation System Plan*. July 2017. Accessed at: https://www.wsdot.wa.gov/aviation/Planning/.
- WSDOT, 2018a. Corridor Sketch Studies. SR 6: US 101 Junction (Raymond) to I-5 Junction (Chehalis). April 2, 2018.
- WSDOT, 2018b. Corridor Sketch Studies. I-5: I-205 Junction (Salmon Creek) to Thurston County Line. April 2, 2018.
- WSDOT, 2018c. Corridor Sketch Studies. US 12: SR 8 Junction (Elma) to I-5 Junction (Grand Mound). March 2018.
- WSDOT 2018d. Corridor Sketch Studies. US 12: US 101 Jct (Aberdeen) to SR 8 Jct (Elma). March 2018.
- WSDOT, 2018e. Washington State Rail System Map by Owner. August 2018.
- WSDOT, 2019a. Community Planning Portal. Accessed February 19, 2019. Accessed at: https://wsdot.maps.arcgis.com/home/webmap/viewer.html?webmap=927b5daaa7f4434db4b312364489544d.
- WSDOT, 2019b. Level of Service Database. Accessed February 22, 2019. Accessed at: http://geo.wa.gov/datasets/eb303de2bb4a4fc38c86195cdec03e4f_0?geometry=124.369%2C45.919%2C-117.409%2C47.24.
- WSDOT, 2019c. *Milepost Marker*. Accessed February 22, 2019. Accessed at: http://wsdot.maps.arcgis.com/home/item.html?id=03ec5ff3609f45caa849d5afa4d92e9e.

WSDOT, 2019d. Connecting Washington. Accessed June 12, 2019. Accessed at: https://www.wsdot.wa.gov/construction-planning/funding/connecting-washington.

14 TRIBAL RESOURCES DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2020a. *Fish Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wetlands Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Wildlife Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020d. *Environmental Justice Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix D. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020e. *Project Description and Alternatives Appendix*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix 1. Prepared for Washington Department of Ecology. February 2020.
- Chehalis Tribe (Confederated Tribes of the Chehalis Indian Reservation), 2014. Confederated Tribes of the Chehalis Indian Reservation's Park and Recreation Plan.
- Chehalis Tribe, 2016. Confederated Tribes of the Chehalis Indian Reservation Comments on Chehalis Basin Strategy Draft Programmatic Environmental Impact Statement. Letter submitted to the Washington Department of Ecology.
- Chehalis Tribe, 2018. Confederated Tribes of the Chehalis Indian Reservation Comments on Chehalis River Basin Flood Damage Reduction SEPA Scoping. Letter submitted to the Washington Department of Ecology.
- Ecology (Washington Department of Ecology), 2016. Westway Expansion Project Final Environmental Impact Statement. September 2016. Accessed at: https://fortress.wa.gov/ecy/publications/SummaryPages/1706012.html
- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Water Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. *Cultural Resources Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix B. Prepared for Washington Department of Ecology. February 2020.

- ESA, 2020c. *Recreation Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix J. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020d. *Environmental Health and Safety Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix C. Prepared for Washington Department of Ecology. February 2020.
- GOIA (Governor's Office of Indian Affairs), 1989. *Centennial Accord Between the Federally Recognized Indian Tribes in Washington State and the State of Washington.*
- GOIA, 1999. Building Bridges for the New Millennium.
- HDR, 2018. Chehalis River Basin Flood Control: FRE Dam Alternative Combined Dam and Fish Passage Supplemental Design Report. September 2018. Accessed at: http://chehalisbasinstrategy.com/publications/.
- Meadow Run Environmental and Anchor QEA, 2019. *Cottonwood Habitat Study*. Chehalis River Basin Flood Damage Reduction Proposed Project: Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- NWIFC (Northwest Indian Fisheries Commission), 2016. Northwest Indian Fisheries Commission Comments on Chehalis Basin Strategy Draft Programmatic Environmental Impact Statement. Letter submitted to the Washington Department of Ecology.
- Ostrander, T., C. Lockwood, K. Wilson, and C. Schneider, 2018. *Chehalis River Basin Flood Damage Reduction Archaeological Resources and Built Environment Existing Conditions*. Prepared by Environmental Science Associates.
- Quinault (Quinault Indian Nation), 2015. *Quinault Indian Nation Fisheries in the Grays Harbor Area*. Letter to Maia Bellon (Washington State Department of Ecology), in response to Questions Requesting Information about Quinault Fisheries. May 20, 2015.
- Quinault, 2016. *Quinault Indian Nation Comments on Chehalis Basin Strategy Draft Programmatic Environmental Impact Statement*. Letter submitted to the Washington Department of Ecology.
- Quinault, 2018. *Quinault Indian Nation Comments on Chehalis River Basin Flood Damage Reduction SEPA Scoping*. Letter submitted to the Washington Department of Ecology.
- Resource Dimensions, 2015. Economic Impacts of Crude Oil Transport on the Quinault Indian Nation and the Local Economy. April 2015.
- Schindler, D.E., M.D. Scheuerell, J.W. Moore, S.M. Gende, T.B. Francis, and W.J. Palen, 2003. Pacific salmon and the ecology of coastal ecosystems. *Frontiers in Ecology and the Environment* 1:31–37.
- Shannon, D., S. Kramer, and D.V. Ellis, 2019. *Chehalis River Basin Strategy Traditional Cultural Property Inventory*. Confidential report on file at the Washington Department of Ecology.
- Shannon & Wilson and Watershed GeoDynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.

WDFW (Washington Department of Fish and Wildlife), 2019. Salmon and Steelhead Co-Management. Accessed at: https://wdfw.wa.gov/fishing/tribal/co-management.

