



4. REFERENCES

4. REFERENCES

- Adams, M. A., and I. W. Whyte. 1990. Fish habitat enhancement: a manual for freshwater, estuarine, and marine habitats. Department of Fisheries and Oceans.
- Alderdice, D. F., W. P. Wickett, and J. R. Brett. 1958. Some effects of temporary exposure to low dissolved oxygen levels on Pacific salmon eggs. *Journal of the Fisheries Research Board of Canada* 15: 229-250.
- Allan, J. D. 1984. Hypothesis testing in ecological studies of aquatic insects. Pages 484-507 in V. H. Resh and D. M. Rosenberg, editors. *The ecology of aquatic insects*. Praeger Publishers.
- Allen, K. R. 1969. Limitations on production in salmonid populations in streams. T. G. Northcote, editor. *Symposium on salmon and trout in streams*. H. R. MacMillan Lectures in Fisheries, University of British Columbia, Vancouver.
- Allendorf, F. W., D. Bayles, D. L. Bottom, K. P. Currens, C. A. Frissell, D. Hankin, J. A. Lichatowich, W. Nehlsen, P. C. Trotter, and T. H. Williams. 1997. Prioritizing Pacific salmon stocks for conservation. *Conservation Biology* 11: 140-152.
- Amphibian Working Group. 1996. Meeting notes from 9-10 September 1996 at offices of Oregon Department of Fish and Wildlife, Roseburg. Prepared by Stillwater Sciences, Berkeley, California.
- Anderson, C. 1997. Personal communication. U.S. Geological Survey, Portland, Oregon.
- Anderson, C. W., and K. D. Carpenter. 1996. Investigation of water quality and algae, and relations to resource management in the North Umpqua River basin, Oregon, 1992-95. Unpublished Water-Resources Investigations Report. U. S. Geological Survey, Portland, Oregon.
- Andrews, E. D. 1983. Entrainment of gravel from naturally sorted riverbed material. *Geological Society of America Bulletin* 94: 1225-1231.
- Andrus, C. W., B. A. Long, and H. A. Froehlich. 1988. Woody debris and its contribution to pool formation in a coastal stream 50 years after logging. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 2080-2086.

- Angradi, T. R. 1994. Trophic linkages in the lower Colorado River: multiple stable isotope evidence. *Journal of the North American Benthological Society* 13: 479-495.
- Aubry, K. 1996. Personal communication. Wildlife Biologist, USDA Forest Service, Pacific Northwest Research Station, Olympia, Washington. 29 July.
- Bailey, V. 1936. *Sorex palustris* navigator (Baird) Rocky Mountain water shrew. Pages 355-357 in *The mammals and life zones of Oregon*.
- Bakken, L. J. 1970. Lone Rock Free State: a collection of historical adventures and incidents in Oregon's North Umpqua Valley, 1850 to 1910. The Mail Printers, Myrtle Creek, Oregon.
- Baldwin, D. S. 1996. Effects of exposure to air and subsequent drying on the phosphate sorption characteristics of sediments from a eutrophic reservoir. *Limnology and Oceanography* 41: 1725-1732.
- Banks, J. L., L. G. Fowler, and J. W. Elliott. 1971. Effects of rearing temperature on growth, body form, and hematology of fall chinook fingerlings. *The Progressive Fish-Culturist* 33: 20-26.
- Barkhurst, C. Personal communication. Forest Biologist, Umpqua National Forest.
- Barnhart, R. A. 1991. Steelhead *Oncorhynchus mykiss*. Pages 324-336 in J. Stolz and J. Schnell, editors. *The Wildlife Series: Trout*. Stackpole Books. Harrisburg, Pennsylvania.
- Bauer, J. A. 1976. Diamond Lake range management. *Oregon Wildlife*. November Issue: 3-5.
- Bauer, J. A., D. M. Anderson, and R. Temple. 1979. The Umpqua River striped bass. Southwest Region Information Report 78-1. Oregon Department of Fish and Wildlife, Fish Division.
- Bauersfeld, K. 1978. The effect of daily flow fluctuations on spawning fall chinook in the Columbia River. Technical Report 38. Washington State Department of Fisheries, Olympia.
- Baughman, M. 1995. *A river seen right*. Lyons and Burford, New York.

Beacham, T. D., and C. B. Murray. 1990. Temperature, egg size, and development of embryos and alevins of five species of Pacific salmon: a comparative analysis. *Transactions of the American Fisheries Society* 119: 927-945.

Beamish, R. J. 1980. Adult biology of the river lamprey (*Lampetra ayersi*) and the Pacific lamprey (*Lampetra tridentata*) from the Pacific coast of Canada. *Canadian Journal of Fisheries and Aquatic Sciences* 37: 1906-1923.

Beamish, R. J., and S. Lowartz. 1996. Larval habitat of American brook lamprey. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 693-700.

Beamish, R. J., and C. D. Levings. 1991. Abundance and freshwater migrations of the anadromous parasitic lamprey, *Lampetra tridentata*, in a tributary of the Fraser River, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 1250-1263.

Beamish, R. J., and T. G. Northcote. 1989. Extinction of a population of anadromous parasitic lamprey, *Lampetra tridentata*, upstream of an impassable dam. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 420-425.

Beck, R. W. and Associates. 1987. Skagit River salmon and steelhead fry stranding studies. Document 2133C. Prepared for Seattle City Light, Environmental Affairs Division, Seattle, Washington.

Beckham, S. D. 1986. Land of the Umpqua: a history of Douglas County, Oregon. Douglas County Commissioners, Roseburg, Oregon.

Beckham, S. D. and S. Shaffer. 1991. Patience and persistence: the Cow Creek band of Umpqua Tribe of Indians. Pages 89-94 in C. M. Baun and R. Lewis, editors. *The first Oregonians*. Oregon Council for the Humanities, Portland, Oregon.

Beechie, T. J., and T. H. Sibley. 1990. Evaluation of the TFW stream classification system: stratification of physical habitat area and distribution. Final Report 1988-1990, Timber/Fish/Wildlife Report No. TFW-16B-90-011. Prepared by Center for Streamside Studies and Fisheries Research Institute, University of Washington, Seattle for Washington Department of Natural Resources, Olympia.

Beechie, T. J., and T. H. Sibley. 1997. Relationships between channel characteristics, woody debris, and fish habitat in northwestern Washington streams. *Transactions of the American Fisheries Society* 126: 217-229.

Behnke, R. J. 1992. Native trout of western North America. American Fisheries Society, Bethesda, Maryland.

Behnke, R. J., and M. Zarn. 1976. Biology and management of threatened and endangered western trouts. General Technical Report RM-28. U. S. Forest Service.

Bell, M. C., editor. 1986. Fisheries handbook of engineering requirements and biological criteria. Fisheries-Engineering Research Program, U. S. Army Corps of Engineers, North Pacific Division, Portland, Oregon, NTIS AD/A167-877.

Bell, M. C. 1973. Fisheries handbook of engineering requirements and biological criteria. Contract DACW57-68-C-0086. Fisheries-Engineering Research Program, U. S. Army Corps of Engineers, North Pacific Division, Portland, Oregon.

Benda, L., and L. Dunne. 1994. Stochastic geomorphology in a humid mountain landscape: consequences for wild salmon ecology. Geological Society of America-- Abstracts with Programs 26: 440.

Beneski, J. T., Jr., and D. W. Stinson. 1987. *Sorex palustris*. Mammalian Species 296: 1-6.

Berg, L. 1982. The effect of exposure to short-term pulses of suspended sediment on the behavior of juvenile salmonids. Pages 177-196 in G. F. Hartman, editor. Proceedings of the Carnation Creek workshop: a ten-year review. Nanaimo, British Columbia.

Berg, L., and T. G. Northcote. 1985. Changes in territorial, gill-flaring and feeding behavior in juvenile coho salmon (*Oncorhynchus kisutch*) following short-term pulses of suspended sediment. Canadian Journal of Fisheries and Aquatic Sciences 42: 1410-1417.

Berman, C. H. 1990. The effect of elevated holding temperatures on adult spring chinook salmon reproductive success. Master's thesis. University of Washington, Seattle.

Beschta, R. L. 1978. Long-term patterns of sediment production following road construction and logging in the Oregon Coast Range. Water Resources Research 14: 1011-1015.

Beschta, R., S. Gregory, S. Hobbs, B. McComb, A. McKee, K. Pollett, B. Ripple, J. Sessions, B. Spence, and D. Vesely. 1996. A study plan for improving the ecological health of the Umpqua River basin through land exchanges. Umpqua Land Exchange Project, Roseburg, Oregon.

Beschta, R. L., W. S. Platts, J. B. Kauffman, and M. T. Hill. 1994. Artificial stream restoration--money well spent or an expensive failure? Pages 76-104 in Environmental restoration--Universities Council on Water Resources (UCOW) 1994 annual meeting.

Beschta, R. L., W. S. Platts, and J. B. Kauffman. 1992. Field review of fish habitat improvement projects in the Grande Ronde and John Day river basins of eastern Oregon. DOE/BP-21493-1. Bonneville Power Administration, Portland, Oregon.

Beschta, R. L., R. E. Bilby, G. W. Brown, L. B. Holtby, and T. D. Hofstra. 1987. Stream temperature and aquatic habitat: fisheries and forestry interactions. Pages 191-232 in E. O. Salo and T. W. Cundy, editors. Streamside management: forestry and fishery interactions. Contribution No. 57. College of Forest Resources, University of Washington, Seattle.

Bilby, R. E. 1984. Removal of woody debris may affect stream channel stability. *Journal of Forestry* 82: 609-613.

Bilby, R. E., B. R. Fransen, and P. A. Bisson. 1996. Incorporation of nitrogen and carbon from spawning coho salmon into the trophic system of small streams: evidence from stable isotopes. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 164-173.

Bilby, R. E., and P. A. Bisson. 1992. Allochthonous versus autochthonous organic matter contributions to the trophic support of fish populations in clear-cut and old-growth forested streams. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 540-551.

Bilby, R. E., and J. W. Ward. 1991. Characteristics and function of large woody debris in streams draining old-growth, clear-cut, and second-growth forests in southwestern Washington. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 2499-2508.

Bilby, R. E., and J. W. Ward. 1989. Changes in characteristics and function of woody debris with increasing size of streams in western Washington. *Transactions of the American Fisheries Society* 118: 368-378.

Bilby, R. E., and G. E. Likens. 1980. Importance of organic debris dams in the structure and function of stream ecosystems. *Ecology* 61: 1107-1113.

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 and Hall, New York.

Bisson, P. A., T. P. Quinn, G. H. Reeves, and S. V. Gregory. 1992. Best management practices, cumulative effects, and long-term trends in fish abundance in Pacific Northwest river systems. Pages 189-232 in R. J. Naiman, editor. Watershed management: balancing sustainability and environmental change. Springer-Verlag.

Bisson, P. A., K. Sullivan, and J. L. Nielsen. 1988. Channel hydraulics, habitat use, and body form of juvenile coho salmon, steelhead trout, and cutthroat trout in streams. Transactions of the American Fisheries Society 117: 262-273.

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. Pages 143-190 in E. O. Salo and T. W. Cundy, editors. Streamside management: forestry and fishery interactions. College of Forest Resources, University of Washington. Bogan 1993

Bisson, P. A., and J. R. Sedell. 1984. Salmonid populations in streams in clear-cut vs. old-growth forests of western Washington. Pages 121-129 in W. R. Meehan, T. R. Merrell, Jr., and T. A. Hanley, editors. Fish and wildlife relationships in old-grow forests. American Institute of Fishery Research Biologists, Juneau, Alaska.

Bisson, P. A., and R. E. Bilby. 1982. Avoidance of suspended sediment by juvenile coho salmon. North American Journal of Fisheries Management 4: 371-374.

Bisson, P., J. L. Nielsen, R. A. Palmason, and L. E. Grove. 1982. A system of naming habitat types in small streams, with examples of habitat utilization by salmonids during low streamflows. Pages 62-73 in N. B. Armantrout, editor. Proceedings of the symposium on acquisition and utilization of aquatic habitat inventory information. American Fisheries Society, Western Division, Bethesda, Maryland.

Bisson, P. A., and G. E. Davis. 1976. Production of juvenile chinook salmon, *Oncorhynchus tshawytscha*, in a heated model stream. Fishery Bulletin 74: 763-774.

Biswell, B. 1996. Personal communication. Wildlife Biologist, USDA Forest Service, Pacific Northwest Research Station, Olympia, Washington. 29 July.

Bjornn, T. C. 1971. Trout and salmon movements in two Idaho streams as related to temperature, food, stream flow, cover, and population density. Transactions of the American Fisheries Society 100: 423-438.

Bjornn, T. C., and D. W. Reiser. 1991. Habitat requirements of salmonids in streams. Pages 83-138 in W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19, Bethesda, Maryland.

Bjornn, T. C., M. A. Brusven, M. P. Molnau, J. H. Milligan, R. A. Klamt, E. Chacho, and C. Schaye. 1977. Transport of granitic sediment in streams and its effects on insects and fish. Research Technical Completion Report, Project B-036-IDA. Prepared by University of Idaho, Moscow for Office of Water Research and Technology, U.S. Department of Interior, Washington, D.C.

Blaustein, A. R., P. D. Hoffman, D. G. Hokit, J. M. Kiesecker, S. C. Walls, and J. B. Hays. 1994. UV repair and resistance to solar UV-B in amphibian eggs: a link to population declines. Proceedings of the National Academy of Sciences, USA 91:1791-1795.

Blumm, M. C., and B. Kloos. 1986. Small scale hydropower and anadromous fish: lessons and questions from the Winchester Dam controversy. Environmental Law (Lewis and Clark College, Northwestern School of Law, Portland, Oregon) 16: 583-637.

Bogan, A. E. 1993. Freshwater bivalve extinctions (Mollusca: Unionoidae): a search for causes. American Zoologist 33: 599-609.

Boles, G. L., S. M. Turek, C. D. Maxwell, and D. M. McGill. 1988. Water temperature effects on chinook salmon (*Oncorhynchus tshawytscha*) with emphasis on the Sacramento River: a literature review. California Department of Water Resources, Northern District, Red Bluff.

Botkin, D. B., K. Cummins, T. Dunne, H. Regier, M. Sobel, L. M. Talbot, and L. Simpson. 1995. Status and future of salmon of western Oregon and northern California: overview of findings and options. Research Report 951002. The Center for the Study of the Environment, Santa Barbara, California.

Bottom, D. L., T. E. Nickelson, and S. L. Johnson. 1986. Research and development of Oregon's coastal salmon stocks: coho salmon model. Annual Progress Report AFC-127. Oregon Department of Fish and Wildlife, Portland, Oregon.

Bovee, K. D. 1982. A guide to stream habitat analysis using the Instream Flow Incremental Methodology. Instream Flow Information Paper No. 12. FWS/OBS-82/26. U. S. Fish and Wildlife Service, Cooperative Instream Flow Service Group, Fort Collins, Colorado.

