

Literature Cited

- AA (Anglo-American). 2009a. Anglo-American Pebble Mine investor advisory: reputational risk, regulatory challenges and legal uncertainties. Earthworks. Available: http://earthworksaction.org/pubs/PebbleInvestorRiskReport_FINAL.pdf. (August 2010).
- AA. 2009b. Consolidated income statement. Anglo American. Available: http://ar09.angloamerican.solutions.investis.com/financial_statements/principal/index.html. (August 2010).
- AAC (ALASKA ADMIN. CODE) tit. 11, § 80.130(a)(3) (2006). Hearing procedures.
- AAC tit. 11, § 97 (2006). Mining reclamation.
- AAC tit. 11, § 110 (2006). Alaska coastal management program implementation.
- AAC tit. 11, § 112.300(b)(3) (2006). Statewide standards of the Alaska coastal management program. Resources and Habitats. Habitats.
- Abel, H. 1997. The rise and fall of a gold mining company. High Country News (December 22). Available: <http://www.hcn.org/issues/121/3860>. (September 2010).
- ACFEC (Alaska Commercial Fish Entry Commission). 2010. Permit statistics for Alaska's limited entry salmon fisheries 1999–2008. Available: http://www.cfec.state.ak.us/research/salmon/salpmt99_08.pdf. (August 2010).
- ACFEC. 2011. Basic Information Table (BIT) of S 03T (fishery code): Salmon, drift gillnet, Bristol Bay. ACFEC, November 20, 2011. Available: http://www.cfec.state.ak.us/bit/X_S03T.HTM. (December 2011).
- ADEC (Alaska Department of Environmental Conservation). 2003. Alaska water quality criteria manual for toxic and other deleterious organic and inorganic substances. Amended as of May 15, 2003. ADEC, Juneau, AK.
- ADEC. 2006. Alaska water quality standards. Amended as of December 28, 2006. ADEC, Juneau, AK.
- ADFG (Alaska Department of Fish and Game). 2008a. 2008 Bristol Bay salmon season summary, news release. ADFG. Available: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbay/brbpos08.pdf>. (September 2010).
- ADFG. 2008b. Alaska freshwater fish inventory. Division of Sport Fish, ADFG. Available: <http://www.sf.adfg.state.ak.us/SARR/Surveys/index.cfm>. (August 2010).
- ADFG. 2010a. Bristol Bay historical salmon information. Division of Commercial Fisheries, ADFG. Available: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbay/bbay-hist.php>. (August 2010).
- ADFG. 2010b. Bristol Bay salmon season summary. Division of Commercial Fisheries, ADFG, Dillingham, AK.
- ADFG. 2011a. 2010 Bristol Bay area annual management Report. Division of Sport Fish and Commercial Fisheries, ADFG. Available: <http://www.sf.adfg.state.ak.us/FedAidpdfs/FMR11-23.pdf>. (November 2011).
- ADFG. 2011b. Anadromous waters catalog: overview. ADFG. Available: <http://www.adfg.alaska.gov/sf/SARR/AWC/>. (June 2011).
- ADLWD (Alaska Department of Labor and Workplace Development). 2010. April 2010 Unemployment rate, Bristol Bay borough vs. Alaska statewide. Available: <http://laborstats.alaska.gov/?PAGEID=67&SUBID=188>. (April 2010).
- ADNR (Alaska Department of Natural Resources). 2005. Bristol Bay area plan for state lands. Division of Mining, Land, and Water, ADNR. Available: http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap_complete.pdf. (August 2010).
- ADNR. 2006. Status of application packet: pebble project/application for water rights. Alaska Coastal Management Program, Office of Project Management and Permitting, ADNR. Available: <http://dnr.alaska.gov/mlw/mining/largemine/pebble/2006/acmp.pdf>. (October 2010).
- ADNR. 2008a. Pebble project. Division of Mining, Land, and Water, ADNR. Available: <http://dnr.alaska.gov/mlw/mining/largemine/pebble/waterapp.htm>. (October 2010).
- ADNR. 2008b. The process and requirements for large mine permit applications in Alaska. ADNR. Available: <http://dnr.alaska.gov/mlw/mining/largemine/may5pptcolor6.pdf>. (September 2010).
- ADNR. 2008c. The process and requirements for large mine permit applications in Alaska. ADNR. Available: <http://dnr.alaska.gov/mlw/mining/largemine/may5pptcolor6.pdf>. (September 2010).
- ADNR. 2010a. Alaska DNR state mining claims. Alaska State Geospatial Data Clearinghouse, ADNR. Available: <http://dnr.alaska.gov/SpatialUtility/SUC?cmd=vmd&layerid=137>. (December 2010).
- ADNR. 2010b. Permitting large mine projects in Alaska. Office of Project Management and Permitting, ADNR. Available: <http://dnr.alaska.gov/mlw/mining/largemine/lmpt-process2010.pdf>. (July 2011).
- ADNR. 2011. Alaska coastal management program (ACMP). Division of Coastal and Ocean Management, ADNR. Available: http://alaskacoast.state.ak.us/Current_News/ACMP_Fact_Sheet_2011.pdf. (June 2011).
- ADR (Alaska Department of Revenue). 2009. Alaska tax division 2009 annual report. Division of Taxes, ADR. Available: <http://www.tax.alaska.gov/programs/documentviewer/viewer.aspx?1896f>. (August 2010).
- ADR. 2010a. Tax division: fisheries related taxes. Division of Taxes, ADR. Available: <http://www.tax.alaska.gov/programs/programs/forms/index.aspx?60620>. (December 2011).
- ADR. 2010b. Tax division: mining license tax. Division of Taxes, ADR. Available: <http://www.tax.alaska.gov/programs/programs/statutes/index.aspx?60610>. (August 2010).
- Alaska State Legislature. 2010. Audit of Department of Natural Resources Alaska Coastal Management Program: part 1. Division of Legislative Audit, Legislative Budget and Audit Committee, Alaska State Legislature, Audit Control Number 10-30060A-11. Juneau, AK.
- ALASKA STAT. § 16.05.841 (2006). Fishways and Hatcheries. Fishway Required.
- ALASKA STAT. § 16.05.851 (2006). Fishways and Hatcheries. Hatchery Required.
- ALASKA STAT. § 16.05.871(c,d) (2006). Protection of Waterways for Anadromous Fish. Protection of Fish and Game.
- ALASKA STAT. § 27.05.010(b) (2006). Department Responsible for Mineral Resources.

- ALASKA STAT. § 38.04.005(a) (2006). Public and Private Land Use.
- ALASKA STAT. § 38.05.035(e)(6) (2006). Alaska Land Act. Powers and Duties of the Director.
- ALASKA STAT. § 38.05.300 (2006). Alaska Land Act. Classification of Land.
- ALASKA STAT. § 38.05.850(a) (2006). Alaska Land Act. Permits.
- ALASKA STAT. § 44.66.020(a) (2006). Agency Programs.
- ALASKA STAT. §§ 46.39.010–.040 (2006). Coastal Management Administration.
- Alexander, R., E. Boyer, R. Smith, G. Schwarz, and R. Moore. 2007. The role of headwater streams in downstream water quality. *Journal of the American Water Resources Association* 43(1):41–59.
- Alfano, P. 2009. NEPA at 40: procedure or substance. Environmental Law Institute. Available: <http://www.eli.org/pdf/seminars/NEPA/Alfano.NEPA.pdf>. (June 2011).
- Alto, K., S. Broderius, and L. Smith, Jr. 1977. Toxicity of xanthates to freshwater fish and invertebrates. University of Minnesota report submitted to Minnesota Environmental Quality Council, Regional Copper Nickel Study. Available: www.leg.state.mn.us/docs/pre2003/other/CN004.pdf. (December 2011).
- Asche, F., A. Guttormsen, T. Sebulonsen, and E. Sissener. 2005. Competition between farmed and wild salmon: the Japanese salmon market. *Agricultural Economics* 33(3):333–340. Available: <http://www.umb.no/statisk/ior/ageconlaks.pdf>. (August 2010).
- Augerot, X. 2005. Atlas of Pacific salmon: the first map-based status assessment of salmon in the North Pacific. University of California Press, Berkeley, CA.
- Australian Government Publishing Service. 1995. Sodium Ethyl Xanthate, Priority Existing Chemical No. 5, Full Public Report. Canberra. Available: www.nicnas.gov.au/search. (December 2011).
- Ayres, R., L. Ayres, and I. Råde. 2002. The life cycle of copper, its co-products and by-products. Commissioned by the MMSK project, Report 24. International Institute for Environment and Development, London, UK.
- Baatrup, E. 1991. Structural and functional-effects of heavy metals on the nervous system, including sense organs of fish. *Comparative Biochemistry and Physiology Part C: Pharmacology, Toxicology, and Endocrinology* 100(1–2):253–257.
- Baker, R., M. Knittel, and J. Fryer. 1983. Susceptibility of Chinook salmon, *Oncorhynchus tshawytscha* (Walbaum), and rainbow trout, *Salmo gairdneri* Richardson, to infection with *Vibrio anguillarum* following sublethal copper exposure. *Journal of Fish Diseases* 6(3):267–275.
- Balczon, J., and J. Pratt. 1994. A comparison of the responses of two microcosm designs to a toxic input of copper. *Hydrobiologia* 281(2):101–114.
- Baldwin, D., J. Sandahl, J. Labenia, and N. Scholz. 2003. Sublethal effects of copper on coho salmon: impacts on non-overlapping receptor pathways in the peripheral olfactory nervous system. *Environmental Toxicology and Chemistry* 22(10):2266–2274.
- Balm, T., T. Carrick, A. Conen, and T. Pottinger. 1996. Trypophyra intermedia on the gills of rainbow trout acclimating to low ambient pH. *Journal of Fish Biology* 48(1):147–150.
- Barry, K., J. Grout, C. Levings, B. Nidle, and G. Piercey. 2000. Impacts of acid mine drainage on juvenile salmonids in an estuary near Britannia Beach in Howe Sound, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 57(10):2032–2043.
- Bash, J., C. Berman, and S. Bolton. 2001. Effects of turbidity and suspended solids on salmonids. Center for Streamside Studies, University of Washington, Seattle, WA.
- Battin, J., M. Wiley, M. Ruckelshaus, R. Palmer, E. Korb, K. Bartz, and H. Imaki. 2007. Projected impacts of climate change on salmon habitat restoration. *Proceedings of the National Academy of Sciences of the United States of America* 104(16):6720–6725.
- Baxter, C., and F. Hauer. 2000. Geomorphology, hyporheic exchange, and selection of spawning habitat by bull trout (*Salvelinus confluentus*). *Canadian Journal of Fisheries and Aquatic Science* 57(7):1470–1481.
- Baxter, G. 1961. River utilization and the preservation of migratory fish life. *Proceedings of the Institution of Civil Engineers* 18(3):225–244.
- Baxter, J., and J. McPhail. 1999. The influence of redd site selection, groundwater upwelling, and over-winter incubation temperature on survival of bull trout (*Salvelinus confluentus*) from egg to alevin. *Canadian Journal of Zoology* 77(8):1233–1239.
- BBNC (Bristol Bay Native Corporation). 2010. Letter to Dennis McLerran, Regional Administrator, Region 10, U.S. Environmental Protection Agency. 12 August 2010. Bristol Bay Regional Seafood Development Association. Available: [http://www.bbnsda.com/layouts/bbnsda/files/documents/bbnsda_pebble/Bristol Bay Native Corporation EPA Letter 081210.pdf](http://www.bbnsda.com/layouts/bbnsda/files/documents/bbnsda_pebble/Bristol%20Bay%20Native%20Corporation%20EPA%20Letter%20081210.pdf). (July 2011).
- BCME (British Columbia Ministry of Environment). 2011. Analysis of effects of mine site remediation on total copper concentrations in the Tsolum River and some of its tributaries. BWP Consulting Inc. 2011. Available: <http://www.env.gov.bc.ca/wat/wq/pdf/minesite-rem-effects-on-tsolum.pdf>. (November 2011).
- Ben-David, M. 1997. Timing of reproduction in wild mink: the influence of spawning Pacific salmon. *Canadian Journal of Zoology* 75(3):376–382.
- Berry, W., N. Rubenstein, and B. Melzian. 2003. The biological effects of suspended and bedded sediment (SABS) in aquatic systems: a review. U.S. Environmental Protection Agency, Internal Report, Washington, D.C. Available: <http://www.epa.gov/waterscience/criteria/sediment>. (August 2010).
- Bilby, R., J. Heffner, B. Fransen, P. Bisson, and J. Walter. 1998. Response of juvenile coho, USA salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*) to the addition of salmon carcasses to two streams in southwest Washington. *Canadian Journal of Fisheries and Aquatic Science* 55(8):1909–1918.
- Bill, D. 1984. 1982 Kvichak River sockeye salmon smolt studies. Pages 2–13 in D.M. Eggers and H.J. Yuen, editors. 1982 Bristol Bay sockeye salmon smolt studies. Division of Commercial Fisheries, Alaska Department of Fish and Game, Technical Report No. 103, Juneau, AK.

