

*IFC Instream Flow Literature Reference list (last updated September 18, 2006)*

- Aadland, Luther P. 1993. Stream habitat types: their fish assemblages and relationship to flow. *North American Journal of Fisheries Management* 13 (4): 790-805.
- Aadland, L.P., C.M. Cook, M.T. Negus, H.G. Drewes, and C.S. Anderson. 1991. Microhabitat preferences of selected stream fishes and a community-oriented approach to instream flow assessments. Section of Fisheries, Minnesota Department of Natural Resources, St. Paul, MN.
- Aadland, L., Waltner, C., Negus, M.T., Drewes, H.,... 1989. Microhabitat criteria for selected stream fishes and methodological considerations for instream flow studies in Minnesota.: St. Paul, Minnesota Department of Natural Resources Technical Report
- Abbe, T.B., and D.R. Montgomery. 1996. Large woody debris jams, channel hydraulics and habitat formation in large rivers. *Regulated Rivers* 12: 201-221.
- Adams, J.B., G.C. Bate, T.D. Harrison, P. Huizinga, S. Taljaard, L. van Niekerk, E.E. Plumstead, A.K. Whitfield, and T.H. Wooldridge. 2002. A method to assess the freshwater inflow requirements of estuaries and application to the Mtata Estuary, South Africa. *Estuaries* 25 (6B): 1382-1393.
- Adams, J.B., W.T. Knoop, and G.C. Bate. 1992. The distribution of estuarine macrophytes in relation to freshwater. *Botanica Marina* 35: 69-75.
- Adams, J.B. and M.M.B. Talbot. 1992. The influence of river impoundment on the estuarine seagrass *Zostera capensis* Setchall. *Botanica Marina* 35: 69-75.
- Adams, S.B., and M.L. Warren, Jr. 2005. Recolonization by warmwater fishes and crayfishes after severe drought in upper coastal plain hill streams. *Transactions of the American Fisheries Society* 134: 1173-1192.
- Adams, W.M. 1992. *Wasting the Rain: Rivers, People, and Planning in Africa*. Earthscan Publications, London.
- Addley, R.C. 1993. A mechanistic approach to modeling habitat needs of drift-feeding salmonids. Masters thesis, Department of Civil and Environmental Engineering, Utah State University, Logan, Utah.
- Aebischer, N.J., P.A. Robertson, and R.E. Kenward. 1993. Compositional analysis of habitat use from animal radio-tracking data. *Ecology* 74: 1313-1325.
- Aho, J.M., Anderson, C.S., and Terrell, J.W. 1986. Habitat suitability index models and instream flow suitability curves: redbreast sunfish. Washington, D.C.: U.S. Fish and Wildlife Service (Biological Report 82 [10.119]).
- Alabaster, John S. 1970. River flow and upstream movement and catch of migratory salmonids. *Journal of Fish Biology* 2: 1-13.

- Albanese, B., P.L. Angermeier, and S. Dorai-Raj. 2004. Ecological correlates of fish movement in a network of Virginia streams. *Canadian Journal of Fisheries and Aquatic Sciences* 61: 857-869.
- Alber, M. 2002. A conceptual model of estuarine freshwater inflow management. *Estuaries* 25 (6B): 1246-1261.
- Alber, M., and J.E. Sheldon. 1999. Use of a date-specific method to examine variability in the flushing times of Georgia estuaries. *Estuaries, Coastal and Shelf Science* 49: 469-482.
- Aleem, A.A. 1972. Effect of river outflow management on marine life. *Marine Biology* 15: 200-208.
- Alexander, C.A.D., C.N. Peters, D.R. Marmorek, and P. Higgins. 2006. A decision analysis of flow management experiments for Columbia River mountain whitefish (*Prosopium williamsoni*) management. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (5): 1142-1156.
- Alexander, H.D., and K.H. Dunton. 2002. Freshwater inundation effects on emergent vegetation of a hypersaline salt marsh. *Estuaries* 25 (6B): 1426-1435.
- Alexander, R.B., R.A. Smith, and G.E. Schwarz. 2000. Effects of stream channel size on the delivery of nitrogen to the Gulf of Mexico. *Nature* 403:758-761.
- Alfredsen, K. 1997. A modelling system for estimation of impacts on fish habitat. Page 6 in: 27<sup>th</sup> International Association for Hydraulic Research Congress: Water for a changing society. IAHR, San Francisco.
- Alfredsen, K., P. Borsanyi, A. Harby, H.-P. Fjeldstad, and S.-E. Wersland. 2004. Application of habitat modelling in river rehabilitation and artificial habitat design. *Hydroecologie Appliquee* 14 (1): 105-117.
- Alfredsen, K., W. Marchand, T.H. Bakken, and A. Harby. 1997. Application and comparison of computer models quantifying impacts of river regulation on fish habitat. In: Brodh, E., D.K. Lysne, N. Flatabo, and E. Helland-Hansen, eds. *Proceedings of the 3<sup>rd</sup> international conference hydropower '97 - Trondheim/Norway 30 June-2 July 1997*. A.A. Balkema Publishers, Rotterdam/Brookfield.
- Alfredsen, K., and Tesaker. 2002. Winter habitat assessment strategies and incorporation of winter habitat in the Norwegian habitat assessment tools. *Hydrological Processes* 16 (4): 927-936.
- Allan, J.D., D.L. Erickson, and J. Fay. 1997. The influence of catchment land use on stream integrity across multiple spatial scales. *Freshwater Biology* 37: 149-162.

- Allan, J.D., and B.P. Feifarek. 1989. Distances traveled by drifting mayfly nymphs: factors influencing return to the substrate. *Journal of the North American Benthological Society* 8: 322-330.
- Allanson, B.R., and G.H.L. Read. 1995. Further comment on the response of Eastern Cape Province estuaries to variable freshwater inflows. *Southern African Journal of Aquatic Science* 21: 56-70.
- Allee, B.A. 1974. Spatial requirements and behavioral interactions of juvenile coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Salmo gairdneri*). Doctoral dissertation, University of Washington, Seattle.
- Allen, M.A. 2000. Seasonal microhabitat use by juvenile spring chinook salmon in the Yakima River basin, Washington. *Rivers* 7 (4): 314-332.
- Allison, S.K. 1996. Recruitment and establishment of salt marsh plants following disturbance by flooding. *American Midland Naturalist* 136: 232-247.
- Allouche, S., and P. Gaudin. 2001. Effects of avian predation threat, water flow, and cover on growth and habitat use by chub, *Leuciscus cephalus*, in an experimental stream. *Oikos* 94: 481-492.
- Alpert, P., F.T. Griggs, and D.R. Peterson. 1999. Riparian forest restoration along large rivers: initial results from the Sacramento River Project. *Restoration Ecology* 7: 360-368.
- Amadio, C.J., W.A. Hubert, K. Johnson, D. Oberlie, and D. Dufek. 2005. Factors affecting the occurrence of saugers in small, high-elevation rivers near the western edge of the species' natural distribution. *Transactions of the American Fisheries Society* 134 (1): 160-171.
- Ambuhl, Von Heins. 1959. The significance of flow as an ecological factor. (Transl. By John DeWitt, Humboldt State College, Arcata, California.)
- American Rivers, Friends of the Earth, and Trout Unlimited. 1999. *Dam Removal Success Stories: Restoring Rivers Through Selective Removal of Dams That Don't Make Sense*. Washington, D.C.
- Ames, J. 1983. Salmon stock interactions in Puget Sound: a preliminary look. Pages 84-95 in: M.A. Miller (ed.). *Southeast Alaska coho salmon research and management review and planning workshop, May 18-19, 1982*. Alaska Dept. Fish and Game, Juneau.
- Ames, J., and H. Beecher. 1995. Recommended spawning flows for Cedar River sockeye salmon: with a review of spawning distribution and flood risk studies. A report to the Cedar River Instream Flow Committee. Washington Department of Fish and Wildlife, Olympia. 108 pp.

- Ames, J., and H. Beecher. 2001. Incorporating flood risk into controlled flow regimes for Pacific salmon: An example using Cedar River sockeye salmon. Report #FPT 01-13. Washington Department of Fish and Wildlife, Olympia. 123 pp.
- Amlin, N.M., and S.B. Rood. 2002. Comparative tolerances of riparian willows and cottonwoods to water table decline. *Wetlands* 22: 338-346.
- Amoros, C. 1991. Changes in side-arm connectivity and implications for river system management. *Rivers* 2: 105-112.
- Amoros, C., and G. Bornette. 2002. Connectivity and biocomplexity in water bodies of riverine floodplains. *Freshwater Biology* 47: 761-776.
- Amoros, C., A.L. Roux, J.L. Reygrobellet, J.P. Bravard, and G. Pautou. 1987. A method for applied ecological studies of fluvial hydrosystems. *Regulated Rivers Research & Management* 1: 17-38.
- Anderson, D.H. 1995. Microcrustacean growth and production in a forested floodplain swamp. Dissertation, University of Alabama, Tuscaloosa, Alabama, USA.
- Anderson, H.W. 1976. Fire effects on water supply, floods, and sedimentation. *Proceedings, Tall Timbers Fire Ecology Conference* 15: 249-260.
- Anderson, K.E., A.J. Paul, E. McCauley, L.J. Jackson, J.R. Post, and R.M. Nisbet. 2006. Instream flow needs in streams and rivers: the importance of understanding ecological dynamics. *Frontiers in Ecology and the Environment* 4 (6): 309-318.
- Anderson, P.C., T.B. Hardy, and C.M.U. Neale. 1993. Application of multispectral videography for the delineation of riverine depths and mesoscale hydraulic features. *In: Neale, C.M.U. (Ed.), Proceedings of the 14<sup>th</sup> Biennial Workshop on Color Photography and Videography for Resource Monitoring.* Utah State University, Logan, Utah, May 25-28, 1993.
- Anderson, R.M., and Nehring, R.B. 1985. Impacts of stream discharge on trout rearing and recruitment in the South Platte River, Colorado. Pp. 59-64 in: Olson, F.W., White, R.G., and Hamre, R.H. (Eds.), *Proceedings of the Symposium on Small Hydropower and Fisheries.* American Fisheries Society, Bethesda.
- Anderson, S.P., W.E. Dietrich, D.R. Montgomery, R. Torres, M.E. Conrad, and K. Loague. 1997. Subsurface flow paths in a steep, unchanneled catchment. *Water Resources Research* 33: 2637-2653.
- Andersson, E., C. Nilsson, and M.E. Johansson. 2000. Effects of river fragmentation on plant dispersal and riparian flora. *Regulated Rivers: Research and Management* 16 (1): 83-89.

- Andrew, F.J., and G.H. Green. 1960. Sockeye and pink salmon production in relation to proposed dams in the Fraser River system. *Internat. Pac. Salmon Fish. Comm., Bull.* 11: 257 p.
- Andrews, E.D. 1980. Effective and bankfull discharges of streams in the Yampa River basin, Colorado and Wyoming. *Journal of Hydrology* 46: 311-330.
- Andrews, E.D. 1984. Bed-material entrainment and hydraulic geometry of gravel-bed rivers in Colorado. *Geological Society of America Bulletin* 95: 371-378.
- Andrews, E.D., and J.M. Nankervis. 1995. Effective discharge and design of channel maintenance flows for gravel-bed rivers. Pp. 151-164 in: J.E. Costa, A.J. Miller, K.W. Potter, and P.R. Wilcock (eds.), *Natural and Anthropogenic Influences in Fluvial Geomorphology*, Geophysical Monograph 89, American Geophysical Union.
- Angermeier, P.L. 1987. Spatiotemporal variation in habitat selection by fishes in small Illinois streams. Pp 52-60 in: W.J. Matthews and D.C. Heins (eds) *Community and evolutionary ecology of North American stream fish*. University of Oklahoma Press, Norman.
- Angermeier, P.L. 1992. Predation by rock bass on other stream fishes: experimental effects of depth and cover. *Environmental Biology of Fishes* 34: 171-180.
- Angermeier, P.L., and J.R. Karr. 1984. Relationships between woody debris and fish habitat in a small warmwater stream. *Transactions of the American Fisheries Society* 113: 716-726.
- Angermeier, P.L., and I.J. Schlosser. 1989. Species-area relationships for stream fishes. *Ecology* 70 (5): 1450-1462.
- Annear, T., I. Chisholm, H. Beecher, A. Locke, P. Aarrestad, N. Burkhart, C. Coomer, C. Estes, J. Hunt, R. Jacobson, G. Jobsis, J. Kauffman, J. Marshall, K. Mayes, C. Stalnaker, and R. Wentworth. 2002. *Instream Flows for Riverine Resource Stewardship*. Instream Flow Council, Cheyenne, WY.
- Annear, T., I. Chisholm, H. Beecher, A. Locke, P. Aarrestad, C. Coomer, C. Estes, J. Hunt, R. Jacobson, G. Jobsis, J. Kauffman, J. Marshall, K. Mayes, G. Smith, R. Wentworth, and C. Stalnaker. 2004. *Instream Flows for Riverine Resource Stewardship - Revised Edition*. Instream Flow Council, Cheyenne, WY.
- Annear, T.C., and A.L. Conder. 1984. Relative bias of several fisheries instream flow methods. *North American Journal of Fisheries Management* 4 (4B): 531-539.
- Antolos, M., D.D. Roby, D.E. Lyons, K. Collis, A.F. Evans, M. Hawbecker, and B.A. Ryan. 2005. Caspian tern predation on juvenile salmonids in the mid-Columbia River. *Transactions of the American Fisheries Society* 134 (2): 466-480.

- Antonsson, T., and S. Gudjonsson. 2002. Variability in timing and characteristics of Atlantic salmon smolt in Icelandic rivers. *Transactions of the American Fisheries Society* 131 (4): 643-655.
- Ardisson, P.-L., and E. Bouget. 1997. A study of the relationship between freshwater runoff and benthic abundance: A scale-oriented approach. *Estuarine, Coastal and Shelf Science* 45: 535-545.
- Armitage, P.D. 1978. Downstream changes in the composition, numbers and biomass of bottom fauna below Cow Green Reservoir and in an unregulated .... *Hydrobiologia* 58: 145-156.
- Armour, C.L. 1991. Evaluation of the instream flow incremental methodology by U.S. Fish and Wildlife Service field users. *Fisheries* 16: 36-43.
- Armour, C.L, D.A. Duff, and W. Elmore. 1994. The effects of livestock grazing on western riparian and stream ecosystems. *Fisheries* 19: 9-12.
- Armour, C.L. and J.G. Taylor. 1991. Evaluation of the Instream Flow Incremental Methodology by the U.S. Fish and Wildlife Service field users. *Fisheries* 16 (5): 36-43.
- Armstrong, J.D., and S.W. Griffiths. 2001. Density-dependent refuge use among over-wintering wild Atlantic salmon juveniles. *Journal of Fish Biology* 58: 1524-1530.
- Armstrong, J.D., P.S. Kemp, G.J.A. Kennedy, M. Ladle, and N.J. Milner. 2003. Habitat requirements of Atlantic salmon and brown trout in rivers and streams. *Fish. Res.* 62: 143-170.
- Armstrong N.E. 1982. Responses of Texas estuaries to freshwater inflows, p. 103-120 in: V. Kennedy (ed.), *Estuarine Comparisons*. Academic Press, New York.
- Arndt, S.K.A., R.A. Cunjak, and T.J. Benfey. 2002. Effect of summer floods and spatial-temporal scale on growth and feeding of juvenile Atlantic salmon in two New Brunswick streams. *Transactions of the American Fisheries Society* 131 (4): 607-622.
- Arscott, D.B., K. Tockner, and J.V. Ward. 2001. Thermal heterogeneity along a braided floodplain river (Tagliamento River, northeastern Italy). *Canadian Journal of Fisheries and Aquatic Sciences* 58 (12): 2359-2373.
- Arscott, D.B., K. Tockner, D. van der Nat, and J.V. Ward. 2002. Aquatic habitat dynamics along a braided alpine river ecosystem. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (12): 2359-2373.
- Arthington, A.H. 1998. Brisbane River trial of a flow restoration methodology (FLOWRESM). Pp. 35-50 in: A.H. Arthington and J.M. Zalucki, eds., *Water for the Environment: Recent Approaches to Assessing and Providing Environmental Flows*. AWWA, Brisbane.

Arthington, A.H., J.M. King, J.H. O'Keefe, S.E. Bunn, J. Day, B.J. Pusey, B.R. Bluhdorn, and R. Tharme. 1992. Development of an holistic approach for assessing environmental flow requirements of riverine ecosystems. Pp. 69-76 in: J.J. Pilgrim and B.P. Hooper (eds.), *Water Allocation for the Environment*. The Centre for Water Policy Research, University of New England, Armidale.

Arthington, A.H., and R. Lloyd. 1998. Logan River trial of the building block methodology for assessing environmental flow requirements. Griffith University, Queensland, Australia.

Arthington, A.H., and B.J. Pusey. 1993. In-stream flow management in Australia: methods, deficiencies and future directions. *Australian Biology* 6: 52-60.

Arthington, A.H., and B.J. Pusey. In press (2003). Flow restoration and protection in Australian rivers. *River Res. Appl.* 19

Arthington, A.H., and J.M. Zalucki. 1998. Comparative evaluation of environmental flow assessment techniques: Review of methods. Occasional Paper 25/98. Land and Water Resources Research and Development Corporation, Canberra.

Asaeda, T., T.K. Vu, and J. Manatunge. 2005. Effects of flow velocity on feeding behavior and microhabitat selection of the stone moroko *Pseudorasbora parva*: a trade-off between feeding and swimming costs. *Transactions of the American Fisheries Society* 134 (2): 537-547.

Asplund, K.T., and M.T. Gooch. 1988. Geomorphology and the distributional ecology of Fremont cottonwood (*Populus fremontii*) in a desert riparian canyon. *Desert Plants* 9 (1): 17-27.

Auble, G.T., J.M. Friedman, and M.L. Scott. 1994. Relating riparian vegetation to present and future streamflows. *Ecological Applications* 4 (3): 544-554.

Auble, G.T., and M.L. Scott. 1998. Fluvial disturbance patches and cottonwood recruitment along the upper Missouri River, Montana. *Wetlands* 18: 546-556.

Auer, N.A. 1996. Response of spawning lake sturgeons to change in hydroelectric facility operation. *Transactions of the American Fisheries Society* 125: 66-77.

Ault, T.R., and R.W.G. White. 1994. Effects of habitat structure and the presence of brown trout on the population density of *Galaxias truttaceus* in Tasmania, Australia. *Transactions of the American Fisheries Society* 123: 939-949.

Baber, M.J., D.L. Childers, K.J. Babbitt, and D.H. Anderson. 2002. Controls on fish distribution and abundance in temporary wetlands. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (9): 1441-1450.

Bachman, R.A. 1984. Foraging behavior of free-ranging wild and hatchery brown trout in a stream. *Transactions of the American Fisheries Society* 113 (1): 1-32.

- Baigun, C.R., J. Sedell, and G. Reeves. 2000. Onfluence of water temperature in use of deep pools by summer steelhead in Steamboat Creek, Oregon (USA). *Journal of Freshwater Ecology* 15: 269-279.
- Bain, M.B. 1995. Habitat at the local scale: multivariate patterns for stream fishes. *Bull.Fr. Peche Piscic* 337/338/339: 165-177.
- Bain, M.B., and J.M. Boltz. 1989. Regulated streamflow and warmwater stream fish: A general hypothesis and research agenda. Washington, D.C.: USFWS (Biological Report 89 [18]).
- Bain, M.B., and J.T. Finn. 1982. An alternative approach to assessing habitat suitability for stream fish. Pp. 77-98 in: M.B. Bain, et al. (Eds.), *An evaluation of methodologies for assessing the effects of flow fluctuation ... FWS/OBB3 82/63*
- Bain, M.B., and J.T. Finn. 1988. Streamflow regulation and fish community structure. *Ecology* 69 (2): 382-392.
- Bain, M.B., and J.T. Finn. 1991. Analysis of microhabitat use by fish: investigator effect and investigator bias. *Rivers* 2 (1): 57-65.
- Bain, M.B., J.T. Finn, and H.E. Booke. 1985. Quantifying stream substrate for habitat analysis studies. *North American Journal of Fisheries Management* 5: 499-506.
- Bain, M.B., J.T. Finn, and H.E. Booke. 1988. Streamflow regulation and fish community structure. *Ecology* 69: 382-392.
- Bain, M.B., J.T. Finn, L.J. Gerardi, Jr., M.R. Ross, and W.P. Saunders, Jr. 1982. An evaluation of methodologies for assessing the effects of flow fluctuations on stream fish. U.S. Fish and Wildlife Service Biological Report 82 (63): 1-199.
- Bain, M.B., and V.T. Travnichek. 2000. Assessing impacts and predicting restoration benefits of flow alterations in rivers developed for hydroelectric power production. Pages B543-B552 in: M. Leclerc, H. Capra, S. Valentin, A. Boudreault, and Y. Cote, eds. *Proceedings of the second IAHR symposium on habitat hydraulics, Ecohydraulics 2000*. Institute National de la Recherche Scientifique-Eau, Ste-Foy, Quebec, Canada.
- Bainbridge, R. 1958. The speed of swimming of fish as related to size and to the frequency and amplitude of the tail beat. *Journal of Experimental Biology* 35: 109-133.
- Bainbridge, R. 1960. Speed and stamina in three fish. *Journal of Experimental Biology* 37: 129-153.
- Baird, D., and J.J. Heymans. 1996. Assessment of ecosystem changes in response to freshwater inflow to the Kromme River estuary, St. Francis Bay, South Africa: a network analysis approach. *Water SA* 22: 307-318.

- Baker, E.A., and T.G. Coon. 1997. Development and evaluation of alternative habitat suitability criteria for brook trout. *Transactions of the American Fisheries Society* 126 (1): 65-75.
- Baker, J.A., K.J. Killgore, and R.L. Kasul. Aquatic habitats and fish communities in the lower Mississippi River. *Reviews in Aquatic Sciences* 3: 313-356.
- Baker, V.R. 1977. Stream channel response to floods with examples from central Texas. *Geological Society of America Bulletin* 88: 1057-1071.
- Baker, V.R., and D.F. Ritter. 1975. Competence of rivers to transport coarse bedload material. *Geol. Soc. Am. Bull.* 86: 975-978.
- Baker, W.L. 1990. Climatic and hydrologic effects on the regeneration of *Populus angustifolia* James along the Animas River, Colorado. *Journal of Biogeography* 17 (1): 59-73.
- Bakkala, R.G. 1970. Synopsis of biological data on the chum salmon *Oncorhynchus keta* (Walbaum) 1792. U.S. Fish Wildl. Serv., Cir. 315. 89 p.
- Baldes, R.J. 1969. Microhabitat velocity occupied by trout. M.S. thesis, Colorado State University, Fort Collins. 33 pp.
- Baldes, R.J., and R.E. Vincent. 1969. Physical parameters of microhabitats occupied by brown trout in an experimental flume. *Transactions of the American Fisheries Society* 98 (2): 230-238.
- Baldrige, J.E., and D. Amos. 1981. A technique for determining fish habitat suitability criteria: a comparison between habitat utilization and availability. Pages 251-258 in N.B. Armantrout, editor. Acquisition and utilization of aquatic habitat inventory information. Proceedings of a symposium, Portland, Oregon. American Fisheries Society, Western Division, Bethesda.
- Baldwin, D.S., and A.M. Mitchell. 2000. The effects of drying and re-flooding on the sediment and soil nutrient dynamics of lowland river-floodplain systems: a synthesis. *Regulated Rivers: Research and Management* 16: 457-467.
- Baltz, D.M., and P.B. Moyle. 1984. Segregation by species and size class of rainbow trout (*Salmo gairdneri*) and Sacramento sucker (*Catostomus occidentalis*) in three California streams. *Environmental Biology of Fishes* 10: 101-110.
- Baltz, D.M., B. Vondracek, L.R. Brown, and P.B. Moyle. 1987. Influence of temperature on microhabitat choice by fishes in a California stream. *Transactions of the American Fisheries Society* 116 (1): 12-20.
- Baltz, D.M., B. Vondracek, L.R. Brown, and P.B. Moyle. 1991. Seasonal changes in microhabitat selection by rainbow trout in a small stream. *Transactions of the American Fisheries Society* 120 (2): 166-176.

- Bancroft, J.S., and P. Turchin. 2003. An experimental test of fragmentation and loss of habitat with *Oryzaephilus surinamensis*. *Ecology* 84 (7): 1756-1767.
- Banks, J.W. 1969. A review of the literature on the upstream migration of adult salmonids. *Journal of Fish Biology* 1: 85-136.
- Baran, P., M. Delacoste, R. Dauba, J.-M. Lascaux, and A. Belaud. 1995. Effects of reduced flow on brown trout populations downstream of dams in the French Pyrenees. *Regulated Rivers: Research and Management* 10: 347-361.
- Baras, E. 1996. Selection of residence area and non-reproductive homing in a shoaling freshwater teleost, the barbel *Barbus barbus* (L). Pages 47-58 in: E. Baras and J.C. Philippart, editors, *Proceedings of the 1<sup>st</sup> Conference and Workshop on Fish Telemetry in Europe*. University of Liege, Belgium.
- Barbier, E.B., and J.H. Thompson. 1998. The value of water: Floodplain versus large-scale irrigation benefits in northern Nigeria. *Ambio* 27: 434-440.
- Bardonnet, A., and J.-L. Bagliniere. 2000. Freshwater habitat of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 57 (2): 497-506.
- Bardonnet, A., P. Gaudin, and H. Persat. 1991. Microhabitats and downstream migration of young grayling (*Thymallus thymallus* L.). *Freshwater Biology* 26: 365-376.
- Barinaga, M. 1996. A recipe for river recovery? *Science* 273: 1648-1650.
- Barnard, S., R.J. Wyatt, and N.J. Milner. 1995. The development of habitat models for stream salmonids, and their application to fisheries management. *Bull. Fr. Peche Piscic.* 337/338/339: 375-385.
- Barrett, P.J., and O.E. Maughan. 1994. Habitat preferences of introduced smallmouth bass in a central Arizona stream. *North American Journal of Fisheries Management* 14 (1): 112-118.
- Baron, J.S., N.L. Poff, P.L. Angermeier, C.N. Dahm, P.H. Gleick, N.G. Hairston, R.B. Jackson, C.A. Johnston, B.D. Richter, and A.D. Steinman. 2002. Meeting ecological and societal needs for freshwater. *Ecological Applications* 12: 1247-1260.
- Bart, H.L., Jr. 1989. Fish-habitat association in an Ozark stream. *Environmental Biology of Fishes* 24: 173-186.
- Bartholow, J.M. 2004. Modeling Chinook salmon with SALMOD on the Sacramento River, California. *Hydroecologie Appliquee* 14 (1): 193-219.
- Bartholow, J.M., J.L. Laake, C.B. Stalnaker, and S.C. Williamson. 1993. A salmonid population model for evaluating alternative flow regimes. *Rivers* 4 (2): 265-279.

- Bartholow, J., and W. Slauson; B. Parsons and W. Hubert. 1990. Questions on habitat preference. *North American Journal of Fisheries Management* 10 (3): 362-363.
- Bartholow, J.M., and T.J. Waddle. 1995. The search for an optimum flow regime using a salmon population model. Pp. 331-339 in: J.J. Cassidy, ed. *Waterpower '95: proceedings of the international conference on hydropower*. American Society of Civil Engineers, New York.
- Bartsch, N., C.P. Gubala, and T.B. Hardy. 1996. Determining habitat criteria for the endangered fountain darter through aquatic habitat mapping and hydrologic modeling. *In: Proceedings of the 2<sup>nd</sup> International Symposium on Habitat Hydraulics*. June 1996, Quebec, Canada. B251-B262
- Bartz, B. 1990. Sources of uncertainty and effect on interpretation of results in the development of instream flows for fisheries habitat. Master's thesis, Utah State University, Logan.
- Bartz, K.K., K.M. Lagueux, M.D. Scheuerell, T. Beechie, A.D. Haas, and M. Ruckelshaus. 2006. Translating restoration scenarios into habitat conditions: an initial step in evaluating recovery strategies for Chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Fisheries and Aquatic Sciences* 63 (7): 1578-1595.
- Bate, G.C., and J.B. Adams. 2000. The effects of a single freshwater release into the Kromme estuary: Overview and interpretation for the future. *Water SA* 26: 329-332.
- Bateman, D.S., and H.W. Li. 2001. Nest site selection by reticulate sculpin in two streams of different geologies in the central Coast Range of Oregon. *Transactions of the American Fisheries Society* 130 (5): 823-832.
- Baxter, C.V., K.D. Fausch, and W.D. Saunders. (In press, 2005) Tangled webs: reciprocal flows of invertebrates prey link stream and riparian zones. *Freshwater Biol.*
- Baxter, C.V., C.A. Frissell, and F.R. Hauer. 1999. Geomorphology, logging roads, and the distribution of bull trout spawning in a forested river basin: implications for management and conservation. *Transactions of the American Fisheries Society* 128: 854-867.
- Baxter, C.V., and F.R. Hauer. 2000. Geomorphology, hyporheic exchange, and selection of spawning habitat by bull trout (*Salvelinus confluentus*). *Canadian Journal of Fisheries and Aquatic Sciences* 57 (7): 1470-1481.
- Baxter, J.S., and J.D. McPhail. 1996. Bull trout spawning and rearing habitat requirements: summary of the literature. Province of British Columbia, Fisheries Technical Circular 98, Victoria.
- Baxter, J.S., and J.D. McPhail. 1997. Diel microhabitat preferences of juvenile bull trout in an artificial stream channel. *North American Journal of Fisheries Management* 17 (4): 975-980.

- Baxter, J.S., and J.D. McPhail. 1999. The influence of redd site selection, groundwater upwelling, and over-winter incubation temperature on survival of bull trout (*Salvelinus confluentus*) from egg to alevin. *Canadian Journal of Fisheries and Aquatic Sciences* 77: 1233-1239.
- Bayley, P.B. 1988. Factors affecting growth rates of young tropical floodplain fishes: seasonality and density-dependence. *Environmental Biology of Fishes* 21: 127-142.
- Bayley, P.B. 1991. The flood pulse advantage and the restoration of river-floodplain systems. *Regulated Rivers: Research and Management* 6: 75-86.
- Bayley, P.B. 1995. Understanding large river-floodplain ecosystems. *BioScience* 45: 153-158.
- Bayley, P.B., and M. Petrere, Jr. 1989. Amazon fisheries: assessment method, current status and management options. Pp. 385-398 in: Dodge, D.P. (Ed.) *Proceedings of the International Large Rivers Symposium*. *Can. Special Publ. Fish. Aquatic Sciences* 106.
- Beacham, T.D. 1988. A genetic analysis of early development in pink (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) at three different temperatures. *Genome* 30:89-96.
- Beacham, T.D. 1993. Competition between juvenile pink (*Oncorhynchus gorbuscha*) and chum salmon (*Oncorhynchus keta*) and its effect on growth and survival. *Canadian Journal of Zoology* 71: 1270-1274.
- Beacham, T.D., and C.B. Murray. 1987b. Adaptive variation in body size, age, morphology, egg size and development biology of chum salmon (*Oncorhynchus keta*) in British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 44: 244-261.
- Beacham, Terry D., and Clyde 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 (6): 927-945.
- Beamish, F.W.H. 1980. Swimming performance and oxygen consumption of the charrs. Pp. 739-748 in: Balon, E.K. (Ed.), *Charrs, salmonid fishes of the genus Salvelinus*. Dr. W. Junk, The Hague, The Netherlands.
- Beamish, R.J., C.M. Neville, B.L. Thompson, P.J. Harrison, and M. St. John. 1994. A relationship between Fraser River discharge and interannual production of Pacific salmon (*Oncorhynchus* sp.) and Pacific herring (*Clupea pallasii*) in the Strait of Georgia. *Canadian Journal of Fisheries and Aquatic Sciences* 51 (12): 2843-2855.
- Beard, T.D., Jr., and R.F. Carline. 1991. Influence of spawning and other stream habitat features on spatial variability of wild brown trout. *Transactions of the American Fisheries Society* 120 (6): 711-722.

- Beasley, C.A., and J.E. Hightower. 2000. Effects of a low-head dam on the distribution and characteristics of spawning habitat used by striped bass and American shad. *Transactions of the American Fisheries Society* 129 (6): 1316-1330.
- Bebars, M.I., and G.Lasserre. 1983. Analysis of the Egyptian marine and lagoon fisheries from 1962-1976, in relation to the construction of the Aswan Dam (completed in 1969). *Oceanologica Acta* 6: 417-426.
- Bechera, J.A., M. Leclerc, L. Belzile, and P. Boudreau. 1994. A numerical method for modeling the dynamics of the spawning habitat of landlocked salmon. *Proceedings of the 1<sup>st</sup> International Symposium on Habitat Hydraulics*. August 18-20, 1994. Trondheim, Norway.
- Becker, C.D., D.A. Neitzel, and D.H. Fickieson. 1982. Effects of dewatering on chinook salmon redds: tolerance of four developmental phases to daily dewaterings. *Transactions of the American Fisheries Society* 111 (5): 624-637.
- Becker, C.D., D.A. Neitzel, and C.S. Abernethy. 1983. Effects of dewatering on chinook salmon redds: tolerance of four developmental phases to one-time dewatering. *North American Journal of Fisheries Management* 3: 373-382.
- Beebe, J.T. 1996. Fluid speed variability and the importance to manage fish habitat in rivers. *Regulated Rivers: Research and Management* 12: 63-79.
- Beecher, H.A. 1981. Instream flows and steelhead production in western Washington. *Proceedings of the Western Association of Fish and Wildlife Agencies*: 395-410. Kalispell, Montana.
- Beecher, H.A. 1987. Simulating trout feeding stations in instream flow models. Pages 71-82 in J.F. Craig and J.B. Kemper, editors. *Regulated Streams: Advances in Ecology*. Plenum Press, New York and London.
- Beecher, H.A. 1990. Standards for instream flow. *Rivers* 1 (2): 97-109.
- Beecher, H.A. 1991. PHABSIM in Hawaii. *Rivers* 2 (1): 79-82.
- Beecher, H.A. 1992. Assessing instream flow needs in plunge pools. Unpublished paper presented March 25, Pacific Fishery Biologists, annual meeting, Blaine, Washington.
- Beecher, H.A. 1995. Comparison of preference curves and habitat utilization curves based on simulated habitat use. *Rivers* 5 (2): 109-120.
- Beecher, H.A., B.A. Caldwell, J.P. Carleton, D. Catterson, R. Willms, and T.H. Johnson. ms. Development and evaluation of composite depth and velocity preferences of steelhead parr in Washington streams.

- Beecher, H.A., B.A. Caldwell, and S.B. DeMond. 2002. Evaluation of depth and velocity preferences of juvenile coho salmon in Washington streams. *North American Journal of Fisheries Management* 22 (3): 785-795.
- Beecher, H.A., J.P. Carleton, and T.H. Johnson. 1995. Utility of depth and velocity preferences for predicting steelhead parr distribution at different flows. *Transactions of the American Fisheries Society* 124: 935-938.
- Beecher, H.A., J.P. Carleton, and T.H. Johnson. 1997. Testing the independence of microhabitat preferences and flow: response to comments. *Transactions of the American Fisheries Society* 126 (3): 541-542.
- Beecher, H.A., T.H. Johnson, and J.P. Carleton. 1993. Predicting microdistributions of steelhead parr from depth and velocity criteria: Test of an assumption of the Instream Flow Incremental Methodology. *Canadian Journal of Fisheries and Aquatic Sciences* 50 (11): 2380-2387.
- Beechie, T.J., E. Beamer, and L. Wasserman. 1994. Estimating coho salmon rearing habitat and smolt production losses in a large river basin, and implications for restoration. *North American Journal of Fisheries Management* 14: 797-811.
- Beechie, T.J., and S. Bolton. 1999. An approach to restoring salmonid habitat-forming processes in Pacific Northwest watersheds. *Fisheries* 24 (4): 6-15.
- Beechie, T.J., C.M. Greene, L. Holsinger, and E.M. Beamer. 2006. Incorporating parameter uncertainty into evaluation of spawning habitat imitations on Chinook salmon (*Oncorhynchus tshawytscha*) populations. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (6): 1242-1250.
- Beechie, T.J., M. Liermann, E.M. Beamer, and R. Henderson. 2005. A classification of habitat types in a large river and their use by juvenile salmonids. *Transactions of the American Fisheries Society* 134 (3): 717-729.
- Beechie, T.J., and T.H. Sibley. 1997. Relationships between channel characteristics, woody debris, and fish habitat in northwest Washington streams. *Transactions of the American Fisheries Society* 126: 217-229.
- Beeman, J.W., D.W. Rondorf, J.C. Faler, and 3 others. 1991. Assessment of smolt condition for travel time analysis. U.S. Dept. of Energy, BPA, Annual Report 1990, Division of Fish & Wildlife.
- Beer, W.N., and J.J. Anderson. 2001. Effect of spawning day and temperature on salmon emergence: interpretations of a growth model for Methow River chinook. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (5): 943-949.

- Beland, K.F., R.M. Jordan, and A.L. Meister. 1982. Water depth and velocity preference of spawning Atlantic salmon in Maine rivers. *North American Journal of Fisheries Management* 2 (1): 11-13.
- Beland, K.F., J.G. Trial, and J.F. Kocik. 2004. Use of riffle and run habitats with aquatic vegetation by juvenile Atlantic salmon. *North American Journal of Fisheries Management* 24 (2): 525-533.
- Belanger, G., and M.A. Rodriguez. 2002. Local movement as a measure of habitat quality in stream salmonids. *Environmental Biology of Fishes* 64: 155-164.
- Bell, E. 2001. Survival, growth and movement of juvenile coho salmon (*Oncorhynchus kistuch*) overwintering in alcoves, backwaters, and main channel pools in Prairie Creek, California. Master's thesis, Humboldt State University, Arcata, California.
- Bell, E., W.G. Duffy, and T.D. Roelofs. 2001. Fidelity and survival of juvenile coho salmon in response to a flood. *Transactions of the American Fisheries Society* 130 (3): 450-458.
- Benbow, M.E., M.D. McIntosh, A.J. Burky, and C.M. Way. 2005. The influence of stream flow reduction on the energetics of endemic Hawaiian torrenticolous aquatic insects, *Telmatogeton* Schiner and *Procanace* Hendel. *Journal of Aquatic Insect Conservation* 9: 175-185.
- Benda, L., N.L. Poff, D. Miller, T. Dunne, G. Reeves, G. Pess, and M. Pollock. 2004. The network dynamics hypothesis: how channel networks structure riverine habitats. *Bioscience* 54: 413-427.
- Ben-David, M., T.A. Hanley, and D.M. Schell. 1998. Fertilization of terrestrial vegetation by spawning Pacific salmon: the role of flooding and predator activity. *Oikos* 83: 47-55.
- Benech, V., and M. Penaz. 1995. An outline of lateral fish migrations in the central delta of the Niger River, Mali. *Hydrobiologia* 303: 149-157.
- Benke, A.C. 1990. A perspective on America's vanishing streams. *Journal of the North American Benthological Society* 9: 77-88.
- Benke, A.C. 2000. Importance of flood regime to invertebrate habitat in an unregulated river floodplain ecosystem. *Journal of the North American Benthological Society* 20: 225-240.
- Benke, A.C., I. Chaubey, G.M. Ward, and E.L. Dunn. 2000. Flood pulse dynamics of an unregulated river floodplain in the southeastern U.S. coastal plain. *Ecology* 81 (10): 2730-2741.
- Benson, A.C., T.M. Sutton, R.F. Elliott, and T.G. Meronek. 2005. Seasonal movement patterns and habitat preferences of age-0 lake sturgeon in the lower Peshtigo River, Wisconsin. *Transactions of the American Fisheries Society* 134 (5): 1400-1409.

- Benson, N.G. 1953. The importance of ground water to trout populations in the Pigeon River, Michigan. *Transactions of the North American Wildlife Conference* 18: 269-281.
- Benson, N.G. 1955. Observations on anchor ice in a Michigan trout stream. *Ecology* 36: 529-530.
- Benson, N.G. 1981. The freshwater inflow to estuaries issue. *Fisheries* 6 (5): 8-10.
- Benstead, J.P., J.G. March, C.M. Pringle, and F.S. Scatena. 1999. Effects of a low-head dam and water abstractions on migratory tropical stream biota. *Ecological Applications* 9: 656-668.
- Berejikian, B.A., W.T. Fairgrieve, P. Swanson, and E.P. Tezak. 2003. Current velocity and injection of GnRHa affect reproductive behavior and body composition of captively reared offspring of wild chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Fisheries and Aquatic Sciences* 60 (6): 690-699.
- Berg, N.H. 1994. Ice in stream pools in California's central Sierra Nevada: spatial and temporal variability and reduction in trout habitat availability. *North American Journal of Fisheries Management* 14: 372-384.
- Berggren, T.J, and M.J. Filardo. 1993. An analysis of variables influencing the migration of juvenile salmonids in the Columbia River Basin. *North American Journal of Fisheries Management* 13 (1): 48-63.
- Bernardo, J.M., M. Ilheu, P. Matono, and A.M. Costa. 2003. Interannual variation of fish assemblage structure in a Mediterranean river: implications of streamflow on the dominance of native or exotic species. *River Research and Applications* 19: 521-532.
- Berube, P., M. Leclerc, and L. Belzile. 2002. Presentation of an ecohydrological method for determining the conservation flow for fish habitats in Quebec's rivers (Canada). *Proceedings of the 4<sup>th</sup> IAHR Int. Symposium on Ecohydraulics, Capetown, South Africa.*
- Beschta, R.L. 1990. Effects of fire on water quantity and quality. Pp. 219-232 in: J.D. Walstad, S.R. Radosovich, and D.V. Sandberg (eds.), *Natural and prescribed fire in Pacific Northwest forests*. Oregon State University Press, Corvallis.
- Beschta, R.L., and W.J. Jackson. 1979. The intrusion of fine sediments into a stable gravel bed. *J. Fish. Research Board of Canada* 36: 204-210.
- Beschta, R.L., and W.S. Platts. 1986. Morphological features of small streams: significance and function. *Water Res. Bull.* 22: 369-379.
- Bestgen, K.R. 1997. Interacting effects of physical and biological processes on recruitment of Colorado squawfish. Ph.D. dissertation, Colorado State University, Fort Collins.

- Betsill, R.K., R.L. Noble, and W.H. Neill. 1988. Distribution and habitat selection of telemetered northern and Florida largemouth bass in two small Texas impoundments. *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* 40 (1986): 275-286.
- Bevelhimer, M.S. 1996. Relative importance of temperature, food, and physical structure to habitat choice by smallmouth bass in laboratory experiments. *Transactions of the American Fisheries Society* 125 (2): 274-283.
- Biggs, B.J.F., M.J. Duncan, A.M. Suren, and J.R. Holomuzki. 2001. The importance of bed sediment stability to benthic ecosystems of streams. Pp. 423-449 in: M.P. Mosely, editor. *Gravel-bed rivers V*. New Zealand Hydrological Society, Christchurch, New Zealand.
- Biggs, B.J.F., D.G. Goring, and V.I. Nikora. 1998. Subsidy and stress responses of stream periphyton to gradients of water velocity as a function of community growth form. *Journal of Phycology* 34: 598-607.
- Biggs, B.J.F., R.A. Smith, and M.J. Duncan. 1999. Velocity and sediment disturbance of periphyton in headwater streams: biomass metabolism. *Journal of the North American Benthological Society* 18: 222-241.
- Binns, N.A. 2004. Effectiveness of habitat manipulation for wild salmonids in Wyoming streams. *North American Journal of Fisheries Management* 24 (3): 911-923.
- Binns, N.A., and F.M. Eiserman. 1977. A predictive model for quantification of fluvial trout habitat. *Journal of the Colorado-Wyoming Academy of Science* 9(1): 8-9.
- Binns, N.A., and F.M. Eiserman. 1979. Quantification of fluvial trout habitat in Wyoming. *Transactions of the American Fisheries Society* 108 (3): 215-228.
- Bischoff, A., and C. Wolter. 2001. The flood of the century on the River Oder: effects on the 0+ fish community and implications for floodplain restoration. *Regulated Rivers: Research and Management* 17: 171-190.
- Bishop, A.B., T.B. Hardy, and B.D. Glabou. 1990. Analyzing instream flow trade-offs for small hydropower development. *Rivers* 1: 173-182.
- Bisson, P.A., 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 streamflow. Pp. 62-73 in: N.B. Armantrout (ed), *Acquisition and utilization of aquatic habitat inventory information*. American Fisheries Society, Western Division, Bethesda, Maryland.
- Bisson, P.A., K. Sullivan, and J.L. Nielsen. 1988. Channel hydraulics, habitat use, and body form of juvenile coho salmon, steelhead, and cutthroat trout in streams. *Transactions of the American Fisheries Society* 117 (3): 262-273.

- Biswell, H.N., and A.M. Schultz. 1958. Effects of vegetation removal on spring flow. *California Fish and Game* 44 (3): 211-230.
- Bjornn, T.C. 1971. Trout and salmon movements in two Idaho streams 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. Pp. 83-138 in: W.R. Meehan (ed.) *Influences of forest and rangeland management on salmonid fishes and their habitats*. American Fisheries Society Special Publication 19, Bethesda, Maryland.
- Blanch, S.J., G.G. Ganf, and K.F. Walker. 1999. Tolerance of riverine plants to flooding and exposure indicated by water regime. *Regulated Rivers: Research and Management* 15: 43-62.
- Bleed, A.S. 1987. Limitations of concepts used to determine instream flow requirements for habitat maintenance. *Water Res. Bull.* 23: 1173-1178.
- Blinn, D.W., J.P. Shannon, L.E. Stevens, and J.P. Carder. 1995. Consequences of fluctuating discharge for lotic communities. *Journal of the American Benthological Society* 14: 233-248.
- Blumberg, A.F., and G.L. Mellor. 1980. A coastal ocean numerical model. Pp. 203-214 in: J. Sundermann and K.P. Holz (editors), *Mathematical Modeling of Estuarine Physics*, Proceedings of the International Symposium, Hamburg, 24-26 August 1978. Springer-Verlag, Berlin.
- Blumberg, A.F., and G.L. Mellor. 1987. A description of a three-dimensional coastal circulation model. Pp. 1-16 in: N.S. Heaps (editor), *Three-dimensional coastal ocean models*. American Geophysical Union, Washington, D.C.
- Bohlin, T. 1977. Habitat selection and intercohort competition of juvenile sea-trout (*Salmo trutta*). *Oikos* 29: 112-117.
- Bohlin, T., C. Dellefors, U. Faremo, and A. Johlander. 1994. The energetic equivalence hypothesis and the relation between population density and body size in stream-living salmonids. *American Naturalist* 143: 478-493.
- Boisclair, D. 2001. Fish habitat modeling: from conceptual framework to functional tools. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (1): 1-9.
- Bond, N.R., and P.S. Lake. 2003. Characterizing fish-habitat associations in streams as the first step in ecological restoration. *Austral Ecology* 28: 611-621.
- Bonneau, J.L., and D.L. Scarnecchia. 1998. Seasonal and diel changes in habitat use by juvenile bull trout (*Salvelinus confluentus*) and cutthroat trout (*Oncorhynchus clarki*) in a mountain stream. *Canadian Journal of Zoology* 76: 783-790.

- Booker. 2003. Hydraulic modelling of fish habitat in urban rivers during high flows. *Hydrological Processes* 17: 577-599.
- Boon, P.J. 1988. The impact of river regulation on invertebrate communities in the U.K. *Regulated Rivers: Research and Management* 2: 389-409.
- Boon, P.J. 1993. Distribution, abundance and development of trichoptera larvae in the River North Tyne following the commencement of hydro... *Regulated Rivers: Research and Management* 8: 211-224.
- Borchardt, D. 1993. Effects of flow and refugia on drift loss of benthic macroinvertebrates: implications for habitat restoration in lowland streams. *Freshwater Biology* 29: 221-227.
- Bornette, G., C. Amoros, and N. Lamouroux. 1998. Aquatic plant diversity in riverine wetlands: the role of connectivity. *Freshwater Biology* 39: 270-283.
- Bornman, T.G., J.B. Adams, and G.C. Bate. 2002. Freshwater requirements of a semi-arid supratidal and floodplain saltmarsh. *Estuaries* 25 (6B): 1394-1405.
- Borsanyi, P., K. Alfredsen, A. Harby, O. Ugedal, and C. Kraxner. 2004. A meso-scale habitat classification method for production modelling of Atlantic salmon in Norway. *Hydroecologie Appliquee* 14 (1): 119-138.
- Borwick, J., J. Buttle, and M.S. Ridgway. 2006. A topographic index approach for identifying groundwater habitat of young-of-year brook trout (*Salvelinus fontinalis*) in the land-lake ecotone. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (2): 239-253.
- Bosch, J.M., and J.D. Hewlett. 1982. A review of catchment experiments to determine the effect of vegetation changes on water, yield and evaporation. *J. Hydrol.* 55: 3-23.
- Boss, S.M., and J.S. Richardsom. 2002. Effects of food and cover on the growth, survival, and movement of cutthroat trout (*Oncorhynchus clarki*) in coastal streams. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (6): 1044-1053.
- Boudreau, P., G. Bourgeois, M. Leclerc, A. Boudreault, and L. Belzile. 1996. Two-dimensional habitat model validation based on spatial fish distribution: application to juvenile Atlantic salmon of Moisie River (Quebec, Canada). *In: Ecohydraulics 2000: Proceedings of the 2<sup>nd</sup> International Symposium on Habitat Hydraulics, Quebec, Que., June 1996.* Edited by M. Leclerc, H. Capra, S. Valentin, A. Boudreault, and Y. Cote. INRS-Eau, Quebec, Que. Pp. B365-380.
- Boulton, A.J. 1989. Over-summering refuges of aquatic macroinvertebrates in two intermittent streams in central Victoria. *Transactions of the Royal Society of South Australia* 113: 23-34.

