

Literature Cited

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- Abbe, T. B., and D. R. Montgomery. 1996. "Large Woody Debris Jams, Channel Hydraulics and Habitat Formation in Large Rivers." *Regul. Rivers Res. Manag.* 12:201-221.
- Adamus, P. R. 2004. *Preliminary Selection of Terrestrial Indicator and Habitat Criteria for Ecosystems Function Modeling (EFM) of the Coast and Middle Fork of the Willamette River*. Unpublished technical report available at adamus7@comcast.net.
- Adamus, P.R. et al., 2002 Umatilla River Floodplain and Wetlands: A Quantitative Characterization, Classification and Restoration Concept, Confederated Tribes of the Umatilla Indian Reservation.
- Allen, T. F. H., and T. W. Hoekstra. 1992. *Toward a Unified Ecology*. Columbia University Press, New York, NY.
- Altman, B. March 1999. *Conservation Strategy for Landbirds in Coniferous Forests of Western Oregon and Washington*. Version 1.0. Prepared for Oregon-Washington Partners In Flight by the American Bird Conservancy.
- Altman, B. March 2000. *Conservation Strategy for Landbirds in Lowlands and Valleys of Western Oregon and Washington*. Version 1.0. Prepared for Oregon-Washington Partners In Flight by the American Bird Conservancy.
- Arkansas Multi-Agency Wetland Planning Team, 2001. Wetlands in Arkansas.
- Aroner, E.R. 2000. *Fanno Creek Water Quality Status and Trends Report and Monitoring Assessment 1990-1999*. Prepared for the City of Portland, Bureau of Environmental Services.
- Bain, M. B., J. T. Finn, and H. E. Booke. 1988. "Stream-Flow Regulation and Fish Community Structure." *Ecology* 69:382-392.
- Baker, C., and R. Miranda. 2003. Floodplain Wetland Restoration and Pacific Salmon 2002 Annual Report to NOAA Fisheries. Ducks Unlimited, Inc.
- Baker, V. R., and R. C. Bunker. 1985. "Cataclysmic Late Pleistocene Flooding from Glacial Lake Missoula: A Review." *Quaternary Science Review* 4:1-41.
- Baker, V. R., B. N. Bjornstad, A. J. Busacca, K. R. Fecht, E. P. Kiver, U. L. Moody, J. G. Rigby, D. F. Stradling, and A. M. Tallman. 1991. "Quaternary Geology of the Columbia Plateau." Pages 215-250 in R. B. Morrison, editor. *Quaternary Nonglacial Geology: Conterminous U.S.* The Geological Society of America, Boulder, CO.
- Balcalbasa-Dobrovici, N. 1989. "The Danube River and Its Fisheries." Pages 455-468 in C. Pl Dodge, editor, Proceedings of the International Large River Symposium. Can. Spec. Publ. Fish. Aqua. Sci. 106.

- Barber, M.C., ed. 1994. *Environmental Monitoring and Assessment Program Indicator Development Strategy*. EPA/620/R-94/022. Athens, GA: Environmental Protection Agency, Office of Research and Development, Environmental Research Laboratory.
- Barbour, M. T., J. Gerritsen, B. D. Snyder, and J. B. Stribling. 1999. *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish*. Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.
- Bauer, S. B., and S. C. Ralph. 1999. *Aquatic Habitat Indicators and Their Application to Water Quality Objectives within the Clean Water Act*. EPA-910-R-99-014. U.S. Environmental Protection Agency, Region 10, Seattle, WA.
- Baxter, R. M. 1977. "Environmental Effects of Dams and Impoundments." *Annual Review of Ecology and Systematics* 8:255-283.
- Beak Consultants Incorporated. 1998. *Assessment of City of Portland Activities for Potential to Affect Steelhead*. Prepared for the City of Portland, Oregon. Beak No. 74008.701. September 15, 1998.
- Beamish, R. J., G. A. Noakes, G. A. McFarlane, L. Klyashtorin, V. V. Ivanov, and V. Kurashov. 1999. "The Regime Concept and Natural Trends in the Production of Pacific Salmon." *Canadian Journal of Fisheries and Aquatic Sciences* 56:516-526.
- Beauchamp, D. A., M. F. Shepard, and G. B. Pauley. 1983. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Northwest). Chinook Salmon*. University of Washington, Fishery Research Unit. FWS/OBS-82/11.6. Seattle, Washington.
- Beechie, T., and S. Bolton. 1999. "An Approach to Restoring Salmonid Habitat-Forming Processes in Pacific Northwest Watersheds." *Fisheries* 24(4):6-15.
- Beeson, M. H., T. L. Tolan, and J. L. Anderson. 1989. *The Columbia River Basalt Group in Western Oregon: Geologic Structures and Other Factors That Controlled Flow Emplacement Patterns*. Special Paper 239 Geological Society of America, Boulder, CO.
- Beier, P. and R. F. Noss. 1998. "Do Habitat Corridors Provide Connectivity?" *Conservation Biology* 12(6):1241-1252.
- Bell, M. C. 1973. *Fisheries Handbook of Engineering Requirements and Biological Criteria*. U.S. Army Corps of Engineers, Portland, Oregon. Contract No. DACW 57-68-C-0086. 425 pp.
- Bellows, A. S. and J. C. Mitchell. 2000. "Small Mammal Communities in Riparian and Upland Habitats on the Upper Coastal Plain of Virginia." *Virginia Journal of Science* 51:171-186.
- Bennett, J. 1992. *Pesticide Drift and Runoff: Considerations for the U.S. Fish and Wildlife Service Draft Biological Opinion of Effects of 31 Pesticides on Threatened and Endangered Species*. University of Washington, Seattle, WA.

- Berger, J. J. 1990. *Evaluating Ecological Protection and Restoration Projects: A Holistic Approach to the Assessment of Complex, Multi-Attribute Resource Management Problems*. Doctoral Dissertation. University of California, Davis.
- Beschta, R. L. 1996. "Restoration of Riparian and Aquatic System for Improved Aquatic Habitats in the Upper Columbia River Basin." In *Pacific Salmon and their Ecosystems: Status and Future Options*. D.J. Stouder, P.A. Bisson, and R.J. Naiman, editors. Chapman and Hall, New York. pp. 475-491.
- Beschta, R. L., and J. B. Kauffman. 2000. "Restoration of Riparian Systems: Taking a Broader View." Pages 323-328 in AWRA Riparian Ecology and Management Conference, Portland OR.
- Beschta, R. L., W. S. Platts, and B. Kauffman. 1987. "Stream Temperature and Aquatic Habitat: Fisheries and Forestry Interactions." In E.O. Salo and T.W. Cundy, editors, *Streamside Management: Forestry and Fishery Interactions*. University of Washington Institute Forest Resources Contribution 57. pp. 191-232.
- Bisbal, G. A., and W. E. McConnaha. 1998. "The Influence of Ocean Conditions on the Management of Pacific Salmon." *Canadian Journal of Fisheries and Aquatic Sciences* 55(9):2178-2186.
- Bisson, P. A., R. E. Bilby, M. D. Bryant, C. A. Dolloff, G. B. Grette, R. A. House, M. L. Murphy, K. V. Koski, and J. R. Sedell. 1987. "Large Woody Debris in Forested Streams in the Pacific Northwest: Past, Present, and Future." In E. O. Salo and T. W. Cundy, editors, *Streamside Management: Forestry and Fishery Interactions*. College of Forest Resources, University of Washington, Seattle, Washington. pp. 143-190.
- Bisson, P. A., G.H. Reeves, R. E. Bilby, and R. J. Naiman. 1997. "Watershed Management and Pacific Salmon: Desired Future Conditions." Pages 447-474 in D. J. Stouder, P. A. Bisson, and R. J. Naiman, editors, *Pacific Salmon and Their Ecosystems: Status and Future Options*. Chapman & Hall. 685 pp.
- Bjornn, T. C., and D. W. Reiser. 1991. *Habitat Requirements of Salmonids in Streams: Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*. American Fisheries Society Special Publication 19. pp. 83-138.
- Black, P. E. 1990. *Watershed Hydrology*. Prentice Hall, Englewood Cliffs, NJ.
- Blinn, D.W., J.P. Shannon, L.E. Stevens, and J.P. Carder. 1995. "Consequences of Fluctuating Discharge for Lotic Communities." *Journal of the North American Benthological Society* 14:233-248.
- Bolger, D. T., A. C. Albers, R. M. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni and M.E. Soule. 1997. "Response of Rodents to Habitat Fragmentation in Coastal Southern California." *Ecological Applications* 7(2): 552-563.
- Bolger, D. T., A. C. Albers and M.E. Soule. 1991. "Occurrence Patterns of Bird Species in Habitat Fragments: Sampling, Extinction, and Nested Species Subsets." *American Naturalist* 105:467-478.

- Booth, D. B. 1991. "Urbanization and the Natural Drainage System: Impacts, Solutions, and Prognoses." *Northwest Environmental Journal* 7(1):93-118.
- Booth, D. B., J. R. Karr, S. Schauman, C. P. Konra, S. A. Morley, M. G. Larson, P. C. Henshaw, E. J. Nelson and S. J. Burges. 2001. *Urban Stream Rehabilitation in the Pacific Northwest*. Final report of EPA grant number R82-5284-00, University of Washington, Seattle, Washington.
- Bottom, D. 1997. "To Till the Water: A History of Ideas in Fisheries Conservation." Pages 569-597 in D. J. Stouder, P. A. Bisson, and R. J. Naiman, editors, *Pacific Salmon and Their Ecosystems: Status and Future Options*. Chapman Hall, New York, NY.
- Bowker, J., D. Brod, C. Fromuth, L. Gailey, J. Gladson, T. Kurtz, K. Wadden. 2000. *Lents 2040 Technical Memorandum 1: Background, Existing Conditions, and Design Considerations for Flood Management in the Lents 2040 Area*. Technical Memorandum prepared by the Portland Bureau of Environmental Services.
- Boyd, M. and D. Sturdevant. 1997. *The Scientific Basis for Oregon's Stream Temperature Standard: Common Questions and Straight Answers*. Oregon Department of Environmental Quality. 29 pp.
- Bretz, J. H. 1932. *The Grand Coulee*. Special Publication 15, American Geographical Society, New York, NY.
- Briggs, J. C. 1953. The behavior and reproduction of salmonid fishes in a small coastal stream. California Department of Fish and Game Fish Bull. No. 94. 62 pp.
- Brown, T. G., and G. F. Hartman. 1988. "Contribution of Seasonally Flooded Lands and Minor Tributaries to the Production of Coho Salmon in Carnation Creek, British Columbia." *Trans. Am. Fish. Soc.* 117:546-551.
- Budd, W., P. L. Cohen, P. R. Saunders, and F. R. Steiner. 1987. "Stream Corridor Management in the Pacific Northwest: I. Determination of Stream Corridor Widths." *Environmental Management* 11(5):587-97.
- Bugert, R. M., and T. C. Bjornn. 1991. Habitat Use by Steelhead and Coho Salmon and Their Responses to Predators and Cover in Laboratory Streams. *Transactions of the American Fisheries Society* 120:486-493.
- Bury, R. B., P. S. Corn, and K. B. Aubry. 1991. *Regional Patterns of Terrestrial Amphibian Communities in Oregon and Washington*. U.S. Forest Service General Technical Report PNW285, pp. 341-351.
- Bustard, D. R., and D. W. Narver. 1975. "Aspects of the Winter Ecology of Juvenile Coho Salmon (*Oncorhynchus kisutch*) and Steelhead Trout (*Salmo gairdneri*)." *Journal of the Fisheries Research Board of Canada* 32:667-680.
- Butts, S. R. and W. C. McComb. 2000. "Associations of Forest-Floor Vertebrates with Coarse Woody Debris in Managed Forests of Western Oregon." *Journal of Wildlife Management* 64:95-104.
- California Coastal Conservancy. 2001. *Watershed Management: An Overview*. Southern California Wetlands Recovery Project Information Station. Available at http://www.wrpinfo.scc.ca.gov/htmls/cc_manage.html.