- Birtwell, I. 1999. The effects of sediment on fish and their habitat. Fisheries and Oceans Canada, Pacific Scientific Advice Review Committee, Canadian Stock Assessment Secretariat Research Document 99/139, Ottawa, ON.
- Bjornn, T., and D. Reiser. 1991. Habitat requirements of salmonids in streams. Pages 83–138 in W.R. Meehan. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society, Special Publication No. 19, Bethesda, MD.
- Boehne, P., and R. House. 1983. Stream ordering: a tool for land managers to classify western Oregon streams. U.S. Bureau of Land Management, Technical Note: OR-3, Portland, OR.
- Boening, D. 1998. Aquatic toxicity and environmental fate of xanthates. *Mining Engineering* 50(9):65–68.
- Bristol Bay Borough. 2010. Bristol Bay Borough. Bristol Bay Area. Available: <http://www.theborough.com/area.html>. (September 2010).
- Brown, L., S. Chase, M. Mesa, R. Beamish, and P. Moyle, editors. 2009. Biology, management, and conservation of lampreys in North America, American Fisheries Society Symposium 72. American Fisheries Society, Bethesda, MD.
- Brumbaugh, W., and T. May. 2008. Elements in mud and snow in the vicinity of the DeLong Mountain regional transportation system toad, Red Dog Mine, and Cape Krusenstern National Monument, Alaska, 2005–06. U.S. Geological Survey, Scientific Investigations Report 2008–5040, Reston, VA.
- Bryce, S., G. Lomnický, P. Kaufmann, L. McAllister, and T. Ernst. 2008. Development of biologically based sediment criteria in mountain streams of the western United States. *North American Journal of Fisheries Management* 28(6):1714–1724.
- Bryce, S., G. Lomnický, and P. Kaufmann. 2010. Protecting sediment-sensitive aquatic species in mountain streams through the application of biologically based streambed sediment criteria. *Journal of the North American Benthological Society* 29(2):657–672.
- Buckley, J., M. Roch, J. McCarter, C. Rendell, and A. Matheson. 1982. Chronic exposure of coho salmon to sublethal concentrations of copper-1. Effect on growth, on accumulation, and distribution of copper, and on copper tolerance. *Comparative Biochemistry and Physiology Part C: Pharmacology, Toxicology, and Endocrinology* 72(1):15–19.
- Buckwalter, J. 2009. FY 2009 Operational Plan: inventory of fish distribution in the lower Yukon River Drainage. Alaska Department of Fish and Game.
- Burgner, R. 1991. Life history of sockeye salmon (*Oncorhynchus nerka*). Pages 1–117 in C. Groot, and L. Margolis, editors. Pacific salmon life histories. University of British Columbia Press, Vancouver, B.C.
- Cambridge, M. 2005. The importance of failure in the design process. Pages 59–68 in Z. Agioutantis and K. Komnitsas, editors. Proceedings of the geoenvironment and geotechnics (GEOENV2005) international workshop, September 12–14, 2005. Milos Island, Greece., Heliotos Conferences Ltd., Athens, Greece.
- Cantilli, R., R. Stevens, W. Swietlik, W. Berry, P. Kaufmann, J. Paul, R. Spehar, S. Cormier, and D. Norton. 2006. Framework for developing suspended and bedded sediments (SABS) water quality criteria. Office of Water, U.S. Environmental Protection Agency, EPA 822-R-06-001, Washington, D.C.
- Carlisle, D., M. Meador, S. Mouton, and P. Ruhl. 2007. Estimation and application of indicator values for common macroinvertebrate genera and families of the United States. *Ecological Indicators* 7(1):22–33.
- Cederholm, C., D. Johnson, R. Bilby, L. Dominguez, A. Garrett, W. Graeber, E. Greda, M. Kunze, B. Marcot, J. Palmisano, R. Plotnikoff, W. Percy, C. Simenstad, and P. Trotter. 2001. Pacific salmon and wildlife: ecological contexts, relationships, and implications for management. Pages 628–685 in D. Johnson, and T. O’Neil, editors. Wildlife-habitat relationships in Oregon and Washington. Oregon State University Press, Corvallis, OR.
- CEQ (Council on Environmental Quality) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. Timing of Agency Action. 40 C.F.R. § 1506.10(b), (d) (2011).
- CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. Elimination of Duplication with State and Local Procedures. 40 C.F.R. § 1506.2 (2011).
- CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. Major Federal Action. 40 C.F.R. § 1508.18 (2011).
- Chakoumakos, C., R. Russo, and R. Thurston. 1979. Toxicity of cooper to cutthroat trout (*Salmo clarki*) under different conditions of alkalinity, pH, and hardness. *Environmental Science and Technology* 13(2): 213–219.
- Chambers, D., and R. Moran. 2007. Mining/geochemistry/hydrogeology. Submitted to Wild Salmon Center, Portland, OR.
- Chambers, D., and B. Higman. 2011. Long term risks of tailings dam failure. Available: <http://www.csp2.org/reports.htm>. (July 2011).
- Chapman, G. 1978. Toxicities of cadmium, copper, and zinc to four juvenile stages of Chinook salmon and steelhead. *Transactions of the American Fisheries Society* 107(6):841–847.
- Chapman, G., and D. Stevens. 1978. Acutely lethal levels of cadmium, copper, and zinc to adult male coho salmon and steelhead. *Transactions of the American Fisheries Society* 107(6):837–840.
- Chugach Electrical Association, Inc. 2009. 2009 annual report. Chugach Electrical Association, Inc. Available: http://www.chugachelectric.com/pdfs/2009_annual_report.pdf. (August 2010).
- Clements, W., D. Carlisle, J. Lazorchak, and P. Johnson. 2000. Heavy metals structure benthic communities in Colorado mountain streams. *Ecological Applications* 10(2):626–638.
- Collings, M. 1972. A methodology for determining instream flow requirements for fish. Pages 72–86 in Proceedings, instream flow methodology workshop. Washington State Water Program, Olympia, WA.
- Collings, M. 1974. Generalization of spawning and rearing discharges for several Pacific salmon species in western Washington. U.S. Geological Survey, Open-File Report, Tacoma, WA.

- Coulter, D. 1976. Location studies for slurry pipelines—the effect of ground surface temperatures. Technical Memo. System Sciences, Inc., Bethesda, MD.
- Craciun Research. 2009. Summary report: Bristol Bay residents views on development study. Report of Craciun Research to Nunumta Aulukestai, Dillingham, AK. Available: <http://nunamtasurvey.info/NunamtaSurveyReport.pdf>. (August 2010).
- Crone, A., S. Personius, P. Craw, P. Haeussler, and L. Staff. 2004. The Susitna Glacier thrust fault: characteristics of surface ruptures on the fault that initiated the 2002 Denali fault earthquake. *Bulletin of the Seismological Society of America* 94(6B):5–22.
- Crouse, M., C. Callahan, K. Malueg, and S. Dominguez. 1981. Effects of fine sediments on growth of juvenile coho salmon in laboratory streams. *Transactions of the American Fisheries Society* 110(2):281–286.
- CWA (Federal Water Pollution Control Act of 1972) § 404, 33 U.S.C. § 1344 (2008).
- CWA Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Purpose and Policy. 40 C.F.R. § 230.1(c-d) (2011).
- CWA Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Restrictions on Discharge. 40 C.F.R. § 230.10(a-d) (2011).
- CWA Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Potential Impacts on Special Aquatic Sites. 40 C.F.R. § 230.40-45 (2011).
- CWA Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Actions Affecting Plant and Animal Populations. 40 C.F.R. § 230.75 (2011).
- CWA Section 404(c) Procedures. Purpose and Scope. 40 C.F.R. § 231.1 (2011).
- CWA Section 404(c) Procedures. Definitions. 40 C.F.R. § 231.2(e) (2011).
- Dahl, B., and H. Blanck. 1996. Toxic effects of the anti-fouling agent Irgarol 1051 on periphyton communities in coastal water microcosms. *Marine Pollution Bulletin* 32(4):342–350.
- Davies, M., E. McRoberts, and T. Martin. 2002. Static liquefaction of tailings—fundamentals and case histories. Available: <http://www.infomine.com/publications/docs/Davies2002c.pdf>. (July 2011).
- Davis Jr., R., A. Welty, J. Borrego, J. Morales, J. Pendon, and J. Ryan. 2000. Rio Tinto estuary (Spain): 5000 years of pollution. Springer-Verlag, *Environmental Geology* 39(10):1107–1116.
- Day, N. 2010. The Holden Mine: update on site cleanup activities. U.S. Department of Agriculture Forest Service. Available: <http://www.fs.fed.us/r6/wenatchee/holden-mine/pdf/Holden-mine-update-Summer-2010.pdf>. (September 2010).
- Demory, R., R. Orrell, and D. Heinle. 1964. Spawning ground catalog of the Kvichak River system, Bristol Bay, Alaska. U.S. Fish and Wildlife Service, Special Scientific Report, Fisheries No. 488, Washington, D.C.
- Denial or Restriction of Disposal Sites, Section 404(c) Procedures, 44 Fed. Reg. 58,076-7 (1979).
- DeWalle, D., R. Dinicola, and W. Sharpe. 1987. Predicting base flow alkalinity as an index to episodic stream acidification and fish presence. *Water Resources Bulletin* 23(1):29–35.
- Diamond, J. 2006. *Collapse: how societies choose to fail or succeed*. Penguin Books, New York, NY.
- Dobb, E. 2010. Alaska's choice. *National Geographic Magazine* (December):100–125.
- Dobbyn, P. 2005. Mine poisons Alaska EPA listing. *Anchorage Daily News* (May 12): F1.
- Donaldson, J. 1967. The phosphorus budget of Iliamna Lake, Alaska, as related to the cyclic abundance of sock-eye salmon. Ph.D. dissertation, University of Washington, Seattle, WA.
- Douglas, T. 2006. Review of groundwater salmon interactions in British Columbia. *Watershed Watch*. Available: <http://www.watershed-watch.org/publications/files/Groundwater+Salmon++hi+res+print.pdf>. (August 2010).
- Doukas, A., A. Cretney, and J. Vadgama. 2008. Booms to bust: social and cultural impacts of the mining cycle. The Pembina Institute. Available: <http://pubs.pembina.org/reports/boombust-final.pdf>. (August 2010).
- Dube, M., D. MacLachy, J. Kieffer, N. Glozier, J. Culp, and K. Cash. 2005. Effects of metal mining effluent on Atlantic salmon (*Salmo salar*) and slimy sculpin (*Cottus cognatus*): using artificial streams to assess existing effects and predict future consequences. *The Science of Total Environment* 343(1–3):135–154.
- Duffield, J. 1997. Non-market valuation and the courts: the case of the Exxon Valdez. *Contemporary Economic Policy* 5(15):98–109.
- Duffield, J. 2009. Bristol Bay wild salmon ecosystem economics: 2008 update. Duffield, J., Neher, C., Patterson, D., and O. Goldsmith. 2007. Economics of wild salmon ecosystems: Bristol Bay, Alaska. Proceedings of U.S. Department of Agriculture Forest Service, PMRS-P-49.
- Duffield, J., C. Neher, and D. Patterson. 2007. Economics of wild salmon watersheds: Bristol Bay Alaska, revised Final Report. Trout Unlimited, Juneau, AK.
- Earle, J., and T. Callaghan. 1998. Impacts of mine drainage on aquatic life, water uses, and man-made structures. Pages 41–43 in *Coal mine drainage prediction and pollution prevention in Pennsylvania*. Pennsylvania Department of Environmental Protection, Harrisburg, PA.
- Earthworks. 2004. False promises: water quality predictions gone wrong. Bristol Bay Alliance. Available: http://www.bristolbayalliance.com/mines_and_water.htm. (August 2010).
- Earthworks. 2010. Water-related impacts at the Pebble Mine. Earthworks, Our Bristol Bay. Available: <http://ourbristolbay.com/water-related-impacts.html>. (February 2011).
- Earthworks. 2011. Zortman and Landusky gold mines. Earthworks. Available: http://www.earthworkSACTION.org/zortman_landusky.cfm. (June 2011).
- Eash, J., and R. Rickman. 2004. Floods on the Kenai Peninsula, Alaska, October and November 2002. U.S. Geological Survey, Fact Sheet 2004-3023, Anchorage, AK.
- Ecology and Environment, Inc. 2010. An assessment of ecological risk to wild salmon systems from large-scale mining in the Nushagak and Kvichak watersheds of the Bristol