- Boyle, J. C. 1977. Toketee. Klocker Printery, Medford, Oregon.
- Bradbury, B., W. Nehlsen, T. E. Nickelson, K. M. S. Moore, R. M. Hughes, D. Heller, J. Nicholas, D. L. Bottom, W. E. Weaver, and R. L. Beschta. 1995. Handbook for prioritizing watershed protection and restoration to aid recovery of native salmon. 49 p.
- Brattstrom, B. H. 1963. A preliminary review of the thermal requirements of amphibians. *Ecology* 44: 238-255.
- Brauner, D., and W. Honey. 1977. Cultural resource evaluation of the Steamboat Creek drainage, Douglas County, Oregon. Prepared by Department of Anthropology, Oregon State University, Corvallis for USDA Forest Service, Umpqua National Forest, Glide, Oregon.
- Brett, J. R. 1952. Temperature tolerance in young Pacific salmon, genus *Oncorhynchus*. *Journal of the Fisheries Research Board of Canada* 9: 265-323.
- Brett, J. R., W. C. Clarke, and J. E. Shelbourn. 1982. Experiments on thermal requirements for growth and food conversion efficiency of juvenile chinook salmon *Oncorhynchus tshawytscha*. Canadian Technical Report of Fisheries and Aquatic Sciences 1127. Department of Fisheries and Oceans, Fisheries Research Branch, Pacific Biological Station, Nanaimo, British Columbia.
- Briggs, J. C. 1953. The behavior and reproduction of salmonid fishes in a small coastal stream. *Fish Bulletin* No. 94. California Department of Fish and Game, Marine Fisheries Branch.
- Brodeur, R. D., and W. G. Pearcy. 1990. Trophic relations of juvenile Pacific salmon off the Oregon and Washington coast. *Fishery Bulletin* 88: 617-636.
- Broeker, L. 1996. Geologic and geomorphic characterization of the upper North Umpqua watershed. Appendix A to Upper North Umpqua River watershed analysis. Draft Technical Report. USDA Forest Service, Diamond Lake Ranger District, Idleyld Park, Oregon.
- Brown, E. R. 1985 Management of wildlife and fish habitats in forests of western Oregon and Washington. Part 1-Chapter narratives. Publication No. R6-F&WL-192-1985. USDA Forest Service, Pacific Northwest Region, Portland, Oregon.
- Brown, G. W. 1980. Forestry and water quality. Oregon State University, School of Forestry, Corvallis.

Brown, L. C., and Jr. T. O. Barnwell. 1987. The enhanced stream water quality models QUAL2E and QUAL2E-UNCAS: documentation and user manual. U. S. Environmental Protection Agency, Environmental Research Laboratory, Athens, Georgia.

Brown. 1985. [cited in section 1.9--characterization of the watershed]

Brown, G. W., et al. 1971. Water temperature in the Steamboat drainage. Research Paper PNW-119. USDA Forest Service.

Bryant, M. D. 1980. Evolution of large, organic debris after timber harvest: Maybeso Creek, 1949 to 1978. General Technical Report PNW-101. U. S. Forest Service.

Bugert, R. M., T. C. Bjornn, and W. R. Meehan. 1991. Summer habitat use by young salmonids and their responses to cover and predators in a small southeast Alaska stream. Transactions of the American Fisheries Society 120: 474-485.

Burgess, S. A., and J. R. Bider. 1980. Effects of stream habitat improvements on invertebrates, trout populations, and mink activity. Journal of Wildlife Management 44: 871-880.

Burner, C. J. 1951. Characteristics of spawning nests of Columbia River salmon. U. S. Fish and Wildlife Service Fishery Bulletin 52: 97-110.

Burns, C. 1997. Personal communication. Fisheries biologist, USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.

Bury, R. B. 1988. Habitat relationships and ecological importance of amphibians and reptiles. Pages 61-76 in K. J. Raedeke, editor. Streamside management, riparian wildlife and forestry interactions. Contribution No. 59. Institute of Forest Resources, University of Washington, Seattle.

Bury, R. B., P. S. Corn, K. B. Aubrey, F. F. Gilbert, and L. L. C. Jones. 1991. Aquatic amphibian communities in Oregon and Washington. Pages 353-362 in L. F. Ruggiero, K. B. Aubrey, A. B. Carey and M. H. Huff, editor. Wildlife and vegetation of unmanaged Douglas-fir forests. General Technical Report PNW-GTR-285. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon.

Bury, R. B., and P. S. Corn. 1988. Responses of aquatic and streamside amphibians to timber harvest: a review. Pages 165-181 in K. J. Raedeke, editor. Streamside management, riparian wildlife and forestry interactions. Contribution No. 59. Institute of Forest Resources, University of Washington, Seattle.

Bustard, D. R., and D. W. Narver. 1975a. 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.

Bustard, D. R., and D. W. Narver. 1975b. Preferences of juvenile coho salmon (*Oncorhynchus kisutch*) and cutthroat trout (*Salmo clarki*) relative to simulated alteration of winter habitat. Journal of the Fisheries Research Board of Canada 32: 681-687.

Cairns, J. Jr., A. G. Heath, and B. C. Parker. 1975. The effects of temperature upon the toxicity of chemicals to aquatic organisms. Hydrobiologia 47: 135-171.

Campbell, R. F., and J. H. Neuner. 1985. Seasonal and diurnal shifts in habitat utilized by resident rainbow trout in western Washington Cascade Mountain streams. Pages 39-48 in F. W. Olson, R. G. White and R. H. Hamre, editors. Proceedings of the symposium on small hydropower and fisheries. American Fisheries Society, Western Division and Bio-Engineering Section, Bethesda, Maryland.

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.

Carlander, K. D. 1969. Handbook of freshwater fishery biology. The Iowa State University Press, Ames, Iowa.

Carlson, J. Y., C. W. Andrus, and H. A. Froehlich. 1990. Woody debris, channel features, and macroinvertebrates of streams with logged and undisturbed riparian timber in northeastern Oregon, U. S. A. Canadian Journal of Fisheries and Aquatic Sciences 47: 1103-1111.

Cederholm, C. J., and W. J. Scarlett. 1982. Seasonal immigrations of juvenile salmonids into four small tributaries of the Clearwater River, Washington, 1977-1981. Pages 98-110 in E. L. Brannon and E. O. Salo, editors. Proceedings of the salmon and trout migratory behavior symposium. School of Fisheries, University of Washington, Seattle.

Cederholm, C. J., L. M. Reid, and E. O. Salo. 1981. Cumulative effects of logging road sediment on salmonid populations in the Clearwater River, Jefferson County, Washington. Pages 38-74 in Salmon-spawning gravel: A renewable resource in the Pacific Northwest? Report No. 39. State of Washington Water Research Center, Washington State University, Pullman, and the University of Washington, Seattle.

CH2M Hill. 1956. Presentation of a harbor development plan for Winchester Bay, Oregon. Cornell, Howland, Hayes, and Merryfield Engineers and Consultants, Corvallis, Oregon.

Chamberlin, T. W., R. D. Harr, and F. H. Everest. 1991. Timber harvesting, silviculture, and watershed processes. Pages 181-205 in W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19, Bethesda, Maryland.

Chapman, D. W. 1996. Comments on Oregon coastal salmon restoration initiative draft report.

Chapman, D. W. 1988. Critical review of variables used to define effects of fines in redds of large salmonids. Transactions of the American Fisheries Society 117: 1-21.

Chapman, D. W. 1966. Food and space as regulators of salmonid populations in streams. The American Naturalist 100: 345-357.

Chapman, D. W., D. E. Weitkamp, T. L. Welsh, M. B. Dell, and T. H. Schadt. 1986. Effects of river flow on the distribution of chinook salmon redds. Transactions of the American Fisheries Society 115: 537-547.

Chapman, D. W., and E. Knudsen. 1980. Channelization and livestock impacts on salmonid habitat and biomass in western Washington. Transactions of the American Fisheries Society 109: 357-363.

Chapman, D. W., and T. C. Bjornn. 1969. Distribution of salmonids in streams with special reference to food and feeding. Pages 153-176 in T. G. Northcote, editor. Symposium on salmon and trout in streams. H. R. MacMillan Lectures in Fisheries, University of British Columbia, Vancouver.

Chutter, F. M. 1969. The effects of silt and sand on the invertebrate fauna of streams and rivers. Hydrobiologia 34: 57-76.

Clare, H. C., and R. B. Marston. 1968. Forestry practices in the North Umpqua River basin, Oregon. Report submitted to Federal Water Pollution Control Administration, U. S. Department of the Interior, Northwest Regional Office, Portland, Oregon.

Clarke, W. C., and J. E. Shelbourn. 1985. Growth and development of seawater adaptability by juvenile fall chinook salmon (*Oncorhynchus tshawytscha*) in relation to temperature. Aquaculture 45: 21-31.

Cloern, J. E. 1976. The survival of coho salmon (*Oncorhynchus kisutch*) eggs in two Wisconsin tributaries of Lake Michigan. *The American Midland Naturalist* 96: 451-461.

Close, D. A., M. Fitzpatrick, H. Li, B. Parker, D. Hatch, and G. James. 1995. Status report of the Pacific lamprey (*Lampetra tridentata*) in the Columbia River basin. Report No. DOE/BP-39067-1. Bonneville Power Administration, Portland, Oregon.

Coats, R. N. and C. R. Goldman. 1993. Nitrate transport in subalpine streams, Lake Tahoe Basin, California-Nevada, U.S.A. *Applied Geochemistry, Suppl. Issue No. 2*: 17-21.

Coats, R. N., R. L. Leonard, and C. R. Goldman. 1976. Nitrogen uptake and release in a forested watershed, Lake Tahoe Basin, California. *Ecology* 57: 995-1004.

Cobb, J. N. 1930. Pacific salmon fisheries. Report of the U. S. Commission of Fisheries 1930, Bureau of Fisheries Document No. 1092. U. S. Bureau of Fisheries.

Coble, D. W. 1961. Influence of water exchange and dissolved oxygen in redds on survival of steelhead trout embryos. *Transactions of the American Fisheries Society* 90: 469-474.

Coburn, A., and P. McCart. 1967. A hatchery release tank for pink salmon fry with notes on the behavior of the fry in the tank and after release. *Journal of the Fisheries Research Board of Canada* 24: 77-85.

Collins, G. B. 1976. Effects of dams on Pacific salmon and steelhead trout. *Marine Fisheries Review* 38: 39-46.

Combs, B. D. 1965. Effect of temperature on the development of salmon eggs. *The Progressive Fish-Culturist* 27: 134-137.

Combs, B. D., and R. E. Burrows. 1957. Threshold temperatures for the normal development of chinook salmon eggs. *The Progressive Fish-Culturist* 19: 3-6.

Conaway, C. H. 1952. Life history of the water shrew (*Sorex palustris navigator*). *The American Midland Naturalist* 48: 219-248.

Connell, J. H. 1978. Diversity in tropical rainforests and coral reefs. *Science* 199: 1302-1310.

- Cordone, A. J., and D. W. Kelley. 1961. The influences of inorganic sediment on the aquatic life of streams. *California Fish and Game* 47: 189-228.
- Corn, P. S., and R. B. Bury. 1989. Logging in western Oregon: responses of headwater habitats and stream amphibians. *Forest Ecology and Management* 29: 35-57.
- Coutant, C. C., and Genoway. 1968. Final report on an exploratory study of increased temperature and nitrogen supersaturation on mortality of adult salmonids to U.S. Bureau of Commercial Fisheries, Seattle, Washington. Battelle Memorial Institute Pacific Northwest Laboratory, Richland, Washington.
- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS-OBS-79-31. U.S. Fish and Wildlife Service, Washington, D. C.
- Cramer, F. K., and D. F. Hammock. 1952. Salmon research at Deer Creek, California. Special Scientific Report-Fisheries 67. U. S. Fish and Wildlife Service.
- Crandell, D. R. 1965. The glacial history of western Washington and Oregon. Pages 341-352 in H. E. Wright and D. G. Frey, editors. *The Quaternary of the United States*. Princeton University Press, Princeton, New Jersey.
- Crocker, J. 1995. The life history fundamentals of sea-run cutthroat trout. Oregon Department of Fish and Wildlife, Portland.
- Crone, R. A., and C. E. Bond. 1976. Life history of coho salmon, *Oncorhynchus kisutch*, in Sashin Creek, southeastern Alaska. *Fishery Bulletin* 74: 897-923.
- Crouse, M. R., C. A. Callahan, K. W. Malueg, and S. E. Dominguez. 1981. Effects of fine sediments on growth of juvenile coho salmon in laboratory streams. *Transactions of the American Fisheries Society* 110: 281-286.
- Cummins, K., D. Botkin, H. Regier, M. Sobel, and L. Talbot. 1995. Status and future of salmon of western Oregon and northern California: management of the riparian zone for the conservation and production of salmon. Research report. The Center for the Study of the Environment, Santa Barbara, California.
- Daily, K. 1992. Smallmouth bass predation on indigenous fish species in the Umpqua, Rogue, and John Day river basins. Oregon Department of Fish and Wildlife.

Dambacher, J. M. 1991. Distribution, abundance, and emigration of juvenile steelhead (*Oncorhynchus mykiss*), and analysis of stream habitat in the Steamboat Creek basin, Oregon. Master's thesis. Oregon State University, Corvallis.

Daugherty, C. H., and A. L. Sheldon. 1982. Age-determination, growth, and life history of a Montana population of the tailed frog (*Ascaphus truei*). *Herpetologica* 38: 461-468.

Davis, J. C. 1975. Minimal dissolved oxygen requirements of aquatic life with emphasis on Canadian species: a review. *Journal of the Fisheries Research Board of Canada* 32: 2295-2332.

Dawley, E. M., and W. J. Ebel. 1975. Effects of various concentrations of dissolved atmospheric gas on juvenile chinook salmon and steelhead trout. *Fishery Bulletin* 73: 787-796.

Daye, P. G. and E. T. Garside. 1976. Histopathologic changes in surficial tissues of brook trout, *Salvelinus fontinalis* (Mitchell), exposed to acute and chronic levels of pH. *Can. J. Zool.* 54: 2140-2155.

Dietrich, W. E., C. J. Wilson, D. R. Montgomery, and J. McKean. 1993. Analysis of erosion thresholds, channel networks, and landscape morphology using a digital terrain model. *The Journal of Geology* 101: 259-278.

Dietrich, W. E., C. J. Wilson, D. R. Montgomery, J. McKean, and R. Bauer. 1992. Erosion thresholds and land surface morphology. *Geology* 20: 675-679.

Dietrich, W. E., J. W. Kirchner, H. Ikeda, and F. Iseya. 1989. Sediment supply and the development of the coarse surface layer in gravel-bedded rivers. *Nature* 340: 215-217.

Dobyns, H. F. 1983. Their number became thinned: Native American population dynamics in eastern North America. University of Tennessee Press, Knoxville.

Doloff, C. A. 1986. Effects of stream cleaning on juvenile coho salmon and Dolly Varden in southeast Alaska. *Transactions of the American Fisheries Society* 115: 743-755.

Doloff, C. A., and G. H. Reeves. 1990. Microhabitat partitioning among stream-dwelling juvenile coho salmon, *Oncorhynchus kisutch*, and Dolly Varden, *Salvelinus malma*. *Canadian Journal of Fisheries and Aquatic Sciences* 47: 2297-2306.

- Donald, D. B., R. S. Anderson, and D. W. Mayhood. 1980. Correlations between brook trout growth and environmental variables for mountain lakes in Alberta. *Transactions of the American Fisheries Society* 109: 603-610.
- Donaldson, J. R. 1967. The phosphorus budget of Iliamna Lake, Alaska as related to the cyclic abundance of sockeye salmon. Doctoral dissertation. University of Washington, Seattle.
- Dose, J. 1997. Personal communication. USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.
- Dose, J. J., and B. B. Roper. 1994. Long-term changes in low-flow channel widths within the South Umpqua watershed, Oregon. *Water Resources Bulletin* 30: 993-1000.
- Douglas County Museum historical photograph archives. Fred Reenstjurna, Research Librarian.
- Douglas County Planning Commission (DCPD). 1968. The character of Douglas County. Roseburg, Oregon.
- Douglas County Planning Department. 1986. Coastal resources plan for Douglas County. Prepared for Douglas County Board of Commissioners.
- Douglas, D. C., J. T. Ratti, R. A. Black, and J. R. Alldredge. 1992. Avian habitat associations in riparian zones of Idaho's Centennial Mountains. *Wilson Bulletin* 104: 485-500.
- Downing, J. A., C. Plante, and S. Lalonde. 1990. Fish production correlated with primary productivity, not the morphoedaphic index. *Canadian Journal of Fisheries and Aquatic Sciences* 47: 1929-1936.
- Dunkiel, B. 1995. Using conservation easements in creating regional reserve systems. *Wild Earth*. pp. 62-65.
- Dunne, T., and L. B. Leopold. 1978. *Water in environmental planning*. W. H. Freeman and Company.
- Dwyer, W. P., and R. H. Kramer. 1975. The influence of temperature on scope for activity in cutthroat trout, *Salmo clarki*. *Transactions of the American Fisheries Society* 1975: 552-554.