California Department of Water Resources, 2005. Multi-Objective Approaches to Floodplain Management on A Watershed Basis, Natural Floodplain Functions and Societal Values, Revised Draft May 2005.

Calow, P., and G.E. Petts, editors. 1992. *The Rivers Handbook, Volume 1, Hydrological and Ecological Principles*. Blackwell Scientific, Oxford.

Carey, A. B. and M. L. Johnson. 1995. "Small Mammals in Managed, Naturally Young, and Old Growth Forests." *Ecological Applications* 5:336-352.

Carl, L. M., and M. C. Healey. 1984. "Differences in Enzyme Frequency and Body Morphology among Three Juvenile Life History Types of Chinook Salmon (*Oncorhynchus tshawytscha*) in the Nanaimo River, British Columbia." *Canadian Journal of Fisheries and Aquatic Sciences* 41:1070-1077.

Castelle, A. J., A.W. Johnson and C. Connolly. 1994. "Wetland and Stream Buffer Size Requirements." *Journal of Environmental Quality* 23:878-82.

Cederholm, C. J., and W. J. Scarlett. 1991. "The Beaded Channel: A Low Cost Technique for Enhancing Winter Habitat of Coho Salmon." *American Fisheries Society Symposium* 10:104-108.

Cederholm, C. J., D. H. Johnson, R. E. Bilby, L. G. Dominguez, A. M. Garrett, W. H. Graeber, 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, WA. Cederholm, C. J., M. D. Kunze, T. Murota, and A. Sibatani. 1999. "Pacific Salmon Carcasses: Essential Contributions of Nutrients and Energy for Aquatic and Terrestrial Ecosystems." *Fisheries* 24(10):6-15.

Cederholm, C. J., W. J. Scarlett, and N. P. Peterson. 1988. "Low-Cost Enhancement Technique for Winter Habitat of Juvenile Coho Salmon." *North American Journal of Fisheries Management* 8:438-441.

CH2M HILL. 1995. *Water Body Assessment, Columbia Slough TMDL Development, Parts I and II*.

Chapman, W. M. 1943. The spawning of chinook salmon in the main Columbia River. *Copeia* 1943 (3):168-170.

Chilcote, M.W. 1999. *Conservation Status of Lower Columbia River Coho Salmon*. Oregon Department of Fish and Wildlife.

Craig, J. A. and L. D. Townsend. 1946. An investigation of fish-maintenance problems in relation to the Willamette Valley Project. U.S. Fish and Wildl. Special Sci. Rept., 33:74.

Christensen, N. C., A. M. Bartuska, J. H. Brown, S. Carpenter, C. D'Antonio, R. Francis, J. F. Franklin, J. A. MacMahon, R. F. Noss, D. J. Parsons, C. H. Peterson, M. G. Turner, and R. G. Woodmansee. 1996. "The Report of the Ecological Society of America Committee on the Scientific Basis for Ecosystem Management." *Ecological Applications* 6(3):665-691.

Cirno, C. P. and C. T. Driscoll. 1993. "Beaver Pond Biogeochemistry: Acid Neutralizing Capacity Generation in a Headwater Wetland." *Wetlands* 13:277-292.

City of Portland Bureau of Environmental Services, and Parametrix. 1997. *Columbia Slough Sediment Project Focused Feasibility Study Report for Buffalo Slough*. Submitted to Oregon Department of Environmental Quality.

City of Portland Bureau of Environmental Services. 1989. *Columbia Slough Planning Study Background Report*.

City of Portland Bureau of Environmental Services. 1994. *Columbia Slough Sediment Remedial Investigation/Feasibility Study Final Work Plan*. Prepared for BES by Parametrix, Inc.

City of Portland Bureau of Environmental Services. 1995. *Columbia Slough Sediment Remedial Investigation/Feasibility Study Screening Level-Risk Assessment Report*. Prepared for BES by Parametrix, Inc. Submitted to Oregon Department of Environmental Quality.

City of Portland Bureau of Environmental Services. 1997. *Balch Creek Stormwater Management Plan*.

City of Portland Bureau of Environmental Services. 1997. *Upper Tryon Creek Corridor Assessment*.

City of Portland Bureau of Environmental Services. 1998. *Crystal Springs Watershed Assessment*. Report prepared by Dames and Moore.

City of Portland Bureau of Environmental Services. 1999. *Water Quality Assessment of Lower Willamette River*. Prepared by Willamette River CSO Predesign Project.

City of Portland Bureau of Environmental Services. 2000. *Integrated Watershed Plan Baseline Report*.

City of Portland Bureau of Environmental Services. 2000. *Stormwater Management Manual*. Adopted in 1999, updated in 2000 and 2002.

City of Portland Bureau of Environmental Services. 2001. *Johnson Creek Restoration Plan*.

City of Portland Bureau of Environmental Services. 1997. *Fanno Creek Resource Management Plan*.

City of Portland Bureau of Planning. 1992a. *Northwest Hills Areas Protection Plan: Inventory, Analysis and Regulations for the Protection of Wetlands, Water Bodies, Fish and Wildlife Habitats, Open Space and Natural Areas*. Available from the City of Portland, Bureau of Planning, 1900 SW 4th Avenue, Portland, Oregon 97201.

City of Portland Bureau of Planning. 1992b. *Southwest Hills Resource Protection Plan: Inventory, An Analysis and Regulations for the Protection of Wetlands, Water Bodies, Fish and Wildlife Habitats, Open Space and Natural Areas*. Available from the City of Portland, Bureau of Planning, 1900 SW 4th Avenue, Portland, Oregon 97201.

City of Portland Bureau of Planning. 1997. *Boring Lava Domes: Supplemental to the Johnson Creek Basin Protection Plan*. Bureau of Planning. Portland, OR.

- City of Portland Bureau of Planning. 2001. *Environmental Overlay Zone Update Project: Volume I, Draft Technical Background Report for Discussion*. January, 2001.
- City of Portland Endangered Species Act Program. 1999. *State of the Science on the Lower Willamette River*. June 28, 1999, workshop summary.
- City of Portland Parks and Recreation. 2005. *Natural Area Vegetation Survey*. Available at http://www.parks.ci.portland.or.us/NaturalAreas/veg_survey/default.asp.
- City of Portland. 1999. *State of the Science on Fish Ecology in Large Low Gradient Streams*. Draft Workshop Summary. City of Portland, Portland, OR. June 28, 1999.
- City of Portland. 2000. *Draft Framework for an Endangered Species Act Recovery Plan*. Portland, OR. 41 pp.
- City of Portland. 2000. *Erosion Control Manual*.
- Clark, J.L. 1999. *Effects of Urbanization on Streamflow in Three Basins in the Pacific Northwest*. MS Thesis, Portland State University, Portland, OR.
- Clarke, S.E., D. White, and A.L. Schaedel. 1991. "Oregon, USA, Ecological Regions and Subregions for Water Quality Management." *Environmental Management*. 1:847-856.
- Cohen, A. N. and J. T. Carlton. 1995. Biological Study. *Nonindigenous Aquatic Species in a United States Estuary: A Case Study of the Biological Invasions of the San Francisco Bay and Delta*. U.S. Fish and Wildlife Service, Washington, D.C., and The National Sea Grant College Program, Connecticut Sea Grant. 246 pp. + appendices.
- Collier, M., R. H. Webb, and J.C. Schmidt. 1996. *Dams and Rivers: A Primer on the Downstream Effects of Dams*. U.S. Geological Survey Circular 1126. Tucson, Arizona.
- Columbia River Inter-Tribal Fish Commission. 1995. *Wy-Kan-Ush-Mi-Wa-Kush-Wit: The Spirit of the Salmon*. Columbia River Inter-Tribal Fish Commission, Portland, OR.
- Conrad, C. 2000. "New Metrics to Characterize the Influence of Urban Development on Stream Flow Patterns." *The Washington Water Resource*, a quarterly publication of the University of Washington Center for Urban Water Resources Management. Fall 2000.
- Copp, G. H. 1989. "The Habitat Diversity and Fish Reproductive Function of Floodplain Ecosystems." *Environmental Biology and Fisheries* 26:1-27.
- Cramer, S. P., C. F. Willis, D. Cramer, M. Smith, T. Downey, and R. Montagne. 1996. Status of Willamette River spring chinook salmon in regards to the federal Endangered Species Act (Part II). S. P. Cramer and Associates, Inc., Gresham, Ore.
- Csuti, B., A.J. Kimerling, T.A. O Neil, M.M. Shaughnessy, E.P. Gaines, and M.M.P. Huso. 1997. *Atlas of Oregon Wildlife: Distribution, Habitat, and Natural History*. Oregon State University Press, Corvallis, OR.
- Cummins, K. W., G. W. Minshall, J. R. Sedell, C. E. Cushing, and R. C. Petersen. 1984. "Stream Ecosystem Theory." *Internationale Vereinigung fur theoretische und angewandte Limnologie, Verhandlungen* 22:1818-1827.

- Dale, V. H., S. Brown, R. A. Haeuber, N. T. Hobbs, N. Huntly, R. J. Naiman, W. E. Riebsame, M. G. Turner, and T. J. Valone. 2000. "Ecological Principles and Guidelines for Managing the Use of Land." *Ecological Applications* 10(3):639-670.
- DeBusk, W.F., 1999. Functional Role of Wetlands in Watersheds, University of Florida IFAS Extension, Fact Sheet LS 169.
- Defenders of Wildlife. 2003. The Biodiversity Partnership Web Site. Available at <http://www.biodiversitypartners.org/habconser/cnd/principles.shtml>.
- Delcourt, H. R., P. A. Delcourt, and T. Webb. 1983. "Dynamic Plant Ecology: The Spectrum of Vegetational Change in Space and Time." *Quaternary Science Review* 1:153-175.
- Demers, M. N., J. W. Simpson, R. E. J. Boerner, A. Silva, L. Berns, and F. Artigas. 1995. "Fencerows, Edges, and Implications of Changing Connectivity Illustrated by Two Contiguous Ohio Landscapes." *Conservation Biology* 9:1159-1168.
- Den Boer, P. J. 1968. "Spreading of Risk and Stabilization of Animal Numbers." *Acta Biotheoretica* 18:165-194.
- Department of Fisheries. 1905. Annual Report of the Dept. of Fisheries of the State of Oregon for the Years 1903 and 1904 to the Twenty-Third Legislative Assembly (Regular Session). Salem, Oregon.
- Dimick, R.E. and F. Merryfield. 1945. The Fishes of the Willamette River System in Relation to Pollution. Oregon State Engineering Experiment Station. Bulletin Series No. 20.
- Done, T. J., and R. E. Reichelt. 1990. *Integrated Coastal Zone and Fisheries Ecosystem Management: Generic Goals and Performance Indices*. Ecological Monographs 8(1 Supplement):S110-S118.
- Doyle, A. T. 1990. "Use of Riparian and Upland Habitats by Small Mammals." *Journal of Mammalogy* 71:14-23.
- Dunne, T. and L.B. Leopold. *Water in Environmental Planning*. W.H. Freeman and Sons, San Francisco.
- Dynesius, M. and Nilsson, C. 1994. "Fragmentation and Flow Regulation of River Systems in the Northern Third of the World." *Science*, 266, 735-762.
- Edwards, T.K. 1994. *Assessment of Surface-Water Quality and Water Quality Control Alternatives, Johnson Creek Basin, Oregon*. U.S. Geological Survey Water-Resources Investigations Report 93-4090.
- Ellis, R. H. 1994. "A Limiting Factor Analysis for Anadromous Salmonids in Johnson Creek with a Discussion of Habitat Rehabilitation Opportunities and Constraints." *Technical Memorandum #16, Johnson Creek Resources Management Plan*.
- Ellis, R. H. 1994. "A Summary of Existing Fish Populations and Fish Habitat Data for Johnson Creek." In *Technical Support Document for the Johnson Creek Resources Management Plan*. Johnson Creek Corridor Committee.