- Boulton, A.J. 2003. Parallels and contrasts in the effects of drought on stream macroinvertebrate assemblages. *Freshwater Biology* 48: 1173-1185.
- Boulton, A.J., S. Findlay, P. Marmonier, E.H. Stanley, and H.M. Valett. 1998. The functional significance of the hyporheic zone in streams and rivers. *Annual Review of Ecology and Systematics* 29: 59-81.
- Boulton, A.J., and P.S. Lake. 1992. The ecology of two intermittent streams in Victoria, Australia. III. Temporal changes in faunal composition. *Freshwater Biology* 27: 123-138.
- Boulton, A.J., and L.N. Lloyd. 1992. Flooding frequency and invertebrate emergence from dry floodplain sediments of the River Murray, Australia. *Regulated Rivers: Research and Management* 7: 137-151.
- Boulton, A.J., C.G. Peterson, N.B. Grimm, and S.G. Fisher. 1992. Stability of an aquatic macroinvertebrate community in a multiyear hydrologic disturbance regime. *Ecology* 73: 2192-2207.
- Boulton, A.J., F. Sheldon, F.C. Thoms, and E.H. Stanley. 2000. Problems and constraints in managing rivers with variable flow regimes. Pages 415-430 in: P.J. Boon, B.R. Davies, and G.E. Petts, editors. *Global perspectives on river conservation: science, policy, and practice*. John Wiley and Sons, U.K.
- Bourgeois, G., D. Caissie, and N. El-Jabi. 1996. Sensitivity analysis of PHABSIM in a small Atlantic salmon stream. Pages B381-B394 in: M. Leclerc, H. Capra, S. Valentin, A. Boudreault, and Y. Cote (eds.). *Proceedings of the Second International Symposium on Habitat Hydraulics*, Quebec.
- Bourgeois, G., R.A. Cunjak, D. Caissie, and N. El-Jabi. 1996. A spatial and temporal evaluation of PHABSIM in relation to measured density of juvenile Atlantic salmon in a small stream. *North American Journal of Fisheries Management* 16 (1): 154-166.
- Boussu, M.F. 1954. Relationship between trout populations and cover on a small stream. *Journal of Wildlife Management* 18: 229-239.
- Bovee, K.D. 1978. Probability-of-use criteria for the family Salmonidae. *Instream Flow Information Paper No. 4*. Washington, D.C.: U.S. Fish and Wildlife Service (FWS/OBS-78/07).
- Bovee, K.D. 1978. The incremental method of assessing habitat potential for coolwater species, with management implications. *American Fisheries Society Special Publication* 11: 340-346.
- Bovee, K.D. 1982. A guide to stream habitat analysis using the instream flow incremental methodology. *Instream Flow Information Paper No. 12*. U.S. Fish and Wildlife Service, FWS/OBS-82/26, Washington, D.C.

Bovee, K.D. 1985. Evaluation of the effects of hydropeaking on aquatic macroinvertebrates using PHABSIM. Pp. 236-241 in: F.W. Olson, R.G. White, and R.H. Hamre (eds.), Proceedings of the Symposium on Small Hydropower and Fisheries. American Fisheries Society, Bethesda, Maryland.

Bovee, K.D. 1986. Development and evaluation of habitat suitability criteria for use in the Instream Flow Incremental Methodology. Instream Flow Information Paper No. 21. U.S. Fish and Wildlife Service, Biological Report 86 (7), Washington, D.C.

Bovee, K.D. 1988. Use of the Instream Flow Incremental Methodology to evaluate influences of microhabitat variability on trout populations. Presented at annual meeting, Western Division, American Fisheries Society, Albuquerque, New Mexico, July 10-13.

Bovee, K.D. 1995. A comprehensive overview of the Instream Flow Incremental Methodology. National Biological Service, Fort Collins, Colorado. 322 pp.

Bovee, K.D. 1996. Perspectives on two-dimensional river habitat models: the PHABSIM experience. Pp. B149-B162 in: M. Leclerc, H. Capra, S. Valentin, A. Boudreault, and Y. Cote. Editors. Ecohydraulics 2000, 2<sup>nd</sup> International Symposium on Habitat Hydraulics, Quebec. INRS-Eau, co-published with FQSA, IAHR/AIRH.

Bovee, K.D., and T. Cochnauer. 1977. Development and evaluation of weighted criteria, probability-of-use curves for instream flow assessments; fisheries. Instream Flow Information Paper No. 3. U.S. Fish and Wildlife Service, FWS/OBS-77/63, Washington, D.C.

Bovee, K.D., B.L. Lamb, J.M. Bartholow, C.D. Stalnaker, J. Taylor, and J. Henriksen. 1998. Stream habitat analysis using the Instream Flow Incremental Methodology. U.S. Geological Survey, Biological Resources Division, Information and Technical Report USGS/BRD-1998-0004. viii+131 pp.

Bovee, K.D., and R.T. Milhous. 1978. Hydraulic simulation in instream flow studies: theory and technique. Instream Flow Information Paper 5, U.S. Fish and Wildlife Service FWS/OBS-78/33.

Bovee, K.D., T.J. Newcomb, and T.G. Coon. 1994. Relations between habitat variability and population dynamics of bass in the Huron River, Michigan. National Biological Survey Biological Report 21. 63 pp.

Bovee, K.D., and M.L. Scott. 2002. Implications of flood pulse restoration for *Populus* regeneration on the upper Missouri River. River Research and Applications 18 (3): 287-298.

Bovee, K., and J.R. Zuboy, editors. 1988. Proceedings of a workshop on the development and evaluation of habitat suitability criteria. U.S. Fish and Wildlife Service, Biological Report 88 (11), Washington, D.C.

- Bowen, M.D. 1996. Habitat selection and movement of a stream-resident salmonid in a regulated river and tests of four bioenergetic optimization models. Dissertation. Utah State University, Logan, Utah, USA.
- Bowen, Z.H. 1996. Relations between fishes and habitat in the Tallapoosa River system, Alabama. Ph.D. dissertation, Auburn University, Auburn, Alabama. 109 pp.
- Bowen, Z.H., M.C. Freeman, and K.D. Bovee. 1998. Evaluation of generalized habitat criteria for assessing impacts of altered flow regimes on warmwater fishes. *Transactions of the American Fisheries Society* 127 (3): 455-468.
- Bowen, Z.H., K.D. Bovee, and T.J. Waddle. 2003. Effects of flow regulation on shallow-water habitat dynamics and floodplain connectivity. *Transactions of the American Fisheries Society* 132 (4): 809-823.
- Bowlby, J.N., and J.C. Roff. 1986. Trout biomass and habitat relationships in southern Ontario streams. *Transactions of the American Fisheries Society* 115 (4): 503-514.
- Boyce, M.S., and L.L. McDonald. 1999. Relating population trends to habitats using resource selection functions. *Trends in Ecology and Evolution* 14: 268-272.
- Boyce, M.S., P.R. Vernier, S.E. Nielsen, and F.K.A. Schmiegelow. 2002. Evaluating resource selection functions. *Ecol. Model.* 157: 281-300.
- Bozek, Michael A. 1990. Generality of habitat models for the Colorado River cutthroat trout fry and the influence of adults on habitat choice and.... Ph.D. dissertation, University of Wyoming, Laramie, Wyoming. 200 pp.
- Bozek, M.A., and W.A. Hubert. 1992. Segregation of resident trout in streams as predicted by three habitat dimensions. *Canadian Journal of Zoology* 70: 886-890.
- Bozek, M.A., and F.J. Rahel. 1991. Assessing habitat requirements of young Colorado River cutthroat trout using macrohabitat and microhabitat approaches. *Transactions of the American Fisheries Society* 120 (5): 571-581.
- Bozek, M.A., and F.J. Rahel. 1992. Generality of microhabitat suitability models for young Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*) across sites and among years in Wyoming streams. *Canadian Journal of Fisheries and Aquatic Sciences* 49 (3): 552-564.
- Braaten, P.J., P.D. Dey, and T.C. Annear. 1997. Development and evaluation of bioenergetic-based suitability criteria for trout. *Regulated Rivers: Research and Management* 13: 345-356.
- Braaten, P.J., and C.S. Guy. 1999. Relations between physicochemical factors and abundance of fishes in tributary confluences of the lower channelized Missouri River. *Transactions of the American Fisheries Society* 128 (6): 1213-1221.

- Braatne, J.H., S.B. Rood, and P.E. Heilman. 1996. Life history, ecology and conservation of riparian cottonwoods in North America. In: R.F. Stettler, H.D. Bradshaw, P.E. Heilman, and T.M. Hinckley (editors). *Biology of Populus and its implication for management and conservation*. NRC Press, Ottawa, ON.
- Braddock, J.C. 1945. Some aspects of the dominance-subordination relationship in fish. *Physiological Zoology* 18: 176-195.
- Bradford, M.J. 1994. Trends in the abundance of chinook salmon (*Oncorhynchus tshawytscha*) of the Nechako River, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 51 (4): 965-973.
- Bradford, M.J. 1997. An experimental study of stranding of juvenile salmonids on gravel bars and in side channels during rapid flow decreases. *Regulated Rivers* 13 (5): 95-104.
- Bradford, M.J., G.C. Taylor, J.A. Allen, and P.S. Higgins. 1995. An experimental study of the stranding of juvenile coho salmon and rainbow trout during rapid flow decreases under winter ... *North American Journal of Fisheries Management* 15 (2): 473-479.
- Bradley, C.E., and D.G. Smith. 1984. Meandering channel response to altered flow regime: Milk River, Alberta, and Montana. *Water Resources Research* 20: 1913-1920.
- Bradley, C.E., and D.G. Smith. 1986. Plains cottonwood recruitment and survival on a prairie meandering river floodplain, Milk River, southern Alberta and northern Montana. *Canadian Journal of Botany* 64: 1433-1442.
- Bradt, P., M. Urban, N. Goodman, et al. 1999. Stability and resilience in benthic macroinvertebrate assemblages - impact of physical disturbances over twenty-five years. *Hydrobiologia* 403: 123-33.
- Bramblett, R.G., and R.G. White. 2001. Habitat use and movements of pallid and shovelnose sturgeon in the Yellowstone and Missouri Rivers in Montana and North Dakota. *Transactions of the American Fisheries Society* 130 (6): 1006-1025.
- Bravard, J.P., C. Amoros, and G. Pautou. 1986. Impact of civil engineering works on the successions of communities in a fluvial system. *Oikos* 47: 92-111.
- Bravender, B.A., and C.S. Shirvell. 1989. Depth, velocity, and substrate measurements of Pacific salmon habitat at three streamflows in Kloiya Creek, B.C., 1984-1 *Can. Data Rep. Fish. Aquat. Sci. No. 758*. 67 pp.
- Bray, K.E. 1966. Habitat models as tools for evaluating historic change in the St. Marys River. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (Suppl. 1): 88-98.

Brayshaw, J.D. 1966. The effect of river discharge on inland fisheries. Pp. 102-118 in: P.C.G. Isaac (editor), Symposium on River Management. McLaren, London.

Breck, S.W., K.R. Wilson, and D.C. Anderson. 2003. Beaver herbivory and its effect on cottonwood trees: Influence of flooding along matched regulated and unregulated rivers. *Rivers Research and Applications* 19 (1): 43-58.

Bremm, D.J. 1988. Comparison of stream velocity simulations for the IFG-4 model three-flow, one-flow, and no-velocity options. M.S. thesis, Humboldt State University, Arcata, California. 54 pp.

Bremset, G. 2000. Seasonal and diel changes in behaviour, microhabitat use and preferences by young pool-dwelling Atlantic salmon, *Salmo salar*, and brown trout, *Salmo trutta*. *Environmental Biology of Fishes* 59: 163-179.

Bremset, G., and O.K. Berg. 1999. Three-dimensional microhabitat use by young pool-dwelling Atlantic salmon and brown trout. *Animal Behavior* 58: 1047-1059.

Brenkman, S.J. 1998. Factors influencing spawning migration of bull trout (*Salvelinus confluentus*) in the North Fork Skokomish River, Olympic National Park, Washington. M.S. thesis, Oregon State University, Corvallis. 92 pp.

Brenkman, S.J., G.L. Larson, and R.E. Gresswell. 2001. Spawning migration of lacustrine-adfluvial bull trout in a natural area. *Transactions of the American Fisheries Society* 130 (5): 981-987.

Brewer, S.K., D.M. Papoulias, and C.F. Rabeni. 2006. Spawning habitat associations and selection by fishes in a flow-regulated prairie river. *Transactions of the American Fisheries Society* 135 (3): 763-778.

Brett, J.R., and N.R. Glass. 1973. Metabolic rates and critical swimming speeds of sockeye salmon (*Oncorhynchus nerka*) in relation to size and temperature. *Journal of the Fisheries Research Board of Canada* 30: 379-387.

Briggs, M.K. 1997. Riparian ecosystem recovery in arid lands: strategies and references. University of Arizona Press, Tucson.

Briggs, M.K., B.A. Roundy, and W.W. Shaw. 1994. Trial and error: assessing the effectiveness of riparian revegetation in Arizona. *Restoration and Management Notes* 12: 160-167.

Briggs, S.V., P.F. Hodgson, and P. Ewin. 1994. Changes in populations of waterbirds on a wetland following water storage. *Wetlands (Australia)* 13: 36-48.

- Brizga, S.O., A.H. Arthington, B.J. Pusey, M.J. Kennard, S.J. Mackay, G.L. Werren, N.M. Craigie, and S.J. Choy. 2002. Benchmarking, a “top-down” methodology for assessing environmental flows in Australian rivers. *In: Proceedings of International Conference on Assessing Environmental Flows for Rivers*. Southern Waters Consulting, Cape Town, South Africa.
- Brock, D.A. 2001. Nitrogen budget for low and high freshwater inflows, Nueces estuary, Texas. *Estuaries* 24: 509-521.
- Bronmark, C., J. Herrman, B. Malmqvist, C. Otto, and P. Sjoström. 1984. Animal community structure as a function of stream size. *Hydrobiologia* 112: 73-79.
- Brooker, M.P. 1981. The impact of impoundments on the downstream fisheries and general ecology of rivers. *Adv. Appl. Ecol.* 6: 91-152.
- Brooker, M.P., and R.J. Hemsworth. 1978. The effect of the release of an artificial discharge of water on invertebrate drift in the R. Wye, Wales. *Hydrobiologia* 59: 155-163.
- Brouder, M.J. 2001. Effects of flooding on recruitment of roundtail chub, *Gila robusta*, in a southwestern river. *Southwestern Naturalist* 46: 302-310.
- Brousseau, C.S., and G.A. Goodchild. 1989. Fisheries and yields in the Moose River basin, Ontario. Pp. 145-158 in: D.P. Dodge (editor), *Proceedings of the International Large River Symposium*. Can. Spec. Publ. Fish. Aquatic Sci. 106.
- Browder, J.A. 1985. Relationship between pink shrimp production on the Tortugas grounds and water flow patterns in the Florida Everglades. *Bulletin of Marine Science* 37: 839-856.
- Browder, J.A., and D. Moore. 1981. A new approach to determining the quantitative relationship between fishery production and the flow of fresh water to estuaries, p. 403-430 in: R. Cross and D. Williams (eds.), *Proceedings of the National Symposium on Freshwater Inflow to Estuaries*, FWS/OBS-81/04. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.
- Browder, J.A., Z. Zein-Eldin, M.M. Criales, M.B. Robblee, S. Wong, T.L. Jackson, and D. Johnson. 2002. Dynamics of pink shrimp (*Farfantepenaeus duorarum*) recruitment potential in relation to salinity and temperature in Florida Bay. *Estuaries* 25 (6B): 1355-1371.
- Brown, D.E., C.J. Lowe, and F. Hausler. 1977. Southwestern riparian communities: their biotic importance and management in Arizona... U.S. Forest Service Gen. Tech. Report RM-43: 201-211. Symposium.
- Brown, J.K. 1990. Effects of fire on streams. Pp. 106-110 in: F. Richardson and R.H. Hamre (eds), *Wild Trout IV: proceedings of the symposium*. Trout Unlimited, Arlington, Virginia.

- Brown, L.E., D.M. Hannah, and A.M. Milner. 2003. Alpine stream habitat classification: an alternative approach incorporating the role of dynamic water source contributions. *Arctic, Antarctic, and Alpine Research* 35: 313-322.
- Brown, L.R., and A.M. Brasher. 1995. Effect of predation by Sacramento squawfish (*Ptychocheilus grandis*) on habitat choice of California roach (*L. s.*) and rainbow trout (*Oncorhynchus mykiss*) in artificial ... *Canadian Journal of Fisheries and Aquatic Sciences* 52 (8): 1639-1646.
- Brown, L.R., and T. Ford. 2002. Effects of flow on the fish communities of a regulated California river: implications for managing native fishes. *River Research and Applications* 18 (4): 331-342.
- Brown, L.R., and P.B. Moyle. 1991. Changes in habitat and microhabitat partitioning within an assemblage of stream fishes in response to predation by Sacramento squawfish (*Ptychocheilus grandis*). *Canadian Journal of Fisheries and Aquatic Sciences* 48 (5): 849-856.
- Brown, R.S., and W.C. Mackay. 1995. Fall and winter movements of and habitat use by cutthroat trout in the Ram River, Alberta. *Transactions of the American Fisheries Society* 124 (6): 873-885.
- Brown, R.S., G. Power, and S. Beltaos. 2001. Winter movements and habitat use of riverine brown trout, white sucker, and common carp in relation to flooding and ice break-up. *Journal of Fish Biology* 59: 1126-1141.
- Brown, S.K., K.R. Buja, S.H. Jury, M.E. Monaco, and A. Banner. 2000. Habitat suitability index models for eight fish and invertebrate species in Casco and Sheepscot bays, Maine. *North American Journal of Fisheries Management* 20: 408-435.
- Brown, T.G., and G.F. Hartman. 1988. Contribution of seasonally flooded lands and minor tributaries to the production of coho salmon in Carnation Creek, British Columbia. *Transactions of the American Fisheries Society* 117: 5546-551.
- Brunke, M., and T. Gonser. 1997. The ecological significance of exchange processes between rivers and groundwater. *Freshwater Biol.* 37: 1-33.
- Brunke, M., E. Hoehn, and T. Gonser. 2003. Patchiness of river-groundwater interactions within two floodplain landscapes and diversity of aquatic invertebrate communities. *Ecosystems* 6: 707-722.
- Bruns, D.A., G.W. Minshall, C.E. Cushing, K.W. Cummins, J.T. Brock, and R.L. Vannote. 1984. Tributaries as modifiers of the river continuum concept - analysis by polar ordination and regression models. *Archiv vur Hydrobiologie* 99: 208-220.

- Brussock, P.P., A.V. Brown, and J.C. Dixon. 1985. Channel form and stream ecosystem models. *Water Res. Bull.* 21: 859-866.
- Brusven, M.A., W.R. Meehan, and J.F. Ward. 1986. Summer use of simulated undercut banks by juvenile chinook salmon in an artificial Idaho channel. *North American Journal of Fisheries Management* 6 (1): 32-37.
- Buffington, J.M., D.R. Montgomery, and H.M. Greenberg. 2004. Basin-scale availability of salmonid spawning gravel as influenced by channel type and hydraulic roughness in mountain catchments. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (11): 2085-2096.
- Bugert, R.M. 1985. Microhabitat selection of juvenile salmonids in response to stream cover alteration and predation. M.S. thesis, University of Idaho, Moscow, Idaho. 95 pp.
- Bugert, R.M., and T.C. Bjornn. 1991. Habitat use by steelhead and coho salmon and their responses to predators and cover in laboratory streams. *Transactions of the American Fisheries Society* 120 (4): 486-493.
- 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 (4): 474-485.
- Buijse, A.D., H. Coops, M. Staras, L.H. Jans, G.J. Van Geest, R.E. Grifts, B.W. Ibelings, W. Oosterber, and F.C.J.M. Roozen. 2002. Restoration strategies for river floodplains along large lowland rivers in Europe. *Freshwater Biology* 47: 889-907.
- Bulger, A.J., B.P. Hayden, M.E. Monaco, D.M. Nelson, and M.G. McCormick-Ray. 1993. Biologically-based estuarine salinity zones derived from multivariate analysis. *Estuaries* 16: 311-322.
- Bult, T.P., R.L. Haedrich, and D.C. Schneider. 1998. New technique describing spatial scaling and habitat selection in riverine habitats. *Regulated Rivers: Research and Management* 14: 107-118.
- Bult, T.P., S.C. Riley, R.L. Haedrich, R.J. Gibson, and J. Heggenes. 1999. Density-dependent habitat selection by juvenile Atlantic salmon (*Salmo salar*) in experimental riverine habitats. *Canadian Journal of Fisheries and Aquatic Sciences* 56:1298-1306.
- Bunn, S.E., and A.H. Arthington. 2002. Basic principles and ecological consequences of altered flow regimes for aquatic biodiversity. *Environmental Management* 30: 492-507.
- Bunt, C.M., S.J. Cooke, C. Katapodis, and R.S. McKinley. 1999. Movement and summer habitat of brown trout (*Salmo trutta*) below a pulsed discharge hydroelectric generating station. *Regulated Rivers: Research and Management* 15: 395-403.

- Burgherr, P., J.V. Ward, and C.T. Robinson. 2002. Seasonal variation in zoobenthos across habitat gradients in an alpine glacial floodplain Val Roseg, Swiss Alps. *Journal of the North American Benthological Society* 21: 561-575.
- Burner, C.J. 1951. Characteristics of spawning nests of Columbia River salmon. *Fishery Bulletin* 52: 95-110.
- Burns, A., and K. Walker. 2000. Effects of water level regulation on algal biofilms in the River Murray, South Australia. *Regulated Rivers: Research and Management* 16: 434-444.
- Burns, J.W. 1971. The carrying capacity for juvenile salmonids in some northern California streams. *California Fish and Game* 57 (1): 44-57.
- Burt, D.W., and J.H. Mundie. 1986. Case histories of regulated stream flow and its effects on salmonid populations. *Canadian Technical Report of Fisheries and Aquatic Sciences* 1477: 98 pp.
- Burton (Barton?), R.A., and T.A. Wesche. 1974. Relationship of duration flows and selected watershed parameters to the standing crop estimates of trout populations. *Water Resources Research Institute, University of Wyoming, Water Resources Series Number 52, Laramie, Wyoming.*
- Busch, D.E., and S.D. Smith. 1995. Mechanisms associated with the decline of woody species in riparian ecosystems of the southwest U.S. *Ecological Monographs* 65: 1433-1442.
- Bustard, D.R., and D.W. Narver. 1975. 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.
- Bustard, D.R., and D.W. Narver. 1975. Aspects of the winter ecology of juvenile coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Salmo gairdneri*). *Journal of the Fisheries Research Board of Canada* 32: 667-680.
- Buttle, J.M. 1994. Hydrological response to reforestation in the Ganaraska River basin, southern Ontario. *Can. Geogr.* 38: 240-253.
- Buttle, J.M. 1996. Identifying hydrological responses to basin restoration: an example from southern Ontario. Pp. 5-13 in: J.J. McDonnell, J.B. Stribling, L.R. Neville, and D.J. Leopold, eds., *Watershed restoration management: physical, chemical, and biological considerations.* American Water Resources Association, Herndon, Virginia.
- Buttle, J.M., and R.A. Metcalfe. 2000. Boreal forest disturbance and streamflow response, northeastern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (Suppl 2): 5-18.

- Byers, C.R., R.K. Steinhorst, and P.R. Krausman. 1984. Clarification of a technique for analysis of utilization-availability data. *Journal of Wildlife Management* 48: 1050-1053.
- Cada, G.F., M.D. Deacon, S.V. Mitz, and M.S. Bevelheimer. 1993. Review of information pertaining to the effect of water velocity on the survival of juvenile salmon and steelhead in the Columbia River basin. Northwest Power Planning Council, Portland, Oregon.
- Cada, G.F., M.D. Deacon, S.V. Mitz, and M.S. Bevelheimer. 1995. Effects of water velocity on the survival of downstream-migrating juvenile salmon and steelhead: a review with emphasis on the Columbia River. *Reviews in Fisheries Science* 5: 131-183.
- Caissie, D., and N. El-Jabi. 1995. Comparison and regionalization of hydrologically-based instream flow techniques in Atlantic Canada. *Canadian Journal of Civil Engineering* 22: 235-246.
- Caldwell, J.E., and C. Gowan. 1988. The role of professional judgment in the development of category I criteria curves. Pages 91-101 in: Bovee, K., and J.R. Zuboy, editors. *Proceedings of a workshop on the development and evaluation of habitat suitability criteria*. U.S. Fish and Wildlife Service, Biological Report 88 (11), Washington, D.C.
- Calkins, D.J. 1989. Winter habitats of Atlantic salmon, brook trout, brown trout and rainbow trout - a literature review. U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, Special Report 89-34 (October 1989): 9 p.
- Calkins, D.J. 1993. Physical effects of river ice. Pp. 4-6 in: T.D. Prowse and N.C. Gridley, editors. *Environmental aspects of river ice*. National Hydrology Research Institute, Science Report 5, Saskatoon, Saskatchewan.
- Camargo, J.A. 1993. Dynamic stability of hydropsychid guilds along a regulated stream: the role of competitive interactions versus environ... *Regulated Rivers: Research and Management* 8: 29-40.
- Camargo, J.A., and D. Garcia de Jalon. 1990. The downstream impacts of the Burgomillodo Reservoir, Spain. *Regulated Rivers: Research and Management* 5: 305-317.
- Campbell, E.A. 1998. Influence of streamflow and predators on habitat choice by trout. Dissertation. University of California, Davis, California, USA.
- Campbell, R.F., and B.R. Eddy. 1988. Verification of habitat utilization criteria for juvenile fall chinook in the North Fork of the Lewis River, Washington. Pages 364-389 in: K. Bovee and J.R. Zuboy, editors. *Proceedings of a workshop on the development and evaluation of habitat suitability criteria*. U.S. Fish and Wildlife Service Biological Report 88 (11). 407 pp.

- 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, Bethesda .
- Cantrell, C.J., A.T. Robinson, and L.D. Avenetti. 2005. Habitat selection by Apache trout in six east-central Arizona streams. Transactions of the American Fisheries Society 134 (5): 1382-1388.
- Capone, T.A., and J.A. Kushlan. 1991. Fish community structure in dry-season stream pools. Ecology 72 (3): 983-992.
- Capra, H. 1995. Amelioration des modeles predictifs d'habitat de la truite fario: Echelles d'échantillonnage - Integration des chroniques hydrologiques. Diplome de Doctorat, Universite Claude Bernard, Lyon I.
- Capra, H., P. Breil, and Y. Souchon. 1995. A new tool to interpret magnitude and duration of fish habitat variations. Regulated Rivers: Research and Management 10: 281-289.
- Capra, H., C. Sabaton, V. Gouraud, Y. Souchon, and P. Lim. 2003. A population dynamics model and habitat simulation as a tool to predict brown trout demography in natural and bypassed stream reaches. Rivers Research and Applications 19: 551-568.
- Cardinale, B.J., M.A. Palmer, C.M. Swan, S. Brooks, and N.L. Poff. 2002. The influence of substrate heterogeneity on biofilm metabolism in a stream ecosystem. Ecology 83 (2): 412-422.
- Carriquiry, J.D., and A. Sanchez. 1999. Sedimentation in the Colorado River Delta and upper Gulf of California after nearly a century of discharge loss. Marine Geology 158: 125-145.
- Carline, R.F. 1980. Features of successful spawning site development for brook trout in Wisconsin ponds. Transactions of the American Fisheries Society 109: 453-457.
- Carline, R.F. 2006. Regulation of an unexploited brown trout population in Spruce Creek, Pennsylvania. Transactions of the American Fisheries Society 135 (4): 943-954.
- Carline, R.F., and B.J. McCullough. 2003. Effects of floods on brook trout populations in the Monongahela National Forest, West Virginia. Transactions of the American Fisheries Society 132 (5): 1014-1020.
- Carling, P.A. 1987. Bed stability in gravel streams, with reference to stream regulation and ecology. Pp. 321-347 in: K.S. Richards (ed), River channels: environment and process. Basil Blackwell, Oxford, U.K.
- Carling, P.A., and C.P. McMahon. 1987. Natural siltation of brown trout (*Salmo trutta*) spawning gravels during low-flow conditions. Pp. 229-244 in: J.F. Craig and B.J. Kemper, editors. Regulated streams: advances in ecology. Plenum Press, New York.

- Carstens, T. 1966. Experiments with supercooling and ice formation in flowing water. *Geofysiske Publikasjoner* 26: 3-18.
- Carter, J.G., R.A. Valdez, R.J. Ryel, and V.A. Lamarra. 1985. Fisheries habitat dynamics in the upper Colorado River. *J. of Freshwater Ecol.* 3: 249-264.
- Carter, R.W., and I.E. Anderson. 1963. Accuracy of current meter measurements. *Journal of the Hydraulics Division, American Society of Civil Engineers* 89 (HY4): 105-115.
- Casado, C., D. Garcia de Jalon, Del Olmo, Barcelo, Menee... 1989. The effect of an irrigation and hydroelectric reservoir on its downstream communities. *Regulated Rivers: Research and Management* 4: 275-284.
- Casterlin, M.E., and W.W. Reynolds. 1978. Habitat selection by bluegill sunfish, *Lepomis macrochirus*. *Hydrobiologia* 59: 75-79.
- Castleberry, D.T., J.J. Cech, Jr., D.C. Erman, D.H. Hankin, M. Healy, G.M. Kondolf, M. Mangel, M. Mohr, P.B. Moyle, J. Nielsen, T.P. Speed, and J.G. Williams. 1996. Uncertainty and instream flow standards. *Fisheries* 21 (8): 20-21.
- Catalano, M.J., M.S. Allen, and D.J. Murie. 2006. Effects of variable flows on water chemistry gradients and fish communities at the Hillsborough River, Florida. *North American Journal of Fisheries Management* 26 (1): 108-118.
- Cattaneo, F., G. Carrel, N. Lamouroux, and P. Breil. 2001. Relationship between hydrology and cyprinid reproductive success in the lower Rhone at Montelimar, France. *Arch. Hydrobiol.* 151: 427-450.
- Cattaneo, F., N. Lamouroux, P. Breil, and H. Capra. 2002. The influence of hydrological and biotic processes on brown trout (*Salmo trutta*) population dynamics. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (1): 12-22.
- Cavendish, M.G., and M.I. Duncan. 1986. Use of the Instream Flow Incremental Methodology: a tool for negotiation. *Environmental Impact Assessment Review* 6: 347-363.
- Cedergren, H.R. 1989. Seepage, drainage, and flow nets. John Wiley & Sons, New York.
- Cederholm, C.J., R.E. Bilby, P.A. Bisson, T.W. Bumstead, B.R. Fransen, W.J. Scarlett, and J.W. Ward. 1997. Response of juvenile coho salmon and steelhead to placement of large woody debris in a coastal Washington stream. *North American Journal of Fisheries Management* 17 (4): 947-963.
- Chambers, P.A., E.E. Prepas, H.R. Hamilton, and Both. 1991. Current velocity and its effect on aquatic macrophytes in flowing waters. *Ecological Applications* 1 (3): 249-257.

Champion, P.D., and C.C. Tanner. 2001. Seasonality of macrophytes and interaction with flow in a New Zealand lowland stream. *Hydrobiologia* 441: 1-12.

Chan, M.D., E.D. Dibble, and K.J. Kilgore. 1997. A laboratory examination of water velocity and substrate preference by age-0 Gulf sturgeons. *Transactions of the American Fisheries Society* 126: 330-333.

Chan, T.U., and D.P. Hamilton. 2001. The effect of freshwater flow on the succession and biomass of phytoplankton in a seasonal estuary. *Marine and Freshwater Research* 52: 869-884.

Chan, T.U., D.P. Hamilton, B.J. Robson, B.R. Hodges, and C. Dallimore. 2002. Impacts of hydrological changes on phytoplankton succession in the Swan River, Western Australia. *Estuaries* 25 (6B): 1406-1415.

Chanton, J., and F.G. Lewis. 1999. Plankton and dissolved inorganic carbon isotopic composition in a river-dominated estuary: Apalachicola Bay, Florida. *Estuaries* 22: 575-583.

Chanton, J., and F.G. Lewis. 2002. Examination of coupling between primary and secondary production in a river-dominated estuary: Apalachicola Bay, Florida, U.S.A. *Limnology and Oceanography* 47(3): 683-697.

Chapin, D.M., R.L. Beschta, and H.W. Shen. 2002. Relationship between flood frequencies and riparian plant communities in the upper Klamath Basin, Oregon. *Journal of the American Water Resources Association* 38: 603-617.

Chapman, D.W. 1966. Food and space as regulators of salmonid populations in streams. *American Naturalist* 100 (913): 345-357.

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): 1-21.

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.

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 (4): 357-363.

Chapman, D.W., and K.P. McLeod. Development of criteria for fine sediment in the Northern Rockies Ecoregion. Don Chapman Consultants, Work Assignment 2-73, Final Report, Boise, Idaho.

- Chapman, D.W., D.E. Weitkamp, T.L. Welsh, M.B. Bell, 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, L.J., and D.L. Kramer. 1991. The consequences of flooding for the dispersal and fate of a poeciliid fish in an intermittent tropical stream. *Oecologia* 87: 299-306.
- Charpentier, B., and A. Morin. 1994. Effect of current velocity on ingestion rates of black fly larvae. *Canadian Journal of Fisheries and Aquatic Sciences* 51: 1615-1619.
- Chauvet, E., and H. Decamps. 1989. Lateral interactions in a fluvial landscape: the River Garonne, France. *J. of the N. Am. Benth. Soc.* 8: 9-17.
- Chebanov, N.A. 1986. Factors controlling spawning success in pink salmon, *Oncorhynchus gorbuscha*. *J. Ichthyology*. 26: 69-78.
- Chen, X., M.S. Flannery, and D.L. Moore. 2000. Response times of salinity in relation to changes in freshwater inflows in the Hillsborough River, Florida. *Estuaries* 23: 735-742.
- Cheng, J.D. 1989. Streamflow changes after clear-cut logging of a pine beetle infested watershed in southern British Columbia, Canada. *Water. Resour. Res.* 25: 449-456.
- Cheslak, E.F., and J.C. Garcia. 1988. An evaluation of the effects of various smoothing and curve-fitting techniques on the accuracy of suitability functions. U.S. Fish and Wildlife Service Biological Report 88 (11): 259-286.
- Cheslak, E.F., and A.S. Jacobson. 1990. Integrating the Instream Flow Incremental Methodology with a population response model. *Rivers* 1 (4): 264-288.
- Chiasson, W.B., D.L.G. Noakes, and F.W.H. Beamish. 1997. Habitat, benthic prey, and distribution of juvenile lake sturgeon (*Acipenser fulvescens*) in northern Ontario rivers. *Canadian Journal of Fisheries and Aquatic Sciences* 54: 2866-2871.
- Chien, N. 1985. Changes in river regime after the construction of upstream reservoirs. *Earth Surface Processes and Landforms* 10: 143-159.
- Chigbu, P. 2000. Population Biology of Longfin Smelt and Aspects of the Ecology of Other Major Planktivorous Fishes in Lake Washington. *Journal of Freshwater Ecology*; 15(4): 543-557.
- Chisholm, I.M., W.A. Hubert, and T.A. Wesche. 1987. Winter stream conditions and use of habitat by brook trout in high-elevation Wyoming streams. *Transactions of the American Fisheries Society* 116 (2): 176-184.
- Chow, V.T. 1959. *Open channel hydraulics*. McGraw-Hill, New York.

- Christensen, J.D., M.E. Monaco, R.J. Livingston, G. Woodsum, T.A. Battista, C.J. Klein, B. Galperin, and W. Huang. 1998. Potential impacts of freshwater inflow on Apalachicola Bay, Florida oyster (*Crassostrea virginica*) populations: coupling hydrologic and biological models. NOAA/NOS Strategic Environmental Assessments Division Report, Silver Spring, Maryland. 58 pp.
- Church, M. Channel morphology and typology. Pp. 126-143 in: P. Calow and G.E. Petts, eds. The rivers handbook: hydrological and ecological principles. Blackwell, Oxford.
- Church, M. 1995. Geomorphic response to river flow regulation: case studies and time-scales. *Regulated Rivers* 11: 3-22.
- Ciborowski, J.J.H., and D.A. Craig. 1989. Factors influencing dispersion of larval black flies (Diptera: Simuliidae): effects of current velocity and food concentration. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 1329-1341.
- Clancy, C.G. 1988. Effects of dewatering on spawning Yellowstone cutthroat trout in tributaries to the Yellowstone River, Montana. P. 37 in: R.E. Gresswell (editor), Status and management of interior stocks of cutthroat trout. American Fisheries Society Symposium 4, Bethesda, Maryland.
- Clapp, D.F., R.D. Clark, Jr., and J.S. Diana. 1990. Range, activity, and habitat of large, free-ranging brown trout in a Michigan stream. *Transactions of the American Fisheries Society* 119 (6): 1022-1034.
- Clark, R.A. 1992. Influence of stream flows and stock size on recruitment of the Arctic grayling (*Thymallus arcticus*) in the Chena River, Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 49 (5): 1027-1034.
- Clarkson, R.W., and J.R. Wilson. 1995. Trout biomass and stream habitat relationships in the White Mountains area, east-central Arizona. *Transactions of the American Fisheries Society* 124 (4): 599-612.
- Clary, W.P. 1999. Stream channel and vegetation responses to late spring cattle grazing. *Journal of Range Management* 52: 218-227.
- Clausen, B., and B.J.F. Biggs. 1997. Relationship between benthic biota and hydrological indices in New Zealand streams. *Freshwater Biology* 38: 327-342.
- Clifton, C. 1989. Effects of vegetation and land use on channel morphology. Pages 121-129 in: R.E. Gresswell, B.A. Barton, and J.L. Kershner, editors. Practical approaches in riparian resource management. US Department of the Interior, Bureau of Land Management, Billings, Montana.

- Cloern, J.E. 1984. Temporal dynamics and ecological significance of salinity stratification in an estuary (South San Francisco Bay, USA). *Oceanologica Acta* 7: 137-141.
- Cloern, J.E., A.E. Alpine, B.E. Cole, R.L.J. Wong, J.F. Arthur, and D.M. Ball. 1983. River discharge controls phytoplankton dynamics in the northern San Francisco Bay estuary. *Estuarine, Coastal and Shelf Science* 16: 415-429.
- Closs, G.P., and P.S. Lake. 1996. Drought, differential mortality, and the coexistence of native and introduced fish species in a southeast Australian intermittent stream. *Environmental Biology of Fishes* 47: 17-26.
- Clothier, W.D. 1954. Effect of water reductions on fish movement in irrigation diversions. *Journal of Wildlife Management* 118: 150-160.
- Coats, R., L. Collins, J. Florsheim, and D. Kaufman. 1985. Channel change, sediment transport, and fish habitat in a coastal stream: effects of an extreme event. *Environmental Management* 9 (1): 35-48.
- Coats, R.N., and T.O. Miller. 1981. Cumulative silvicultural impacts on watersheds: a hydrological and regulatory dilemma. *Environmental Management* 5: 147-160.
- Cobb, D.G., T.D. Galloway, and J.F. Flannagan. 1992. Effects of discharge and substrate stability on density and species composition of stream insects. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 1788-1795.
- Cobb, S.P., and J.R. Clark. 1981. Aquatic habitat studies on the lower Mississippi River, river mile 480-530. Report 2, aquatic habitat mapping. Misc. Paper E-80-1. United States Army Corps of Engineers, Waterways Experimental Station, Vicksburg, Mississippi.
- 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 (4): 469-474.
- Coccoli, H.A. 1996. Effects of springtime flow alteration on side channel habitat in the Green River. M.S. thesis, Department of Civil Engineering, University of Washington, Seattle. 78 pp.
- Coe, T.A. 2001. Contrasting discharge patterns, juvenile salmonid use, and fish community structure in off-channel floodplain habitats, Queets River, Washington. Master's thesis, University of Washington, Seattle.
- Cohen, P., H. Andriamahefa, and J.-G. Wasson. 1998. Towards a regionalization of aquatic habitat: distribution of mesohabitats at the scale of a large basin. *Regulated Rivers: Research and Management* 14: 391-404.

- Collen, P., and R.J. Gibson. 2000. The general ecology of beavers (*Castor* spp.), as related to their influence on stream ecosystems and riparian habitats, and the subsequent effects on fish - a review. *Reviews in Fish Biology and Fisheries* 10: 439-461.
- Collings, M.R. 1974. Generalization of spawning and rearing discharges for several Pacific salmon species in western Washington. U.S. Geological Survey Open File Report, Tacoma.
- Collings, R.M., R.W. Smith, and G.T. Higgins. 1972. The hydrology of four streams in western Washington as related to several Pacific salmon species. 109 pp.
- Collier, K.J. 2002. Effects of flow regulation and sediment flushing on instream habitat and benthic invertebrates in a New Zealand river influenced by a volcanic eruption. *River Research and Applications* 18 (3): 213-226.
- Collier, K.J., and J.M. Quinn. 2003. Land-use influences macroinvertebrate community response following a pulse disturbance. *Freshwater Biology* 48: 1462-1481.
- Collier, K.J., and M.D. Wakelin. 1996. Instream habitat use by blue duck (*Hymenolaimus malacorhynchos*) in a New Zealand river. *Freshwater Biology* 35: 277-287.
- Collier, M., R.H. Webb, and J.C. Schmidt. 1996. Dams and rivers: Primer on the downstream effects of dams. U.S. Geological Survey Circular 1126, Denver.
- Colonnello, G., and E. Medina. 1998. Vegetation changes induced by dam construction in a tropical estuary: the case of the Manamo River, Orinoco Delta (Venezuela). *Plant Ecology* 139: 145-154.
- Conder, A.L., and T.C. Annear. 1987. Test of weighted usable area estimates derived from a PHABSIM model for instream flow studies on trout streams. *North American Journal of Fisheries Management* 7 (3): 339-350.
- Conlin, D.J., Jr., S.P. Canton, J.W. Chadwick, and W.J., Miller. 1995. Habitat suitability curves for selected fish species in the central Platte River, Nebraska. *Rivers* 5 (4): 250-266.
- Connor, E.J., and D.E. Pflug. 2004. Changes in the distribution and density of pink, chum, and Chinook salmon spawning in the upper Skagit River in response to flow management measures. *North American Journal of Fisheries Management* 24 (3): 835-852.
- Connor, W.P., H.L. Burge, and D.H. Bennett. 1998. Detection of subyearling chinook salmon at a Snake River dam: implications for summer flow augmentation. *North American Journal of Fisheries Management* 18: 530-536.
- Connor, W.P., H.L. Burge, J.R. Yearsley, and T.C. Bjornn. 2003. The influence of flow and temperature on survival of wild subyearling fall chinook salmon in the Snake River. *North*

American Journal of Fisheries Management 23: 362-375.

Connor, W.P., S.G. Smith, T. Andersen, S.M. Bradbury, D.C. Burum, E.E. Hockersmith, M.L. Schuck, G.W. Mendel, and R.M. Bugert. 2004. Postrelease performance of hatchery yearling and subyearling fall Chinook salmon released into the Snake River. *North American Journal of Fisheries Management* 24 (2): 545-560.

Connor, W.P., R.K. Steinhorst, and H.L. Burge. 2003. Migrational behavior and rate of seaward movement of wild subyearling fall chinook salmon in the Snake River. *North American Journal of Fisheries Management* 23: 414-430.

Constantz, J. 1998. Interaction between stream temperature, streamflow, and groundwater exchanges in alpine streams. *Water Resour. Res.* 34: 1609-1615.

Contor, C.R. 1989. Winter day and night habitat utilization and behavior of juvenile rainbow trout in the Henrys Fork of the Snake River, Idaho. M.S. thesis, Idaho State University, Pocatello.

Cook, E.R., and G.C. Jacoby. 1983. Potomac River since 1730 as reconstructed by tree rings. *Journal of Climate and Applied Meteorology* 22 (10): 1659-1672.

Coon, T. 1987. Responses of benthic riffle fishes to variations in stream discharge and temperature. Pp. 77-85 in: W.J Matthews and D.C. Heins (eds.) *Community and evolutionary ecology of North American stream fishes*. Oklahoma Press, Norman.

Coon, T.G., and H.R. Dames. 1991. Catfish movement and habitat use in a Missouri River tributary. *Proceedings of the Annual Conference Southeastern Association of Fish and Wildlife Agencies* 43 (1989): 119-132.

Cooper, A.C. 1965. The effect of transported stream sediments on the survival of sockeye and pink salmon eggs and alevins. *International Pacific Salmon Committee Bulletin* 18.

Cooper, C.O., and T.A. Wesche. 1976. Stream channel modification to enhance trout habitat under low flow conditions. *Water Res. Inst., Office of Water Res. Tech., Washington, D.C.* Rept. No. SER-58 117 pp.

Cooper, D.J., D.M. Merritt, D.C. Andersen, and R.A. Chimner. 1999. Factors controlling the establishment of Fremont cottonwood seedlings on the upper Green River, U.S.A. *Regulated Rivers: Research and Management* 15: 419-440.

Cooper, S.D., S. Diehl, K.Kratz, and O. Sarnelle. 1998. Implications of scale for patterns and processes in stream ecology. *Australian Journal of Ecology* 23: 27-40.

Coops, H., N. Geilen, and G. van der Velde. 1999. Helophyte zonation in two regulated estuarine areas of the Netherlands: Vegetation analysis and relationships with hydrological factors. *Estuaries* 22: 657-668.

- Cope, O.B. 1957. The choices of spawning sites by cutthroat trout. Proceedings of the Utah Academy of Sciences, Arts and Letters 34: 73-79.
- Copeland, B.J. 1966. Effects of decreased river flow on estuarine ecology. Journal of the Water Pollution Control Federation 38 (11): 1831-1839. (University of Texas, Institute of Marine Science, Port Aransas , Texas)
- Copp, G.H. 1989. The habitat diversity and fish reproductive function of floodplain ecosystems. Environmental Biology of Fishes 26: 1-27.
- Copp, G.H. 1990. Shifts in the microhabitat of larval and juvenile roach *Rutilus rutilus* (L.) In a floodplain channel. Journal of Fish Biology 36: 683-692.
- Copp, G.H. 1992. Comparative microhabitat use of cyprinid larvae and juveniles in a lotic floodplain channel. Environmental Biology of Fishes 33: 181-193.
- Corning, R.V. 1970. Water fluctuation, a detrimental influence on trout streams. Annual Conference of the Southeastern Association of Game and Fish Commissioners (23): 431-454.
- Coronado, C., and R. Hillborn. 1998. Spatial and temporal factors affecting survival in coho and fall Chinook salmon in the Pacific Northwest. Bull. Mar. Sci. 62: 409-425.
- Cortes, R.M.V, M.T. Ferreira, S.V. Oliveira, and D. Oliveira. 2002. Macroinvertebrate community structure in a regulated river segment with different flow conditions. River Research and Applications 18 (2): 367-382.
- Costa, J.E., and J.E. O'Connor. 1995. Geomorphically effective floods. Pp. 45-56 in: J.E. Costa, A.J. Miller, K.W. Potter, and P.R. Wilcock, eds. Natural and anthropogenic influences in fluvial geomorphology. Geophysical Monograph 89.
- Cotel, A.J., P.W. Webb, and H. Tritico. 2006. Do brown trout choose locations with reduced turbulence? Transactions of the American Fisheries Society 135 (3): 610-619.
- Coulombe-Pontriand, M., and M. Lapointe. 2004. Geomorphic controls, riffle substrate quality and spawning site selection in two semi-alluvial salmon rivers in the Gaspe Peninsula, Canada. Rivers Res. Appl. 20: 577-590.
- Coutant, C.C. 2004. A riparian habitat hypothesis for successful reproduction of white sturgeon. Reviews in Fisheries Science 12: 23-73.
- Cowx, I.G., and R.A. Gould. 1989. Effects of stream regulation on Atlantic salmon and brown trout in the Upper Severn catchment, U.K. Regulated Rivers: Research and Management 3: 235-245.