EA Engineering, Science, and Technology (EA). 1992. Lower Tuolumne River spawning gravel availability and superimposition. Appendix 6 to Don Pedro Project Fisheries Studies Report (FERC Article 39, Project No. 2299). In Report of Turlock Irrigation District and Modesto Irrigation District Pursuant to Article 39 of the License for the Don Pedro Project, No. 2299. Vol. IV. EA, Lafayette, California.

EA Engineering, Science, and Technology, 1997. Draft 1997 juvenile salmon report. Prepared for Turlock Irrigation District and Modesto Irrigation District. Lafayette, California.

EarthInfo. 1996. National Climate Data Center summary of the days precipitation data. CD-ROM.

Ebel, W. J. 1970. Effect of release location on survival of juvenile fall chinook salmon, *Oncorhynchus tshawytscha*. Transactions of the American Fisheries Society 99: 672-676.

Ebel, W. J., and H. L. Raymond. 1976. Effect of atmospheric gas saturation on salmon and steelhead trout of the Snake and Columbia rivers. U. S. National Marine Fisheries Service, Marine Fisheries Review 7 (or 38): 1-14.

Eddie, B. G. 1975. A census of juvenile salmonids of the Clearwater River basin, Jefferson County, Washington, in relation to logging. Master's thesis. University of Washington, Seattle.

Eggers, S. 1980. Stream survey--Copeland Creek. USDA Forest Service, Umpqua National Forest, Oregon.

Eilers, J. M., C. P. Gubala, P. R. Sweets and D. Hanson. 1997. Recent Paleolimnology of Diamond Lake, Oregon. Submitted to the Umpqua National Forest by E&S Environmental Chemistry, Inc. Corvallis, OR 63pp.

Einstein, H. A. 1968. Deposition of suspended particles in a gravel bed. Journal of the Hydraulics Division, Proceedings of the American Society of Civil Engineers 94: 1197-1205.

Elliott, J. M. 1994. Quantitative ecology and the brown trout. Oxford University Press, Oxford.

Elliott, S. T. 1986. Reduction of a Dolly Varden population and macrobenthos after removal of logging debris. Transactions of the American Fisheries Society 115: 392-400.

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 3-28 in T. D. Fontaine, III and S. M. Bartell, editors. Dynamics of lotic ecosystems. Ann Arbor Science, Ann Arbor, Michigan.

Emmingham, B., and D. Hibbs. 1996. Riparian area silviculture in western Oregon. Pages 135-139 in Salmonid habitat: operational solutions to problems in forested streams. Proceedings of the 10th international stream habitat improvement conference. Oregon State University, Forest Engineering Department and Adaptive COPE Program, Corvallis; American Fisheries Society, Fisheries Management and Bioengineering Sections and the Portland Chapter, and Oregon Forest Resources Institute.

Erman, D. C., and F. K. Ligon. 1988. Effects of discharge fluctuation and the addition of fine sediment on stream fish and macroinvertebrates below a water-filtration facility. Environmental Management 12: 85-97.

Evans, S. G., and J. J. Clague. 1994. Recent climatic change and catastrophic geomorphic processes in mountain environments. Geomorphology 10: 107-128.

Everest, F. H., and D. W. Chapman. 1972. Habitat selection and spatial interaction by juvenile chinook salmon and steelhead trout in two Idaho streams. Journal of the Fisheries Research Board of Canada 29: 91-100.

Everest, F. H., and W. R. Meehan. 1981. Forest management and anadromous fish habitat productivity. Transactions of the North American Wildlife and Natural Resources Conference 46: 521-530.

Everest, F. H., G. H. Reeves, and J. R. Sedell. 1988. Changes in habitat and populations of steelhead trout, coho salmon, and chinook salmon in Fish Creek, Oregon, 1983-1987, as related to habitat improvement. Annual Report. Prepared by U. S. Forest Service for Bonneville Power Administration, Portland, Oregon.

Everest, F. H., G. H. Reeves, J. R. Sedell, J. Wolfe, D. Hohler, and D. A. Heller. 1986. 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.

Everest, F. H., N. B. Armantrout, S. M. Keller, W. D. Parante, J. R. Sedell, T. E. Nickelson, J. M. Johnston, and G. N. Haugen. 1985. Salmonids. Pages 199-230 in E. R. Brown, editor. Management of wildlife and fish habitats in forests of western Oregon and Washington. Part 1-Chapter narratives. U.S. Forest Service, Portland, Oregon.

Facchin, A., and P. A. Slaney. 1977. Management implications of substrate utilization during summer by juvenile steelhead (*Salmo gairdneri*) in the South Alouette River. Fisheries Technical Circular 32. British Columbia Fish and Wildlife Bureau.

Farlinger, S. P., and R. J. Beamish. 1984. Recent colonization of a major salmon-producing lake in British Columbia by Pacific lamprey (*Lampetra tridentata*). Canadian Journal of Fisheries and Aquatic Sciences 41: 278-285.

Farrell, G. 1997. Oregon Department of Environmental Quality, Roseburg. Personal communication with Rich Grost, PacifiCorp. 15 April.

Fasching, M. 1996. Macroinvertebrate site reports for the Upper North Umpqua watershed: Bear Creek, Deer Creek, Loafer Creek, Potter Creek, Upper North Umpqua River, and Warm Springs Creek. Prepared by Resources Northwest, Inc. for USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.

Fausch, K. D. 1993. Experimental analysis of microhabitat selection by juvenile steelhead (*Oncorhynchus mykiss*) and coho salmon (*O. kisutch*) in a British Columbia stream. Canadian Journal of Fisheries and Aquatic Sciences 50: 1198-1207.

Fausch, K. D., and T. G. Northcote. 1992. Large woody debris and salmonid habitat in a small coastal British Columbia stream. Canadian Journal of Fisheries and Aquatic Sciences 49: 682-693.

FCO and OSGC (Fish Commission of Oregon and Oregon State Game Commission). 1946. The Umpqua River study. Joint report.

FEMAT (Forest Ecosystem Management Assessment Team). 1993. Forest ecosystem management: an ecological, economic, and social assessment. USDA Forest Service, U. S. Fish and Wildlife Service, National Marine Fisheries Service, National Park Service, Bureau of Land Management, and Environmental Protection Agency.

Fisher, S. G., and A. LaVoy. 1972. Differences in littoral fauna due to fluctuating water levels below a hydroelectric dam. Journal of the Fisheries Research Board of Canada 29: 1472-1476.

Fix, D. 1997. Personal communication. USDA Forest Service, Umpqua National Forest, Roseburg, Oregon (former employee).

Flanagan, S. A. In preparation. Woody debris transport through low-order stream channels of northwest California: implications for stream crossing failure. Master's thesis. Humboldt State University, Arcata, California.

Flick, W. A. 1991. Brook trout *Salvelinus fontinalis*. Pages 196-207 in J. Stolz and J. Schnell, editors. Trout. Stackpole Books, Harrisburg, Pennsylvania.

Fontaine, B. L. 1988. An evaluation of the effectiveness of instream structures for steelhead trout rearing habitat in the Steamboat Creek basin. Master's thesis. Oregon State University, Corvallis.

Franklin, J. F., and C. T. Dyrness. 1973. Natural vegetation of Oregon and Washington. Technical Report PNW-8. USDA Forest Service, Portland, Oregon.

Fredricksen, R. L. 1971. Comparative water quality-natural and disturbed streams. Pages 125-137 in Proceedings of the symposium on forest land uses and the stream environment. Oregon State University, Corvallis.

Freeland, H. J. 1990. Sea surface temperatures along the coast of British Columbia: regional evidence for a warming trend. Canadian Journal of Fisheries and Aquatic Sciences 47: 346-350.

Fresh, K. L. 1997. The role of competition and predation in the decline of Pacific salmon and steelhead. Pages 245-275 in D. J. Stouder, P. A. Bisson and R. J. Naiman, editors. Pacific salmon and their ecosystems: status and future options. Chapman and Hall, New York.

Frest, T. 1997. Personal communication. Deixis Consultants, Seattle, Washington.

Frissell, C. A. 1996. Comments on Oregon coastal salmon restoration initiative draft report.

Frissell, C. A., and D. Bayles. 1996. Ecosystem management and the conservation of aquatic biodiversity and ecological integrity. Water Resources Bulletin 32: 229-240.

Frissell, C. A., W. J. Liss, and D. Bayles. 1993. An integrated, biophysical strategy for ecological restoration of large watersheds. Pages 449-456 in D. F. Potts, editor. Proceedings of the symposium on changing roles in water resources management and policy. American Water Resources Association Technical Publication Series No. TPS-93-2. American Water Resources Association.

Fuller, S. L. H. 1974. Clams and mussels (Mollusca: Bivalvia). Pages 215-274 in J. C. W. Hart and S. L. H. Fuller, editors. Pollution ecology of freshwater invertebrates. Academic Press.

Furniss, M. J., T. D. Roelofs, and C. S. Yee. 1991. Road construction and maintenance. Pages 297-323 in W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19.

Fuss, H. J. 1982. Age, growth and instream movement of Olympic Peninsula coastal cutthroat trout (*Salmo clarki clarki*). Master's thesis. University of Washington, Seattle.

Gard, R. 1961. Creation of trout habitat by constructing small dams. Journal of Wildlife Management 52: 384-390.

Garrett, M. 1997. Personal communication. PacifiCorp, Portland, Oregon.

Gerstung, E. R. 1997. Status of coastal cutthroat trout in California. California Department of Fish and Game, Inland Fisheries Division, Sacramento.

Gharrett, J. T., and J. I. Hodges. 1950. Salmon fisheries of the coastal rivers of Oregon south of the Columbia. Contribution No. 13. Oregon Fish Commission, Portland.

Giger, R. D. 1972. Ecology and management of coastal cutthroat trout in Oregon. Fisheries Research Report 6. Oregon State Game Commission, Corvallis.

Gilpin, M., and I. Hanski, editors. 1991. Metapopulation dynamics: empirical and theoretical investigations. Academic Press, London, England.

Ginetz, R. M., and P. A. Larkin. 1976. Factors affecting rainbow trout (*Salmo gairdneri*) predation on migrant fry of sockeye salmon (*Oncorhynchus nerka*). Journal of the Fisheries Research Board of Canada 33: 19-24.

Gislason, J. C. 1985. Aquatic insect abundance in a regulated stream under fluctuating and stable diel flow patterns. North American Journal of Fisheries Management 5: 39-46.

Glova, G. J. 1987. Comparison of allopatric cutthroat trout stocks with those sympatric with coho salmon and sculpins in small streams. Environmental Biology of Fishes 20: 275-284.

Golden, J. T. 1975. Lethal temperatures for coastal cutthroat trout under fluctuating temperature regimes. Unpublished manuscript. Oregon Department of Fish and Wildlife, Portland.

Gradall, K. S., and W. A. Swenson. 1982. Responses of brook trout and creek chubs to turbidity. *Transactions of the American Fisheries Society* 111: 392-395.

Grant, S. 1997. Electrophoretic analysis of suspected cutthroat trout sample from the upper North Umpqua River, Oregon. Memorandum to R. S. Waples. National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington. 31 October.

Grant, G. E., and F. J. Swanson. 1995. Morphology and processes of valley floors in mountain streams, western Cascades, Oregon. Pages 83-101 in *Natural and anthropogenic influences in fluvial geomorphology*. Geophysical Monograph 89.

Graves, K. 1995. USDA Forest Service. Personal communication, as cited in PacifiCorp 1995.

Green, D. M., and J. B. Kauffman. 1989. Nutrient cycling at the land-water interface: the importance of the riparian zone. Pages 61-68 in R. E. Gresswell, B. A. Barton and J. L. Kershner, editors. *Practical approaches to riparian resource management: an educational workshop*. U. S. Bureau of Land Management, Billings, Montana.

Greene, J. C., W. E. Miller, T. Shiroyama, and M. Knittel. 1996. Evaluation of the effects of forest management on water quality in the South Umpqua Experimental Forest watershed, Oregon. Abstracts of the Chapman Conference on Nitrogen Cycling in Forested Catchments. American Geophysical Union.

Gregory, R. S., and T. G. Northcote. 1993. Surface, planktonic, and benthic foraging by juvenile chinook salmon (*Oncorhynchus tshawytscha*) in turbid laboratory conditions. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 233-240.

Gregory, S. 1995. Review of draft final technical report for water quality study. In: PacifiCorp. 1995. *Final Technical Report for water quality study. Application for new license for major modified project. North Umpqua Hydroelectric Project, FERC Project No. 1927, Douglas County, Oregon. Exhibit E-Appendix 2-1*. Portland, Oregon.

Gregory, S. V., and P. A. Bisson. 1997. Degradation and loss of anadromous salmonid habitat in the Pacific Northwest. Pages 277-314 in D. J. Stouder, P. A. Bisson and R. J. Naiman, editors. *Pacific salmon and their ecosystems: status and future options*. Chapman and Hall, New York.

Gregory, S. V., F. J. Swanson, W. A. McKee, and K. W. Cummins. 1991. An ecosystem perspective of riparian zones. *BioScience* 41: 540-551.

Grette, G. B. 1985. The role of large organic debris in juvenile salmonid rearing habitat in small streams. Master's thesis. University of Washington, Seattle.

Gribanov, V. I. 1948. The coho salmon (*Oncorhynchus kisutch* Walb.)-a biological sketch. *Izv. Tikhookean. Nauschno-Issled. Inst. Rybn. Khoz. Okeanogr.* 28: 43-101. (Translated from Russian; Fisheries Research Board of Canada Translation Series No. 370).

Griffith, J. S. 1991. Winter and trout in streams of the Rocky Mountains, U. S. A. *Freshwater Catch* 46: 9-11.

Griffiths, J. S., and D. F. Alderdice. 1972. Effects of acclimation and acute temperature experience on the swimming speed of juvenile coho salmon. *Journal of the Fisheries Research Board of Canada* 29: 251-264.

Grost, R. T. 1997. Personal communication. RTG Fisheries, Idleyld, Oregon.

Gurnell, A. M. 1995. Vegetation along river corridors: hydrogeomorphological interactions. Pages 238-260 in A. Gurnell and G. Petts, editors. *Changing river channels*. John Wiley & Sons.

Gurtz, M.E., and J.B. Wallace. 1984. Substrate-mediated response of stream invertebrates to disturbance. *Ecology* 65:1556-1569.

Hall, J. D., and R. L. Lantz. 1969. Effects of logging on the habitat of coho salmon and cutthroat trout in coastal streams. Pages 355-375 in T. G. Northcote, editor. *Symposium on salmon and trout in streams*. H. R. MacMillan Lectures in Fisheries, University of British Columbia, Vancouver.

Hamilton, R., and J. W. Buell. 1976. Effects of modified hydrology on Campbell River salmonids. Technical Report PAC/T-76-20. Canadian Fisheries and Marine Service, Vancouver, British Columbia.

Hanson, C. H. 1990. Laboratory information on the effect of water temperature on juvenile chinook salmon in the Sacramento and San Joaquin rivers: a literature review. San Francisco Bay/Sacramento-San Joaquin Delta, Water Quality Control Plan Hearings, WQCP-SWC Exhibit 605. Prepared by Tenera, Berkeley, for State Water Contractors, Sacramento, California.