15 VISUAL QUALITY DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2020. *Land Use Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix G. Prepared for the Washington Department of Ecology. February 2020.
- City of Chehalis, 2017. *Chehalis Comprehensive Plan 2017*. Accessed January 20, 2019. Accessed at: http://www.ci.chehalis.wa.us/building/chehalis-comprehensive-plan-2017.
- Corps (U.S. Army Corps of Engineers), 1988. Visual Resources Assessment Procedure for US Army Corps of Engineers. Instruction Report EL-88-1. March 1988. Accessed at: https://www.esf.edu/es/via/vrap.pdf.
- Corps, 2019. Levee Inspection Report, Routine Inspection, Chehalis-Centralia Airport Levee, Chehalis River, Right Bank, River Mile 70.0 to 73.5. February 22, 2019.
- Ecology (Washington Department of Ecology), 2017. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for the Washington Department of Ecology. February 2020.
- ESA, 2020b. *Recreation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix J. Prepared for the Washington Department of Ecology. February 2020.
- Lewis County, 2017a. Lewis County Comprehensive Plan. Accessed January 20, 2019. Accessed at: https://lewiscountywa.gov/departments/community-development/comprehensive-plan/.
- Lewis County, 2017b. Lewis County Shoreline Master Program Environment Designations, Policies, & Regulations. Adopted by the Board of County Commissioners October 16, 2017. Accessed at: https://lewiscountywa.gov/media/oldSite/default/files/users/commdev/2017_10_16_smp_bocc_adopte d.pdf.
- Ruckelshaus Center (William D. Ruckelshaus Center), 2012. Chehalis Basin Flood Hazard Mitigation Alternatives Report. December 19, 2012. Accessed at: https://s3.wp.wsu.edu/uploads/sites/2180/2013/06/chehalisreport-12-19-12.pdf.
- Ruckelshaus Center, 2014. *Governor's Chehalis Basin Work Group: 2014 Recommendation Report.* Chehalis Basin Strategy. November 25, 2014. Accessed at: https://s3.wp.wsu.edu/uploads/sites/2180/2014/11/ChehalisBasinWorkGroupRecommendationsReport_Final_0004.pdf.
- WSDOT (Washington State Department of Transportation), 2010. Washington State Scenic and Recreational Highways Strategic Plan 2010–2030.

16 WATER DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2014. *Water Quality Studies Final Report*. Chehalis Basin Strategy. Prepared for Washington State Office of Financial Management. September 2014.
- Anchor QEA, 2017a. *Operations Plan for Flood Retention Facilities*. Chehalis Basin Strategy. Prepared for the Chehalis Basin Work Group. June 2017.
- Anchor QEA, 2017b. *Reservoir Water Quality Model*. Chehalis Basin Strategy. Prepared on behalf of the Governor's Chehalis Basin Work Group. June 2017.
- Anchor QEA, 2017c. Summary of Upper Chehalis River and Select Tributary Water Quality Data Collected on February 9 and March 29, 2017. Technical Memorandum from Daniel Opdyke et al. June 30, 2017.
- Anchor QEA, 2018. Wetland, Water, and Ordinary High Water Mark Delineation Report. Chehalis River Basin Flood Damage Proposed Project. Prepared for U.S. Army Corps of Engineers, Washington Department of Ecology, and Washington Department of Fish and Wildlife. December 2018.
- Anchor QEA, 2019a. *Reservoir Water Quality Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- Anchor QEA, 2019b. Memorandum prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. Regarding: Draft Potential Groundwater Level Effects Analysis. Chehalis River Basin Flood Damage Reduction Proposed Project. April 8, 2019.
- Anchor QEA, 2020a. Wetlands Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. Land Use Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix G. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Fish Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA and WSE, 2019. Memorandum to: A. McNamara Doyle and C. Bailey (Office of Chehalis Basin). Prepared by Hill, A. (Anchor QEA) and L. Karpack (WSE). Regarding: Chehalis River Basin Climate Change Flows and Flooding Results. May 6, 2019.
- Brown and Caldwell, 2008. *Lewis County Comprehensive Flood Hazard Management Plan*. Prepared for Lewis County. July 2008.
- CBP (Chehalis Basin Partnership), 2004. Chehalis Basin Watershed Management Plan. Accessed at: http://chehalisbasinpartnership.org/watershed-management-plan-documents/.

- CBS (Chehalis Basin Strategy), 2016. Causes of Extreme Flooding. Chehalis Basin Strategy. Policy Workshop Presentation. October 11, 2016. Accessed at: http://chehalisbasinstrategy.com/publications/.
- CBWG (Chehalis Basin Work Group), 2014. 2014 Recommendation Report. Chehalis Basin Strategy. November 25, 2014.
- Chehalis River Basin Flood Authority, 2010. *Chehalis River Basin Comprehensive Flood Hazard Management Plan*. June 2010.
- Collyard, S., 2017. *Water Quality Status and Trends in the Upper Chehalis River Basin: Are We Making Progress?* Washington Department of Ecology Environmental Assessment Program presentation. October 2017.
- DOH (Department of Health Office of Drinking Water), 2019. *Water System Design Manual*. DOH publication 331-123, revised October 2019.
- Ecology (Washington Department of Ecology), 1994. *Black River Dry Season Dissolved Oxygen and Phosphorus TMDL.* Washington Department of Ecology Publication No. 94-106. Prepared by Picket, P. June 1994.
- Ecology, 1998. *Chehalis River Watershed Surficial Aquifer Characterization*. Washington Department of Ecology Publication No. 98-335. Prepared by Garrigues, R., K. Sinclair, and J. Tooley. December 1998.
- Ecology, 2000. Revised Upper Chehalis River Basin Dissolved Oxygen Total Maximum Daily Load, Submittal Report.
 Washington Department of Ecology Publication No. 00-10-018. Prepared by Jennings, K., and P, Pickett.
 March 2000. Accessed at: https://fortress.wa.gov/ecy/publications/documents/0010018.pdf.
- Ecology, 2001. Upper Chehalis River Basin Temperature Total Maximum Daily Load. Publication No. 99-52. July 2001. Accessed at: https://fortress.wa.gov/ecy/publications/SummaryPages/9952.html.
- Ecology, 2004a. Upper Chehalis River Fecal Coliform Bacteria Total Maximum Daily Load: Submittal Report. Environmental Assessment Program. Prepared by Ahmed, A., and D. Rountry. May 2004. Accessed at: https://fortress.wa.gov/ecy/publications/SummaryPages/0403004.html
- Ecology, 2004b. The Chehalis/Grays Harbor Watershed Dissolved Oxygen (DO), Temperature, and Fecal Coliform Bacteria TMDL. Detailed Implementation (Cleanup) Plan. Washington Department of Ecology Publication No. 04-10-065. Prepared by Rountry, D. November 2004.
- Ecology, 2005. Hydrology and Quality of Groundwater in the Centralia-Chehalis Area Surficial Aquifer. Washington State Groundwater Assessment Program. Washington Department of Ecology Publication No. 05-03-040.
 Prepared by Pitz, F.P., K.A. Sinclair, and A.J. Oestreich. December 2005. Accessed at: https://fortress.wa.gov/ecy/publications/documents/0503040.pdf.
- Ecology, 2010a. Upper Chehalis River Watershed Multi-Parameter Total Maximum Daily Load: Water Quality Data Review. Washington Department of Ecology Publication No. 10-03-057. Prepared by Collyard, S., and M. Von Prause. November 2010.
- Ecology, 2010b. Chehalis Basin Watershed Assessment: Description of Methods, Models and Analysis for Water Flow Processes. Washington Department of Ecology Publication No. 10-06-006. Prepared by Stanley, S., Grigsby, S., Hruby, T., Olson, P. March 31, 2010.