- Ellis, Robert. 1994. *A Summary of Existing Fish Populations and Fish Habitat Data for Johnson Creek: Technical Memorandum No. 8, Johnson Creek Resource Management Plan*. Compiled from the Johnson Creek Corridor Committee and the City of Portland Bureau of Environmental Services. Portland, OR.
- Elwood, J. W., J. D. Newbold, R. V. O'Neill, and W. Van Winkle. 1983. "Resource Spiraling: An Operational Paradigm for Analyzing Lotic Ecosystems." Pages 3-27 in T. D. Fontaine and S. M. Bartell, editors, *Dynamics of Lotic Ecosystems*. Ann Arbor Science.
- Erman, D.C., J.D. Newbold and K.B. Roby. 1977. *Evaluation of Streamside Bufferstrips for Protecting Aquatic Organisms*. California Water Resources Center, University of California - Davis, Davis, CA. 48 pp.
- Everest, F. H., G. H. Reeves, J. R. Sedell, J. Wolfe, D. Hohler, and D. A. Heller. 1985. *Abundance, Behavior, and Habitat Utilization by Coho Salmon and Steelhead Trout in Fish Creek, Oregon, as Influenced by Habitat Enhancement*. Annual Report 1985 Project No. 84-11. Prepared by U. S. Forest Service for Bonneville Power Administration, Portland, Oregon.
- Farr, R. A. and D. L. Ward. 1993. "Fishes of the Lower Willamette River, Near Portland, Oregon." *Northwest Science* 67 (1):16-22.
- Fecht, K. R., S. P. Reidel, and A. M. Tallman. 1987. Paleodrainage of the Columbia River System on the Columbia Plateau of Washington State: A Summary." *Washington Division of Geology and Earth Resources Bulletin* 77:219-248.
- Federal Interagency Stream Restoration Working Group (FISRWG). 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. By the Federal Interagency Stream Restoration Working Group (15 federal agencies of the U.S. government). GPO Item No. 0120-A; SuDocs No. A 57.6/2:EN 3/PT.653. ISBN-0-934213-59-3. October 1998.
- Federal Register*. 2001. "Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act." Vol. 66, No. 36/Thursday, February 22, 2001, Notices. Item B.4 under Section V, "Provisions and Understandings."
- Ferguson, H. L., K. Robinette and K. Stenberg. 2001. "Wildlife of Urban Habitats." Pages 317-341 in D.H. Johnson and T. A. O'Neil, editors, *Wildlife Habitat Relationships in Oregon and Washington*. Oregon State University Press, Corvallis, OR.
- Firman, J., Buckman, M., R. Shchroeder, K. Kenaston, M. Hogansen, and B. Cannon. 2005. Work Completed for the Compliance with the Biological Opinion for Hatchery Programs in the Willamette Basin, USACE funding: 2004. Task Order: NWP-OP-FH-02-01.
- Fishman Environmental Services, Port of Portland, City of Portland. 1987. *Smith and Bybee Lakes Environmental Studies*. Includes technical appendixes.
- Flinn, K. M. and M. Veland. 2005. "Recovery of Forest Plant Communities in Post-Agricultural Landscapes." *Frontiers in Ecology and the Environment*. 3(5):243-250.
- Forest Ecosystem Management Assessment Team. 1993. *Forest Ecosystem Management: An Ecological, Economic, and Social Assessment*. Interagency SEIS Team: Portland, OR.

- Foster, S., C. Stein, and K. Jones. 2000. Guide to Interpreting Stream Survey Analysis Reports. Oregon Department of Fish and Wildlife Aquatic Inventories Project. Version 1.0. 71 pp. + appendices.
- Franklin, J. F., and C. T. Dyrness. 1973. *Natural Vegetation of Oregon and Washington*. General Technical Report PNW-8, U.S. Department of Agriculture, USDA Forest Service, Portland, OR.
- Fremling, C.R., J.L. Rasmussen, R.E. Sparks, S.P. Cobb, C.F. Bryan, and T.O. Clafin. 1989. "Mississippi River Fisheries: A Case History." Pages 309-351 in D.P. Dodge, editor, *Proceedings of the International Large Rivers Symposium*. Canadian Special Publications in Fish and Aquatic Sciences 106. 629 pp.
- Frey, D. G. 1977. "Biological Integrity of Water - An Historical Approach." Pages 127-140 in R.K. Ballantine and L.J. Guarraia, editors, *The Integrity of Water*. U.S. Environmental Protection Agency, Washington, D.C.
- Friesen, Thomas A. and David L. Ward. 1996. "Status and Condition of Fish Assemblages in Streams of the Tualatin River Basin, Oregon." *Northwest Science*, 70 (2):120-131.
- Frissel, C. A., and R. K. Nawa. 1992. "Incidence and Causes of Physical Failure of Artificial Habitat Structures in Streams of Western Oregon and Washington." *North American Journal of Fisheries Management*. 12:182-197.
- Frissell, W. J., W. J. Liss, C. E. Warren, and M. D. Hurley. 1986. "A Hierarchical Framework for Stream Habitat Classification: Viewing Streams in a Watershed Context." *Environmental Management* 10(2):199-214.
- Fuhrer, Gregory J. *Water Quality of the Lower Columbia River Basin: Analysis of Current and Historical Water-Quality Data Through 1994*. U.S. Geological Survey Earth Science Information Center, Open-File Reports.
- Fulton, L. A. 1968. *Spawning Areas and Abundance of Chinook Salmon (Onchorhynchus tshawytscha) in the Columbia River Basin, Past and Present*. Special Scientific Report, Fisheries No. 571, U.S. Fish and Wildlife Service, Washington, D.C.
- Fulton, L.A. 1970. *Spawning Areas and Abundance of Steelhead Trout and Coho, Sockeye, and Chum Salmon in the Columbia River Basin - Past and Present*. US Dept of Commerce, NOAA NMFSS. Special Scientific Report - Fisheries No 618. Washington. D.C.
- Furgeson, H. L. 2001. "Wildlife Habitat Types: No.20: Urban and Mixed Environs." Appendix in D. Johnson and T. O'Neil, editors, *Wildlife Habitat Relationships in Oregon and Washington*. OSU Press, Corvallis, Oregon.
- Gerard, P. 1995. *Agricultural Practices, Farm Policy, and the Conservation of Biological Diversity*. U.S. Department of the Interior, National Biological Service, Washington, D.C.
- Gharrett, A. J., and W. W. Smoker. 1993. "Genetic Components in Life History Traits Contribute to Population Structure." Pages 197-202 in J. G. Cloud and G. H. Thorgaard, eds., *Genetic Conservation of Salmonid Fishes*. Plenum Press, NY.

- Glova, G. J. 1986. "Interaction for Food and Space Between Experimental Populations of Juvenile Coho Salmon (*Oncorhynchus kisutch*) and Coastal Cutthroat Trout (*Salmo clarki*) in a Laboratory Stream." *Hydrobiologia* 132:155-168.
- Gomez, D. M. and R. G. Anthony. 1998. "Small Mammal Abundance in Riparian and Upland Areas of Five Seral Stages in Western Oregon." *Northwest Science* 72:293-302.
- Governor's Watershed Enhancement Board (GWEB). 1999. *Oregon Watershed Assessment Manual*.
- Gram, J. C. and D. L. Ward. 2002. *Distribution of Fish in Portland Tributary Streams*. Prepared by the Oregon Department of Fish and Wildlife for the City of Portland Endangered Species Act Program, Portland, OR. 49 pp.
- Grant, G. and F. Swanson. 1995. "Morphology and Processes of Valley Floors in Mountain Streams, Western Cascades, Oregon." Pages 83-102. In J. Costa and others, eds., *Natural and Anthropogenic Influences in Fluvial Geomorphology*. American Geophysical Union, Geophysical Monograph 89.
- Greenland, D. 1998. "Variability and Stability of Climatic/Oceanic Regimes in the Pacific Northwest." Pages 91-179 in G. R. McMurray and R. J. Bailey, editors, *Changes in Pacific Northwest Coastal Ecosystems*. U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, Silver Springs, MD.
- Gregory, S. V. and P.A. Bisson. 1997. "Status and Future Options." In D.J. Stouder and others, eds., *Pacific Salmon and Their Ecosystems*. Chapman and Hall.
- Gregory, S. V., F. J. Swanson, W. A. Mckee, and K. W. Cummins. 1991. "An Ecosystem Perspective of Riparian Zones." *BioScience* 41:540-551.
- Gurnell, A. M. 1995. "Vegetation Along River Corridors: Hydrogeomorphological Interactions." Pages 237-260 in A. Gurnell and G. Petts, eds., *Changing River Channels*. John Wiley and Sons.
- Hachmoller, B., R. A. Matthews, and D. F. Brakke. 1991. "Effects of Riparian Community Structure, Sediment Size, and Water Quality on the Macroinvertebrate Communities in a Small, Suburban Stream." *Northwest Science*. 65:125-132.
- Hall, B. 1988. *Persistence of River Bars: Columbia River at Hanford, Washington*. U.S. Army Corps of Engineers, Seattle, WA.
- Hall, L. S., P. R. Krausman, and M. L. Morrison. 1997. "The Habitat Concept and a Plea for Standard Terminology." *Wildlife Society Bulletin* 25(1):173-182.
- Halyk, L.C., and E.K. Balon. 1983. "Structure and Ecological Production of the Fish Taxocene of a Small Floodplain System." *Can. J. Zool.* 61:2446-2464.
- Hammer, T. R. 1972. "Stream Channel Enlargement Due to Urbanization." *Wat. Resour. Res.* 8:1530-1540.
- Hanski, I. 1991. "Single-Species Metapopulation Dynamics: Concepts, Models, and Observations." *Biological Journal of the Linnean Society* 42:17-38.