- Bay basin. Report of Ecology and Environment, Inc. to The Nature Conservancy, Arlington, VA.
- Edwards, M., and J. Larson. 2003. Estimation of coho salmon escapement in the Ugashik Lake systems, Alaska Peninsula National Wildlife Refuge, 2002. King Salmon Fish and Wildlife Field Office, U.S. Fish and Wildlife Service, Alaska Fisheries Data Series 2003-3, King Salmon, AK.
- Eggers, D., and H. Yuen, editors. 1984. 1982 Bristol Bay sockeye salmon smolt studies. Division of Commercial Fisheries, Alaska Department of Fish and Game, Technical Data Report No. 103, Juneau, AK.
- Einan, D., and L. Klasner. 2010. Holden Mine cleanup project: agencies' proposed plan. U.S. Environmental Protection Agency and Washington Department of Ecology public meeting slide presentation. U.S. Department of Agriculture Forest Service. Available: <http://www.fs.fed.us/r6/wenatchee/holden-mine>. (September 2010).
- Eisler, R. 2000. Handbook of chemical risk assessment: health hazards to humans, plants, and animals, vol. 1: metals. Lewis Publishers, New York, NY.
- Englund, G., and B. Malmqvist. 1996. Effects of flow regulation, habitat area, and isolation on the macroinvertebrate fauna of rapids in north Swedish Rivers. *Regulated Rivers: Research and Management* 12(4-5):433-445.
- Enserink, E., J. Maas-Diepeveen, and C. van Leeuwen. 1991. Combined toxicity of metals: an ecotoxicological evaluation. *Water Research* 25(6):679-687.
- Epler, P. 2011a. Compromise in works for management of coastal development. *Alaska Dispatch* April 5, 2011. Available: <http://www.alaskadispatch.com/article/compromise-works-management-coastal-development>. (June 2011).
- Epler, P. 2011b. Alaska coastal communities push for local control. *Alaska Dispatch* January 28, 2011. Available: <http://www.alaskadispatch.com/article/alaska-coastal-communities-push-local-control>. (June 2011).
- Epler, P. 2011c. It's a wrap: Alaska State Legislature adjourns. *Alaska Dispatch* May 14, 2011. Available: <http://www.alaskadispatch.com/article/its-wrap-alaska-legislature-adjourns>. (June 2011).
- Eppinger, R., D. Frey, K. Kelley, S. Smith, and S. Giles. 2009. A hydrogeochemical exploration study at the Pebble Deposit, Alaska. Pages 365-368 in D. Lentz, K. Thorne, and K. Beal, editors. *Proceedings of 24th International Applied Geochemistry Symposium*, New Brunswick, CA. Available: http://www.appliedgeochemists.org/events/iags2009/abstracts/24th_IAGS_Abtracts_Vol1_revised_New_and_Old_Discoveries_Case_Studies.pdf. (December 2011).
- ESA (Endangered Species Act of 1973) § 7, 16 U.S.C. § 1536 (a)(3) (1988).
- ESA § 7, 16 U.S.C. § 1536 (a)(2)(1988).
- ESA § 7, 16 U.S.C. § 1536 (b)(3)(A)(1988).
- Eshleman, K. 1988. Predicting regional episodic acidification of surface waters using empirical models. *Water Resources Research* 24(7):1118-1126.
- Esselman, P., D. Infante, L. Want, D. Wu, A. Cooper, and W. Taylor. In press. An initial assessment of integrated human disturbances on stream fish habitats in the conterminous United States. Report of Assessment Team to the Science and Data Committee and Board of the National Fish Habitat Action Plan.
- Fall, J., M. Chythlook, J. Schichnes, and J. Morris. 1996. An overview of the harvest and use of freshwater fish by the communities of the Bristol Bay region, southwest Alaska. Division of Subsistence, Alaska Department of Fish and Game, Technical Paper No. 166, Juneau, AK.
- Fall, J., D. Holen, B. Davis, T. Krieg, and D. Koster. 2006. Subsistence harvests and uses of wild resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska, 2004. Alaska Department of Fish and Game, Technical Paper No. 302, Juneau, AK.
- Felt Soul Media. 2009. Red gold: considering the future of Bristol Bay. Felt Soul Media. Available: http://www.feltsoul-media.com/redgold_studyguide.pdf. (September 2010).
- Fey, D. 2003. Acid base accounting: assessing the toxicity potential of mine-waste piles. Presentation to Billings Symposium/ASMR Annual Meeting, June 1, 2003. U.S. Geological Survey. Available: http://www.swrcb.ca.gov/academy/courses/acid/supporting_material/usgs_acidbaseacct.pdf. (December 2011).
- Flebbe, P., L. Roghair, and J. Bruggink. 2006. Spatial modeling to project southern Appalachian trout distribution in a warmer climate. *Transactions of the American Fisheries Society* 135(5):1371-1382.
- Ford, J., and L. Hasselbach. 2001. Heavy metals in mosses and soils on six transects along the Red Dog Mine haul road, Alaska. Western Arctic National Parklands, U.S. National Park Service NPS/AR/NRTR-2001/38, Kotzebue, AK. Available: <http://www.dec.state.ak.us/spar/csp/docs/reddog/reddogrpt2.pdf>. (September 2010).
- Franklin, N., J. Stauber, S. Apte, and R. Lim. 2002. Effect of initial cell density on the bioavailability and toxicity of copper in microalgal bioassays. *Environmental Toxicology and Chemistry* 21(4):742-751.
- French, M., and L. Evans. 1988. The effects of copper and zinc on the growth of the fouling diatoms *Amphora* and *Amphiprora*. *Biofouling* 1(1):3-18.
- Frissell, C. 1993. Topology of extinction and endangerment of native fishes in the Pacific Northwest and California (U.S.A.). *Conservation Biology* 7(2):342-354.
- Fudge, T., K. Wautier, R. Evans, and V. Palace. 2008. Effect of different levels of fine-sediment loading on the escapement success of rainbow trout fry from artificial redds. *North American Journal of Fisheries Management* 28(3):758-765.
- FWCA (Fish and Wildlife Coordination Act of 1934), 16 U.S.C. §§ 661-667(e) (2002).
- Gallant, A., E. Binnian, J. Omernik, and M. Shasby. 1995. Ecoregions of Alaska. U.S. Geological Survey, Professional Paper 1567, Washington, D.C.
- Garrett, J., D. Bennett, F. Frost, and R. Thurow. 1998. Enhanced incubation success for Kokanee spawning in groundwater upwelling sites in a small Idaho stream. *North American Journal of Fisheries Management* 18(4):925-930.
- Gende, S., R. Edwards, M. Wilson, and M. Wipfli. 2002. Pacific salmon in aquatic and terrestrial ecosystems. *BioScience* 52(10):917-928.
- Ghaffari, H., R. Morrison, M. de Ruijter, A. Zivkovic, T. Hantelmann, D. Ramsey, and S. Cowie. 2011. Preliminary

- assessment of the Pebble project, Southwest Alaska. Report of Wardrop Engineering Inc., a Tetra Tech Company to Northern Dynasty Minerals Ltd., Vancouver, B.C.
- Giattina, J., R. Garton, and D. Stevens. 1982. Avoidance of copper and nickel by rainbow trout as monitored by a computer-based data acquisition system. *Transactions of the American Fisheries Society* 111(4):491–504.
- Gillilan, D., and T. Brown. 1997. *Instream flow protection: seeking a balance in western water use*. Island Press, Washington, D.C.
- Goldsmith, O., A. Hill, T. Hull, M. Markowski, and R. Unsworth. 1998. Economic assessment of Bristol Bay area national wildlife refuges: Alaska peninsula/Becherof, Izembek, Togiak. U.S. Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C.
- Goldsmith, S. 2007. The remote rural economy of Alaska. Institute of Social and Economic Research, University of Alaska, Anchorage, AK. Available: http://www.iser.uaa.alaska.edu/Publications/u_ak/uak_remoteruraleconomyak.pdf. (August 2010).
- Gray, G. 2005. Major changes to the Alaska coastal management program. In *proceedings of the 14th Biennial Coastal Zone Conference, July 17–21, 2005, New Orleans, LA*. Ed. Coastal Services Center, National Oceanic and Atmospheric Administration, Charleston, SC.
- Gresh, T., J. Lichatowich, and P. Schoonmaker. 2000. An estimation of historic and current levels of salmon production in the Northeast Pacific ecosystem: evidence of a nutrient deficit in the freshwater systems of the Pacific Northwest. *Fisheries* 25(1):15–21.
- Groot, C., and L. Margolis, editors. 2001. *Pacific salmon life histories*. University of British Columbia Press, Vancouver, B.C.
- Gross, C. 2008. Grouse Creek, Idaho; site reclamation and long-term water management. In *Proceedings of the 2008 U.S. Environmental Protection Agency/National Groundwater Association's Remediation of Abandoned Mine Lands Conference, October 2–3, 2008, Westerville, OH*. Available: <http://ngwa.confex.com/ngwa/mine08/webprogram/Paper5511.html>. (August 2010).
- Guerriere, A. 2003. PD agrees to pay fine, replace pipeline at New Mexico facility. *American Metal Market*. Available: [http://www.amm.com/SearchResults.aspx?Keywords=PhelpsDodgeCorp.paid+a+\\$42,150+civil+penalty+to+the+New+Mexico+Environment+Department+%28&OrderType=1](http://www.amm.com/SearchResults.aspx?Keywords=PhelpsDodgeCorp.paid+a+$42,150+civil+penalty+to+the+New+Mexico+Environment+Department+%28&OrderType=1). (June 2011).
- Habicht, C., J. Olsen, L. Fair, and J. Seeb. 2004. Smaller effective population sizes evidenced by loss of microsatellite alleles in tributary-spawning populations of sockeye salmon from the Kvichak River, Alaska drainage. *Environmental Biology of Fishes* 69(1–4):51–62.
- Habicht, C., L. Seeb, and J. Seeb. 2007. Genetic and ecological divergence defines population structure of sockeye salmon populations returning to Bristol Bay, Alaska, and provides a tool for admixture analysis. *Transactions of the American Fisheries Society* 136(1):82–94.
- Haeussler, P., and G. Plafker. 1995. Earthquakes in Alaska. U.S. Geological Survey, Open-File Report 95-624. Available: <http://geopubs.wr.usgs.gov/open-file/of95-624>. (August 2010).
- Haeussler, P., and R. Saltus. 2005. 26 km of offset on the Lake Clark fault since late Eocene time. U.S. Geological Survey, Professional Paper 1790-A, Reston, VA.
- Haley, S., G. Fay, H. Griego, and B. Saylor. 2008. Appendix G—social conditions: Red Dog Mine extension—Aqaluk Project. Institute of Social and Economic Research, University of Alaska, Anchorage, AK. Available: [http://www.iser.uaa.alaska.edu/Publications/8\(a\)/background info/RedDog-Appendix_G.pdf](http://www.iser.uaa.alaska.edu/Publications/8(a)/background%20info/RedDog-Appendix_G.pdf). (August 2010).
- Haley, S., and J. Magdanz. 2008. The impact of resource development on social ties: theory and methods for assessment. Chapter 2 in C. O'Faircheallaigh and S. Ali, editors. *Earth matters: indigenous peoples, corporate social responsibility and resource development*. Greenleaf Publishing, Sheffield, UK.
- Hall, T. 1986. A laboratory study of the effects of fine sediments on survival of three species of Pacific salmon from eyed-egg to fry emergence. National Council of Paper Industry for Air and Stream Improvement, Technical Bulletin 482, New York, NY.
- Hamilton, S., K. Buhl, N. Faerber, N. Wiedmeyer, and F. Bullard. 1990. Toxicity of organic selenium in the diet of Chinook salmon. *Environmental Toxicology and Chemistry* 9(3):347–358.
- Hasselbach, L., J. Ver Hoef, J. Ford, P. Neitlich, E. Crecelius, S. Berryman, B. Wolk, and T. Bohle. 2005. Spatial patterns of cadmium and lead deposition on and adjacent to National Park Service lands in the vicinity of Red Dog Mine, Alaska. *Science of the Total Environment* 348(1–3):211–230.
- HDR Alaska and CH2M Hill. 2008. Groundwater and surface water quality: mine area surface water 2004–2007. Report F2. HDR, Anchorage, AK.
- Hecht, S., D. Baldwin, C. Mebane, T. Hawkes, S. Gross, and N. Scholz. 2007. An overview of sensory effects on juvenile salmonids exposed to dissolved copper: applying a benchmark concentration approach to evaluate sublethal neurobehavioral toxicity. National Oceanic and Atmospheric Administration, Technical Memorandum NMFS-NWFSC-83, Seattle, WA.
- Hecla Mining Co., and Great Lakes Minerals Inc. 1994. *Business Wire*. Available: <http://www.allbusiness.com/environment-natural-resources/ecology-environmental/7084102-1.html>. (June 2011).
- Heggnes, J., S. Saltveit and O. Lingaas. 1996. Predicting fish habitat use to changes in water flow: modeling critical minimum flows for Atlantic salmon, *Salmo salar*, and brown trout, *Salmo trutta*. *Regulated Rivers: Research and Management* 12(2–3):331–344.
- Helvoigt, T., and D. Charlton. 2009. The economic value of the Rogue River salmon. Report of ECONorthwest to Save the Wild Rogue Campaign, Ashland, OR. Available: <http://www.americanrivers.org/assets/pdfs/wild-and-scenic-rivers/the-economic-value-of-rogue.pdf>. (August 2010).
- Hem, J. 1985. Study and interpretation of the chemical characteristics of natural waters, 3rd Edition. U.S. Geological Survey Water-Supply Paper 2254.
- Hetrick, F., M. Knittel, and J. Fryer. 1979. Increased susceptibility of rainbow trout to infectious hematopoietic necrosis virus after exposure to copper. *Applied and Environmental Microbiology* 37(2):198–201.
- Higgins, D., and S. Wiemeyer. 2001. Nevada assessment of