- Ecology, 2016a. EPA-approved water quality assessment. Approved by EPA on July 22, 2016. Accessed at: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-statewaters-303d/EPA-approved-assessment.
- Ecology, 2016b. Focus on Water Availability. Lower Chehalis and Upper Chehalis Watersheds, WRIAs 22 & 23. Revised November 2016. Accessed at: https://fortress.wa.gov/ecy/publications/SummaryPages/1111027.html.
- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2018. Southwest Washington Watershed Protection & Planning: Recent Legislation Addressing October 2016 Hirst v Whatcom County Supreme Court Decision. Presentation to Central Coast Washington Source Water Protection Workgroup. June 6, 2018.
- Ecology, 2019a. River & Stream Water Quality Index. Accessed at: https://ecology.wa.gov/Research-Data/Monitoring-assessment/River-stream-monitoring/Water-quality-monitoring/River-stream-waterquality-index.
- Ecology, 2019b. "23A160 Chehalis R @ Dryad." River and Stream Water Quality Monitoring. Accessed at: https://fortress.wa.gov/ecy/eap/riverwq/station.asp?sta=23A160.
- Ecology, 2019c. "23A070 Chehalis R @ Porter." River and Stream Water Quality Monitoring. Accessed at: https://fortress.wa.gov/ecy/eap/riverwq/station.asp?sta=23A070.
- Ecology, 2019d. "23A190 Chehalis R abv Pe Ell." River and Stream Water Quality Monitoring. Accessed at: https://fortress.wa.gov/ecy/eap/riverwq/station.asp?sta=23A190.
- Ecology, 2019e. "23A120 Chehalis R @ Centralia." River and Stream Water Quality Monitoring. Accessed at: https://fortress.wa.gov/ecy/eap/riverwq/station.asp?sta=23A120.
- Ecology Blogspot, 2019. Accessed at: https://ecologywa.blogspot.com/2019/05/water-curtailments-for-chehalis-river.html.
- Ecology Water Resources Explorer, 2019. Accessed at: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-Resources-Explorer.
- Ecology Well Report Viewer, 2019. Accessed at: https://fortress.wa.gov/ecy/wellconstruction/map/WCLSWebMap/default.aspx.
- EPA (U.S. Environmental Protection Agency), 2019. Basic Information about Mercury. Accessed at: https://www.epa.gov/mercury/basic-information-about-mercury#airemissions.
- ESA (Environmental Science Associates), 2020a. *Public Service and Utilities Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix I. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project, SEPA Draft Environmental Impact Statement Appendix K. Prepared for Washington Department of Ecology. February 2020.

- French & Associates, 2015. *Chehalis River Basin Floodplain Management Assessment Master Report*. Prepared for Chehalis River Basin Flood Authority. April 2015.
- GeoEngineers and Herrera (GeoEngineers, Inc., and Herrera Environmental Consultants, Inc.), 2009. *Comprehensive Flood Hazard Management Plan for Confederated Tribes of the Chehalis Reservation.* March 17, 2009. Accessed at: https://www.chehalistribe.org/departments/planning/resources/Chehalis-Tribe-CFHMP.pdf.
- Gray & Osborne, Inc., 2015. Town of Pe Ell Water System Plan. July 2015.
- HDR and WSE, 2014. *Scenario of Small Flood Damage Reduction Projects*. Chehalis Basin Strategy. Prepared for Chehalis Basin Work Group. November 2014.
- Hill, A. (Anchor QEA), 2016. Memorandum to: R. Montgomery (Anchor QEA). Regarding: Minimum Instream Flows at Grand Mound. August 29, 2016.
- Lewis County, 2010. *Capital Facilities & Utilities Profile*. Lewis County Comprehensive Plan, Appendix C. Amended December 27, 2010.
- Mauger, G.S., S.Y. Lee, C. Bandaragoda, Y. Serra, and J.S. Won, 2016. *Refined Estimates of Climate Change Affected Hydrology in the Chehalis Basin*. Prepared for Anchor QEA. Seattle: Climate Impacts Group, University of Washington. Accessed at: https://cig.uw.edu/news-and-events/publications/refined-estimates-of-climate-change-affected-hydrology-in-the-chehalis-basin/.
- Mote, P., J. Mault, and V. Duliere, 2008. *The Chehalis River Flood of December 3–4, 2007*. Office of Washington State Climatologist.
- Neiman, P., L. Schick, F.M. Ralph, M. Hughes, and G. Wick, 2011. "Flooding in Western Washington: The Connection to Atmospheric Rivers." *Journal of Hydrometeorology* 12:1337–1358.
- NSD (Natural Systems Design), 2018. *Restorative Flood Protection Newaukum Pilot Feasibility Study Preliminary Findings*. Briefing presentation to the Office of the Chehalis Basin Board. September 6, 2018.
- Opdyke, D., D. Peterson, and B. Montgomery (Anchor QEA), 2017. Memorandum to: P. Picket, N. Mathieu, Washington Department of Ecology. Regarding: *Summary of Upper Chehalis River and Select Tributary Water Quality Data Collected on February 9, 2017, and March 29, 2017.*
- Perry, G., J. Lundquist, and R.D. Moore, 2016. *Review of the Potential Effects of Forest Practices on Stream Flow in the Chehalis River Basin*. July 2016.
- Pickett, P., 1992. Historical Data Sources and Water Quality Problems in the Chehalis River Basin. Washington Department of Ecology Publication No. 92-e54. June 1992. Accessed at: https://fortress.wa.gov/ecy/publications/SummaryPages/92e54.html.
- Pickett, P., 1994. Upper Chehalis River Dry Season Total Maximum Daily Load Study. Washington Department of Ecology Publication No. 94-126. July 1994. Accessed at: https://fortress.wa.gov/ecy/publications/documents/94126.pdf.
- PSU (Portland State University), 2017. *Technical Memorandum, Chehalis Water Quality and Hydrodynamic Modeling: Model Setup, Calibration, and Scenario Analysis*. Prepared for Washington Department of Ecology. Prepared by Van Glubt., S., C. Berger, and S. Wells. April 2017.