- Hanski, I., and M. Gilpin. 1991. "Metapopulation Dynamics: Brief History and Conceptual Domain." *Biological Journal of the Linnean Society* 42:3-16.
- Harmon, M. E., J. F. Franklin, F. J. Swanson, P. Sollins, S. V. Gregory, J. D. Lattin, N. H. Anderson, S. P. Cline, N. G. Aumen, J. R. Seddell, G. W. Lienkaemper, K. Cromack, Jr., and K. W. Cummins. 1986. "Ecology of Coarse Woody Debris in Temperate Ecosystems." *Advances in Ecological Research* 15:133-302.
- Harrison, S. 1991. "Local Extinction in a Metapopulation Context: An Empirical Evaluation." *Biological Journal of the Linnean Society* 42:73-88.
- Harrison, S. 1994. "Metapopulations and Conservation." Pages 111-128 in P. J. Edwards, R. M. May., and N. R. Webb, eds., *Large-scale Ecology and Conservation Biology*. Blackwell Scientific Publications, Oxford.
- Healey, M. C. 1991. "Life History of Chinook Salmon." Pages 313-393 in C. Groot and L. Margolis, eds., *Pacific Salmon Life Histories*. University of British Columbia Press, Vancouver, B. C., Canada.
- Healey, M. C., and A. Prince. 1995. "Scales of Variation in Life History Tactics of Pacific Salmon and the Conservation of Phenotype and Genotype." Pages 176-184 in J. L. Nielsen and D. A. Powers, editors, *Evolution and the Aquatic Ecosystem: Defining Unique Units in Population Conservation*. American Fisheries Society Symposium 17.
- Helle, J. H. 1981. "Significance of the Stock Concept in Artificial Propagation of Salmonids in Alaska." *Canadian Journal of Fisheries and Aquatic Sciences* 38:1665-1671.
- Henning, L. A. 2001. Riparian Bird Communities in Portland, Oregon: Habitat, Urbanization and Spatial Scale Patterns. Master's thesis, Oregon State University Department of Fish and Wildlife, Corvallis, Oregon (as cited in Metro 2002).
- Hinman, C. 2001. Low Impact Development, Stormwater Management, and Sustainable Communities. Presentation made at Northwest Salmonid Recovery Conference Oct. 25, 2001.
- Hoagland, K. D., J. P. Carder, and R. L. Spawn. 1996. "Effects of Organic Toxic Substances" in R. J. Stevenson, M. Bothwell, and R. L. Lowe., editors, *Algal Ecology: Freshwater Benthic Ecosystems*. Academic Press. pp. 469-496.
- Hollenbach, M. and J. Ory. 1999. *Protecting and Restoring Watersheds: A Tribal Approach to Salmon Recovery*. Columbia River Inter-Tribal Fish Commission, Portland, OR.
- Holling, C. S. 1973. "Resilience and Stability of Ecological Systems." *Annual Review of Ecology and Systematics* 4:1-23.
- Holling, C. S., and G. K. Meffe. 1996. "Command and Control and the Pathology of Natural Resource Management." *Conservation Biology* 10(2):328-337.
- Holling, C. S., editor. 1978. *Adaptive Environmental Assessment and Management*. John Wiley and Sons, New York.
- Hollis, G. E. 1975. "The Effect of Urbanization on Floods of Different Recurrence Interval." *Water Resources Research* 66:84-88.

- Horner, R., C. May, E. Livingston, D. Blaha, M. Scoggins, J. Tims and J. Maxted. 2002. "Structural and Non-Structural BMPs for Protecting Streams." In *Seventh Biennial Stormwater Research and Watershed Management Conference*. May 22-23 2002. Available at <http://www.stormwater-resources.com/Library/206BStreams.pdf>.
- Houck, M., and M.J. Cody. 2000. *Wild in the City*. Oregon Historical Society Press, Portland, OR.
- Howell, P., K. Jones, D. Scarnecchia, L. LaVoy, W. Kendra, and D. Ortmann. 1985. *Stock Assessment of Columbia River Anadromous Salmonids. Volume 1: Chinook, Coho, Chum and Sockeye Salmon Stock Summaries*. Project No. 83-335, Bonneville Power Administration, Portland, OR.
- Hutchison, J.M. and W.A. Aney. 1964. The Fish and Wildlife Resources of the Lower Willamette Basin, Oregon and Their Water Use Requirements. Oregon State Game Commission. Federal Aid to Fish Restoration Progress Report - Fisheries Stream Flow Requirements Project F-69-R-1, Job Number 2. Portland, Oregon.
- Hynes, H. B. N. 1975. "The Stream and Its Valley." *Internationale Vereinigung fur theoretische und angewandte Limnologie, Verhandlungen* 19:1-15.
- Imhof, J. G., J. Fitzgibbon, and W. K. Annable. 1996. "A Hierarchical Evaluation System for Characterizing Watershed Ecosystems for Fish Habitat." *Canadian Journal of Fisheries and Aquatic Sciences* 53(Supplement 1):312-326.
- Imhof, J.G., R.J. Planck, F.M. Johnson, L.C. Halyk. 1991. "Watershed Urbanization and Managing Stream Habitat for Fish." Transcript of the 56th North American Wildlife and Natural Resources Conference, pp. 269-285.
- Independent Scientific Group. 2000. *Return to the River 2000: Restoration of Salmonid Fishes in the Columbia River Ecosystem*. NPPC 2000-12, Northwest Power Planning Council, Portland, OR.
- Jerrick, N. 1999. *The Lower Columbia River Estuary Program Comprehensive Conservation and Management Plan*. June 1999.
- Johnson Creek Corridor Committee. 1994. *Technical Support Document for the Johnson Creek Resources Management Plan: Portland, Oregon*. Prepared by Woodward-Clyde Consultants.
- Johnson Creek Corridor Committee. 1995. *Johnson Creek Resources Management Plan: Portland, Oregon*. Prepared by Woodward-Clyde Consultants.
- Johnson, A.W. 1993. *Analysis of Existing Fish Habitat In Balch Creek, Portland, OR*. Prepared by Aquatic Resource Consultants for the City of Portland Bureau of Environmental Services. 16 pp.
- Johnson, A. W. and D. Ryba. 1992. *A Literature Review of Recommended Buffer Widths to Maintain Various Functions of Stream Riparian Areas*. King County Surface Water Manage. Div., Seattle, WA.

- Johnson, L. 2000. *An Analysis in Support of Sediment Quality Thresholds for Polycyclic Aromatic Hydrocarbons (PAHs) to Protect Estuarine Fish*. U.S. Dept. of Commerce. NOAA Tech. Memo. 32 pp.
- Junk, W. J, P. B. Bayley and R. E. Sparks. 1989. The Food-pulse Concept in River Floodplain Systems. 1989. Riverine Ecosystems: The Influence of Man on Catchment Dynamics and Fish Ecology. Pages 110-127 in D.P. Dodge ed., *Proceedings of the International Large River Symposium (LARS)*. Canadian Special Publications in Fisheries and Aquatic Sciences 106.
- Karr, J.R. and E. Chu. 1999. *Restoring Life in Running Waters: Better Biological Monitoring*.
- Karr, J. R., K. D. Fausch, P. L. Angermeier, P. E. Yant, and I. J. Schollosser. 1986. "Assessing Biological Integrity in Running Waters: A Method and Its Rationale." Ill. Nat. Hist. Surv. Spec. Publ. No. 5.
- Kauffman, J. B., M. Mahrt, L. A. Mahrt, and W. D. Edge. 2001. "Riparian Wildlife Communities and Habitats." In *Wildlife Habitats and Species Associations within Oregon and Washington: Building a Common Understanding for Management*. Oregon State University Press, Corvallis, OR (in press).
- Kauffman, J. B., R. L. Beschta, N. Otting, and D. Lytjen. 1997. "An Ecological Perspective of Riparian and Stream Restoration in the Western United States." *Fisheries* 22(5):12-24.
- Kauffman, S. 1993. *The Origins of Order: Self-Organization and Selection in Evolution*. Oxford University Press, Oxford.
- Keeley, E. R., P. A. Slaney, and D. Zaldokas. 1996. *Estimates of Production Benefits for Salmonid Fishes from Stream Restoration Initiatives*. Province of British Columbia, Ministry of Environment, Lands and Parks, and Ministry of Forests. Watershed Restoration Management Report 4: 22 p.
- Klein, R. D. 1979. "Urbanization and Stream Quality Impairment." *Water Resources Bulletin* 5 No. 4:948-961.
- Knutson K.L., and V. L. Naef. 1997. *Management Recommendations for Washington's Priority Habitats: Riparian*. Washington Department of Fish and Wildlife, Olympia, WA. 181 pp.
- Kucklick, J. R., W. D. Struntz, P. R. Becker, G. W. York, T. M. O'Hara, J. E. Bohonowych. 2002. "Persistent Organochlorine Pollutants in Ringed Seals and Polar Bears Collected from Northern Alaska." *The Science of the Total Environment*. 2002 Mar 15; 287(1-2):45-59.
- Lamy, F., J. Bolte, M. Santelmann, and C. Smith. 2002. "Development and Evaluation of Multiple-Objective Decision-Making Methods for Watershed Management Planning." *Journal of the American Water Resources Association*, Vol. 38, No. 2, pp. 517-529. April 2002.
- LaRoe, E. T., G. S. Farris, C. E. Puckett, P. D. Doran, and M. J. Mac. 1995. *Our Living Resources. A Report to the Nation on the Distribution, Abundance, and Health of U.S. Plants, Animals, and Ecosystems*. U.S. Department of the Interior National Biological Service. Washington, D.C.