- wildlife hazards associated with mine pit lakes. Nevada Fish and Wildlife Office, Interim Report, Reno, NV.
- Higman, B. 2010. Waste storage 'in perpetuity.' Ground Truth Trekking. Available: <http://www.groundtruthtrekking.org/Issues/OtherIssues/InPerpetuity.html>. (December 2010).
- Higman, B., and A. Mattox. 2009. Field studies of active faults in the Lake Iliamna region. Ground Truth Trekking. Available: <http://www.groundtruthtrekking.org/Reports/FaultHunt01/index.html>. (December 2010).
- Hilborn, R., T. Quinn, D. Schindler, and D. Rogers. 2003. Biocomplexity and fisheries sustainability. *Proceedings of the National Academy of Sciences* 100(11):6564–6568.
- Hilderbrand, G., S. Farley, C. Robbins, T. Hanley, K. Titus, and C. Servheen. 1996. Use of stable isotopes to determine diets of living and extinct bears. *Canadian Journal of Zoology* 74(1):2080–2088.
- Hilderbrand, G., T. Hanley, C. Robbins, and C. Schwartz. 1999. Role of brown bears (*Ursus arctos*) in the flow of marine nitrogen into a terrestrial ecosystem. *Oecologia* 121(4):546–550.
- Hildrew, A., C. Townsend, and J. Francis. 1984. Community structure in some English streams: the influence of species interaction. *Freshwater Biology* 14(3):297–310.
- Hill, R. 1974. Mining impacts on trout habitat. Pages 47–57 *in* Proceedings of a symposium on trout habitat, research and management. Appalachian Consortium Press, Boone, NC.
- Hocking, M., and J. Reynolds. 2011. Impacts of salmon on riparian plant diversity. *Science* 331(6024):1609–1612.
- Hodgson, S., and T. Quinn. 2002. The timing of adult sockeye salmon migration into fresh water: adaptations by populations to prevailing thermal regimes. *Canadian Journal of Zoology* 80(3):542.
- Hoehn, R., and D. Sizemore. 1977. Acid mine drainage and its impact on a small Virginia stream. *Journal of the American Water Resources Association* 13(1):153–160.
- Hollibaugh, J., D. Seibert, and W. Thomas. 1980. A comparison of the acute toxicity of ten heavy metals to phytoplankton from Saanich Inlet, B.C., Canada. *Estuarine and Coastal Marine Science* 10(1):93–105.
- Hughes, R. 1985. Use of watershed characteristics to select control streams for estimating effects of metal mining wastes on extensively disturbed streams. *Environmental Management* 9(3):253–262.
- Hulen, D. 1990. Toxic metals foul stream near mine. *Anchorage Daily News* (August 18):A1+.
- Huntington, C., W. Nehlsen, and J. Bowers. 1996. A survey of healthy native stocks of anadromous salmonids in the Pacific Northwest and California. *Fisheries* 21(3):6–14.
- Huskey, L. 1992. The economy of village Alaska. Institute of Economic Research, University of Alaska, Anchorage, AK. Available: http://www.iser.uaa.alaska.edu/Publications/Economy_of_Village_Alaska.pdf. (August 2010).
- Hynes, H. 1970. The ecology of running waters. University of Toronto Press, Toronto, ON.
- ICOLD (International Commission of Large Dams). 2001. Tailings dams—risk of dangerous occurrences: lessons learnt from practical experiences. ICOLD, Bulletin 121, Paris, France.
- IIED (International Institute for Environment and Development). 2002. Breaking new ground: mining, minerals and sustainable development. IIED Final Report. Available: <http://www.iied.org/sustainable-markets/key-issues/business-and-sustainable-development/mmsd-final-report>. (December 2011).
- Ikuta, K., A. Munakata, K. Aida, M. Amano, and S. Kitamura. 2001. Effects of low pH on upstream migratory behavior in land-locked sockeye salmon (*Oncorhynchus nerka*). *Water, Air, and Soil Pollution* 130(1–4):99–106.
- Ikuta, K., Y. Suzuki, and S. Kitamura. 2003. Effects of low pH on the reproductive behavior of salmonid fishes. *Fish Physiology and Biochemistry* 28(1–4):407–410.
- IPCC (Intergovernmental Panel on Climate Change). 2007. Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. M. Parry, O. Canziani, J. Palutikof, P. van der Linden, J. Paul, and C. Hanson, editors. Cambridge University Press, Cambridge, UK.
- Jak, R., J. Maas, and M. Scholten. 1996. Evaluation of laboratory derived toxic effect concentrations of a mixture of metals by testing fresh water plankton communities in enclosures. *Water Research* 30(5):1215–1227.
- Jennings, S., D. Neuman, and P. Blicher. 2008. Acid mine drainage and effects on fish health and ecology: a review. Reclamation Research Group Publication, Bozeman, MT.
- Johnson, A., J. White, and D. Huntamer. 1997. Effects of Holden Mine on the water, sediments, and benthic invertebrates of Railroad Creek (Lake Chelan). Environmental Investigations and Laboratory Services Program, Washington State Department of Ecology, Publication No. 97-330, Water Body No. Wa-47-1020, Olympia, WA.
- Jones, C. 1999. Use of non-market valuation methods in the courtroom: recent affirmative precedents in natural resource damage assessments. Universities Council on Water Resources. Available: http://www.ucowr.siu.edu/updates/pdf/V109_A3.pdf. (August 2010).
- Julien, P., B. Bledsoe, and C. Watson. 2002. Fate and transport of metals and sediment in surface waters. Pages 17–20 *in* Balkema Publishers, editor, Proceedings of the 9th international conference on tailings and mine waste. January 27–30, 2002. Fort Collins, CO. Swets & Zeitlinger B.V., Lisse, The Netherlands.
- Kaller, M., and K. Hartman. 2004. Evidence of a threshold level of fine sediment accumulation for altering benthic macroinvertebrate communities. *Hydrobiologia* 518(1–3):95–104.
- Karl, T. 1997. The paradox of plenty: oil booms and petrostates. University of California Press, Berkeley, CA.
- Kaufmann, P., A. Herlihy, M. Mitch, J. Messer, and W. Overton. 1991. Stream chemistry in the eastern United States 1. Synoptic survey design, acid-base status, and regional patterns. *Water Resources Research* 27(4):611–627.
- Kelley, K., J. Lang, and R. Eppinger. 2010. Exploration geochemistry at the giant Pebble porphyry Cu-Au-Mo deposit, Alaska. Society of Economic Geologists Newsletter (January) (80):17–23. Available: <http://www.segweb.org/publications/featuredarticles.aspx>. (December 2011).
- Kilburn, J. 1995. Grouse Creek up and running. *The Northern Miner* (February 6).