- Quinault Indian Nation, 2016. 2016 State of Our Watersheds Report Queets Chehalis Basins. Accessed at: https://geo.nwifc.org/SOW/SOW2016_Report/Quinault.pdf
- Ruckelshaus Center (William D. Ruckelshaus Center), 2012. *Chehalis Basin Flood Hazard Mitigation Alternatives Report*. December 19, 2012.
- Shannon & Wilson and Watershed Geodynamics, 2020. Earth Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for the Washington Department of Ecology. February 2020.
- Tetra Tech/KCM, 2003. 2003 Chehalis Basin Water Quantity Evaluation. Prepared for Chehalis Basin Partnership. October 2003.
- USGS (U.S. Geological Survey), 2008. Seepage investigation for selected river reaches in the Chehalis River basin, Washington: U.S. Geological Survey Scientific Investigations Report 2008-5180. Prepared by Ely, D.M., K.E. Frasl, C.A. Marshall, and F. Reed.
- USGS, 2011. Hydrogeologic Framework and Groundwater/Surface-Water Interactions of the Chehalis River Basin, Southwestern Washington. Prepared in cooperation with the U.S. Army Corps of Engineers, Washington State Department of Ecology, and the Chehalis Basin Partnership. U.S. Geological Survey Scientific Investigations Report 2011-5160. Prepared by Gendaszek, A.S. September 2008. Accessed at: https://pubs.usgs.gov/sir/2011/5160/.
- USGS, 2018. Water Budget of the Upper Chehalis River Basin, Southwestern Washington. U.S. Geological Survey Scientific Investigations Report 2018-50587. Prepared by Gendaszek, A.S., and W.B. Welch. Accessed at: https://pubs.er.usgs.gov/publication/sir20185084.
- Watershed Geodynamics, 2019a. *Geomorphology and Sediment Transport*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for Washington Department of Ecology and U.S. Army Corps of Engineers. May 2019.
- Watershed Geodynamics, 2019b. *Draft Earth Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project, SEPA Draft Environmental Impact Statement Appendix. Prepared for Washington Department of Ecology. Draft (in preparation as of July 2019).
- WEST Consultants, 2014. Chehalis Basin Ecosystem Restoration General Investigation Study Baseline Hydrology and Hydraulics Modeling. January 2014.
- Winkowski, J.J., E.J. Walther, and M.S. Zimmerman, 2018. *Summer riverscape patterns of fish, habitat, and temperature across the Chehalis River basin*. Prepared for the Washington Department of Fish and Wildlife. FPT 18-01.
- WSE (Watershed Science and Engineering), 2012. Memorandum to: Chehalis River Basin Flood Authority. Regarding: Response to Ecology 8/14/12 comments on draft Chehalis Basin Flood Mitigation Alternatives Report. August 21, 2012.
- WSE, 2014. Memorandum to: Hydrologic and Hydraulic Technical Committee. Regarding: Development and Calibration of Hydraulic Model. July 22, 2014.

- WSE, 2017. Memorandum to: Chehalis Basin Strategy Flood Damage Reduction Technical Committee. Regarding: Upper Chehalis Basin HEC-HMS Model Development. June 30, 2017.
- WSE, 2019a. Memorandum to: B. Montgomery (Anchor QEA). Regarding: Chehalis River Basin Hydrologic Modeling. February 28, 2019.
- WSE, 2019b. Memorandum to: B. Montgomery (Anchor QEA). Regarding: Chehalis River Existing Conditions RiverFlow 2D Model Development and Calibration. February 28, 2019.
- WSE and WEST Consultants, 2012. Draft Report Chehalis River Hydraulic Model Development Project. Prepared for Chehalis Basin Flood Authority. July 23, 2012.

17 WETLANDS DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2018. *Wetland, Water, and Ordinary High Water Mark Delineation Report.* Chehalis River Basin Flood Damage Reduction Project. Prepared for the Washington Department of Ecology, Washington Department of Fish and Wildlife, and U.S. Army Corps of Engineers. December 2018.
- Anchor QEA, 2019a. *Chehalis-Centralia Airport Levee Wetland Delineation Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers.
- Anchor QEA, 2019b. *Downstream Floodplain Wetland Analysis*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- Anchor QEA, 2020a. *Fish Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. *Wildlife Species and Habitats Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix P. Prepared for Washington Department of Ecology. February 2020.
- Chehalis Basin Strategy, 2018. Chehalis River Basin Flood Control Combined Dam and Fish Passage Supplemental Design Report: FRE Dam Alternative. Prepared by HDR. September 25, 2018. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2018/09/FRE-Alternative-Supplemental-Report-2018-09-27-reduced.pdf.
- Corps (U.S. Army Corps of Engineers), 2008. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States.* December 2, 2008. Accessed at: https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll5/id/1411.
- Corps, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble (editors). ERDC/EL TR-10-3. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- Corps, 2019. Ordinary High Water Mark (OWHM) Research, Development, and Training. Accessed at: https://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/486085/ordinaryhigh-water-mark-ohwm-research-development-and-training/
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* Washington, D.C.: U.S. Government Printing Office.
- DNR (Washington Department of Natural Resources), 2018. "Assessment of Climate Change-Related Risks to DNR's Mission, Responsibilities and Operations, 2014–2016; Summary of Results." Accessed at: https://www.dnr.wa.gov/publications/em_climate_assessment010418.pdf?wdva8f.
- DNR, 2019. Surface geology at 1:100,000 scale. Accessed at: https://www.dnr.wa.gov/programs-and-services/geology/publications-and-data/gis-data-and-databases