- Lelek, A. 1989. "The Rhine River and Some of its Tributaries Under Human Impact in the Last Two Centuries." Pages 469-487 in D.P. Dodge, editor, *Proceedings of the International Large River Symposium*. Can. Spec. Publ. Fish. Aquat. Sci. 106. 629pp.
- Leopold, L. B. 1968. *The Hydrologic Effects of Urban Land Use: Hydrology for Urban Land Planning—A Guidebook of the Hydrologic Effects of Urban Land Use*. USGS Circular No. 554.
- Leopold, L., M. Wolman, and J. Miller. 1992. *Fluvial Processes in Geomorphology*. Dover Publications, New York.
- Lestelle, L. C., and L. G. Gilbertson. 1993. *Harvest Management and Recovery of Snake River Salmon Stocks*. Bonneville Power Administration. Recovery Issues for Threatened and Endangered Snake River Salmon, 7 of 11. Portland, Oregon. 75pp.
- Lestelle, L., L. Mobrand, J. Lichatowich, and T. Vogel. 1996. *Applied Ecosystem Analysis: A Primer*. Prepared by Mobrand Biometrics for the U.S. Department of Energy and the Bonneville Power Administration. 95 pp.
- Levin, S. A. 1992. "The Problem of Pattern and Scale in Ecology." *Ecology* 73:1942-1968.
- Levy, D. A., and T. G. Northcote. 1982. "Juvenile Salmon Residency in a Marsh Area of the Fraser River Estuary." *Canadian Journal of Fisheries and Aquatic Sciences* 39:270-276.
- Li, H. W., C. B. Schreck, C. E. Bond, and E. Rexstad. 1987. "Factors Influencing Changes in Fish Assemblages of Pacific Northwest Streams." Pages 193-202 in W. J. Matthews and D. C. Heins, editors, *Community and Evolutionary Ecology of North American Stream Fishes*. University of Oklahoma Press, Norman, OK.
- Li, H. W., K. Currens, D. Bottom, S. Clarke, J. Dambacher, C. Frissell, P. Harris, R. M. Hughes, D. McCullough, A. McGie, K. Moore, R. Nawa, and S. Thiele. 1995a. "Safe Havens: Refuges and Evolutionarily Significant Units." Pages 371-380 in J. L. Nielsen and D. A. Powers, editors, *Evolution and the Aquatic Ecosystem: Defining Unique Units in Population Conservation*. American Fisheries Society Symposium 17.
- Lichatowich, J. A., and L. E. Mobrand. 1995. *Analysis of Chinook Salmon in the Columbia River from an Ecosystem Perspective*. Mobrand Biometrics. Research Report.
- Lichatowich, J., L. Mobrand, L. Lestelle, and T. Vogel. 1995. "An Approach to the Diagnosis and Treatment of Depleted Pacific Salmon Populations in Pacific Northwest Watersheds." *Fisheries* 20:10-18.
- Lillehammer, A., and S.J. Saltveit, editors. 1984. *Regulated Rivers*. Oslo University Press, Oslo Sweden. 540 pp.
- Liptan, T., and Kinsella-Brown, C. 1996. *A Cost Comparison of Conventional and Water Quality-Based Stormwater Designs*. Analysis prepared for the Portland Bureau of Environmental Services. 11 pp.
- Mack, R. N., D. Simberloff, W. M. Lonsdale, H. Evans, M. Clout and F. Bazzaz. 2000. "Biotic Invasions: Causes, Epidemiology, Global Consequences and Control." *Issues in Ecology* 5:1-19.

- Mannix, R. and Morlan, J., 1994. Wetlands As Varied As Our Region, for the Woodland Fish and Wildlife Project.
- Marcus, M., M. Young, L. Noel, and B. Mullan. 1990. *Salmonid-Habitat Relationships in the Western United States: A Review and Indexed Bibliography*. U.S. Forest Service General Technical Report RM-188.
- Martin, P. S., and C. R. Szuter. 1999. "War Zones and Game Sinks in Lewis and Clark's West." *Conservation Biology* 13(1):36-45.
- Marzluff, J. M., F. R. Gehlbach, and D. A. Manuwal. 1998. "Urban Environments: Influences on Avifauna and Challenges for the Avian Conservationist." Chapter 19 in J.M. Marzluff and R. Sallabanks, eds., *Avian Conservation: Research and Management*. Island Press, Washington, D.C.
- Mattson, R. C. 1962. Early Life History of Willamette River Spring Chinook Salmon. Fish Commission of Oregon, Portland, Oregon.
- Mattson, C. R. 1963. An Investigation of Adult Spring Chinook Salmon of the Willamette River System, 1946- 1951. Fish Commission of Oregon, Portland, Oregon.
- May, C. W. and R. R. Horner. 1998. "Watershed Urbanization and the Decline of Salmon in Puget Sound Streams." *Salmon in the City Workshop Proceedings*:19-40.
- May, C. W., and R. R. Horner. 2000. The Cumulative Impacts of Urbanization on Stream-Riparian Ecosystems in the Puget Sound Lowlands. In AWRA Riparian Ecology and Management Conference, Portland OR.
- May, C. W., E. B. Welch, R.R. Horner, J.R. Karr and B.W. Mar. 1997. *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams*. University of Washington Dept. Civil Engineering. 229 pp.
- McComb, W. C., R. G. Anthony, and M. Newton. 1993. "Small Mammal and Amphibian Abundance in Streamside and Upslope Habitats of Mature Douglas-Fir Stands, Western Oregon." *Northwest Science* 76:7-15.
- McConnaha, W. E., and P. J. Paquet. 1996. "Adaptive Strategies for the Management of Ecosystems: the Columbia River Experience." Pages 410-421 in L. E. Miranda and D. R. DeVries, editors, *Multidimensional Approaches to Reservoir Fisheries Management*. American Fisheries Society, Bethesda, MD.
- McDowell, P. F. 1991. "Quaternary Stratigraphy and Geomorphic Surfaces of the Willamette Valley, Oregon." Pages 156-164 in R. B. Morrison, editor, *Quaternary Nonglacial Geology: Conterminous U.S.* Geological Society of America, Boulder, CO.
- McElhany, P., M. Ruckelshaus, M. J. Ford, T. C. Wainwright, and E. P. Bjorkstedt. 2000. *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units*. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-42, 156 pp. June 2000.

- McGarigal, K. and W. C. McComb. 1992. "Streamside Versus Upslope Breeding Bird Communities in the Central Oregon Coast Range." *Journal of Wildlife Management* 56(1):10-23.
- McIntosh, B. A., J. R. Sedell, J. E. Smith, R. C. Wismar, S. E. Clarke, G. H. Reeves, and L. A. Brown. 1993. "Management History of Eastside Ecosystems: Changes in Fish Habitat over 50 Years, 1938 to 1992." Pages 1-55 in P. E. Hessburg and M. E. Brooks, eds., *Eastside Forest Ecosystem Health Assessment: Vol. III – Assessment*. USDA Forest Service, PNW Research Station, Portland, OR.
- McKenzie, D.F. and T.Z. Riley, editors. 1995. *How Much is Enough? A Regional Wildlife Habitat Needs Assessment for the 1995 Farm Bill*. Wildlife Management Institute, Washington, D.C.
- Mebane, C. A., and T. A. Meret. 2003. *Transactions of the American Fisheries Society*. 132:239-261.
- Menzel, M. A., W. M. Ford, J. Laerm, and D. Krishon. 1999. "Forest to Wildlife Opening: Habitat Gradient Analysis Among Small Mammals in the Southern Appalachians." *Forest Ecology and Management* 114:227-232.
- Meross, S. 2000. *Salmon Restoration in an Urban Watershed: Johnson Creek, Oregon*. Prepared for the Portland Multnomah Progress Board.
- Metro, 1998. *Protecting our Region's River, Floodplains and Wetlands, An introduction to regional water quality and floodplain management issues and policies*.
- Metro. *Fish and Wildlife Habitat Protection Plan*.
- Metro. 2002a. *Metro's Technical Report for Goal 5*. Revised draft (January 2002). Available at storefront.metro-region.org/drc/aerial/aerial.cfm.
- Metro. 2002b. *Water Quality and Floodplain Protection Plan*. Updated November 11, 2002.
- Metro. 2003. *Urban Growth Management Functional Plan*. Metro Code Sections 3.07.310 – 3.07.370, "Water Quality, Flood Management and Fish and Wildlife Conservation." Revised effective January 6, 2003.
- Metts, B. S., J. D. Lanham, and K. R. Russell. 2001. "Evaluation of Herpetofaunal Communities on Upland Streams and Beaver-Impounded Streams in the Upper Piedmont of South Carolina." *American Midland Naturalist* 145:54-65.
- Missoula County, 1999. *Riparian/Wetland Areas - Wild lands*
- Montgomery, D. and J. Buffington. 1993. *Channel Classification, Prediction of Channel Response, and Assessment of Channel Condition*. Timber, Fish, and Wildlife Report TFW-SH10-93-002. Prepared for the SHAMW committee of the Washington State Timber, Fish, and Wildlife Agreement. June 1993.
- Morgan, A. and F. Hinojosa. 1996. *Winter Habitat Utilization by Juvenile Salmonids*. TFW-AM9-96-004.

- Morrison, M. L., B. G. Marcot, and R. W. Mannon. 1998. *Wildlife-Habitat Relationships: Concepts and Applications*. Second edition. University of Wisconsin Press, Madison, WI.
- Mulder B. S., B. R. Noon, T. A. Spies, M. G. Raphael, C. J. Palmer, A. R. Olsen, G. H. Reeves, and H.I H. Welsh. 1999. *The Strategy and Design of the Effectiveness Monitoring Program for the Northwest Forest Plan*. U.S. Department of Agriculture Forest Service Pacific Northwest Research Station. Portland, Oregon. General Technical Report PNW-GTR-437
- Mullan, J. W., A. Rockhold, and C. R. Chrisman. 1992. "Life Histories and Precocity of Chinook Salmon in the Mid-Columbia River." *Progressive Fish Culturist* 54:25-28.
- Mulvey, M., L. Caton and R. Hafele. 1992. *Oregon Nonpoint Source Monitoring Protocols and Stream Bioassessment Field Manual for Invertebrates and Habitat Assessment*. Oregon DEQ Laboratory, Biomonitoring Section.
- Murphy, M. L., K V. Koski,, J. Mitchel Lorenz, and John F. Thedinga. 1997. "Downstream Migrations of Juvenile Pacific Salmon (*Oncorhynchus spp*) in a Glacial Transboundary River." *Canadian Journal of Fisheries and Aquatic Science* 54:2837-2846.
- Myers, K. W. 1980. An investigation of utilization of four study areas in Yaquina Bay, Oregon by hatchery and wild juvenile salmonids. Masters Thesis, Oregon State University, Corvallis, Oregon.
- Myers, J., C. Busack, D. Rawding, A. Marshall. 2003. Historical Population Structure of Willamette and Lower Columbia River Basin Pacific Salmon.
- Naiman, R. J., Beechie, T.M., Benda, L.E., Berg, D. R., Bisson, P. A., MacDonald, L. H., O'Conner, M. D, Olson, P.L., and Steel, E. A. 1992. "Fundamental Elements of Ecologically Healthy Watersheds in the Pacific Northwest Coastal Ecoregion." Pages 127-188 in R. J. Naiman, ed., *Watershed Management: Balancing Sustainability and Environmental Change*. Springer-Verlag: NY.
- National Marine Fisheries Service. 1996a. *Factors for Decline: A Supplement to the Notice of Determination for West Coast Steelhead Under the Endangered Species Act*. NMFS Protected Species Branch, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232, and NMFS Protected Species Management Division, 501 West Ocean Blvd., Suite 4200, Long Beach, California.
- National Marine Fisheries Service. 1996b. *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale*. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch. 26 pp.
- National Marine Fisheries Service. 2000. *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units*. 157 pp.
- National Performance Review. 1993. *From Red Tape to Results: Creating a Government That Works Better and Costs Less*. Report of the National Performance Review, September 7, 1993.
- National Research Council. 1989. *Alternative Agriculture*. National Academy Press, Washington, D.C.