- Cowx, I.G., W.O. Young, and J.M. Helawell. 1984. The influence of drought on the fish and invertebrate populations of an upland stream in Wales. *Freshwater Biology* 14: 165-177.
- Craig, D.A., and M.M. Galloway. 1987. Hydrodynamics of larval black flies. Pages 171-185 in: K.C. Kim and R.W. Merritt, editors. *Black flies*. Pennsylvania State University, State College, Pennsylvania, USA.
- Cramer, S.P. 1997. Use of managed pulses in flow to stimulate outmigration of juvenile salmon. Pp. 563-568 in: S.Y. Wang and T. Carstens, eds. *Environmental and coastal hydraulics: protecting the aquatic habitat*. Proceedings of theme B, water for a changing global community, 27<sup>th</sup> Congress of the International Association for Hydraulic Research. American Society of Civil Engineers, New York.
- Crance, J.H. 1984. Habitat suitability index models and instream flow suitability curves: inland stocks of striped bass. U.S. Fish and Wildlife Service FWS/OBS-82/10.85. 61 pp.
- Crance, J.H. 1987. Habitat suitability index curves for paddlefish, developed by the Delphi technique. *North American Journal of Fisheries Management* 7 (1): 123-130.
- Crance, J.H. 1988. Preliminary habitat suitability index curves for sauger. *Proceedings of the Annual Conference Southeast Association of Fish and Wildlife Agencies* 41 (1987): 159-167.
- Crecco, V.A., and T. Savoy. 1984. Effects of hydrographic fluctuations on the year-class strength of American shad (*Alosa sapidissima*) in the Connecticut River. *Canadian Journal of Fisheries and Aquatic Sciences* 41: 1216-1223.
- Creque, S.M., E.S. Rutherford, and T.G. Zorn. 2005. Use of GIS-derived landscape-scale habitat features to explain facial patterns of fish density in Michigan rivers. *North American Journal of Fisheries Management* 25 (4): 1411-1425.
- Crisp, D.T., and P.A. Carling. 1989. Observations on siting, dimensions, and structure of salmonid redds. *Journal of Fish Biology* 34: 119-134.
- Crisp, D.T., and M.A. Hurley. 1991a. Stream channel experiments on downstream movement of recently emerged trout, *Salmo trutta* L., and salmon, *S. salar* L. - I. Effect of four different water velocity treatments upon dispersal rate. *Journal of Fish Biology* 39: 347-361.
- Crisp, D.T., and M.A. Hurley. 1991b. Stream channel experiments on downstream movement of recently emerged trout, *Salmo trutta* L., and salmon, *S. salar* L. - II. Effects of constant and changing velocities and of day and night upon dispersal rate. *Journal of Fish Biology* 39: 363-370.
- Crisp, D.T., R.H.K. Mann, and P.R. Cubby. 1983. Effects of regulation of the River Tees upon fish populations below Cow Green Reservoir. *Journal of Applied Ecology* 20: 371-386.

- Crome, F.H.J., and S.M. Carpenter. 1988. Plankton community cycling and recovery after drought - dynamics in a basin on a flood plain. *Hydrobiologia* 164: 193-211.
- Cross, F.B., and R.E. Moss. 1987. Historic changes in fish communities and aquatic habitats in plains streams of Kansas. (Chapter 20), pp. 155-165 in: W.J. Matthews and D.C. Heins (eds) *Community and evolutionary ecology of North American stream fishes*. University of Oklahoma Press, Norman.
- Cross, R.D., and D.L. Williams. 1981. *Proceedings of the National Symposium on Freshwater Inflow to Estuaries*. U.S. Fish and Wildlife Service, Office of Biological Services. FWS/OBS-81-04. 2 Vol.
- Crouch, G.L. 1979. Changes in the vegetation complex of a cottonwood ecosystem on the South Platte River. *Great Plains Agricultural Council* 91: 19-22.
- Crowder, D.W. 2002. Reproducing and quantifying spatial flow patterns of ecological importance with two-dimensional hydraulic models. Ph.D. dissertation, Virginia Polytechnic Institute and State University. Blacksburg, VA. 158 pp. (<http://scholar.lib.vt.edu/theses/available/etd-11152002-161130>).
- Crowder, D.W., and P. Diplas. 2000. Using two-dimensional hydrodynamic models at scales of ecological importance. *J. Hydrol.* 230 (3-4): 172-191.
- Crowder, D.W., and P. Diplas. 2000. Evaluating spatially explicit metrics of stream energy gradients using hydrodynamic model simulations. *Canadian Journal of Fisheries and Aquatic Sciences* 57: 1497-1507.
- Crowder, D.W., and P. Diplas. 2002. Assessing changes in watershed flow regimes with spatially explicit hydraulic models. *Journal of the American Water Resources Association* 38 (2): 397-408.
- Crowder, D.W., and P. Diplas. 2002. Vorticity and circulation: spatial metrics for evaluating flow complexity in stream habitats. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (4): 633-645.
- Culp, J.M., G.J. Scrimgeour, and G.D. Townsend. 1996. Simulated fine woody debris accumulations in a stream increase rainbow trout fry abundance. *Transactions of the American Fisheries Society* 125: 472-479.
- Cunjak, R.A. 1986. Winter habitat of northern leopard frogs, *Rana pipiens*, in a southern Ontario stream. *Canadian Journal of Zoology* 64: 255-257.
- Cunjak, R.A. 1988. Behaviour and microhabitat of young Atlantic salmon (*Salmo salar*) during winter. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 2156-2160.

- Cunjak, R.A. 1996. Winter habitat of selected stream fishes and potential impacts from land-use activity. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (Suppl. 1): 267-282.
- Cunjak, R.A., and J.M. Green. 1993. Habitat utilization by brook char (*Salvelinus fontinalis*) and rainbow trout (*Salmo gairdneri*) in Newfoundland streams. *Canadian Journal of Zoology* 61: 1214-1219.
- Cunjak, R.A. , and G. Power. 1986. Winter habitat utilization by stream resident brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*). *Canadian Journal of Fisheries and Aquatic Sciences* 43: 1970-1981.
- Cunjak, R.A. , and G. Power. 1987. The feeding and energetics of stream resident trout in winter. *Journal of Fish Biology* 31: 493-511.
- Cunjak, R.A. , and G. Power. 1987. Cover use by stream-resident trout in winter: a field experiment. *North American Journal of Fisheries Management* 7: 539-544.
- Cunjak, R.A., T.D. Prowse, and D.L. Parrish. 1998. Atlantic salmon (*Salmo salar*) in winter: “the season of parr discontent”? *Canadian Journal of Fisheries and Aquatic Sciences* 55 (Suppl. 1): 161-180.
- Curet, T. 1993. Habitat use, food habits, and the influence of predation on subyearling chinook salmon in Lower Granite Reservoir, Washington. Master’s thesis. University of Idaho, Moscow.
- Curry, R.A., and K.J. Devito. 1996. Hydrogeology of brook trout (*Salvelinus fontinalis*) spawning and incubation habitats: implications for forestry and land use development. *Can. J. For. Res.* 26: 767-772.
- Curry, R.A., and D.L.G. Noakes. 1995. Groundwater and the selection of spawning sites by brook trout (*Salvelinus fontinalis*). *Canadian Journal of Fisheries and Aquatic Sciences* 52 (8): 1733-1740.
- Curry, R.A., J. Gehrels, D.L.G. Noakes, and R. Swainson. 1994. Effects of river flow fluctuations on groundwater discharge through brook trout, *Salvelinus fontinalis*, spawning and incubation habitat. *Hydrobiologia* 277: 121-134.
- Curry, R.A., D.L.G. Noakes, and G.E. Morgan. 1995. Groundwater and the incubation and emergence of brook trout (*Salvelinus fontinalis*). *Canadian Journal of Fisheries and Aquatic Sciences* 52 (8): 1741-1749.
- Curtis, B. 1959. Changes in a river’s physical characteristics under substantial reductions in flow due to hydroelectric diversion. *California Fish and Game* 45: 181-188.
- Curtis, G.L., J.S. Ramsey, and D.L. Scarnecchia. 1997. Habitat use and movements of

- shovelnose sturgeon in pool 13 of the upper Mississippi River during extreme low flow conditions. *Environmental Biology of Fishes* 50: 175-182.
- Cushman, R.M. 1985. Review of ecological effects of rapidly varying flows downstream from hydroelectric facilities. *North American Journal of Fisheries Management* 5: 330-339.
- Dahl, J., and L.A. Greenberg. 1998. Effects of fish predation and habitat type on stream benthic communities. *Hydrobiologia* 361: 67-76.
- Dambacher, J.M., M.W. Buktenica, and G.L. Larson. 1992. Distribution, abundance, and habitat utilization of bull trout and brook trout in Sun Creek, Crater Lake National Park, Oregon. Pages 30-36 in: P.J. Howell and D.V. Buchanan, editors. *Proceedings of the Gearhart Mountain bull trout workshop*. American Fisheries Society, Oregon Chapter, Corvallis.
- Danehy, R.J. 1994. Geomorphic, hydrologic, and hydraulic determinants of fish and macroinvertebrates in a small watershed. Ph.D. thesis, SUNY College of Environmental Science and Forestry, Syracuse, NY. 158 pp.
- D'Angelo, D.J., J.R. Webster, S.V. Gregory, and J.L. Meyer. 1993. Transient storage in Appalachian and Cascade mountain streams as related to hydraulic characteristics. *Journal of the North American Benthological Society* 21: 223-235.
- Dare, M.R. 2001. Habitat use and movement by two trout species during winter under experimental flow regimes in a regulated river. Doctoral dissertation. University of Wyoming, Laramie.
- Dare, M.R., and W.A. Hubert. 2000. Precision and interpretation of data collected using a new measurement technique for microhabitat features at fish locations determined by radio telemetry. *Freshwater Ecology* 15: 29-38.
- Dare, M.R., W.A. Hubert, and K.G. Gerow. 2002. Changes in habitat availability and habitat use and movements by two trout species in response to declining discharge in a regulated river during winter. *North American Journal of Fisheries Management* 22 (3): 917-928.
- Dare, M.R., W.A. Hubert, and J.S. Meyer. 2001. Influence of stream flow on hydrogen sulfide concentrations and distributions of two trout species in a Rocky Mountains tailwater. *North American Journal of Fisheries Management* 21 (4): 971-975.
- Daszak, P., D.E. Scott, A.M. Kilpatrick, C. Faggioni, J.W. Gibbons, and D. Porter. 2005. Amphibian population declines at Savannah River Site are linked to climate, not chytridiomycosis. *Ecology* 86 (12): 3232-3237.
- Dauble, D.D., and D.R. Geist. 2000. Comparison of mainstem spawning habitats for two populations of fall chinook salmon in the Columbia River Basin. *Regulated Rivers: Research and Management* 16: 345-361.

- Dauble, D.D., T.P. Hanrahan, D.R. Geist, and M.J. Parsley. 2003. Impacts of the Columbia River hydroelectric system on main-stem habitats of fall Chinook salmon. *North American Journal of Fisheries Management* 23 (3): 641-659.
- Dauble, D.D., R.L. Johnson, and A.P. Garcia. 1999. Fall chinook salmon spawning in the tailraces of lower Snake River hydroelectric projects. *Transactions of the American Fisheries Society* 128 (4): 672-679.
- Daufresne, M., M.C Roger, H. Capra, et al. 2004. Long-term changes within the invertebrate and fish communities of the upper Rhone River: effects of climate factors. *Global Change Biol.* 10: 120-140.
- Daugherty, D.J., and T.M. Sutton. 2005. Seasonal movement patterns, habitat use, and home range of flathead catfish in the lower St. Joseph River, Michigan. *North American Journal of Fisheries Management* 25 (1): 256-269.
- David, B.O., and G.P. Closs. 2002. Behavior of a stream-dwelling fish before, during, and after high-discharge events. *Transactions of the American Fisheries Society* 131 (4): 762-771.
- Davies, P.E. 1991. Temporal and spatial variability in stream brown trout recruitment in Tasmania - the effects of hydrology. Page 101 in: D.A. Hancock, editor. *Proceedings No. 16 of the Australian Society of Fish Biology workshop: recruitment processes*. Department of Primary Industries and Energy, Bureau of Rural Resources, Australian Government Publishing Service, Canberra.
- Davis, J.A., and L.A. Barmuta. 1989. An ecologically useful classification of mean and near-bed flows in streams and rivers. *Freshwater Biology* 21: 271-282.
- Davison, W. 1997. The effects of exercise training on teleost fish, a review of recent literature. *Comp. Biochem. Physiol. A Comp. Physiol.* 117: 67-75.
- Day, Jr., J.W., C.W. Madden, R.R. Twilley, R.F. Shaw, B.A. McKef, M.J. Dagg, D.L. Childers, R.C. Raynie, and L.J. Rouse. 1994. The influence of Atchafalaya River discharge on Fourleague Bay, Louisiana (USA), p. 151-160. In: K.R. Dyer and R.J. Orth (eds.). *Changes in fluxes in estuaries: Implications from science to management*. Olsen and Olsen, Fredensborg, Denmark.
- Deacon, J.E. 1961. Fish populations, following a drought, in the Neosho and Marais des Cygnes rivers in Kansas. *University of Kansas Publications of the Museum of Natural History* 13: 359-427.
- Deegan, L.A., H.E. Golden, C.J. Harvey, and B.J. Peterson. 1999. Influence of environmental variability on the growth of age-0 and adult arctic grayling. *Transactions of the American*

Fisheries Society 128 (6): 1163-1175.

DeGraaf, D.A., and L.H. Bain. 1986. Habitat use by and preferences of juvenile Atlantic salmon in two Newfoundland rivers. *Transactions of the American Fisheries Society* 115 (5): 671-681.

Delisle, G.E. 1962. Water velocities tolerated by spawning kokanee salmon. *California Fish and Game* 48: 77-78.

Delucchi, C.M. 1988. Comparison of community structure among streams with different temporal flow regimes. *Canadian Journal of Zoology* 66: 578-586.

Dent, C.L., G.S. Cummings, and S.R. Carpenter. 2002. Multiple states in river and lake ecosystems. *Philos. T. Royal Soc. B* 357: 635-645.

Dettman, D.H. 1977. Habitat selection, daytime behavior and factors influencing distribution and abundance of rainbow trout (*Salmo gairdneri*). M.S. thesis, University of California, Davis. 47 pp.

DeVries, P. 1997. Riverine salmonid egg burial depths: review of published data and implication for scour studies. *Canadian Journal of Fisheries and Aquatic Sciences* 54 (8): 1685-1698.

DeWald, L. and M.A. Wilzbach. 1992. Interactions between native brook trout and hatchery brown trout: effects on habitat use, feeding, and growth. *Transactions of the American Fisheries Society* 121: 287-296.

Diana, J.S., J.P. Hudson, and R.D. Clark, Jr. 2004. Movement pattern of large brown trout in the mainstream Au Sable River, Michigan. *Transactions of the American Fisheries Society* 133 (1): 34-44.

DiCenzo, V.J., and M.C. Duval. 2002. Importance of reservoir inflow in determining white bass year-class strength in three Virginia reservoirs. *North American Journal of Fisheries Management* 22 (2): 620-626.

Dieterman, D.J., and D.L. Galat. 2004. Large-scale factors associated with sicklefin chub distribution in the Missouri and lower Yellowstone Rivers. *Transactions of the American Fisheries Society* 133 (3): 577-587.

Dill, L.M. 1983. Adaptive flexibility in the foraging behavior of fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 40 (4): 398-408.

Dill, L.M., R.C. Ydenberg, and A.H.G. Fraser. 1981. Food abundance and territory size in juvenile coho salmon (*Oncorhynchus kisutch*). *Canadian Journal of Zoology* 59 (9): 1801-1809.

- Dill, W.A., W.D. Kelley, and J.C. Fraser. 1975. Water and land use development and the aquatic environment, problems, and solutions. FAO Fish. Tech. Pap. 141.
- Docompo, L., and B.G. de Bikuna. 1993. The Basque method for determining instream flows in Northern Spain. *Rivers* 4: 293-311.
- Dodge, D.P., and H.R. MacCrimmon. 1971. Environmental influences on extended spawning of rainbow trout (*Salmo gairdneri*). *Transactions of the American Fisheries Society* 100 (2): 312-318.
- Doering, P.H., R.H. Chamberlain, K.M. Donohue, and A.S. Steinman. 1999. Effect of salinity on the growth of *Vallisneria americana* Michx. from the Caloosahatchee estuary, Florida. *Florida Scientist* 62: 89-105.
- Doering, P.H., R.H. Chamberlain, and D.E. Haurert. 2002. Using submerged aquatic vegetation to establish minimum and maximum freshwater inflows to the Caloosahatchie estuary, Florida. *Estuaries* 25 (6B): 1343-1354.
- Doledec, S., and D. Chessel. 1989. Rhythmes saisonniers et composantes stationnelles en milieu aquatique. II. Prise en compte et elimination d'effets dans un tableau faunistique. *Acta Oecol. Oecol. Gen.* 10: 207-232.
- Dolloff, C.A. 1986. Seasonal population characteristics and habitat use by juvenile coho salmon in a small southeast Alaska stream. *Transactions of the American Fisheries Society* 116: 829-838.
- Dolloff, C.A., P.A. Flebbe, and M.D. Owen. 1994. Fish habitat and fish populations in a southern Appalachian watershed before and after Hurricane Hugo. *Transactions of the American Fisheries Society* 123: 668-678.
- Dolloff, 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 (12): 2297-2306.
- Dompier, D., and J.R. Woodworth. 1980. Rehabilitation of salmonid fish streams through storage. Pp. 86-93 in: W. King, et al. (Eds.), *Proceedings of Wild Trout II*. Trout Unlimited, Vienna, Virginia, and Federation of Fly Fishermen, El S...
- Dose, J.J., and B.D. Roper. 1994. Long-term changes in low-flow channel widths within the South Umpqua watershed, Oregon. *Water Resources Bulletin* 30 (6): 993-1000.
- Downes, B.J., T.J. Entwisle, and P. Reich. 2003. Effects of flow regulation on disturbance frequencies and in-channel bryophytes and macroalgae in some upland streams. *River Research and Applications* 19 (1): 27-42.
- Downes, B.J., and M.J. Keough. 1998. Scaling of colonization processes in streams: parallels

and lessons from marine hard substrata. *Australian Journal of Ecology* 23: 8-26.

Downton, M.W., and K.A. Miller. 1998. Relationships between Alaskan salmon catch and North Pacific climate on interannual and interdecadal time scales. *Canadian Journal of Fisheries and Aquatic Sciences* 55: 2255-2265.

Drinkwater, K.F., and K.T. Frank. 1994. Effects of river regulation and diversion on marine fish and invertebrates. *Aquatic Conservation: Freshwater and Marine Ecosystems* 4: 135-151.

Dube, S., A.P. Plamondon, and R.L. Rothwell. 1995. Watering-up after clear-cutting on forested wetlands of the St. Lawrence Lowlands. *Water Resour. Res.* 31: 1741-1750.

Dudgeon, D. 1991. An experimental study of abiotic disturbance effects on community structure and function in a tropical stream. *Archiv fur Hydrobiologie* 122: 403-420.

Dudgeon, D. 1993. The effects of spate-induced disturbance, predation and environmental complexity on macroinvertebrates in a tropical stream. *Freshwater Biology* 30: 189-197.

Dudgeon, D. 1999. Patterns of variation in secondary production in a tropical stream. *Archiv fur Hydrobiologie* 144: 271-281.

Dudgeon, D. 2000. Large-scale hydrological changes in tropical Asia: Prospects for riverine biodiversity. *BioScience* 50: 793-806.

Dudgeon, D. 2000. The ecology of tropical Asian rivers and streams in relation to biodiversity conservation. *Annual Review of Ecological Systems* 31: 239-263.

Dudley, R.G. 1979. Changes in growth and size distribution of *Sarotherodon macrochir* and *Sarotherodon andersoni* from the Kafue Gorge Dam. *J. Fish Biology* 36: 14: 205-223.

Dugger, K.M., M.R. Ryan, D.L. Galat, R.B. Renken, and J.W. Smith. 2002. Reproductive success of the interior least tern (*Sterna antillarum*) in relation to hydrology on the lower Mississippi River. *River Research and Applications* 18 (2): 97-106.

Dumont, H.J. 1986. Zooplankton of the Niger River system. Pp. 49-51 *in*: B.R. Davies and K.F. Walker, eds., *The ecology of river systems*. Dr. W. Junk Publishers, Dordrecht, The Netherlands.

Dunbrack, R.L., and L.M. Dill. 1983. A model of size dependent surface feeding in a stream dwelling salmonid. *Environmental Biology of Fishes* 8: 203-216.

Dunham, J.B., B.S. Cade, and J.W. Terrell. 2002. Influences of spatial and temporal variation on fish-habitat relationships defined by regression quantiles. *Transactions of the American Fisheries Society* 131 (1): 86-98.

- Dunham, J.B., and G.L. Vinyard. 1997. Incorporating stream level variability into analyses of site level fish habitat relationships: some cautionary examples. *Transactions of the American Fisheries Society* 126: 323-329.
- Dussault, C. 1995. Utilisation de l'habitat, croissance, condition, survie apparente et déplacements de l'omble de fontaine (*Salvelinus fontinalis*) et du saumon atlantique (*Salmo salar*) en sympatrie. Thesis. University of Quebec, Trois-Rivieres, Quebec, Canada.
- Dykaar, B.B., and P.J. Wigginton, Jr. 2000. Floodplain formation and cottonwood colonization patterns on the Willamette River, Oregon, USA. *Environmental Management* 25: 87-104.
- Dynesius, M., and C. Nilsson. 1994. Fragmentation and flow regulation of river systems in the northern third of the world. *Science* 266: 753-762.
- EA Engineering, Science, and Technology, Inc. 1986. Instream flow methodologies. Research project 2194-2, completion report, Electric Power Research Institute, Palo Alto, California.
- Eadie, J.M., T.A. Hurly, R.D. Montgomerie, and K.L. Teather. 1986. Lakes and rivers as islands: species area relationship in the fish faunas of Ontario. *Environmental Biology of Fishes* 15: 81-89.
- Easterbrooks, J.A. 1981. Response of rainbow and cutthroat to depth reductions in simulated stream channels. M.S. thesis, University of Idaho.
- Eby, L.A., W.F. Fagan, and W.L. Minckley. 2003. Variability and dynamics of a desert stream community. *Ecol. Appl.* 13: 1566-1579.
- Echelle, A.A., A.F. Echelle, and L.G. Hill. 1972. Interspecific interactions and limiting factors of abundance and distribution in the Red River pupfish, *Cyprinodon rubrifluviatilis*. *American Midland Naturalist* 88: 109-130.
- Edmundson, E.H., F.H. Everest, and D.W. Chapman. 1968. Permanence of station in juvenile chinook salmon and steelhead trout in two Idaho streams. *Journal of the Fisheries Research Board of Canada*. 25: 1453-1469.
- Edwards, E.A., G. Gebhart, and O.E. Maughan. 1983. Habitat suitability information: Smallmouth bass. U.S. Fish and Wildlife Service, FWS/OBS-82/10.36, Washington, D.C.
- Edwards, E.A., H. Li, and C.B. Schreck. 1983. Habitat suitability index models: longnose dace. U.S. Fish and Wildlife Service Report FWS/OBS-82/10.33. Washington, D.C.
- Egglisshaw, H.J., and P.E. Shackley. 1985. Factors governing the production of juvenile salmon in Scottish streams. *Journal of Fish Biology* 27: 27-33.
- Eklov, A.G., L.A. Greenberg, and H. Kristiansen. 1994. The effect of depth on the interaction between perch (*Perca fluviatilis*) and minnow (*Phoxinus phoxinus*). *Ecol. Freshwater Fish.* 3: 1-

8.

Elliott, J.M. 1984. Growth, size, biomass and production of young migratory trout *Salmo trutta* in a Lake District stream, 1966-1983. *Journal of Animal Ecology* 53 (3): 979-994.

Elliott, J.M. 1990. Mechanisms responsible for population regulation in young migratory trout, *Salmo trutta*. III. The role of territorial behaviour. *Journal of Animal Ecology* 59: 803-818.

Elliott, J.M. 1993. A 25-year study of production of juvenile sea trout, *Salmo trutta*, in an English Lake District stream. *Can. Spec. Publ. Fish. Aquat. Sci.* No. 118. Pp. 109-122.

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

Elliott, J.M. 2000. Pools as refugia for brown trout during two summer droughts: trout responses to thermal and oxygen stress. *Journal of Fish Biology* 56: 938-948.

Elliott, J.M., M.A. Hurley, and J.A. Elliott. 1997. Variable effects of droughts on the density of a sea-trout *Salmo trutta* population over 30 years. *Journal of Applied Ecology* 34: 1229-1238.

Elliott, S.R., T.A. Coe, J.M. Helfield, and R.J. Naiman. 1998. Spatial variation in environmental characteristics of Atlantic salmon (*Salmo salar*) rivers. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (Suppl. 1): 267-280.

Ellis, L.M., C.S. Crawford, and M.C. Molles. 2001. Influence of annual flooding on terrestrial arthropod assemblages of a Rio Grande riparian forest. *Regul. River* 17: 1-20.

Ellis, L.M., C.S. Crawford, and M.C. Molles, Jr. 2002. The role of the flood pulse in ecosystem-level processes in southwestern riparian forests: a case study from the Middle Rio Grande. Pp. 51-107 in: B.A. Middleton, editor, *Flood pulsing in wetlands: restoring the natural hydrologic balance*. John Wiley and Sons, Hoboken, New Jersey, USA.

Elser, A.A. 1968. Fish populations in a trout stream in relation to major habitat zones and channel alterations. *Transactions of the American Fisheries Society* 97: 389-397.

Elwood, J.W., and T.F. Waters. 1969. Effects of floods on food consumption and production rates of a stream brook trout population. *Transactions of the American Fisheries Society* 98: 253-262.

Emery, A.R., A.H. Berst, and K. Kodaira. 1972. Under-ice observations of wintering sites of leopard frogs. *Copeia* 1972 (1): 123-126.

Emmett, W.W., and M.G. Wolman. 2001. Effective discharge and gravel-bed rivers. *Earth Surf. Processes Landforms* 26: 1369-1380.

- Enders, E.C., D. Boisclair, and A.G. Roy. 2003. The effect of turbulence on the cost of swimming for juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 60 (9): 1149-1160.
- Enders, E.C., D. Boisclair, and A.G. Roy. 2005. A model of total swimming costs in turbulent flow for juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 62 (5): 1079-1089.
- Enders, E.C., T. Buffin-Belanger, D. Boisclair, and A.G. Roy. 2005. The feeding behaviour of juvenile Atlantic salmon in relation to turbulent flow. *Journal of Fish Biology* 66: 242-253.
- English, K.K., D. Robichaud, C. Sliwinski, R.F. Alexander, W.R. Koski, T.C. Nelson, B.L. Nass, S.A. Bickford, S. Hammond, and T.R. Mosey. 2006. Comparison of adult steelhead migrations in the mid-Columbia hydrosystem and in large naturally flowing British Columbia rivers. *Transactions of the American Fisheries Society* 135 (3): 739-754.
- Englund, R.E. 1991. Winter habitat selection of cutthroat trout (*Oncorhynchus clarki*) in a large regulated river. Master's thesis. Logan: Utah State University.
- EPRI. 1986. Instream flow methodologies. Final Report, EA-4819 Research Project 2194-2, Electrical Power Research Institute, Palo Alto, CA.
- Erman, D.C., E.D. Andrews, and M. Yoder-Williams. 1988. Effects of winter floods on fishes of the Sierra Nevada. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 2195-2200.
- Erman, D.C., and G.R. Leidy. (Or 1975)1969. Downstream movement of rainbow trout fry in a tributary of Sagehen Creek, under permanent and intermittent flow. *Transactions of the American Fisheries Society* 104 (3): 467-473.
- Essington, T.E., P.W. Sorensen, and D.G. Paron. 1998. High rate of redd superimposition by brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) in a Minnesota stream cannot be explained by habitat availability alone. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (10): 2310-2316.
- Estes, C.C. 1984. Evaluation of methods for recommending instream flows to support spawning salmon. M.S. thesis, Washington State University, Pullman.
- Estes, C.C., and J.F. Orsborn. 1986. Review and analysis of methods for quantifying instream flow requirements. *Water Resources Bulletin* 22 (3): 389-398.
- Estevez, E.D. 2000. Matching salinity metrics to estuarine seagrasses for freshwater inflow management, chapter 22. In: S.A. Bortone (ed.). *Seagrasses: Monitoring, ecology, physiology*

and management. CRC Press, Boca Raton, Florida.

Estevez, E.D. 2002. Review and assessment of biotic variables and analytical methods used in estuarine inflow studies. *Estuaries* 25 (6B): 1291-1303.

Evans, E.C., and G.E. Petts. 1997. Hyporheic temperature patterns within riffles. *Hydrol. Sci. J.* 42: 199-213.

Everest, F.H. 1969. Habitat selection of juvenile chinook salmon and steelhead trout in two streams in Idaho. Doctoral dissertation. University of Idaho, Moscow.

Everest, F.H., R.L. Beschta, J.C. Scrivener, K.V. Koski, J.R. Sedell, and C.J. Cederholm. 1987. Fine sediment and salmonid production: a paradox. Pp. 98-142 in: E.O. Salo and T.W. Cundy, editors, *Streamside management: forestry and fishery interactions*. University of Washington Institute of Forest Resources, Seattle, Washington.

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 (1): 91-100.

Everitt, B.L. 1968. Use of the cottonwood in an investigation of the recent history of a floodplain. *American Journal of Science* 266 (6): 417-439.

Extence, C.A. 1981. The effect of drought on the benthic communities in a lowland river. *Hydrobiologia* 83: 217-224.

Facey, D.E., and G.D. Grossman. 1990. The metabolic cost of maintaining position of four North American stream fishes: effects of season and velocity. *Physiological Zoology* 63: 757-776.

Facey, D.E., and G.D. Grossman. 1992. The relationship between water velocity, energetic costs, and microhabitat use in four North American stream fishes. *Hydrobiologica* 239: 1-6.

Fagan, W.F. 2002. Connectivity, fragmentation, and extinction risk in dendritic metapopulations. *Ecology* 83: 3243-3249.

Faler, M.P., L.M. Miller, and K.I. Welke. 1988. Effects of variation in flow on distributions of northern squawfish in the Columbia River below McNary Dam. *North American Journal of Fisheries Management* 8 (1): 30-35.

Fallau, S.S. 1995. Seasonal streamflow effects on salmonid habitat, and observations of movement in Beaver Creek, Idaho-Utah. Master's thesis, Utah State University, Logan.

Farrell, A.P., C.G. Lee, K.Tierney, A. Hodaly, S. Clutterham, M. Healey, S. Hinch, and A. Lotto.

2003. Field-based measurements of oxygen uptake and swimming performance with adult Pacific salmon using a mobile respirometer swim tunnel. *Journal of Fish Biology* 63: 64-84.
- Fausch, K.D. 1984. Profitable stream positions for salmonids: relating specific growth rate to net energy gain. *Canadian Journal of Zoology* 62: 441-451.
- 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 (6): 1198-1207.
- Fausch, K.D., and R.G. Bramlett. 1991. Disturbance and fish communities in intermittent tributaries of a western great plains river. *Copeia* 1991: 659-674.
- Fausch, K.D., C.L. Hawkes, and M.G. Parsons. 1988. Models that predict standing crop of stream fish from habitat variables: 1950-85. USDA Forest Service Gen. Tech. Rep. PNW-GTR-213. Portland, Pacific Northwest Research Station. 52 pp.
- Fausch, K.D., S. Nakano, and S. Kitano. 1997. Experimentally induced foraging mode shift by sympatric charrs in a Japanese mountain stream. *Behav. Ecol.* 8: 414-420.
- Fausch, K.D., Y. Taniguchi, S. Nakano, G.D. Grossman, and C.R. Townsend. 2001. Flood disturbance regimes influence rainbow trout invasion success among five Holarctic regions. *Ecological Applications* 11: 1438-1455.
- Fausch, K.D., C.E. Torgerson, C.V. Baxter, et al. 2002. Landscape to riverscapes: bridging the gap between research and conservation of stream fishes. *BioScience* 52: 483-489.
- Fausch, K.D., and R.J. White. 1981. Competition between brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) for position in a Michigan stream. *Canadian Journal of Fisheries and Aquatic Sciences* 38: 1220-1227.
- Fausch, K.D., and R.J. White. 1986. Competition among juveniles of coho salmon, brook trout, and brown trout in a laboratory stream, and implications for Great Lakes tributaries. *Transactions of the American Fisheries Society* 115: 363-381.
- Federer, C.A., and D. Lash. 1978. Simulated streamflow response to possible differences in transpiration among species of hardwood trees. *Water Resources Research* 14: 1089-1097.
- Felley, J.D., and L.G. Hill. 1983. Multivariate assessment of environmental preference of cyprinid fishes of the Illinois River, Oklahoma. *American Midland Naturalist* 109: 209-221.
- Fenn, C.R., and A.M. Gurnell. 1987. Proglacial processes. Pp. 423-472 in: A.M. Gurnell and M.J. Clark, editors. *Glacio-fluvial sediment transfer*. Wiley, Chichester, U.K.
- Fenner, P., W.W. Brady, and D.R. Patton. 1985. Effects of regulated water flows on

regeneration of Fremont cottonwood. *Journal of Range Management* 38 (2): 135-138.

Ferguson, R.I., A.D. Kirkbride, and A.G. Roy. 1996. Markov analysis of velocity fluctuations in gravel-bed rivers. Pp. 165-181 *in*: P.J. Ashworth, S.J. Best, and S.J. McLelland (eds), *Coherent flow structures in open channels*. John Wiley and Sons Ltd., Chichester.

Fernandes, C.C. 1997. Lateral migration of fishes in Amazon floodplains. *Ecology of Freshwater Fish* 6: 36-44.

Feyrer, F., T. Sommer, and W. Harrell. 2006. Importance of flood dynamics versus intrinsic physical habitat in structuring fish communities: evidence from two adjacent engineered floodplains on the Sacramento River, California. *North American Journal of Fisheries Management* 26 (2): 408-417.

Findlay, S. 1995. Importance of surface-subsurface exchange in stream ecosystems: the hyporheic zone. *Limnology and Oceanography* 40: 159-164.

Finger, T.R., and E.M. Stewart. 1987. Response of fishes to flooding regime in lowland hardwood wetlands. Pp. 86-92 *in*: W.J. Matthews and D.C. Heins (eds) *Community and evolutionary ecology of North American stream fishes*. University of Oklahoma Press, Norman.

Finlay, J.C., M.E. Power, and G. Cabana. 1999. Effects of water velocity on algal carbon isotope ratios: implications for river food web studies. *Limnology and Oceanography* 44:1198-1203.

Firehammer, J.A., and D.L. Scarnecchia. 2006. Spring migratory movements by paddlefish in natural and regulated river segments of the Missouri and Yellowstone rivers, North Dakota and Montana. *Transactions of the American Fisheries Society* 135 (1): 200-217.

Fisher, S.G. 1997. Creativity, idea generation, and the functional morphology of streams. *Journal of the North American Benthological Society* 16: 305-318.

Fisher, S.G., L.J. Gray, N.B. Grimm, and D.E. Busch. 1982. Temporal succession in a desert stream ecosystem following flash flooding. *Ecological Monographs* 52: 93-110.

Fisher, S.G., R.A. Sponseller, and J.B. Heffernan. 2004. Horizons in stream biogeochemistry: flowpaths to progress. *Ecology* 85 (9): 2369-2379.

Fisher, S.G., J. Welter, J. Schade, and J. Henry. 2001. Landscape challenges to ecosystem thinking: creative flood and drought in the American Southwest. *Scientia Marina* 65: 181-192.

Fisher, S.H., 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: 1220-1227.

- Fisher, S.G., R.A. Sponseller, and J.B. Heffernan. 2004. Horizons in stream biogeochemistry: flowpaths to progress. *Ecology* 85 (9): 2369-2379.
- Fisher, S.J., and D.W. Willis. 2000. Seasonal dynamics of aquatic fauna and habitat parameters in a perched upper Missouri River wetland. *Wetlands* 20: 470-478.
- Fjellheim, A., J. Havardstun, G.G. Raddum, and O.A. Schnell. 1993. Effects of increased discharge on benthic invertebrates in a regulated river. *Regulated Rivers: Research and Management* 8: 179-187.
- Flannery, M.S., E.B. Peebles, and R.T. Montgomery. 2002. A percent-of-flow approach for managing reductions of freshwater inflows from unimpounded rivers to southwest Florida estuaries. *Estuaries* 25 (6B): 1318-1332.
- Flebbe, P.A., and C.A. Dolloff. 1995. Trout use of woody debris and habitat in Appalachian wilderness streams of North Carolina. *North American Journal of Fisheries Management* 15: 579-590.
- Fleming, I.A., and M.R. Gross. 1994. Breeding competition in a Pacific salmon (coho: *Oncorhynchus kisutch*): measures of natural and sexual selection. *Evolution* 48: 637-657.
- Flinders, C.A., and D.D. Magoulick. 2003. Effects of stream permanence on crayfish community structure. *American Midland Naturalist* 149: 134-147.
- Flodmark, L., H.A. Urke, J.H. Halleraker, J.V. Arnekleiv, L.A. Vollestad, and A.B.S. Poleo. 2002. Cortisol and glucose responses in juvenile brown trout subjected to a fluctuating flow regime in an artificial stream. *Journal of Fish Biology* 60: 238-248.
- Folmar, L.C., and W.W. Dickoff. 1980. The parr-smolt transformation (smoltification) and seawater adaptation in salmonids. A review of selected literature. *Aquaculture* 21: 1-37.
- Fonseca, D.M. 1999. Fluid-mediated dispersal in streams: models of settlement from the drift. *Oecologia* 121: 212-223.
- Fonseca, D.M., and D.D. Hart. 1996. Density-dependent dispersal of black fly neonates is mediated by flow. *Oikos* 75: 49-58.
- Fonseca, D.M., and D.D. Hart. 2001. Colonization history masks habitat preferences in local distributions of stream insects. *Ecology* 82 (10): 2897-2910.
- Fontenot, Q.C., D.A. Rutherford, and W.E. Kelso. 2001. Effects of environmental hypoxia associated with the annual flood pulse on the distribution of larval sunfish and shad in the Atchafalaya River Basin, Louisiana. *Transactions of the American Fisheries Society* 130: 107-116.

- Ford, B.S., P.S. Higgins, A.F. Lewis, K.L. Cooper, T.A. Watson, G.L. Ennis, and R.L. Sweeting. 1992. Literature reviews of the life history, habitat requirements, and mitigation/compensation strategies for 13 species of sport fish in the Peace and Columbia River drainages of British Columbia. Can. Tech. Report Fish. Aquat. Sci. 2563.
- Ford, J.E. 1997. Over-winter survival and habitat use of juvenile coho salmon (*Oncorhynchus kisutch*) in Lake Superior tributaries. Master's thesis. University of Wisconsin, Eau Claire.
- Forlong, R.G. 1994. Determining minimum flows for rivers in the Kapiti Coast district. Proceedings of 1994 Limnological Society Conference, New Zealand Limnological Society, Hamilton.
- Foster, D.R., D.H. Knight, and J.F. Franklin. 1998. Landscape patterns and legacies resulting from large, infrequent disturbances. *Ecosystems* 1: 497-510.
- Fowler, C.W. 1977. A stream habitat model based on physical variability. *Encyelia* (54): Part 1: 46-56.
- Fraley, J.J., and P.J. Graham. 1981. Physical habitat, geological bedrock types and trout densities in tributaries of the Flathead River drainage, Montana. In: N.B. Armantrout, editor. Acquisition and utilization of aquatic habitat inventory information. Proceedings of a symposium, Portland, Oregon. American Fisheries Society, Western Division, Bethesda.
- Fraley, J.J., S.L. McMullin, and P.J. Graham. 1986. Effects of hydroelectric operations on the kokanee population in the Flathead River system, Montana. *North American Journal of Fisheries Management* 6: 560-568.
- Franz, E.H., and F.A. Bazzaz. 1977. Simulation of vegetation response to modified hydrologic regimes: A probabilistic model based on niche differentiation in a floodplain forest. *Ecology* 58: 176-183.
- Fraser, F.J. 1969. Population density effects on survival and growth of juvenile coho salmon and steelhead trout in experimental stream-channels. Pp. 253-266 *in*: T.G. Northcote, editor. *Salmon and trout in streams*. University of British Columbia, Vancouver, Canada.
- Fraser, J.C. 1970. An annotated bibliography on the establishment of acceptable flows for fish life in controlled streams. European Inland Fisheries Advisory Commission. Symposium...water pollution...fisheries...Europe, Jablonna, Poland. UNFAO.
- Fraser, J.C. 1972. Regulated stream discharge for fish and other aquatic resources - an annotated bibliography. FAO Fish. Tech. Paper No. 112. 103 pp.

Fraser, J.C. 1972. Regulated discharge and the stream environment. Pp. 263-286 in: R. Oglesby, C.A. Carlson, and J. McCann (eds), *River ecology and man*. Academic Press, New York.

Fraser, J.C. 1972. Water levels, fluctuations and minimum pools in reservoirs for fish and other aquatic resources: an annotated bibliography. FAO Fish. Tech. Pap. No. 113. 42 pp.

Fraser, J.C. 1975. Determining discharges for fluvial resources. FAO Fish. Tech. Pap. No. 143 (FIRS/T143). 102 pp.

Fraser, J.C. 1978. Suggestions for developing flow recommendations for in-stream uses of New Zealand streams. Water and Soil Miscellaneous Publication 6. Ministry of Works and Development, Wellington.

Freeman, M.C., Z.H. Bowen, and K.D. Bovee. 1999. Transferability of habitat suitability criteria: Response to comment. *North American Journal of Fisheries Management* 19 (2): 626-628.

Freeman, M.C., Z.H. Bowen, K.D. Bovee, and E.R. Irwin. 2000. Flow and habitat effects on juvenile fish abundance in natural and altered flow regimes. *Ecological Applications* 11 (1): 179-190.

Freeman, M.C., Z.H. Bowen, and J.H. Crance. 1997. Transferability of habitat suitability criteria for fishes in warmwater streams. *North American Journal of Fisheries Management* 17 (1): 20-31.

Freeman, M.C., and J.H. Crance. 1993. Evaluating impacts to stream flow alteration on warmwater fishes. Pp. 303-305 *in*: Proceedings of the 1993 Georgia Water Resources Conference. University of Georgia, Athens.

Freeman, M.C., and G.D. Grossman. 1993. Effects of habitat availability on dispersion of a stream cyprinid. *Environmental Biology of Fishes* 37: 121-130.

Freeman, M.C., J.M. Nestler, and P.N. Johnson. 1997. Riverine resources: water needs and environmental effects analyses in the Alabama-Coosa-Tallapoosa and Apalachicola-Chattahoochee-Flint River basins. U.S. Geological Survey, Biological Resources Division, Patuxent Research Center, Athens, Georgia.

Freeman, R.E., E.H. Stanley, and M.G. Turner. 2003. Analysis and conservation implications of landscape change in the Wisconsin River floodplain. *Ecological Applications* 13: 416-431.

Fremling, C.R., J.L. Rasmussen, R.E. Sparks, et al. 1989. Mississippi River fisheries: a case history. Pp. 309-351 in: Dodge, D.P. (Ed.) *Proceedings of the International Large Rivers Symposium*. Can. Special Publ. Fish. Aquatic Sciences 106.

Frenette, M., M. Caron, and P. Julien. 1984. Interaction entre le debit et les populations de

tacons (*Salmo salar*) de la riviere Matamec. Canadian Journal of Fisheries and Aquatic Sciences 41: 954-963.

Friedman, J.M., and V.J. Lee. 2002. Extreme floods, channel change, and riparian forests along ephemeral streams. Ecological Monographs 72: 409-425.

Friedman, J.M., W.R. Osterkamp, and W.R. Lewis, Jr. 1996. Channel narrowing and vegetation development following a Great Plains flood. Ecology 77: 2161-2181.

Friedman, J.M., W.R. Osterkamp, M.L. Scott, and G.T. Auble. 1998. Downstream effects of dams on channel geometry and bottomland vegetation: Regional patterns in the Great Plains. Wetlands 18: 619-633.

Frissell, C. 1992. Cumulative effects of land use on salmon habitat in southwest Oregon coastal streams. Dissertation, Oregon State University, Corvallis.

Frissell, C.A., W.J. Liss, C.E. Warren, and M.D. Hurley. 1986. A hierarchical framework for stream habitat classification: viewing streams in a watershed context. Environmental Management 10: 199-214.

Frissel, C.A., and D.G. Lonzarich. 1996. Habitat use and competition among stream fishes. Pages 493-510 in: F.R. Hauer and G.A. Lamberti, editors. Methods in stream ecology. Academic Press, San Diego, California.

Fry, B. 2002. Conservative mixing of stable isotopes across estuarine salinity gradients: a conceptual framework for monitoring watershed influences on downstream fisheries production. Estuaries 25: 264-271.

Fukushima, M. 2001. Salmonid habitat-geomorphology relationships in low-gradient streams. Ecology 82 (5): 1238-1246.

Fukushima, M., T.J. Quinn, and W.W. Smoker. 1998. Estimation of eggs lost from superimposed pink salmon (*Oncorhynchus gorbuscha*). Canadian Journal of Fisheries and Aquatic Sciences 55 (3): 618-625.

Fukushima, M., and W.W. Smoker. 1997. Determinants of stream life, spawning efficiency, and spawning habitat in pink salmon in the Auke Lake system, Alaska. Canadian Journal of Fisheries and Aquatic Sciences 54: 96-104.

Fukushima, M., and W.W. Smoker. 1998. Spawning habitat segregation of sympatric sockeye and pink salmon. Transactions of the American Fisheries Society 127 (2): 253-260.

Furukawa-Tanaka, T. 1992. Optimal feeding position for stream fishes in relation to invertebrate drift. Humans and Nature 1: 63-81.

Fuss, H.J. 1983. Age, growth, and instream movement of Olympic Peninsula coastal cutthroat trout, *Salmo clarki clarki*. Pp. 125-133 in: J.M. Walton and D.B. Houston (eds.), Proceedings of the Olympic Wild Fish Conference, March 23-25, 1983. Peninsula College, Port Angeles.  
Galat, D.L., L.H. Frederickson, D.D. Humburg, K.J. Bataille, J.R. Bodie, J. Dohrenwend, G.T. Gelwicks, J.E. Havel, D.L. Helmers, J.B. Hooker, J.R. Jones, M.F. Knowlton, J. Kubisiak, J. Mazourek, A.C. McColpin, R.B. Renken, and R.D. Semlitsch. 1998. Flooding to restore connectivity of regulated, large-river wetlands. *BioScience* 48: 721-733.

Galat, D.L., and R. Lipkin. 2000. Restoring ecological integrity of great rivers: Historical hydrographs aid in defining reference conditions for the Missouri River. *Hydrobiologia* 422/423: 29-48.

Galindo-Bect, M.S., E.P. Glenn, H.M. Page, L.A. Galindo-Bect, J.M., Hernandez-Ayon, R.L. Petty, and J. Garcia-Hernandez. 2000. Analysis of the Penaeid shrimp catch in the northern Gulf of California in relation to Colorado River discharge. *Fishery Bulletin* 98: 222-225.

Gallagher, A.F., Jr. 1979. An analysis of factors affecting brood year returns of wild stocks of Puget Sound chum (*Oncorhynchus keta*) and pink salmon (*Oncorhynchus gorbuscha*). Master's thesis. University of Washington, Seattle.

Gallagher, S.P., and M.F. Gard. 1999. Relationship between chinook salmon (*Oncorhynchus tshawytscha*) redd densities and PHABSIM-predicted habitat in the Merced and Lower American rivers, California. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (4): 570-577.

Gammelsrod, T. 1992. Variation in shrimp abundance on the Sofala Bank, Mozambique, and its relation to the Zambezi River runoff. *Estuarine, Coastal and Shelf Science* 35: 91-103.

Gan, K., and T. McMahon. 1990. Variability of results from the use of PHABSIM in estimating habitat area. *Regulated Rivers: Research and Management* 5 (3): 233-239.

Gangmark, H.A., and R.D. Brand. 1956. Further observations on stream survival of king salmon spawn. *California Fish and Game* 42: 37-49.

Garcia de Jalon, D., P. Sanchez, and J.A. Camargo. 1994. Downstream effects of a new hydropower impoundment on macrophytes, macroinvertebrate and fish communities. *Regulated Rivers: Research and Management* 9: 253-261.