- Kimmel, W. 1983. The impact of acid mine drainage on the stream ecosystem. Pages 424–437 in S. Majumdar, and E. Miller, editors. Pennsylvania coal: resources, technology, and utilization. Pennsylvania Academy of Science, Easton, PA.
- Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976)
- Kline, T., J. Goering, O. Mathisen, P. Poe, P. Parker, and R. Scalan. 1993. Recycling of elements transported upstream by runs of Pacific salmon: $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ evidence in the Kvichak River watershed, Bristol Bay, southwestern Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 50(11):2350–2365.
- Knight Piesold Consulting, editor. 2006a. Northern Dynasty Mines Inc., pebble project: tailings impoundment A, initial application report. Ref. No. VA101-176/16-13. Knight Piesold Ltd., Vancouver, B.C.
- Knight Piesold Consulting, editor. 2006b. Northern Dynasty Mines Inc., pebble project: tailings impoundment G, initial application report. Ref. No. VA101-176/16-12. Knight Piesold Ltd., Vancouver, B.C.
- Knudsen, E., D. McDonald, C. Stewart, J. Williams, and D. Reiser. 1999. Sustainable fisheries management: Pacific salmon. CRC Press LLC, Boca Raton, FL.
- Koenings, J., and R. Burkett. 1987. Population characteristics of sockeye salmon (*Oncorhynchus nerka*) smolts relative to temperature regimes, euphotic volume, fry density, and forage base within Alaskan lakes. Pages 216–234 in H. Smith, L. Margolis, and C. Wood, editors. Proceedings of the international sockeye salmon symposium, November 19–22, 1985, Nanaimo, B.C.: sockeye salmon (*Oncorhynchus nerka*) population biology and future management. Fisheries and Oceans Canada, Canadian Special Publication of Fisheries and Aquatic Sciences No. 96, Ottawa, ON.
- Kuipers, J., A. Maest, K. MacHardy, and G. Lawson. 2006. Comparison of predicted and actual water quality at hardrock mines: the reliability of predictions in environmental impact statements. Kuipers & Associates and Buka Environmental, Butte, MT.
- Kyle, R., and T. Brabets. 2001. Water temperature of streams in the Cook Inlet Basin, Alaska, and implications of climate change. National Water-Quality Assessment Program, U.S. Geological Survey, Water-Resources Investigations Report 01-4109, Anchorage, AK.
- Lang, D., G. Reeves, J. Hall, and M. Wipfli. 2006. The influence of fall-spawning coho salmon (*Oncorhynchus kisutch*) on growth and production of juvenile coho salmon rearing in beaver ponds on the Copper River Delta, Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 63(4):917–930.
- Lapakko, K., and D. Antonson. 1994. Oxidation of sulfide minerals present in Duluth Complex rock: a laboratory study. Pages 593–607 in C. Alpers, and D. Blowes, editors. Environmental Geochemistry of Sulfide Oxidation. American Chemical Society Symposium Series 550.
- LaRoche, G., and L. Shelton. 2011. Lake and peninsula borough coastal management program revised public hearing draft—March 2011. Alaska Coastal Management Program, Office of Project Management and Permitting, Alaska Department of Natural Resources. Available: http://alaska-coast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf. (July 2011).
- Lauren, D., and M. McDonald. 1985. Effects of copper on branchial ionoregulation in the rainbow trout, *Salmo gairdneri* Richardson. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology* 155(5):635–644.
- Leask, L., M. Killorin, and S. Martin. 2001. Trends in Alaska's people and economy. Institute of Social and Economic Research, University of Alaska, Anchorage, AK. Available: http://www.akhistorycourse.org/docs/trends_in_alaska.pdf. (August 2010).
- Ledin, M., and K. Pedersen. 1996. The environmental impact of mine wastes—roles of microorganisms and their significance in treatment of mine wastes. *Earth Science Reviews* 41(1–2):67–108.
- Leman, V. 1993. Spawning sites of chum salmon, *Oncorhynchus keta*: microhydrological regime and viability of progeny in redds (Kamchatka River Basin). *Journal of Ichthyology* 33(2):104–117.
- Lenhardt, J., and J. Lehman. 2006. Measuring total volatile suspended solids in stormwater to understand the influence of organic matter on BPM performance. Stormwater360. Available: http://www.stormwater360.co.nz/images/tvss_in_stormwater.pdf. (August 2010).
- Lenntech B. 2011. Acids and alkalis in freshwater. Lenntech BV, The Netherlands. Available: <http://www.lenntech.com/aquatic/acids-alkalis.htm>. (December 2011).
- Levings C., K. Barry, J. Grout, G. Piercey, A. Marsden, A. Coombs, and B. Mossop. 2004. Effects of acid mine drainage on the estuarine food web, Britannia Beach, Howe Sound. *Hydrobiologia* 525(1–3):185–202.
- Levit, S., and J. Kuipers. 2000. Reclamation bonding in Montana. Report of the Center for Science in Public Participation to the Montana Environmental Information Center, Helena, MT. Available: <http://meic.org/files/mining/recbondingreport.pdf>. (September 2010).
- Lewis, M., and C. Bamforth. 2007. Essays in brewing science. Springer Science and Business Media, LLC, New York, NY.
- Li, M. 2000. Acid rock drainage prediction for low sulphide, low-neutralisation potential mine wastes. Pages 567–580 in Proceedings of the fifth international conference on acid rock drainage (ICARD 2000). Society for Mining, Metallurgy, and Exploration, Inc.
- Loomis, J. 1999. Recreation and passive use values from removing the dams on the Lower Snake River to increase salmon. U.S. Army Corps of Engineers. Available: http://www.nwww.usace.army.mil/lst/reports/misc_reports/passive.htm. (August 2010).
- Lottermoser, B. 2007. Mine wastes: characterization, treatment and environmental impacts, second edition. Springer, Berlin.
- Madej, M., C. Currens, V. Ozaki, J. Yee, and D. Anderson. 2006. Assessing possible thermal rearing restrictions for juvenile coho salmon (*Oncorhynchus kisutch*) through thermal infrared imaging and in-stream monitoring. *Canadian Journal of Fisheries and Aquatic Sciences* 63(6):1384–1396.
- Maehl, W. 2003. Zortman and Landusky with 20/20 hindsight. Utah Division of Oil, Gas, and Mining. Available: https://fs.ogm.utah.gov/pub/mines/AMR_Related/NAAMLP/EnDesign/Maehl.pdf. (September 2010).
- Malcolm, I., C. Soulsby, A. Youngson, D. Hannah, I.

- McLaren, and A. Thorne. 2004. Hydrological influences on hyporheic water quality: implications for salmon egg survival. *Hydrological Processes* 18(9):1543–1560.
- Manley, W., and D. Kaufman. 2002. Alaska PaleoGlacier Atlas. Institute of Arctic and Alpine Research, Boulder, CO.
- Maret, T., and D. MacCoy. 2002. Fish assemblages and environmental variables associated with hard-rock mining in the Coeur d'Alene River Basin, Idaho. *Transactions of the American Fisheries Society* 131(5):865–884.
- Maret, T., D. Cain, D. MacCoy, and T. Short. 2003. Response of benthic invertebrate assemblages to metal exposure and bioaccumulation associated with hard-rock mining in northwestern streams, USA. *Journal of the North American Benthological Society* 22(4):598–620.
- Martin, S. 2004. Determinants of well-being in Iñupiat and Yupiit eskimos: do communities matter? Ph.D. dissertation, University of Texas, Dallas, TX. Available: http://www.iser.uaa.alaska.edu/Projects/living_conditions/images/smartin_dissertation_draft10_5.pdf. (August 2010).
- Martin, S., and W. Platts. 1981. Influence of forest and rangeland management on anadromous fish habitat in western North America: effects of mining. Pacific Northwest Forest and Range Experiment Station, U.S. Department of Agriculture Forest Service, General Technical Report PNW-119, Portland, OR.
- Mazor, E. 1991. Applied chemical and isotopic groundwater hydrology. Halsted Press, New York, NY.
- McCullum, D., and S. Miller. 1994. Alaska hunters: their hunting trip characteristics and economics. Information Management Program, Division of Wildlife Conservation, Alaska Department of Fish and Game, Anchorage, AK.
- McCullough, D., S. Spalding, D. Sturdevant, and M. Hicks. 2001. Issue paper 5: summary of technical literature examining the effects of temperature on salmonids. Temperature Water Quality Criteria Guidance Development Project, Region 10, U.S. Environmental Protection Agency, EPA-910-D-01-005, Seattle, WA.
- McDiarmid, G. Williamson, S. Goldsmith, M. Killorin, S. Sharp, and C. Hild. 1998. Expanding job opportunities for Alaska natives. Institute of Social and Economic Research, University of Alaska Anchorage, AK. Available: <http://www.iser.uaa.alaska.edu/publications/client/afnjobs/afnjobs.htm>. (August 2010).
- McKetta, J. 1992. Petroleum processing handbook. Marcel Dekker, Inc., New York, NY.
- McIntyre, J., D. Baldwin, J. Meador, and N. Scholz. 2008. Chemosensory deprivation in juvenile coho salmon exposed to dissolved copper under varying water chemistry conditions. *Environmental Science and Technology* 42:1352–1358.
- Mecklenburg, C., T. Mecklenburg, and L. Thorsteinson. 2002. Fishes of Alaska. The American Fisheries Society, Bethesda, MD.
- Meehan, W., editor. 1991. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19. American Fisheries Society Publications, Evans City, PA.
- Mills, A. 1985. Acid mine drainage: microbial impact on the recovery of soil and water ecosystems. Pages 41–43 in R. Tate, and D. Klein, editors. *Soil reclamation processes: microbial analysis and applications*. Marcel Dekker, Inc., New York, NY.
- Mining Watch. 2005. Wheaton River profits from destruction at Bajo La Alumbra, Argentina. Mining Watch Canada. Available: <http://www.miningwatch.ca/en/wheaton-river-profits-destruction-bajo-la-alumbra-argentina>. (June 2011).
- Mitchell, L. 2004. Zortman and Landusky mines Montana House joint resolution 43 report: water quality impacts. MEQC (Montana Environmental Quality Council), Helena, MT. Available: http://leg.mt.gov/content/publications/environmental/2004_zortman.pdf. (September 2010).
- Molony, B. 2001. Environmental requirements and tolerances of rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*) with special reference to Western Australia: a review. Fisheries Research Division, Western Australia Marine Research Laboratories, Department of Fisheries, Government of Western Australia, Report No. 130, South Beach, Western Australia.
- Moon, A., and C. Lucostic. 1979. Effects of acid mine drainage on a southwestern Pennsylvania stream. *Water, Air, and Soil Pollution* 11(3):377–390.
- Moran, R. 1974. Trace element content of a stream affected by metal-mine drainage, Bonanza, Colorado. Ph.D. dissertation, University of Texas, Austin.
- Moran, R., and D. Wentz. 1974. Effects of metal-mine drainage on water quality in selected areas of Colorado, 1972–1973. Colorado Water Conservation Board. Water Resources Circular No. 25. Available: <http://co.water.usgs.gov/publications/pubsnonusgs.html>. (December 2011).
- Moran, R. 2001. Mining environmental impacts: integrating an economic perspective. Pages 67–77 in N. Borregaard, and C. Gana, editors. *Towards the integration of environmental, economic, and trade aspects in the mining sector*. Centro de Investigacion y Planificacion del Medio Ambiente, Santiago, Chile.
- Moran, R. 2007. Pebble hydrogeology and geochemistry issues. Submitted to Renewable Resource Coalition, Anchorage, Alaska. Available at: <http://www.renewableresourcescoalition.org/MoranSep07.pdf>. (December 2011).
- Morris, R., E. Taylor, D. Brown, and J. Brown. 1989. Acid toxicity and aquatic animals. Society of experimental biology seminar series, No. 34. Cambridge University Press, New York, NY.
- Moran, R., and D. Galloway. 2007. Ground water in the Anchorage area, Alaska: meeting the challenges of groundwater sustainability. U.S. Geological Survey, Fact Sheet 2006-3148, Anchorage, AK.
- Morrow, J. 1980. The freshwater fishes of Alaska. Alaska Northwest Publishing, Anchorage, AK.
- Morstad, S., M. Jones, T. Sands, P. Salomone, T. Baker, G. Buck, and F. West. 2010. 2009 annual Bristol Bay management report. Divisions of Sport Fish and Commercial Fisheries, Alaska Department of Fish and Game, Fisheries Management Report No. 10-25, Anchorage, AK. Available: <http://www.sf.adfg.state.ak.us/FedAidpdfs/FMR10-25.pdf>. (August 2010).
- MPRSA (Marine Protection, Research, and Sanctuaries Act of 1972) § 2, 33 U.S.C. § 1401 (2000).