- Ecology (Washington Department of Ecology), 1997. *Washington State Wetland Identification and Delineation Manual.* Publication No. 96-94.
- Ecology, 2011. 2011 Wetlands Inventory. Accessed July 10, 2017. Accessed at: http://waecy.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=22edd2e4e7874badbef2a9 07a3cd4de6.
- Ecology, 2016. *Washington State Wetland Identification and Delineation Manual*. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. Publication No. 16-06-029.
- Ecology, 2017a. *Chehalis Basin Strategy Programmatic Environmental Impact Statement*. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- Ecology, 2017b. Wetland Resources for VSP planning. Modeled Wetland Inventory and Change Analysis. Accessed July 10, 2017. Accessed at: https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnershipscommittees/Voluntary-Stewardship-Program/Wetland-resources
- Ecology, 2019. Environmental Information; Watersheds; Upper Chehalis Water Resource Inventory Area (WRIA) 23. Accessed March 27, 2019. Accessed at: https://fortress.wa.gov/dfw/score/score/maps/map_details.jsp?geocode=wria&geoarea=WRIA23_Upper _Chehalis
- Environmental Laboratory, 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Corps of Engineers Waterways Experiment Station.
- ESA (Environmental Science Associates), 2020a. *Transportation Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- Gendaszek, A.S., 2011. *Hydrogeologic Framework and Groundwater/Surface-Water Interactions of the Chehalis River Basin, Washington.* U.S. Geological Survey Scientific Investigations Report 2011-5160.
- Gendaszek, A.S., and W.B. Welch, 2018. *Water Budget of the Upper Chehalis River Basin, Southwestern Washington*. U.S. Geological Survey Scientific Investigations Report 2018-5084.
- Hruby, T., 2014. Washington State Wetlands Rating System Western Washington: 2014 Update. Washington Department of Ecology Publication No. 14-06-029.
- Lewis County, 2019. Lewis County Public GIS Mapping. Accessed July 1, 2019. Accessed at: https://gis.lewiscountywa.gov/webmap/
- Mauger, G.S., S.Y. Lee, C. Bandaragoda, Y. Serra, and J.S. Won, 2016. Refined Estimates of Climate Change Affected Hydrology in the Chehalis Basin. Prepared for Anchor QEA. Seattle: Climate Impacts Group, University of Washington. Accessed at: https://cig.uw.edu/news-and-events/publications/refined-estimates-ofclimate-change-affected-hydrology-in-the-chehalis-basin/.

- Meadow Run Environmental and Anchor QEA, 2019. *Cottonwood Habitat Study*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- NRC (National Research Council), 1995. Wetlands Characteristics and Boundaries. Washington, DC: National Academy Press.
- Pitz, C.F., K.A. Sinclair, and A.J. Oestreich, 2005. Washington State Groundwater Assessment Program: Hydrology and Quality of Groundwater in the Centralia-Chehalis Area Surficial Aquifer. Washington Department of Ecology, Watershed Ecology Section. Ecology Publication No. 05-03-040. Accessed at: https://fortress.wa.gov/ecy/publications/documents/0503040.pdf.
- Shannon & Wilson and Watershed Geodynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.
- USFWS (U.S. Fish and Wildlife Service), 2018a. National Wetlands Inventory Website: NWI Program Overview. Accessed March 22, 2019. Accessed at: https://www.fws.gov/wetlands/nwi/Overview.html.
- USFWS, 2018b. National Wetlands Inventory Website: Download Seamless Wetlands Data. Accessed March 18, 2019. Accessed at: https://www.fws.gov/wetlands/Data/Data-Download.html.
- USGS (U.S. Geological Survey), 2019. National Hydrography Dataset. Accessed April 14, 2019. Accessed at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography.
- WDFW (Washington Department of Fish and Wildlife). 2018. Draft Riparian Ecosystems, Volume 2: Management Recommendations. May 2018.
- Wilhere, G., J. Atha, T. Quinn, L. Helbrecht, and I. Tover, 2017. *Incorporating Climate Change into the Design of Water Crossing Structures.* Washington Department of Fish and Wildlife in cooperation with the Climate Impacts Group of the University of Washington. Accessed at: https://wdfw.wa.gov/sites/default/files/publications/01867/wdfw01867_0.pdf.
- Wilson, M., M. Kuziensky, and G. Summers (Anchor QEA), 2019. Memorandum to: Diane Butorac, Washington Department of Ecology; Janelle Leeson and Bob Thomas, U.S. Army Corps of Engineers. Regarding: Chehalis River Basin Flood Damage Reduction Proposed Project: Draft Potential Groundwater Level Effects Analysis. May 7, 2019.

18 WILDLIFE SPECIES AND HABITATS DISCIPLINE REPORT

- Anchor QEA (Anchor QEA, LLC), 2016. Chehalis Basin Strategy Technical Memorandum: Proposed Flood Retention Facility. *Pre-Construction Vegetation Management Plan.* Accessed at: http://chehalisbasinstrategy.com/publications/.
- Anchor QEA, 2018. Chehalis River Basin Flood Damage Reduction Project: Wetland, Water, and Ordinary High Water Mark Delineation Report. Prepared for the Washington Department of Ecology, Washington Department of Fish and Wildlife, and U.S. Army Corps of Engineers. December 2018.
- Anchor QEA, 2019a. *Chehalis Centralia Airport Levee Wetland Delineation Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for the Washington Department of Ecology. May 2019.
- Anchor QEA, 2019b. *Downstream Floodplain Wetland Analysis Memorandum*. Chehalis River Basin Flood Damage Reduction Proposed Project. Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- Anchor QEA, 2020a. *Fish Species and Habitats Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix E. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020b. Wetlands Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix O. Prepared for Washington Department of Ecology. February 2020.
- Anchor QEA, 2020c. *Tribal Resources Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix L. Prepared for Washington Department of Ecology. February 2020.
- ASEPTC (Aquatic Species Enhancement Plan of the Chehalis Basin Strategy), 2014. *Effects of Flood Retention Alternatives and Climate Change on Aquatic Species*. Prepared for the Chehalis Basin Work Group.
- Beechie, T., J. Thompson, G. Seixas, C. Fogel, J. Chamberlin, J. Hall, J. Keeton, J. Jorgensen, P. Kiffney, M. Pollock, and G. Pess, 2016. Species and Habitat Studies: Restoration Potential Monitoring. NOAA Fisheries, Northwest Fisheries Science Center, Seattle, WA. [PowerPoint presentation] 24 pp.
- Breck, S.W., K.R. Wilson, and D.C. Andersen, 2003. "Beaver herbivory and its effect on cottonwood trees: Influence of flooding along matched regulated and unregulated rivers." *River Research and Applications* 19:43–58.
- Brittingham, M., 2014. Noise Impacts to Wildlife A Review of Pertinent Studies. Penn State University, Department of Ecosystem Science and Management. Accessed at: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20028837.pdf.
- Brown, E.R., editor, 1985. Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, Parts 1 and 2. Portland: Information Office of Pacific Northwest Region, Forest Service, U.S.
 Department of Agriculture. Publication No. R6-F&WL-192-1985. June 1985.