Gard, M. 1997. Techniques for adjusting spawning depth habitat utilization curves for availability. *Rivers* 6 (2): 94-102.

Gard, M., and E. Ballard. 2003. Application of new technologies to instream flow studies in large rivers. *North American Journal of Fisheries Management* 23 (4): 1114-1125.

Garland, R.D., K.F. Tiffan, D.W. Rondorf, and L.O. Clark. 2002. Comparison of subyearling

fall chinook salmon's use of riprap revetments and unaltered habitats in Lake Wallula of the Columbia River. *North American Journal of Fisheries Management* 22 (4): 1283-1289.

Garshelis, D.L. 2000. Delusions in habitat evaluation: measuring use, selection, and importance. Pages 111-164 *in*: L. Boitani and T.K. Fuller, editors, *Research Techniques in Animal Ecology: controversies and Consequences*. Columbia University Press, New York.

Gasith, A., and V.H. Resh. 1999. Streams in Mediterranean climate regions: abiotic influences and biotic responses to predictable seasonal events. *Annu. Rev. Ecol. Syst.* 30: 51-81.

Gatz, A.J., Jr., M.J. Sale, and J.M. Loar. 1987. Habitat shifts in rainbow trout: competitive influences of brown trout. *Oecologia* 74: 7-19.

Gaudin, P., and M. Heland. 1995. Strategies d'utilisation de l'habitat par les alevins post-emergents de truite commune (*Salmo trutta*) et de saumon atlantique (*Salmo salar*). *Bull. Fr. Peche Piscic.* 337/338/339: 199-206.

Gaudin, P., and P. Sempeski. 2001. The role of river bank habitat in the early life history of fish: the example of grayling, *Thymallus thymallus*. *Ecohydrol. Hydrobiol.* 1: 203-208.

Gebhardt, G.A. 1970. The influence of stream disturbance activity on aquatic organisms - a review. U.S. Department of the Interior, Bureau of Land Management, Salem, Oregon. 58 pp.

Gebhardt, K.A., C. Bohn, S. Jensen, and W.S. Platts. 1989. Use of hydrology in riparian classification. Pp. 53-60 *in*: R.E. Gresswell, B. Barton, and J.L. Kershner (eds.), *Practical Approaches to Riparian Resource Management*. U.S. Bureau of Land Management, Billings, MT.

Geddes, M.C., and J.T. Puckridge. 1989. Survival and growth of larval and juvenile native fish: the importance of the floodplain. Pp. 101-114 *in*: *Proceedings of the workshop on native fish management*. Murray-Darling Basin Commission, Canberra, Australia.

Geer, W.H. 1987. A method for treatment of data from the Instream Flow Incremental Methodology for instream flow determination. Pp. 1-26 *in*: J.F. Craig and J.B. Kemper, editors. *Regulated Streams: Advances in Ecology*. Plenum Press, New York and London.

Gehrke, P.C., and J.H. Harris. 2001. Regional-scale effects of flow regulation on lowland riverine fish communities in New South Wales, Australia. *Regulated Rivers: Research and Management* 17: 369-391.

Geist, D.R. 2000. Hyporheic discharge of river water into fall chinook salmon (*Oncorhynchus tshawytscha*) spawning areas in the Hanford Reach, Columbia River. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (8): 1647-1656.

Geist, D.R., R.S. Brown, V. Cullinan, S.R. Brink, K. Lepla, P. Bates, and J.A. Chandler. 2005.

Movement, swimming speed, and oxygen consumption of juvenile white sturgeon in response to changing flow, water temperature, and light level in the Snake River, Idaho. *Transactions of the American Fisheries Society* 134 (4): 803-816.

Geist, D.R., and D.D. Dauble. 1998. Redd site selection and spawning habitat use by fall chinook salmon: the importance of geomorphic features in large rivers. *Environmental Management* 22: 655-669.

Geist, D.R., T.P. Hanrahan, E.V. Arntzen, G.A. McMichael, C.J. Murray, and Y.-J. Chien. 2002. Physicochemical characteristics of the hyporheic zone affect redd site selection by chum salmon and fall chinook salmon in the Columbia River. *North American Journal of Fisheries Management* 22 (4): 1077-1085.

Geist, D.R., J. Jones, C.J. Murray, and D.D. Dauble. 2000. Suitability criteria analyzed at the spatial scale of redd clusters improved estimates of fall chinook salmon (*Oncorhynchus tshawytscha*) spawning habitat use in the Hanford Reach, Columbia River. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (8): 1636-1646.

Georgian, T., and J.H. Thorp. 1992. Effects of microhabitat selection on feeding rates of net-spinning caddisfly larvae. *Ecology* 73 (1): 229-240.

Gerhardt, D.R., and W.A. Hubert. 1990. Spawning habitat of channel catfish in the Powder River system, Wyoming-Montana. *Prairie Naturalist* 22: 155-164.

Ghanem, A., P. Steffler, F. Hicks, and C. Katapodis. 1994. Two-dimensional finite element modeling of physical fish habitat. *Proceedings of the 1<sup>st</sup> International Symposium on Habitat Hydraulics*. August 18-20, 1994. Trondheim, Norway.

Ghanem, A., P. Steffler, F. Hicks, and C. Katapodis. 1996. Two dimensional hydraulic simulation of physical conditions in flowing streams. *Regulated Rivers: Research and Management* 12: 185-200.

Giannico, G.R. 2000. Habitat selection by juvenile coho salmon in response to food and woody debris manipulations in suburban and rural stream sections. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (9): 1804-1813.

Giannico, G.R., and M.C. Healey. 1998. Effects of flow and food on winter movements of juvenile coho salmon. *Transactions of the American Fisheries Society* 127 (4): 645-651.

Giannico, G.R., and M.C. Healey. 1999. Ideal free distribution theory as a tool to examine juvenile coho salmon (*Oncorhynchus kisutch*) habitat choice under different conditions of food abundance and cover. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (12): 2362-2373.

Gibbins, C.N., H.J. Moir, J.H. Webb, and C. Soulsby. 2002. Assessing discharge use by spawning Atlantic salmon: a comparison of discharge electivity indices and PHABSIM

simulations. *River Research and Applications* 18 (4): 383-396.

Giberson, D.J., and D. Caissie. 1998. Stream habitat hydraulics: interannual variability in three reaches of Catamaran Brook, New Brunswick. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (2): 485-494.

Giberson, D.J., and R.J. Hall. 1988. Seasonal variation in faunal distribution within the sediments of a Canadian Shield stream, with emphasis on responses to spring floods. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 1994-2002.

Gibson, R.J. 1966. Some factors influencing the distribution of brook trout and young Atlantic salmon. *Journal of the Fisheries Research Board of Canada* 23: 1977-1980.

Gibson, R.J. 1978. The behaviour of juvenile Atlantic salmon (*Salmo salar*) and brook trout (*Salvelinus fontinalis*) with regard to temperature and to water velocity. *Transactions of the American Fisheries Society* 107: 703-712.

Gibson, R.J. 1983. Water velocity as a factor in the change from aggressive to schooling behavior and subsequent migration of Atlantic salmon smolts (*Salmo salar*). *Naturaliste can. (Rev. Ecol. Syst.)* 110:143-148.

Gibson, R.J. 1988. Mechanisms regulating species composition, population structure, and production of stream salmonids: a review. *Polskie Archiwum Hydrobiologii* 35: 469-495.

Gibson, R.J. 2002. The effect of fluvial processes and habitat heterogeneity on distribution, growth and densities of juvenile Atlantic salmon (*Salmo salar* L.) With consequences on abundance of the adult fish. *Ecol. Freshwater Fish* 11: 207-222.

Gibson, R.J., and R.A. Myers. 1988. Influence of seasonal river discharge on survival of juvenile Atlantic salmon, *Salmo salar*. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 344-348.

Gibson, R.J., and G. Power. 1975. Selection by brook trout (*Salvelinus fontinalis*) and juvenile Atlantic salmon (*Salmo salar*) of shade related to water depth. *Journal of the Fisheries Research Board of Canada* 32: 1652-1656.

Gibson, R.J, D.E. Stansbury, R.R. Whalen, and K.G. Hillier. 1993. Relative habitat use, and interspecific and intra-specific competition of brook trout (*Salvelinus fontinalis*) and juvenile Atlantic salmon (*Salmo salar*) in Newfoundland rivers. In: R.J. Gibson and R.E. Cutting (eds.), *Production of juvenile Atlantic salmon, Salmo salar, in natural waters*. Canadian Special Publication in Fisheries and Aquatic Sciences 118: 53-69.

Gido, K.B., and D.L. Propst. 1999. Habitat use and association of native and nonnative fishes in the San Juan River, New Mexico and Utah. *Copeia* 1999: 321-332.

- Gido, K.B., D.L. Propst, and M.C. Molles. 1997. Spatial and temporal variation of fish communities in secondary channels of the San Juan River, New Mexico and Utah. *Environmental Biology of Fishes* 49: 417-434.
- Giger, R.D. 1973. Streamflow requirements of salmonids. Oregon Wildlife Commission, Job Final Report, Project Number AFS62-1, Portland, Oregon.
- Gillespie, B.M., and J.R. Giardino. 1997. The nature of channel platform change: Brazos River, Texas. *Texas Journal of Science* 49: 109-142.
- Gilliam, J.F., and D.F. Fraser. 1987. Habitat selection under predation hazard: test of a model with foraging minnows. *Ecology* 68: 1856-1862.
- Gillilan, D.M., and T.C. Brown. 1997. Instream flow protection: seeking a balance in western water use. Island Press, Covelo, CA, and Washington, DC.
- Gilvear, D.J., T.M. Waters, and A.M. Milner. 1995. Image analysis of aerial photography to quantify changes on channel morphology and instream habitat following placer mining in interior Alaska. *Freshwater Biology* 34 (2): 389-398.
- Genot, V. 1998. Logiciel EVHA: Evaluation de l'habitat physique des poissons en riviere (version 2.0). Cemagref Lyon BEA/LHQ et Ministere de l'aménagement du Territoire et de l'Environnement, Direction de l'Eau, Paris.
- Giorgi, A.E., T.W. Hillman, J.R. Stevenson, S.G. Hays, and Peven. 1997. Factors that influence the downstream migration rates of juvenile salmon and steelhead through the hydroelectric system. *North American Journal of Fisheries Management* 17 (2): 268-282.
- Girard, I.L., J.W.A. Grant, and S.O. Steingimsson. 2004. Foraging, growth, and loss rate of young-of-the-year Atlantic salmon (*Salmo salar*) in relation to habitat use in Catamaran Brook, New Brunswick. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (12): 2339-2349.
- Girard, P., D. Boisclair, and M. Leclerc. 2003. The effect of cloud cover on the development of habitat quality indices for juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 60 (11): 1386-1397.
- Gislason, J.C. 1980. Effects of flow fluctuations due to hydroelectric peaking on benthic insects and periphyton of the Skagit River, Washington. Doctoral dissertation, University of Washington, Seattle.
- Gislason, J.C. 1985. Aquatic insect abundance in a regulated stream under fluctuating and stable diel flows. *North American Journal of Fisheries Management* 5 (1): 39-46.
- Glenn, E.P., C. Lee, R. Felger, and S. Zengel. 1996. Effects of water management on the wetlands of the Colorado River delta, Mexico. *Conservation Biology* 10: 1175-1186.

- Glova, G.L. 1986. Interactions for food and space between experimental populations of juvenile coho salmon (*Oncorhynchus kisutch*) and coastal cutthroat trout (*Salmo clarki*) in a laboratory stream. *Hydrobiologia* 131: 155-168.
- Glova, G.J., and M.J. Duncan. 1985. Potential effects of reduced flows on fish habitats in a large braided river, New Zealand. *Transactions of the American Fisheries Society* 114 (2): 165-181.
- Glova, G.J., and J.C. Mason. 1974. Interactive ecology of juvenile salmon and trout in streams. I. Progress during 1973. Fisheries Research Board of Canada, Manuscript Report.
- Glova, G.J., and J.C. Mason. 1977. Interactions for food and space between sympatric populations of juvenile coho salmon and coastal cutthroat trout in a ... Fisheries and Marine Resources of Canada, Manuscript Report 1429, Nanaimo, Canada.
- Glova, G.J., and J.E. McInerney. 1977. Critical swimming speeds of coho salmon (*Oncorhynchus kisutch*) fry to smolt stages in relation to salinity and temperature. *Journal of Fisheries Research Board of Canada* 34: 151-154.
- Glozier, N.E., J.M. Culp, and G.J. Scrimgeour. 1997. Transferability of habitat suitability curves for a benthic minnow, *Rhinichthys cataractae*. *Journal of Freshwater Ecology* 12 (3): 379-393.
- Godin, J.-G.J. 1980. Temporal aspects of juvenile pink salmon (*Oncorhynchus keta* Walbaum) emergence from a simulated gravel redd. *Canadian Journal of Zoology* 58: 735-744.
- Godin, J.J., and R.W. Rangeley. 1989. Living in the fast lane: effects of cost of locomotion on foraging behaviour in juvenile Atlantic salmon. *Animal Behaviour* 37: 943-954.
- Golladay, S.W., K. Watt, S. Entekin, and J. Battle. 2000. Hydrologic and geomorphic controls on suspended particulate organic matter concentration and transport in Ichawaynochaway Creek, Georgia, USA. *Archiv fur Hydrobiologie* 149: 655-678.
- Goodson, J.M., A.M. Gurnell, P.G. Angold, and I.P. Morrissey. 2003. Evidence for hydrochory and the deposition of viable seeds within winter flow-deposited sediments: the River Dove. *River Research and Applications* 19 (4): 317-334.
- Gordon, N.D., T.A. McMahon, and B.L. Finlayson. 1992. *Stream hydrology: An introduction for ecologists*. John Wiley and Sons, Toronto.
- Gore, J.A. 1987. Development and applications of macroinvertebrate instream flow models for regulated flow management. Pp. 99-116 in: Craig, J.F., and J.B. Kemper (eds.), *Regulated streams, Advances in Ecology*. Plenum Press, New York & London.
- Gore, J.A. 1989. Models for predicting benthic macroinvertebrate habitat suitability under

regulated flows. Pp. 254-265 in: Gore, J.A. and G.E. Petts (Eds.) *Alternatives in Regulated River Management*. CRC Press, Boca Raton, Florida.

Gore, J.A., D.J. Crawford, and D.S. Addison. 1998. An analysis of artificial riffles and enhancement of benthic community diversity by physical habitat simulation (PHABSIM) and direct observation. *Regulated Rivers Research and Management* 14: 69-77.

Gore, J.A., and S.W. Hamilton. 1996. Comparison of flow-related habitat evaluations downstream of low-head weirs on small and large fluvial ecosystems. *Regulated Rivers Research and Management* 12: 459-469.

Gore, J.A., and R.D. Judy, Jr. 1981. Predictive models of benthic macroinvertebrate density for use in instream flow studies and regulated flow management. *Canadian Journal of Fisheries and Aquatic Sciences* 38: 1363-1370.

Gore, J.A., J.M. King, and K.C.D. Hamman. 1991. Application of the Instream Flow Incremental Methodology to South African river: protecting endemic fishes of the Olifants River. *Water SA* 17 (3): 225-236.

Gore, J.A., J.B. Layzer, and I.A. Russell. 1992. Non-traditional applications of instream flow techniques for conserving habitat of biota in the Sabie River of southern Africa. Pages 161-177 in: P.J. Boon, P. Calow, and G.E. Petts, editors. *River conservation and management*. Wiley, New York.

Gore, J.A., and J.M. Nestler. 1988. Instream flow studies in perspective. *Regulated Rivers: Research & Management* 2: 93-101.

Gore, J.A., S. Niemela, B. Statzner, and V.H. Resh. 1994. Near substrate hydraulic conditions under artificial floods from peaking hydropower operation: disturbance intensity and duration. *Regulated Rivers: Research and Management* 9: 15-34.

Gore, J.A., and F.D. Shields, Jr. 1995. Can large rivers be restored? *BioScience* 45: 142-152.

Gorman, O.T. 1978. Habitat structure and stream fish communities. *Ecology* 59: 507-515.

Gorman, O.T. 1988. The dynamics of habitat use in a guild of Ozark minnows. *Ecological Monographs* 58: 1-18.

Gorman, O.T. 1988. An experimental study of habitat use in an assemblage of Ozark minnows. *Ecology* 69: 1239-1250.

Gorman, O.T., and J.R. Karr. 1978. Habitat structure and stream fish communities. *Ecology* 59: 507-515.

- Gosse, J.C., and W.T. Helm. 1982. A method for measuring microhabitat components for lotic fishes and its application with regard to brown trout. Pages 138-149 in: N.B. Armantrout, editor, Acquisition and utilization of aquatic habitat inventory information. Portland, OR: American Fisheries Society, Western Division.
- Goulding, M., N.J.H. Smith, and D.J. Mahar. 1996. Floods of Fortune: Ecology and Economy along the Amazon. Columbia University Press, New York.
- Gouraud, V., J.L. Bagliniere, P. Baran, C. Sabaton, P. Lim, and D. Ombredane. 2001. Factors regulating brown trout populations in two French rivers: application of a dynamic population model. *Regulated Rivers: Research and Management* 17: 557-569.
- Gouraud, V., C. Sabaton, and H. Capra. 2004. Role of habitat variability in trout population dynamics: Application of a dynamic population model to three French rivers. *Hydroecologie Appliquee* 14 (1): 221-244.
- Gowan, C. 1984. The impacts of irrigation water withdrawals on brown trout (*Salmo trutta*) and two species of benthic macroinvertebrates in a typical southern Michigan stream. Master's thesis. Michigan State University, Lansing.
- Gowan, C.G., and K.D. Fausch. 1996. Long-term demographic responses of trout populations to habitat populations to habitat manipulation in six Colorado streams. *Ecological Applications* 6 (3): 931-946.
- Graham, R.J., and D.J. Orth. 1986. Effects of temperature and streamflow on time and duration of spawning by smallmouth bass. *Transactions of the American Fisheries Society* 115 (5): 693-702.
- Graham, W.D., J.E. Thorpe, and N.B. Metcalfe. 1996. Seasonal current holding performance of juvenile Atlantic salmon in relation to temperature and smolting. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (1): 80-86.
- Grand, T.C. 1997. Foraging site selection by juvenile coho salmon: ideal free distributions of unequal competitors. *Animal Behaviour* 53 (1): 185-196.
- Grand, T.C., and L.M. Dill. 1997. The energetic equivalence of cover to juvenile coho salmon (*Oncorhynchus kisutch*): ideal free distribution theory applied. *Behav. Ecol.* 47: 469-471.
- Grange, N., and P.R. Allanson. 1995. The influence of freshwater inflow on the nature, amount and distribution of seston in estuaries of the Eastern Cape, South Africa. *Estuarine, Coastal and Shelf Science* 40: 403-420.
- Grange, N., A.K. Whitfield, C.J. De Villiers, and P.R. Allanson. 2000. The response of two South African east coast estuaries to altered river flow regimes. *Aquatic Conservation: Freshwater and Marine Ecosystems* 10: 155-177.

- Grant, G.E., J.C. Schmidt, and S.L. Lewis. 2003. A geological framework for interpreting downstream effects of dams on rivers. In: J.E. O'Connor and G.E. Grant (editors). A peculiar river: geology, geomorphology, and hydrology of the Deschutes River. American Geophysical Union, Water Science and Application 7. Washington, D.C.
- Grant, J.W.A., and D.L. Kramer. 1990. Territory size as a predictor of the upper limit to population density of juvenile salmonids in streams. Canadian Journal of Fisheries and Aquatic Sciences 47 (9): 1724-1737.
- Grant, J.W.A., and D.L.G. Noakes. 1987. Movers and stayers: foraging tactics of young-of-the-year brook charr, *Salvelinus fontinalis*. Journal of Animal Ecology 56: 1001-1013.
- Grant, J.W.A., and D.L.G. Noakes. 1987. Escape behaviour and use of cover by young-of-the-year brook trout, *Salvelinus fontinalis*. Canadian Journal of Fisheries and Aquatic Sciences 44: 1390-1396.
- Grant, J.W.A., and D.L.G. Noakes. 1987. A simple model of optimal territory size for drift-feeding fish. Can. J. Zool. 65: 270-276.
- Grant, J.W.A., and D.L.G. Noakes. 1988. Aggressiveness and foraging mode of young-of-the-year brook charr, *Salvelinus fontinalis* (Pisces, Salmonidae). Behav. Ecol. Sociobiol. 22: 435-445.
- Grant, J.W.A., D.L.G. Noakes, and K.M. Jonas. 1989. Spatial distribution of defence and foraging in young-of-the-year brook charr, *Salvelinus fontinalis*. Journal of Animal Ecology 58: 773-784.
- Grant, J.W.A., S.O. Steingrimsen, E.R. Keeley, and R.A. Cunjak. 1998. Implications of territory size for the measurement and prediction of salmonid abundance in streams. Canadian Journal of Fisheries and Aquatic Sciences 55 (Suppl. 1): 181-190.
- Gray, L.J., and S.G. Fisher. 1981. Postflood recolonization pathways of macroinvertebrates in a lowland Sonoran Desert stream. American Midland Naturalist 106: 249-257.
- Gray, L.J., and S.G. Fisher. 1989. Stability of periphyton and macroinvertebrates to disturbance by flash floods in a desert stream. Journal of the North American Benthological Society 8: 293-307.
- Greenberg, L.A. 1991. The effect of discharge and predation on habitat use by wild and hatchery brown trout (*Salmo trutta*). Regulated Rivers: Research and Management 117: 205-212.
- Greenberg, L.A. 1994. Effects of predation, trout density, and discharge on habitat use by brown trout, *Salmo trutta*, in artificial streams. Freshwater Biology 21: 1-11.
- Greenberg, L. 1999. Effects of predation and discharge on habitat use by brown trout, *Salmo*

- trutta*, and grayling, *Thymallus thymallus*, in artificial streams. Arch. Hydrobiol. 145:433-446.
- Greenberg, L.A., and J. Dahl. 1998. Effect of habitat type on growth and diet of brown trout, *Salmo trutta*, in stream enclosures. Fisheries Management and Ecology 5: 331-348.
- Greenberg, L., and P.S. Giller. 2001. Individual variation in habitat use and growth of male and female brown trout. Ecography 24: 212-224.
- Greenberg, L.A., T. Steinwall, and H. Persson. 2001. Effect of depth and substrate on use of stream pools by brown trout. Transactions of the American Fisheries Society 130 (4): 699-705.
- Greenberg, L., P. Svendsen, and A. Harby. 1996. Availability of microhabitats and their use by brown trout (*Salmo trutta*) and grayling (*Thymallus thymallus*) in the River Vojman, Sweden. Regulated Rivers: Research and Management 12: 287-303.
- Greene, C.M., D.W. Jensen, G.R. Pess, and E.A. Steel. 2005. Effects of environmental conditions during stream, estuary, and ocean residency on Chinook salmon return rates in the Skagit River, Washington. Transactions of the American Fisheries Society 134 (6): 1562-1581.
- Gregory, J.S., and J.S. Griffith. 1996. Aggressive behaviour of underyearling rainbow trout in simulated winter concealment habitat. J. Fish Biol. 49: 237-245.
- Gregory, J.S., and J.S. Griffith. 1996. Winter concealment by subyearling rainbow trout: space size selection and reduced concealment under surface ice and in turbid water conditions. Canadian Journal of Zoology 74: 451-455.
- Gregory, J.S., and R.W. Smith. 1996. Use of winter concealment cover by juvenile cutthroat and brown trout in the South Fork of the Snake River, Idaho. North American Journal of Fisheries Management 13: 823-830.
- Gregory, S.V., and P.A. Bisson. 1997. Degradation and loss of anadromous salmonid habitat in the Pacific Northwest. Pp. 288-314 in: D.J. Stouder, P.A. Bisson, and R.J. Naiman (eds.), Pacific salmon and their ecosystems. 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 (8): 540-551.
- Grenouillet, G., B. Hugueny, G.A. Carrel, et al. 2001. Large-scale synchrony and interannual variability in roach recruitment in the Rhone River: the relative role of climatic factors and density-dependent processes. Freshwater Biology 46: 11-26.
- Gresswell, R.E. 1999. Fire and aquatic ecosystems in forested biomes of North America. Transactions of the American Fisheries Society 128 (2): 193-221.
- Gries, G., and F. Juanes. 1998. Microhabitat use by juvenile Atlantic salmon (*Salmo salar*) sheltering during the day in summer. Can. J. Zool. 76: 1441-1449.

- Griffith, J.S., Jr. 1972. Comparative behavior and habitat utilization of brook trout (*Salvelinus fontinalis*) and cutthroat trout (*Salmo clarki*) in small streams in northern Idaho. *Journal of the Fisheries Research Board of Canada* 29 (3): 265-273.
- Griffith, J.S., Jr., and R.W. Smith. 1993. Use of winter concealment cover by juvenile cutthroat and brown trout in the South Fork of the Snake River, Idaho. *North American Journal of Fisheries Management* 13: 823-830.
- Griffith, J.S., Jr., and R.W. Smith. 1995. Failure of submersed macrophytes to provide cover for rainbow trout throughout their first winter in Henry's Fork of the Snake River, Idaho. *North American Journal of Fisheries Management* 15: 42-48.
- Grift, R.E., A.D. Buijse, W.L.T. van Densen, and J.G.P. Klein Breteler. 2001. Restoration of the river-floodplain interaction: benefits for the community in the Rhine River. *Archiv fur Hydrobiologie* 135: 173-185.
- Grimes, C.B. 2001. Fishery production and the Mississippi River discharge. *Fisheries* 26 (8): 17-26.
- Grimes, C.B., and M.J. Kingsford. 1996. How do riverine plumes of different sizes influence fish larvae: do they enhance recruitment? *Marine and Freshwater Research* 47: 191-208.
- Grimm, N.B., and S.G. Fisher. 1984. Exchange between surface and interstitial water: implications for stream metabolism and nutrient cycling. *Hydrobiologia* 111: 219-228.
- Grimm, N.B., and S.G. Fisher. 1989. Stability of periphyton and macroinvertebrates to disturbance by flash floods in a desert stream. *Journal of the North American Benthological Society* 8: 293-307.
- Griswold, B.L., C.J. Edwards, and L.C. Woods, III. 1982. Recolonization of macroinvertebrates and fish in a channelized stream after a drought. *Ohio Journal of Science* 82: 96-102.
- Grizzell, R.A. 1976. Flood effects on stream ecosystems. *Journal of Soil and Water Conservation* 31 (6): 283-285.
- Groeneveld, D. and T.E. Griepentrog. 1985. Interdependence of groundwater, riparian vegetation, and streambank stability: A case study. Pp. 44-48 in: *Symposium on Riparian Ecosystems and their Management: Reconciling Conflicting Uses*. U.S. Forest Service General Technical Report RM-120.
- Groot, C., and L. Margolis, eds. 1991. *Pacific salmon life histories*. U.B.C. Press, Vancouver, B.C. 564 p.
- Groshens, T.P., and D.J. Orth. 1993. Transferability of habitat suitability criteria for smallmouth bass, *Micropterus dolomieu*. *Rivers* 4 (3): 194-212.

- Grossman, G.D., and A. De Sostoa. 1994. Microhabitat use by fishes in the lower Rio Matarrana, Spain: 1984-1987. *Ecology of Freshwater Fishes* 3: 123-136.
- Grossman, G.D., and A. De Sostoa. 1994. Microhabitat use by fishes in the upper Rio Matarrana, Spain: 1984-1987. *Ecology of Freshwater Fishes* 3: 141-152.
- Grossman, G.D., A. De Sostoa, M.C. Freeman, and J. Lobon-Cervia. 1987. Microhabitat use in a Mediterranean riverine fish assemblage: I. Fishes of the lower Matarrana. *Oecologia* 73: 490-500.
- Grossman, G.D., A. De Sostoa, M.C. Freeman, and J. Lobon-Cervia. 1987. Microhabitat use in a Mediterranean riverine fish assemblage: II. Fishes of the upper Matarrana. *Oecologia* 73: 501-512.
- Grossman, G.D., and M.A. Freeman. 1987. Microhabitat use in a stream fish assemblage. *Journal of Zoology (London)* 212: 151-176.
- Grossman, G.D., R.E. Fatajczak, Jr., M. Crawford, and M.C. Freeman. 1998. Assemblage organization in stream fishes: effects of environmental variation and interspecific interactions. *Ecological Monographs* 68: 395-420.
- Grossman, G.D., J. Hill, and J.T. Petty. 1995. Observations on habitat structure, population regulation, and habitat use with respect to evolutionary significant units: a landscape perspective for lotic systems. *In*: J. Nielsen (ed.), *Evolution and the aquatic ecosystem: defining unique units in population conservation*. American Fisheries Society Symposium 17: 381-391.
- Grossman, G.D., R.E. Ratajczak, Jr., M. Crawford, and M.C. Freeman. 1998. Assemblage organization in stream fishes: effects of environmental variation and interspecific interactions. *Ecological Monographs* 68: 395-420.
- Grost, R.T., W.A. Hubert, and T.A. Wesche. 1990. Redd site selection by brown trout in Douglas Creek, Wyoming. *Journal of Freshwater Ecology* 5: 365-371.
- Grost, R.T., W.A. Hubert, and T.A. Wesche. 1991. Description of brown trout redds in a mountain stream. *Transactions of the American Fisheries Society* 120: 582-588.
- Groves, P.A., and J.A. Chandler. 1999. Spawning habitat used by fall chinook salmon in the Snake River. *North American Journal of Fisheries Management* 19 (4): 912-922.
- Grubb Journal, H. 1981. Freshwater inflow planning in Texas, p. 88-95. *In*: R. Cross and D. Williams (eds.). *Proceedings of the national Symposium on Freshwater Inflow to Estuaries*. FWS/OBS-81/04. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.
- Grussing, M.D., D.R. DeVries, and R.A. Wright. 2001. Stock characteristics and habitat use of

- catfishes in regulated section of four Alabama rivers. Proceeding of the Annual Conference Southeastern Association of Game and Fish Commissioners 27 (1999): 15-34.
- Gu, R., S. McCutcheon, and C.-J. Chen. 1999. Development of weather-dependent flow requirements for river temperature control. *Environmental Management* 24: 529-540.
- Guay, J.C., D. Boisclair, M. Leclerc, and M. Lapointe. 2003. Assessment of the transferability of biological habitat models for juveniles of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 60 (11): 1398-1408.
- Guay, J.C., D. Boisclair, D. Rioux, M. Leclerc, M. Lapointe, and P. Legendre. 1999. Validation of numerical habitat model for juveniles of Atlantic salmon (*Salmo salar*). In T.B. Hardy, ed. *Proceedings of 3<sup>rd</sup> international symposium on ecohydraulics*. Utah State University, Logan.
- Guay, J.C., D. Boisclair, D. Rioux, M. Leclerc, M. Lapointe, and P. Legendre. 2000. Development and validation of numerical habitat models for juveniles of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 57(10): 2065-2075.
- Guay, J.C., D. Boisclair, D. Rioux, M. Leclerc, M. Lapointe, and P. Legendre. 2001. Science on the edge of spatial scales: a reply to the comments of Williams (2001). *Canadian Journal of Fisheries and Aquatic Sciences* 58 (10): 2108-2111.
- Gucker, B., and I. G. Boechat. 2004. Stream morphology controls ammonium retention in tropical headwaters. *Ecology* 85 (10): 2818-2827.
- Guegan, J.F., S. Lek, and T. Oberdorff. 1998. Energy availability and habitat heterogeneity predict global riverine fish diversity. *Nature* 391: 382-384.
- Guensch, G.R., T.B. Hardy, and R.C. Addley. 2001. Examining feeding strategies and position choice of drift-feeding salmonids using an individual-based, mechanistic foraging model. *Canadian Journal of Fisheries and Aquatic Sciences* 58(3): 446-457.
- Guenther, C.B., and A. Spacie. 2006. Changes in fish assemblage structure upstream of impoundments within the upper Wabash River basin, Indiana. *Transactions of the American Fisheries Society* 135 (3): 570-583.
- Guillory, V. 1979. Utilization of an inundated floodplain by Mississippi River fishes. *Florida Scientist* 42: 222-228.
- Guiny, E., J.D. Armstrong, and D.A. Ervine. 2003. Preferences of mature male brown trout and Atlantic salmon parr for orifice and weir fish pass entrances matched for peak velocities and turbulence. *Ecology of Freshwater Fish* 12: 190-195.
- Guisan, A., and N.E. Zimmermann. 2000. Predictive habitat distribution models in ecology. *Ecological Modelling* 135: 147-186.
- Gunderson, D.R. 1968. Floodplain use related to stream morphology and fish populations.

Journal of Wildlife Management 32: 507-517.

Gunckel, S.L., A.R. Hemmingsen, and J.L. Li. 2002. Effect of bull trout and brook trout interactions on foraging habitat, feeding behavior, and growth. *Transactions of the American Fisheries Society* 131 (6): 1119-1130.

Gunter, G., and J.C. Edwards. 1969. The relation of rainfall and fresh-water drainage to the production of the penaeid shrimps (*Penaeus fluviatilis* Say and *Penaeus aztecus* Ives) in Texas and Louisiana waters. *FAO Fishery Report* 57: 875-892.

Gurnell, A.M. 1998. The hydrogeomorphological effects of beaver dam-building activity. *Progress in Physical Geography* 22: 167-189.

Gustard, A. 1984. The characterization of flow regimes for assessing the impact of water resource management on river ecology. Pp. 53-60 in: A. Lillehammer and S.J. Saltveit (eds). *Regulated Rivers*. New York: Columbia University Press.

Gutreuter, S., A.D. Bartels, K. Irons, and M.B. Sandheimrich. 1999. Evaluation of the flood-pulse concept based on statistical models of growth of selected fishes of the Upper Mississippi River system. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (12): 2282-2291.

Hackney, C.T. 1978. Summary of information: Relationship of freshwater inflow to estuarine productivity along the Texas coast. FWS/OBS-78/73. U.S. Fish and Wildlife Service, Biological Service Program, Washington, D.C.

Haeuber, R.A., and W.K. Mitchener. 1998. Natural flood control. *Issues in Science and Technology* (Fall 1998): 74-80.

Hagen, J. and E.B. Taylor. 2001. Resource partitioning as a factor limiting gene flow in hybridizing populations of Dolly Varden char (*Salvelinus malma*) and bull trout (*Salvelinus confluentus*). *Canadian Journal of Fisheries and Aquatic Sciences* 58 (10): 2037-2047.

Haig, S.M., D.W. Mehlman, and L.W. Oring. 1998. Avian movements and wetland connectivity in landscape conservation (review). *Conservation Biology* 12: 749-758.

Haines, G.B., and H.M. Tyus. 1990. Fish associations and environmental variables in age-0 Colorado squawfish habitats, Green River, Utah. *Journal of Freshwater Ecology* 5 (4): 427-436.

Hakala, J.P., and K.J. Hartman. 2004. Drought effects on stream morphology and brook trout (*Salvelinus fontinalis*) populations in forested headwater streams. *Hydrobiologia* 515: 203-213.

Hale, J.G., and D.A. Hilden. 1970. The influence of flow on the spawning of brook trout in the laboratory. *Transactions of the American Fisheries Society* 99 (3): 595-597.

- Hale, S.S., T.E. McMahon, and P.C. Nelson. 1985. Habitat suitability index models and instream flow suitability curves: chum salmon. U.S. Fish and Wildlife Service Biological Report 82.
- Hallisey, J.E., and G.H. Belt. 1996. Relationships between particle movement and channel morphology in some northern Idaho streams. *Water Resources Bulletin* 32 (2): 383-391.
- Halls, A.S., and R.L. Welcomme. 2004. Dynamics of river fish populations in response to hydrological conditions: a simulation study. *River Research and Applications* 20: 985-1000.
- Hamilton, D.P. 2000. Record summer rainfall induced first recorded major cyanobacterial bloom in the Swan River. *Environmental Engineer* 1: 25.
- Hamilton, R.E. 1978. Fisheries resource maintenance flows for Pacific salmon. M.A.S. thesis, Department of Civil Engineering, University of British Columbia, Vancouver. 143 pp.
- Hamilton, R., and J.W. Buell. 1976. Effects of modified hydrology on Campbell River salmonids. Environment Canada, Fisheries and Marine Service, Technical Report Series No. PAC/T-76-20, Habitat Protection Dir., Vancouver.
- Hampton, M. 1988. Development of habitat preference criteria for anadromous salmonids of the Trinity River. U.S. Fish and Wildlife Service, Division of Ecological Services, Sacramento, CA.
- Hankin, D.G., and G.H. Reeves. 1988. Estimating total fish abundance and total habitat area in small streams based on visual estimation methods. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 834-844.
- Hanrahan, T.P., D.D. Dauble, and D.R. Geist. 2004. An estimate of Chinook salmon (*Oncorhynchus tshawytscha*) spawning habitat and redd capacity upstream of a migration barrier in the upper Columbia River. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (1): 23-33.
- Hansen, E.A. 1975. Some effects of groundwater on brown trout redds. *Transactions of the American Fisheries Society* 104: 100-110.
- Hansen, R., D.D. Hart, and R.A. Merz. 1991. Flow mediates predator-prey interactions between triclad flatworms and larval black flies. *Oikos* 60: 187-196.
- Hanson, D.L., and T.F. Waters. 1974. Recovery of standing crop and production rate of a brook trout population in a flood-damaged stream. *Transactions of the American Fisheries Society* 103 (3): 431-439.
- Hanson, W.D., and R.S. Campbell. 1963. The effects of pool size and beaver activity on distribution and abundance of warm-water fishes in a north Mississippi stream. *American Midland Naturalist* 69 (1): 137-149.

- Harby, A., and J.H. Halleraker. 2001. Ecological impacts of hydro peaking in rivers. *Hydropower and Dams* 4: 132-134.
- Harding, L.W., Jr. 1994. Long-term trends in the distribution of phytoplankton in Chesapeake Bay: roles of light, nutrients and streamflow. *Marine Ecology Progress Series* 104: 267-291.
- Hardy, T.B. 1998. The future of habitat modeling and instream flow assessment techniques. *Regulated Rivers: Research and Management* 14 (5): 405-420.
- Hardy, T.B., C.G. Prewitt, and K.A. Voos. 1982. Application of a physical habitat usability model to the fish community in a small spring-fed desert stream. Pp. 391-397 in: W.K. Lauenroth, G.V. Skogerboe, and M. Flug (eds), *Analysis of ecological systems: state of the art in ecological modeling*. Elsevier.
- Harner, M.J., and J.A. Stanford. 2003. Differences in cottonwood growth between a losing and a gaining reach of an alluvial floodplain. *Ecology* 84 (6): 1453-1458.
- Haro, A., T. Castro-Santos, J. Noreika, and M. Odeh. 2004. Swimming performance of upstream migrant fishes in open-channel flow: a new approach to predicting passage through velocity barriers. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (9): 1590-1601.
- Haro, A., M. Odeh, J. Noreika, and T. Castro-Santos. 1997. Effect of water acceleration on downstream migratory behavior and passage of Atlantic salmon smolts and juvenile American shad at surface bypasses. *Transactions of the American Fisheries Society* 127: 118-127.
- Haro, R.J., and M.A. Brusven. 1994. Effects of cobble embeddedness on the microdistribution of the sculpin *Cottus beldingi* and its stonefly prey. *Great Basin Naturalist* 54: 64-70.
- Harper, D.D., and A.M. Farag. 2004. Winter habitat use by cutthroat trout in the Snake River near Jackson, Wyoming. *Transactions of the American Fisheries Society* 133 (1): 15-25.
- Harpman, D.A., E.W. Sparling, and T.J. Waddle. 1993. A methodology for quantifying and valuing the impacts of flow changes on a fishery. *Water Resources Research* 29: 575-582.
- Harr, R.D., and F.M. McCorisin. 1979. Initial effects of clearcut logging on size and timing of peak flows in a small watershed in western Oregon. *Water Resour. Res.* 15: 90-94.
- Harrell, H.L. 1978. Responses of the Devil's River (Texas) fish community to flooding. *Copeia* 1978: 60-68.
- Harris, D.D., W.A. Hubert, and T.A. Wesche. 1991. Brown trout population and habitat response to enhanced minimum flow in Douglas Creek, Wyoming. *Rivers* 2 (4): 285-294.
- Harris, D.D., W.A. Hubert, and T.A. Wesche. 1992. Habitat use by young-of-the-year brown

trout and effects on weighted usable area. *Rivers* 3 (2): 99-105.

Harris, J.H., and P.C. Gehrke. 1994. Modelling the relationship between streamflow and population recruitment to manage freshwater fisheries. *Agric. Syst. Inform. Technol.* 6: 28-30.  
Harris, R.D., R.J. Risser, and C.J. Fox. A method for evaluating streamflow discharge - plant species occurrence patterns on headwater streams. Pp. 87-90 in: Johnson, R.R., et al. (Eds), *Riparian ecosystems and their management: reconciling conflicting uses*. USDA Forest Service, Gen. Tech. Report RM-120.

Harris, R.R., C.A. Fox, and R. Risser. 1987. Impacts of hydroelectric development on riparian vegetation in the Sierra Nevada, California, USA. *Environmental Management* 12 (2): 219-228.

Hart, D.D., B.D. Clark, and A. Jasentuliyana. 1996. Fine-scale field measurement of benthic flow environments inhabited by stream invertebrates. *Limnology and Oceanography* 41: 297-308.

Hart, D.D., and C.M. Finelli. 1999. Physical-biological coupling in streams: the pervasive effects of flow on benthic organisms. *Annual Review of Ecology and Systematics* 30: 363-395.

Hart, D.D., and D.M. Fonseca. 1995. Relationships between benthic distributions and heterogeneous flow environments: processes and patterns at three spatial scales. *J. N. Am. Benthol. Soc.* 12: 274.

Hart, D.D., and R.A. Merz. 1998. Predator-prey interactions in a benthic stream community: a field test of flow-mediated interactions. *Oecologia* 114: 263-273.

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 (4): 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: viii+148 pp. Department of Fisheries and Oceans, Ottawa.

Harvey, B. 1987. Susceptibility of young-of-the year fishes to downstream displacement by flooding. *Transactions of the American Fisheries Society* 116: 851-855.

Harvey, B.C. 1991. Interactions among stream fishes: predator-induced shifts and larval survival. *Oecologia* 87: 29-36.

Harvey, B.C. 1991. Interaction of abiotic and biotic factors influences larval fish survival in an Oklahoma stream. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 1476-1480.

Harvey, B.C., and R.J. Nakamoto. 1997. Habitat-dependent interactions between two size-classes of juvenile steelhead in a small stream. *Canadian Journal of Fisheries and Aquatic*

Sciences 54 (1): 27-31.

Harvey, B.C., R.J. Nakamoto, and J.L. White. 1999. Influence of large woody debris and a bankfull flood on movement of adult resident coastal cutthroat trout (*Oncorhynchus clarki*) during fall and winter. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (11): 2161-2166.

Harvey, B.C., R.J. Nakamoto, and J.L. White. 2006. Reduced streamflow lowers dry-season growth of rainbow trout in a small stream. *Transactions of the American Fisheries Society* 135 (4): 998-1005.

Harvey, B.C., and A.J. Stewart. 1991. Fish size and habitat depth relationships in headwater streams. *Oecologia* 87: 336-342.

Harvey, B.C., J.L. White, and R.J. Nakamoto. 2002. Habitat relationships and larval drift of native and nonindigenous fishes in neighboring tributaries of a coastal California river. *Transactions of the American Fisheries Society* 131 (1): 159-170.

Harvey, J.W., and K.E. Bencala. 1993. The effect of streambed topography on surface-subsurface water exchange in mountain catchments. *Water Resources Res.* 29: 89-98.

Harvey, J.W., and B.J. Wagner. 2004. Quantifying hydrologic interactions between streams and their subsurface hyporheic zones. Pp. 3-44 in: J.B. Jones and P.J. Mulholland, eds. *Streams and ground waters*. Academic Press, San Diego, California, USA.

Harwood, A.J., N.B. Metcalfe, S.W. Griffiths, and J.D. Armstrong. 2002. Intra- and inter-specific competition for winter concealment in juvenile salmonids. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (9): 1515-1523.

Haschenburger, J.K. 1999. A probability model of scour and fill depths in gravel-bed channels. *Water Resources Research* 35: 2857-2869.

Hatfield, T. and J. Bruce. 2000. Predicting salmon habitat-flow relationship for streams from western North America. *North American Journal of Fisheries Management* 20 (4): 1005-1015.

Hauer, F.R., and M.S. Lorang. 2004. River regulation, decline of ecological resources, and potential for restoration in a semi-arid lands river in the western USA. *Aquat. Sci.* 66: 388-401.

Havey, K.A. 1974. Effects of regulated flows on standing crops of juvenile salmon and other fishes at Barrow Stream, Maine. *Transactions of the American Fisheries Society* 103 (1): 1-9.

Havey, K.A., and R.M. Davis. 1970. Factors influencing standing crops and survival of juvenile salmon at Barrows Stream, Maine. *Transactions of the American Fisheries Society* 99 (2): 297-311.

Hawes, S.R., and H.M. Perry. 1978. Effects of 1973 floodwaters on plankton populations in Louisiana and Mississippi. *Gulf Research Reports* 6: 109-124.

Hawkes, C.L., D.L. Miller, and W.G. Layher. 1986. Fish ecoregions of Kansas: stream fish assemblage patterns and associated environmental correlates. *Environmental Biology of Fishes* 17: 267-279.

Hawkes, H.A. 1975. River zonation and classification. Pages 312-374 in: B.A. Whitton, editor. *River ecology*. University of California Press, Berkeley.

Hawkins, C.P., J.L. Kershner, P.A. Bisson, M.D. Bryant, L.M. Decker, S.V. Gregory, D.A. McCullough, C.K. Overton, G.H. Reeves, R.J. Steedham, and M.K. Young. A hierarchical approach to classifying habitat features. *Fisheries* 18 (6): 3-12.

Hawkins, C.P., M.L. Murphy, N.H. Anderson, and M.A. Wilzbach. 1983. Density of fish and salamanders in relation to riparian canopy and physical habitat in streams of the northwestern United States. *Canadian Journal of Fisheries and Aquatic Sciences* 40: 1173-1185.

Hayes, D.B., C.P. Ferreri, and W.W. Taylor. 1996. Linking fish habitat to their population dynamics. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (Suppl. 1): 383-390.

Hayes, F.R. 1953. Artificial freshets and other factors controlling the ascent and populations of Atlantic salmon in the LaHave River, Nova Scotia. *Bulletin of the Fisheries Research Board of Canada* 99: 1-47.

Hayes, J.W. 1996. Bioenergetic model for drift-feeding brown trout. In: *The 2<sup>nd</sup> International Symposium on Ecohydraulics*, June 1996, Quebec, Canada. Pp. 465-476.

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 (4): 710-725.

Healy, B.D., and D.G. Lonzarich. 2000. Microhabitat use and behavior of overwintering juvenile coho salmon in a Lake Superior tributary. *Transactions of the American Fisheries Society* 129 (3): 866-872.

Heard, W.R. 1991. Life history of pink salmon (*Oncorhynchus gorbuscha*). Pp. 119-230 in: C. Root and L. Margolis (eds.), *Pacific salmon life histories*. UBC Press, Vancouver.

Hearn, W.E. 1987. Interspecific competition and habitat segregation among stream-dwelling trout and salmon: a review. *Fisheries* 12 (5): 24-31.

Hearn, W.E., and B.E. Kynard. 1986. Habitat use and behavioral interaction of juvenile Atlantic salmon (*Salmo salar*) and rainbow trout (*S. gairdneri*) in tributaries of the White River in Vermont. *Canadian Journal of Fisheries and Aquatic Sciences* 43 (10): 1988-1998.