- National Research Council. 1992. *Restoration of Aquatic Ecosystems*. National Academy Press. 552 pp.
- National Research Council. 1995. *Review of EPA's Environmental Monitoring and Assessment Program: Overall Evaluation*. Washington, D.C.: National Academy Press.
- National Research Council. 1996. *Upstream: Salmon and Society in the Pacific Northwest*. National Academy Press. Washington, D.C. 452 pp.
- Newbold, J.D., J.W. Elwood, R.V. O'Neill, and W. Van Winkle. 1981. "Measuring Nutrient Spiraling in Streams." *Canadian Journal of Fisheries and Aquatic Sciences* 38(7): 860-863.
- Nicholas, J. W., and D.G. Hankin. 1988. *Chinook Salmon Populations in Oregon Coastal River Basins: Description of Life Histories and Assessment of Recent Trends in Run Strengths*. Oregon Department of Fish and Wildlife. Information Reports (Fish), 88-1. Portland, Oregon.
- Nickelson, T. E., J. D. Rodgers, S. L. Johnson, and M. F. Solazzi. 1992. "Seasonal Changes in Habitat Use by Juvenile Coho Salmon (*Oncorhynchus Kisutch*) in Oregon Coastal Streams." *Canadian Journal of Fisheries and Aquatic Sciences*. 49:783-789.
- Nielsen, J. L., C. A. Gan, J C. Kelley Cuffe. 1994. "Effects of Habitat and Population Manipulation on Unique Haplotypes of Chinook and Steelhead from Urbanized Watersheds in California." In M. L. Keefe, editor, *Salmon Ecosystem Restoration: Myth and Reality*. Proceedings of the 1994 NE Pacific Chinook and Coho Salmon Workshop. Eugene, OR.
- Northwest Power Planning Council. 1998. *A Proposed Scientific Foundation for the Restoration of Fish and Wildlife in the Columbia River*. Northwest Power Planning Council. NPPC 98-16. Portland, OR.
- Northwest Power Planning Council. 2001. *Columbia River Basin Fish and Wildlife Program: A Multi-Species Approach to Decision Making*. October 2001.
- Northwest Power Planning Council. 2001. *Technical Guide for Subbasin Planners*. Council document 2001-20. 24 pp.
- Novotny, V., and H. Olem. 1994. *Water Quality: Prevention, Identification, and Management of Diffuse Pollution*. Van Nostrand Reinhold, New York.
- Odum, E. P. 1969. "The Strategy of Ecosystem Development." *Science* 164:262-270.
- Odum, E. P. 1993. *Ecology and Our Endangered Life-Support Systems*. Second edition. Sinauer Associates, Inc., Sunderland, MA.
- Omernik, J.M., and R.G. Bailey. 1997. "Distinguishing Between Watersheds and Ecoregions." *Journal of the American Water Resources Association*. 33(5): 935-949.
- O'Neil, T. A., D. H. Johnson, C. Barrett, M. Trevithick, K. A. Bettinger, C. Kiilsgaard, M. Vander Heyden, E. L. Greda, D. Stinson, B. G. Marcot, P. J. Doran, S. Tank, and L. Wunder (Northwest Habitat Institute). "Matrixes for Wildlife-Habitat Relationship in Oregon and Washington." 2001. In D.H. Johnson and T.A. O'Neil (Manag. Dirs.) *Wildlife-Habitat Relationships in Oregon and Washington*. Oregon State University Press, Corvallis, OR.

Oregon Department of Environmental Quality. 1997. *Willamette River Water Quality Data Analysis Report*. Prepared for the City of Portland Bureau of Environmental Services, Portland, OR.

Oregon Department of Environmental Quality/Tetra Tech. 1995. *Willamette River Basin Water Quality Study: A Summary of Recent Scientific Reports on the Willamette River*.

Oregon Department of Fish and Wildlife. 1994. *Oregon River Information System*. Available from Oregon Department of Fish and Wildlife, Corvallis, OR.

Oregon Department of Fish and Wildlife. 1999. *Oregon Road/Stream Crossing Restoration Guide: Spring 1999*. Advanced Fish Passage Training Version.

Oregon Department of Fish and Wildlife. 2000. *Aquatic Inventory Project Physical Habitat Surveys*. Prepared by Oregon Department of Fish and Wildlife.

Oregon Department of Fish and Wildlife. 2001. *Beaver: Nature's Fish Habitat Contractor*. Public information flyer, available online at <http://www.dfw.state.or.us/springfield/beaver.html>.

Oregon Department of Fish and Wildlife. 2005. *Biology, Behavior, and Resources of Resident and Anadromous Fish in the Lower Willamette River*. Final Report of Research, 2000-2004.

Oregon Department of Fish and Wildlife. 2005. *Oregon's Comprehensive Wildlife Conservation Strategy*. Oregon Department of Fish and Wildlife, Salem, Oregon.

Oregon Department of Fisheries (1903). Report of master fish warden. Annual reports of the Department of Fisheries of the State of Oregon. State of Oregon, Salem, Ore.

Oregon Department of Transportation. 1999. *Routine Road Maintenance Water Quality and Habitat Guide*. June 1999.

Orr, E. L., and W. N. Orr. 1996. *Geology of the Pacific Northwest*. McGraw-Hill, New York, NY.

Orr, E. L., W. N. Orr, and E. M. Baldwin. 1976. *Geology of Oregon*. Fourth edition. Kendall/Hunt Publishing, Dubuque, IA.

Pacific Habitat Services. 1997. *Comprehensive Management Plan for Tryon Creek State Park, Portland, Oregon*. Prepared for Friends of Tryon Creek State Park. Prepared by Dale Shank, Dale Groff, Richard Novitzki, and Brian Spence. Pacific Habitat Services Inc. 9450 SW Commerce Circle, Suite 180, Wilsonville, Oregon. PHS Project Number 5-1174.

Pacific Northwest Ecosystem Research Consortium. 2002. *Willamette Basin Alternative Futures Analysis*. August 2001.

Pacific Northwest Research Station. 2001. "Food for Fish, Food for Thought: Managing the Invisible Components of Streams." *Science Findings*. Issue 32, March 2001. U.S. Department of Agriculture.

- Pan, Y., R. J. Stevenson, B. Hill, A. Herlihy, and G. Collins. 1996. "Using Diatoms as Indicators of Ecological Conditions in Lotic Systems: A Regional Assessment." *Journal of the North American Benthological Society*. 15:481-95.
- Parlange, M. 1998. "The City as Ecosystem." *BioScience*, 48:581-585.
- Paul, M.J., and J.L. Meyer. 2001. "Streams in the Urban Landscape." *Annual Review of Ecology and Systematics*. 32:333-65.
- Penland, S. T. 1984. *Avian Responses to a Gradient of Urbanization in Seattle, Washington*. Ph.D. dissertation, University of Washington, Seattle, WA.
- Peterson, G., C. R. Allen, and C. S. Holling. 1998. "Ecological Resilience, Biodiversity and Scale." *Ecosystems* 1(1):6-18.
- Peterson, N. P. 1982a. "Population Characteristics of Juvenile Coho Salmon (*Oncorhynchus kisutch*) Overwintering in Riverine Ponds." *Canadian Journal of Fisheries and Aquatic Sciences* 39:1303-1307.
- Peterson, N. P. 1982b. "Immigration of Juvenile Coho Salmon (*Oncorhynchus kisutch*) into Riverine Ponds." *Canadian Journal of Fisheries and Aquatic Sciences* 39: 1308-1310.
- Petts, G.E., H. Moller and A.L. Roux, editors. 1989. *Historical Change of Large Alluvial Rivers: Western Europe*. John Wiley & Sons, Chichester. 355 pp.
- Pfieger, W.L., and T.B. Grace. 1987. "Changes in the Fish Fauna of the Lower Missouri River, 1940-1983." Pages 166-177 in W.J. Matthews and D.C. Heins, editors, *Community and Evolutionary Ecology of North American Stream Fishes*. University of Oklahoma Press, Norman, OK.
- Platt, J. R. 1964. "Strong Inference." *Science* 146(3642):347-353.
- Poff, N. L., and J. D. Allan. 1995. "Functional Organization of Stream Fish Assemblages in Relation to Hydrologic Variability." *Ecology* 76(2): 606-627.
- Poff, N.L., J.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestegard, 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.
- Policansky, D., and J. J. Magnuson. 1998. Genetics, Metapopulations, and Ecosystem Management of Fisheries. *Ecological Monographs* 8(1 Supplement):S119-S123.
- Poole, G., J. Dunham, M. Hicks, D. Keenan, J. Lockwood, E. Materna, D. McCullough, C. Mebane, J. Risley, S. Sauter, S. Spaulding, D. Sturdevant. 2001. *Scientific Issues Relating to Temperature Criteria for Salmon, Trout, and Char Native to the Pacific Northwest*. A summary report submitted to the Policy Workgroup of the EPA Region 10 Water Temperature Criteria Guidance Project.
- Puchy, C., and D. Marshall. 1993. *Oregon Wildlife Diversity Plan*. Oregon Department of Fish and Wildlife. Second edition, November 1993, p. III-106.
- Quigley, T. M., R. W. Haynes, R. T. Graham, and T. Russel. 1996. *An Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath*

and Great Basins. PNW-GTR-382, U.S. Forest Service, Pacific Northwest Research Station, Portland, OR.

Quinn, T. P., and M. J. Unwin. 1993. "Variation in Life History Patterns among New Zealand Chinook Salmon (*Oncorhynchus Tshawytscha*) Populations." *Canadian Journal of Fisheries and Aquatic Sciences* 50:1414-1412.

R2 Resources Consultants. 2000. *Tri-County Urban Issues ESA Study Guidance Document*. Prepared on behalf of the Tri-County Urban Issues Advisory Committee. February 2000.

Reed, M. 2004. Subyearling Chinook Data Sharing Workshop - Minutes. Prepared by Mike Reed for the City of Portland.

Reed, M., and C. Smith. 2000. *Fish Survey Results in Johnson and Tryon Creeks for the Period October 1999-June 2000*. City of Portland Endangered Species Act Program. Portland, OR.

Reeves, G. H. and J. R. Sedell. 1992. An Ecosystem Approach to the Conservation and Management of Freshwater Habitat for Anadromous Salmonids in the Pacific Northwest. Pages 408-415. Transcript of the 57th North American Wildlife and Natural Resources Conference, Washington.

Reeves, G. H., F. H. Everest, and J. D. Hall. 1987. "Interactions between the Redside Shiner (*Richardsonius balteatus*) and the Steelhead Trout (*Salmo gairdneri*) in Western Oregon: The Influence of Water Temperature." *Canadian Journal of Fisheries and Aquatic Sciences* 44:1602-1613.

Reeves, G. H., K. M. Benda, P. A. Burnett, P. A. Bisson, and J. R. Sedell. 1995. A Disturbance Based Ecosystem Approach to Maintaining and Restoring Freshwater Habitats of Evolutionarily Significant Units of Anadromous Salmonids in the Pacific Northwest. *American Fisheries Society Symposium* 17:334-349.

Regier, H. A., R. L. Welcomme, R. J. Stedman, and H. F. Henderson. 1989. "Rehabilitation of Degraded River Ecosystems." Pages 86-89 in D. P. Dodge, ed., *Proceedings of the International Large River Symposium*. Canadian Special Publications in Fisheries and Aquatic Sciences.

Reice, S. R. 1994. "Nonequilibrium Determinants of Biological Community Structure." *American Scientist* 82: 424-435.

Reice, S. R., R. C. Wissmar, and R. J. Naiman. 1990. "Disturbance Regimes, Resilience and Recovery of Animal Communities and Habitats in Lotic Ecosystems." *Environmental Management* 14(5):647-659.

Reidel, S. P., P. E. Long, C. W. Myers, and M. J. 1982. New Evidence for a Greater Than 3.2 Km Columbia River Basalt Beneath the Central Columbia River Plateau. *EOS Transactions of the American Geophysical Union* 63:173.