- Murphy, K. 2010. Battle over Pebble Mine shifts to EPA. Los Angeles Times. Available: <http://latimesblogs.latimes.com/greenspace/2010/08/battle-over-pebble-mine-shifts-to-epa.html>. (December 2010).
- Murray, C., and J. McPhail. 1988. Effect of incubation temperature on the development of five species of Pacific salmon (*Oncorhynchus*) embryos and alevins. *Canadian Journal of Zoology* 66(1):266–273.
- Myrick, C., and J. Cech. 2004. Temperature effects on juvenile anadromous salmonids in California's central valley: what don't we know? *Reviews in Fish Biology and Fisheries* 14(1):113–123.
- Naiman, R., R. Bilby, D. Schindler, and J. Helfield. 2002. Pacific salmon, nutrients, and the dynamics of freshwater and riparian ecosystems. *Ecosystems* 5(4):399–417.
- Nayar, S., B. Goh, and L. Chou. 2004. Environmental impact of heavy metals from dredged and resuspended sediments on phytoplankton and bacteria assessed in situ mesocosms. *Ecotoxicology and Environmental Safety* 59(3):349–369.
- NDM (Northern Dynasty Mines) Inc. 2005. Draft environmental baseline studies: 2004 progress reports. Chapter 8: Geochemical characterization and ML/ARD. Alaska Department of Natural Resources. Available: http://dnr.alaska.gov/mlw/mining/largemine/pebble/2004_reports/pr_ch08.pdf. (July 2010).
- NDM Inc. 2006a. Pebble project: application for water right, unnamed tributary (NK1.190) North Fork Koktuli River. NDM Inc., Anchorage, AK.
- NDM Inc. 2006b. Pebble project: application for water right, Upper Talarik Creek. NDM Inc., Anchorage, AK.
- NDM Inc. 2006c. Pebble project: application for water right, South Fork Koktuli River. NDM Inc., Anchorage, AK.
- NDM Inc. 2006d. Pebble project: application for groundwater right, unnamed tributary (NK1.190) North Fork Koktuli River. NDM Inc., Anchorage, AK.
- NDM Inc. 2006e. Pebble project: application for groundwater right, Upper Talarik Creek. NDM Inc., Anchorage, AK.
- NDM Inc. 2006f. Pebble project: application for groundwater right, South Fork Koktuli River. NDM Inc., Anchorage, AK.
- NDM (Northern Dynasty Minerals) Ltd. 2007. Program and update on metallurgy and resources on the Pebble copper-gold-molybdenum project, Iliamna Lake area, southwestern Alaska, U.S.A., NDM Ltd. Technical Report NI 43-101. Vancouver, B.C.
- NDM Ltd. 2010a. Northern Dynasty partners and investors. NDM Ltd. Available: <http://www.northerndynastyminerals.com/ndm/NDP.asp>. (August 2010).
- NDM Ltd. 2010b. Measured and indicated mineral resources. Inferred mineral resources. NDM Ltd. Available: http://www.northerndynastyminerals.com/i/pdf/ndm/NDM_MRES.pdf. (August 2010).
- Nehlsen, W., J. Williams, and J. Lichatowich. 1991. Pacific salmon at the crossroads: stocks at risk from California, Oregon, Idaho, and Washington. *Fisheries*. 16(2):4–21.
- Nelle, R. 2002. Species occurrence and length frequency distribution of fish in six lakes and five streams of the waters of the Togiak National Wildlife Refuge, Alaska, 2000–2002. Togiak National Wildlife Refuge, U.S. Fish and Wildlife Service, Dillingham, AK.
- Nelson, J. 1982. Physiological observations on developing rainbow trout, *Salmo gairdneri* (Richardson), exposed to low pH and varied calcium ion concentrations. *Journal of Fish Biology* 20(3):359–372.
- Nelson, M. 1965. A compilation of notes and biological data from the Nushagak and Togiak Districts, Bristol Bay 1956–64. Division of Commercial Fisheries, Alaska Department of Fish and Game, Bristol Bay Data Report Series No. 1, Dillingham, AK.
- NEPA (National Environmental Policy Act of 1969) § 102, 42 U.S.C. § 4332 (C) (1982).
- Newcombe, C., and D. MacDonald. 1991. Effects of suspended sediments on aquatic ecosystems. *North American Journal of Fisheries Management* 11(1):72–82.
- NOAA (National Oceanic and Atmospheric Administration). 2010. ESA consultations. Northwest Regional Office, NOAA. Available: <http://www.nwr.noaa.gov/Salmon-Habitat/ESA-Consultations>. (December 2010).
- Nobmann, E. 1997. Nutritional benefits of native foods. Institute of Social and Economic Research, University of Alaska Anchorage, AK. Available: www.nativeknowledge.org/db/files/ntrindex.htm. (August 2010).
- Nondalton Tribal Council et al. v. State of Alaska et al. No. 3DI-09-46 CI, Amended Complaint for Declaratory Judgment (Alaska Super. Ct. 3rd Jud. Dist. at Dillingham June 9, 2009).
- Nowacki, G., P. Spencer, M. Fleming, T. Brock, and T. Jorgenson. 2001. Ecoregions of Alaska and neighboring territory. U.S. Geological Survey, Survey Open-File Report 02-297, Reston, VA.
- NRC (National Research Council). 1996. Upstream: salmon and society in the Pacific Northwest. Committee on Protection and Management of Pacific Northwest Anadromous Salmonids, Board on Environmental Studies and Toxicology, Commission on Life Sciences, editors. National Academy Press, Washington D.C.
- NRC. 2005. Superfund and mining megasites—lessons from the Coeur d'Alene River Basin. National Academies Press, Washington, D.C.
- Nunamta Aulukestai and Trout Unlimited Alaska Chapter. 2009. Biological, technical questions and answers about Pebble Mine. Alaska Legislature. Available: www.legis.state.ak.us/basis/get_documents.asp?session=26&docid=1400. (August 2010).
- ODEQ (Oregon Department of Environmental Quality). 2005. Turbidity criteria for other western states and British Columbia. ODEQ, Environmental Quality Commission. Available: <http://www.deq.state.or.us/about/eqc/agendas/attachments/aug2005/G-AttB.WQTurbidityStateCompare.pdf>. (September 2010).
- ODHS (Oregon Department of Human Services). 2010. Public health assessment, Formosa Mine, Riddle, Oregon. ODHS, Salem, OR.
- OEC (Ohio Environmental Council). 2011. Will there soon be an end to massive coal slurry ponds in Ohio? Available: <http://www.theoec.org/PDFs/FactSheets/CaptinaCreekFactSheet.pdf>. (November 2011).

- OEPA (Ohio Environmental Protection Agency). 2010. Biological and water quality study of the Captina Creek watershed 2009. Division of Surface Water, OEPA. Available: <http://www.epa.ohio.gov/portals/35/documents/Captina-CreekTSD2009.pdf>. (November 2011).
- Orth, D. 1971. Dictionary of Alaska place names: geological survey professional paper 567. U.S. Geological Survey, Washington, D.C.
- Ott, A. 2004. Aquatic biomonitoring at Red Dog Mine, 2003. Office of Habitat Management and Permitting, Alaska Department of Natural Resources, Resources Technical Report 04-02, Juneau, AK.
- Ott, A., and P. Scannell. 1993. Fish monitoring study, Red Dog Mine in the Wulik River drainage, emphasis on Dolly Varden (*Salvelinus malma*), summary report 1990–1993. Habitat and Restoration Division, Alaska Department of Fish and Game, Technical Report No. 94-1, Fairbanks, AK.
- Parker, G., R. Raskin, C. Woody, and L. Trasky. 2008. Pebble Mine: fish, minerals, and testing the limits of Alaska's "large mine permitting process." *Alaska Law Review* 25(1):1–50.
- Parmesan, C., and G. Yohe. 2003. A globally coherent fingerprint of climate change impacts across natural systems. *Nature* 421(6918):37–42.
- Parsons, J. 1977. Effects of acid mine wastes on aquatic ecosystems. *Water, Air, and Soil Pollution* 7(3):333–354.
- Paulsen, S., A. Mayo, D. Peck, J. Stoddard, E. Tarquinio, S. Holdsworth, J. Van Sickle, L. Yuan, C. Hawkins, A. Herlihy, P. Kaufmann, M. Barbour, D. Larsen, and A. Olsen. 2008. Condition of stream ecosystems in the US: an overview of the first national assessment. *Journal of the North American Benthological Society* 27(4):812–821.
- Peck, J. 1999. Measuring justice for nature: issues in evaluating and litigating natural resource damages. *Journal of Land Use & Environmental Law* 14(2):275–306. Available: <http://www.law.fsu.edu/journals/landuse/Vol142/peck1.htm>. (August 2010).
- Pedder, S., and E. Maly. 1985. The effect of lethal copper solutions on the behavior of rainbow trout (*Salmo gairdneri*). *Environmental Contamination and Toxicology* 14(4):501–507.
- Perry, M., O. Canziani, J. Palutikof, P. van der Linden, and C. Hanson, editors. 2007. Contribution of working group II to the fourth assessment report of the intergovernmental panel on climate change, 2007. Cambridge University Press, New York, NY.
- Poff, L., J. Allan, M. Bain, J. Karr, K. Prestegard, B. Richter, R. Sparks, and J. Stromberg. 1997. The natural flow regime: a paradigm for river conservation and restoration. *Bioscience* 47(1):769–784.
- Poff, N., B. Richter, A. Arthington, S. Bunn, R. Naiman, E. Kendy, M. Acreman, C. Apse, B. Bledsoe, M. Freeman, J. Henriksen, R. Jacobson, J. Kennen, D. Merritt, J. O'Keefe, J. Olden, K. Rogers, R. Tharme, and A. Warner. 2010. The ecological limits of hydrologic alteration (ELOHA): a new framework for developing regional environmental flow standards. *Freshwater Biology* 55(1):147–170.
- Potts, W., and P. McWilliams. 1989. The effects of hydrogen and aluminum ions on fish gills. Pages 201–220 in R. Morris, E. Taylor, D. Brown, and J. Brown, editors. Acid toxicity and aquatic animals. Society for experimental biology seminar series 34. Cambridge University Press, New York, NY.
- PSF (Pacific Salmon Foundation). 2008. Mount Washington: acid rock drainage remediation. PSF. Available: http://www.psf.ca/index.php?option=com_content&view=article&id=16&Itemid=44. (December 2010).
- Quinn, T. 2004. The behavior and ecology of Pacific salmon and trout. University of Washington Press, Seattle, WA.
- Quinn, T., C. Wood, L. Margolis, B. Riddell, and K. Hyatt. 1987. Homing in wild sockeye salmon (*Oncorhynchus nerka*) populations as inferred from differences in parasite prevalence and allozyme allele frequencies. *Canadian Journal of Fisheries and Aquatic Sciences* 44(11):1963–1971.
- Ramstad, K., C. Woody, G. Sage, and F. Allendorf. 2004. Founding events influence genetic population structure of sockeye salmon (*Oncorhynchus Nerka*) in Lake Clark, Alaska. *Molecular Ecology* 13(2):277–290.
- Ramstad, K., C. Woody, and F. Allendorf. 2009. Recent local adaptation of sockeye salmon to glacial spawning habitats. *Evolutionary Ecology* 24(2):391–411.
- Rebagliati, C., and J. Payne. 2007. 2006 Summary report on the Pebble porphyry gold-copper project, Iliamna lake area, Southwestern Alaska, U.S.A.
- Reeves, G., F. Everest, and J. Sedell. 1993. Diversity of juvenile anadromous salmonid assemblages in coastal Oregon basins with different levels of timber harvest. *Transactions of the American Fisheries Society* 122(3):309–317.
- Reimchen, T. 1994. Further studies of predator and scavenger use of chum salmon in stream and estuarine habitats at Bag Harbour, Gwaii Haanas. Report of Islands Ecological Research to Canadian Parks Service, Queen Charlotte City, B.C.
- Reiser, D., and R. White. 1998. Effects of two sediment size-classes on survival of steelhead and Chinook salmon eggs. *North American Journal of Fisheries Management* 8(4):432–437.
- Rich, W. 1939. Local populations and migration in relation to the conservation of Pacific salmon in the western states and Alaska. Department of Research, Oregon Fish Commission. State Printing Office, Salem, OR.
- Richardson, J. 2011. Pebble CEO said mine's energy need could make gas line, dam viable. *Fairbanks Daily News Miner*. Available: http://newsminer.com/view/full_story/11022227/article-Pebble-CEO-said-mine-s#ixzz1BQArjxdq. (February 2011).
- Rico, M., G. Benito, A. Salgueiro, A. and A. Diez-Herrero. 2008. Reported tailing dam failures: A review of the European incidents in the worldwide context. *Journal of Hazardous Materials*. 152(2):846–852.
- Rieman, B., D. Isaak, S. Adams, D. Horan, D. Nagel, C. Luce, and D. Myers. 2007. Anticipated climate warming effects on bull trout habitats and populations across the interior Columbia River basin. *Transactions of the American Fisheries Society* 136(6):1552–1565.
- Rio Tinto. 2007. Bingham Canyon Mine visitors center. Rio Tinto. Available: <http://www.kennecott.com/visitors-center>. (May 2007).
- Rio Tinto. 2009. 2009 annual report—strategy, delivery, growth. Rio Tinto. Available: <http://www.riotinto.com/>