Harkleroad, G. 1997. Personal communication. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Harkleroad, G. R. 1995. Cedar Creek watershed analysis and restoration opportunities. Progress Report. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Harkerload, G. R. 1993. 1991 Summer low-flow fish habitat inventory report on the upper Canton Creek basin and four of its tributaries. Progress Report. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Harkleroad, G. R., and T. J. La Marr. 1993a. Trapping of juvenile steelhead outmigrants from Calf Creek, a tributary of the North Umpqua River. Aqua-Talk, Region 6 Fish Habitat Relationship Technical Bulletin, No. 4. USDA Forest Service, Pacific Northwest Region, Portland, Oregon.

Harkleroad, G. R., and T. J. La Marr. 1993b. Three years of summer low-flow fish habitat inventories on Calf Creek, a tributary of the North Umpqua River. Progress Report. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide.

Harkleroad, G. R., and T. J. La Marr. 1992. 1991 and 1992 Calf Creek migrant trapping results and juvenile steelhead (*Oncorhynchus mykiss*) emigration estimate. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

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. Sedell, 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.

Harr, R. D., R. L. Fredricksen, and J. Rothacher. 1979. Changes in streamflow following timber harvest in southwestern Oregon. Research Paper PNW-249. USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Hartman, G. F. 1965. The role of behavior in the ecology and interaction of underyearling coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Salmo gairdneri*). *Journal of the Fisheries Research Board of Canada* 22: 1035-1081.

Hartman, G. F., and J. C. Scrivener. 1990. Impacts of forestry practices on a coastal stream ecosystem, Carnation Creek, British Columbia. *Canadian Bulletin of Fisheries and Aquatic Sciences* 223: 148 pp.

Hartman, G. F., J. C. Scrivener, L. B. Holtby, and L. Powell. 1987. Some effects of different streamside treatments on physical conditions and fish population processes in Carnation Creek, a coastal rain forest stream in British Columbia. Pages 330-372 in E. O. Salo and T. W. Cundy, editors. *Streamside management: forestry and fishery interactions*. College of Forest Resources, University of Washington, Seattle. Contribution No. 57.

Hartman, G. F., L. B. Holtby, and J. C. Scrivener. 1984. Some effects of natural and logging-related winter stream temperature changes on the early life history of coho salmon (*Oncorhynchus kisutch*) in Carnation Creek, British Columbia. Pages 141-150 in W. R. Meehan, T. R. Merrell, Jr., and T. A. Hanley, editors. *Fish and wildlife relationships in old-growth forests*. American Institute of Fishery Research Biologists, Juneau, Alaska.

Hartman, G. F., B. C. Andersen, and J. C. Scrivener. 1982. Seaward movement of coho salmon (*Oncorhynchus kisutch*) fry in Carnation Creek, an unstable coastal stream in British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 39: 588-597.

Harza Northwest, Inc. 1996. North Umpqua and Clearwater Rivers flood flow hydrograph review. North Umpqua Hydroelectric Project FERC No. 1927. Prepared for PacifiCorp, Portland, Oregon.

Hassler, T. J. 1987. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest)-coho salmon. Biological Report 82 (11.70). Prepared by California Cooperative Fishery Research Unit, Humboldt State University, Arcata, California for U. S. Army Corps of Engineers, Coastal Ecology Group, Vicksburg, Mississippi and U. S. Fish and Wildlife Service, National Wetlands Research Center, Washington, D. C.

Hawkins, C. P., and J. Furnish. 1987. Are snails important competitors in stream ecosystems? *Oikos* 49: 209-220.

Hayes, G. L., and H. G. Herring. 1960. Some water problems and hydrologic characteristics of the Umpqua basin. USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Hayes, J. 1996. Personal communication. Wildlife Biologist, Oregon State University, Corvallis. 29 July.

Hayes, J. P., M. D. Adam, D. Bateman, E. Dent, W. H. Emmingham, K. G. Maas, and A. E. Skaugset. 1996. Integrating research and forest management in riparian areas of the Oregon Coast Range. *Western Journal of Applied Forestry* 11: 85-89.

Hayes, J. W. 1997. Personal communication. Cawthron Institute, Nelson, New Zealand.

Hayes, J. W. 1996. Bioenergetics model for drift-feeding brown trout. Pages 465-476 in M. LeClerc, H. Capra, S. Valentin, A. Boudreault and Y. Cote, editors. *Ecohydraulics 2000: Proceedings of the 2nd international symposium on habitat hydraulics*. Volume B. Quebec, Canada.

Hayes, J. W. 1995. Spatial and temporal variation in the relative density and size of juvenile brown trout in the Kakanui River, North Otago, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 29: 393-407.

Hayes, J. W., and D. Baird. 1994. Estimating relative abundance of juvenile brown trout in rivers by underwater census and electrofishing. *New Zealand Journal of Marine and Freshwater Research* 28: 243-253.

Hayes, J. W., and I. G. Jowett. 1994. Microhabitat models of large drift-feeding brown trout in three New Zealand rivers. *North American Journal of Fisheries Management* 14: 710-725.

Hayes, J. W. 1987. Competition for spawning space between brown (*Salmo trutta*) and rainbow trout (*S. gairdneri*) in a lake inlet tributary, New Zealand. *Canadian Journal of Fisheries and Aquatic Sciences* 44: 40-47.

Hayes, M. P. 1997. Personal communication. Portland State University,

Hayes, M.P. 1997. Assessment of the aquatic amphibian and reptile fauna of Diamond Lake. Final Report. Prepared for the Oregon Department of Fish and Wildlife, Southwest Region, Roseburg, Oregon.

Hayes, M. P. 1996. Wildlife issues pertaining to amphibians and the western pond turtle (*Clemmys marmorata*) on the North Umpqua Hydroelectric Project area. Revised version of 18 November 1996. Prepared for USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.

Healey, M. C. 1991. Life history of chinook salmon (*Oncorhynchus tshawytscha*). Pages 311-393 in C. Groot and L. Margolis, editors. *Pacific salmon life histories*. University of British Columbia Press, Vancouver, British Columbia.

Healey, M. C., and A. Prince. 1995. Scales of variation in life history tactics of Pacific salmon and the conservation of phenotype and genotype. *American Fisheries Society Symposium* 17: 176-184.

Heath, W. G. 1963. Thermoperiodism in sea-run cutthroat trout (*Salmo clarki clarki*). *Science* 142: 486-488.

Heaton, T.H.E. 1986. Isotopic studies of nitrogen pollution in the hydrosphere and the atmosphere: a review. *Chemistry and Geology* 59: 87-102.

Hecnar, S. J., and R. T. McCloskey. 1997. The effect of predatory fish on amphibian species richness and distribution. *Biological Conservation* 79: 123-131.

Heggenes, J. 1988. Effects of short-term flow fluctuations on displacement of, and habitat use by, brown trout in a small stream. *Transactions of the American Fisheries Society* 117: 336-344.

Heggenes, J., O. M. W. Krog, O. R. Lindas, J. G. Dokk, and T. Bremnes. 1993. Homeostatic behavioral responses in a changing environment: brown trout (*Salmo trutta*) become nocturnal during winter. *Journal of Animal Ecology* 62: 295-308.

Heifetz, J., M. L. Murphy, and K. V. Koski. 1986. Effects of logging on winter habitat of juvenile salmonids in Alaskan streams. *North American Journal of Fisheries Management* 6: 52-58.

Heimann, D. C. 1988. Recruitment trends and physical characteristics of coarse woody debris in Oregon Coast Range streams. Master's thesis. Oregon State University, Corvallis.

Heming, T.A. and K. A. Blumhagen. 1988. Plasma acid-base and electrolyte states of rainbow trout exposed to alum (aluminum sulphate) in acid and alkaline environments. *Aquatic Toxicology*. 12: 125-140.

Hicks, B. J., J. D. Hall, P. A. Bisson, and J. R. Sedell. 1991. Responses of salmonids to habitat changes. Pages 483-518 in W. R. Meehan, editor. *Influences of forest and rangeland management on salmonid fishes and their habitats*. American Fisheries Society Special Publication No. 19, Bethesda, Maryland.

Hill, M. T., W. S. Platts, and R. L. Beschta. 1991. Ecological and geomorphological concepts for instream and out-of-channel flow requirements. *Rivers* 2: 198-210.

Hillman, T. W., J. S. Griffith, and W. S. Platts. 1987. Summer and winter habitat selection by juvenile chinook salmon in a highly sedimented Idaho stream. *Transactions of the American Fisheries Society* 116: 185-195.

Hindar, K., N. Ryman, and F. Utter. 1991. Genetic effects of cultured fish on natural populations. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 945-957.

Hinsdale, O. H. 1970. Request for \$800,000 budget item to further develop Salmon Harbor. Port of Umpqua Commission.

Hofstra, T. D. 1983. Management alternatives for Redwood Creek Estuary. Redwood National Park, Arcata, California.

Hogan, D. 1986. Large organic debris characteristics in streams affected by logging and mass wasting in order to establish stream rehabilitation criteria. Pages 41-42 in Abstracts of the 1986 Annual Meeting, North Pacific International Chapter, American Fisheries Society, Bellingham, Washington.

Hogan, D. L. 1987. The influence of large organic debris on channel recovery in the Queen Charlotte Islands, British Columbia. Erosion and sedimentation of the Pacific Rim. IAHS Publication No. 1675. International Association of Hydrological Scientists, Corvallis, Oregon.

Holaday, S. 1992. Summertime water temperatures in Steamboat Creek basin, Umpqua National Forest. Master's thesis. Oregon State University, Corvallis.

Holt, R. A., J. E. Sanders, J. L. Zinn, J. L. Fryer, and K. S. Pilcher. 1975. Relation of water temperature to *Flexibacter columnaris* infection in steelhead trout (*Salmo gairdneri*), coho (*Oncorhynchus kisutch*) and chinook (*O. tshawytscha*) salmon. *Journal of the Fisheries Research Board of Canada* 31: 1553-1559.

Holtby, L. B. 1988. Effects of logging on stream temperatures in Carnation Creek, British Columbia, and associated impacts on the coho salmon (*Oncorhynchus kisutch*). *Canadian Journal of Fisheries and Aquatic Sciences* 45: 502-515.

Holtby, L. B., T. B. McMahon, and J. C. Scrivener. 1989. Stream temperatures and inter-annual variability in the emigration timing of coho salmon (*Oncorhynchus kisutch*) smolts and fry and chum salmon (*O. keta*) fry from Carnation Creek, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 1396-1405.

Holthausen, R. S., R. Anthony, K. Aubry, K. Burnett, N. Fredricks, J. Furnish, R. Leshner, E. C. Meslow, M. Raphael, R. Rosentreter, and E. E. Starkey. 1994. Results of additional species analysis. Appendix J2 in USDA Forest Service and USDI Bureau of

Land Management. Final Supplemental Environmental Impact Statement on management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl.

Hooton, B. 1995. Status of sea-run cutthroat trout in Oregon. J. Hall, R. Gresswell and P. Bisson, editors. Sea-run cutthroat trout: biology, management, and future conservation. Proceedings of a symposium held 12-14 October 1995 in Reedsport, Oregon.

Hostetler, S. W. 1991. Analysis and modeling of long-term stream temperatures on the Steamboat Creek basin, Oregon: implications for land use and fish habitat. *Water Resources Bulletin* 27: 637-647.

House, R., V. Crispin, and J. M. Suther. 1991. Habitat and channel changes after rehabilitation of two coastal streams in Oregon. *American Fisheries Society Symposium* 10: 150-159.

House, R. A., and P. L. Boehne. 1987. The effect of stream cleaning on salmonid habitat and populations in a coastal Oregon drainage. *Western Journal of Applied Forestry* 2: 84-87.

House, R. A., and P. L. Boehne. 1986. Effects of instream structures on salmonid habitat and populations in Tobe Creek, Oregon. *North American Journal of Fisheries Management* 6: 38-46.

House, R. A., and P. L. Boehne. 1985. Evaluation of instream enhancement structures for salmonid spawning and rearing in a coastal Oregon stream. *North American Journal of Fisheries Management* 5: 283-295.

Hunt, R. L. 1971. Responses of a brook trout population to habitat development in Lawrence Creek. *Wisconsin Department of Natural Resources Technical Bulletin* 48.

Hunt, R. L. 1976. A long-term evaluation of trout habitat development and its relation to improving management-related research. *Transactions of the American Fisheries Society* 105: 361-364.

Hunter, J. W. 1973. A discussion of game fish in the State of Washington as related to water requirements. Report. Prepared by Washington State Department of Game, Fishery Management Division for Washington State Department of Ecology, Olympia.

Hunter, M. A. 1992. Hydropower flow fluctuations and salmonids: a review of the biological effects, mechanical causes, and options for mitigation. Technical Report No.

119. State of Washington Department of Fisheries, Olympia.

Hussey, T., J. Diedrich, K. Stein, and E. Rybak. 1995. Hydroelectric development and the Northwest Forest Plan. USDA Forest Service, Mt. Baker-Snoqualmie National Forest.

Hynes, H. B. N. 1970. The ecology of running waters. University of Toronto Press.

Jenkins, R. M. 1982. The morphoedaphic index and reservoir fish production. Transactions of the American Fisheries Society 111: 133-140.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final Report. Prepared by California Academy of Sciences, Department of Herpetology, San Francisco and Portland State University, Department of Biology, Portland, Oregon for California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova.

Johnson, D. M., R. R. Petersen, D. R. Lycan, J. W. Sweet, and M. E. Neuhaus. (circa 1985). Atlas of Oregon lakes. Oregon State University Press, Corvallis.

Johnson, O. W., R. S. Waples, T. C. Wainwright, K. G. Neely, F. W. Waknitz, and L. T. Parker. 1994. Status review for Oregon's Umpqua River sea-run cutthroat trout. NOAA Technical Memorandum NMFS-NWFSC-15. National Marine Fisheries Service, Northwest Fisheries Science Center, Coastal Zone and Estuaries Studies Division, Seattle Washington.

Johnson, S. L. 1988. The effects of the 1983 El Nino on Oregon's coho (*Oncorhynchus kisutch*) and chinook (*O. tshawytscha*) salmon. Fisheries Research 6: 105-123.

Johnston, J. M. 1981. Life histories of anadromous cutthroat with emphasis on migratory behavior. Pages 123-127 in E. L. Brannon and E. O. Salo, editors. Proceedings of the salmon and trout migratory behavior symposium. School of Fisheries, University of Washington, Seattle.

Jones, B. E., and H. T. Stearns. 1930. Water-power resources of the Umpqua River and its tributaries, Oregon. Contributions to the hydrology of the United States, 1929 (Pages 221-320), Water-Supply Paper 636-F. U. S. Geological Survey, Washington, D. C.

Jones, C., W. J. McShea, M. J. Conroy, and T. H. Kunz. 1996. Capturing mammals. Pages 115-155 in D. E. Wilson, F. R. Cole, J. D. Nichols, R. Rudran and M. S. Foster, editors. Measuring and monitoring biological diversity: standard methods for mammals. Smithsonian Institute Press, Washington, D.C.

Jones, J. A., and G. E. Grant. 1996. Peak flow response to clear-cutting and roads in small and large basins, western Cascades, Oregon. *Water Resources Research* 32: 959-974.

Jones, M. 1997. Personal communication. Forest hydrologist, USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.

Jones, M. 1995. Written Communication with C. Anderson and K. Carpenter. Forest Hydrologist, USDA Forest Service, Umpqua National Forest.

Jowett, I. G. 1995. Spatial and temporal variability of brown trout abundance: a test of regression models. *Rivers* 5: 1-12.

Jowett, I. G. 1992. Models of the abundance of large brown trout in New Zealand rivers. *North American Journal of Fisheries Management* 12: 417-432.

June, J. 1981. Life history and habitat utilization of cutthroat trout (*Salmo clarki*) in a headwater stream on the Olympic Peninsula, Washington. Master's thesis. University of Washington, Seattle.

Junge, C. O., and A. L. Oakley. 1966. Trends in production rates for upper Columbia River runs of salmon and steelhead and possible effects of changes in turbidity. *Oregon Fish Commission Research Briefs* 12: 22-43.

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: 12-22.