- Caplow, F., and J. Miller, 2004. Southwestern Washington Prairies: Using GIS to find rare plant habitat in historic prairies. Natural Heritage Report 2004-02. Olympia, WA: Washington Natural Heritage Program, Washington Department of Natural Resources. 18 pp.
- Carter, S., J. Peterson, D. Lipton, L. Crozier, M. Fogarty, and S. Gaichas, 2018. Ecosystems, Ecosystem Services, and Biodiversity. Climate Change Impacts in the United States: The Fourth National Climate Assessment: U.S. Global Change Research Program.
- Cassidy, K.M., C.E. Grue, M.R. Smith, and K.M. Dvomich, editors, 1997. *Washington State Gap Analysis Final Report.* Volumes 1 through 5. Seattle: Washington Cooperative Fish and Wildlife Research Unit, University of Washington.
- Chehalis Basin Strategy, 2018. Chehalis River Basin Flood Control Combined Dam and Fish Passage Supplemental Design Report: FRE Dam Alternative. Prepared by HDR. September 25, 2018. Accessed at: http://chehalisbasinstrategy.com/wp-content/uploads/2018/09/FRE-Alternative-Supplemental-Report-2018-09-27-reduced.pdf.
- CIG (University of Washington Climate Impacts Group), 2013. How will climate change affect forests in Washington? Section 7 in Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments. Accessed at: http://cses.washington.edu/db/pdf/snoveretalsok2013sec7.pdf
- City of Centralia, 2019. Centralia Municipal Code. Current through March 26, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Centralia/.
- City of Chehalis, 2019. Chehalis Municipal Code. Current through April 22, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Chehalis/.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* Washington, DC: U.S. Government Printing Office.
- Crozier, L.G., M.M. McClure, T.J. Beechie, S.J. Bograd, D.A. Boughton, M.I. Carr, T.D. Cooney, J.B. Dunham,
 C.M. Greene, M.A. Haltuch, E.L. Hazen, D.M. Holzer, D.D. Huff, R.C. Johnson, C.E. Jordan, I.C. Kaplan,
 S.T. Lindley, N.J. Mantua, P.B. Moyle, J.M. Myers, M.W. Nelson, L.A. Weitkamp, and E. Willis-Norton,
 2019. "Climate Vulnerability Assessment for Pacific Salmon and Steelhead in the California Current Large
 Marine Ecosystem." *PLoS ONE* 14(7).
- DNR (Washington Department of Natural Resources), 2018. "Assessment of Climate Change-Related Risks to DNR's Mission, Responsibilities and Operations, 2014–2016; Summary of Results." Accessed at: https://www.dnr.wa.gov/publications/em_climate_assessment010418.pdf?wdva8f.
- DNR, 2019a. "DNR Natural Heritage Program Rare Plants List." Accessed May 8, 2019. Accessed at: https://www.dnr.wa.gov/NHPlists.
- DNR, 2019b. "Smart Carbon Policy for Washington." Accessed at: https://www.dnr.wa.gov/climate-change.
- Ecology (Washington Department of Ecology), 2011. 2011 Wetlands Inventory. Accessed July 10, 2017. Accessed at: http://waecy.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=22edd2e4e7874badbef2a907 a3cd4de6.

- Ecology, 2017. Chehalis Basin Strategy Programmatic Environmental Impact Statement. Prepared for the Governor's Chehalis Basin Work Group. June 2, 2017. Accessed at: http://chehalisbasinstrategy.com/programmatic-eis/.
- ESA (Environmental Science Associates), 2020a. *Recreation Discipline Report*. Chehalis River Basin Flood Damage Reduction Proposed Project. SEPA Draft Environmental Impact Statement Appendix J. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020b. Water Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix N. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020c. Noise and Vibration Discipline Report. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix H. Prepared for Washington Department of Ecology. February 2020.
- ESA, 2020d. *Transportation Discipline Report.* Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix K. Prepared for Washington Department of Ecology. February 2020.
- Grays Harbor, 2017. Grays Harbor County Code. Current through November 13, 2017. Accessed May 8, 2019. Accessed at: https://library.municode.com/wa/grays_harbor_county/codes/code_of_ordinances?nodeld=GRAYS_HAR BOR_CO_WASHINGTONMUCO.
- Hamer, M., A. Annaie, J. Evenson, I. Keren, and M. Hayes, 2018. Waterfowl and Waterbird Abundance and Utilization and Use of Aquatic Off-Channel Habitats in the Chehalis Floodplain. Wildlife Program Game Division, Waterfowl Section and Habitat and Wildlife Programs Science Division, Washington Department of Fish and Wildlife. April 25, 2018.
- Hayes, M. (Washington Department of Fish and Wildlife), 2019. Personal communication with Calvin Douglas (Anchor QEA) regarding study area for wildlife species and habitats discipline report. February 1, 2019.
- Hayes, M., J. Tyson, and K. Douville, 2015. 2015 Chehalis ASRP Off-Channel Habitat Summary Based on Off-Channel Extensive Surveys: 1st Progress Report for Post-Feasibility Effort (September 2015). Final for project distribution. Habitat Program Science Division, Washington Department of Fish and Wildlife. September 2015.
- Hayes, M., J. Tyson, and K. Douville, 2016a. 2016 Chehalis ASRP Egg Mass Surveys in Off-Channel Habitat: 3rd Progress Report for Post-Feasibility Efforts (July 2016). Draft prepared for EIS development. Habitat Program Science Division, Aquatic Research Section, Washington Department of Fish and Wildlife. July 2016.
- Hayes, M., J. Tyson, and K. Douville, 2016b. 2016 Chehalis ASRP Instream Amphibian Survey Report: 3rd Progress Report for Post-Feasibility Efforts. Draft prepared for EIS development. Habitat Program Science Division, Aquatic Research Section, Washington Department of Fish and Wildlife.