- documents/Investors/Rio_Tinto_annual_report_2009.pdf. (August 2010).
- Ripley, E., R. Redmann, and A. Crowder. 1996. Environmental effects of mining. St. Lucie Press, Delray Beach, FL.
- Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989).
- Rosenberg, D., and A. Wiens. 1978. Effects of sediment addition on macrobenthic invertebrates in a northern Canadian river. *Water Research* 12(10):753–763.
- Rosseland, B. 1986. Ecological effects of acidification on tertiary consumers: fish population responses. *Water, Air, and Soil Pollution* 30(1–2):451–460.
- Rothe, A. 2006. A review of industrial hard rock mining in Alaska. Report of Halcyon Research to Alaskans for Responsible Mining, Anchorage, AK. Available: <http://northern.org/programs/clean-water-mines/alaska-mineral-resource-development-information/a-review-of-industrial-hard-rock-mining-in-alaska>. (January 2011).
- Rouse, W., M. Douglas, R. Hecky, A. Hershey, G. Kling, L. Lesack, P. Marsh, M. McDonald, B. Nicholson, N. Roulet, and J. Smol. 1998. Effects of climate change on the freshwaters of arctic and subarctic North America. *Hydrological Processes* 11(8):873–902.
- Ruediger, R., and W. Ruediger. 1999. The effects of highways on trout and salmon rivers and streams in the western U.S. In Proceedings from the Third International Conference on Wildlife Ecology and Transportation (ICOWET III), September 13–16, Missoula, MT. Florida Department of Transportation, FL-ER-73-99, Tallahassee, FL.
- Russell, R. 1980. A fisheries inventory of waters in the Lake Clark National Monument area. Division of Sport Fish, Alaska Department of Fish and Game, King Salmon, AK.
- SAIC (Science Applications International Corporation). 2001. Final reclamation bond review: Grouse Creek Mine project, Salmon Challis National Forest, Idaho. Report of SAIC to U.S. Department of Agriculture Forest Service, Challis National Forest, ID.
- Salomone, P., S. Morstad, T. Sands, C. Westing, T. Baker, F. West, and C. Brazil. 2007. 2006 Bristol Bay area annual management report. Division of Commercial Fisheries, Alaska Department of Fish and Game, Fishery Management Report No. 07-22, Anchorage, AK.
- Sandahl, J., D. Baldwin, J. Jenkins, and N. Scholz. 2007. A sensory system at the interface between urban storm water runoff and salmon survival. *Environmental Science and Technology* 41(8):2998–3004.
- Sandahl, J., G. Miyasaka, N. Koide, and H. Ueda. 2006. Olfactory inhibition and recovery in chum salmon (*Oncorhynchus keta*) following copper exposure. *Canadian Journal of Fisheries and Aquatic Sciences* 63(8):1840–1847.
- Sands, T., C. Westing, P. Salomone, S. Morstad, T. Baker, F. West, and C. Brazil. 2008. 2007 Bristol Bay area annual management report. Divisions of Sport Fish and Commerce Fisheries, Alaska Department of Fish and Game, Fishery Management Report No. 08-28, Anchorage, AK. Available: <http://www.sf.adfg.state.ak.us/FedAidpdfs/fmr08-28.pdf>. (September 2010).
- Sayer, M., J. Reader, and R. Morris. 1991. Embryonic and larval development of brown trout, *Salmo trutta* L.: exposure to trace metal mixtures in soft water. *Journal of Fish Biology* 38(5):773–778.
- Schindler, D. 1988. The effects of acid rain on freshwater ecosystems. *Science* 239(4836):149–157.
- Schindler, D., M. Scheuerell, J. Moore, S. Gende, T. Francis, and W. Palen. 2003. Pacific salmon and the ecology of coastal ecosystems. *Frontiers in Ecology and the Environment* 1(1):31–37.
- Schindler, D., R. Hilborn, B. Chasco, C. Boatright, T. Quinn, L. Rogers, and M. Webster. 2010. Population diversity and the portfolio effect in an exploited species. *Nature* 465(7298):609–612.
- SEACC (Southeast Alaska Conservation Council). 2007. Help wanted: jobs and a healthy environment in southeast Alaska. SEACC. Available: <http://seacc.org/seacc-resources/reports-and-publications-index-1/help-wanted-jobs-and-a-healthy-environment-in-southeast-alaska>. (August 2010).
- Septoff, A. 2006. Predicting water quality problems at hardrock mines: a failure of science, oversight, and good practice. Earthworks, Washington, D.C.
- Shaffer, M. 2002. Company penalized for Arizona sludge spills. *Arizona Republic* (August 8):B9.
- Singer, P., and W. Stumm. 1970. Acid mine drainage: the rate-determining step. *Science* 167:1121–1123.
- SitNews. 2011. No special session to save Alaska's coastal zone management program. SitNews (May 31). Available: http://www.sitnews.us/0511News/053111/053111_special_session.html. (June 2011).
- Soulsby, C., I. Malcolm, and A. Youngson. 2001. Hydrochemistry of the hyporheic zone in salmon spawning gravels: a preliminary assessment in a degraded agricultural stream. *Regulated Rivers: Research & Management* 17(6):651–665.
- Sorensen, E. 1991. Metal poisoning in fish. CRC Press, Inc., Boca Raton, FL.
- Sorenson, D., M. McCarthy, E. Middlebrook, and D. Porcella. 1977. Suspended and dissolved solids effects on freshwater biota: a review. Office of Research and Development, U.S. Environmental Protection Agency, EPA-600/3-77-042, Corvallis, OR.
- Spence, B., G. Lomnický, R. Hughes, and R. Novitzki. 1996. An ecosystem approach to salmonid conservation. National Marine Fisheries Service, TR-4501-96-6057, Portland, OR.
- Stearns, S. 1992. The evolution of life histories. Oxford University Press, Oxford, UK.
- Stickel, D. 2007. Alaska Department of Revenue. Alaska's non-oil tax revenue. Alaska Department of Labor and Workforce Development. Available: <http://www.labor.state.ak.us/research/trends/sep07econ.pdf>. (August 2010).
- Stockner, J., editor. 2003. Nutrients in salmonid ecosystems; sustaining production and biodiversity. American Fisheries Society, Bethesda, MD.
- Stoddard, J., D. Peck, S. Paulsen, J. Van Sickle, C. Hawkins, A. Herlihy, R. Hughes, P. Kaufmann, D. Larsen, G. Lomnický, A. Olsen, S. Peterson, P. Ringold, and T. Whittier. 2005. An ecological assessment of western streams and rivers. U.S. Environmental Protection Agency, EPA 620/R-05/005, Washington, D.C.
- Stratton, B., and B. Cross. 1990. Abundance, age, sex, and

- size statistics for Pacific salmon in Bristol Bay. Division of Commercial Fisheries, Alaska Department of Fish and Game, Technical Fishery Report 90-06, Juneau, AK.
- Stratus Consulting Inc. 2009. Memorandum: initial comments on Pebble Mine hydrology and hydrogeology. Prepared by Dr. Cameron Wobus and Stratus, April 16, 2009. Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227-228 (1980).
- Teck Cominco Alaska Inc. 2004. In RE Teck Cominco Alaska Inc., Red Dog Mine, NPDES Appeal No. 03-09: order denying review in part and remanding in part. U.S. Environmental Protection Agency. Available: <http://www.epa.gov/eab/disk11/teckcominco.pdf>. (September 2010).
- Teck Cominco Alaska Inc. 2008. Fugitive dust risk management plan: Red Dog operations, Alaska. Report of Exponent to Teck Cominco Alaska Inc., Anchorage, AK. Available: <http://dnr.alaska.gov/mlw/mining/largemine/reddog/publicnotice/pdf/msd8.pdf>. (September 2010).
- Tetra Tech. 2009. Final supplemental environmental impact statement: Red Dog Mine extension, Aqqaluk Project. Report of Tetra Tech to U.S. Environmental Protection Agency, Region 10, Seattle, WA.
- Thomas, W., J. Hollibaugh, D. Seibert, and G. Wallace Jr. 1980. Toxicity of a mixture of ten metals to phytoplankton. *Marine Ecology Progress Series* 2:213-220.
- Thornton, T., and P. Wheeler. 2005. Subsistence research in Alaska: a thirty year perspective. *Alaska Journal of Anthropology* 3(1): 69-103. Available: <http://www.eci.ox.ac.uk/publications/downloads/thornton05-alaska.pdf>. (August 2010).
- Throop, A. 1994. Silver Butte Mine acid rock drainage: formation and future. Oregon Department of Geology and Mineral Industries, Salem, OR.
- Throop, A. 1995. Reclamation of Formosa exploration's Silver Butte Mine as of December 1994. Oregon Department of Geology and Mineral Industries, Salem, OR.
- Tierney, K., D. Baldwin, T. Hara, P. Ross, N. Scholz, and C. Kennedy. 2010. Copper toxicity in fishes. *Aquatic Toxicology* 96:2-26.
- Todd, J. and D. Struhsacker. 1997. Environmentally Responsible Mining: Results and Thoughts Regarding a Survey of North American Metallic Mineral Mines: Society for Mining, Metallurgy, and Exploration Preprint 97-304, Littleton, Colorado.
- Trasky, L. 2008. The potential effects of large scale copper sulfide mining on salmonids and their habitat. Submitted to Wild Salmon Center, Portland, OR.
- TU (Trout Unlimited). 2010. Trout Unlimited takes legal action to protect salmon in Bristol Bay. TU. Available: <http://www.tu.org/alaska/coldwater-chronicles/winter-2010/trout-unlimited-takes-legal-action>. (December 2010).
- USBLM (U.S. Bureau of Land Management). 1995. Zortman and Landusky Mines draft environmental impact statement. USBLM, Department of the Interior, Washington, D.C.
- USBOC (U.S. Bureau of the Census). 2008. Alaska quick facts. USBOC. Available: <http://quickfacts.census.gov/qfd/states/02000.html>. (August 2010).
- USDA FS (U.S. Department of Agriculture Forest Service). 1992. Record of decision and final supplemental environmental impact statement – volume 1, Grouse Creek project. USDA FS, Challis National Forest, ID.
- USDA FS and USEPA (U.S. Environmental Protection Agency). 2003. Removal action memorandum. USDA FS. Available: http://www.fs.fed.us/r4/sc/yankeefork/pdf/fs_era_removal_action_memo_randum_0403.pdf. (August 2010).
- USDOI (U.S. Department of the Interior). 1995. Zortman and Landusky Mines draft environmental impact statement. Hard Rock Bureau, Bureau of Land Management, USDOI and the State of Montana Department of Environmental Quality, Washington, D.C.
- USEPA (U.S. Environmental Protection Agency). 1984. Final environmental impact statement: Red Dog Mine project, northwest Alaska. Region 10, Office of Water, USEPA, EPA 910/9-84-122a, Seattle, WA.
- USEPA. 1991. Administrative complaint, docket no. 1090-02-16-309(g). Region 10, USEPA, Washington, D.C.
- USEPA. 1994a. Technical document: acid mine drainage prediction. Special Waste Branch, Office of Solid Waste, USEPA, EPA530-R-94-036, Washington, D.C.
- USEPA. 1994b. National priorities list, HRS documentation record, Kennecott (south zone), NPL-016-2-20-R8, and Kennecott (north zone), NPL-016-2-19-R8.
- USEPA. 1997. Damage cases and environmental releases from mines and mineral processing sites. Office of Solid Waste, USEPA, EPA A530-R-99-023, Washington D.C.
- USEPA. 2000. Guidelines for preparing economic analyses. National Center for Environmental Economics, USEPA, EPA 240-R-00-003, Washington, D.C.
- USEPA. 2003. Final environmental impact statement Pogo gold mine project, Delta, Alaska. National Pollutant Discharge Elimination System, Office of Water, USEPA, Permit Application No. AK-005334-1, Seattle, WA.
- USEPA. 2004. Nationwide identification of hardrock mining sites. Evaluation report. Office of Inspector General, USEPA, Report 2004-P-00005, Washington, D.C.
- USEPA. 2005. Record of decision: Brewer Gold Mine. USEPA, EPA/ROD/R2005040001494, Jefferson, SC.
- USEPA. 2006. National recommended water quality criteria. Office of Water and the Office of Science and Technology, USEPA, Washington, D.C.
- USEPA. 2007a. Fact sheet: Formosa Mine, Douglas County, Oregon. USEPA, Seattle, Washington. Available: <http://yosemite.epa.gov/r10/cleanup.nsf/d67b5aa82151d9ae88256da6005fb54e!OpenView>. (August 2010).
- USEPA. 2007b. Aquatic life ambient freshwater quality criteria: copper. USEPA, EPA-822-R-07-001. Washington, D.C.
- USEPA. 2008. Letter to Randy Bates, Director, Division of Coastal and Ocean Management, ADNR (Alaska Department of Natural Resources), August 15, 2008. Division of Coastal and Ocean Management, ADNR. Available: http://alaskacoast.state.ak.us/Enews/Re-eval2008/OfficialSubmittedComments/EPA_submitted_comments.pdf. (July 2011).
- USEPA. 2009a. Final data summary report: Formosa Mine superfund site, Douglas County, Oregon. Report of CDM Federal Programs Corporation to the USEPA, Region 10, Seattle, WA.
- USEPA. 2009b. Chronology of 404(c) Actions. Wetlands