Kauffman, J. B., R. L. Beschta, and W. S. Platts. 1993. Fish habitat improvement projects in the Fifteen Mile Creek and Trout Creek basins of Central Oregon: field review and management recommendations. DOE/BP-18955-1. Bonneville Power Administration, Portland, Oregon.

Keith, A. J. 1995. Effects of disturbance on the trophic structure of an ephemeral California stream. Master's thesis. San Francisco State University, San Francisco, California.

Keesee, B. 1993. PacifiCorp, Roseburg, Oregon (retired). Personal communication with Rich Grost, PacifiCorp.

Keller, E. A., and A. MacDonald. 1995. River channel change: the role of large woody debris. Pages 217-235 in A. Gurnell and G. Petts, editors. *Changing river channels*. John Wiley & Sons, Chichester, England.

Keller, E. A., and F. J. Swanson. 1979. Effects of large organic material on channel form and fluvial processes. *Earth Surface Processes* 4: 361-380.

Keller, E. A., and T. Tally. 1979. Effects of large organic debris on channel form and fluvial processes in the coastal redwood environment. Pages 169-197 in D. D. Rhodes and G. P. Williams, editors. *Adjustments to the fluvial system*. Kendall Hunt, Dubuque, Iowa.

Kendall, C., M. G Sklash, and T. D Bullen. 1995. Isotope tracers of water and solute sources in catchments. Pages 261-303 in S. T. Trudgill, editor. *Solute modeling in catchment systems*. John Wiley & Sons, New York.

Keup, L. E. 1988. Invertebrate fish food resources of lotic environments. *Instream Flow Information Paper 24, Biological Report 88(13)*. U. S. Fish and Wildlife Service, Washington, D. C.

Kim, B.K., A. P Jackman and F. J. Triska. 1990. Modeling transient storage and nitrate uptake kinetics in a flume containing a natural periphyton community. *Water Resour. Res.* 26: 505-515.

Kimsey, J. B., and L. O. Fisk. 1964. *Freshwater nongame fishes of California*. California Department of Fish and Game.

Knox, J. C. 1984. Fluvial responses to small scale climate changes. Pages 318-342 in J. E. Costa and P. J. Fleisher, editors. *Developments and applications of geomorphology*. Springer-Verlag, Berlin.

Kondolf, G. M., and P. R. Wilcock. 1996. The flushing flow problem: defining and evaluating objectives. *Water Resources Research* 32: 2589-2599.

Kondolf, G. M., and E. R. Micheli. 1995. Evaluating stream restoration projects. *Environmental Management* 19: 1-15.

Konecki, J. T., C. A. Woody, and T. P. Quinn. 1995. Influence of temperature on incubation rates of coho salmon (*Oncorhynchus kisutch*) from ten Washington populations. *Northwest Science* 69: 126-132.

Koski, K. V., J. Heifetz, S. Johnson, M. Murphy, and J. Thedinga. 1984. Evaluation of buffer strips for protection of salmonid rearing habitat and implications for enhancement.

Pages 138-155 in T. J. Hassler, editor. Pacific Northwest stream habitat management workshop. California Cooperative Fisheries Unit, Humboldt State University, Arcata, California.

Koski, K. V. 1966. The survival of coho salmon (*Oncorhynchus kisutch*) from egg deposition to emergence in three Oregon coastal streams. Master's thesis. Oregon State University, Corvallis.

Kostow, K., editor. 1995. Biennial report on the status of wild fish in Oregon. Oregon Department of Fish and Wildlife, Portland.

Krokhin, E. M. 1975. Transport of nutrients by salmon migrating from the sea into lakes. Pages 153-156 in A. D. Hasler, editor. Coupling of land and water systems. New York, Springer-Verlag.

Kupferberg, S. J. 1996. Hydrological and geomorphic factors affecting conservation of a river-breeding frog (*Rana boylei*). *Ecological Applications* 6: 1332-1344.

Lahlou, M., S. Choudhury, Y. Wu, and K. Baldwin. 1995. QUAL2E Windows interface user's guide. U. S. Environmental Protection Agency, Office of Water, Washington, D.C.

La Marr, T., and D. Gale. 1991. 1991 Winter steelhead spawning ground surveys conducted on the North Umpqua Ranger District. Progress Report. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Lauer, W. L., G. S. Schuytema, W. D. Sanville, F. S. Stay, and C. F. Powers. 1979. The effects of decreased nutrient loading on the limnology of Diamond Lake, Oregon. Research and Development Report EPA-600/8-79-017a. U. S. Environmental Protection Agency, Corvallis Environmental Research Laboratory, Corvallis, Oregon.

Lauman, J. E., K. E. Thompson, and Jr. J. D. Fortune. 1972. Fish and wildlife resources of the Umpqua basin, Oregon, and their water requirements. Completion report. Prepared for Oregon State Water Resources Board by Oregon State Game Commission, Portland, Oregon.

Lawson, P. W. 1993. Cycles in ocean productivity, trends in habitat quality, and the restoration of salmon runs in Oregon. *Fisheries* (Bethesda) 18: 6-10.

Layzer, J. B., M. E. Gordon, and R. M. Anderson. 1993. Mussels: the forgotten fauna of regulated rivers: a case study of the Caney Fork River. *Regulated Rivers: Research and Management* 8: 63-71.

Layzer, J. B., and L. M. Madison. 1995. Microhabitat use by freshwater mussels and recommendations for determining their instream flow needs. *Regulated Rivers: Research and Management* 10: 329-345.

Lehmkuhl, D. M. 1972. Change in thermal regime as a cause of reduction of benthic fauna downstream of a reservoir. *Journal of the Fisheries Research Board of Canada* 29: 1329-1332.

Leopold, L. B. 1994. *A view of the river*. Harvard University Press, Cambridge, Massachusetts.

Leopold, L. B., M. G. Wolman, and J. P. Miller. 1964. *Fluvial processes in geomorphology*. W. H. Freeman and Company, San Francisco, California.

Lestelle, L. C., and C. J. Cederholm. 1984. Short-term effects of organic debris removal on resident cutthroat trout. Pages 131-140 in W. R. Meehan, T. R. Merrell, Jr., and T. A. Hanley, editors. *Fish and wildlife relationships in old-growth forests*. American Institute of Fishery Research Biologists, Juneau, Alaska.

Levings, C. D., and R. B. Lauzier. 1991. Extensive use of the Fraser River basin as winter habitat by juvenile chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Zoology* 69: 1759-1767.

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., G. A. Lamberti, T. N. Pearsons, C. K. Tait, J. L. Lee and J. C. Buckhouse. 1994. Cumulative effects of riparian disturbances along high desert trout streams of the John Day basin, Oregon. *Trans. Am. Fish. Soc.*, 123: 627-640.

Lienkaemper, G. W., and F. J. Swanson. 1987. Dynamics of large woody debris in streams in old-growth Douglas-fir forests. *Canadian Journal of Forest Research* 17: 150-156.

Lightcap, S. W. 1994. Panther Creek stream survey report: a progress report based upon the compilation and analysis of summer low flow fish habitat inventory data collected in 1990 and 1991. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Lightcap, S. W., and T. J. La Marr. 1993. Fairy Creek basin fish habitat rehabilitation plan. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Ligon, F. K., W. E. Dietrich, and W. J. Trush. 1995. Downstream ecological effects of dams: a geomorphic perspective. *BioScience* 45: 183-192.

Lisle, T. E. 1989. Sediment transport and resulting deposition in spawning gravels, north coastal California. *Water Resources Research* 25: 1303-1319.

Long, L. E., L. S. Saylor, and M. E. Soule. 1995. A pH/UV-B synergism in amphibians. *Conservation Biology* 9(5): 1301-1303.

Loomis, D. 1997. Personal communication. Oregon Department of Fish and Wildlife, Roseburg.

Loomis, D., and R. Anglin. 1992. North Umpqua River management plan. Progress report 1991 1992. Oregon Department of Fish and Wildlife, Portland.

Lower Umpqua Historical Society. 1976. Pictorial history of the lower Umpqua. Reedsport, Oregon.

Lowry, G. R. 1965. Movement of cutthroat trout, *Salmo clarki clarki* (Richardson) in three Oregon coastal streams. *Transactions of the American Fisheries Society* 94: 334-338.

Luedtke, R. J., M. A. Brusven, and F. J. Watts. 1976. Benthic insect community changes in relation to in-stream alterations of a sediment-polluted stream. *Melandria* 23: 21-39.

Lyons, J. K., and R. L. Beschta. 1983. Land use, floods, and channel changes: upper Middle Fork Willamette River, Oregon (1936-1980). *Water Resources Research* 19: 463-471.

Madej, M. A. 1995. Changes in channel-stored sediment, Redwood Creek, northwestern California, 1947 to 1980. Pages O1-O27 in K. M. Nolan, H. M. Kelsey and D. C. Marron, editors. *Geomorphic processes and aquatic habitat in the Redwood Creek basin, northwestern California*. U. S. Geological Survey Professional Paper 1454. Washington, D. C.

Mammal Working Group. 1996. Notes from watershed analysis technical meeting.

- Marion, D. A. 1981. Landslide occurrence in the Blue River drainage, Oregon. Master's thesis. Oregon State University, Corvallis.
- Marsh, M.C. and F. P Gorham. 1905. The gas disease in fishes. U.S. Bureau of Fisheries, Report of the U.S. Commission of Fisheries 1904: 343-376.
- Marshall, D. B., M. W. Chilcote, and H. Weeks. 1996. Species at risk: sensitive, threatened and endangered vertebrates of Oregon. Second edition. Oregon Department of Fish and Wildlife, Portland.
- Marston, R. A. 1982. The geomorphic significance of log steps in forest streams. *Annals of the Association of American Geography* 72: 99-108.
- Mason, J. C. 1976a. Some features of coho salmon, *Oncorhynchus kisutch*, fry emerging from simulated redds and concurrent changes in photobehavior. *Fishery Bulletin* 74: 167-175.
- Mason, J. C. 1976b. Response of underyearling coho salmon to supplemental feeding in a natural stream. *Journal of Wildlife Management* 40: 775-788.
- Mason, J. C. 1974. A further appraisal of the response to supplemental feeding of juvenile coho (*O. kisutch*) in an experimental stream. Technical Report 470. Fisheries and Marine Service, Pacific Biological Station, Nanaimo, British Columbia.
- Mason, J. C., and D. W. Chapman. 1965. Significance of early emergence, environmental rearing capacity and behavioral ecology of juvenile coho salmon in stream channels. *Journal of the Fisheries Research Board of Canada* 22: 173-190.
- Mathisen, O. A. 1972. Biogenic enrichment of sockeye salmon lakes and stock productivity. *Verh. Int. Ver. Limnol.* 18:1089-1095.
- Mathur, D., W. H. Bason, Jr. E. J. Purdy, and C. A. Silver. 1985. A critique of the Instream Flow Incremental Methodology. *Canadian Journal of Fisheries and Aquatic Sciences* 42: 825-831.
- Mattax, B. L. 1997. Personal communication, Harza Northwest, Bellingham, Washington. 6 October.
- McBain & Trush. 1997. Unpublished data. 824 L Street, Studio 5, Arcata, California 95521.
- McCabe, G. T., Jr., C. W. Long, and S. L. Leek. 1983. Survival and homing of juvenile coho salmon, *Oncorhynchus kisutch*, transported by barge. *Fishery Bulletin* 81: 412-15.

- McCabe, G. T., Jr., W. D. Muir, R. L. Emmett, and J. T. Durkin. 1983. Interrelationships between juvenile salmonids and nonsalmonid fish in the Columbia River estuary. *Fishery Bulletin* 81: 815-826.
- McCain, M. E. 1992. Comparison of habitat use and availability for juvenile fall chinook salmon in a tributary of the Smith River, California. *FHR Currents* No. 7. USDA Forest Service, Region 5.
- McDade, M. H., F. J. Swanson, W. A. McKee, J. F. Franklin, and J. Van Sickle. 1990. Source distances for coarse woody debris entering small streams in western Oregon and Washington. *Canadian Journal of Forest Research* 20: 326-330.
- McFadden, J. T. 1969. Dynamics and regulation of salmonid populations in streams. Pages 313-329 in T. G. Northcote, editor. *Symposium on salmon and trout in streams*. H. R. MacMillan Lectures in Fisheries, University of British Columbia, Vancouver.
- McGie, A. 1982. Stock-recruitment analysis of spring chinook salmon in the North Fork Umpqua River. Memorandum. Oregon Department of Fish and Wildlife, Roseburg. 27 December.
- McMahon, T. E. 1983. Habitat suitability index models: coho salmon. Report FWS/OBS-82/10.49. U. S. Fish and Wildlife Service, Western Energy and Land Use Team, Washington, D. C.
- McMahon, T. E., and L. B. Holtby. 1992. Behaviour, habitat use, and movements of coho salmon (*Oncorhynchus kisutch*) smolts during seaward migration. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 1478-1485.
- McMahon, T., and G. Reeves. 1989. Large woody debris and fish. Paper presented at the COPE workshop "Silvicultural management of riparian areas for multiple resources" held at Salishan Lodge, Gleneden Beach, Oregon on 12-13 December 1989. U. S. Forest Service Pacific Northwest Research Station, Portland and Oregon State University College of Forestry, Corvallis.
- McNeil, W. J., and W. H. Ahnell. 1964. Success of pink salmon spawning relative to size of spawning bed materials. Special Scientific Report - Fisheries 469. U. S. Fish and Wildlife Service.
- Meehan, W. R., editor. 1991. Influences of forest and rangeland management on salmonid fishes and their habitats. Bethesda, Maryland, American Fisheries Society Special Publication No. 19.

Meehan, W. R., and T. C. Bjornn. 1991. Salmonid distributions and life histories. Pages 47-82 in W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19, Bethesda, Maryland.

Meehan, W. R., F. J. Swanson, and J. R. Sedell. 1977. Influences of riparian vegetation on aquatic ecosystems with particular reference to salmonid fishes and their food supply. Pages 137-145 in Symposium on the importance, preservation, and management of the riparian habitat.

Megahan and Kidd 1972. Effects of logging and logging roads on erosion and sediment deposition from steep terrain. Journal of Forestry 70:136-141.

Meighan, C. W. 1995. Pacific Coast archaeology. Pages 709-720 in H. E. Wright and D. G. Frey, editors. The Quaternary of the United States. Princeton University Press, Princeton, New Jersey.

Meracle, C. 1997. PacifiCorp, Toketee, Oregon. Personal communication with Rich Grost, PacifiCorp. 15 April.

Metter, D. E. 1964. A morphological and ecological comparison of two populations of the tailed frog *Ascaphus truei* Stejneger. Copeia 1964: 181-195.

Metter, D. E. 1968. The influence of floods on population structure of *Ascaphus truei* Stejneger. Journal of Herpetology 1: 105-106.

Meyer, K. A., and J. S. Griffith. 1997. Effects of cobble-boulder substrate configuration on winter residency of juvenile rainbow trout. North American Journal of Fisheries Management 17: 77-84.

Milhous, R. T. 1982. Effect of sediment transport and flow regulation on the ecology of gravel-bed rivers. Pages 819-841 in R. D. Hey, J. C. Bathurst and C. R. Thorne, editors. Gravel bed rivers. John Wiley and Sons, New York.

Mills, M. 1994. Re: Relicensing of the North Umpqua Hydroelectric Project. Letter to S. A. deSousa, Director, Hydro Resources, Portland, Oregon. From The Steamboaters, Idleyld Park, Oregon. 15 November.

Minshall, G. W. 1984. Aquatic insect-substratum relationships. Pages 358-400 in V. H. Resh and D. M. Rosenberg, editors. The ecology of aquatic insects. Praeger, New York.