Reidel, S. R., K. R. Fecht, M. C. Hagood, and T. L. Tolan. 1989. "The Geologic Evolution of the Central Columbia Plateau." Pages 247-264 in S. P. Reidel and P. R. Hooper, editors, *Volcanism and Tectonism in the Columbia River Flood-Basalt Province*. Geological Society of America, Boulder, CO.

- Reimers, P. E. 1973. *The Length of Residence of Juvenile Fall Chinook Salmon In Sixes River, Oregon*. Research Reports of the Fish Commission of Oregon 4:3-43.
- Reinelt, L. E., and R. R. Horner. 1995. "Pollutant Removal from Stormwater Runoff by Palustrine Wetlands Based on Comprehensive Budgets." *Ecological Engineering* 4:77-97.
- Reininga, K. 1994. "Water Quality in Johnson Creek: A Summary of Existing Studies and Data." In the Johnson Creek Corridor Committee's *Technical Support Document for the Johnson Creek Resources Management Plan: Portland, Oregon*, prepared by Woodward-Clyde Consultants.
- Reiser, D.W. and T.C. Bjornn. 1979. *Habitat Requirements of Anadromous Salmonids. Influence of Forest and Rangeland Management on Anadromous Fish Habitat in Western North America*. U.S. Forest Service, General Technical Report PNW-96.
- Rich, W. H. 1920. *Early History and Seaward Migration of Chinook Salmon in the Columbia and Sacramento Rivers*. Bulletin of the U.S. Bureau of Fisheries, Washington D.C. 37.
- Richter, B.D., J.V. Baumgartner, J. Powell, and D.P. Braun. 1996. "A Method for Assessing Hydrologic Alteration Within Ecosystems." *Conservation Biology* 10:1163-1174.
- Richmond, G. M., R. Fryxell, G. E. Neff, and P. L. Weis. 1965. "The Cordilleran Ice Sheet of the Northern Rocky Mountains and Related Quaternary History of the Columbia Plateau." Pages 231-242 in H. E. Wright and D. G. Frey, editors, *The Quaternary of the United States*. Princeton University Press, Princeton, New Jersey.
- Ricker, W. E. 1972. "Hereditary and Environmental Factors Affect Certain Salmonid Populations." Pages 19-160 in R. C. Simon and P. A. Larkin, editors, *The Stock Concept in Pacific Salmon*. University of British Columbia Press, Vancouver, BC.
- Rieman, B. E., and J. D. McIntyre. 1993. *Demographic and Habitat Requirements for Conservation of Bull Trout*. U.S. Forest Service, Intermountain Research Station. General Technical Report, INT-308. Ogden, Utah. 38 pp.
- Robertson, S. 1999. "Vaux's Swifts of Northwest Portland." *Audubon Warbler* 63:1,3,18.
- Rockey, C.C.D. 2002. "Climate of Portland Oregon." <http://www.wrh.noaa.gov/Portland/TM239/PG1TO4.html>
- Roni, P., T. J. Beechie, R. E. Bibly, F. E. Leonetti, M. M. Pollock, and G. R. Press. 2002. "A Review of Stream Restoration Techniques and a Hierarchical Strategy for Prioritizing Restoration in Pacific Northwest Watersheds." *North American Journal of Fisheries Management*. 22:1-20.
- Rosgen, D. 1994. "A Classification of Natural Rivers." *Catena* 22:169-199.
- Rosgen, D. 1996. *Applied River Morphology*. Wildland Hydrology, Pagosa Springs, Colorado.
- Sallinger, B. 2000. Personal communication. Audubon Society of Portland, Wildlife Rehabilitation Center Director, Portland, OR.

- Samuelson, D. F., et al. 1990. *Physical, Chemical and Biological Characteristics of WEYCO-Briscoe Gravel Pit Ponds (July 1989-June 1990)*. Annual report for Grays Harbor County Planning Department.
- Satterlund, D. R., and P. W. Adams. 1992. *Wildland Watershed Management*. 2nd edition. John Wiley and Sons, Inc. New York.
- Schlosser, I. J. 1991. "Stream Fish Ecology: A Landscape Perspective." *Bioscience* Vol. 41 No. 10. pp. 704-712.
- Schlosser, I. J., and P. L. Angermeier. 1995. Spatial Variation in Demographic Processes of Lotic Fishes: Conceptual Models, Empirical Evidence, and Implications for Conservation. *American Fisheries Society Symposium* 17:392-401.
- Schlosser, I. J. and L. W. Kallemeyn. 2000. "Spatial Variation in Fish Assemblages Across a Beaver-Influenced Successional Landscape." *Ecology* 81:1371-1382.
- Schlucher, M., and J. A. Lichatowich. 1977. *Juvenile Life Histories of Rogue River Spring Chinook Salmon *Oncorhynchus Tshawytscha* (Walbaum), as Determined from Scale Analysis*. Oregon Department of Fish and Wildlife. Information Report Series, Fisheries No. 77-5. Corvallis, Oregon.
- Schoener, T. W. 1991. "Extinction and the Nature of the Metapopulation: A Case System." *Acta Oecologica* 12:53-76.
- Scholz, N. L., N. K. Truelove, B. L. French, B. A. Berejikian, T. P. Quinn, E. Casillas and T. K. Collier. 2000. *Diazinon Disrupts Antipredator and Homing Behaviors in Chinook Salmon (*Oncorhynchus tshawytscha*)*.
- Schroeder, R. K., K. R. Kenaston, and R. B. Lindsay. 2003. Spring Chinook Salmon in the Willamette and Sandy Rivers. Oregon Department of Fish and Wildlife. Fish Research Report. Annual Progress Report F-163-R-08.
- Schueler, T. R. 1994. "The Importance of Imperviousness." *Watershed Protection Techniques* 1(3):100-111.
- Schueler, T. R. 1995. *Environmental Land Planning Series: Site Planning for Urban Stream Protection*. Prepared by the Metropolitan Washington Council of Governments and the Center for Watershed Protection, Silver Spring, Maryland.
- Schuett-Hames, D., A. Pleus, L. Bullchild, and S. Hall. 1994. *Ambient Monitoring Program Manual*. Timber-Fish-Wildlife, TFW-AM9-94-001.
- Sedell, J. R., and J. L. Froggatt. 1984. "Importance of Streamside Forests to Large Rivers: The Isolation of the Willamette River, Oregon, USA, from its Floodplain by Snagging and Streamside Forest Removal." *Verh. Internat. Verein. Limnol.* 22:1828-1834.
- Sedell, James R., P. A. Bisson, F. J. Swanson, and S. V. Gregory. 1988. "What We Know about Large Trees That Fall into Streams and Rivers." In *From the Forest to the Sea: A Story of Fallen Trees*. U.S. Department of Agriculture Forest Service and U.S. Department of Interior Bureau of Land Management General Technical Report PNW-GTR-229: 47-112.

- Shannon, J.P., D.W. Blinn, and L.E. Stevens. 1994. "Trophic Interactions and Benthic Animal Community Structure in the Colorado River, Arizona, U.S.A." *Freshwater Biol.* 31: 213-220.
- Snodgrass, J. W. 1997. "Temporal and Spatial Dynamics of Beaver-Created Patches as Influenced by Management Practices in Southeastern North America Landscape." *Journal of Applied Ecology* 34:1043-1056.
- Society for Ecological Restoration Science and Policy Working Group. 2002. *The SER Primer on Ecological Restoration*. Online at www.ser.org/.
- Southwood, T. R. E. 1977. "Habitat, the Template for Ecological Strategies?" *Journal of Animal Ecology* 46:337-365.
- Spence, B.C., G.A. Lomnický, R.M. Hughes, and R.P. Novitzki. 1996. *An Ecosystem Approach to Salmonid Conservation*. Man Tech Environmental Research Services Corp.
- Spinks, P. Q., G. B. Pauly, J. J. Crayon and H. B. Shaffer. 2003. "Survival of the Western Pond Turtle (*Emys marmorata*) in an Urban California Environment." *Biological Conservation* 113:257-267.
- Stanford, J. A., and J. V. Ward. 1993. "An Ecosystem Perspective of Alluvial Rivers: Connectivity and the Hyporheic Corridor." *Journal of the North American Benthological Society* 12:48-60.
- Stanford, J. A., and J. V. Ward. 1992. "Management of Aquatic Resources in Large Catchments: Recognizing Interactions Between Ecosystem Connectivity and Environmental Disturbance." In R. J. Naiman, editor, *Watershed Management*. Springer-Verlag, New York. pp. 91-124.
- Stanford, J. A., and J. V. Ward. 1995. "The Serial Discontinuity Concept: Extending the Model to Floodplain Rivers." *Regulated Rivers: Research and Management*: 159-168.
- Stanford, J. A., and R. F. Hauer. 1992. "Mitigating the Impacts of Stream and Lake Regulation in the Flathead River Catchment, Montana, USA: An Ecosystem Perspective." *Aquatic Conservation: Marine and Freshwater Ecosystems* 2:35-63.
- Stanford, J. A., J. V. Ward, W. J. Liss, C.A. Frissell, R. N. Williams, J. A. Lichatowich, and C. C. Coutant. 1996. "A General Protocol for Restoration of Regulated Rivers." *Regulated Rivers* 12:391-413.
- Stanford, J.A., and J.V. Ward. 1986. "Fish of the Colorado System." Pages 385-402 in B.R. Davies and K.F. Walker, editors, *The Ecology of River Systems*. Dr. W. Junk Publishers, Dordrecht, The Netherlands.
- Statzner, B., J. A. Gore, and V. H. Resh. 1988. "Hydraulic Stream Ecology: Observed Patterns and Potential Applications." *Journal of the North American Benthological Society* 7: 307-360.
- Stauffer, D. F. and L. B. Best. 1980. "Habitat Selection by Birds of Riparian Communities: Evaluating Effects of Habitat Alterations." *Journal of Wildlife Management* 44:1-15.
- Steedman, R. J. 1987. *Comparative Analysis of Stream Degradation and Rehabilitation in the Toronto Area*. Doctoral dissertation, University of Toronto, Toronto, Ontario.