- Hearne, J., I. Johnshom, and P. Armitage. 1994. Determination of ecologically acceptable flows in rivers with seasonal changes in the density of macrophyte. *Regulated Rivers: Research and Management* 9: 177-184.
- Heede, B.H., and J.N. Rinne. 1990. Hydrodynamic and fluvial geomorphological processes: implications for fisheries management and research. *North American Journal of Fisheries Management* 10: 249-268.
- Heggenes, J. 1988. Effect of experimentally increased intraspecific competition on sedentary adult brown trout (*Salmo trutta*) movement and stream habitat choice. *Canadian Journal of Fisheries and Aquatic Sciences* 45 (7): 1163-1172.
- Heggenes, J. 1988. Substrate preferences of brown trout fry (*Salmo trutta*) in artificial stream channels. *Canadian Journal of Fisheries and Aquatic Sciences* 45 (10): 1801-1806.
- 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 (4): 336-344.
- Heggenes, J. 1988. Physical habitat selection by brown trout (*Salmo trutta*) in riverine systems. *Nordic Journal of Freshwater Research* 64: 74-90.
- Heggenes, J. 1990. Habitat utilization and preferences in juvenile Atlantic salmon (*Salmo salar*) in streams. *Regulated Rivers: Research and Management* 5: 341-354.
- Heggenes, J. 1991. Comparisons of habitat availability and habitat use by an allopatric cohort of juvenile Atlantic salmon *Salmo salar* under conditions of low competition in a Norwegian stream. *Holarctic Ecology* 14: 51-62.
- Heggenes, J. 1991. Effect of habitat availability on habitat use by an allopatric cohort of juvenile Atlantic salmon (*Salmo salar*) under conditions of low competition in a stream. *Holarctic Ecology* 14: 51-62.
- Heggenes, J. 1994. Physical habitat selection by brown trout (*Salmo trutta*) and young Atlantic salmon (*S. salar*) in spatially and temporally heterogeneous streams: implications for hydraulic modeling. Pp. 12-30 in: *Proceedings of the 1<sup>st</sup> International Conference on Habitat Hydraulics*. International Association of Hydraulic Research, Trondheim, Norway.
- Heggenes, J. 1996. Habitat selection by brown trout (*Salmo trutta*) and young Atlantic salmon (*S. salar*) in streams: static and dynamic hydraulic modeling. *Regulated Rivers: Research and Management* 12: 155-169.
- Heggenes, J. 2002. Flexible summer habitat selection by wild, allopatric brown trout in lotic environments. *Transactions of the American Fisheries Society* 131 (2): 287-298.

- Heggenes, J., J.L. Bagliniere, and R.A. Cunjak. 1995. Note de synthese sur la selection de niche spatiale et la competition chez le jeune saumon atlantique (*Salmo salar*) et la truite commune (*Salmo trutta*). Bull. Fr. Peche Piscic. 337/338/339: 231-240.
- Heggenes, J., J.L. Bagliniere, and R.A. Cunjak. 1999. Spatial niche variability for young Atlantic salmon, *Salmo salar* L., and brown trout, *S. trutta* L., in heterogeneous streams. Ecology of Freshwater Fish 8: 1-21.
- Heggenes, J., and R. Borgstrom. 1991. Effects of habitat types on survival, spatial distribution and production of an allopatric cohort of Atlantic salmon, *Salmo salar* L., under conditions of low competition. Journal of Fish Biology 38: 267-280.
- Heggenes, J., A. Braband, and S.K. Saltveit. 1990. Comparison of three methods for studies of stream habitat use by young brown trout and Atlantic salmon. Transactions of the American Fisheries Society 119: 101-111.
- Heggenes, J., A. Braband, and S.K. Saltveit. 1991. Microhabitat use by brown trout (*Salmo trutta*), and Atlantic salmon (*Salmo salar*) in a stream: a comparative study of underwater and riverbank observation. Journal of Fish Biology 38: 259-266.
- Heggenes, J., and J.G. Dokk. 2001. Contrasting temperatures, water-flows, and light: seasonal habitat selection by young Atlantic salmon and brown trout in a boreonemoral river. Regulated Rivers Research and Management 17: 623-635.
- Heggenes, J., T.G. Northcote, and A. Peter. 1991. Spatial stability of cutthroat trout (*Oncorhynchus clarki*) in a small coastal stream. Canadian Journal of Fisheries and Aquatic Sciences 48 (5): 757-762.
- Heggenes, J., T.G. Northcote, and A. Peter. 1991. Seasonal habitat selection and preferences by cutthroat trout (*Oncorhynchus clarki*) in a small, coastal stream. Canadian Journal of Fisheries and Aquatic Sciences 48: 1364-1370.
- Heggenes, J., and S.J Saltveit. 1990. Seasonal and spatial microhabitat selection and segregation in young Atlantic salmon, *Salmo salar* L., and brown trout, *S. trutta* L. in a Norwegian river. Journal of Fish Biology 36: 707-720.
- Heggenes, J., S.J. Saltveit, K.A. Vaskinn, and O. Lingas. 1996. Predicting fish habitat use to changes in water flow: modeling critical minimum flows for Atlantic salmon, *Salmo salar*, and brown trout, *S. trutta*. Regulated Rivers: Research and Management 12: 331-344.
- Heggenes, J., and T. Traaen. 1988. Downstream migration and critical water velocities in stream channels for fry of four salmonid species. Journal of Fish Biology 32: 717-727.
- Helfrich, L.A., K.W. Nutt, and D.L. Weigmann. 1991. Habitat selection by spawning redbreast sunfish in Virginia streams. Rivers 2 (2): 138-147.

Helvey, J.D. 1972. First-year effects of wildfire on water yield and stream temperature in north-central Washington. Pp. 308-312 in: S.C. Callany, T.G. McLaughlin, and W.D. Striffler (eds.), *Watersheds in transitions*. American Water Resources Association, Proceeding Series 14, Urbana, Illinois.

Helvey, J.D. 1980. Effects of a north-central Washington wildfire on runoff and sediment production. *Water Resources Bulletin* 16: 627-634.

Henderson, M.A., D.A. Levy, and J.S. Stockner. 1992. Probable consequences of climate change on freshwater production of Adams River sockeye salmon (*Oncorhynchus nerka*). *GeoJournal* 28: 51-59.

Henning, J.A., R.E. Gresswell, and I.A. Fleming. 2006. Juvenile salmonid use of freshwater emergent wetlands in the floodplain and its implications for conservation management. *North American Journal of Fisheries Management* 26 (2): 367-376.

Herbert, M.E., and F.P. Gelwick. 2003. Spatial variation of headwater fish assemblages explained by hydrologic variability and upstream effects of impoundments. *Copeia* 2003: 273-284.

Herger, L.G., W.A. Hubert, and M.K. Young. 1996. Comparison of habitat composition and cutthroat trout abundance at two flows in small mountain streams. *North American Journal of Fisheries Management* 16 (2): 294-301.

Heritage, G.L., L.J. Broadhurst, and A.L. Birkhead. 2001. The influence of contemporary flow regime on the geomorphology of the Sabie River, South Africa. *Geomorphology* 38: 197-211.

Heritage, G.L., A.W. van Niekerk, B.P. Moon, L.J. Broadhurst, K.H. Rogers, and C.S. James. 1997. The geomorphological response to changing flow regimes of the Sabie and Letaba river systems. Water Research Commission, Pretoria, South Africa.

Hesse, L.W., and B.A. Newcomb. 1982. Effects of flushing Spencer Hydro on water quality, fish, and insect fauna in the Niobara River, Nebraska. *North American Journal of Fisheries Management* 2: 45-52.

Hicks, B.J. 1989. The influence of geology and timber harvest on channel morphology and salmonid populations in Oregon Coast Range streams. Doctoral dissertation. Oregon State University, Corvallis.

Hicks, B.J., R.L. Beschta, and R.D. Harr. 1991. Long-term changes in streamflow following

logging in western Oregon and associated fisheries implications. *Water Resources Bulletin* 27: 217-226.

Hicks, B.J., and J.D. Hall. 2003. Rock type and channel gradient structure salmonid populations in the Oregon Coast Range. *Transactions of the American Fisheries Society* 132 (3): 468-482.

Hicks, B.J., J.D. Hall, P.A. Bisson, and J.R. Sedell. 1991. Responses of salmonids to habitat changes. Pp. 483-518 in: W.R. Meehan (ed.) *Influences of forest and rangeland management on salmonid fishes and their habitats*. American Fisheries Society Special Publication 19, Bethesda, Maryland.

High, B., C.A. Peery, and D.H. Bennett. 2006. Temporary staging of Columbia River summer steelhead in coolwater areas and its effect on migration rates. *Transactions of the American Fisheries Society* 135 (2): 519-528.

Hildebrand, R.H., A.D. Lemly, and C.A. Dolloff. 1999. Habitat sequencing and the importance of discharge in inferences. *North American Journal of Fisheries Management* 19(1): 198-202.

Hill, J. 1989. The energetic significance of microhabitat use in two stream fishes. Ph.D. dissertation, University of Georgia, Athens.

Hill, J., and G.D. Grossman. 1993. An energetic model of microhabitat use for rainbow trout and rosyside dace. *Ecology* 74 (3): 685-698.

Hill, M.S., G.B. Zydlewski, and W.L. Gale. 2006. Comparisons between hatchery and wild steelhead trout (*Oncorhynchus mykiss*) smolts: physiology and habitat use. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (7): 1627-1638.

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.J., and G.P. Quinn. 2002. Temporal changes in macroinvertebrate assemblages following experimental flooding in permanent and temporary wetlands in an Australian floodplain forest. *River Research and Applications* 18 (2): 137-154.

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 (2): 185-195.

Hinch, S.G., and P.S. Rand. 1998. Swim speeds and energy use of up-river migrating sockeye salmon (*Oncorhynchus nerka*): role of local environment and fish characteristics. *Canadian Journal of Fisheries and Aquatic Sciences* 55: 1821-1831.

Hinch, S.G., and P.S. Rand. 2000. Optimal swimming speeds and forward-assisted propulsion:

energy-conserving behavior of upriver-migrating adult salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 57: 2470-2478.

Hinton, S.A., and R.L. Emmett. 1994. Juvenile salmonid stranding in the lower Columbia River, 1992 and 1993. U.S. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northwest Fisheries Center Technical Memorandum 20: 48 pp.

Hirsch, C.L. 1995. Seasonal shifts in redband trout use of pools and their microhabitats in three central Oregon streams. Master's thesis, Oregon State University, Corvallis.

Hiscock, M.J., D.A. Scruton, J.A. Brown, and K.D. Clarke. 2002. Winter movement of radio-tagged juvenile Atlantic salmon in Northeast Brook, Newfoundland. *Transactions of the American Fisheries Society* 131 (3): 577-581.

Hobs, N.T., and T.A. Hanley. 1990. Habitat evaluation: do use/availability data reflect carrying capacity? *Journal of Wildlife Management* 54: 515-522.

Hoel, S.M. 1998. Evaluation of the relations of fish and invertebrate communities to habitat conditions affected by low and variable flows in two Missouri prairie streams. M.S. thesis, University of Missouri, Columbia. 246 pp.

Hoese, H.D. 1960. Biotic changes in a bay associated with the end of a drought. *Limnology and Oceanography* 5: 326-336.

Hoffman, J.P. 1980. Determining optimum releases from Lewiston Dam to improve salmon and steelhead habitat in the Trinity River, California. *Proc. Ann. Conf. Western Assoc. Fish Wildlife Agencies* 80: 366-388.

Hogan, D.L., and M. Church. 1989. Hydraulic geometry in small, coastal streams: progress toward quantification of salmonid habitat. *Canadian Journal of Fisheries and Aquatic Sciences* 46 (5): 844-852.

Hollis, G.E. 1975. The effect of urbanization on floods of different recurrence interval. *Water Resources Research* 11 (3): 431-435.

Holm, D.J., J. Armstrong, and D.J. Gilvear. 2001. Investigating a major assumption of predictive in-stream habitats models: is water velocity preference of juvenile Atlantic salmon independent of stream discharge. *J. Fish Biol.* 59: 1653-1666.

Holmquist, J.G., J.M. Schmidt-Gengenback, and B.B. Yoshioka. 1998. High dams and marine-freshwater linkages: effects on native and introduced fauna in the Caribbean. *Conservation Biology* 12: 621-630.

Holtby, L.B., and G.F. Hartman. 1982. The population dynamics of coho salmon

- (*Oncorhynchus kisutch*) in a west coast rainforest stream subject to logging. Pp. 308- in: G.F. Hartman (ed), Proceedings of the Carnation Creek Workshop, a 10 year review. Pacific Biological Station, Nanaimo, British Columbia. 404 pp.
- Holtby, L.B., and Healy, M.C. 1986. Selection for adult size in female coho salmon (*Oncorhynchus kisutch*). Canadian Journal of Fisheries and Aquatic Sciences 43: 1946-1959.
- Holtby, L.B., and J.C. Scrivener. 1989. Observed and simulated effects of climatic variability, clear-cut logging and fishing on the number of chum salmon (*Oncorhynchus keta*) and coho salmon (*O. kisutch*) returning to Carnation Creek, British Columbia. Canadian Special Publication on Fisheries and Aquatic Sciences 105: 62-81.
- Holtgren, J.M., and N.A. Auer. 2004. Movement and habitat of juvenile lake sturgeon (*Acipenser fulvescens*) in the Sturgeon River/Portage Lake system, Michigan. Journal of Freshwater Ecology 19: 419-432.
- Hoopes, D.T. 1972. Selection of spawning sites by sockeye salmon in small streams. U.S. Fish and Wildlife Service, Fishery Bulletin 70: 447-458.
- Hoopes, R.L. 1975. Flooding as a result of Hurricane Agnes, and its effect on a native brook trout population in an infertile headwater. Transactions of the American Fisheries Society 104 (1): 96-99.
- Hopkinson, Jr., C.S., and J.J. Vallino. 1995. The relationships among man's activities in watersheds and estuaries: A model of runoff effects on patterns of estuarine community metabolism. Estuaries 18: 598-621.
- Hornbeck, J.W., M.B. Adams, E.S. Corbett, E.S. Verry, and J.A. Lynch. 1993. Long-term impacts of forest treatments on forest yield: a summary for northeastern USA. J. Hydrol. 150: 323-340.
- Hornbeck, J.W, C.W. Martin, and C. Eager. 1997. Summary of water yield experiments at Hubbard Brook Experimental Station, New Hampshire. Can. J. For. Res. 27: 2043-2052.
- Hornbeck, J.W, C.W. Martin, R.S. Pierce, F.H. Bormann, G.E. Likens, and J.S. Eaton. 1986. Clearcutting northern hardwoods: effects on hydrologic and nutrient ion budgets. For. Sci. 32: 667-686.
- Hoxmeier, R.J., and D.R. DeVries. 1997. Habitat use, diet, and population structure of adult and juvenile paddlefish in the lower Alabama River. Transactions of the American Fisheries Society 126: 288-301.
- Huang, W., and E.K. Jones. 1997. Three-dimensional modeling of circulation and salinity for the low river flow season in Apalachicola Bay, Florida. Northwest Florida Water Management District Water Resources Special Report 97-10, Havana, Florida.

Hubert, W.A., D.D. Harris, and T.A. Wesche. 1994. Diurnal shifts in use of summer habitat by age-0 brown trout in a regulated mountain stream. *Hydrobiologia* 284: 147-156.

Hubert, W.A., R.S. Helzner, L.A. Lee, and P.C. Nelson. 1985. Habitat suitability index models and instream flow suitability curve: Arctic grayling riverine populations. U.S. Fish and Wildlife Service FWS/OBS-82/10.110.

Hubert, W.A., and S.J. Kozel. 1993. Quantitative relations of physical habitat features to channel slope and discharge in unaltered mountain streams. *Journal of Freshwater Ecology* 8: 177-183.

Hubert, W.A., and F.J. Rahel. 1989. Relations of physical habitat to abundance of four nongame fishes in high-plains streams: a test of habitat suitability. *North American Journal of Fisheries Management* 9 (3): 332-340.

Hubert, W.A., C. Raley, and S.H. Anderson. 1990. Compliance with instream flow agreements in Colorado, Montana, and Wyoming. *Fisheries* 15 (2): 8-10.

Hudson, P.F., and R.H. Kesel. 2000. Channel migration and meander-bend curvature in the lower Mississippi River prior to major human modification. *Geology* 28: 531-534.

Huet, M. 1959. Profiles and biology of Western European streams as related to fish management. *Transactions of the American Fisheries Society* 88: 155-163.

Huey, R.B. 1991. Physiological consequences of habitat selection. *American Naturalist* 130 (supplement): 90-115.

Hughes, F.M.R. 1994. Environmental change, disturbance and regeneration in semi-arid floodplain forests. Pp. 321-345 in: A.C. Millington and K. Pye, eds. *Environmental change in drylands: biogeographical and geomorphological perspectives*. Wiley, London.

Hughes, F.M.R., and S.B. Rood. 2003. Allocation of river flows for restoration of floodplain forest ecosystems: A review of approaches and their applicability to Europe. *Environmental Management* 32: 12-33.

Hughes, N.F. 1992. Ranking of feeding positions by drift-feeding Arctic grayling (*Thymallus arcticus*). *Canadian Journal of Fisheries and Aquatic Sciences* 49 (10): 1994-1998.

Hughes, N.F. 1992. Selection of positions by drift-feeding salmonids in dominance hierarchies: model and test for Arctic grayling (*Thymallus arcticus*). *Canadian Journal of Fisheries and Aquatic Sciences* 49 (10): 1999-2008.

Hughes, N.F. 1998. A model of habitat selection by drift-feeding salmonids at different scales. *Ecology* 79: 1097-1129.

- Hughes, N.F. 2000. Testing the ability of habitat selection theory to predict interannual movement patterns of a drift-feeding salmonid. *Ecol. Freshw. Fish.* 9: 4-8.
- Hughes, N.F., and L.M. Dill. 1990. Position choice by drift-feeding salmonids: model and test for Arctic grayling (*Thymallus arcticus*) in subarctic mountain streams, interior Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 47 (10): 2039-2048.
- Hughes, N.F., and T.C. Grand. 2000. Physiological ecology meets the ideal-free distribution: predicting the distribution of size structured fish populations across temperature gradients. *Environmental Biology of Fishes* 59 (3): 285-298.
- Hughes, N.F., J.W. Hayes, K.A. Shearer, and R.G. Young. 2003. Testing a model of drift-feeding using three-dimensional videography of wild brown trout, *Salmo trutta*, in a New Zealand river. *Canadian Journal of Fisheries and Aquatic Sciences* 60 (12): 1462-1476.
- Hughes, T.C. 2002. Population characteristics, habitats, and movements of lake sturgeon (*Acipenser fulvescens*) in the lower Niagara River. Master's thesis, State University of New York at Brockport, Brockport.
- Hugueny, B. 1989. West African rivers as biogeographic islands: species richness of fish communities. *Oecologia* 79: 236-243.
- Humborg, C., V. Ittekkot, A. Cocasiu, and B.V. Bodungen. 1997. Effects of Danube River dam on Black Sea biogeochemistry and ecosystem structure. *Nature* 386: 385-388.
- Humphries, P., A.J. King, and J.D. Koehn. 1999. Fish, flows and flood plains: links between freshwater fishes and their environment in the Murray-Darling River system, Australia. *Environmental Biology of Fishes* 56: 129-151.
- Humphries, P., L. Serafini, and A.J. King. 2002. River regulation and fish larvae: variations through space and time. *Freshwater Biology* 47: 1307-1331.
- Hunt, R.L. 1969. Overwinter survival of wild fingerling brook trout in Lawrence Creek, Wisconsin. *Journal of the Fisheries Research Board of Canada* 26: 1473-1483.
- Hunter, J.G. 1959. Survival and production of pink and chum salmon in a coastal stream. *J. Fish. Res. Bd. Can.* 16 (6): 835-886.
- Hunter, J.W. 1973. A discussion of game fish in the state of Washington as related to water requirements. Washington State Department of Game, Olympia.
- Hunter, M.A. 1992. Hydropower flow fluctuations and salmonids: a review of the biological effects, mechanical causes, and options for mitigation. State of Washington Department of Fisheries Technical Report No. 119. Olympia. 46 pp.

- Huntingford, F.A., and Garcia de Leaniz, C. 1997. Social dominance, prior residence and the acquisition of profitable feeding sites in juvenile Atlantic salmon. *J. Fish Biol.* 51: 1009-1014.
- Huntingford, F.A., N.B. Metcalfe, and J.E. Thorpe. 1988. Choice of feeding station in Atlantic salmon, *Salmo salar*, parr: effects of predation risk, season, and life history strategy. *Journal of Fish Biology* 33: 917-924.
- Huntsman, A.G. 1945. Freshets and fish. *Transactions of the American Fisheries Society* 75: 257-266.
- Hurley, S.T., W.A. Hubert, and J.G. Nickum. 1987. Habitats and movements of shovelnose sturgeon in the upper Mississippi River. *Transactions of the American Fisheries Society* 116: 655-662.
- Huusko, A., and T. Yrjana. 1998. Effects of instream enhancement structures on brown trout, *Salmo trutta* L., habitat availability in a channelized boreal river: a PHABSIM approach. *Fish. Manag. Ecol.* 4: 453-466.
- Hvidsten, N.A. 1985. Mortality of pre-smolt Atlantic salmon, *Salmo salar* L., and brown trout, *Salmo trutta* L., caused by fluctuating water le.... *Journal of Fish Biology* 1985: 711-718.
- Hvidsten, N.A. 1993. High winter discharge after regulation increases production of Atlantic salmon, *Salmo salar*, smolts in the River Orkla, Norway. Pp. 175-177 in: R.J. Gibson and R.E. Cutting (eds.), *Production of juvenile Atlantic salmon, Salmo salar, in natural waters.* Can. Spec. Publ. Fish. Aquat. Sci. 118.
- Hvidsten, N.A., A.J. Jensen, H. Vivas, O. Bakke, and T.G. Heggberget. 1995. Downstream migration of Atlantic salmon smolts in relation to water flow, water temperature, moon phase and social interaction. *Nordic Journal of Freshwater Research* 70: 38-48.
- Hvidsten, N.A., and O. Ugedal. 1991. Increased densities of Atlantic salmon smolts in the River Orkla, Norway, after regulation for hydropower production. In: J. Colt and R.J. White (eds), *Fisheries Bioengineering Symposium.* American Fisheries Society Symposium 10. Bethesda, Maryland.
- Ikeda, S., and N. Izumi. 1990. Width and depth of self-formed straight gravel rivers with bank vegetation. *Water Resources Research* 26 (10): 2353-2364.
- Illies, J., and L. Botosaneanu. 1963. Problemes et methodes de la classification et de la zonation ecologique des eaux courantes considerees surtout du point de vue faunistique. *Mitt. Int. Ver. Limnol.* 12: 1-57.
- Imhof, J.B., J. Fitzgibbon, and W.K. Annable. 1996. A hierarchical evaluation system for characterizing watershed ecosystems for fish habitat. *Canadian Journal of Fisheries and Aquatic*

Sciences 53 (Suppl. 1): 312-326.

Ingram, H., and C.R. Oggins. 1992. The Public Trust Doctrine and community values in water. *Natural Resources Journal* 32: 515-537.

Ingram, R.G., L. Legendre, Y. Simard, and S. Lepage. 1985. Phytoplankton response to freshwater runoff: The diversion of the Eastmain River, James Bay. *Canadian Journal of Fisheries and Aquatic Sciences* 42: 1216-1221.

Inoue, M., S. Nakano, and F. Nakamura. 1997. Juvenile masu salmon (*Oncorhynchus masou*) abundance and stream habitat relationships in northern Japan. *Canadian Journal of Fisheries and Aquatic Sciences* 54 (6): 1331-1341.

Irlandi, E., S. Macia, and J. Serafy. 1997. Salinity reduction from freshwater canal discharge: Effects on mortality and feeding of an urchin (*Lytechinus variegatus*) and a gastropod (*Lithopoma tectum*). *Bulletin of Marine Science* 61: 869-897.

Irvine, J.R. 1984. Effects of varying discharge on stream invertebrates and underyearling salmon and trout. Ph.D. thesis, University of Otago, Dunedin, New Zealand. 254 pp.

Irvine, J.R. 1985 or 1986. Effects of successive flow perturbations on stream invertebrates. *Canadian Journal of Fisheries and Aquatic Sciences* 42 : 1922-1927.

Irvine, J.R. 1986. Effects of varying discharge on the downstream movement of salmon fry, *Oncorhynchus tshawytscha* Walbaum. *Journal of Fish Biology* 28 (1): 17-28.

Irvine, J.R. 1987. Effects of varying flows in man-made streams on rainbow trout (*Salmo gairdneri* Richardson) fry. Pp. 83-98 in: J.F. Craig and J.B. Kemper, editors. *Regulated Streams: Advances in Ecology*. Plenum Press, New York and London.

Irvine, J.R., and P.R. Henriques. 1984. A preliminary investigation on effects of fluctuating flows on invertebrates of the Hawea River, a large regulated river. *New Zealand Journal of Marine and Freshwater Research* 18: 283-290.

Irvine, J.R., I.G. Jowett, and D. Scott. 1987. A test of the instream flow incremental methodology for underyearling rainbow trout (*Salmo gairdnerii* Richardson) in experimental New Zealand streams. *New Zealand Journal of Marine and Freshwater Research* 21: 35-40.

Irvine, J.R., and B.R. Ward. 1989. Patterns of timing and size of wild coho salmon (*Oncorhynchus kisutch*) smolts migrating from the Keough River watershed o... *Canadian Journal of Fisheries and Aquatic Sciences* 46 (7): 1086-1094.

Irvine, J.R., and N.E. West. 1979. Riparian tree species distribution and succession along the lower Escalante River, Utah. *Southwestern Naturalist* 24 (2): 331-346.

Irvine, K.N., and J.J. Drake. 1987. Spatial analysis of snow- and rain-generated highflows in

southern Ontario. *Can. Geogr.* 31: 140-149.

Irving, D.B., and T. Modde. 2000. Home-range fidelity and use of historical habitat by adult Colorado squawfish (*Ptychocheilus lucius*) in the White River, Colorado, and Utah. *Western North American Naturalist* 60: 16-25.

Irwin, E.R., and M.C. Freeman. 2002. Proposal for adaptive management to conserve biotic integrity in a regulated segment of the Tallapoosa River, Alabama, U.S.A. *Conservation Biology* 16: 1212-1222.

Irwin, E.R., M.C. Freeman, and K.M. Costley. 1999. Habitat use by juvenile channel catfish and flathead catfish in otc systems in Alabama. Pages 223-230 in: E.R. Irwin, W.A. Hubert, C.F. Rabeni, H.L. Schramm, Jr., and T. Coon, editors. *Catfish 2000: proceedings of the international ictalurid symposium*. American Fisheries Society Symposium 24, Bethesda, Maryland.

Iverson, M., P. Wiberg-Larsen, S.B. Hansen, and F.S. ... 1978. The effect of partial and total drought on the macroinvertebrate community of three small Danish streams. *Hydrobiol.* 60: 235-242.

Jackson, D.C., A.V. Brown, and W.D. Davies. 1991. Zooplankton transport and diel drift in the Jordan Dam tailwater during a minimum flow regime. *Rivers* 2 (3): 190-197.

Jackson, R.I. 1950. Variations in flow patterns at Hell's Gate and their relationships to the migration of sockeye salmon. *International Pacific Salmon Fisheries Commission, Bulletin* 3: 85-129.

Jackson, W., T. Martinez, P. Cuplin, and W. Minkley. 1987. Assessment of water conditions and management opportunities in support of riparian values: BLM San Pedro River Properties... Denver, CO: U.S. Bureau of Land Management (BLM-YA-PT-88).

Jaeger, M.E., A.V. Zale, T.E. McMahon, and B.J. Schmitz. 2005. Seasonal movements, habitat use, aggregation, exploitation, and entrainment of saugers in the lower Yellowstone River: an empirical assessment of factors affecting population recovery. *North American Journal of Fisheries Management* 25 (4): 1550-1568.

Jager, H.I., H.E. Cardwell, M.J. Sale, M.S. Bevelhimer, C.C. Coutant, and W. van Winkle. 1997. Modelling the linkages between flow management and salmon recruitment in streams. *Ecological Modelling* 103: 171-191.

Jager, H.I., D.L. DeAngelis, M.J. Sale, W. Van Winkle, D.D. Schmoyer, M.J. Sabo, D.J. Orth, and J.A. Lukas. 1993. An individual-based model for smallmouth bass reproduction and young-of-year dynamics in streams. *Rivers* 4 (2): 91-113.

Jager, H.I., and E. Pert. 1997. Comment: testing the independence of microhabitat preferences and flow (part 2). *Transactions of the American Fisheries Society* 126 (3): 537-540.

Jager, H.I., and K.A. Rose. 2003. Designing optimal flow patterns for fall chinook salmon in a Central Valley, California, river. *North American Journal of Fisheries Management* 23 (1): 1-21.

Jager, H.I., W. Van Winkle, and B.D. Holcomb. 1999. Would hydrologic climate change in Sierra Nevada streams influence trout persistence? *Transactions of the American Fisheries Society* 128 (2): 222-240.

Jain, K.E., J.C. Hamilton, and A.P. Farrell. 1997. Use of a ramp velocity test to measure critical swimming speed in rainbow trout, *Oncorhynchus mykiss*. *Comparative Biochemistry and Physiology* 117A: 441-444.

Jakober, M.J. 1995. Autumn and winter movement and habitat use of resident bull trout and westslope cutthroat trout in Montana. M.Sc. thesis, Montana State University, Bozeman, Montana.

Jakober, M.I., T.E. McMahon, R.F. Thurow, and C.G. Clancy. 1997. Role of stream ice on fall and winter movements and habitat use by bull trout and cutthroat trout in Montana headwater streams. *Transactions of the American Fisheries Society* 127 (2): 223-235.

Jakober, M.I., T.E. McMahon, and R.F. Thurow. 2000. Diel habitat partitioning by bull charr and cutthroat trout during fall and winter in Rocky Mountain streams. *Environmental Biology of Fishes* 59: 79-89.

Jang, I.K., and C.H. Kim. 1992. A study on the changes of the molluscan and crustacean fauna after the construction of the Naktong estuary barrage. *Bulletin of the Korean Fisheries Society* 25: 265-281.

Jansson, R., C. Nilsson, M. Dynesius, and E. Andersson. 2000. Effects of river regulation on river-margin vegetation: a comparison of eight boreal rivers. *Ecological Applications* 10: 203-224.

Jarrett, R.D. 1990. Hydrologic and hydraulic research in mountain rivers. *Water Resources Bulletin* 26: 419-429.

Jassby, A.S., W.J. Kimmerer, S.G. Monismith, C.Arbor, J.E. Cloern, T.M. Powell, J.R. Schubel, and T.J. Vendlinski. 1995. Isohaline position as a habitat indicator for estuarine populations. *Ecological Applications* 5: 272-289.

Jay, D.A., and C.A. Simenstad. 1996. Downstream effects of water withdrawn in a small high-gradient basin: erosion and deposition on the Skokomish delta. *Estuaries* 19: 501-517.

Jenkins, K.M., and A.J. Boulton. 1998. Community dynamics of invertebrates emerging from reflooded lake sediments: flood pulse and aeolian influences. *International Journal of Ecology and Environmental Sciences* 24: 179-192.

Jenkins, K.M., and A.J. Boulton. 2003. Connectivity in a dryland river: short-term aquatic microinvertebrate recruitment following floodplain inundation. *Ecology* 84 (10): 2708-2723.

Jenkins, T.M., Jr. 1969. Social structure, position choice and microdistribution of two trout species (*Salmo trutta* and *S. gairdneri*) resident in mountain streams. *Animal Behaviour Monographs* 2: 56-123.

Jenkins, T.M., Jr., S. Diehl, K.W. Kratz, and S.D. Cooper. Effects of population density on individual growth of brown trout in streams. *Ecology* 80 (3): 941-956.

Jensen, A.J., and B.O. Johnsen. 1999. The functional relationship between peak spring floods and survival and growth of juvenile Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*). *Functional Ecology* 13: 778-785.

Jensen, A.J., B.O. Johnsen, and L.P. Hansen. 1989. Effects of river flow and water temperature on the upstream migration of adult Atlantic salmon *Salmo salar* L. in the River Vefsna, northern Norway. Pages 140-146 in: E.Brannon and B. Jonsson, editors. *Salmonid migration and distribution*. School of Fisheries, University of Washington, Seattle.

Jirka, K.J., and J. Homa, Jr. 1990. Development and preliminary evaluation of suitability index curves for juvenile brook trout. *Rivers* 1 (3): 207-217.

Johnson, D.H. 1980. The comparison of usage and availability measurements for evaluating resource preference. *Ecology* 69: 125-134.

Johnson, I.W., C.R.N. Elliott, A. Gustard, and A.T. Newton. 1993. River Allen instream flow requirements, pp. 5.15-5.21 in: *Proceedings of British Hydrological Society Fourth National Hydrological Symposium*, British Hydrological Society, Cardiff.

Johnson, I.W., C.R.N. Elliott, and A. Gustard. 1995. Modeling the effect of groundwater abstraction on salmonid habitat availability in the River Allen, Dorset, England. *Regulated Rivers: Research & Management* 10: 229-238.

Johnson, I.W., and F.M. Law. 1995. Computer models for quantifying the hydro-ecology of British rivers. *J. CIWEM* 9: 290-297.

Johnson, J.H., D.S. Dropkin, and P.G. Schaffer. 1992. Habitat use by a headwater stream fish community in north-central Pennsylvania. *Rivers* 3 (2): 69-79.

Johnson, J.H., and P.A. Kucera. 1985. Summer-autumn habitat utilization of subyearling

steelhead trout in tributaries of the Clearwater River, Idaho. *Canadian Journal of Zoology* 63: 2283-2290.

Johnson, N.S., and R.M. Adams. 1988. Benefits of increased streamflow: the case of the John Day River steelhead fishery. *Water Resources Research* 24: 1839-1846.

Johnson, S.C., R. Burgess, and W. Kaemmerer. 1976. Forest overstory vegetation and environment on the Missouri River floodplain in North Dakota. *Ecological Monographs* 46 (1): 59-84.

Johnson, S.H., and A.P. Covich. 2000. The importance of night-time observations for determining habitat preferences of stream biota. *Regul. Rivers Res. Manag.* 16: 91-99.

Johnson, S.L., J.D. Rodgers, M.F. Solazzi, and T.E. Nickelson. 2005. Effects of an increase in large wood on abundance and survival of juvenile salmonids (*Oncorhynchus* spp.) in an Oregon coastal stream. *Canadian Journal of Fisheries and Aquatic Sciences* 62 (2): 412-424.

Johnson, T.H. 1985. Density of steelhead parr for mainstem rivers in western Washington during the low flow period, 1984. Washington State Department of Game, Fishery Management Division 85-6, Olympia.

Johnson, W.C. 1992. Dams and riparian forests: case study from the upper Missouri River. *Rivers* 3: 229-242.

Johnson, W.C. 1993. Divergent response of riparian vegetation to flow regulation on the Missouri and Platte rivers. U.S. National Biological Survey Biological Report 19: 426-431.

Johnson, W.C. 1994. Woodland expansion in the Platte River, Nebraska: patterns and causes. *Ecological Monographs* 64: 45-84.

Johnson, W.C. 1998. Adjustment of riparian vegetation to river regulation in the Great Plains, USA. *Wetlands* 18: 608-618.

Johnson, W.C. 2000. Tree recruitment and survival in rivers: influence of hydrological processes. *Hydrological Processes* 14: 3051-3074.

Johnson, W.C. 2002. Riparian vegetation diversity along regulated rivers: contribution of novel and relict habitat. *Freshwater Biology* 47: 749-759.

Johnson, W.C., M.D. Dixon, R. Simons, S. Jenson, and K. Larson. 1995. Mapping the response of riparian vegetation to possible flow reductions in the Snake River, Idaho. *Geomorphology* 13: 159-173.

Johnston, T.A., M.N. Gaboury, R.A. Janusz, and L.R. Janusz. 1995. Larval fish drift in the Valley River, Manitoba: Influence of abiotic and biotic factors and relationships with future year class strengths. *Canadian Journal of Fisheries and Aquatic Science* 52: 2423-2431.

- Johnston, J.W. 1986. Environmental significance of instream flows. *St. Mary's Law Review* 17: 1297-1342.
- Jones, D.R., J.W. Kiceniuk, and O.S. Bamford. 1974. Evaluation of the swimming performance of several fish species from the Mackenzie River. *Journal of the Fisheries Research Board of Canada* 31: 1641-1647.
- Jones, J.A., and G.E. Grant. 1996. Peak flow responses to clear-cutting and roads in small and large basin, western Cascades, Oregon. *Water Resour. Res.* 32: 959-974.
- Jones, N.E., and W.M. Tonn. 2004. Resource selection functions for age-0 Arctic grayling (*Thymallus arcticus*) and their application to stream habitat compensation. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (9): 1736-1746.
- Jones, W.K., and W. Huang. 1996. Modeling changing freshwater delivery to Apalachicola Bay, Florida. Pp. 116-127 in: M.L. Spaulding and R.T. Cheng (editors) *Estuarine and coastal modeling. Proceedings of the 4<sup>th</sup> International Conference 1996.* American Society of Civil Engineering, New York.
- Jonsson, N. 1991. Influence of water flow, water temperature, and light on fish migration in rivers. *Nordic Journal of Freshwater Research* 66: 20-35.
- Jonsson, N., B. Jonsson, and L.P. Hansen. 1990. Partial segregation in the timing of migration of Atlantic salmon of different ages. *Animal Behaviour* 40: 313-321.
- Jonsson, N., B. Jonsson, and L.P. Hansen. 2005. Does climate during embryonic development influence parr growth in Atlantic salmon (*Salmo salar*)? *Canadian Journal of Fisheries and Aquatic Sciences* 62 (10): 2502-2508.
- Jordan, T.E., D.L. Correll, J. Miklas and D.E. Weller. 1991. Long-term trends in estuarine nutrients and chlorophyll, and short-term effects of variation in watershed discharge. *Marine Ecology Progress Series* 75: 121-132.
- Jowett, I.G. 1989. River hydraulic and habitat simulation, RHYHABSIM computer manual. New Zealand Fisheries Miscellaneous Report 49. Ministry of Agriculture and Fisheries. Christchurch, New Zealand.
- Jowett, I.G. 1990. Factors related to the distribution and abundance of brown and rainbow trout in New Zealand clear-water rivers. *New Zealand Journal of Marine and Freshwater Research* 24: 429-440.
- Jowett, I.G. 1992. Models of the abundance of large brown trout in New Zealand rivers. *North American Journal of Fisheries Management* 12 (3): 417-432.

- Jowett, I.G. 1993. A method for objectively identifying pool, run, and riffle habitats from physical measurements. *New Zealand Journal of Marine and Freshwater Research* 27: 241-248.
- Jowett, I.G. 1993. Minimum flow assessments for instream habitat in Wellington rivers. *New Zealand Freshwater Miscellaneous Report No. 63*. National Institute of Water and Atmospheric Research, Christchurch, p. 33.
- Jowett, I.G. 1993. Report of minimum instream flow requirements for instream habitat in Taranaki rivers. *New Zealand Freshwater Miscellaneous Report No. 75*. National Institute of Water and Atmospheric Research, Christchurch, p. 35.
- Jowett, I.G. 1995. Spatial and temporal variability of brown trout abundance: a test of regression models. *Rivers* 5 (1): 1-12.
- Jowett, I.G. 1997. Instream flow methods: a comparison of approaches. *Regulated Rivers: Research and Management* 13 (2): 115-128.
- Jowett, I.G. 1998. Hydraulic geometry of New Zealand rivers and its use as a preliminary method of habitat assessment. *Regulated Rivers: Research and Management* 14 (5): 451-.
- Jowett, I.G. 2000. Flow management. Pp. 289-312 *in*: K.J. Collier and M.J. Winterbourn, editors. *New Zealand stream invertebrates: ecology and implications for management*. New Zealand Limnological Society, Hamilton.
- Jowett, I.G. 2002. In-stream habitat suitability criteria for feeding inanga (*Galaxias maculatus*). *New Zealand Journal of Marine and Freshwater Research* 36: 399-407.
- Jowett, I.G., and M.J. Duncan. 1990. Flow variability in New Zealand rivers and its relationship to in-stream habitat and biota. *New Zealand Journal of Marine and Freshwater Research* 24: 305-317.
- Jowett, I.G., and J. Richardson. 1989. Effects of a severe flood on instream habitat and trout populations in seven New Zealand rivers. *New Zealand Journal of Marine and Freshwater Research* 23: 11-17.
- Jowett, I.G., and J. Richardson. 1990. Microhabitat preferences of benthic invertebrates in a New Zealand river and the development of in-stream flow-habitat models for *Deleatidium* spp. *New Zealand Journal of Marine and Freshwater Research* 24: 19-30.
- Jowett, I.G., and J. Richardson. 1994. Comparison of habitat use by fish in normal and flooded river conditions. *New Zealand Journal of Marine and Freshwater Research* 28: 409-416.
- Jowett, I.G., and J. Richardson. 1995. Habitat preferences of common, riverine New Zealand

native fishes and implications for flow management. *New Zealand Journal of Marine and Freshwater Research* 29: 13-23.

Jowett, I.G., J. Richardson, B.J.F. Biggs, C.W. Hickey, and J.M. Quinn. 1991. Microhabitat preferences of benthic invertebrates and the development of generalised *Deleatidium* spp. habitat suitability curves, applied to four New Zealand streams. *New Zealand Journal of Marine and Freshwater Research* 25: 187-199.

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

Junk, W.J., P.B. Bayley, and R.E. Sparks. 1989. The flood pulse concept in river floodplain systems. Pp. 110-127 in: Dodge, D.P. (Ed.) *Proceedings of the International Large Rivers Symposium*. Can. Special Publ. Fish. Aquatic Sciences 106.

Jurajda, P. 1995. Effect of channelization and regulation on fish recruitment in a flood plain river. *Regulated Rivers: Research & Management* 10: 207-215.

Jurajda, P. 1999. Comparative nursery habitat use by 0+ fish in a modified lowland river. *Regulated Rivers: Research and Management* 15: 113-124.

Kaartvedt, S. and D.L. Aksnes. 1992. Does freshwater discharge cause mortality of fjord-living zooplankton. *Estuarine, Coastal and Shelf Science* 34: 305-313.

Kahler, T.H., P. Roni, and T.P. Quinn. 2001. Summer movement and growth of juvenile anadromous salmonids in small western Washington streams. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (10): 1947-1956.

Kalischuk, A.R., S.B. Rood, and J.M. Mahoney. 2001. Environmental influences on seedling growth of cottonwood species following a major flood. *Forest Ecol. Manage* 144: 75-89.

Kalke, R.D., and P.A. Montagna. 1991. The effect of freshwater inflow on macrobenthos in the Lavaca River delta and upper Lavaca Bay, Texas. *Contributions in Marine Science* 32: 49-72.

Kandem, Toham, A., and G.G. Teugels. 1997. Patterns of microhabitat use among fourteen abundant fishes of the lower Ntem River basin (Cameroon). *Aquat. Liv. Resour.* 10: 289-298.

Kappesser, G.B. 2002. A riffle stability index to evaluate sediment loading to streams. *Journal of the American Water Resources Association* 38: 1069-1081.

Karchesky, C.M., and D.H. Bennett. 2004. Winter habitat use by adult largemouth bass in the Pend Oreille River, Idaho. *North American Journal of Fisheries Management* 24 (2): 577-585.

Karim, K., M.E. Gubbels, and I.C. Goutler. 1995. Review of determination of instream flow requirements with special application to Australia. *Water Resources Bulletin* 31 (6): 1063-1077.

Karr, J.R. 1991. Biological integrity: a long-neglected aspect of water resource management. *Ecological Applications* 1: 66-84.

Karr, J.M., and E.W. Chu. 1999. *Restoring Life in Running Waters: Better Ecological Monitoring*. Island Press, Washington.

Karrenberg, S., P.J. Edwards, and J. Kollmann. 2002. The life history of Salicaceae living in the active zone of floodplains. *Freshwater Biology* 47: 733-748.

Kauffman, J.B., R.L. Beschta, N. Otting, and D. Lytjen. 1997. An ecological perspective of riparian and stream restoration in the western United States. *Fisheries* 22 (5): 12-24.

Kauffman, J.B., R.L. Case, D. Lytjen, N. Otting, Kauffman, J.B., and D.L. Cummings. 1995. Ecological approaches to riparian restoration in northeast Oregon. *Restoration and Management Notes* 13 (1): 12-15.

Kaufmann, P.R., P. Levine, E.G. Robison, C. Seeliger, and D.V. Peck. 1999. *Quantifying physical habitat in wadeable streams*. U.S. Environmental Protection Agency, EPA/620/R-99/003, Washington, D.C.

Keeley, E.R. 2001. Demographic responses to food and space competition by juvenile steelhead trout. *Ecology* 82 (5): 1247-1259.

Keeley, E.R., and J.W.A. Grant. 1995. Allometric and environmental correlates of territory size in juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 52: 186-196.

Keeley, E.R., and J.D. McPhail. 1998. Food abundance, intruder pressure, and body size as determinants of territory size in juvenile steelhead trout (*Oncorhynchus mykiss*). *Behaviour* 135: 65-82.

Keenleyside, M.H.A., and H.M.C. Dupuis. 1988. Courtship and spawning competition in pink salmon (*Oncorhynchus gorbuscha*). *Canadian Journal of Zoology* 66: 262-265.

Keith, R.M., T.C. Bjornn, W.R. Meehan, N.J. Hetrick, and M.A. Brusven. 1998. Response of juvenile salmonids to riparian and instream cover modifications in small streams flowing through second-growth forests in southeast Alaska. *Transactions of the American Fisheries Society* 124: 886-897.

Keller, C., L. Anderson, and P. Tappel. 1978. Fish habitat changes in Summit Creek, Idaho,

after fencing the riparian area. Pages 46-52 in: O.B. Cope, editor. Grazing and riparian/stream ecosystems. Trout Unlimited, Denver, Colorado.

Kelsch, S.W. 1994. Lotic fish-community structure following transition from severe drought to high discharge. *Journal of Freshwater Ecology* 9: 331-341.

Kemp, J.L., D.M. Harper, and G.A. Crosa. 1999. Use of "functional habitats" to link ecology with morphology in river rehabilitation. *Aquatic conservation: marine and freshwater ecosystems* 9 (1): 159.

Kemp, P.S., M.H. Gessel, and J.G. Williams. 2005. Fine-scale behavioral responses of Pacific salmonids as they encounter divergence and acceleration of flow. *Transactions of the American Fisheries Society* 134 (2): 390-398.

Kemp, P.S., D.J. Gilvear, and J.D. Armstrong. 2003. Do juvenile Atlantic salmon parr track local changes in water velocity? *Rivers Research and Applications* 19: 569-575.

Kennard, N.R. 2000. Development and testing of a rapid assessment methodology for instream habitat. Master's thesis, Utah State University, Logan, Utah. 69 pp.

Kennedy, G.J.A., and C.D. Strange. 1982. The distribution of salmonids in upland streams in relation to depth and gradient. *Journal of Fish Biology* 20: 579-591.

Kennedy, G.J.A., and C.D. Strange. 1986. The effects of intra and inter-specific competition on the distribution of stocked juvenile Atlantic, *Salmo salar* L., in relation to depth and gradient in an upland trout *Salmo trutta* L. stream. *Journal of Fish Biology* 29: 199-214.

Keppeler, E.T., and R.R. Ziemer. 1990. Logging effects on streamflow: water yield and summer low flows at Caspar Creek in northwestern California. *Water Resources Research* 26: 1669-1679.

Kershner, J.L., B.R. Roper, N. Bouwes, R. Henderson, and E. Archer. 2004. An analysis of stream habitat conditions in reference and managed watersheds on some federal lands within the Columbia River basin. *North American Journal of Fisheries Management* 24 (4): 1363-1375..

Kershner, J.L., and W.M. Snider. 1992. Importance of a habitat-level classification system to design instream flow studies. Pp. 179-193 in: P.J. Boon, P. Calow, and G.E. Petts (eds.), *River Conservation and Management*. John Wiley & Sons, New York.

Khoroshko, P.N. 1972. The amount of water in the Volga basin and its effect on the reproduction of sturgeon (Acipenseridae) under conditions of normal and regulated discharge. *Journal of Ichthyology* 12: 608-616.

Kieffer, S.W. 1985. The 1983 hydraulic jump in Crystal Rapid: implications for river-running and geomorphic evolution in the Grand Canyon. *Journal of Geology* 93: 385-406.

Kiflawi, M., and A. Genin. 1997. Prey flux manipulation and the feeding rates of reef-dwelling

planktivorous fish. *Ecology* 78 (4): 1062-1077.

Kimmerer, W.J. 2002. Effects of freshwater flow on abundance of estuarine organisms: Physical effects or trophic linkages? *Marine Ecology Progress Series* 243: 39-55.

Kimmerer, W.J. 2002. Physical, biological, and management responses to variable freshwater flow into the San Francisco estuary. *Estuaries* 25: 1275-1290.

Kimmerer, W.J. and J.R. Schubel. 1994. Managing freshwater flows into San Francisco Bay using a salinity standard: Results of a workshop, pp. 411-416. In: K.R. Dyer and R.J. Orth (eds.). *Changes in fluxes in estuaries: Implications from science to management*. Olsen and Olsen, Fredensborg, Denmark.

King, A.J., P. Humphries, and P.S. Lake. 2003. Fish recruitment on floodplains: the roles of patterns of flooding and life history characteristics. *Canadian Journal of Fisheries and Aquatic Sciences* 60 (7): 773-786.