- Minshall, G. W., and P. V. Winger. 1968. The effect of reduction in stream flow on invertebrate drift. *Ecology* 49: 580-582.
- Mires, Jerry. 1997. Biologist, USDI Bureau of Land Management, Roseburg, Oregon, Personal communication.
- Mizell, M. W. 1996. Comments for issues to be raised in FERC's environmental impact statement. Letter to FERC. 6 June.
- Montgomery, D. R., T. B. Abbe, J. M. Buffington, N. P. Peterson, K. M. Schmidt, and J. D. Stock. 1996. Distribution of bedrock and alluvial channels in forested mountain drainage basins. *Nature* 381: 587-589.
- Montgomery, D. R., J. M. Buffington, R. D. Smith, K. M. Schmidt, and G. Pess. 1995. Pool spacing in forest channels. *Water Resources Research* 31: 1097-1105.
- Montgomery, D. R., and W. E. Dietrich. 1994. A physically based model for the topographic control on shallow landsliding. *Water Resources Research* 30: 1153-1171.
- Montgomery, D. R., and J. M. Buffington. 1993. Channel classification, prediction of channel response, and assessment of channel condition. Report No. TFW-SH10-93-002. Prepared by Department of Geological Sciences and Quaternary Research Center, University of Washington, Seattle for SHAMW Committee of the Timber/Fish/Wildlife Agreement, Washington Department of Natural Resources, Olympia.
- Moog, O. 1993. Quantification of daily peak hydropower effects on aquatic fauna and management to minimize environmental impacts. *Regulated Rivers: Research and Management* 8: 5-14.
- Moore, D. G. 1975. Effects of forest fertilization with urea on stream water quality--Quilcene Ranger District, Washington. Research Note PNW-241. USDA Forest Service.
- Moore, K. M. S., and S. V. Gregory. 1988. Summer habitat utilization and ecology of cutthroat trout fry (*Salmo clarki*) in Cascade Mountain streams. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 1921-1930.
- Morgan, A., and F. Hinojosa. 1996. Literature review and monitoring recommendations for salmonid winter habitat. TFW-AM9-96-004. Prepared by Northwest Indian Fisheries Commission and Grays Harbor College for Timber Fish Wildlife Ambient Monitoring Program.

Moring, J. R., and R. L. Lantz. 1975. The Alsea watershed study: effects of logging on the aquatic resources of three headwater streams of the Alsea River, Oregon. Fishery Research Report 9. Oregon Department of Fish and Wildlife, Portland, Oregon.

Moring, J. R., and R. L. Lantz. 1974. Immediate effects of logging on the freshwater environment of salmonids. Report 58. Oregon Wildlife Commission, Research Division, Portland.

Morrison, P. H. 1975. Ecological and geomorphological consequences of mass movement in the Alder Creek watershed and implications for forest land management. Bachelor thesis. University of Oregon.

Moyle, P. B. 1976. Inland fishes of California. First edition. University of California Press, Berkeley.

Moyle, P. B. and G. M. Sato. 1991. On the design of preserves to protect native fishes. Pages 155-169 in W. L. Minckley and J. E. Deacon, editors. Battle against extinction: Native fish management in the American West. University of Arizona Press, Tucson.

Muhs, D. R., R. M. Thorson, J. J. Clague, W. H. Matthews, P. F. McDowell, and H. M. Kelsey. 1987. Pacific Coast and mountain system. Pages 517-581 in W. L. Graf, editor. Geomorphic systems of North America. Geological Society of America, Boulder, Colorado.

Mulholland, P. J., E. R. Marzolf, S. P. Hendricks, R. V. Wilkerson, and A. K. Baybayan. 1995. Longitudinal patterns of nutrient cycling and periphyton characteristics in streams: a test of upstream-downstream linkage. *Journal of the North American Benthological Society* 14: 357-370.

Murphy, M. L., and K. V. Koski. 1989. Input and depletion of woody debris in Alaska streams and implications for streamside management. *North American Journal of Fisheries Management* 9: 427-436.

Naiman, R. J., D. G. Lonzarich, T. J. Beechie, and S. C. Ralph. 1992. General principles of classification and the assessment of conservation potential in rivers. Pages 93-123 in P. J. Boon, P. Calow and G. E. Petts, editors. River conservation and management. John Wiley and Sons, Inc., New York.

Nakamura, F., and F. J. Swanson. 1993. Effects of coarse woody debris on morphology and sediment storage of a mountain stream system in western Oregon. *Earth Surface Processes and Landforms* 18: 43-61.

Neal, C. 1995. Retired fish and game enforcement officer. Salem, Oregon.

Nehlsen, W., J. E. Williams, and J. A. Lichatowich. 1991. Pacific salmon at the crossroads: stocks at risk from California, Oregon, Idaho, and Washington. *Fisheries* 16: 4-21.

Nehring, R. B., and R. M. Anderson. 1993. Determination of population-limiting critical salmonid habitats in Colorado streams using the Physical Habitat Simulation system. *Rivers* 4: 1-19.

Newcombe, C. P., and D. D. MacDonald. 1991. Effects of suspended sediments on aquatic ecosystems. *North American Journal of Fisheries Management* 11: 72-82.

Nicholas, J. 1988. Comprehensive plan for production and management of Oregon's anadromous salmon and trout. Part IV. Coastal chinook salmon plan. Draft Report Oregon Department of Fish and Wildlife, Research and Development Section, Corvallis.

Nicholas, J. W., and D. G. Hankin. 1989a. Chinook salmon populations in Oregon coastal river basins: descriptions of life histories and assessment of recent trends in run strengths. Report EM 8402. Oregon Department of Fish and Wildlife, Research and Development Section, Corvallis.

Nicholas, J. W., and D. G. Hankin. 1989b. Oceanic migration patterns of Oregon coastal chinook salmon stocks. Pages 189-196 in B. G. Shepherd, editor. Proceedings of the 1988 Northeast Pacific chinook and coho salmon workshop. American Fisheries Society, North Pacific International Chapter.

Nickelson, T. E. 1986. Influences of upwelling, ocean temperature, and smolt abundance on marine survival of coho salmon (*Oncorhynchus kisutch*) in the Oregon Production Area. *Canadian Journal of Fisheries and Aquatic Sciences* 43: 527-535.

Nickelson, T. E., M. F. Solazzi, S. L. Johnson, and J. D. Rodgers. 1992. An approach to determining stream carrying capacity and limiting habitat for coho salmon (*Oncorhynchus kisutch*). Pages 1-12 in L. Berg and P. W. Delaney, editors. Proceedings of the coho workshop. Pacific Biological Station, Nanaimo, British Columbia.

Nickelson, T. E., M. F. Solazzi, and S. L. Johnson. 1986. Use of hatchery coho salmon (*Oncorhynchus kisutch*) presmolts to rebuild wild populations in Oregon coastal streams. *Canadian Journal of Fisheries and Aquatic Sciences* 43: 2443-2449.

- Nickelson, T. E., W. M. Beidler, M. Willard, and M. J. Willis. 1979. Streamflow requirements of salmonids. Final Report, Federal Air Project, AFS-62. Oregon Department of Fish and Wildlife.
- Nielsen, J. L. 1992. Microhabitat-specific foraging behavior, diet, and growth of juvenile coho salmon. *Transactions of the American Fisheries Society* 121: 617-634.
- NMFS (National Marine Fisheries Service). 1996a. Endangered and threatened species; endangered status for Umpqua River cutthroat trout in Oregon. *Federal Register* 61: 41514-41522.
- NMFS (National Marine Fisheries Service). 1996b. Factors for decline: a supplement to the notice of determination for West Coast steelhead under the Endangered Species Act. NMFS, Protected Species Branch, Portland, Oregon and NMFS, Protected Species Management Division, Long Beach, California.
- NMFS (National Marine Fisheries Service). 1995a. Endangered and threatened species; proposed threatened status for three contiguous ESUs of coho salmon ranging from Oregon through central California. *Federal Register* 60: 38011-38030.
- NMFS (National Marine Fisheries Service). 1995b. National Marine Fisheries Service additional studies request for the North Umpqua Hydroelectric Project (FERC Project No. 1927). NMFS, Environmental and Technical Services Division, Portland, Oregon.
- NOAA Technical Memorandum NMFS-NWFSC-15. National Marine Fisheries Service, Northwest Fisheries Science Center, Coastal Zone and Estuaries Studies Division, Seattle, Washington.
- Noggle, C. C. 1978. Behavioral, physiological and lethal effects of suspended sediment on juvenile salmonids. Master's thesis. University of Washington, Seattle.
- North Umpqua Ranger District Fisheries Program (NURDFP). 1996. Prioritization of sub-basins for watershed restoration in Steamboat Creek basin. USDA Forest Service, North Umpqua Ranger District, Glide, Oregon.
- Nussbaum, R. A., E. D. Brodie, Jr., and R. M. Storm. 1983. Amphibians and reptiles of the Pacific Northwest. University of Idaho Press, Moscow, Idaho.
- Nussbaum, R. A., and C. K. Tait. 1977. Aspects of the life history and ecology of the Olympic salamander, *Rhyacotriton olympicus* (Gage). *American Midland Naturalist* 98: 176-199.

O'Connor, M., and R. D. Harr. 1994. Bedload transport and large organic debris in steep mountain streams in forested watersheds on the Olympic Peninsula, Washington. Final Report No. TFW-SH7-94-001. Prepared by College of Forest Resources, University of Washington, Seattle and USDA Forest Service, Pacific Northwest Research Station for Sediment, Hydrology and Mass Wasting Steering Committee of the Timber/Fish/Wildlife Agreement, Washington Department of Natural Resources, Olympia.

OCSRI Science Team. 1993. Oregon coastal salmon restoration initiative: Oregon's plan for conservation and restoration of anadromous salmonids in coastal river basins. Final Report.

ODEQ (Oregon Department of Environmental Quality). 1996. Umpqua Basin water quality standards. Portland.

ODF (Oregon Department of Fish). 1903. Annual Reports of the Department of Fisheries of the State of Oregon.

ODFW (Oregon Department of Fish and Wildlife). 1998. Data on anadromous fish escapements in the Umpqua River basin. ODFW, Portland.

ODFW (Oregon Department of Fish and Wildlife). 1997a. Aquatic Inventory Project stream reports for North Umpqua River basin streams. Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1997b. North Umpqua River basin fish presence/absence survey data and maps. ODFW, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1997c. Oregon sport fishing regulations. WJF Marketing Services, Inc. Lebanon, Oregon.

ODFW (Oregon Department of Fish and Wildlife). 1996. North Umpqua River basin stream surveys. ODFW, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1986. North Umpqua River (below Soda Springs Dam) Fish Management Plan. ODFW, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1984. Proposed management plan--Toketee Reservoir. ODFW, Umpqua District, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1983. North Umpqua River (below Soda Springs Dam). Draft Fish Management Plan. Second public review draft. ODFW, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1980. Fish Management Plan--Lemolo Reservoir. ODFW, Umpqua District, Roseburg.

ODFW (Oregon Department of Fish and Wildlife). 1979. Natural resources of Umpqua Estuary. Estuary Inventory Report Vol. 2, No. 5. ODFW, Research and Development Section, Portland, Oregon.

ONHP (Oregon Natural Heritage Program). 1995. Rare, threatened and endangered plants and animals of Oregon. A cooperative project of The Nature Conservancy and the State of Oregon. Portland, Oregon.

Orsborn, J. F., and P. D. Powers. 1985. Fishways an assessment of their development and design. Part 3. Final Report Project No. 82-14. Prepared by Albrook Hydraulics Laboratory, Washington State University, Pullman for Bonneville Power Administration, Portland, Oregon.

Orth, D. J. 1987. Ecological considerations in the development and application of instream flow-habitat models. *Regulated Rivers: Research & Management* 1: 171-181.

Orth, D. J., and O. E. Maughan. 1986. In defense of the Instream Flow Incremental Methodology. *Canadian Journal of Fisheries and Aquatic Sciences* 43: 1092-1093.

Osborn, J. G. 1981. The effects of logging on cutthroat trout (*Salmo clarki*) in small headwater streams. Report FRI-UW-8113. Fisheries Research Institute, University of Washington, Seattle.

Osterkamp, W. R., and C. R. Hupp. 1987. Dating and interpretation of debris flows by geologic and botanical methods at Whitney Creek Gorge, Mount Shasta, California. *Reviews in Engineering Geology (Geological Society of America)* 8: 157-163.

Otto, R. G. 1971. Effects of salinity on the survival and growth of pre-smolt salmon (*Oncorhynchus kisutch*). *Journal of the Fisheries Research Board of Canada* 28: 343-349.

Pacificorp. 1997. Wildlife enhancement conceptual design and cost estimates. Final draft (May 1997). Prepared by Raytheon Corp.

PacifiCorp. 1996. Ongoing water quality and aquatic studies-1995 report. North Umpqua Hydroelectric Project, FERC Project No. 1927, Douglas County, Oregon. Portland, Oregon.

PacifiCorp. 1995. Application for new license for major modified project. North Umpqua Hydroelectric Project, FERC Project No. 1927, Douglas County, Oregon. Portland, Oregon.

Pauley, G. B. 1967. Prespawning adult salmon mortality associated with a fungus of the genus *Dermocystidium*. *Journal of the Fisheries Research of Canada* 24: 843-848.

Pauley, G. B., and R. E. Nakatani. 1967. Histopathology of "gas-bubble" disease in salmon fingerlings. *Journal of the Fisheries Research of Canada* 24: 867-871.

Pearcy, W. G. et al. 1992. Oregon Coastal Natural Coho Review Team report: an assessment of the status of the Oregon Coastal Natural coho stock as required under the definition of overfishing. Pacific Fishery Management Council, Portland, Oregon.

Peck, D. L., A. B. Griggs, H. G. Schlicker, F. G. Wells, and H. M. Dole. 1964. Geology of the central and northern parts of the western Cascade Range in Oregon. Map scale 1:250,000. Professional Paper No. 449. U. S. Geological Survey.

Peterman, R. M. 1982. Model of salmon age structure and its use in preseason forecasting and studies of marine survival. *Canadian Journal of Fisheries and Aquatic Sciences* 39: 1444-1452.

Peters, J. C. 1965. The effects of stream sedimentation on trout embryo survival. Pages 275-279 in C. M. Tarzwell, editor. *Transactions of the 3rd seminar on biological problems in water pollution*. Publication No. 999-WP-25. U. S. Public Health Service, Robert Taft Engineering Center, Cincinnati, Ohio.

Peterson, N. P., and L. M. Reid. 1984. Wall-base channels: their evolution, distribution, and use by juvenile coho salmon in the Clearwater River, Washington. Pages 215-225 in J. M. Walton and D. B. Houston, editors. *Proceedings of the Olympic wild fish conference*. Fisheries Technology Program, Peninsula College, Port Angeles, Washington.

Peterson, N. P., and T. P. Quinn. 1994. Winter survival of coho salmon in Big Beef Creek. Part B. The influence of habitat complexity and fish size on over-winter survival and growth of individually-marked juvenile coho salmon in Big Beef Creek. Pages 62-75 in T. P. Quinn and N. P. Peterson, editors. *The effects of forest practices on fish populations*. Timber/Fish/ Wildlife Report No. TFW-F4-94-oo1. Washington Department of Natural Resources, Olympia.

Phillips, R. W., R. L. Lantz, E. W. Claire, and J. R. Moring. 1975. Some effects of gravel mixtures on emergence of coho salmon and steelhead trout fry. *Transactions of the American Fisheries Society* 104: 461-466.

Plante, C., and J. A. Downing. 1993. Relationship of salmonine production to lake trophic status and temperature. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 1324-1328.

Platts, W. S., M. A. Shirazi, and D. H. Lewis. 1979. Sediment particle sizes used by salmon for spawning with methods for evaluation. *Ecological Research Series EPA-600/3-79-043*. U. S. Environmental Protection Agency, Corvallis Environmental Research Laboratory, Corvallis, Oregon.

Plumlee, D. 1997. Personal communication. Area Operator, North Umpqua Hydroelectric Project. Toketee, Oregon.