- Hayes, M., J. Tyson, and K. Douville, 2017. 2017 Chehalis ASRP Stream-Associated Amphibian Survey: Final Report (December 2017). Final Report for Work Group Distribution. Habitat Program Science Division, Aquatic Research Section, Washington Department of Fish and Wildlife.
- Hayes, M., J. Tyson, K. Douville, and R. Vadas, 2018. Chehalis ASRP Instream Amphibian Survey Report. Final prepared for Chehalis Work Group Use. Habitat Program Science Division, Aquatic Research Section, Washington Department of Fish and Wildlife. May 2018.
- Hayes, M., J. Tyson, J. Layman, and K. Douville, 2019a. *Intensive Study of Chehalis Floodplain Off-Channel Habitats*.
 Final prepared for Chehalis Work Group Use. Habitat Program Science Division, Aquatic Research Section,
 Washington Department of Fish and Wildlife. March 2019.
- Hayes, M., J. Tyson, and K. Douville, 2019b. Chehalis ASRP Stream-Associated Amphibian Survey Summary. Final Report for Post-Feasibility Effort. Habitat Program Science Division, Aquatic Research Section, Washington Department of Fish and Wildlife. May 2019.
- Hallock, Lisa, 2013. Draft State of Washington Oregon Spotted Frog Recovery Plan. Washington Department of Fish and Wildlife, Olympia.
- Hallock, L.A., A. McMillan, and G.J. Wiles, 2017. *Periodic Status Review for the Western Pond Turtle in Washington.* Washington Department of Fish and Wildlife, Olympia, Washington.
- HMWSTS (Habitat Mapping and Wildlife Surveys Technical Sub-Committee), 2014. *Habitat Mapping and Wildlife Studies Technical Memorandum*. Prepared for the Chehalis Basin Work Group. September 3, 2014.
- Holland, D.C., 1994. *The Western Pond Turtle: Habitat and History*. Final report. Portland: U.S. Department of Energy, Bonneville Power Administration. August 1994.
- Hough-Snee, N., A. Kasprak, B.B. Roper, and C.S. Meredith, 2014. "Direct and indirect drivers of instream wood in the interior Pacific Northwest, USA: decoupling climate, vegetation, disturbance, and geomorphic setting." *Riparian Ecology and Conservation* 2:14–34.
- Hough-Snee, N., A. Kasprak, R.K. Rossi, N. Bouwes, B.B. Roper, and J.M. Wheaton, 2016. "Hydrogeomorphic and biotic drivers of instream wood differ across sub-basins of the Columbia River Basin, USA." *River Research and Applications* 32:1302–1315.
- Hruby, T., 2014. Washington State Wetlands Rating System Western Washington: 2014 Update. Washington Department of Ecology Publication No. 14-06-029.
- Hull, C.L., G.W. Kaiser, C. Lougheed, L. Lougheed, S. Boyd, and F. Cooke, 2001. "Intraspecific Variation in Commuting Distance of Marbled Murrelets (*Brachyramphus marmoratus*): Ecological and Energetic Consequences of Nesting Further Inland." *The Auk* 118(4):1036–1046.
- Johnson, D.H., and T.A. O'Neil, 2001. *Wildlife-Habitat Relationships in Oregon and Washington*. Corvallis: Oregon State University Press.
- Knutson, K.L., and V.L. Naef, 1997. Management Recommendations for Washington's Priority Habitats: Riparian.
 Olympia: Washington Department of Fish and Wildlife. December 1997. Accessed at: https://wdfw.wa.gov/publications/00029.

- E. Larsen, J. M. Azerrad, N. Nordstrom, editors, 2004. Management recommendations for Washington's priority species, Volume IV: Birds. Washington Department of Fish and Wildlife, Olympia, Washington, USA.
- Lawrence, D.J., J.D. Olden, and C.E. Torgersen, 2012. "Spatiotemporal patterns and habitat associations of smallmouth bass (*Micropterus dolomieu*) invading salmon rearing habitat." *Freshwater Biology* 57(9):1929–1946. September 2012.
- Lawrence, D., B. Stewart-Koster, J. Olden, A. Ruesch, C. Torgersen, J. Lawler, D. Butcher, and J. Crown, 2014. "The interactive effects of climate change, riparian management, and a nonnative predator on stream-rearing salmon." *Ecological Applications* 24(4):895–912.
- Leonard, W.P., H.A. Brown, L.L.C. Jones, K.R. McAllister, and R.M. Storm, 1993. *Amphibians of Washington and Oregon*. Seattle: Seattle Audubon Society.
- Lewis County, 2019. Lewis County Code. Current through March 11, 2019. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/LewisCounty/.
- Link, R., 2004. Living with Wildlife in the Pacific Northwest. Seattle: University of Washington Press.
- Maser, C., 1998. Mammals of the Pacific Northwest. Corvallis, Oregon: Oregon State University Press.
- Mauger, G.S., S.Y. Lee, C. Bandaragoda, Y. Serra, and J.S. Won, 2016. Refined Estimates of Climate Change Affected Hydrology in the Chehalis Basin. Prepared for Anchor QEA. Seattle: Climate Impacts Group, University of Washington. Accessed at: https://cig.uw.edu/news-and-events/publications/refined-estimates-ofclimate-change-affected-hydrology-in-the-chehalis-basin/.
- McAllister, K.R., and W.P. Leonard, 1997. *Washington State status report for the Oregon Spotted Frog*. Olympia: Washington Department of Fish and Wildlife. July 1997. Accessed at: https://wdfw.wa.gov/publications/00382.
- McConnaha, C., 2018. Effect of water temperature in EDT. Chehalis Basin Scientific Review Team.
- Meadow Run Environmental and Anchor QEA, 2019. *Cottonwood Habitat Study*. Chehalis River Basin Flood Damage Reduction Proposed Project: Prepared for the Washington Department of Ecology and U.S. Army Corps of Engineers. April 2019.
- Merritt, D.M., and H.L. Bateman, 2012. "Linking stream flow and groundwater to avian habitat in a desert riparian system." *Ecological Applications* 22:1973–1988.
- NatureServe, 2019. "NatureServe Explorer: Van Dyke's salamander (*Plethodon vandykei*)." Accessed August 24 and 25, 2015. Accessed at: http://explorer.natureserve.org/servlet/NatureServe?searchName=Plethodon+vandykei.
- Nussbaum, R.A., E.D. Brodie, Jr., and R.M. Storm, 1983. *Amphibians and Reptiles of the Pacific Northwest*. Moscow, Idaho: University of Idaho Press.
- Pacific County, 2017. Pacific County Code. Current through March 13, 2017. Accessed May 8, 2019. Accessed at: https://www.codepublishing.com/WA/Pacific/.
- Pearl, C.A., and H.P. Hayes, 2004. *Habitat Associations of the Oregon Spotted Frog* (Rana pretiosa): A Literature *Review.* Final Report. Olympia: Washington Department of Fish and Wildlife. March 2004. Accessed at: https://wdfw.wa.gov/publications/00386.