- Stevenson, R. J., and Y. Pan. 1999. "Monitoring Environmental Changes Using Diatoms in Stream and River Communities." Pages 11-40 in E. F. Stoermer and J. P. Smol, editors, *The Diatoms: Applications to Environmental and Earth Sciences*. Cambridge University Press.
- Strobel, C. J., and J. Heltsche. 2000. "Application of the Indicator Evaluation Guidelines to Dissolved Oxygen Concentration as an Indicator of the Spatial Extent of Hypoxia in Estuarine Waters." In L. E. Jackson, J. C. Kurtz, and W. S. Fisher, editors, *Evaluation Guidelines for Ecological Indicators*. EPA/620/R-99/005. U.S. Environmental Protection Agency, Office of Research and Development, Research Triangle Park, N.C. 107 pp.
- Stone, L. 1878. The salmon fishes collected on the survey. Explorations and surveys for a railroad route from Mississippi River to the Pacific Ocean. War Department, Washington D.C.
- Suter, G.W. 1993. *Ecological Risk Assessment*. Lewis Publishers.
- Swanson, F. J., S. V. Gregory, J. R. Sedell, and A. G. Campbell. 1982. "Land-Water Interactions: The Riparian Zone." In Robert L. Edmunds, ed., *Analysis of Coniferous Forest Ecosystems in the Western United States*.
- Tansley, A. G. 1935. "The Use and Abuse of Vegetational Concepts and Terms." *Ecology* 16:284-307.
- Taylor, E. B. 1988. "Water Temperature and Velocity as Determinants of Microhabitats of Juvenile Chinook and Coho Salmon in a Laboratory Stream Channel." *Transactions of the American Fisheries Society* 117:22-28.
- Thompson, W. F. 1959. "An Approach to Population Dynamics of the Pacific Red Salmon." *Transactions of the American Fisheries Society* 88:206-209.
- Tolan, T. L., M. H. Beeson, and B. F. Vogt. 1984. "Exploring the Neogene History of the Columbia River: Discussion and Geologic Field Trip Guide to the Columbia River Gorge. Part 1: Discussion." *Oregon Geology* 46(8):87-97.
- Tolan, T. L., S. P. Reidel, M. H. Beeson, J. L. Anderson, K. R. Fecht, and D. A. Swanson. 1989. "Revisions to the Estimates of the Areal Extent and Volume of the Columbia River Basalt Group." Pages 1-20 in S. R. Reidel and P. R. Hooper, editors, *Volcanism and Tectonism in the Columbia River Flood-Basalt Province*. Geological Society of America, Boulder, CO.
- Townsend, C. R. 1989. "The Patch Dynamics Concept of Stream Community Ecology." *Journal of the North American Benthological Society* 8:36-50.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 1986. *Technical Release 55: Urban Hydrology for Small Watersheds, 2nd Edition*. Washington, D.C.
- U.S. Environmental Protection Agency. 1986. *Quality Criteria for Water*. EPA-440/5-86-001.
- U.S. Environmental Protection Agency. 1991. *Monitoring Guidelines to Evaluate the Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska*. EPA/910/9-91-001.
- U.S. Environmental Protection Agency. 1992. *Columbia River Basin Water Quality Summary Report*.

- U.S. Environmental Protection Agency. 1998. *Portland Harbor Sediment Investigation Report*. Region 10, Office of Environmental Cleanup, Seattle, WA. EPA 910/R-98-006.
- U.S. Environmental Protection Agency. 1997. *The Incidence and Severity of Sediment Contamination in Surface Waters of the United States*. Office of Science and Technology EPA 823-R-97-006 (Volume 1).
- U.S. Fish and Wildlife Service. 1983. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates*. U.S. Fish and Wildl. Serv. Biol. Rep. 82(11). U.S. Army Corps of Engineers, TR EL-82-4.
- U.S. Fish and Wildlife Service. 1986. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates – Steelhead Trout*. U.S. Fish and Wildl. Serv. Biol. Rep. 82(11). U.S. Army Corps of Engineers, TR EL-82-4.
- U.S. Fish and Wildlife Service. 1986. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates – Coho Salmon*. U.S. Fish and Wildl. Serv. Biol. Rep. 82(11). U.S. Army Corps of Engineers, TR EL-82-4.
- U.S. Fish and Wildlife Service. 1989. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates – Sea-Run Cutthroat Trout*. U.S. Fish and Wildl. Serv. Biol. Rep. 82(11). U.S. Army Corps of Engineers, TR EL-82-4.
- U.S. Fish and Wildlife Service. 2001. *Status and Trends of Wetlands in the Conterminous United States, 1986-1997*. Washington D.C.
- U.S. Geological Survey. 1995. *Analysis of Nutrient and Ancillary Water-quality Data for Surface and Ground Waters of the Willamette Basin, Oregon, 1980-90*. Water-Resources Investigations Report 95-4036.
- U.S. Geological Survey. 1997b. *Summary of Information on Aquatic Biota and Their Habitats in the Willamette Basin, Oregon, through 1995*. Water Resources Investigations Report 97-4023. Portland, Oregon.
- U.S. Geological Survey. 1998. *Water Quality in the Willamette Basin, Oregon, 1991-95*.
- Urban, M. G., R. V. O'Neill, and H. N. Shugart. 1987. "Landscape Ecology: A Hierarchical Perspective Can Help Scientists Understand Spatial Patterns." *BioScience* 37:119-127.
- Vannote, R. L., G. W. Minshall, K. W. Cummins, J. R. Sedell, and C. C. Cushing. 1980. "The River Continuum Concept." *Canadian Journal of Fisheries and Aquatic Sciences* 37:130-137.
- Varanasi, U., E. Casillas, M. R. Arkoosh, T. Hom, D. A. Misitano, D. W. Brown, S. Chan, T. Collier, B. B. McCain, and J. E. Stein. 1993. *Contaminant Exposure and Associated Biological Effects in Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) from Urban and Nonurban Estuaries of Puget Sound*. U.S. Dept. of Commerce. NOAA Tech. Memo. NMFS-NWFSC-8. 112 pp.
- Vitousek, P. M., H. A. Mooney, J. Lubchenco, and J. M. Melillo. 1997. "Human Domination of Earth's Ecosystems." *Science* 277:494-499.

- Volkman, J. M., and W. E. McConaha. 1993. "Through a Glass, Darkly: Columbia River Salmon, the Endangered Species Act, and Adaptive Management." *Environmental Law* 23:1249-1272.
- Waite, R. B. 1980. "About 40 Last-Glacial Lake Missoula Jokulhlaups Through Southern Washington." *Journal of Geology* 88:653-679.
- Walker, B. 1995. "Conserving Biological Diversity Through Ecosystem Resilience." *Conservation Biology* 9(4):747-752.
- Walker, B., A. Kinzig, and J. Langridge. 1999. "Plant Attribute Diversity, Resilience, and Ecosystem Function: The Nature and Significance of Dominant and Minor Species." *Ecosystems* 2:95-113.
- Walters, C. J. 1997. "Challenges in Adaptive Management of Riparian and Coastal Ecosystems." *Conservation Ecology* [online] 1(2):<http://www.consecol.org/vol1/iss2/art1>.
- Ward, D. L., A. A. Nigro, R. A. Farr, and C. J. Knutsen. 1994. "Influence of Waterway Development on Migrational Characteristics of Juvenile Salmonids in the Lower Willamette River, OR." *North American Journal of Fisheries Management* 14: 362-371.
- Ward, J. V., and J. A. Stanford. 1989. "Riverine Ecosystems: The Influence of Man on Catchment Dynamics and Fish Ecology." Pages 56-64 in D. P. Dodge, editor, Proceedings of the International Large River Symposium. Canadian Special Publications in Fish and Aquatic Sciences 106.
- Ward, J. V., and J.A. Stanford. 1995. "Ecological Connectivity in Alluvial River Ecosystems and its Disruption by Flow Regulation." *Regulated Rivers: Research and Management* 11:105-119.
- Ward, J.V., and J.A. Stanford, editors. 1979. *The Ecology of Regulated Streams*. Plenum Press, New York, NY. 398 pp.
- Ward, J.V., and J.A. Stanford. 1987. "The Ecology of Regulated Streams: Past Accomplishments and Directions for Future Research." Pages 3-15 in J.F. Craig and J.B. Kemper, editors, *Regulated Streams - Advances in Ecology*. Plenum, New York, NY.
- Washington Department of Fisheries. 1990. *Lower Columbia River Subbasin (Mouth to Bonneville Dam): Salmon and Steelhead Production Plan/Steelhead Production Plan*.
- Washington Forest Practices Board. 1995. *Standard Methodology for Conducting Watershed Analysis under 222-22 WAC Version 3.0*. Manual. Washington Department of Natural Resources, Forest Practices Division, Olympia, WA.
- Weins, J. A. 1989. "Spatial Scaling in Ecology." *Functional Ecology* 3:385-397.
- Welcomme, R.L. 1979. *The Fisheries Ecology of Floodplain Rivers*. Longman, London. 317 pp.
- Welcomme, R.L. 1985. *River Fisheries*. FAO, United Nations. Rome. FAO Fish Tech. Rep. 262. ix + 330pp.

- Welcomme, R.L. 1988. "Concluding Remarks I: On the Nature of Large Tropical Rivers, Floodplains, and Future Research Directions." *Journal of the North American Benthological Society*. 7:525-526.
- Welsh, H. H. Jr. and A. J. Lind. 1991. *The Structure of the Herpetofaunal Assemblage in the Douglas-Fir-Hardwood Forests of Northwestern California and Southwestern Oregon*. U.S. Forest Service General Technical Report PNW 285, pp. 395-413.
- Wheeler, H. E., and E. F. Cook. 1954. "Structural and Stratigraphic Significance of the Snake River Capture, Idaho-Oregon." *Journal of Geology* 62(6):525-536.
- White, R. 1995. *The Organic Machine: The Remaking of the Columbia River*. Hill and Wang, New York, NY.
- Whittaker, R. H. 1975. *Communities and Ecosystems*. 2nd edition. Macmillian, New York.
- Wiens, J. A. 1989. "Spatial Scaling in Ecology." *Functional Ecology* 3:385-397.
- Wilkes, C. E. 1845. Narrative of the United States exploring expedition. During the years 1838, 1839, 1840, 1841, 1842. Volume 4. Lea and Blanchard, Philadelphia, Penna.
- Willamette Restoration Initiative. 1999. *Restoring the Willamette Basin: Issues and Challenges*. Prepared by the Institute for the Northwest.
- Willamette Restoration Initiative. 2001. *Restoring a River of Life: The Willamette Restoration Strategy*.
- Willis, R.A., M.D. Collins and R.E. Sams. 1960. Environmental Survey Report Pertaining to Salmon and Steelhead in Certain Rivers of Eastern Oregon and the Willamette River and its Tributaries - Part II. Fish Commission of Oregon. Survey Reports of the Willamette River and its Tributaries. Fish Commission of Oregon, Research Division. Clackamas, Oregon.
- Willson, M. F., and K. C. Halupka. 1995. "Anadromous Fish as Keystone Species in Vertebrate Communities." *Conservation Biology* 9(3):489-497.
- Wilson, S. M. and A. B. Carey. 2000. "Legacy Retention Versus Thinning: Influences on Small Mammals." *Northwest Science* 74:131-145.
- Winter, Thomas C., LaBaugh, James W. 2003. Hydrologic Considerations in Defining Isolated Wetlands, Wetland Vol. 23 Issue 3 pp 532-540 DOI: 10.1043/0277-5212 (2003).
- Wissmar, R. C., and C. A. Simenstad. 1998. "Variability of Riverine and Estuarine Ecosystem Productivity for Supporting Pacific Salmon." Pages 253-301 in G. R. McMurray and R. J. Bailey, editors, *Change in Pacific Northwest Coastal Ecosystems*. U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, Silver Springs, MD.
- Wolkers, J., I. C. Burkow, C. Lydersen, S. Dahle, M. Monshouwer and R. F. Witkamp. 1998. "Congener Specific PCB and Polychlorinated Camphene (Toxaphene) Levels in Svalbard Ringed Seals (*Phoca hispida*) in Relation to Sex, Age, Condition and Cytochrome P450 Enzyme Activity." *The Science of the Total Environment*. 1998 May 14; 216(1-2):1-11.
- Zwick, P. 1992. "Stream Habitat Fragmentation: A Threat to Biodiversity." *Biodiversity and Conservation* 1:80-97.