Poff, N. L., and J. V. Ward. 1989. Implications of streamflow variability and predictability for lotic community structure: a regional analysis of streamflow patterns. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 1805-1818.

Potts, D. F., and B. K. M. Anderson. 1990. Organic debris and the management of small stream channels. *Western Journal of Applied Forestry* 5: 25-28.

Powell, M. 1997. Steamboat Creek water quality study, 1996. *Colliding Rivers Research, Inc.*, Corvallis, Oregon.

Powell, M. 1997. Personal communication. *Colliding Rivers Research, Inc.*, Corvallis, Oregon.

Powell, M. 1996. Recovery of Oregon's coastal salmonids. *Colliding Rivers Research, Inc.*, Corvallis, Oregon.

Power, M. E. 1996. Trophic dynamics in a watershed context: the impacts of productivity and hydrologic disturbance on food webs in natural and managed rivers and watersheds. Proposal to the National Science Foundation.

Power, M. E., W. E. Dietrich, and J. C. Finlay. 1996. Dams and downstream aquatic biodiversity: potential food web consequences of hydrologic and geomorphic change. 20: 887-895.

Power, M. E., R. J. Stout, C. E. Cushing, P. P. Harper, F. R. Hauer, W. J. Matthews, P. B. Moyle, B. Statzner, and I. R. Wais De Badgen. 1988. Biotic and abiotic controls in river and stream communities. *Journal of the North American Benthological Society* 7:

456-479.

Powers, P. D., and J. F. Orsborn. 1985. Analysis of barriers to upstream fish migration: an investigation of the physical and biological conditions affecting fish passage success at culverts and waterfalls. Final Project Report Development of New Concepts in Fishladder Design, Part 4 of 4, Project No. 83-14. Prepared by Albrook Hydraulics Laboratory, Washington State University, Pullman for Bonneville Power Administration, Portland, Oregon.

Puckett, L. K. 1977. The Eel River estuary-observations on morphometry, fishes, water quality, and invertebrates. Memorandum Report, 52 p. California Department of Fish and Game.

Pynnonen, K. S., and J. Huebner. 1995. Effects of episodic low pH exposure on the valve movements of the freshwater bivalve *Anodonta cygnea* L. Water Research 29: 2579-2582.

Quinn, W. H., V. T. Neal, and S. E. Antunez de Mayolo. 1986. Preliminary report on El Niño occurrences over the past four and a half centuries. Reference 86-16, National Science Foundation No. ATM-85 15014. College of Oceanography, Oregon State University, Corvallis, Oregon.

Raleigh, R. F., T. Hickman, R. C. Solomon, and P. C. Nelson. 1984. Habitat suitability information: rainbow trout. FWS/OBS-82/10.60. U. S. Fish and Wildlife Service, Washington, D. C.

Ratner, S., R. Lande, and B. B. Roper. 1997. Population viability analysis of spring chinook salmon in the South Umpqua River, Oregon. Conservation Biology.

Redmond, K. 1993. Climate variability at Crater Lake National Park and its effect upon water level. Final technical Report No. NPS/PNR/PNROSU/NRTR-93/03. G.L. Larson, C.D. McIntire and R. W. Jacobs, editors. Crater Lake limnological studies. National Park Service, Seattle, Washington.

Reedy, G. D. 1995. Summer abundance and distribution of juvenile chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*) in the Middle Fork Smith River, California. Master's thesis. Humboldt State University, Arcata, California.

Reeves, G. H., L. E. Benda, K. M. 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.

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. Transactions of the North American Wildlife and Natural Resources Conference 1992: 408-415.

Reeves, G. H., J. D. Hall, T. D. Roelofs, T. L. Hickman, and C. O. Baker. 1991. Rehabilitating and modifying stream habitats. Pages 519-557 in W. R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication No. 19.

Reeves, G. H., F. H. Everest, and J. D. Hall. 1987. Interactions between the redbside shiner (*Richardsonius baltectus*) and the steelhead trout (*Salmo gairdneri*) in western Oregon: the influence of water temperature. Canadian Journal of Fisheries and Aquatic Sciences 44: 1603-1613.

Reid, L. M., and T. Dunne. 1984. Sediment production from forest road surfaces. Water Resources Research 20: 1753-1761.

Reisenbichler, R. R. 1997. Genetic factors contributing to declines of anadromous salmonids in the Pacific Northwest. Pages 223-244 in D. J. Stouder, P. A. Bisson and R. J. Naiman, editors. Pacific salmon and their ecosystems: status and future options. Chapman and Hall, New York.

Reiser, D. W., M. P. Ramey, and T. A. Wesche. 1989. Flushing flows. Pages 91-135 in J. A. Gore and G. E. Petts, editors. Alternatives in regulated river management. CRC Press, Boca Raton, Florida.

Reiser, D. W., and R. G. White. 1983. Effects of complete redd dewatering on salmonid egg hatching success and development of juveniles. Transactions of the American Fisheries Society 112: 532-540.

Reneau, S. L., W. E. Dietrich, M. Rubin, D. J. Donahue, and A. J. T. Jull. 1989. Analysis of hillslope erosion rates using dated colluvial deposits. Journal of Geology 97: 45-63.

Rhodes, J., C. M. Skau, D. Greenlee, and D. L. Brown. 1985. Quantification of nitrate uptake by riparian forests and wetlands in an undisturbed headwaters watershed. General Technical Report RM-120. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Rich, A. A. 1987. Report on studies conducted by Sacramento County to determine the temperatures which optimize growth and survival in juvenile chinook salmon (*Oncorhynchus tshawytscha*). Prepared for McDonough, Holland and Allen,

Sacramento, California by A. A. Rich and associates, San Rafael.

Richmond, A. D., and K. D. Fausch. 1995. Characteristics and function of large woody debris in subalpine Rocky Mountain streams in northern Colorado. *Canadian Journal of Fisheries and Aquatic Sciences* 52: 1789-1802.

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.

Richter, K. O and A. L. Azous. 1995. Amphibian occurrence and wetland characteristics in the Puget Sound basin. *Wetlands* 15(3): 305-312.

Ricker, W. E. 1981. Changes in the average size and average age of Pacific salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 38: 1636-1656.

RIEC (Regional Interagency Executive Committee). 1995. Ecosystem analysis at the watershed scale-federal guide for watershed analysis. Version 2.2. Portland, Oregon.

Rinella, J. F. 1986. Analysis of fixed-station water-quality data in the Umpqua River basin, Oregon. Water-Resources Investigations Report 85-4253. U. S. Geological Survey, Portland, Oregon.

Roberts, R. J. 1975. The effects of temperature on diseases and their histopathological manifestations in fish. Pages 477-496 *in* W. E. Ribelin and G. Migaki, editors. *The pathology of fishes*. The University of Wisconsin Press, Madison.

Robison, E. G., and R. L. Beschta. 1990. Characteristics of coarse woody debris for several coastal streams of southeast Alaska, USA. *Canadian Journal of Fisheries and Aquatic Sciences* 47: 1684-1693.

Rodgers, J. D. 1986. The winter distribution, movement, and smolt transformation of juvenile coho salmon in an Oregon coastal stream. Master's thesis. Oregon State University, Corvallis.

Roelofs, T. 1997. Personal communication. Humboldt State University, Arcata, California.

Roelofs, T. D. 1985. Steelhead by the seasons. *The News-Review*, 31 October, A4; A8.

Roemmich, D. 1992. Ocean warming and sea level rise along the southwest U. S. coast. *Science* 257: 373-375.

Roper, B. B., J. J. Dose, and J. E. Williams. 1997. Stream restoration: is fisheries biology enough? *Fisheries* 22: 6-11.

Roper, B. R., D. L. Scarnecchia, and T. J. La Marr. 1994. Summer distribution of and habitat use by chinook salmon and steelhead within a major basin of the South Umpqua River, Oregon. *Transactions of the American Fisheries Society* 123: 298-308.

Rosgen, D. L. 1994. A classification of natural rivers. *Catena* 22: 169-199.

Ruggiero, L. F., K. B. Aubry, S. W. Buskirk, L. J. Lyon, and W. J. Zielinski. 1994. The scientific basis for conserving forest carnivores: American marten, fisher, lynx, and wolverine in the western United States. General Technical Report RM-254. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

Ryder, R. A. 1965. A method for estimating the potential fish production of north temperate lakes. *Transactions of the American Fisheries Society* 94: 214-218.

Ryder, R. A., S. R. Kerr, and K. H. Loftus. 1974. The morphoedaphic index, a fish yield estimator-review and evaluation. *Journal of the Fisheries Research Board of Canada* 31: 663-688.

Salinas, J. T., and D. W. Larson. 1995. Diamond Lake, Umpqua National Forest--limnological and bacteriological investigations: 1992-1994. Final Report CAS-9501. Prepared by Cascade Research Group, Murphy, Oregon and Portland State University, Department of Biology, Portland, Oregon.

Sandercock, F. K. 1991. Life history of coho salmon (*Oncorhynchus kisutch*). Pages 397-445 in C. Groot and L. Margolis, editors. *Pacific salmon life histories*. University of British Columbia Press, Vancouver, B. C.

Sayen, J. 1996. Limitations of conservation easements. *Wild Earth*. pp. 77-78.

Schumm, S. A. 1965. Quaternary paleohydrology. Pages 783-794 in H. E. Wright and D. G. Frey, editors. *The Quaternary of the United States*. Princeton University Press, Princeton, New Jersey.

Scott, D. 1996. The angler's catch: a three-year study of the catch of sports fish in Lake Dunstan. Report to the Cluthra Sports Fishery Trust, New Zealand.

Scott, D., and C. S. Shirvell. 1987. A critique of the Instream Flow Incremental Methodology and observations on flow determination in New Zealand. J. F. Craig and J. B. Kemper, editors. Regulated Rivers. Plenum.

Scott, W. B., and E. J. Crossman. 1973. Freshwater fishes of North America. Holt, Rinehart and Winston, New York.

Scrivener, J. C., and B. C. Anderson. 1984. Logging impacts and some mechanisms that determine the size of spring and summer populations of coho salmon fry (*Oncorhynchus kisutch*) in Carnation Creek, British Columbia. Canadian Journal of Fisheries and Aquatic Sciences 41: 1097-1105.

Sedell, J. R., and R. L. Beschta. 1991. Bringing back the "bio" in engineering. American Fisheries Society Symposium 10: 160-175.

Seymour, A. H. 1956. Effects of temperature upon young chinook salmon. Doctoral dissertation. University of Washington, Seattle.

Shapovalov, L., and A. C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri gairdneri*) and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. Fish Bulletin 98. California Department of Fish and Game.

Sherrod, D. R. 1991. Geologic map of a part of the Cascade Range between latitudes 42° and 44° North, central Oregon. Miscellaneous Investigation Series Map I-1891; Map scale 1:125,000. U. S. Geological Survey.

Sherrod, D. R. 1986. Geology, petrology, and volcanic history of a portion of the Cascade Range between latitudes 43° to 44° N, central Oregon, USA. Doctoral dissertation. University of California, Santa Barbara.

Sherrod, D. R., S. E. Ingebritsen, J. M. Curless, T. E. C. Keith, N. M. Diaz, T. G. DeRoo, and S. L. Hurlocker. 1996. Water, rocks, and woods--a field excursion to examine the geology, hydrology, and geothermal resources in the Clackamas, North Santiam, and McKenzie river drainages, Cascade Range, Oregon. Oregon Geology 58: 103-124.

Shirvell, C. S. 1990. Role of instream rootwads as juvenile coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*O. mykiss*) cover habitat under varying streamflows. Canadian Journal of Fisheries and Aquatic Sciences 47: 852-861.

Shumway, D. L., C. E. Warren, and P. Doudoroff. 1964. Influence of oxygen concentration and water movement on the growth of steelhead trout and coho salmon

embryos. Transactions of the American Fisheries Society 93: 342-356.

Sidle, R. C., A. J. Pearce, and C. L. O'Loughlin. 1985. Hillslope stability and land use. American Geophysical Union Water Resources Monograph 11: 140 p.

Sigler, J. W., T. C. Bjornn, and F. H. Everest. 1984. Effects of chronic turbidity on density and growth of steelheads and coho salmon. Transactions of the American Fisheries Society 113: 142-150.

Silver, S. J., C. E. Warren, and P. Doudoroff. 1963. Dissolved oxygen requirements of developing steelhead trout and chinook salmon embryos at different velocities. Transactions of the American Fisheries Society 92: 327-343.

Skaugset, A. E., D. S. Bateman, L. Dent, and P. J. Connolly. 1996. The effect of woody debris piece size and orientation on aquatic habitat in Oregon Coast Range headwater streams. Page 207 in Abstracts: Salmonid habitat: operational solutions to problems in forested streams. Proceedings of the 10th international stream habitat improvement conference. Oregon State University, Forest Engineering Department and Adaptive COPE Program, Corvallis; American Fisheries Society, Fisheries Management and Bioengineering Sections and the Portland Chapter, and Oregon Forest Resources Institute.

Slaney, P. A., and T. G. Northcote. 1974. Effects of prey abundance on density and territorial behavior of young rainbow trout (*Salmo gairdneri*) in laboratory stream channels. Journal of the Fisheries Research Board of Canada 31: 1201-1209.

Smith, J. J. 1987. Aquatic habitat and fish utilization of Pescadero, San Gregorio, Waddell, and Pomponio Creek estuary/lagoon systems. Interagency Agreement No. 4-823-6004. Report to California Department of Parks and Recreation. 35 p.

Smith, O. R. 1941. The spawning habits of cutthroat and eastern brook trouts. Journal of Wildlife Management 5: 461-471.

Smith, R. H. 1991. Rainbow trout *Oncorhynchus mykiss*. Pages 304-323 in J. Stolz and J. Schnell, editors. Trout. Stackpole Books, Harrisburg, Pennsylvania.

Smith, R. W., and J. S. Griffith. 1994. Survival of rainbow trout during their first winter in the Henrys Fork of the Snake River, Idaho. Transactions of the American Fisheries Society 123: 747-756.

Sorenson, D. L., M. M. McCarthy, E. J. Middlebrooks, and D. B. Porcella. 1977. Suspended and dissolved solids effects on freshwater biota: a review. Research Report E. T. A.-600/3-77-042. Environmental Protection Agency, Office of Research and Development.

Sparks, R. E. 1992. Risks of altering the hydrologic regime of large rivers. Pages 119-152 in J. J. Cairns, B. R. Niederlehner and D. R. Orvos, editor. Advances in modern environmental toxicology. Volume 20: Predicting ecosystem risk. Princeton Scientific Publishing Company.

Spence, B. C., G. A. Lomnický, R. M. Hughes, and R. P. Novitzki. 1996. An ecosystem approach to salmonid conservation. Draft Report No. TR-4501-96-6057. ManTech Environmental Research Services Corporation, Corvallis, Oregon.

Stalnaker, C., B. L. Lamb, J. Henriksen, K. Bovee, and J. Bartholow. 1995. The instream flow incremental methodology: a primer for IFIM. Biological Report 29. National Biological Service, Washington, D. C.

Stanford, J. A. and J. V. Ward. 1983. Insect species diversity as a function of environmental variability and disturbance in stream systems. pp. 265-278. In: J. R. Barnes and G. W. Minshall (eds.). Stream ecology: application and testing of general ecological theory. Plenum Press, New York, NY. 399 p.

Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. Second, revised edition. Houghton Mifflin, Boston.

Stein, R. A., P. E. Reimers, and J. D. Hall. 1972. Social interaction between juvenile coho (*Oncorhynchus kisutch*) and fall chinook salmon (*Oncorhynchus tshawytscha*) in Sixes River, Oregon. Journal of the Fisheries Research Board of Canada 29: 1737-1748.

Steward, C. R., and T. C. Bjornn. 1990. Supplementation of salmon and steelhead stocks with hatchery fish: a synthesis of published literature. Part 2 of Analysis of Salmon and Steelhead Supplementation, Technical Report No. 90-1. Prepared by Idaho Cooperative Fish and Wildlife Research Unit for Bonneville Power Administration, Portland, Oregon.