- Division, USEPA, Washington, D.C. Available: <http://www.epa.gov/owow/wetlands/regs/404c.html>. (August 2010).
- USEPA. 2009c. Clean Water Act §404(c) EPA Veto Authority. Available: <http://www.epa.gov/owow/wetlands/pdf/404c.pdf>. (August 2010).
- USEPA. 2009d. Supplemental environmental impact statement: Red Dog Mine extension, Aqqaq project. Prepared by Tetra Tech for USEPA, Region 10, Seattle, WA. Available: <http://www.reddogseis.com> (September 2010).
- USEPA. 2011a. Brewer Gold Mine, Jefferson, South Carolina. National Priorities List, USEPA. Available: <http://www.epa.gov/superfund/sites/npl/nar1725.htm>. (June 2011).
- USEPA. 2011b. Clark Fork River operable unit. Superfund Program, USEPA. Available: <http://www.epa.gov/region8/superfund/mt/milltowncfr/cfr/>. (July 2011).
- USEPA. 2011c. EPA plans scientific assessment of Bristol Bay watershed. USEPA. Available: <http://yosemite.epa.gov/opa/admpress.nsf/0/8c1e5dd5d170ad99852578300067d3b3>. (July 2011).
- USEPA. 2011d. Overview of EPA authorities for natural resource managers developing aquatic invasive species rapid response and management plans: CWA section 404—permits to discharge dredged or fill material. USEPA. Available: <http://water.epa.gov/type/oceb/habitat/cwa404.cfm>. (June 2011).
- USFWS (U.S. Fish and Wildlife Service) and NMFS (National Marine Fisheries Service). 1998. Endangered Species Act consultation handbook. USFWS. Available: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>. (August 2010).
- USGS (U.S. Geological Survey). 1990. Chemical, geologic, and hydrogeologic data from the study of acid contamination in the Miami Wash-Pinal Creek area, Arizona, J. Brown (author): U.S. Geological Survey Open-File Report 90-395.
- USGS. 2008a. Effects of Ground-Water Development on Ground-Water Flow to And From Surface-Water Bodies. Available: <http://pubs.usgs.gov/circ1186/html/gw-effects.html>. (July 2008).
- USGS. 2008b. Ground water flow and effects of pumping. Available: <http://ga.water.usgs.gov/edu/earthgwdecline.html>. (November 2011).
- USGS. 2009a. Earthquake density maps for the United States. Earthquakes Hazards Program, USGS. Available: http://earthquake.usgs.gov/earthquakes/states/us_density.php. (August 2010).
- USGS. 2009b. Historic United States earthquakes. Earthquakes Hazards Program, USGS. Available: http://earthquake.usgs.gov/earthquakes/states/historical_state.php. (August 2010).
- USGS. 2009c. Magnitude 7 and greater earthquakes in the United States. Earthquakes Hazards Program, USGS. Available: http://earthquake.usgs.gov/earthquakes/states/large_usa_7.php. (August 2010).
- USGS. 2011a. Copper mineral commodity surveys: 1999-2010. USGS. Available: <http://minerals.usgs.gov/minerals/pubs/commodity/copper/mcs-2011-coppe.pdf>. (October 2011).
- USGS. 2011b. Gold mineral commodity surveys: 1996-2010. USGS. Available: <http://minerals.usgs.gov/minerals/pubs/commodity/gold/mcs-2011-gold.pdf>. (October 2011).
- USGS. 2011c. Molybdenum mineral commodity surveys: 1996-2010. USGS. Available: <http://minerals.usgs.gov/minerals/pubs/commodity/molybdenum/mcs-2011-molyb.pdf>. (October 2011).
- USJD (U.S. Justice Department). 2001. Notice of lodging of consent decree under the Clean Water Act, USJD, Federal Register. Available: <http://www.federalregister.gov/articles/2001/05/22/01-12854/notice-of-lodging-of-consent-decree-under-the-clean-water-act>. (November 2011).
- USNPS (U.S. National Park Service). 2006. Resource management news: summer 2006 projects. Katmai National Park and Preserve, USNPS, King Salmon, AK.
- USSD (U.S. Society on Dams). 1994. Tailings dam incidents. USSD, Denver, CO.
- Viereck, L., C. Dryness, A. Batten, and K. Wenzlick. 1992. The Alaska vegetation classification. Pacific Northwest Research Station, U.S. Department of Agriculture Forest Service, General Technical Report PNW-GTR-286, Portland, OR.
- Wagener, S., and J. LaPerriere. 1985. Effects of placer mining on the invertebrate communities of interior Alaska streams. *Freshwater Invertebrate Biology* 4(4):208–214.
- Wahrhaftig, C. 1965. Physiographic divisions of Alaska. U.S. Geological Survey, Professional Paper 482, Reston, VA.
- Waiwood, K., and F. Beamish. 1978. The effect of copper, hardness, and pH on the growth of rainbow trout, *Salmo gairdneri*. *Journal of Fish Biology* 13(5):591–598.
- Walsh, G. 1978. Toxic effects of pollutants on plankton. Pages 257–274 in G. Butler, editor. *Principles of Ecotoxicology*. New York, NY.
- Waples, R., G. Pess, and T. Beechie. 2008. Evolutionary history of Pacific salmon in dynamic environments. *Evolutionary Applications* 1(2):189–206.
- Waters, T. 1995. Sediment in streams: sources, biological effects and control. American Fisheries Society, Bethesda, MD.
- Weaver, T., and J. Fraley. 1993. A method to measure emergence success of west slope cutthroat trout fry from varying substrate compositions in a natural stream channel. *North American Journal of Fisheries Management* 13(4):817–822.
- Weitzman, M. 2001. Gamma discounting. *American Economic Review* 91(1):260–271.
- Welsh, P., J. Lipton, G. Chapman, and T. Podrabsky. 2000. Relative importance of calcium and magnesium in hardness based modifications of copper toxicity. *Environmental Toxicology and Chemistry* 19(6):1624–1631.
- White Tanks Concerned Citizens, Inc. v. Strock, 563 F.3d 1033, 1039 (9th Cir. 2009).
- Willson, M., and K. Halupka. 1995. Anadromous fish as keystone species in vertebrate communities. *Conservation Biology* 9(3):489–497.
- Wilson, R., and E. Taylor. 1992. Transbranchial ammonia gradients and acid-base responses to high external ammonia in rainbow trout (*Oncorhynchus mykiss*) acclimated to different salinities. *The Journal of Experimental Biology* 166(1):95–112.
- Wipfli, M., and C. Baxter. 2010. Linking ecosystems, food webs, and fish production: subsidies in salmonid watersheds. *Fisheries* 35(8): 373–387.



Chum are one of five salmon species present in the Bristol Bay region (photo by Amy Gulick).

- Wipfli, M., J. Hudson, J. Caouette, and D. Chaloner. 2003. Marine subsidies in freshwater ecosystems: salmon carcasses increase the growth rates of stream-resident salmonids. *Transactions of the American Fisheries Society* 132(2):371–381.
- WISE (World Information Service on Energy). 2008. The Inez coal tailings dam failure (Kentucky, USA). WISE Uranium Project. Available: <http://www.wise-uranium.org/mdafin.html>. (June 2011).
- WISE. 2011. Chronology of major tailings dam failures. WISE Uranium Project. Available: <http://www.wise-uranium.org/mdaf.html>. (April 2011).
- Withrow, D., and K. Yano. 2008. Freshwater harbor seals of Lake Iliamna, Alaska: updated counts and research coordination for 2010. National Marine Mammal Laboratory, Alaska Fisheries Science Center, National, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Seattle, WA. Available: ftp://ftp.afsc.noaa.gov/posters/pWithrow03_freshwater-seals.pdf. (August 2010).
- Wolfe, R., and R. Walker. 1987. Subsistence economies in Alaska: productivity, geography, and development impacts. *Arctic Anthropology* 22(4):56–81. Available: <http://www.subsistence.adfg.state.ak.us/download/subecon.pdf>. (August 2010).
- Woodward-Clyde Consultants. 1994. Water quality and geochemistry studies, new tailings impoundment. Report of Woodward-Clyde Consultants to Southern Peru Copper Corp., Lima, Peru.
- Woody, C. 2004. Population monitoring of Lake Clark and Tazimina River sockeye salmon, Kvichak River watershed, Bristol Bay, discussion draft. Available: http://fish4thefuture.com/whitefish_discussion.html. (January 2012).
- Woody, C. 2009. Fish surveys in the headwater streams of the Nushagak and Kvichak River drainages, Bristol Bay, Alaska, 2008, Final Report. Report of Fisheries Research and Consulting to The Nature Conservancy, Arlington, VA.
- Woody, C., and B. Higman. 2011. Groundwater as essential salmon habitat in Nushagak and Kvichak River headwaters: issues relative to mining. Report to Center for Science in Public Participation, Bozeman, MT.
- Woody, C., R. Hughes, E. Wagner, T. Quinn, L. Roulson, L. Martin, and K. Griswold. 2010. The mining law of 1872: change is overdue. *Fisheries* 35(7):321–331.
- Woody, C., and S. O'Neal. 2010. Fish surveys in headwater streams of the Nushagak and Kvichak River drainages, Bristol Bay, Alaska, 2008–2010. Report of Fisheries Research and Consulting to The Nature Conservancy, Arlington, VA.
- Woody, C., K. Ramstad, D. Young, G. Sage, and F. Allendorf. 2003. Population assessment of Lake Clark sockeye salmon, Final Report for Study 01-042. Office of Subsistence Management, Fisheries Resource Monitoring Program, U.S. Fish and Wildlife Service, Anchorage, AK.
- WRRC (Water Resources Research Center). 2001. Black Mesa spill nets \$128,000 fine. WRRC, Colleges of Agricultural and Life Sciences, University of Arizona. Available: <http://ag.arizona.edu/AZWATER/awr/mayjune01/news.html>. (May 2011).
- Wurts, W. 1993. Understanding water hardness. *World Aquaculture* 24(1):18.
- Young, D., and C. Woody. 2007. The spawning distribution of sockeye salmon in a glacially influenced watershed: the importance of glacial habitats. *Transactions of the American Fisheries Society* 136:452–459.
- Yuen, H., D. Bill, M. Nelson, R. Russell, and J. Skrade. 1984. Bristol Bay Salmon (*Oncorhynchus sp.*) 1980—a compilation of catch, escapement, and biological data. Division of Commercial Fisheries, Alaska Department of Fish and Game, Anchorage, AK.
- Yuen, H., and M. Nelson. 1984. Bristol Bay chum salmon (*Oncorhynchus keta*) sex, age, weight, and length statistics, 1960 to 1977. Division of Commercial Fisheries, Alaska Department of Fish and Game, Technical Data Report 127, Juneau, AK.
- Zamzow, K. 2011. Baseline surface water quality near the proposed Pebble Mine, Alaska, 2009–2010: Nushagak, Kvichak, and Chulitna drainage headwaters. Report for The Nature Conservancy, Arlington, VA.
- Zinn, H. 2003. *A people's history of the United States*. Harper Collins, New York, NY.
- Zweig, L., and C. Rabeni. 2001. Biomonitoring for deposited sediment using benthic invertebrates: a test on four Missouri streams. *Journal of the North American Benthological Society* 20(4):643–657.