King, J.M., C. Brown, and H. Sabet. In press (2003) A scenario-based holistic approach to environmental flow assessments for rivers. *River Research and Applications*. 19

King, J.M., and D. Louw. 1998. Instream flow assessments for regulated rivers in South Africa using the building block methodology. *Aquatic Ecosystem Health and Management* 1: 109-124.

King, J.M., and R.E. Tharme. 1994. Assessment of the Instream Flow Incremental Methodology and initial development of alternative instream flow methodologies for South Africa. Water Research Commission, Pretoria, South Africa.

King, J.M., R.E. Tharme, and M.S. DeVilliers, eds. 2000. *Environmental flow assessments for rivers: Manual for the Building Block Methodology*. Water Research Commission, Pretoria, South Africa.

Kingsford, R.T. 1999. Aerial survey of waterbirds on wetlands as a measure of river and floodplain health. *Freshwater Biology* 41: 425-438.

Kingsford, R.T. 2000. Ecological impacts of dams, water diversion and river management on floodplain wetlands in Australia. *Austral Ecology* 25: 109-127

Kingsford, R.T., A.L. Curtin, and J. Porter. 1999. Water flows on Cooper Creek in arid Australia determine "boom" and "bust" periods for waterbirds. *Biological Conservation* 88: 231-248.

Kingsford, R.T., K.M. Jenkins, and J.L. Porter. 2004. Imposed hydrological stability on lakes in arid Australia and effects on waterbirds. *Ecology* 85 (9): 2478-2492.

Kinley, T.A., and N.J. Newhouse. 1997. Relationship of riparian reserve zone width to bird

- density and diversity in southeastern British Columbia. *Northwest Science* 71: 75-86.
- Kinsolving, A.D., and M.B. Bain. 1993. Fish assemblage recovery along a riverine disturbance gradient. *Ecological Applications* 3: 531-544.
- Kinzie, R.A., and J.I. Ford. 1988. A test of transferability of habitat utilization curves. Pp. 336-362 in K. Bovee and J.R. Zuboy, editors. *Proceedings of a workshop on the development and evaluation of habitat suitability criteria*. U.S. Fish and Wildlife Service, Biological Report 88 (11).
- Kirkbride, A.D. 1993. Observations on the influence of bed roughness on turbulence structure in depth limited flows over gravel beds. Pp. 185-196 in: N.J Clifford, J.R. French, and J. Hardisty (eds.), *Turbulence: perspectives on flow and sediment transport*. John Wiley and Sons Ltd., Chichester.
- Kirkbride, A.D., and R. Ferguson. 1995. Turbulent flow structure in a gravel-bed river: Markov chain analysis of the fluctuating velocity profile. *Earth Surf. Processes Landforms* 20: 721-733.
- Kitamura, T., M. Kato, T. Tashiro, and T. Tsujimoto. 2000. Experimental study on detachment of attached algae *Cladophora glomerata* due to bedload. *Advances in River Engineering* 6: 125-130.
- Kitano, S., K. Maekawa, S. Nakano, and K.D. Fausch. 1994. Spawning behavior of bull trout in the upper Flathead drainage, Montana, with special reference to hybridization with brook trout .... *Transactions of the American Fisheries Society* 123 (6): 988-992.
- Kjelson, M.A., and P.L. Brandes. 1989. The use of smolt survival estimates to quantify the effects of habitat changes on salmonid stocks in the Sacramento-San Joaquin Rivers, California. *Canadian Special Publication of Fisheries and Aquatic Sciences* 105: 100-115.
- Klima, C.V. 1988. River regulation effects on floodplain hydrology and ecology. Pp. 40-49 in: Hook, D.D. et al. (eds) *The ecology and management of wetlands*. Portland, OR: Timber Press.
- Klock, G.O., and J.D. Helvey. 1976. Soil-water trends following wildfire on the Entiat Experimental Forest. *Proceedings, Tall Timbers Fire Ecology Conference* 15: 193-200.
- Knapp, R.A., and K.R. Mathews. 1996. Livestock grazing, golden trout, and streams in the Golden Trout Wilderness, California: impacts and management implications. *North American Journal of Fisheries Management* 16: 805-820.
- Knapp, R.A., and H.K. Preisler. 1999. Is it possible to predict habitat use by spawning salmonids? A test using California golden trout (*Oncorhynchus mykiss aguabonita*). *Canadian Journal of Fisheries and Aquatic Sciences* 56 (9): 1576-1584.
- Knapp, R.A., and V.T. Vredenburg. 1996. Spawning by California golden trout: characteristics

of spawning fish, seasonal and daily timing, redd characteristics, and microhabitat preferences. *Transactions of the American Fisheries Society* 125 (4): 519-531.

Knapp, R.A., V.T. Vredenburg, and K.R. Matthews. 1998. Effects of stream channel morphology on golden trout spawning habitat and recruitment. *Ecological Applications* 8: 1104-1117.

Knights, B.C., J.M. Vallazza, S.J. Zigler, and M.R. Dewey. 2002. Habitat and movement of lake sturgeon in the upper Mississippi River system, USA. *Transactions of the American Fisheries Society* 131 (3): 507-522.

Knowlton, M.F., and J.R. Jones. 1997. Trophic status of Missouri River floodplain lakes in relation to basin type and connectivity. *Wetlands* 17: 468-475.

Knudsen, E.E., and S.J. Dille. 1987. Effects of riprap bank reinforcement on juvenile salmonids in four western Washington streams. *North American Journal of Fisheries Management* 7: 351-356.

Knudsen, E.E., C.E. Stephens, and W.H. Bradshaw. 1984. A method for measuring flow in rivers. *North American Journal of Fisheries Management* 4 (4B): 459-461.

Koch, T.J. 2004. Effects of sedimentation and water velocity on white sturgeon (*Acipenser transmontanus*) embryo survival. Master's thesis. University of Idaho, Moscow.

Kocik, J.F., and C.P. Ferreri. 1998. Juvenile production variation in salmonids: population dynamics, habitat, and the role of spatial relationships. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (Suppl. 1): 191-200.

Kocik, J.F., and W.W. Taylor. 1987. The effects of fall and winter instream flow on year-class strength of Pacific salmon evolutionarily adapted to early fry outmigration: a Great Lakes perspective. *American Fisheries Symposium* 1: 430-440.

Kocik, J.F., and W.W. Taylor. 1996. Effect of juvenile steelhead on juvenile brown trout habitat use in a low-gradient Great Lakes tributary. *Transactions of the American Fisheries Society* 125: 244-252.

Kohler, B. 2001. Hydraulic parameters controlling fish behaviour and stranding in a laboratory river. Thesis, University of Stuttgart, Institute of Hydraulic Engineering.

Kondolf, G.M. 1993. Lag in stream channel adjustment in livestock enclosure, White Mountains, California. *Restoration Ecology* 1: 226-230.

Kondolf, G.M. 1997. Hungry water: effects of dams and gravel mining on river channels.

Environmental Management 21: 533-551.

Kondolf, G.M. 1998. Lessons learned from river restoration projects in California. *Aquatic Conservation* 8: 39-52.

Kondolf, G.M. 1998. Development of flushing flows for channel restoration on Rush Creek, California. *Rivers* 6 (3): 183-193.

Kondolf, G.M. 2000. Some suggested guidelines for geomorphic aspects of anadromous salmonid habitat restoration proposals. *Restoration Ecology* 8 (1): 48-56.

Kondolf, G.M. 2000. Assessing salmonid spawning gravel quality. *Transactions of the American Fisheries Society* 129 (1): 262-281.

Kondolf, G.M., G.F. Cada, and M.J. Sale. 1987. Assessing flushing-flow requirements for brown trout spawning gravels in steep streams. *American Water Resources Association Water Resources Bulletin* 23: 927-935.

Kondolf, G.M., G.F. Cada, M.J. Sale, and T. Felando. 1991. Distribution and stability of potential salmonid spawning gravels in steep boulder-bed streams of the eastern Sierra Nevada. *Transactions of the American Fisheries Society* 120 (2): 177-186.

Kondolf, G.M., S.S. Cook, H.R. Maddux, and W.R. Persons. 1989. Spawning gravels of rainbow trout in Glen and Grand canyons, Arizona. *Journal of the Arizona-Nevada Academy of Science* 23: 19-28.

Kondolf, G.M., E.M. Larsen, and J.G. Williams. 2000. Measuring and modeling the hydraulic environment for assessing instream flows. *North American Journal of Fisheries Management* 20 (4): 1016-1028.

Kondolf, G.M., L.Maloney, and J.G. Williams. 1987. Effects of bank storage and well pumping on baseflow, Carmel River, Monterey County, California. *Journal of Hydrology* 91: 351-369.

Kondolf, G.M., M.J. Sale, and M.G. Wolman. 1993. Modification of gravel size by spawning salmonids. *Water Resources Research* 29: 2265-2274.

Kondolf, G.M., J.C. Vick, and T.M. Ramirez. 1996. Salmon spawning habitat rehabilitation on the Merced River, California: An evaluation of project planning and performance. *Transactions of the American Fisheries Society* 125 (6): 899-912.

Kondolf, G.M., J.W. Webb, M.J. Sale, and T. Felando. 1987. Basic hydrologic studies for assessing impacts of flow diversions on riparian vegetation: Examples from streams of the eastern Sierra Nevada, California. *Environmental Management* 11 (6): 757-769.

Kondolf, G.M., and P.R. Wilcock. 1996. The flushing flow problem: Defining and evaluating

objectives. *Water Resources Research* 32 (8): 2589-2599.

Kondolf, G.M., and M.G. Wolman. 1993. The sizes of salmonid spawning gravels. *Water Resources Research* 27: 2275-2285.

Kondou, T., N. Takeshita, A. Nakazono, and S. Kimura. 2001. Egg survival in a fluvial population of Masu salmon in relation to intragravel conditions in spawning redds. *Transactions of the American Fisheries Society* 130: 969-974.

Kondratieff, M.C., and C.A. Myrick. 2006. How high can brook trout jump? A laboratory evaluation of brook trout jumping performance. *Transactions of the American Fisheries Society* 135 (2): 361-370.

Kope, R.G., and L.W. Botsford. 1990. Determination of factors affecting recruitment of chinook salmon *Oncorhynchus tshawytscha* in central California. U.S. National Marine Fisheries Service Fishery Bulletin 88: 257-269.

Kozlowski, T.T., ed. 1984. *Flooding and plant growth*. Academic Press, San Diego, California.

Kraft, M.E. 1972. Effects of controlled flow reduction on a trout stream. *Journal of the Fisheries Research Board of Canada* 29: 1405-1411.

Kramer, D.L., R.W. Rangeley, and L.J. Chapman. 1997. Habitat selection: patterns of spatial distribution from behavioural decisions. Pp. 37-80 in: *Behavioural ecology of teleost fishes*, J-G.J. Godin, ed. Oxford University Press, Oxford.

Kroger, R.L. 1973. Biological effects of fluctuating water levels in the Snake River, Grand Teton National Park, Wyoming. *American Midland Naturalist* 89: 478-481.

Kruzic, L.M., D.L. Scarnecchia, and B.B. Roper. 2001. Comparison of midsummer survival and growth of age-0 hatchery coho salmon held in pools and riffles. *Transactions of the American Fisheries Society* 130: 147-154.

Kwak, T.J. 1988. Lateral movement and use of floodplain habitat by fishes in the Kankakee River, Illinois. *American Midland Naturalist* 120: 241-249.

Kwak, T.J., M.J. Wiley, L.L. Osborne, and Larimore. 1992. Application of diel feeding chronology to habitat suitability analysis of warmwater stream fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 49 (7): 1417-1430.

Labbe, T.E., and K.D. Fausch. 2000. Dynamics of intermittent stream habitat regulate persistence of a threatened fish at multiple scales. *Ecological Applications* 10: 1774-1791.

Lacroix, G.L., D.J. Hood, and J.A. Smith. 1995. Stability of microhabitat use by brook trout and juvenile Atlantic salmon after stream acidification. *Transactions of the American Fisheries*

Society 124 (4): 588-598.

Ladle, M., and J.A.B. Bass. 1981. The ecology of a small chalk stream and its responses to drying during drought conditions. *Arch. Hydrobiol.* 90: 448-466.

Lafferty, K.D., C.C. Swift, and R.F. Ambrose. 1999. Extirpation and recolonization in a metapopulation of an endangered fish, the tidewater goby. *Conservation Biology* 13 (6): 1447-1453.

Lafferty, K.D., C.C. Swift, and R.F. Ambrose. 1999. Post flood persistence and recolonization of endangered tidewater goby populations. *North American Journal of Fisheries Management* 19: 618-622.

Lake, P.S. 2000. Disturbance, patchiness, and diversity in streams. *J. N. Am. Benth. Soc.* 19: 573-592.

Lake, P.S. 2003. Ecological effects of perturbation by drought in flowing waters. *Freshwater Biology* 48: 1161-1172.

Lamb, B.L. 1989. Comprehensive technologies and decision-making: reflections on the instream flow incremental methodology. *Fisheries* 14 (5): 122-16.

Lamb, B.L. 1993. Quantifying instream flows: matching policy and technology. Pages 7-1 to 7-22 in: L.J. MacDonnell and T.A. Rice, editors. *Instream flow protection in the West*. Revised edition. University of Colorado Natural Resources Law Center, Boulder.

Lambert, T.R., and J.M. Handley. 1980. An instream flow needs study involving smallmouth bass (*Micropterus dolomieu*) in the San Joaquin River, California. *Proceedings of the Annual Conference of the Western Association of Fish and Wildlife Agencies* 80: 433-442.

Lambert, T.R., and D.F. Hanson. 1989. Development of habitat suitability criteria for trout in small streams. *Regulated Rivers: Research and Management* 3 (1-4): 291-303.

Lambert, W.P., and E.G. Fruh. 1978. A methodology for investigating freshwater inflow requirements for a Texas estuary, p. 403-413 in: M.L. Wiley (ed.), *Estuarine Interactions*. Academic Press, New York.

Lamouroux, N. 1998. Depth probability distributions in stream reaches. *Journal of Hydraulic Engineering* 124: 224-227.

Lamouroux, N., and H. Capra. 2002. Simple predictions of instream habitat model outputs for target fish populations. *Freshwater Biology* 47: 1543-1556.

Lamouroux, N., H. Capra, and M. Pouilly. 1998. Predicting habitat suitability for lotic fish: linking statistical hydraulic models with multivariate habitat usage models. *Regulated Rivers:*

Research and Management 14: 1-11.

Lamouroux, N., H. Capra, M. Pouilly, and Y. Souchon. 1999. Fish habitat preferences at the local scale in large streams of southern France. *Freshwater Biology* 42: 1-25.

Lamouroux, N., H. Capra, M. Pouilly, and Y. Souchon. 1999. Fish habitat preferences in large streams of southern France. *Freshwater Biology* 42: 673-687.

Lamouroux, N., and I.J. Jowett. 2005. Generalized instream habitat models. *Canadian Journal of Fisheries and Aquatic Sciences* 62 (1): 7-14.

Lamouroux, N., J.M. Olivier, H. Persat, M. Pouilly, Y. Souchon, and B. Statzner. 1999. Predicting community characteristics from habitat conditions: fluvial fish and hydraulics. *Freshwater Biology* 42: 1-25.

Lamouroux, N., J.M. Olivier, H. Capra, M. Zylberblat, A.Chandesris, and R. Pascal. 2006. Fish community changes after minimum flow increase: testing Lamouroux, N., J.M. Olivier, quantitative predictions in the Rhone River at Pierre-Benite, France. *Freshwater Biology* 51 (9): 1730-1743.

Lamouroux, N., N.L. Poff, and P.L. Angermeier. 2002. Intercontinental convergence of stream fish community traits along geomorphic and hydraulic gradients. *Ecology* 83 (7): 1792-1807.

Lamouroux, N., and Y. Souchon. 2002. Simple prediction of instream habitat model outputs for fish habitat guilds in large streams. *Fresh Water Biology* 47: 1531-1542.

Lamouroux, N., Y. Souchon, and E. Herouin. 1995. Predicting velocity frequency distributions in stream reaches. *Water Resources Research* 31: 2367-2375.

Lamouroux, N., B. Statzner, U. Fuchs, F. Kohmann, and U. Schmedtje. 1992. An unconventional approach to modeling spatial and temporal variability of local shear stress in stream segments. *Water Resources Research* 28: 3251-3258.

Lancaster, J., and A.G. Hildrew. 1993. Flow refugia and the microdistribution of lotic invertebrates. *J. North Am. Benthol. Soc.* 12 (4): 385-393.

Lancaster, J., and A.G. Hildrew. 1993. Characterizing in-stream flow refugia. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 1663-1675.

Lane, E.W. 1955. The importance of fluvial morphology in hydraulic engineering. *Proceedings of the American Society of Civil Engineers* 81 (745): 1-17.

Lane, E.W., and W.M. Borland. 1972. River-bed scour during floods. Pages 303-313 in: S.A. Schumm, editor. *Benchmark papers in geology: river morphology*. Dowden, Hutchinson, and Ross, Inc., Stroudsburg, Pennsylvania.

Lanka, R.P., W.A. Hubert, and T.A. Wesche. 1987. Relations of geomorphology to stream habitat and trout standing stock in small Rocky Mountain streams. *Transactions of the American Fisheries Society* 116 (1): 21-28.

Lapointe, M.F., N.E. Bergeron, F. Berube, M.-A. Pouliot, and P. Johnston. 2004. Interactive effects of substrate sand and silt contents, redd-scale hydraulic gradients, and interstitial velocities on egg-to-emergence survival of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 61 (12): 2271-2277.

Lapointe, M., B. Eaton, S. Driscoll, and C. Latulippe. 2000. Modelling the probability of salmonid egg pocket scour due to floods. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (6): 1120-1130.

Larimore, R.W., W.F. Childers, and C. Heckrotte. 1959. Destruction and reestablishment of stream fish and invertebrates affected by drought. *Transactions of the American Fisheries Society* 88: 261-285.

Larimore, R.W., and D.D. Garrels. 1985. Assessing habitats used by warmwater stream fishes. *Fisheries* 10 (2): 10-16.

Lasserre, G., M.I. Bebars, and T. Lam Hoai. 1997. Analysis of Egyptian marine and lagoon fishery landings in relation to the construction of the Aswan Dam. *Oceanologica Acta* 20: 421-436.

Latka, D.C. 1994. Habitat use by shovelnose sturgeon in the channelized Missouri River and selected tributary confluences. Master's thesis, Iowa State University, Ames.

Latka, D.C., and J.W. Yahnke. 1986. Simulating the roosting habitat of sandhill cranes and validating suitability-of-use indices. Pages 19-22 in: J. Verner, M.L. Morrison, and C.J. Ralph (eds.). *Wildlife 2000: modelling habitat relationships of terrestrial vertebrates*. Univ. Wisc. Press, Madison, WI.

Latterell, J.J., K.D. Fausch, C.Gowan, and S.C. Riley. 1998. Relationship of trout recruitment to snowmelt runoff flows and adult trout abundance in six Colorado mountain streams. *Rivers* 6 (4): 240-250.

Latterell, J.J., R.J. Naiman, B.R. Fransen, and P.A. Bisson. 2003. Physical constraints on trout (*Oncorhynchus* spp.) distribution in the Cascade Mountains: a comparison of logged and unlogged stream. *Canadian Journal of Fisheries and Aquatic Sciences* 60 (8): 1007-1017.

Lavin, M.F., V.M. Godinez, and L.G. Alvarez. 1998. Inverse-estuarine features of the upper Gulf of California. *Estuarine, Coastal and Shelf Science* 47:769-795.

Lavin, M.F., and S. Sanchez. 1999. On how the Colorado River affected the hydrology of the

upper Gulf of California. *Continental Shelf Research* 19: 1545-1560.

Lawson, P.W. 1993. Cycles in ocean productivity, trends in habitat quality, and the restoration of salmon runs in Oregon. *Fisheries* 18 (8): 6-10.

Layher, W.G., and K.L. Brunson. 1992. A modification of the Habitat Evaluation Procedure for determining instream flow requirements in warmwater streams. *North American Journal of Fisheries Management* 12 (1): 47-54.

Layher, W.G., and O.E. Maughan. 1985. Relations between habitat variables and channel catfish populations in prairie streams. *Transactions of the American Fisheries Society* 114 (6): 771-781.

Layher, W.G., and O.E. Maughan. 1987. Modeling habitat requirements of a euryhabitat species. *Transactions of the Kansas Academy of Science* 90 (1-2): 60-70.

Layher, W.G., and O.E. Maughan. 1987. Spotted bass habitat suitability related to fish occurrence and biomass and measurements of physicochemical variables. *North American Journal of Fisheries Management* 7 (2): 238-251.

LeCren, E.D. 1965. Some factors regulating the size of populations of freshwater fish. *Mitt. Int. Ver. Theor. Angew. Limnol.* 13: 88-105.

Leclerc, M., J.A. Bechara, P. Boudreau, and L. Belzile. 1996. Numerical method for modelling spawning habitat dynamics of landlocked salmon (*Salmo salar*). *Regulated Rivers: Research and Management* 12: 273-287.

Leclerc, M., A. Boudreault, J.A. Bechara, L. Belzile, and D. Villeneuve. 1990. A model of habitat dynamics applied to landlocked salmon (*Salmo salar*) juveniles of the Ashuapmushuan River (Quebec, Canada). *Bull. Fr. Peche Piscic.* 332: 11-32.

Leclerc, M., A. Boudreault, J.A. Bechara, and G. Corfa. 1995. Two-dimensional hydrodynamic modeling: a neglected tool in the instream flow incremental methodology. *Transactions of the American Fisheries Society* 124 (5): 645-662.

Leclerc, M., A. Saint-Hilaire, and J. Bechara. 2003. State-of-the-art and perspectives of habitat modelling for determining conservation flows. *Canadian Water Resources Journal* 28 (2): 135-151.

LeCoarer, Y., and B. Dumont. 1995. Modelisation de la morphodynamique fluviale pour la recherche des relations habitat/faune aquatique. *Coloque "Habitat-Poissons" Bulletin Francaise de la Peche et de la Pisciculture* 337/338/339: 309-316.

LeDrew, L.J., D.A. Scruton, R.S. McKinley, and G. Power. 1996. A comparison of habitat suitability indices developed from daytime versus nighttime observations of Atlantic salmon in a

regulated Newfoundland stream. Pp. 33-44 in: Proceeding of the Second IAHR Symposium on Habitat Hydraulics. Ecohydraulics 2000: Vol. B. Edited by M. Leclerc, A. Boudreault, H. Capra, S. Valentin, and Y. Cote. INRS-Eau, Quebec.

Lee, C.G., A.P. Farrell, A. Lotto, M.J. MacNutt, S.G. Hinch, and M.C. Healey. 2003. The effect of temperature on swimming performance and oxygen consumption in adult sockeye salmon (*Oncorhynchus nerka*) and coho salmon (*O. kisutch*) salmon stocks. *Journal of Experimental Biology* 206: 3239-3251.

Lee, L.A., and J.W. Terrell. 1987. Habitat suitability index models: flathead catfish. U.S. Fish and Wildlife Service Biological Report 82.

Leftwich, K.N., P.L. Angermeier, and C.A. Dolloff. 1997. Factors influencing behavior and transferability of habitat models for a benthic stream fish. *Transactions of the American Fisheries Society* 126: 725-734.

Leidy, R.A. 1992. Microhabitat selection by the johnny darter, *Etheostoma nigrum* Rafinesque, in a Wyoming stream. *Great Basin Naturalist* 52:68-74.

Leith, R.M., and P.H. Whitfield. 1998. Evidence of climate change effects on hydrology of streams in south-central B.C. *Can. Water Resources J.* 23: 219-230.

Leitman, H.M., M.R. Darst, and J.J. Nordhaus. 1991. Fishes in the forested floodplain of the Ochlockonee River, Florida, during flood and drought conditions. U.S. Geological Survey, Water Resources Investigations Report 90-4202, Denver, Colorado.

Leitman, H.M., J.E. Sohm, and M.A. Franklin. 1983. Wetland hydrology and tree distribution of the Apalachicola River flood plain, Florida. USGS Water Supply Paper 2196-A.

Leman, V.N. 1993. Spawning sites of chum salmon, *Oncorhynchus keta*: microhydrological regime and viability of progeny in redds (Kamchatka River Basin). *Journal of Ichthyology* 33: 104-117.

Leonard, P.M., and D.J. Orth. 1988. Use of habitat guilds to determine instream flow requirements. *North American Journal of Fisheries Management* 8 (4): 399-409.

Leonard, P.M., and D.J. Orth. 1988. Habitat-use guilds and selection of instream flow target species. U.S. Fish and Wildlife Service (Biological Report 89 [11]: 1-20).

Leonard, P.M., D.J. Orth, and C.J. Goudreau. 1986. Development of a method for recommending instream flows for fishes in the upper James River basin. *Virginia Water Resources Research Bulletin* 152, Blacksburg.

Leopold, L.B. 1962. Rivers. *American Scientist* 50: 511-537.

- Leopold, L.B. 1994. A view of the river. Harvard University Press, Cambridge, MA.
- Leopold, L.B., M.G. Wolman, and J.P. Miller. 1962. Fluvial processes in geomorphology. W.H. Freeman and Co., San Francisco.
- Lercari, D., and O. Defeo. 1999. Effects of freshwater discharge in sandy beach populations: The mole crab *Emerita brasiliensis* in Uruguay. *Estuarine, Coastal and Shelf Science* 49: 457-468.
- Lesack, F.W., and J.M. Melack. 1995. Flooding hydrology and mixture dynamics of lake water derived from multiple sources in an Amazon floodplain lake. *Water Resources Research* 31: 329-345.
- Letcher, B.H., and T.D. Terrick. 1998. Maturation of male age-0 Atlantic salmon following a massive, localized flood. *Journal of Fish Biology* 53: 1243-1252.
- Levasseur, M., N.E. Bergeron, M.F. Lapointe, and F. Berube. 2006. Effects of silt and very fine sand dynamics in Atlantic salmon (*Salmo salar*) redds on embryo hatching success. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (7): 1450-1459.
- Lewin, J. 1978. Floodplain geomorphology. *Progress in Physical Geography* 2: 408-437.
- Lewin, J., and D.A. Hughes. 1980. Welsh floodplain studies, II. Application of a qualitative inundation model. *Journal of Hydrology* 46: 35-49.
- Lewis, F.G. 1997. Relationships of river flow and other environmental characteristics with the structure and function of biological communities in Apalachicola Bay, Florida. Northwest Florida Water Management District, Draft final report to the ACF/ACT Comprehensive Study, Havana, Florida.
- Lewis, F.G. 1997. Apalachicola River and Bay water demand element: summary and integration of Apalachicola Bay studies. Northwest Florida Water Management District, Draft final report to the ACF/ACT Comprehensive Study, Havana, Florida.
- Lewis, S.L. 1969. Physical factors influencing fish populations in pools of a trout stream. *Transactions of the American Fisheries Society* 98 (1): 14-19.
- Li, H.W., C.B. Schreck, and K.J. Rodnick. 1984. Assessment of habitat quality models for cutthroat trout (*Salmo clarki*) and coho salmon (*Oncorhynchus kisutch*) for Oregon... In: J.W. Terrell (ed.), *Proceedings of a workshop on fish habitat suitability index models*. Washington, D.C.: U.S. Fish and Wildlife Service (Biological Report 85[6]).
- Lichatowich, J.A. 1989. Habitat alteration and changes in abundance of coho (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*) in Oregon coastal streams. In: *Proceedings of the National Workshop on Effects of Habitat Alteration on Salmonid Stocks*, C.D. Levings, L.B. Holtby, and M.A. Henderson (eds.). *Can. Spec. Publ. Fish. Aquat. Sci. No. 105*, pp. 92-99.

- Light, H.M., M.R. Darst, and J.W. Grubbs. 1998. Aquatic habitats in relation to river flow in the Apalachicola River floodplain, Florida. U.S. Geological Survey Professional Paper 1594. U.S. Government Printing Office, Washington, D.C.
- Ligon, F.K., W.E. Dietrich, and W.J. Trush. 1995. Downstream ecological effects of dams. *BioScience* 45: 183-192.
- Likens, G.E. 2004. Some perspectives on long-term biogeochemical research from the Hubbard Brook ecosystem study. *Ecology* 85 (9): 2355-2362.
- Lima, A.F., F.A. Lansactoha, and C.C. Bonecker. 1996. Zooplankton in the floodplains of a tributary to the Parana River in Mato Grosso Do Sul, Brazil. *Studies on Neotropical Fauna and Environment* 31: 112-116.
- Lima, A.F., F.A. Lansactoha, L.F.M. Velho, and L.M. Bini. 1998. Environmental influence on planktonic cladocerans and copepods in the floodplain of the Upper River Parana, Brazil. *Studies on Neotropical Fauna and Environment* 22: 188-196.
- Lindstrom, J.W., and W.A. Hubert. 2004. Ice processes affect habitat use and movements of adult cutthroat trout and brook trout in a Wyoming foothills stream. *North American Journal of Fisheries Management* 24 (4): 1341-1362.
- Lisle, T.E. 1986. Stabilization of a gravel channel by large streamside obstructions and bedrock bends, Jacoby Creek, northwestern California. *Geol. Soc. Am. Bull.* 97: 999-1011.
- Lisle, T.E. 1987. Using "residual depths" to monitor pool depths independently of discharge. U.S. Forest Service Research Note PSW-394.
- Lisle, T.E. 1989. Sediment transport and resulting deposition in spawning gravels, north coastal California. *Water Resources Research* 25: 1303-1319.
- Lisle, T.E., and J. Lewis. 1992. Effects of sediment transport on survival of salmonid embryos in a natural stream: a simulation approach. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 2337-2344.
- Lister, D.B., and H.S. Genoe. 1970. Stream habitat utilization by cohabiting underyearlings of chinook (*Oncorhynchus tshawytscha*) and coho (*Oncorhynchus kisutch*) in the Big Qualicum River. *Journal of the Fisheries Research Board of Canada* 27: 1215-1224.
- Lister, D.B., and C.E. Walker. 1966. The effect of flow control on freshwater survival of chum, coho and chinook salmon in the Big Qualicum River. *Canadian Fish Culturist* 37: 3-25.
- Livingston, R.J. 1997. Trophic response of estuarine fishes to long-term changes of river runoff. *Bulletin of Marine Science* 60: 984-1004.

- Livingston, R.J., F.G. Lewis, G.C. Woodum, X.-F. Niu, B. Galperin, W. Huang, J.D. Christensen, M.E. Monaco, T.A. Battista, C.J. Klein, R.L. Howell IV, and G.L. Ray. 2000. Modelling oyster population response to variation in freshwater input. *Estuarine, Coastal and Shelf Science* 50: 655-672.
- Livingston, R.J., X. Niu, F.G. Lewis, III, and G. Woodsum. 1997. Freshwater input to a Gulf estuary: long-term control of trophic organization. *Ecological Applications* 7(1): 277-299.
- Loar, J.M., and M.J. Sale. 1981. Analysis of environmental issues related to small-scale hydroelectric development. V. Instream flow needs for fishery resources. Oak Ridge National Laboratory, Environmental Sciences Division Publication 1829, ORNL/TM-7861.
- Loar, J.M., M.J. Sale, G.F. Cada, D.K. Cox, R.M. Cushman, G.K. Eddlemon, J.L. Elmore, A.J. Gatz, P. Kanciruk, J.A. Solomon, and D.S. Vaughan. 1985. Application of habitat evaluation models in southern Appalachian trout streams. Oak Ridge National Laboratory, Environmental Sciences Division, Publication No. 2382, ORNL/TM-9323, Oak Ridge, TN.
- Loar, J.M., M.J. Sale, and G.F. Cada. 1986. Instream needs to protect fishery resources. *Water Forum 1986: World Water Issues in Evolution* 2: 2098-2105.
- Loar, S.C., and J.L. West. 1992. Microhabitat selection by brook and rainbow trout in a southern Appalachian stream. *Transactions of the American Fisheries Society* 121: 729-736.
- Lobb, M.D., III, and D.J. Orth. 1991. Habitat use by an assemblage of fishes in a large warmwater stream. *Transactions of the American Fisheries Society* 120 (1): 65-78.
- Lobon-Cervia, J. 1996. Response of a stream fish assemblage to a severe spate in northern Spain. *Transactions of the American Fisheries Society* 125 (6): 913-919.
- Lobon-Cervia, J. 2000. Determinants of parr size variations within a population of brown trout *Salmo trutta* L. *Ecol. Freshwater Fish* 4: 17-27.
- Lobon-Cervia, J. 2003. Spatiotemporal dynamics of brown trout production in a Cantabrian stream: effects of density and habitat quality. *Transactions of the American Fisheries Society* 132 (4): 621-637.
- Lobon-Cervia, J. 2004. Discharge-dependent covariation patterns in the population dynamics of brown trout (*Salmo trutta*) within a Cantabrian river drainage. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (10): 1929-1939.
- Lobon-Cervia, J. 2005. Spatial and temporal variation in the influence of density dependence on growth of stream-living brown trout (*Salmo trutta*). *Canadian Journal of Fisheries and Aquatic Sciences* 62 (6): 1231-1242.
- Lobon-Cervia, J. 2005. The importance of recruitment for the production dynamics of stream-

dwelling brown trout (*Salmo trutta*). Canadian Journal of Fisheries and Aquatic Sciences 62 (10): 2484-2493.

Lobon-Cervia, J., and E. Mortensen. 2005. Population size in stream-living juveniles of lake-migratory brown trout *Salmo trutta* L.: the importance of stream discharge and temperature. Ecology of Freshwater Fish 14: 1-8.

Lobon-Cervia, J., and P.A. Rincon. 2004. Environmental determinants of recruitment and their influence on the population dynamics of stream-living brown trout *Salmo trutta* L. Oikos 105: 471-476.

Locke, A. 1988. IFIM - microhabitat criteria development: data pooling considerations. Pages 31-54 in K. Bovee and J.R. Zuboy, editors. Proceedings of a workshop on the development of habitat suitability criteria. U.S. Fish and Wildlife Service, Biological Report 88 (11), Washington D.C.

Lockwood, J.L., M.S. Ross, and J.P. Sah. 2003. Smoke on the water: the interplay of fire and water flow on Everglades restoration. Frontiers in Ecology and the Environment 1 (9): 462-468.

Loganathan, G.V., C.Y. Kuo, and T.C. McCormick. 1985. Methods of analyzing instream flows. Virginia Water Research Center Bulletin 148: 1-70.

Lohr, S.C., and K.D. Fausch. 1996. Effects of green sunfish (*Lepomis cyanellus*) predation on survival and habitat use of plains killifish (*Fundulus zebrinus*). Southwestern Naturalist 41: 155-160.

Lohr, S.C., and J.L. West. 1992. Microhabitat selection by brook and rainbow trout in a southern Appalachian stream. Transactions of the American Fisheries Society 121: 729-736.

Lohr, S.C., and R.G. White. 1995. Influence of food and habitat on residency of cutthroat trout in artificial channels. Rivers 5 (1): 13-21.

Lohr, S.M. 1993. Wetted stream channel, fish-food organisms and trout relative to the wetted perimeter inflection point instream flow method. Ph.D. thesis, Montana State University, Bozeman.

Longley, W.L. 1994. Freshwater inflows to Texas bays and estuaries: ecological relationships and methods for determination of needs. Texas Water Development Board and Texas Parks and Wildlife Department, Austin. 386 pp.

Lonzarich, D.G., and T.P. Quinn. 1995. Experimental evidence for the effect of depth and structure on the distribution, growth, and survival of stream fishes. Canadian Journal of Zoology 73: 2223-2230.

- Loomis, J.B. 1987. The economic value of instream flow methodology and benefits for optimum flows. *Journal of Environmental Mgmt.* 24: 169-179.
- Lorenz, J.M., and J.H. Eiler. 1989. Spawning habitat and redd characteristics of sockeye salmon in the glacial Taku River, British Columbia and Alaska. *Transactions of the American Fisheries Society* 118: 495-502.
- Lowe-McConnell, R.H. 1987. *Ecological studies in tropical fish communities.* Cambridge University Press, Cambridge. 382 pp.
- Lubinski, K.S., G. Carmody, D. Wilcox, and B. Drazkowski. 1991. Development of water level regulation strategies for fish and wildlife, Upper Mississippi River system. *Regulated Rivers: Research and Management* 6: 117-124.
- Ludlow, J.A., and T.B. Hardy. 1996. Comparative evaluation of suitability curve based habitat modeling and a mechanistic based bioenergetic model using two-dimensional hydraulic simulations in a natural river system. *Proceedings of the 2<sup>nd</sup> International Symposium on Habitat Hydraulics.* June 1996, Quebec, Canada. B519-B530.
- Lukas, J.A., and D.J. Orth. 1995. Factors affecting nesting success of smallmouth bass in a regulated Virginia stream. *Transactions of the American Fisheries Society* 124 (5): 726-735.
- Lupandin, A.I., and D.S. Pavlov. 1996. The effects of starvation on the reaction of fish to flows with different intensity in turbulence. *Journal of Ichthyology* 36: 408-411.
- Lytle, D.A. 1999. Use of rainfall cues by *Abedus herberti* (Hemiptera: Belostomatidae): a mechanism for avoiding flash floods. *Journal of Insect Behavior* 12: 1-12.
- Lytle, D.A. 2000. Biotic and abiotic effects of flash flooding in a montane desert stream. *Archiv fur Hydrobiologie* 150: 85-100.
- Lytle, D.A. 2002. Flash floods and aquatic insect life-history evolution: evaluation of multiple models. *Ecology* 83 (2): 370-385.
- Lytle, D.A., and D.M. Merritt. 2004. Hydrologic regimes and riparian forests: a structured population model for cottonwood. *Ecology* 85 (9): 2493-2503.
- Lytle, D.A., and N.L. Poff. 2004. Adaptation to natural flow regimes. *Trends in Ecology and Evolution* 19: 94-100.
- Maciolek, J.A., and P.R. Needham. 1952. Ecological effects of winter conditions on trout and trout foods in Convict Creek, California, 1951. *Transactions of the American Fisheries Society* 81: 202-217.

- MacNutt, M.J., S.G. Hinch, C.G. Lee, J.R. Phibbs, A.G. Lotto, M.C. Healey, and A.P. Farrell. 2006. Temperature effects on swimming performance, energetics, and aerobic capacities of mature adult pink salmon *Oncorhynchus gorbuscha* compared with those of sockeye salmon *Oncorhynchus nerka*. *Canadian Journal of Zoology* 84: 88-97.
- Madariaga, I. de, L. Gonzalez-Azpiri, F. Villate, and E. Orive. 1992. Plankton responses to hydrological changes induced by freshets in a shallow mesotidal estuary. *Estuarine, Coastal and Shelf Science* 35: 425-434.
- Maddock, I. 1999. The importance of physical habitat assessment for evaluating river health. *Freshwater Biology* 41: 373-391.
- Maddock, I., and D. Bird. 1996. The application of habitat mapping to identify representative PHABSIM sites on the River Tavy, Devon UK. Pages 203-214 in: M. Leclerc, H. Capra, S. Valentin, A. Boudreault, and Y. Cote, editors, 2<sup>nd</sup> International Symposium on Habitat Hydraulics. IRS-EAU; FQSA; IAHR-AIRH, Quebec, Canada.
- Madej, M.A., and V. Ozaki. 1996. Channel response to sediment wave propagation and movement, Redwood Creek, California, USA. *Earth Surface Processes and Landforms* 21: 911-927.
- Madsen, T.V., and M. Sondergaard. 1983. The effects of current velocity on the photosynthesis of *Callitriche stagnalis* Scop. *Aquatic Botany* 15: 187-193.
- Madsen, T.V., and E. Warncke. 1983. Velocities of currents around and within submerged aquatic vegetation. *Archiv fur Hydrobiologie* 97: 389-394.
- Magee, J.P., T.E. McMahon, and R.F. Thurow. 1996. Spatial variation in spawning habitat of cutthroat trout in a sediment-rich stream basin. *Transactions of the American Fisheries Society* 125: 768-779.
- Magoulick, D.D. 2000. Spatial and temporal variation in fish assemblages of drying stream pools: the role of abiotic and biotic factors. *Aquatic Ecology* 34: 29-41.
- Magoulick, D.D., and R.M. Kobza. 2003. The role of refugia for fishes during drought: a review and synthesis. *Freshwater Biology* 48: 1186-1198.
- Maheshwari, B.L., K.F. Walker, and T.A. McMahon. 1995. Effects of regulation on the flow regime of the River Murray, Australia. *Regulated Rivers: Research and Management* 10: 15-38.
- Mahoney, J.M., and S.B. Rood. 1998. Streamflow requirements for cottonwood seedling recruitment: An integrative model. *Wetlands* 18: 634-645.
- Mains, E.M., and J.M. Smith. 1964. The distribution, size, time, and current preferences of seaward migrating chinook salmon in the Columbia and Snake rivers. *Washington Department of Fisheries, Fisheries Research Papers* 2 (3): 5-43.

- Maki-Petays, A., J. Erkinaro, E. Niemala, A. Huusko, and T. Muotka. 2004. Spatial distribution of juvenile Atlantic salmon (*Salmo salar*) in a subarctic river: size-specific changes in a strongly seasonal environment. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (12): 2329-2338.
- Maki-Petays, A., A. Huusko, J. Erkinaro, and T. Muotka. 2002. Transferability of habitat suitability criteria of juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 59 (2): 218-228.
- Maki-Petays, A., T. Muotka, and A. Huusko. 1999. Densities of juvenile brown trout (*Salmo trutta*) in two subarctic rivers: assessing the predictive capability of habitat preference indices. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (8): 1420-1427.
- Maki-Petays, A., T. Muotka, A. Huusko, P. Tikkanen, and P. Kreivi. 1997. Seasonal changes in habitat use and preferences by juvenile brown trout, *Salmo trutta*, in a northern boreal river. *Canadian Journal of Fisheries and Aquatic Sciences* 54: 520-530.
- Maki-Petays, A., T. Vehanen, and T. Muotka. 2000. Microhabitat use by age-0 brown trout and grayling: seasonal responses to streambed restoration under different flows. *Transactions of the American Fisheries Society* 129 (3): 771-781.
- Malanson, G.P. 1993. *Riparian landscapes*. Cambridge University Press, Cambridge, U.K.
- Malard, F., D. Ferreira, S. Doledec, and J.V. Ward. 2003. Influence of groundwater upwelling on the distribution of the hyporheos in a headwater river flood plain. *Archiv fur Hydrobiologie* 157: 89-116.
- Malard, F., M. Lafont, M. Burgherr, and J.V. Ward. 2001. A comparison of longitudinal patterns in hyporheic and benthic oligochaete assemblages in a glacial river. *Arctic, Antarctic, and Alpine Research* 33: 457-466.
- Malard, F., K. Tockner, and J.V. Ward. 1999. Shifting dominance of subcatchment water sources and flow paths in a glacial floodplain, Val Roseg, Switzerland. *Arctic, Antarctic, and Alpine Research* 31: 135-150.
- Malard, F., K. Tockner, and J.V. Ward. 2000. Physico-chemical heterogeneity in a glacial riverscape. *Landscape Ecology* 15: 679-695.
- Malard, F., U. Uehlinger, R. Zah, and K. Tockner. 2006. Flood-pulse and riverscape dynamics in a braided glacial river. *Ecology* 87 (3): 704-716.
- Mallin, M.A., H.W. Paerl, J. Rudek, and P.W. Bates. 1993. Regulation of estuarine primary production by watershed rainfall and river flow. *Marine Ecology Progress Series* 93: 199-203.
- Malmqvist, B. 1980. Habitat selection of larval brook lampreys (*Lampetra planeri* Bloch) in a

south Swedish stream. *Oecologia* 45: 35-38.

Malmqvist, B., and G. Sackman. 1996. Changing risk of predation for a filter-feeding insect along a current velocity gradient. *Oecologia* 108:450-458.

Malone, T.C., L.H. Crocker, S.E. Pike, and B.W. Wendler. 1988. Influence of river flow on the dynamics of phytoplankton production in a partially stratified estuary. *Marine Ecology Progress Series* 48: 235-249.

Mancy, K.H. 1981. The environmental and ecological impacts of Aswan High Dam. *In*: H. Shuval, ed., *Developments in Arid Zone Ecology and Environmental Quality*. Balaban ISS, Philadelphia.

Manly, B.F.J., L.L. McDonald, and D.L. Thomas. 1993. *Resource selection by animals: statistical design and analysis for field studies*. Chapman and Hall, London, United Kingdom. 175 pp.

Manning, D.J., J.A. Mann, S.K. White, S.D. Chase, and R.C. Benkert. 2005. Steelhead emigration in a seasonal impoundment created by an inflatable rubber dam. *North American Journal of Fisheries Management* 25 (4): 1239-1255.

Mantua, N.J., S.R. Hare, Y. Zhang, J.M. Wallace, and R.C. Francis. 1997. A Pacific interdecadal climate oscillation with impacts on salmon production. *Bulletin of the American Meteorological Society* 78: 1069-1079.

March, J.G., J.P. Benstead, C.M. Pringle, and F.N. Scatena. 1998. Migratory drift of larval freshwater shrimps in two tropical streams, Puerto Rico. *Freshwater Biology* 40: 261-273.

Marchetti, M.P., and P.B. Moyle. 2001. Effects of flow regime on fish assemblages in a regulated California stream. *Ecological Applications* 11: 530-539.

Marschall, E.A., and L.B. Crowder. 1995. Density-dependent survival as a function of size in juvenile salmonids in streams. *Canadian Journal of Fisheries and Aquatic Sciences* 52: 136-140.

Marti, E., S.G. Fisher, J.D. Schade, and N.B. Grimm. 2000. Flood frequency and stream-riparian linkage in arid lands. Pp. 111-136 *in*: J.B. Jones and P.J. Mulholland, editors, *Streams and groundwaters*. Academic Press, New York, New York, USA.

Marti, E., N.B. Grimm, and S.G. Fisher. 1997. Pre- and post-flood retention efficiency of nitrogen in a Sonoran Desert stream. *Journal of the North American Benthological Society* 16: 805-819.

Martin, C.W., J.W. Hornbeck, G.E. Likens, and D.C. Buso. 2000. Impacts of intensive harvesting on hydrology and nutrient dynamics of northern hardwood forests. *Canadian Journal of Forest Research* 57 (Suppl. 2): 19-29.

- Martin, Q. 1987. Estimating freshwater inflow needs for Texas estuaries by mathematical programming. *Water Resources Research* 23: 230-238.
- Martinez-Capel, F. 2000. Preferencias de microhabitat de *Barbus bocagei*, *Chondrostoma polylepis* y *Leuciscus pyrenaicus* en la cuenca del rio Tajo. Doctoral thesis. Universidad Politecnica de Madrid.
- Martinez-Capel, F., D. Garcia de Jalon, M. Rodilla-Alama. 2004. On the estimation of nose velocities and their influence on the physical habitat simulation for *Barbus Bacagei*. *Hydroecologie Appliquee* 14 (1): 139-159.
- Mason, J.C. 1976. Response of underyearling coho salmon to supplemental feeding in a natural stream. *Journal of Wildlife Management* 40: 775-778.
- 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.
- Matern, S.A., P.B. Moyle, and L.C. Pierce. 2002. Native and alien fishes in a California estuarine marsh: twenty-one years of changing assemblages. *Transactions of the American Fisheries Society* 131 (5): 797-816.
- Matheny, M.P., IV, and C.F. Rabeni. 1995. Patterns of movement and habitat use by northern hog suckers in an Ozark stream. *Transactions of the American Fisheries Society* 124 (6): 886-897.
- Mathews, S.B., and F.W. Olson. 1980. Factors affecting Puget Sound coho salmon (*Oncorhynchus kisutch*) runs. *Canadian Journal of Fisheries and Aquatic Sciences* 37 (9): 1373-1378.
- Mathur, D., W.H. Bason, E.J. Purdy, Jr., and C.A. Silver. 1985. A critique of the Instream Flow Incremental Methodology. *Canadian Journal of Fisheries and Aquatic Sciences* 42: 825-831.
- Mathur, D., W.H. Bason, E.J. Purdy, Jr., and C.A. Silver. 1986. A reply to "In defense of the Instream Flow Incremental Methodology" by D.J. Orth and O.E. Maughan. *Canadian Journal of Fisheries and Aquatic Sciences* 43: 1093-1094.
- Matsumoto, J., G. Powell, and D. Brock. 1994. Freshwater-inflow need of estuary computed by Texas estuarine MP model. *Journal of Water Resources Planning and Management* 120: 693-714.
- Matthews, K.R. 1996. Habitat selection and movement patterns of California golden trout in degraded and recovered stream sections in the Golden Trout Wilderness, California. *North American Journal of Fisheries Management* 16: 579-590.