- Pearson, S.F., B. McIver, D. Lynch, N. Johnson, J. Baldwin, M.M. Lance, M.G. Raphael, C. Strong, R. Young, T. Lorenz, and K. Nelson, 2018. *Marbled Murrelet Effectiveness Monitoring, Northwest Forest Plan: 2017 Summary Report.*
- Pierce, K.B., Jr., M.P. Hayes, J.A. Miller, K.R. Sampson, A.C. Agun, and J.A. Tyson, 2017. *Habitat changes in the Chehalis Floodplain, 1938–2013*. Olympia, WA: Habitat and Fish Programs, Science Divisions. 122 pp.
- Quinn, T., G.F. Wilhere, and K.L. Krueger, technical editors, 2019. *Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications*. Habitat Program, Washington Department of Fish and Wildlife, Olympia.
- Ralph, C.J., G.L. Hunt, Jr., M.G. Raphael, and J.F. Piatt, technical editors, 1995. Ecology and Conservation of the Marbled Murrelet. Gen. Tech. Rep. PSW-GTR-152. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture.
- Rocchio, F.J., and R.C. Crawford, 2015. *Ecological Systems of Washington State: A Guide to Identification*. Natural Heritage Report 2015-04. Olympia, WA: Washington Natural Heritage Program, Washington Department of Natural Resources. 384 p.
- Rubenson, E., and J. Olden, 2019. "An invader in salmonid rearing habitat: current and future distributions of smallmouth bass (*Micropterus dolomieu*) in the Columbia River Basin." *Canadian Journal of Fisheries and Aquatic Sciences* 10.1139/cjfas-2018-0357.
- Schindler, D.E., M.D. Scheuerell, J.W. Moore, S.M. Gende, T.B. Francis, and W.J. Palen, 2003. "Pacific salmon and the ecology of coastal ecosystems." *Frontiers in Ecology and the Environment* 1:31–37.
- Schweitzer, J.A., M.D. Madritch, J.K. Bailey, C.J. LeRoy, D.G. Fischer, B.J. Rehill, R.L. Lindroth, A.E. Hagerman, S.C.
 Wooley, S.C. Hart, and T.G. Whitham, 2008. "From Genes to Ecosystems: The Genetic Basis of Condensed
 Tannins and Their Role in Nutrient Regulation in a *Populus* Model System." *Ecosystems* 11:1005–1020.
- Shannon & Wilson and Watershed GeoDynamics, 2020. *Earth Discipline Report*. Proposed Chehalis River Basin Flood Damage Reduction Project. SEPA Draft Environmental Impact Statement Appendix F. Prepared for Washington Department of Ecology. February 2020.
- Thurston County, 2018. Thurston County Code. Current through December 11, 2018. Accessed May 8, 2019. Accessed at: https://library.municode.com/wa/thurston_county/codes/code_of_ordinances?nodeld=THCOCOWA.
- USFWS (U.S. Fish and Wildlife Service), 1997. *Recovery Plan for the Threatened Marbled Murrelet* (Brachyramphus marmoratus) *in Washington, Oregon, and California*. U.S. Fish and Wildlife Service, Portland, OR.
- USFWS, 2006. Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California. U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office.
- USFWS 2019a. "Bald Eagle Management Guidelines and Conservation Measures." Last modified May 26, 2012; accessed April 14, 2019. Accessed at: https://www.fws.gov/northeast/ecologicalservices/es_test2/eagleguidelines/constructionnesting.html.
- USFWS, 2019b. "Endangered Species." Last modified March 14, 2019; accessed April 14, 2019. Accessed at: http://www.fws.gov/endangered/.
- USFWS, 2019c. "Endangered Species Act status reviews and listing information." Last modified April 14, 2019; accessed May 28, 2019. Accessed at: https://ecos.fws.gov/ipac/.

- USFWS, 2019d. "Northern spotted owl (*Strix occidentalis caurina*) Species Profile." Accessed April 14, 2019. Accessed at: https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B08B
- USGS (U.S. Geological Survey), 2016. "National Land Cover Data Set." Accessed May 10, 2019. Accessed at: https://www.mrlc.gov/data.
- Van Pelt, R., 2007. *Identifying Mature and Old Forests in Western Washington*. Olympia: Washington State Department of Natural Resources. June 2007. Accessed at: http://file.dnr.wa.gov/publications/lm_hcp_west_oldgrowth_guide_full_lowres.pdf.
- WDFW (Washington Department of Fish and Wildlife), 2005. "Living with Wildlife Elk." Accessed December 11, 2019. Accessed at: https://wdfw.wa.gov/sites/default/files/publications/00614/wdfw00614.pdf.
- WDFW, 2013. *Threatened and Endangered Wildlife in Washington: 2012 Annual Report*. Olympia: Listing and Recovery Section Wildlife Program, Washington Department of Fish and Wildlife. August 2013. Accessed at: http://wdfw.wa.gov/publications/01542/.
- WDFW, 2015. *Washington's State Wildlife Action Plan, 2015 Update.* Washington Department of Fish and Wildlife. September 2015.
- WDFW, 2019a. "Priority Habitats and Species: Maps." Accessed April 14, 2019. Accessed at: https://wdfw.wa.gov/species-habitats/at-risk/phs/maps.
- WDFW, 2019b. "Priority Habitats and Species List." Olympia, Washington. August 2019. Accessed April 14, 2019. Accessed at: https://wdfw.wa.gov/species-habitats/at-risk/phs/list.
- WDFW, 2019c. "Oregon Spotted Frog." Species & Habitats Species in Washington. Accessed April 14, 2019. Accessed at: https://wdfw.wa.gov/species-habitats/species/rana-pretiosa#conservation.
- WDFW, 2019d. "Climate Change." Accessed September 17, 2019. Accessed at: https://wdfw.wa.gov/specieshabitats/habitat-recovery/climate-change.
- Wildlife Survey Data Management Database, 2016. Washington Department of Fish and Wildlife, Olympia, Washington, USA. Cited April 14, 2019.
- Willson, M.F., and K.C. Halupka, 1995. "Anadromous Fish as Keystone Species in Vertebrate Communities." *Conservation Biology* 9:489–497.
- Winkowski, J., 2019. *Development and Methods of the Chehalis Thermalscape Model*. Olympia, Washington: Washington Department of Fish and Wildlife.
- Winkowski, J., and M. Zimmerman, 2019. Thermally Suitable Habitat for Juvenile Salmonids and Resident Trout under Current and Climate Change Scenarios in the Chehalis River, WA.