Stober, Q. J., S. C. Crumley, D. E. Fast, E. S. Killebrew, R. M. Woodin, G. Engman, and G. Tutmark. 1982. Effects of hydroelectric discharge fluctuation on salmon and steelhead in the Skagit River, Washington. Final Report December 1979 to December 1982 FRI-UW-8218. Prepared by Washington State Department of Fisheries and Washington State Department of Game for City of Seattle, Department of Lighting.

Strayer, D. L., and J. Ralley. 1993. Microhabitat use by an assemblage of stream-dwelling unionaceans (*Bivalvia*), including two rare species of *Alasmidonta*. Journal of the North American Benthological Society 12: 247-258.

Stuart, T. A. 1953. Water currents through permeable gravels and their significance to spawning salmonids. *Nature (London)* 172: 407-408.

Sullivan, K. 1986. Hydraulics and fish habitat in relation to channel morphology. Doctoral dissertation. Johns Hopkins University, Baltimore, Maryland.

Swales, S., R. B. Lauzier, and C. D. Levings. 1986. Winter habitat preferences of juvenile salmonids in two interior rivers in British Columbia. *Canadian Journal of Zoology* 64: 1506-1514.

Swanson, F. J., M. D. Bryant, G. W. Lienkaemper, and J. R. Sedell. 1984. Organic debris in small streams, Prince of Wales Island, southeast Alaska. General Technical Report PNW-166. U. S. Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Swanson, F. J., S. V. Gregory, J. R. Sedell, and A. G. Campbell. 1982. Land-water interactions: the riparian zone. Pages 267-332 in R. L. Edmonds, editor. *Analysis of coniferous forest ecosystems in the western United States*. Hutchinson Ross Publishing, Stroudsburg, Pennsylvania.

Swanson, F. J., G. Lienkaemper, and J. R. Sedell. 1976. History, physical effects, and management implications of large organic debris in western Oregon streams. General Technical Report PNW-56. U. S. Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Swanson, F. J., and C. T. Dyrness. 1975. Impact of clear-cutting and road construction on soil erosion by landslides in the western Cascade Range, Oregon. *Geology* 1: 393-396.

Swanston, D. N., and F. J. Swanson. 1976. Timber harvesting, mass erosion, and steepland forest geomorphology in the Pacific Northwest. Pages 199-221 in D. R. Coates, editor. *Geomorphology and engineering*. Dowden, Hutchinson, and Ross, Stroudsburg, Pennsylvania.

Symons, P. E. K. 1971. Behavioral adjustment of population density to available food by juvenile Atlantic salmon. *Journal of Animal Ecology* 40: 569-587.

Tagart, J. V. 1984. Coho salmon survival from egg deposition to emergence. Pages 173-182 in J. M. Walton and D. B. Houston, editors. *Proceedings of the Olympic wild fish conference*. Peninsula College, Fisheries Technology Program.

Tait, C. K., J. L. Li, G. A. Lamberti, T. N. Pearsons, and H. W. Li. 1994. Relationships between riparian cover and the community structure of high desert streams. *Journal of the North American Benthological Society* 13: 45-56.

Taube, C. M. 1975. Fishery research in Michigan; abundance, growth, biomass and interrelationships of trout and coho salmon in the Platte River. Michigan Department of Natural Resources.

Taylor, D. W. 1981. Freshwater mollusks of California: a distributional checklist. California Fish and Game 67: 140-163.

Taylor, E. B. 1991. Behavioural interaction and habitat use in juvenile chinook, *Oncorhynchus tshawytscha*, and coho, *O. kisutch*, salmon. Animal Behaviour 42: 729-744.

Terrestrial Resources Group. 1996. Meeting notes from 19 November at offices of PacifiCorp, Portland, Oregon. Prepared by Stillwater Sciences, Berkeley, California.

Thomas, A. E. 1975. Migration of chinook salmon fry from simulated incubation channels in relation to water temperature, flow, and turbidity. The Progressive Fish-Culturist 37: 219-223.

Thomas, J. L. 1967. The diet of juvenile and adult striped bass, *Morone saxatilis*, in the Sacramento-San Joaquin river system. California Fish and Game 53: 49-62.

Toews, D. A. A., and M. K. Moore. 1982. The effects of three streamside logging treatments on organic debris and channel morphology of Carnation Creek. Pages 129-153 in G. F. Hartman, editor. Proceedings of the Carnation Creek workshop: a ten-year review. Pacific Biological Station, Nanaimo, British Columbia.

Triska, F. J., V. C. Kennedy, R. J. Avanzino, G. W. Zellweger, and K. E. Bencala. 1989a. Retention and transport of nutrients in a third-order stream: channel processes. Ecology 70: 1877-1892.

Triska, F. J., V. C. Kennedy, R. J. Avanzino, G. W. Zellweger, and K. E. Bencala. 1989b. Retention and transport of nutrients in a third-order stream in northwestern California: hyporheic processes. Ecology 70: 1893-1905.

Triska, F. J., J. R. Sedell, and S. V. Gregory. 1982. Coniferous forest streams. Pages 292-332 in R. L. Edmonds, editor. Analysis of coniferous forest ecosystems in the western United States. Hutchinson Ross, Stroudsburg, Pennsylvania.

Triska, F. J., and K. Cromack Jr. 1980. The role of wood debris in forests and streams. Pages 171-190 in R. H. Waring, editor. Forests: fresh perspectives from ecosystem analysis. Proceedings of the 40th Annual Biology Colloquium. Oregon State University Press, Corvallis.

Trotter, P. C. 1994. Return of nutrients to streams: the role of spawning salmonids in maintaining stream productivity. Seattle, Washington. Report prepared for Washington Trout.

Trotter, P. C. 1989. Coastal cutthroat trout: a life history compendium. Transactions of the American Fisheries Society 118: 463-473.

Trush, W. J. 1997. Personal communication. University of California, Berkeley.

Tschaplinsky, P. J., and G. F. Hartman. 1983. Winter distribution of juvenile coho salmon (*Oncorhynchus kisutch*) before and after logging in Carnation Creek, British Columbia, and some implications for overwinter survival. Canadian Journal of Fisheries and Aquatic Sciences 40: 452-461.

Uncapher, P. 1997. Personal communication. USDA Forest Service, Umpqua National Forest, Roseburg, Oregon.

USDI Bureau of Land Management (USBLM). 1996. Watershed analysis-Rock Creek. USBLM, Roseburg, Oregon.

USDI Bureau of Land Management (USBLM). 1995. Watershed analysis-Canton Creek. Roseburg, Oregon.

USDA Forest Service. 1997a. Upper North Umpqua watershed analysis. Draft report. Diamond Lake Ranger District, Idleyld Park, Oregon.

USDA Forest Service. 1997b. Upper Steamboat Creek watershed analysis. North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

USDA Forest Service. 1996a. Upper Clearwater watershed analysis. Diamond Lake Ranger District, Idleyld Park, Oregon.

USDA Forest Service. 1996b. Potter Creek Level II stream survey. Diamond Lake Ranger District, Idleyld Park, Oregon.

USDA Forest Service. 1996c. 1993 and 1995 North Umpqua River spring chinook salmon redd counts: a progress report. Umpqua National Forest, Roseburg, Oregon.

USDA Forest Service. 1996d. Upper North Umpqua River Level II stream survey. Diamond Lake Ranger District, Idleyld Park, Oregon.

USDA Forest Service. 1995. Umpqua National Forest monitoring and evaluation report--Fiscal Year 1993 and 1994. Umpqua National Forest, Roseburg, Oregon.

USDA Forest Service. 1993a. Umpqua National Forest monitoring and evaluation report Fiscal Year 1992. Umpqua National Forest, Roseburg, Oregon.

USDA Forest Service. 1993b. Wild and Scenic River suitability study for Steamboat Creek. Draft Legislative Environmental Impact Statement. Umpqua National Forest, Roseburg, Oregon.

USDA Forest Service Umpqua National Forest, Oregon State Parks and Recreation Department, and U. S. Bureau of Land Management Roseburg District. 1992. North Umpqua Wild and Scenic River. Environmental Assessment.

USDA Forest Service. 1990. Umpqua National Forest land and resource management plan. USDA Forest Service, Pacific Northwest Region, Umpqua National Forest, Roseburg, Oregon.

USDA Forest Service. 1940. Diamond Lake Ranger District Stocking Plan. USDI Bureau of Land Management. 1996. Watershed analysis—Rock Creek. USBLM, Roseburg, Oregon.

USDA Forest Service and USDI Bureau of Land Management. 1995. Little River watershed analysis. Version 1.1. North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon and USDI Bureau of Land Management, Mt. Scott Resource Area.

USDA Forest Service and USDI Bureau of Land Management. 1994. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl and Standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl.

USDA Forest Service Umpqua National Forest, USDI Bureau of Land Management Roseburg District, and Oregon Department of Fish and Wildlife. 1994. Canton Creek preliminary watershed assessment: executive summary, appendices, and associated project proposals. Roseburg, Oregon.

USFWS (U. S. Fish and Wildlife Service). 1995. Additional studies request, FERC No. 1927, North Umpqua Hydroelectric Project. USFWS, Oregon State Office, Portland.

Vanderbilt, K. L., K. Lajtha, and F. J. Swanson. 1996. Nitrogen fluxes in experimental watersheds in western Oregon. Abstracts of the Chapman Conference on Nitrogen Cycling in Forested Catchments. American Geophysical Union.

Vannote, R.L. and G. W. Minshall. 1982. Fluvial processes and local lithology controlling abundance, structure, and composition of mussel beds. Proceedings of the National Academy of Sciences USA 79: 4103-4107.

Vannote, R. L., G. W. Minshall, K. W. Cummins, J. R. Sedell, and C. E. Cushing. 1980. The river continuum concept. Canadian Journal of Fisheries and Aquatic Sciences 37: 130-137.

Vigg, S., and C. C. Burley. 1991. Temperature-dependent maximum daily consumption of juvenile salmonids by northern squawfish (*Ptychocheilus oregonensis*) from the Columbia River. Canadian Journal of Fisheries and Aquatic Sciences 48: 2491-2498.

Walling, A. G. 1884. History of southern Oregon comprising Jackson, Josephine, Douglas, Curry, and Coos counties, compiled from the Most Authentic Sources. Portland, Oregon.

Ward, B. R., and P. A. Slaney. 1979. Evaluation of in-stream enhancement structures for the production of juvenile steelhead trout and coho salmon in the Keogh River: Progress 1977 and 1978. Fisheries Technical Circular 45. Ministry of Environment, Province of British Columbia.

Ward, B. R., P. A. Slaney, A. R. Facchin, and R. W. Land. 1989. Size-biased survival in steelhead trout (*Oncorhynchus mykiss*): back-calculated lengths from adults' scales compared to migrating smolts at the Keogh River, British Columbia. Canadian Journal of Fisheries and Aquatic Sciences 46: 1853-1858, 48: 2296-2306.

Ward, N. E. 1995. Genetic analysis of rainbow trout from the North Umpqua River Basin, Oregon. Oregon Cooperative Fishery Research Unit Genetics Laboratory Report 95(4), prepared for Pacific Power, Portland, OR.

Ware, D. M., and R. E. Thomson. 1991. Link between long-term variability in upwelling and fish production in the northeast Pacific Ocean. Canadian Journal of Fisheries and Aquatic Sciences 48: 2296-2306.

Waters, B. F. 1976. A methodology for evaluating the effects of different streamflows on salmonid habitat. Pages 254-266 in J. F. Orsborn and C. H. Allman, editors. Instream flow needs. American Fisheries Society, Western Division.

- Waters, E. 1997. Personal communication. USDI Bureau of Land Management, Roseburg District, Roseburg, Oregon.
- Weaver, W. 1997. Assessment and implementation techniques for controlling road-related sediment sources. Presentation for the Watershed Academy. Pacific Watershed Associates, Arcata.
- Weismar, T. 1997. Notes on species distributions in the Umpqua River basin. USDI Bureau of Land Management, Roseburg District, Oregon.
- Welsh, H. H. 1990. Relictual amphibians and old-growth forests. *Conservation Biology* 4: 309-319.
- Welsh, H. H., Jr., and A. J. Lind. 1996. Habitat correlates of the southern torrent salamander, *Rhyacotriton variegatus* (Caudata: Rhyacotritonidae), in northwestern California. *Journal of Herpetology* 30: 385-398.
- Wemple, B. C., J. A. Jones, and G. E. Grant. 1996. Channel network extension by logging roads in two basins, western Cascades, Oregon. *Water Resources Bulletin* 32: 1195-1207.
- Wert, S. 1997. Wert and Associates, Roseburg, Oregon. Personal communication with Rich Grost, PacifiCorp.
- WFPB (Washington Forest Practices Board). 1994. Board manual: Standard methodology for conducting watershed analysis under Chapter 222-22 of the Washington Administrative Code (WAC). Washington Department of Natural Resources, Olympia.
- Whitman, R. P., T. P. Quinn, and E. L. Brannon. 1982. Influence of suspended volcanic ash on homing behavior of adult chinook salmon. *Transactions of the American Fisheries Society* 111: 63-69.
- Wieman, J. 1997. Personal communication. Umpqua National Forest, Roseburg, Oregon. 23 June.
- Wilcock, P. R., G. M. Kondolf, W. V. G. Matthews, and A. F. Barta. 1996. Specification of sediment maintenance flows for a large gravel-bed river. *Water Resources Research* 32: 2911-2921.

Williams, G. P., and M. G. Wolman. 1984. Downstream effects of dams on alluvial rivers. Geological Survey Professional Paper 1286. U. S. Geological Survey, Washington, D. C.

Williams, J. D., and R. J. Neves. 1995. Freshwater mussels: a neglected and declining aquatic resource. Pages 177-179 in E. T. LaRoe, editor. 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.

Williams, R. D., and R. N. Winget. 1979. Macroinvertebrate response to flow manipulation in the Strawberry River, Utah (U.S.A.). Pages 354-375 in Ward, J. V. and J. A. Stanford, editors. The ecology of regulated streams. Plenum Press, New York.

Williams, R. H., and R. C. Smith. 1985. Evaluation of the impact of operation of the Winchester hydroelectric project on salmonids of the North Umpqua River, Oregon. Annual Progress Report, Fish Research and Development. Oregon Department of Fish and Wildlife, Portland.

Williams, T., and J. Wroble. 1985. Little Rock Creek fish habitat structures. USDA Forest Service, North Umpqua Ranger District, Umpqua National Forest, Glide, Oregon.

Wilzbach, M. A. 1985. Relative roles of food abundance and cover in determining the habitat distribution of stream-dwelling cutthroat trout (*Salmo clarki*). Canadian Journal of Fisheries and Aquatic Sciences 42: 1668-1672.

Wissemann, B. 1994. Benthic invertebrate biomonitoring and bioassessment. Aquatic Biology Associates, Corvallis, Oregon.

Wissemann, B. 1995. Benthic invertebrate bioassessment summary, fall sampling 1993-94-PPL Project, Umpqua National Forest, Oregon. Aquatic Biology Associates, Corvallis, Oregon.

Wolfe, M. D. 1982. The relationship between forest management and landsliding in the Klamath Mountains of northwestern California. Earth Resources Monograph 11. USDA Forest Service, Pacific Southwest Region, San Francisco, California.

Wright, J. L., and L. M. Catley. 1982. How high the bounty. Friends of the Douglas County Museum, Roseburg, Oregon.

Ziemer, R. R., J. Lewis, and E. T. Keppeler. 1996. Hydrologic consequences of logging second-growth redwood watersheds. Pages 131-133 *in* J. LeBlanc, editor. Proceedings of the conference on coast redwood forest ecology and management. University of California, Cooperative Extension, Forestry, Humboldt State University, Arcata, California.