- Matthews, K.R. 1996. Diel Movement and habitat use of California golden trout in the Golden Trout Wilderness, California. *Transactions of the American Fisheries Society* 125: 78-86.
- Matthews, R.C., Jr., and Y. Bao. 1991. Alternative instream flow assessment methodologies for warm water river systems. Pp. 189-196 in: J.L. Cooper and R.H. Hamre, eds. *Proceedings of Warmwater Fisheries Symposium 1*. Fort Collins, CO: U.S. Forest Service (General Technical Report RM-207).
- Matthews, W.J. 1985. Critical current speeds and microhabitats of the benthic fishes *Percina roanoka* and *Etheostoma flabellare*. *Environmental Biology of Fishes* 12: 303-308.
- Matthews, W.J. 1985. Distribution of Midwestern fishes on multivariate environmental gradients, with emphasis on *Notropis lutrensis*. *American Midland Naturalist* 113: 225-237.
- Matthews, W.J. 1986. Fish faunal structure in an Ozark stream: stability, persistence, and a catastrophic flood. *Copeia* 1986: 388-397.
- Matthews, W.J. 1990. Spatial and temporal variation in fishes of riffle habitats: a comparison of analytical approaches for the Roanoke River. *American Midland Naturalist* 124: 31-45.
- Matthews, W.J., and L.G. Hill. 1979. Influences of physicochemical factors on habitat selection by red shiner, *Notropis lutrensis* (Pisces: Cyprinidae). *Copeia* 1979: 70-81.
- Matthews, W.J., and L.G. Hill. 1979. Age-specific differences in the distribution of red shiners, *Notropis lutrensis*, over physicochemical ranges. *American Midland Naturalist* 101: 366-372.
- Matthews, W.J., and E. Marsh-Matthews. 2003. Effects of drought on fish across axes of space, time, and ecological complexity. *Freshwater Biology* 48: 1232-1253.
- Matraw, H.C., Jr., and J.F. Elder. 1984. Nutrient and detritus transport in the Apalachicola River, Florida. U.S. Geological Survey Water Supply Paper 2196-C.
- Mattson, R. 2002. A resource-based framework for establishing freshwater inflow requirements for the Suwanne River estuary. *Estuaries* 25 (6B): 1333-1342.
- May, C.L., and D.C. Lee. 2004. The relationships among in-channel sediment storage, pool depth, and summer survival of juvenile salmonids in Oregon Coast Range streams. *North American Journal of Fisheries Management* 24 (3): 761-774.
- McAdam, S.O., C.J. Walters, and C. Nistor. 2005. Linkages between white sturgeon recruitment and altered bed substrates in the Nechako River, Canada. *Transactions of the American Fisheries Society* 134 (6): 1448-1456.
- McBride, J.R., and J. Strahan. 1984. Establishment and survival of woody riparian species on

- gravel bars of an intermittent stream. *American Midland Naturalist* 112 (2): 235-245.
- McBride, J.R., N. Sugihara, and E. Norberg. 1988. Growth and survival of three riparian species in relation to simulated water table dynamics. Report to Pacific Gas and Electric Company, San Ramon, CA.
- McConnell, W.J. Habitat suitability curves for white sturgeon. U.S. Fish and Wildlife Service, National Ecology Center, Fort Collins, Colorado.
- McCreadie, J.W., and M.H. Colbo. 1993. Larval and pupal microhabitat selection by *Simulium truncatum* Lundstrom, *S. rostratum* Lundstrom, and *S. verecundum* AA (Diptera: Simuliidae). *Canadian Journal of Zoology* 71: 358-367.
- McCully, P. 1996. *Silenced Rivers: The Ecology and Politics of Large Dams*. Zed Books, London.
- McGarigal, K., and W.C. McComb. 1992. Streamside versus upslope breeding bird communities in the Central Oregon Coast Range. *Journal of Wildlife Management* 56: 10-23.
- McHugh, P., and P. Budy. 2004. Patterns of spawning habitat selection and suitability for two populations of spring Chinook salmon, with an evaluation of generic versus site-specific suitability criteria. *Transactions of the American Fisheries Society*. 133 (1): 89-97.
- McHugh, P., and P. Budy. 2006. A comparison of visual and measurement-based techniques for quantifying cobble embeddedness and fine-sediment levels in salmonid-bearing streams. *North American Journal of Fisheries Management* 25 (4): 1208-1214.
- McIntosh, B.M., J.R. Sedell, J.E. Smith, R.C. Wissmar, S.E. Clark, and G.H. Reeves. 1994. Historical changes in fish habitat for selected river basins of eastern Oregon and Washington. *Northwest Science* 68: 36-53.
- McIntosh, M.D., M.E. Benbow, and A.J. Burky. 2002. Effects of stream diversion on riffle macroinvertebrate communities in a Maui, Hawaii, stream. *River Research and Applications* 18 (6): 569-582.
- McIvor, C.C., J.A. Ley, and R.D. Bjork. 1994. Changes in freshwater inflow from the Florida Everglades to Florida Bay including effects on biota and biotic processes: A review, p. 117-146. In: S.M. Davis and J.C. Ogden (eds.). *Everglades: The ecosystem and its restoration*. St. Lucie Press, Delray Beach, Florida.
- McKay, S.J., R.H. Devlin, and M.J. Smith. 1996. Phylogeny of Pacific salmon and trout based on growth hormone type-2 and mitochondrial NADH dehydrogenase subunit 3 DNA sequences. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (5): 1165-1176.
- McKenney, R. 1997. Formation and maintenance of hydraulic habitat units in the streams of the Ozark Plateaus. Doctoral dissertation. Pennsylvania State University, State College.

- McKernan, D.L., D.R. Johnson, and J.I. Hodges. 1950. Some factors influencing the trends of salmon populations in Oregon. Transactions of the North American Wildlife Conference 15: 427-449.
- McKinney, M.J., and J.G. Taylor. 1988. Western state instream flow programs, a comparative assessment. Instream Flow Information Paper 18. U.S. Fish and Wildlife Service Biol. Rep. 89 (2).
- McKinney, T., R.S. Rogers, and W.R. Persons. 1999. Effects of flow reductions on aquatic biota of the Colorado below Glen Canyon Dam, Arizona. North American Journal of Fisheries Management 19 (4): 984-991.
- McKinney, T., D.W. Speas, R.S. Rogers, and W.R. Persons. 2001. Rainbow trout in a regulated river below Glen Canyon Dam, Arizona, following increased minimum flows and reduced discharge variability. North American Journal of Fisheries Management 21: 216-222.
- McKinnon, L.J. 1997. Monitoring of fish aspects of the flooding of Barmah Forest. Marine and Freshwater Institute, Queenscliff, Australia.
- McLaughlin, R.L., and J.W. Grant. 1994. Morphological and behavioral differences among recently emerged brook charr in slow- vs. fast-running water. Environmental Biology of Fishes 39: 289-300.
- McLaughlin, R.L., and D.L.G. Noakes. 1998. Going against the flow - an examination of the propulsive movements made by young brook trout in streams. Canadian Journal of Fisheries and Aquatic Sciences 55: 853-860.
- McMahon, T.E., and G.F. Hartman. 1989. Influence of cover complexity and current velocity on winter habitat use by juvenile coho salmon (*Oncorhynchus kisutch*). Canadian Journal of Fisheries and Aquatic Sciences 46: 1551-1557.
- McMichael, G.A., C.A. McKinstry, J.A. Vucelick, and J.A. Lukas. 2005. Fall Chinook salmon spawning activity versus daylight and flow in the tailrace of a large hydroelectric dam. North American Journal of Fisheries Management 25 (2): 573-580.
- McNeil, W.J. 1964. Redd superimposition and egg capacity of pink salmon spawning beds. Journal of the Fisheries Research Board of Canada 21: 1385-1396.
- McNeil, W.J. 1966. Randomness in distribution of pink salmon redds. Journal of the Fisheries Research Board of Canada 24: 1629-1634.
- McNeil, W.J. 1966. Effect of spawning bed environment on reproduction of pink and chum salmon. U.S. Fish and Wildlife Service Fishery Bulletin 65: 495-523.

- McNeil, W.J. 1968. Effect of streamflow on survival of pink and chum salmon in spawning beds. Pp. 96-114 in: R.T. Myren (ed.), Logging and salmon. Proc. Forum Am. Inst. Fish. Res. Biol., Alaska District, Juneau, Alaska.
- McNeil, W.J. 1969. Survival of pink and chum salmon and alevins. In: Symposium on salmon and trout in streams. Northcote, T.G. (ed.). H.R. MacMillan Lectures in Fisheries, University of British Columbia, Institute of Fisheries, Vancouver, B.C. Pp. 101-117.
- McNeil, W.J., and W.H. Ahnell. 1964. Success of pink salmon relative to the size of spawning bed material. U.S. Fish and Wildlife Service, Special Scientific Report 469. 15 pp.
- McNicol, R.E., E. Scherer, and E.J. Murkin. 1985. Quantitative field investigations of feeding and territorial behaviour of young-of-the-year brook charr, *Salvelinus fontinalis*. Environmental Biology of Fishes 12: 219-229.
- McQueen, I.S., and R.F. Miller. 1972. Soil-moisture and energy relationships associated with riparian vegetation near San Carlos, Arizona. Washington, D.C.: U.S. Geological Survey (Professional Paper 655-E).
- McRae, B.J., and J.S. Diana. 2005. Factors influencing density of age-0 brown trout and brook trout in the Au Sable River, Michigan. Transactions of the American Fisheries Society 134 (1): 132-140.
- Meador, M.R., and W.J. Matthews. 1992. Spatial and temporal patterns of fish assemblage structure of an intermittent Texas stream. American Midland Naturalist 127: 106-114.
- Meeter, D.A., R.J. Livingston, and G. Woodsum. 1979. Long-term climatological cycles and population changes in a river-dominated estuarine system. Pp. 315-338 in: R.J. Livingston (editor) Ecological processes in coastal and marine systems. Plenum Press, New York.
- Meffe, G.K., and A.L. Sheldon. 1988. The influence of habitat structure of fish assemblage composition in southeastern blackwater streams. American Midland Naturalist 120: 225-240.
- Mellina, E., R.D. Moore, S.G. Hinch, J.S. Macdonald, and G. Pearson. 2002. Stream temperature responses to clearcut logging in British Columbia: the moderating influences of groundwater and headwater lakes. Canadian Journal of Fisheries and Aquatic Sciences 59 (12): 1886-1900.
- Melo, A.S., D.K. Niyogi, C.D. Matthaei, et al. 2003. Resistance, resilience, and patchiness of invertebrate assemblages in native tussock and pasture streams in New Zealand after a hydrological disturbance. Canadian Journal of Fisheries and Aquatic Sciences 60: 731-739.
- Meretsky, V.J., D.L. Wagner, and L.E. Stevens. 2000. Balancing endangered species and ecosystems: a case study of adaptive management in the Grand Canyon. Environmental

Management 25: 579-586.

Merritt, D.M., and D.J. Cooper. 2000. Riparian vegetation and channel change in response to river regulation: a comparative study of regulated and unregulated streams in the Green River basin, USA. *Regulated Rivers: Research and Management* 16: 543-564.

Mertes, L.A.K. 1997. Documentation and significance of the perirheic zone on inundated floodplains. *Water Resources Research* 33: 1749-1762.

Merz, J.E., and L.K. Chan. 2004. Effects of gravel augmentation on macroinvertebrate assemblages in a regulated California river. *River Research and Application* 21: 1-14.

Merz, J.E., and J.D. Setka. 2004. Evaluation of a spawning habitat enhancement site for chinook salmon in a regulated California river. *North American Journal of Fisheries Management* 25: 48-56.

Merz, J.E., J.D. Setka, G.B. Pasternack, and J.M. Wheaton. 2004. Predicting benefits of spawning-habitat rehabilitation to salmonid (*Oncorhynchus* spp.) Fry production in a regulated river. *Canadian Journal of Fisheries and Aquatic Sciences* 61(8): 1433-1446.

Mesa, M.G. 1991. Variation in feeding, aggression, and position choice between hatchery and wild cutthroat trout in an artificial stream. *Transactions of the American Fisheries Society* 120: 723-727.

Mesick, C.F. 1988. Effect of food and cover on numbers of apache and brown trout establishing residency in artificial stream channels. *Transactions of the American Fisheries Society* 117 (5): 421-431.

Mesick, C.F. 1995. Response of brown trout to streamflow, temperature, and habitat restoration in a degraded stream. *Rivers* 5(2): 75-95.

Metcalf, N.B., S.K. Valdimarsson, and N.H.C. Fraser. 1997. Habitat profitability and choice in a sit-and-wait predator: juvenile salmon prefer slower currents on darker nights. *Journal of Animal Ecology* 66: 866-875.

Meybeck, M. 1982. Carbon, nitrogen, and phosphorus transport by world rivers. *American Journal of Science* 282: 401-450.

Meyer, C.B., M.D. Sparkman, and B.A. Klatte. 2005. Sand seals in coho salmon redds: Do they improve egg survival? *North American Journal of Fisheries Management* 25 (1): 105-121.

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.

Michener, W.K., and R.A. Haeuber. 1998. Flooding: natural and managed disturbances.

BioScience 48: 677-680.

Middleton, B.A. 2002. Flood pulsing in wetlands: restoring the natural hydrologic balance. John Wiley and Sons, Hoboken, New Jersey, USA.

Milhous, R.T. 1982. Effect of sediment transport and flow regulation on the ecology of gravel bed rivers. Pp. 819-841 in: R.D. Hayes, T.C. Bathurst, and C.R. Thorne (eds), Gravel bed rivers. John Wiley & Sons, London.

Milhous, R.T. 1988. Hydraulics, sedimentation, and physical habitat simulation. Hydrosoft 1: 146-151.

Milhous, R.T. 1990. Calculation of flushing flows for gravel and cobble-bed rivers. Pp. 598-603 in: H.H. Chang and J.C. Hill (eds.), Hydraulic Engineering: Proceedings of the 1990 Conference, Volume 1. American Society of Civil Engineers, New York.

Milhous, R.T. 1991. Instream flow needs below peaking hydroelectric projects. Pp. 163-172 in: D.D. Darling, editor. Proceedings of the International Conference on Hydropower, American Society of Civil Engineers, New York.

Milhous, R.T. 1992. Determining the minimum instream flow for hydro peaking projects. Hydro Review 1992 (Oct.): 67-74.

Milhous, R.T. 1994. Instream flows and cottonwood establishment in the Bosque del Apache reach of the Rio Grande. Pp. 535-544 in: R.A. Marston and V.R. Hasfurther (eds.) "Effects of human-induced changes on hydrologic systems" Proceedings of the Annual Summer Symposium of the American Water Resources Association.

Milhous, R.T. 1994. On habitat simulation in mountain rivers. Pp. 850-854 in: G.V. Cotroneo and R.R. Rumer (eds) "Hydraulic Engineering '94" Proceedings of the 1994 Conference of the American Society of Civil Engineers.

Milhous, R.T. 1995. The Physical Habitat Simulation System: structure and logic. In: L. Ahiya, J. Leppert, and K. Rojas (eds) Workshop on Computer Applications in Water Management, proceedings of 1995 workshop.

Milhous, R.T. 1998. Modelling of instream flow needs: the link between sediment and aquatic habitat. Regulated Rivers: Research & Management 14: 79-94.

Milhous, R.T. 1999. Nose velocities in physical habitat simulation. In: Hydraulic Engineering for Sustainable Water Resources Management at the turn of the Millenium. Proceedings of the XXVIII IAHR Congress. Technical University Graz, Institute for Hydraulics and Hydrology. Graz, Austria.

Milhous, R.T. 2004. Mixing physical habitat and streamflow time series analysis.

Hydroecologie Appliquee 14 (1): 69-91.

Milhous, R.T., R.L. Smith, and W.J. Carswell, Jr. 1987. Average annual fulfillment of instream uses: discussion and closure. *Journal of Water Resource Planning and Management* 113: 443-446.

Milhous, R.T., M.A. Updike, and D.M. Schneider. 1989. Physical habitat simulation system reference manual - version II. *Instream Flow Information Paper 26*, U.S. Fish and Wildlife Service Biological Report 89 (16).

Milhous, R.T., D.L. Wegner, and T. Waddle. 1984. User's guide to the Physical Habitat Simulation System (PHABSIM). *Instream Flow Information Paper No. 11*, U.S. Fish and Wildlife Service, FWS/OBS-81/43 Revised.

Milner, A.M., J.E. Brittain, E. Castella, and G.E. Petts. 2001. Trends of macroinvertebrate community structure in glacier-fed rivers in relation to environmental conditions: a synthesis. *Freshwater Biology* 46: 1833-1847.

Milner, N.J., J. Scullion, P.A. Carling, and T. Crisp. 1981. The effects of discharge on sediment dynamics and consequent effects on invertebrates and salmonids in upland rivers. *Adv. Appl. Biol.* 6: 152-220.

Milner, N.J., R.J. Wyatt, and M.D. Scott. 1993. Variability in the distribution and abundance of stream salmonids and the associated use of habitat models. *J. Fish Biol.* 43 (Suppl. A): 103-119.

Minckley, W.L. 1963. The ecology of a spring stream, Doe Run, Meade County, Kentucky. *Wildlife Monographs* 11: 124.

Minckley, W.L., and G.K. Meffe. 1987. Differential selection by flooding in stream-fish communities of the arid American Southwest. Pp. 93-104 in: W.J. Matthews and D.C. Heins, (eds.) *Community and evolutionary ecology of North American stream fishes*. University of Oklahoma Press, Norman.

Minns, C.K., J.R.M. Kelso, and R.G. Randall. 1996. Detecting the response of fish to habitat alterations in freshwater ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 403-414.

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

Minshall, G.W., K.W. Cummins, R.C. Peterson, C.E. Cushing, D.A. Bruns, J.R. Sedell, and R.L. Vannote. 1985. Developments in stream ecosystem theory. *Canadian Journal of Fisheries and Aquatic Sciences* 42: 1045-1055.

Minshall, G.W., R.C. Petersen, K.W. Cummins, T.L. Bott, J.R. Sedell, C.E. Cushing, and R.L.

- Vannote. 1983. Interbiome comparison of stream ecosystem dynamics. *Ecological Monographs* 53: 1-25.
- Minshall, G.W., S.A. Thomas, J.D. Newbold, M.T. Monaghan, and C.E. Cushing. 2000. Physical factors influencing fine particle transport and deposition in streams. *Journal of the North American Benthological Society* 19: 1-16.
- Minshall, G.W., and P.V. Winger. 1968. The effect of reduction in stream flow on invertebrate drift. *Ecology* 49: 580-582.
- Miranda, L.E. 2005. Fish assemblages in oxbow lakes relative to connectivity with the Mississippi River. *Transactions of the American Fisheries Society* 134 (6): 1480-1489.
- Mitro, M.G., and A.V. Zale. 2002. Seasonal survival, movement, and habitat use of age-0 rainbow trout in the Henrys Fork of the Snake River, Idaho. *Transactions of the American Fisheries Society* 131 (2): 271-286.
- Mitro, M.G., A.V. Zale, and B.A. Rich. 2003. The relation between age-0 rainbow trout (*Oncorhynchus mykiss*) abundance and winter discharge in a regulated river. *Canadian Journal of Fisheries and Aquatic Sciences* 60 (2): 135-139.
- Modde, T., and T.B. Hardy. 1992. Influences of different microhabitat criteria on salmonid habitat simulation. *Rivers* 3 (1): 37-44.
- Modde, T., R.T. Muth, and G.B. Haynes. 2001. Floodplain wetland suitability, access, and potential use by juvenile razorback suckers in the middle Green River, Utah. *Transactions of the American Fisheries Society* 130: 1095-1105.
- Modde, T., and B. Platz. 1990. Influence of operator position on the precision of measurements taken with hand-held velocity meters in rivers. *North American Journal of Fisheries Management* 10 (2): 247-248.
- Moen, C.T., D.L. Scarnecchia, and J.S. Ramsey. 1992. Paddlefish movement and habitat use in Pool 13 of the upper Mississippi River during abnormally low river stages and discharges. *North American Journal of Fisheries Management* 12: 744-751.
- Moir, H.J., C. Soulsby, and A. Youngson. 1998. Hydraulic and sedimentary characteristics of habitat utilized by Atlantic salmon for spawning in the Girnock Burn, Scotland. *Fish. Manage. Ecol.* 5: 241-254.
- Molles, M. 1980. The impacts of habitat alterations and introduced species on the native fishes of the upper Colorado River basin. Pp. 163- in: W.O. Spofford, Jr., A.L. Parker, and A.V. Kneese (eds). *Energy development in the Southwest*. Washington, D.C., Resources Futur...

- Molles, M.C., Jr. 1985. Recovery of a stream invertebrate community from a flash flood in Tesuque Creek, New Mexico. *Southwestern Naturalist* 30: 279-287.
- Molles, M.C., C.S. Crawford, L.M. Ellis, H.M. Valett, and C.N. Dahm. 1998. Managed flooding for riparian ecosystem restoration. *BioScience* 48: 749-756.
- Molles, M.C., Jr., and C.N. Dahm. 1990. A perspective on El Nino and La Nina: global implications for stream ecology. *Journal of the North American Benthological Society* 9: 68-76.
- Monahan, J.T. 1991. Development of habitat suitability data for smallmouth bass (*Micropterus dolomieu*) and rock bass (*Ambloplites rupestris*). M.S. thesis, Michigan State University, East Lansing.
- Montagna, P.A., M. Alber, P. Doering, and M.S. Connor. 2002. Freshwater inflow: science, policy, management. *Estuaries* 25 (6B): 1243-1245.
- Montagna, P.A., and R.D. Kalke. 1992. The effect of freshwater inflow on meiofaunal and macrofaunal populations in the Guadalupe and Nueces estuaries, Texas. *Estuaries* 15: 307-326.
- Montagna, P.A., R.D. Kalke, and C. Ritter. 2002. Effect of restored freshwater inflow on macrofauna and meiofauna in upper Rincon Bayou, Texas, USA. *Estuaries* 25 (6B): 1436-1447.
- Montagna, P.A., and W.B. Yoon. 1991. The effect of freshwater inflow on meiofaunal consumption of sediment bacteria and microphytobenthos in San Antonio Bay, Texas, USA. *Estuarine, Coastal and Shelf Science* 33: 529-547.
- Montgomery, D.R. 1999. Process domains and the river continuum. *Journal of the American Water Resources Association* 35: 397-410.
- Montgomery, D.R., E.M. Beamer, G.R. Pess, and T.P. Quinn. 1999. Channel type and salmonid spawning distribution and abundance. *Canadian Journal of Fisheries and Aquatic Sciences* 56: 377-387.
- Montgomery, D.R., J.M. Buffington, N.P. Peterson, D. Schuett-Hames, and T.P. Quinn. 1996. Stream-bed scour, egg burial depths, and the influence of salmonid spawning on bed surface mobility and embryo survival. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (5): 1061-1070.
- Montgomery, D.R., T.M. Massong, and C.S. Hawley. 2003. Influence of debris flows and log jams on the location of pools and alluvial channel reaches, Oregon Coast Range. *Geological Society of America Bulletin* 115: 78-88.
- 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, 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 (11): 1921-1930.

Moore, K.M.S., and S.V. Gregory. 1988. Response of young-of-the-year cutthroat trout to manipulation of habitat structure in a small stream. *Transactions of the American Fisheries Society* 117 (2): 162-170.

Morantz, D.L., R.K. Sweeney, C.S. Shirvell, and D.A. Longard. 1987. Selection of microhabitat in summer by Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 44 (1): 120-129.

Morhardt, E.J., and E.G. Altouney. 1986. Instream flow methodologies. Research Project 2194-2, The Electric Power Research Institute, Palo Alto.

Morhardt, E.J., and D.F. Hanson. 1988. Habitat availability considerations in the development of suitability criteria. Pages 392-403 in K. Bovee and J.R. Zuboy, editors. *Proceedings of a workshop on the development of habitat suitability criteria*. U.S. Fish and Wildlife Service, Biological Report 88 (11), Washington D.C.

Morhardt, J.E., D.F. Hanson, and P.J. Coulston. 1983. Instream flow analysis: increased accuracy using habitat mapping. Pp. 1294-1304 *in*: *Waterpower 83: an international conference of hydropower*. Tennessee Valley Authority, Norris, Tennessee.

Morin, A., P.-P. Harper, and R.H. Peters. 1986. Microhabitat-preference curves of blackfly larvae (Diptera: Simuliidae): a comparison of three estimation methods. *Canadian Journal of Fisheries and Aquatic Sciences* 43: 1235-1241.

Morin, A., and R.H. Peters. 1988. Effect of microhabitat features, seston quality, and periphyton on abundance of overwintering black fly larvae in southern Quebec. *Limnology and Oceanography* 33: 431-446.

Morin, J., M. Leclerc, Y. Secretan, and P. Boudreau. 2000. Integrated two-dimensional macrophytes - hydrodynamic modelling application to Lake Saint-Francois (St. Lawrence River, Quebec, Canada). *Journal of Hydraulic Research (IAHR)* 3 (38): 163-172.

Morris, S.E. 1992. Geomorphic assessment of effects of flow diversion on anadromous fish spawning habitat: Newhalem Creek, Washington. *Professional Geographer* 44 (4): 444-452.

Mortazavi, B., R.L. Iverson, and W. Huang. 2001. Dissolved organic nitrogen and nitrate in Apalachicola Bay, Florida: spatial distributions and monthly budgets. *Marine Ecology Progress Series* 214: 79-91.

Mortazavi, B., R.L. Iverson, W. Huang, F.G. Lewis, and J.M. Caffrey. 2000. Nitrogen budget

of Apalachicola Bay, a bar-built estuary in the northeastern Gulf of Mexico. *Marine Ecology Progress Series* 195: 1-14.

Mortazavi, B., R.L. Iverson, W.M. Landing, and W. Huang. 2000. Phosphorus budget of Apalachicola Bay: a river-dominated estuary in the northeastern Gulf of Mexico. *Marine Ecology Progress Series* 198: 33-42.

Mortazavi, B., R.L. Iverson, W.M. Landing, F.G. Lewis, and W. Huang. 2000. Control of phytoplankton production and biomass in a river-dominated estuary: Apalachicola Bay, Florida, USA. *Marine Ecology Progress Series* 198: 19-31.

Moscrip, A.L., and D.R. Montgomery. 1997. Urbanization, flood frequency, and salmon abundance in Puget Sound lowland streams. *Journal of American Water Resources Association* 33: 1289-1297.

Mosley, M.P. 1982. Critical depths for passage in braided rivers, Canterbury, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 16: 351-357.

Mosley, M.P. 1982. Analysis of the effect of changing discharge on channel morphology and instream uses in a braided river: Ohau River. *New Zealand Journal of Water Resources Research* 18: 800-812.

Mosley, M.P. 1983. Response of braided rivers to changing discharge. *Journal of Hydrology* 22: 18-66.

Mosley, M.P. 1985. River channel inventory, habitat and instream flow assessment. *Prog. In Phys. Geog.* 9: 494-523.

Mosely, P.M., and C.P. Pearson. 1997. *Floods and droughts: the New Zealand experience.* The Caxton Press, Christchurch, New Zealand.

Mount, J.F. 1995. *California rivers and streams: the conflict between fluvial processes and land use.* University of California Press, Berkeley.

Moyle, P.B., and D.M. Baltz. 1985. Microhabitat use by an assemblage of California stream fishes: developing criteria for instream flow determinations. *Transactions of the American Fisheries Society* 114 (5): 695-704.

Moyle, P., M.P. Marchetti, J. Baldrige, and T.L. Taylor. 1998. Fish health and diversity: justifying flows for a California stream. *Fisheries* 23 (7): 6-15.

Muhlfield, C.C. 2002. Spawning characteristics of redband trout in a headwater stream in Montana. *North American Journal of Fisheries Management* 22 (4): 1314-1320.

- Muhlfeld, C.C., D.H. Bennett, and B. Marotz. 2001. Fall and winter habitat use and movement by Columbia River redband trout in a small stream in Montana. *North American Journal of Fisheries Management* 21 (1): 170-177.
- Muhlfeld, C.C., D.H. Bennett, and B. Marotz. 2001. Summer habitat use by Columbia River redband trout in the Kootenai River drainage, Montana. *North American Journal of Fisheries Management* 21 (1): 223-235.
- Muhlfeld, C.C., S. Glutting, R. Hunt, D. Daniels, and B. Marotz. 2003. Winter diel habitat use and movement by subadult bull trout in the upper Flathead River, Montana. *North American Journal of Fisheries Management* 23 (1): 163-171.
- Muhlfeld, C.C., and B. Marotz. 2005. Seasonal movement and habitat use by subadult bull trout in the upper Flathead River system, Montana. *North American Journal of Fisheries Management* 25 (3): 797-810.
- Mullner, S.A., W.A. Hubert, and T.A. Wesche. 1998. Snorkeling as an alternative to depletion electrofishing for estimating abundance and length-class frequencies of trout in small streams. *North American Journal of Fisheries Management* 18 (4): 947-953.
- Mundie, J.H. 1991. Overview of effects of Pacific coast river regulation on salmonids and the opportunities for mitigation. Pp. 1-11 in: J. Colt and R.J. White (eds) *Fisheries bioengineering symposium*. American Fisheries Society Symposium 10. Bethesda, Maryland.
- Murchie, K.J., and K.E. Smokorowski. 2004. Relative activity of brook trout and walleyes in response to flow in a regulated river. *North American Journal of Fisheries Management* 24 (3): 1050-1057.
- Murphy, M.L., J. Heifetz, J.F. Thedinga, S.W. Johnson, and K.V. Koski. 1989. Habitat utilization by juvenile Pacific salmon (*Oncorhynchus*) in the glacial Taku River, southeast Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 46 (10): 1677-1685.
- Murray and Beacham. 1986a. Effect of varying temperature regimes on the development of pink salmon (*Oncorhynchus gorbuscha*) eggs and alevins. *Canadian Journal of Zoology* 64: 670-676.
- Murray and Beacham. 1986b. Effect of density and substrate on the development of chum salmon (*Oncorhynchus keta*) eggs and alevins. *Progressive Fish-Culturist* 48: 242-249.
- Musick, J.A., and 17 coauthors. 2000. Marine, estuarine, and diadromous fish stocks at risk of extinction in North America (exclusive of Pacific salmonids). *Fisheries* 25(11): 6-30.
- Muth, R.T., L.W. Crist, K.E. LaGory, J.W. Hayse, K.R. Bestgen, T.P. Ryan, J.K. Lyons, and R.A. Valdez. 2000. Flow and temperature recommendations for endangered fishes in the Green

River downstream of Flaming Gorge Dam. Upper Colorado River Recovery Program, Lakewood, Colorado.

Muth, R.T., and J.C. Schmulbach. 1984. Downstream transport of fish larvae in a shallow prairie river. *Transactions of the American Fisheries Society* 113: 224-230.

Naesje, T.F., B. Jonsson, and O.T. Sandlund. 1986. Drift of cisco and whitefish larvae in a Norwegian river. *Transactions of the American Fisheries Society* 115: 89-93.

Naesje, T, B. Jonsson, and J. Skurdal. 1995. Spring flood: a primary cue for hatching of river spawning Coregoninae. *Canadian Journal of Fisheries and Aquatic Sciences* 52 (10): 2190-2196.

Naiman, R.J., S.E. Bunn, C. Nilsson, et al. 2002. Legitimizing fluvial ecosystems as users of water. *Environmental Management* 30: 455-467.

Naiman, R.J., and H. Decamps. 1997. The ecology of interfaces: riparian zones. *Annual Review of Ecology and Systematics* 28: 621-658.

Naiman, R.J., C.A. Johnston, and J.C. Kelley. 1988. Alteration of North American streams by beavers. *BioScience* 38: 753-762.

Nakamura, S., A. Yabuki, and N. Koizumi. 2004. An IFIM experience in Toyogawa-River, Japan. *Hydroecologie Appliquee* 14 (1): 55-68.

Nakano, S., and M. Kaeriyama. 1995. Summer microhabitat use and diet in four sympatric stream-dwelling salmonids in a Kamchatkan stream. *Fisheries Science* 61: 926-930.

Nakano, S., S. Kitano, K. Nakai, and K.D. Fausch. 1998. Competitive interactions for foraging microhabitat among introduced brook char, *Salvelinus fontinalis*, native bull char *S. confluentus*, and westslope cutthroat trout *Oncorhynchus clarki lewisi* in a Montana stream. *Environmental Biology of Fishes* 52: 345-355.

Naslund, I., E. Degerman, and F. Nordwall. 1998. Brown trout (*Salmo salar*) habitat use and life history in Swedish streams: possible effects of biotic interactions. *Canadian Journal of Fisheries and Aquatic Sciences* 55: 1034-1042.

National Research Council (USA). 1992. *Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy*. National Academy Press, Washington, D.C.

National Research Council (USA). 1996. *Upstream: salmon and society in the Pacific Northwest*. National Academy Press, Washington, D.C.

National Research Council (USA). 2002. *The Missouri River Ecosystem: Exploring the Prospects for Recovery*. National Academy Press, Washington, D.C.

National Research Council (USA). 2004. Managing the Columbia River: instream flows, water withdrawals, and salmon survival. National Academy Press, Washington, D.C.

Naughton, G.P., C.C. Caudill, M.L. Keefer, T.C. Bjornn, L.C. Stuehrenberg, and C.A. Peery. 2005. Late-season mortality during migration of radio-tagged adult sockeye salmon (*Oncorhynchus nerka*) in the Columbia River. Canadian Journal of Fisheries and Aquatic Sciences 62 (1): 30-47.

Neave, F. 1949. Game fish populations of the Cowichan River. Fisheries Research Board of Canada Bulletin 84.

Neave, F., and W.P. Wickett. 1953. Factors affecting the freshwater development of Pacific salmon in British Columbia. Proceedings of the 7<sup>th</sup> Pacific Science Congress (1949) 4: 548-555.

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 (2): 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): 1-19.

Nehring, R.B., and D.D. Miller. 1987. The influence of spring discharge levels on rainbow and brown trout recruitment and survival, Black Canyon of the Gunnison. Proceedings of the Annual Conference, Western Association of Fish and Wildlife Agencies, Salt Lake City, Utah.

Neilson, J.D., and C.E. Banford. 1983. Chinook salmon (*Oncorhynchus tshawytscha*) spawning characteristics in relation to redd physical features. Canadian Journal of Zoology 61: 1524-1531.

Neitzel, D.A., M.J. Scott, S.A. Shankle, and J.C. Chatters. 1991. The effect of climate change on stream environments: the salmonid resource of the Columbia River basin. Northwest Environmental Journal 7: 271-293.

Nelson, F.A. 1986. Effect of flow fluctuations on brown trout in the Beaverhead River, Montana. North American Journal of Fisheries Management 6 (4): 551-559.

Nelson, J.A., P.S. Gotwalt, and J.W. Snodgrass. 2003. Swimming performance of blacknose dace (*Rhinichthys atratulus*) mirrors home-stream current velocity. Canadian Journal of Fisheries and Aquatic Sciences 60 (3): 301-308.

Nelson, R.L. W.S. Platts, D.P. Larson, and S.E. Jensen. 1992. Trout distribution and habitats in relation to geology and geomorphology in the North Fork Humboldt River drainage, northeastern Nevada. Transactions of the American Fisheries Society 121: 405-426.

Nelson, R.W., J.R. Dwyer, and W.E. Greenberg. 1987. Regulated flushing in a gravel-bed river for channel habitat maintenance: a Trinity River fisheries case study. *Env. Mgmt.* 11: 479-493.

Nesler, T.P., R.T. Muth, and A.F. Wasowicz. 1988. Evidence for baseline flow spikes as spawning cues for Colorado squawfish in the Yampa River, Colorado. Pages 68-79 in: R.D. Hoyt (ed). 11<sup>th</sup> annual larval fish conference. American Fisheries Society, Symposium 5, Bethesda, Maryland.

Nestler, J.M. 1990. Considerations in applying IFIM to warmwater streams. Pp. 34-35 in: M.B. Bain (ed.), *Ecology and assessment of warmwater streams: Workshop synopsis*. Washington, D.C.: U.S. Fish and Wildlife Service (Biological Report 90[5]).

Nestler, J.M., L.T. Schneider, and D. Latka. 1993. RCHARC: a new method for physical habitat analysis, in *Engineering Hydrology*, a symposium sponsored by the Hydraulics Division/ASCE. July 25-30, San Francisco, CA. Pp. 294-299.

Neu, C.W., C.R. Byers, and J.M. Peek. 1974. Techniques for analysis of utilization-availability data. *Journal of Wildlife Management* 8: 22-36.

Neuman, H.R., and C.P. Newcombe. 1977. Minimum acceptable stream flows in British Columbia: a review. British Columbia Ministry of Recreation and Conservation, Habitat Protection Section, Fisheries Management Report No. 70. 80 pp.

Newbury, R.W. 1996. Dynamics of flow. Pp. 75-92 in: F.R. Hauer and G.A. Lamberti (eds) *Methods in stream ecology*. Academic Press, San Diego, California.

Newbury, R., and M. Gaboury. 1993. Exploration and rehabilitation of hydraulic habitats in streams using principles of fluvial behaviour. *Freshwater Biology* 29: 195-210.

Newcomb, T.J., S.A. Perry, and W.B. Perry. 1995. Comparison of habitat suitability criteria for smallmouth bass (*Micropterus dolomieu*) from three West Virginia rivers. *Rivers* 5(3): 170-183.

Newcombe, C. 1981. A procedure to estimate changes in fish populations caused by changes in stream discharge. *Transactions of the American Fisheries Society* 110 (3): 382-390.

Newman, R.M., and T.F. Waters. 1989. Differences in brown trout (*Salmo trutta*) production among contiguous sections of an entire stream. *Canadian Journal of Fisheries and Aquatic Sciences* 46 (2): 203-213.

Newson, M. 1994. *Hydrology and the river environment*. Clarendon Press, Oxford, UK.

- Nicholas, A.P., and D.E. Walling. 1997. Modeling hydraulics and overbank deposition on river floodplains. *Earth Surface Processes and Landforms* 22: 59-77.
- Nichols, M.M. 1977. Response and recovery of an estuary following a river flood. *Journal of Sedimentary Petrology* 47: 1171-1186.
- Nickelson, T.E. 1998. Population viability of coho salmon, *Oncorhynchus kisutch*, in Oregon coastal basins: application of a habitat-based life cycle model. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (11):2383-2392.
- Nickelson, T.E., and P.W. Lawson. 1998. Population viability of coho salmon, *Oncorhynchus kisutch*, in Oregon coastal basins: application of a habitat-based life cycle model. *Canadian Journal of Fisheries and Aquatic Sciences* 49:783-789.
- Nickelson, T.E., J.D. Rodgers, S.L. Johnson, and M.F. Solazzi. 1992. Seasonal changes in habitat use by juvenile coho salmon (*Oncorhynchus kisutch*) in Oregon coastal streams. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 783-789.
- Nickelson, T.E., M.F. Solazzi, S.L. Johnson, and J.D. Rogers. 1992. Effectiveness of selected stream improvement techniques to create suitable summer and winter rearing habitat for juvenile coho salmon (*Oncorhynchus kisutch*) in Oregon coastal streams. *Canadian Journal of Fisheries and Aquatic Sciences* 49: 790-794.
- Nielsen, D.L., T.J. Hillman, F.J. Smith, and R.J. Shiel. 2002. The influence of seasonality and duration of flooding on zooplankton in experimental billabongs. *River Research and Applications* 18 (3): 227-238.
- Nielsen, G. 1986. Dispersion of brown trout (*Salmo trutta* L.) In relation to stream cover and water depth. *Pol. Arch. Hydrobiol.* 33: 475-488.
- Nielsen, J.L. 1992. Microhabitat-specific foraging behavior, diet and growth of juvenile coho salmon. *Transactions of the American Fisheries Society* 121 (5): 617-634.
- Nikolskii, G.V. 1933. On the influence of the rate of flow on the fish fauna of the rivers of central Asia. *Journal of Animal Ecology* 2: 266-281.
- Nikora, V.I., J. Aberle, B.J.F. Biggs, I.G. Jowett, and J.R.E. Sykes. 2003. Effects of fish size, time to fatigue, and turbulence on swimming performance: a case study of *Galaxias maculatus*. *Journal of Fish Biology* 63: 1365-1382.
- Nilo, P., P. Dumont, and R. Fortin. 1997. Climate and hydrological determinants of year-class strength of St. Lawrence River lake sturgeon (*Acipenser fulvescens*). *Canadian Journal of Fisheries and Aquatic Sciences* 54: 774-480.
- Nilsson, C. 1984. Effects of stream regulation on riparian vegetation. Pp. 93-106 in: A.

Lillehammer and S.J. Saltveit (eds.) Regulated Rivers. New York: Columbia University Press.

Nilsson, C. 1987. Distribution of stream-edge vegetation along a gradient of current velocity. *Journal of Ecology* 75: 513-522.

Nilsson, C., and K. Bergeron. 2000. Alteration of riparian ecosystems caused by river regulation. *BioScience* 50: 783-792.

Nilsson, C., A. Ekblad, M. Gardfjell, and B. Carlberg. 1991. Long-term effects of river regulation on river margin vegetation. *Journal of Applied Ecology* 28: 963-987.

Nilsson, C., R. Jansson, and U. Zinko. 1997. Long-term responses of river-margin vegetation to water-level regulation. *Science* 276: 798-200.

Nilsson, C., and M. Svedmark. 2002. Basic principles and ecological consequences of changing water regimes: riparian plant communities. *Environmental Management* 30: 468-480.

Nislow, K.H., C.L. Folt, and D.L. Parrish. 1999. Favorable foraging locations for young Atlantic salmon: application to habitat and population restoration. *Ecological Applications* 9 (3): 1085-1099.

Nislow, K.H., C.L. Folt, and D.L. Parrish. 2000. Spatially explicit bioenergetic analysis of habitat quality for age-0 Atlantic salmon. *Transactions of the American Fisheries Society* 129: 1067-1081.

Nislow, K.H., C. Folt, and M. Seandel. 1998. Food and foraging behavior in relation to microhabitat use and survival of age-0 Atlantic salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (1): 116-127.

Nislow, K.H., A.J. Sepulveda, and L.C. Folt. 2004. Mechanistic linkage of hydrologic regime to summer growth of age-0 Atlantic salmon. *Transactions of the American Fisheries Society* 133 (1): 79-88.

Nordwall, F., I. Nasslund, and E. Degerman. 2001. Intercohort competition effects on survival, movement, and growth of brown trout (*Salmo trutta*) in Swedish streams. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (11): 2298-2308.

Northcote, T.G. 1984. Mechanisms of fish migration in rivers. Pp. 317-355 in: J.D. McCleave, G.P. Arnold, J.J. Dodson, and W.H. Neill, editors. *Mechanisms of migration in fishes*. Plenum Press, New York. 574 pp.

Northcote, T.G. 1992. Prediction and assessment of potential effects of global environmental change on freshwater fish habitat in British Columbia. *GeoJournal* 28: 38-49.

- Northcote, T.G., and G.L. Ennis. 1994. Mountain whitefish biology and habitat use in relation to compensation and improvement possibilities. *Rev. Fish. Sci.* 2 (4): 347-371.
- Novak, M.A., and R.G. White. 1990. Impact of fire and flood on the trout population of Beaver Creek, upper Missouri basin, Montana. Pp. 120-127 in: F. Richardson and R.H. Hamre (eds), *Wild trout IV: proceedings of the symposium*. Trout Unlimited, Arlington, Virginia.
- Novitzki, R.P. 1973. Improvement of trout streams in Wisconsin by augmenting low flows with ground waters. U.S. Geological Survey Water Supply Paper No. 2017. 52 pp.
- Nowel, A.R.M., and P.A. Jumars. 1984. Flow environments of aquatic benthos. *Annual Review of Ecology and Systematics* 15: 303-328.
- Nuhfer, A.J., R.D. Clark, Jr., and G.R. Alexander. 1994. Recruitment of brown trout in the South Branch of the Au Sable River, Michigan in relation to streamflow and winter severity. Michigan Department of Natural Resources Fisheries Division (Fisheries Research Report 2006), Lansing.
- Nykanen, M., and A. Huusko. 2003. Size-related changes in habitat selection by larval grayling (*Thymallus thymallus*). *Ecol. Freshwater Fish.* 12: 127-181.
- Nykanen, M., and A. Huusko. 2004. Transferability of habitat preference criteria for larval European grayling (*Thymallus thymallus*). *Canadian Journal of Fisheries and Aquatic Sciences* 61 (2): 185-192.
- O'Brien, J.S. 1987. A case study of minimum streamflow for fishery habitat in the Yampa River. Pp. 921-946 in: C.R. Thorne, J.C. Bathurst, and R.D. Hey (eds.), *Sediment Transport in Gravel-bed Rivers*. John Wiley and Sons, New York [1992-Chichester].
- O'Brien, W.J., M. Barfield, and K. Sigler. 2001. The functional response of drift-feeding Arctic grayling: the effects of prey density, water velocity, and location efficiency. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (10): 1957-1963.
- O'Brien, W.J., and J.J. Showalter. 1993. Effects of current velocity and suspended debris on the drift feeding of Arctic grayling. *Transactions of the American Fisheries Society* 122 (4): 609-615.
- O'Hop, J., and J.B. Wallace. 1983. Invertebrate drift, discharge, and sediment relations in a southern Appalachian headwater stream. *Hydrobiologia* 98: 71-98.
- O'Keeffe, J.H. 2000. Environmental flow assessments within the South African integrated planning process for water resources. Pp. 41-64 in: King, J.M., R.E. Tharme, and M.S. DeVilliers, eds. *Environmental flow assessments for rivers: Manual for the Building Block Methodology*. Water Research Commission, Pretoria, South Africa.
- O'Shea, D.T. 1995. Estimating minimum instream flow requirements for Minnesota streams

from hydrologic data and watershed characteristics. *North American Journal of Fisheries Management* 15: 569-578.

Oberdorff, T., J.-F. Guegan, and B. Hugueny. 1995. Global scale patterns of fish species richness in rivers. *Ecography* 18: 345-352.

Odum, W.E., E.P. Odum, and H.T. Odum. 1995. Nature's pulsing paradigm. *Estuaries* 18: 547-555.

Onodera, K., and T. Ueno. 1961. On the survival of trout fingerlings stocked in a mountain brook. II. Survival rate measured and scouring effect of flood as a cause of mortality. *Bulletin of the Japanese Society of Scientific Fisheries* 27: 530-557.

Opperman, J.J. 2002. Anadromous fish habitat in California's Mediterranean-climate watersheds: influences of riparian vegetation, instream large woody debris, and watershed-scale land use. Doctoral dissertation, University of California, Berkeley.

Opperman, J.J., and A.M. Merenlender. 2003. Passive restoration of degraded riparian corridors in the Russian River basin: consideration of hydrology, livestock, and deer herbivory. Pages 360-366 in: P.M. Faber, editor. *California riparia systems: processes and floodplain management, ecology, and restoration*. 2001 Riparian Habitat and Floodplains Conference Proceedings. Riparian Habitat Joint Venture, Sacramento, California.

Opperman, J.J., and A.M. Merenlender. 2004. The effectiveness of riparian restoration for improving instream fish habitat in four hardwood-dominated California streams. *North American Journal of Fisheries Management* 24 (3): 822-834.

Orsborn, J.F., and C.H. Allman (eds.). 1976. *Instream flow needs*. American Fisheries Society, Bethesda, Maryland.

Orsborne, L.L., M.J. Wiley, and R.W. Larimore. 1988. Assessment of the water surface profile model: accuracy of predicted instream habitat conditions in low-gradient, warmwater... *Regulated Rivers: Research and Management* 1: 171-181.

Orth, D.J. 1983. Aquatic habitat measurements. Pp. 61-84 in: L.A. Nielsen and D.A. Johnson, editors. *Fisheries Techniques*. American Fisheries Society, Bethesda.

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

Orth, D.J. 1995. Food web influences on fish population responses to instream flow. *Bulletin Francais de la Peche et de la Pisciculture* 337/338/339: 317-328.

Orth, D.J., R.N. Jones, and O.E. Maughan. 1981. Considerations in the development of curves for habitat suitability criteria. Pages 124-133 in N.B. Armantrout, editor. *Acquisition and utilization of aquatic habitat inventory information*. Proceedings of a symposium, Portland,

Oregon. American Fisheries Society, Western Division, Bethesda.

Orth, D.J., and P.M. Leonard. 1990. Comparison of discharge methods and habitat optimization for recommending instream flows to protect fish habitat. *Regulated Rivers: Research and Management* 5(2): 129-138.

Orth, D.J., and O.E. Maughan. 1982. Evaluation of the Incremental Methodology for recommending instream flows for fish. *Transactions of the American Fisheries Society* 111 (4): 413-445.

Orth, D.J., and O.E. Maughan. 1983. Microhabitat preferences of benthic fauna in a woodland stream. *Hydrobiologia* 106: 157-168.

Osborne, L.L., M.J. Wiley, and R.W. Larimore. 1988. Assessment of the water surface profile: accuracy of predicted instream fish habitat conditions in low-gradient, warmwater streams. *Regulated Rivers* 2: 269-631.

Ostrand, K.G., and G.R. Wilde. 2004. Changes in prairie stream fish assemblages restricted to isolated streambed pools. *Transactions of the American Fisheries Society* 133 (6): 1329-1338.

Ottaway, E.M., P.A. Carling, A. Clark, and N.A. Reader. 1981. Observations on the structure of brown trout, *Salmo trutta* Linnaeus redds. *Journal of Fish Biology* 19: 593-607.

Ottaway, E.M., and A. Clarke. 1981. A preliminary investigation into the vulnerability of young trout (*Salmo trutta* L.) and Atlantic salmon (*S. salar* L.) to downstream displacement by high water velocities. *Journal of Fish Biology* 19: 135-145.

Ottaway, E.M., and D.R. Forrest. 1983. The influence of water velocity on downstream movement of alevins and fry of brown trout, *Salmo trutta* L. *Journal of Fish Biology* 23: 221-227.

Owen, M. 1991. Groundwater abstraction and river flows. *J. Inst. Wat. Environ. Management* 5: 697-702.

Pajak, P., and R.J. Neves. 1987. Habitat suitability and fish production: A model evaluation for rock bass in two Virginia streams. *Transactions of the American Fisheries Society* 116 (6): 839-850.

Palik, B., S.W. Golladay, P.C. Goebel, and B.W. Taylor. 1998. Geomorphic variation in riparian tree mortality and stream coarse woody debris recruitment from record flooding in a coastal plain stream. *Ecoscience* 5: 551-560.

Paller, M.H., S.F. Modica, and E.G. Hofstetter. 1992. Short-term changes in a southeastern coastal plain fish assemblage following artificial increases in streamflow. *Rivers* 3: 243-259.

- Palmer, M.A., C.M. Swan, K. Nelson, et al. 2000. Streambed landscapes: evidence that stream invertebrates respond to the type and spatial arrangement of patches. *Landscape Ecology* 19: 99-111.
- Palmer, T., P. Montagna, and R. Kalke. 2002. Downstream effects of restored freshwater inflow to Rincon Bayou, Nueces Delta, Texas, USA. *Estuaries* 25 (6B): 1448-1456.
- Paloumpis, A.A. 1958. Responses of some minnows to flood and drought conditions in an intermittent stream. *Iowa State College Journal of Science* 32 (4): 547-561.
- Panja, K., T.B. Hardy, and C.M.U. Neale. 1993. Comparison of meso-scale hydraulic features at different discharges in a turbid river system using multispectral videography. *In: Proceedings of the 14<sup>th</sup> Workshop on Color Photography and Videography for Resource Monitoring*. Utah State University, Logan, Utah, May 25-29.
- Paragamian, V.L. 1989. Seasonal habitat use by walleye in a warmwater river system as determined by radiotelemetry. *North American Journal of Fisheries Management* 9: 392-401.
- Paragamian, V.L., and G. Kruse. 2001. Kootenai River white sturgeon spawning migration behavior and a predictive model. *North American Journal of Fisheries Management* 21 (1): 10-21.
- Paragamian, V.L., G. Kruse, and V. Wakkinen. 2001. Spawning habitat of Kootenai River white sturgeon, post-Libby Dam. *North American Journal of Fisheries Management* 21 (1): 22-33.
- Paragamian, V.L., and M.J. Wiley. 1987. Effects of variable streamflows on growth of smallmouth bass in the Maquoketa River, Iowa. *North American Journal of Fisheries Management* 7 (3): 357-362.
- Parasiewicz, P. 2001. MesoHABSIM: A concept for application of instream flow models in river restoration planning. *Fisheries* 26 (9): 6-13.
- Parasiewicz, P. 2003. Upscaling: integrating habitat model into river management. *Canadian Water Resources Journal* 28 (2):
- Parasiewicz, P., and M.J. Dunbar. 2001. Physical habitat modelling for fish - a developing approach. *Archiv fur Hydrobiologie Supplement*. 135/2-4: 239-268.
- Parasiewicz, P., M. Matzl, and K. Moder. 1999. A study of effectiveness of alternative physical habitat sampling strategies in streams. *In: T.B. Hardy, ed. Proceedings of 3<sup>rd</sup> international symposium on ecohydraulics*. Utah State University, Logan.
- Parasiewicz, P., S. Schmutz, and A. Melcher. 1999. A hybrid model - assessment of habitat conditions combining state of the art modeling tools. *In: T.B. Hardy, ed. Proceedings of 3<sup>rd</sup> international symposium on ecohydraulics*. Utah State University, Logan.

- Parkyn, S.M., and K.J. Collier. 2004. Interaction of press and pulse disturbance on crayfish populations: flood impacts in pasture and forest streams. *Hydrobiologia* 527: 113-124.
- Parrish, D.L., R.J. Behnke, S.R. Gephard, S.D. McCormick, and G.H. Reeves. 1998. Why aren't there more Atlantic salmon (*Salmo salar*)? *Canadian Journal of Fisheries and Aquatic Sciences* 55 (Suppl. 1): 281-287.
- Parrish, D.L., E.J. Hawes, and K.G. Whalen. 2004. Winter growth and survival of juvenile Atlantic salmon (*Salmo salar*) in experimental raceways. *Canadian Journal of Fisheries and Aquatic Sciences* 61 (12): 2350-2357.
- Parsley, M.J., and L.G. Beckman. 1994. White sturgeon spawning and rearing habitat in the lower Columbia River. *North American Journal of Fisheries Management* 14 (4): 812-827.
- Parsley, M.J., L.G. Beckman, and G. McCabe, Jr. 1993. White sturgeon spawning and rearing habitat in the Columbia River downstream of McNary Dam. *Transactions of the American Fisheries Society* 122: 217-228.
- Parsons, B.G.M., and W.A. Hubert. 1988. Influence of habitat availability on spawning site selection by kokanee in streams. *North American Journal of Fisheries Management* 8 (4): 426-431.
- Parsons, M., C.A. McLoughlin, K.A. Kotschy, K.H. Rogers, and M.W. Rountree. 2005. The effects of extreme floods on the biophysical heterogeneity of river landscapes. *Frontiers in Ecology and the Environment* 3 (9): 487-494.
- Parsons, M., C.A. McLoughlin, M.W. Rountree, and K.H. Rogers. In press (2005). The biotic and abiotic legacy of a large infrequent K.H. Rogers flood disturbance in the Sabie River, South Africa. *River Res. Appl.*
- Pasternack, G.B., C.L. Wang, and J.E. Merz. 2004. Application of a 2D hydrodynamic model to design of reach-scale spawning gravel replenishment on the Mokelumne River, California. *River Research and Application* 20: 205-225.
- Patten, D.T., D.A. Harpman, M.I. Voita, and T.J. Randle. 2001. A managed flood on the Colorado River: background, objectives, design, and implementation. *Ecological Applications* 11: 635-643.
- Patten, D.T., and L.E. Stevens. 2001. Restoration of the Colorado River ecosystem using planned flooding. *Ecological Applications* 11: 633-634.
- Patton, T.M., and W.A. Hubert. 1988. Reservoirs on a Great Plains stream affect downstream

habitat and fish assemblages. *Journal of Freshwater Ecology* 8: 279-285.

Paukert, C., and R.S. Rogers. 2004. Factors affecting condition of flannelmouth suckers in the Colorado River, Grand Canyon, Arizona. *North American Journal of Fisheries Management* 24 (2): 648-653.

Paulsen, C.M., and T.R. Fisher. 2005. Do habitat actions affect juvenile survival? An information theoretic approach applied to endangered Snake River Chinook salmon. *Transactions of the American Fisheries Society* 134 (1): 68-85.

Pautou, G., and H. Decamps. 1985. Ecological interactions between the alluvial forests and hydrology of the upper Rhone. *Archiv fur Hydrobiologie* 104: 13-37.

Pavlov, D.S., I.A. Lupandin, and N.G. Degtyareva. 1995. Role of turbulence in the distribution of downstream-migrating young fishes (early larval stages) in wide and narrow channels. *Doklady Biological Sciences* 341: 211-215.

Pavlov, D.S., I.A. Lupandin, and M.A. Skorobogatov. 2000. The effects of flow turbulence on the behavior and distribution on fish. *J. Ichthyol.* 40: S232-S261.

Pavlov, D.S., M.A. Skorobogatov, and L.G. Shtaf. 1982. [The critical current velocity of fish and the degree of flow turbulence.] *Reports of the USSR Academy of Sciences* 267: 1019-1021. (In Russian)

Pavlov, D.S., M.A. Skorobogatov, and L.G. Shtaf. 1983. [Threshold speeds for rheoreaction of roach in flows with different degrees of turbulence.] *Reports of the USSR Academy of Sciences* 268: 510-512. (In Russian)

Payne, B.A., and M.F. Lapointe. 1997. Channel morphology and lateral stability: effects on distribution of spawning and rearing habitat for Atlantic salmon in a wandering cobble-bed river. *Canadian Journal of Fisheries and Aquatic Sciences* 54: 2627-2636.

Payne, T.R., S.D. Eggers, and D.B. Parkinson. 2004. The number of transects required to compute a robust PHABSIM habitat index. *Hydroecologie Appliquee* 14 (1): 27-53.

Peake, S. 1999. Substrate preferences of juvenile hatchery-reared lake sturgeon, *Acipenser fulvescens*. *Environmental Biology of Fishes* 56: 367-374.

Peake, S., R.S. McKinley, and D.A. Scrutton. 1997. Swimming performance of various freshwater Newfoundland salmonids relative to habitat selection and fishway design. *J. Fish Biol.* 51: 710-723.

Pearson, L.S., K.R. Conover, and R.E. Sams. 1970. Factors affecting the natural rearing of juvenile coho salmon during the summer low-flow season. Oregon Fish Commission, Portland. 64 pp. Unpublished.

- Pearson, S.F., and D.A. Manuwal. 2001. Breeding bird response to riparian buffer width in managed Pacific Northwest Douglas-fir forests. *Ecological Applications* 11: 840-853.
- Pearson, W.D., and D.R. Franklin. 1968. Some factors affecting drift rates of *Baetis* and Simuliidae in a large river. *Ecology* 49: 75-81.
- Pearsons, T.N., H.W. Li, and G.A. Lamberti. 1992. Influence of habitat complexity on resistance to flooding and resilience of stream fish assemblages. *Transactions of the American Fisheries Society* 121 (4): 427-436.
- Peckarsky, B.L., S.C. Horn, and B. Statzner. 1990. Stonefly predation along a hydraulic gradient: a field test of the harsh-benign hypothesis. *Freshwater Biology* 24: 181-191.
- Perrin, C.J., L.L. Rempel, and M.L. Rosenau. 2003. White sturgeon spawning habitat in an unregulated river, Fraser River, Canada. *Transactions of the American Fisheries Society* 132 (1): 154-165.
- Perry, S.A., and W.B. Perry. 1986. Effects of experimental flow regulation on invertebrate drift and stranding in the Flathead and Kootenai Rivers, Montana, USA. *Hydrobiologia* 134: 171-182.
- Person, G.N. 1950. Cyclic variations in Columbia River flow studied. *Civil Engineering* 20 (4): 47-48.
- Pert, E.J., and D.C. Erman. 1994. Habitat use by adult rainbow trout under moderate artificial fluctuations in flow. *Transactions of the American Fisheries Society* 123 (6): 913-923.
- Peters, J.C. 1982. Effects of river and streamflow alteration on fishery resources. *Fisheries* 7 (2): 20-22.
- Peters, R.J. 1996. An evaluation of habitat enhancement and wild fry supplementation as a means of increasing coho salmon production of the Clearwater River, Washington. Ph.D. dissertation, University of Washington, Seattle. 206 pp.
- Peterson, C.G. 1986. Effects of discharge reduction on diatom colonization below a large hydroelectric dam. *Journal of the American Benthological Society* 5: 278-289.
- Peterson, C.G. 1987. Influences of flow regime on development and dessication response of lotic diatom communities. *Ecology* 68: 946-954.
- Peterson, J.T., and C.F. Rabeni. 2001. Evaluating the physical characteristics of channel units in an Ozark stream. *Transactions of the American Fisheries Society* 130 (5): 898-910.
- Peterson, J.T., and C.F. Rabeni. 2001. The relation of fish assemblages to channel units in an Ozark stream. *Transactions of the American Fisheries Society* 130 (5): 911-926.

- Peterson, N.P., and T.P. Quinn. 1996. Persistence of egg pocket architecture in redds of chum salmon, *Oncorhynchus keta*. *Environmental Biology of Fishes* 46: 243-253.
- Petry, A.C., A.A. Agostinho, and L.C. Gomes. 2003. Fish assemblages of tropical floodplain lagoons: exploring the role of connectivity in a dry year. *Neotropical Ichthyology* 76: 606-627.
- Pettit, N.E., R.J. Naiman, K.H. Rogers, and J.E. Little. 2005. Post-flooding distribution and characteristics of large woody debris piles along the semi-arid Sabie River, South Africa. *River Res. Appl.* 21: 27-38.
- Petts, G.E. 1996. Water allocation to protect river ecosystems. *Regulated Rivers* 12: 353-365.
- Petts, G., P. Armitage, and E. Castella. 1993. Physical habitat changes and macroinvertebrate response to river regulation: the River Rede, U.K. *Regulated Rivers: Research and Management* 8: 167-176.
- Petts, G.E., J.G. Imhof, B.A. Manny, J.F.B. Maher, and .... 1989. Management of fish populations in large rivers: a review of tools and approaches. Pp. 578-588 in: D.P. Dodge (ed.) *Proceedings of the International Large Rivers Symposium*. Can. Special Publ. Fish. Aquatic Sciences 106.
- Petts, G.E., and I. Maddock. 1996. Flow allocation for in-river needs. Pp. 60-79 in: G. Petts and P. Calow, eds. *River restoration*. Blackwell Science. London.
- Petty, J.T., and G.D. Grossman. 1996. Patch selection by mottled sculpin (Pisces: Cottidae) in a southern Appalachian stream. *Freshwater Biology* 35: 261-276.
- Phillips, R.W., R.L. Lantz, E.W. Claire, and J.R. Moring. 1975. Some effects of gravel mixtures on emergence off coho salmon and steelhead trout fry. *Transactions of the American Fisheries Society* 104: 461-466.
- Pitman, V.M., and O.J. Parks. 1994. Habitat use and movement of young paddlefish (*Polyodon spathula*). *Journal of Freshwater Ecology* 9: 181-189.
- Pezeshki, S.R., R.D. DeLaune, and W.H. Patrick, Jr. 1987. Response of baldcypress (*Taxodium distichum* L. var. *distichum*) to increases in flooding salinity in Louisiana's Mississippi River deltaic plain. *Wetlands* 7: 1-10.
- Platts, W.S., W.F. Megahan, and G.W. Minshall. 1983. Methods for evaluating stream, riparian, and biotic conditions. U.S. Forest Service Gen. Tech. Rep. INT-138. Intermountain Forest and Range Experiment Station, Ogden, Utah.
- Platts, W.S., and R.L. Nelson. 1985. Stream habitat and fisheries response to livestock grazing and instream improvement structures, Big Creek, Utah. *Journal of Soil and Water Conservation*

40 (July-August): 374-379.

Plumstead, E.E. 1990. Changes in ichthyofaunal diversity and abundance within the Mbashe estuary, Transkei, following construction of a river barrage. *South African Journal of Marine Science* 9: 399-407.

Poff, N.L. 1992. Why disturbance can be predictable: a perspective on the definition of disturbance in streams. *Journal of the North American Benthological Society* 11: 405-422.

Poff, N.L. 1996. A hydrogeography of unregulated streams in the United States and an examination of scale-dependence in some hydrological descriptors. *Freshwater Biology* 36: 71-91.

Poff, N.L. 2002. Ecological response to and management of increased flooding caused by climate change. *Phil. Trans. Royal Society London A* 360: 1497-1510.

Poff, N.L., and J.D. Allen. 1995. Functional organization of stream fish assemblages in relation to hydrological variability. *Ecology* 76: 606-627.

Poff, N.L., J.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestergaard, B. Richter, R. Sparks, and J. Stromberg. 1997. The natural flow regime: a paradigm for river conservation and restoration. *Bioscience* 47: 769-784.

Poff, N.L., J.D. Allan, M.A. Palmer, D.D. Hart, B.D. Richter, A.H. Arthington, K.H. Rogers, J.L. Meyer, and J.A. Stanford. 2003. River flows and water wars: emerging science for environmental decision making. *Frontiers in Ecology and the Environment* 1 (6): 298-306.

Poff, N.L., P.L. Angermeier, S.D. Cooper, P.S. Lake, K.D. Fausch, K.O. Winemiller, L.A.K. Mertes, M.W. Oswood, J.D. Reynolds, and F.J. Rahel. 2001. Fish diversity in streams and rivers. Pages 315-349 *in*: O.E.S. Chapin, III, and E. Huber-Sannwald, editors. *Global biodiversity in a changing environment: scenarios for the 21<sup>st</sup> century*. Springer, New York, New York, USA.

Poff, N.L., and A.D. Huryn. 1998. Multi-scale determinants of secondary production in Atlantic salmon (*Salmo salar*) streams. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (Suppl. 1): 201-217.

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 (10): 1805-1818.

Poff, N.L., and J.V. Ward. 1990. Physical habitat template of lotic systems: recovery in the context of historical pattern of spatiotemporal heterogeneity. *Environmental Management* 14: 629-645.

- Poff, N.L., and J.V. Ward. 1991. Drift responses of benthic invertebrates to experimental streamflow variation in a hydrologically stable stream. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 1926-1936.
- Poizat, G., and A.J. Crivelli. 1997. Use of seasonally flooded marshes by fish in a Mediterranean wetland: timing and demographic consequences. *Journal of Fish Biology* 51: 106-119.
- Pollock, M.M., M. Heim, and R.J. Naiman. 2003. Hydrologic and geomorphic effects of beaver dams and their influences on fishes. Pages 215-225 in: S.V. Gregory, K. Boyer, and A. Gurnell, editors. *The ecology and management of wood in world rivers*. American Fisheries Society, Bethesda, Maryland.
- Pollock, M.M., R.J. Naiman, H.E. Erickson, C.A. Johnston, J. Paster, and G. Pinay. 1994. Beaver as engineers: Influences on biotic and abiotic characteristics of drainage basins. Pages 117-126 in C.G. Jones, and J.H. Lawson, editors. *Linking species to ecosystems*. Chapman and Hall, New York.
- Pollock, M.M., G.R. Press, T.J. Beechie, and D.R. Montgomery. 2004. The importance of beaver ponds to coho salmon production in the Stillaguamish basin, Washington, USA. *North American Journal of Fisheries Management* 24 (3): 749-760.
- Polzin, M.L. 1998. River and riparian dynamics and black cottonwoods in the Kootenay River basin. Master's thesis, University of Lethbridge, Department of Biology, Alberta.
- Polzin, M.L., and S.B. Rood. 2000. Effects of damming and flow stabilization on riparian processes and black cottonwoods along the Kootenay River. *Rivers* 7 (3): 221-232.
- Poole, G.C., C.A. Frissell, and S.C. Ralph. 1997. Instream habitat unit classification: inadequacies for monitoring and some consequences for management. *Water Resources Bulletin* 33: 879-896.
- Poole, G.C., J.A. Stanford, S.W. Running, et al. 2004. A patch hierarchy approach to modelling surface and subsurface hydrology in complex flood-plain environments. *Earth Surf. Proc. Land* 29: 1259-1274.
- Pope, D.P. 1984. Methods of vegetative regeneration and moisture requirements of selected Southwest riparian species. Master's thesis. Arizona State University, Tempe.
- Postel, S.L., G.C. Daily, and P.R. Ehrlich. 1996. Human appropriation of renewable fresh water. *Science* 271: 785-788.

Postel, S., and B. Richter. 2003. *Rivers for Life: Managing Water for People and Nature*. Island Press, Washington, Covelo, London.

Pouilly, M., and Y. Souchon. 1994. Simulation de l'habitat physique du barbeau fluvial (*Barbus barbus*, L. 1758): choix des modeles biologiques et sensibilite de la reponse. *Bulletin Francaise de la Peche et de la Pisciculture* 334: 213-215.

Pouilly, M. and Y. Souchon. 1995. Methode des microhabitats: validation et perspectives. *Bulletin Francaise de la Peche et de la Pisciculture* 337/338/339: 329-336.

Powell, G.L. 1979. Estuarine fishery dynamics and freshwater inflow fluctuations in the San Antonio Bay System, Texas. *Proceedings of the 31<sup>st</sup> Southeastern Association of Fish and Wildlife Agencies* 31: 498-504.

Powell, G.L. and J. Matsumoto. 1994. Texas Estuarine Mathematical Programming Model: A tool for freshwater inflow management, pp. 401-406. In: K.R. Dyer and R.J. Orth (eds.). *Changes in fluxes in estuaries: Implications from science to management*. Olsen and Olsen, Fredensborg, Denmark.

Powell, G.L., J. Matsumoto, and D.A. Brock. 2002. Methods for determining minimum freshwater inflows needs of Texas bays and estuaries. *Estuaries* 25 (6B): 1262-1274.

Power, G. 1981. Stock characteristics and catches of Atlantic salmon (*Salmo salar*) in Quebec, and Newfoundland and Labrador in relation to environmental variables. *Canadian Journal of Fisheries and Aquatic Sciences* 38: 1601-1611.

Power, M.E. 1987. Predator avoidance by grazing fishes in temperate and tropical streams: importance of stream depth and prey size. Pages 333-351 in: W.C. Kerfoot and A. Sih, editors. *Predation: direct and indirect impacts in aquatic communities*. University Press of New England, Dartmouth, New Hampshire.

Power, M.E. 1995. Floods, food chains, and ecosystem processes in rivers. Pages 52-60 in: C.G. Jones and J.H. Lawton, editors. *Linking species and ecosystems*. Chapman and Hall, New York, New York, USA.

Power, M.E., N. Brozovic, C. Bode, et al. 2005. Spatially explicit tools for understanding and sustaining inland water ecosystems. *Frontiers of Ecology and the Environment* 3: 47-55.

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. *Environmental Management* 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.

- Power, M.E., A. Sun, G. Parker, et al. 1995. Hydraulic food-chain models: an approach to the study of food-web dynamics in large rivers. *BioScience* 45: 159-167.
- Powers, P.D., and J.F. Orsborn. 1985. Analysis of barriers to upstream fish migration: An investigation of the physical conditions affecting fish passage success at culverts and waterfalls. Final Report 1984 (Project No. 82-14). Portland, OR: U.S. Department of Energy, Bonneville Power Administration, Division of Fish and Wildlife. xiii+120 pp. ([Http://www.efw.bpa.gov/Publications/U36523-1.pdf](http://www.efw.bpa.gov/Publications/U36523-1.pdf))
- Pratt, K.L. 1984. Habitat selection and species interactions of juvenile westslope cutthroat trout (*Salmo clarki lewisi*) and bull trout (*Salvelinus confluentus*) in the upper Flathead River basin. Master's thesis, University of Idaho, Moscow.
- Prenda, J. 1993. Uso del habitat en algunas poblaciones de animales acuaticos de un rio del sur de Espana. Influencia de las interacciones bioticas. Doctoral thesis, University of Seville.
- Press, G.R., D.R. Montgomery, E.A. Steel, R.E. Bilby, B.E. Feist, and H.M. Greenberg. 2002. Landscape characteristics, land use, and coho salmon (*Oncorhynchus kisutch*) abundance, Snohomish River, Wash., U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (4): 613-623.
- Prevost, M., A.P. Plamondon, and P. Belleau. 1999. Effects of drainage of a forested peatland on water quality and quantity. *J. Hydrol.* 214: 130-143.
- Prewitt, C.G. 1982. The effects of depth-velocity correlations on aquatic physical habitat usability estimates. Doctoral dissertation. Fort Collins: Colorado State University.
- Pringle, C.M. 1997. Exploring how disturbance is transmitted upstream: going against the flow. *Journal of the North American Benthological Society* 16: 425-438.
- Pringle, C.M. 2000. River conservation in tropical versus temperate latitudes. Pp. 371-381 in: P.J. Boon, B.R. Davies, and G.E. Petts, eds. *Global Perspectives on River Conservation: Science, Policy and Practice*. John Wiley & Sons, New York.
- Pringle, C.M. 2001. Hydrological connectivity and the management of biological reserves: a global perspective. *Ecological Applications* 11: 981-988.
- Pringle, C.M., M.C. Freeman, and B.J. Freeman. 2000. Regional effects of hydrological alterations on riverine macrobiota in the New World: Tropical-temperate comparisons. *BioScience* 50: 807-823.
- Pringle, C.M., R.J. Naiman, G. Bretschko, J.R. Karr, M.W. Oswood, J.R. Webster, R.L.

- Welcomme, and M.J. Winterbourn. 1988. Patch dynamics in lotic systems: the stream as a mosaic. *Journal of the North American Benthological Society* 7: 503-524.
- Propst, D.L., and K.B. Gido. 2004. Responses of native and nonnative fishes to natural flow regime mimicry in the San Juan River. *Transactions of the American Fisheries Society* 133 (4): 922-931.
- Prowse, T.D. 1994. Environmental significance of ice to streamflow in cold regions. *Freshwater Biology* 32: 241-259.
- Puckett, K.J., and L.M. Dill. 1985. The energetics of feeding territoriality in juvenile coho salmon (*Oncorhynchus kisutch*). *Behaviour* 92: 97-111.
- Puckridge, J.T., F. Sheldon, K.F. Walker, and A.J. Boulton. 1998. Flow variability and the ecology of arid zone rivers. *Australian Journal of Marine and Freshwater Research* 49: 55-72.
- Pulwarty, R.S., and K.T. Redmond. 1997. Climate and salmon restoration in the Columbia River basin: the role and usability of seasonal forecasts. *Bulletin of the American Meteorological Society* 78: 381-397.
- Pusey, B.J., M.J. Kennard, and A.H. Arthington. 2000. Discharge variability and the development of predictive models relating stream fish assemblage structure to habitat in northeastern Australia. *Ecology of Freshwater Fish* 9: 30-50.
- Quammen, M.L., and C.P. Onuf. 1993. Laguna Madre: Seagrass changes continue decades after salinity reduction. *Estuaries* 16: 1163-1174.
- Quinn, G.P., T.J. Hillman, and R. Cook. 2000. The response of macroinvertebrates to inundation in floodplain wetlands: a possible effect of river regulation. *Regulated Rivers: Research and Management* 16: 4469-477.
- Quinn, J.W. and T.J. Kwak. 2003. Fish assemblage changes in an Ozark river after impoundment: a long-term perspective. *Transactions of the American Fisheries Society* 132 (1): 110-119.
- Quinn, T.P., and D.J. Adams. 1996. Environmental changes affecting migratory timing of American shad and sockeye salmon. *Ecology* 77 (4): 1151-1162.
- Quinn, T.P., and G.B. Buck. 2001. Size- and sex-selective mortality of adult sockeye salmon: bears, gulls, and fish out of water. *Transactions of the American Fisheries Society* 130: 995-1005.
- Quinn, T.P., A.P. Hendry, and L.A. Wetzel. 1995. The influence of life history trade-offs and the size of incubation gravels on egg size variation in sockeye salmon (*Oncorhynchus nerka*). *Oikos* 74: 425-438.

- Quinn, T.P., S. Hodgson, and C. Peven. 1997. Temperature, flow, and the migration of adult sockeye salmon (*Oncorhynchus nerka*) in the Columbia River. *Canadian Journal of Fisheries and Aquatic Sciences* 54 (6): 1349-1360.
- Quinn, T.P., and N.P. Peterson. 1996. The influence of habitat complexity and fish size on over-winter survival and growth of individually marked juvenile coho salmon (*Oncorhynchus kisutch*) in Big Beef Creek, Washington. *Canadian Journal of Fisheries and Aquatic Sciences* 53 (7): 1555-1564.
- Quiros, R., and S. Cuch. 1989. The fisheries and limnology of the lower Plata Basin. Pp. 429-443 in: D.P. Dodge (ed.) *Proceedings of the International Large Rivers Symposium*. Can. Special Publ. Fish. Aquatic Sciences 106.
- Quist, M.C., W.A. Hubert, and F.J. Rahel. 2004. Relations among habitat characteristics, exotic species, and turbid-river cyprinids in the Missouri River drainage of Wyoming. *Transactions of the American Fisheries Society* 133 (3): 727-742.
- Quist, M.C., J.S. Tillma, M.N. Burlingame, and C.S. Guy. 1999. Overwinter habitat use of shovelnose sturgeon in the Kansas River. *Transactions of the American Fisheries Society* 128 (3): 522-527.
- Rabeni, C.F., and R.B. Jacobson. 1993. The importance of fluvial hydraulics to fish-habitat restoration in low-gradient alluvial streams. *Freshwater Biology* 29: 211-220.
- Rabeni, C.F., and R.B. Jacobson. 1993. Geomorphic and hydraulic influences on the abundances and distribution of stream centrarchids in Ozark, USA strams. *Polskie Archiwum Hydrobiologii* 40: 87-99.
- Raibley, P.T., T.M. O'Hara, K.S. Irons, K.D. Blodgett, and R.E. Sparks. 1997. Largemouth bass size distributions under varying annual hydrological regimes in the Illinois River. *Transactions of the American Fisheries Society* 126: 850-856.
- Railsback, S. 1999. Reducing uncertainties in instream flow studies. *Fisheries* 24 (4): 24-26.
- Railsback, S.F., R.F. Blackett, and N.D. Pottinger. 1993. Evaluation of the fisheries impact assessment and monitoring program for the Terror Lake hydroelectric project. *Rivers* 4 (4): 312-327.
- Railsback, S.F., and B.C. Harvey. 2002. Analysis of habitat-selection rules using an individual-based model. *Ecology* 83(7): 1817-1830.
- Railsback, S.F., B.C. Harvey, J.W. Hayse, and K.E. LaGory. 2005. Tests of theory for diel

variation in salmonid feeding activity and use. *Ecology* 86 (4): 947-959.

Railsback, S.F., R.H. Lamberson, B.C. Harvey, and W.E. Duffy. 1999. Movement rules for spatially-explicit individual-based models of stream fish. *Ecological Modelling* 123: 73-89.

Railsback, S.F., H.B. Stauffer, and B.C. Harvey. 2003. What can habitat preference models tell us?: tests using a virtual trout population. *Ecological Applications* 13: 1580-1594.

Raleigh, R.F. 1982. Habitat suitability index models: brook trout. U.S. Fish and Wildlife Service FWS/OBS-82/10.24.

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

Raleigh, R.F., W.J. Miller, and P.C. Nelson. 1986. Habitat suitability index models and instream flow suitability curves: Chinook salmon. U.S. Fish and Wildlife Service, Washington, D.C.

Raleigh, R.F., L.D. Zuckerman, and P.C. Nelson. 1986. Habitat suitability index models and instream flow suitability curves: brown trout, revised U.S. Fish and Wildlife Service, Biological Report 82 (10: 124)

Rand, P.S., and S.G. Hinch. 1998. Swim speeds and energy use of upriver-migrating sockeye salmon (*Oncorhynchus nerka*): simulating metabolic power and assessing risk of energy depletion. *Canadian Journal of Fisheries and Aquatic Sciences* 55: 1832-1841.

Rand, P.S., S.G. Hinch, J. Morrison, M.G.G. Foreman, M.J. MacNutt, J.S. MacDonald, M.C. Healey, A.P. Farrell, and D.A. Higgs. 2006. Effects of river discharge, temperature, and future climates on energetics and mortality of adult migrating Fraser River sockeye salmon. *Transactions of the American Fisheries Society* 135 (3): 655-667.

Randall, R.G., and C.K. Minns. 2000. Use of fish production per unit biomass ratios for measuring the productive capacity of fish habitats. *Canadian Journal of Fisheries and Aquatic Sciences* 57: 1657-1667.

Rankin, E.T. 1986. Habitat selection by smallmouth bass in response to physical characteristics in a natural stream. *Transactions of the American Fisheries Society* 115 (2): 322-334.

Rao, A.R., T. Voeller, J.W. Delleur, and A. Spacie. 1993. Estimation of instream flow requirements for fish. *J. Environ. Syst.* 22: 381-396.

Rashleigh, B., R. Parmar, J.M. Johnston, and M.C. Barber. 2005. Predictive habitat models for the occurrence of stream fishes in the Mid-Atlantic Highlands. *North American Journal of*

Fisheries Management 25 (4): 1353-1366.

Raymond, H.L. 1968. Migration rates of yearling chinook salmon in relation to flow and impoundments in the Columbia and Snake River. Transactions of the American Fisheries Society 97 (4): 356-359.

Raymond, H.L. 1979. Effects of dams and impoundments on migrations of juvenile chinook salmon and steelhead from the Snake River, 1966 to 1975. Transactions of the American Fisheries Society 108: 505-529.

Raymond, H.L. 1988. Effects of hydroelectric development and fisheries enhancement on spring and summer chinook salmon and steelhead in the .... North American Journal of Fisheries Management 8 (1): 1-24.

Rea, A.M. 1977. Historic changes in avifauna of the Gila River Indian Reservation, central Arizona. Ph.D. dissertation, University of Arizona.

Reddering, J.S.V. 1988. Prediction of the effects of reduced river discharge on the estuaries of the south-eastern Cape Province. South African Journal of Science 84: 726-730.

Redmond, K.T., and R.W. Koch. 1991. Surface climate and streamflow variability in the western United States and their relationship to large-scale circulation indices. Water Resources Research 27: 2381-2399.

Reeves, G.H., F.H. Everest, J.R. Sedell, and Hohler. 1990. Influence of habitat modifications on habitat composition and anadromous fish populations in Fish Creek, Oregon 1983-88. U.S. Department of Energy, Bonneville Power Administration, Division of Fish and Wildlife, Portland, OR. 44 pp.

Reeves, G.H., F.H. Everest, and T.E. Nickelson. 1989. Identification of physical habitats limiting the production of coho salmon in western Oregon and Washington. USDA Gen. Tech. Rep. PNW-GTR-245.

Reid, K.A. 1952. The effect of beaver on trout waters. Maryland Conservationist 29 (4): 21-23.

Reid, K.A. 1955. Increasing summer stream flows. Trans. 20<sup>th</sup> North American Wildlife Conference 229-241.

Reily, P.W., and W.C. Johnson. 1982. The effects of altered hydrological regime on tree growth along the Missouri River in North Dakota. Canadian Journal of Botany 60 (11): 2410-2423.

Reinhardt, U.G., and M.C. Healey. 1997. Size-dependent foraging behaviour and use of cover in juvenile coho salmon under predation risk. Can. J. Zool. 75: 1642-1651.

Reiser, D.W. 1981. In situ dewatering of salmonid eggs: effects on hatching success and fry quality. Proceedings of the 60<sup>th</sup> Annual Conference of the Western Association of Fish and Wildlife Agencies: 443-465.

Reiser, D.W., D. Chapin, P. DeVries, and M.P. Ramey. 2004. Flow regime and ecosystem interactions in spring-dominated streams: implications for selecting instream flow methods. *Hydroecologie Appliquee* 14 (1): 93-104.

Reiser, D.W., C.-M. Huang, S. Beck, M. Gagner, and E. Jeanes. 2006. Defining flow windows for upstream passage of adult anadromous salmonids at cascades and falls. *Transactions of the American Fisheries Society* 135 (3): 668-679.

Reiser, D.W., M.P. Ramey, and T.R. Lambert. 1985. Reviewing of flushing flow requirements in regulated streams. Dep. Eng. Res. Pacific Gas and Electric Co., San Ramon, CA. 97 pp.

Reiser, D.W., M.P. Ramey, and T.R. Lambert. 1987. Considerations in assessing flushing flow needs in regulated stream systems. Pp. 45-58 in: J.F. Craig and J.B. Kemper, editors. *Regulated Streams: Advances in Ecology*. Plenum Press, New York and London.

Reiser, D.W., M.P. Ramey, and T.A. Wesche. 1989. Flushing flows. Pp. 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 T.A. Wesche. 1977. Determination of physical and hydraulic preferences of brown and brook trout in the selection of spawning locations. Laramie: University of Wyoming, Water Resources Research Institute (Publication 64).

Reiser, D.W., T.A. Wesche, and C. Estes. 1989. Status of instream flow legislation and practices in North America. *Fisheries* 14 (2): 22-29.

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 (4): 532-540.

Reiser, D.W., and R.G. White. 1988. Effects of two sediment size-classes on survival of steelhead and chinook salmon eggs. *North American Journal of Fisheries Management* 8 (4): 432-437.

Reiser, D.W., and R.G. White. 1990. Effects of streamflow reductions on chinook salmon egg incubation and fry quality. *Rivers* 1 (2): 110-118.

Rempel, L.L., J.S. Richardson, and M.C. Healey. 1999. Flow refugia for benthic macroinvertebrates during flooding of a large river. *J. North Am. Benthol. Soc.* 18: 34-48.

Rempel, L.L., J.S. Richardson, and M.C. Healey. 2000. Macroinvertebrate community structure along gradients of hydraulic and sedimentary conditions in a large gravel-bed river. *Freshwater*

Biology 45: 57-73.

Rennie, C.D., and R.G. Millar. 2000. Spatial variability of stream bed scour and fill: a comparison of scour depth in chum salmon (*Oncorhynchus keta*) redds and adjacent bed. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (5): 928-938.

Reyes-Gavilan, F.G., R. Garrido, A.G. Nicieza, M.M. Toledo, and F. Brana. 1996. Fish community variation along physical gradients in short streams of northern Spain and the disruptive effects of dams. *Hydrobiologia* 321: 155-163.

Rich, C.F., T.E. McMahon, B.E. Reiman, and W.L. Thompson. 2003. Local-habitat, watershed, and biotic features associated with bull trout occurrence in Montana streams. *Transactions of the American Fisheries Society* 132: 1053-1064.

Richards, K. 1982. *Rivers: form and process in alluvial channels*. Methuen, London.

Richardson, B.A. 1986. Evaluation of in-stream flow methodologies for freshwater fish in New South Wales. Pp. 143-167 *in*: I.C. Campbell, ed., *Stream Protection: The Management of Rivers for Instream Uses*. Water Studies Centre, Chisholm Institute of Technology, Victoria, Australia.

Richter, B.D., J.V. Baumgartner, D.P. Braun, and J. Powell. 1998. A spatial assessment of hydrologic alteration within a river network. *Regulated Rivers* 14: 329-340.

Richter, B.D., J.V. Baumgartner, J. Powell, and D.P. Braun. 1996. A method for assessing hydrologic alteration within a river network. *Conservation Biology* 10: 1163-1174.

Richter, B.D., J.V. Baumgartner, R. Wigington, and D.P. Braun. 1997. How much water does a river need? *Freshwater Biology* 37 (1): 231-249.

Richter, B.D., R. Matthews, D.L. Harrison, and R. Wigington. 2003. Ecologically sustainable water management: managing river flows for ecological integrity. *Ecological Applications* 13: 206-224.

Richter, B.D., D.T. Patten, and J.C. Stromberg. 1990. Evaluating the role of flooding in a Southwestern riparian system. *Journal of the Arizona-Nevada Academy of Science* 25 (1): 35.

Richter, B.D., and J. Powell. 1996. Simple hydrologic models for use in floodplain research. *Natural Areas Journal* 16: 362-366.

Richter, B.D., and H.E. Richter. 1992. Development of groundwater and ecological models for protecting a southwestern riparian ecosystem. Pp. 231-245 *in*: J.A. Stanford and J.J. Simons, eds. *Proceedings of the First International Conference on Ground Water Ecology*. American Water Resources Association, Bethesda, Md.

- Richter, B.D., and H.E. Richter. 2000. Prescribing flood regimes to sustain riparian ecosystems along meandering rivers. *Conservation Biology* 14 (5): 1467-1478.
- Richter, H.E. 1992. Development of a conceptual model for floodplain restoration in a desert riparian system. *Arid Lands Newsletter* 32: 13-17.
- Richter, H.E. 1999. Alteration of forest structure and ecosystem function along the Yampa River, Colorado. Ph.D. dissertation, Colorado State University, Fort Collins.
- Ricker, W.E., H.T. Bilton, and K.V. Iro. 1978. Causes of decrease in size of pink salmon (*Oncorhynchus gorbuscha*). Tech. Rep. Fish. Mar. Serv. Can. No. 820.
- Riehle, M.D., and J.S. Griffith. 1993. Changes in habitat use and feeding chronology of juvenile rainbow trout (*Oncorhynchus mykiss*) in fall and the onset of winter in Silver Creek, Idaho. *Canadian Journal of Fisheries and Aquatic Sciences* 50 (10): 2119-2128
- Rieman, B.E., and J.D. McIntyre. 1995. Occurrence of bull trout in naturally fragmented habitat patches of varied sizes. *Transactions of the American Fisheries Society* 124: 285-296.
- Riley, G.A. 1937. The significance of the Mississippi River drainage for biological conditions in the northern Gulf of Mexico. *Journal of Marine Research* 1: 60-74.
- Riley, S.C., and K.D. Fausch. 1995. Trout population response to habitat enhancement in six northern Colorado streams. *Canadian Journal of Fisheries and Aquatic Sciences* 52 (1): 34-53.
- Rimmer, D.M. 1985. Effects of reduced discharge on production and distribution of age-0 rainbow trout in seminatural channels. *Transactions of the American Fisheries Society* 114: 388-396.
- Rimmer, D.M., U. Paim, and R.L. Saunders. 1983. Autumnal habitat shift in juvenile Atlantic salmon (*Salmo salar*) in a small river. *Canadian Journal of Fisheries and Aquatic Sciences* 40: 671-680.
- Rimmer, D.M., U. Paim, and R.L. Saunders. 1984. Changes in the selection of microhabitat by juvenile Atlantic salmon (*Salmo salar*) at the summer-autumn transition in a small river. *Canadian Journal of Fisheries and Aquatic Sciences* 41: 469-475.
- Rimmer, D.M., R.L. Saunders, and U. Paim. 1985. Effects of temperature and season on the position holding performance of juvenile Atlantic salmon (*Salmo salar*). *Canadian Journal of Zoology* 63: 92-96.
- Rincon, P.A., and J. Lobon-Cervia. 1993. Microhabitat use by stream-resident brown trout: bioenergetic consequences. *Transactions of the American Fisheries Society* 122 (4): 575-587.

- Rincon, P.A., and J. Lobon-Cervia. 2002. Nonlinear self-thinning in a stream-resident population of brown trout (*Salmo trutta*). *Ecology* 83(7): 1808-1816.
- Ringler, N.H., and D.F. Brodowski. 1983. Functional response of brown trout (*Salmo trutta* L.) to invertebrate drift. *J. Freshwater Ecology* 2: 45-57.
- Rinne, J.N. 1980. Spawning habitat and behavior of Gila trout, a rare salmonid of the southwestern United States. *Transactions of the American Fisheries Society* 109: 83-91.
- Rinne, J.N. 1982. Movement, home range, and growth of a rare southwestern trout in improved and unimproved habitats. *North American Journal of Fisheries Management* 2: 150-157.
- Rinne, J.N. 1992. Physical habitat utilization of fish in a Sonoran Desert stream, Arizona, southwestern United States. *Ecology of Freshwater Fishes* 1: 35-41.
- Risser, R.J., and R.R. Harris. 1989. Mitigation for impacts to riparian vegetation of western montane streams. Pp. 235-252 in: J.A. Gore and G.E. Petts (eds.) *Alternatives in Regulated River Management*. Boca Raton: CRC Press.
- Robertson, A.I., P. Bacon, and G. Heagney. 2001. The responses of floodplain primary production to flood frequency and timing. *Journal of Applied Ecology* 38: 126-136.
- Rodriguez, C.A., K.W. Flessa, and D.L. Dettman. 2001. Effects of upstream diversion of Colorado River water on the estuarine bivalve mollusc *Mulinaria coloradoensis*. *Conservation Biology* 15 (1): 249-258.
- Rodriguez, M.A. 2002. Restricted movement in stream fish: The paradigm is incomplete, not lost. *Ecology* 83 (1): 1-13.
- Rodriguez, M.A., and W.M. Lewis. 1997. Structure of fish assemblages along environmental gradients in floodplain lakes of the Orinoco River. *Ecological Monographs* 67: 109-128.
- Rogers, K.H., and J. O'Keefe. 2003. River heterogeneity : ecosystem structure, function, and management. In: J.T. du Toit, K.H. Rogers, and H.C. Biggs (Eds.). *The Kruger experience: ecology and management of savannah heterogeneity*. Island Press: Washington, D.C.
- Rogers, K.H., D. Roux, and H. Biggs. 2000. Challenges for catchment management agencies: lessons from bureaucracies, business and resource management. *Water SA* 26: 505-511.
- Rogers, S.G., T.E. Targett, and S.B. Van Sant. 1984. Fish nursery use in Georgia salt-marsh estuaries: the influence of springtime freshwater conditions. *Transactions of the American Fisheries Society* 113: 595-606.
- Roghair, C.N., C.A. Dolloff, and M.K. Underwood. 2002. Response of a brook trout population

and instream habitat to a catastrophic flood and debris flow. *Transactions of the American Fisheries Society* 131 (4): 718-730.

Roni, P. 2002. Habitat use by fishes and Pacific giant salamanders in small western Oregon and Washington streams. *Transactions of the American Fisheries Society* 131 (4): 743-761.

Roni, P., and T.P. Quinn. 2001. Density and size of juvenile salmonids in response to placement of large woody debris in western Oregon and Washington streams. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (2): 282-292.

Rood, S.B., J.H. Braatne, and F.M.R. Hughes. 2003. Ecophysiology of riparian cottonwoods: stream flow dependency, water relations and restoration. *Tree Physiol.* 23: 1113-1124.

Rood, S.B., C. Gourley, E.M. Ammon, et al. 2003. Flows for floodplain forests: successful riparian restoration. *BioScience* 53: 647-656.

Rood, S.B., and S. Heinze-Milne. 1989. Abrupt downstream forest decline following river damming in southern Alberta. *Canadian Journal of Botany* 67: 1744-1749.

Rood, S.B., A.R. Kalischuk, and J.M. Mahoney. 1998. Initial cottonwood seedling recruitment following the flood of the century of the Oldman River, Alberta, Canada. *Wetlands* 8: 557-570.

Rood, S.B., and J.M. Mahoney. 1990. Collapse of riparian poplar forests downstream from dams in western Canada in western prairies: Probable causes and prospects for mitigation. *Environmental Management* 14 (4): 451-464.

Rood, S.B., and J.M. Mahoney. 1995. River damming and riparian cottonwoods along the Marias River, Montana. *Rivers* 5 (3): 195-207.

Rood, S.B., and J.M. Mahoney. 2000. Revised instream flow regulation enables cottonwood recruitment along the St. Mary River, Alberta, Canada. *Rivers* 7 (2): 109-125.

Rood, S.B., J.M. Mahoney, D.E. Reid, and L. Zilm. 1995. Instream flows and the decline of riparian cottonwoods along the St. Mary River, Alberta. *Canadian Journal of Botany* 73: 1250-1260.

Rood, S.B., G.M. Samuelson, J.H. Braatne, C.R. Gourley, F.M.R. Hughes, and J.M. Mahoney. 2005. Managing river flows to restore floodplain forests. *Frontiers in Ecology and the Environment* 1 (4): 193-201.

Rood, S.B., K. Taboulchanas, C.E. Bradley, and A.R. Kalischuk. 1999. Influence of flow regulation on channel dynamics and riparian cottonwoods along the Bow River, Alberta. *Rivers* 7 (1): 33-48.

- Ropella, G.E.P., S.F. Railsback, and S.K. Jackson. 2002. Software engineering considerations for individual-based models. *Natural Resource Modeling* 15: 5-22.
- Roper, B.R., and D.L. Scarnecchia. 1999. Emigration of age-0 chinook salmon (*Oncorhynchus tshawytscha*) smolts from the upper South Umpqua River basin, Oregon, U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences* 56 (6): 939-946.
- Roper, B.B., D.L. Scarnecchia, and T.J. 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.
- Rosenberg, D.M., P. McCully, and C.M. Pringle. 2000. Global-scale environmental effects of hydrological alterations: Introduction. *BioScience* 50: 746-751.
- Rosenfeld, J.S. 2003. Assessing the habitat requirements of stream fishes: An overview and evaluation of different approaches. *Transactions of the American Fisheries Society* 132 (5): 953-968.
- Rosenfeld, J.S., and S. Boss. 2001. Fitness consequences of habitat use for juvenile cutthroat trout: energetic costs and benefits in pools and riffles. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (3): 585-593.
- Rosenfeld, J.S., and T. Hatfield. 2006. Information needs for assessing critical habitat of freshwater fish. *Canadian Journal of Fisheries and Aquatic Sciences* 63 (3): 683-698.
- Rosenfeld, J.S., T. Leiter, G. Lindner, and L. Rothman. 2005. Food abundance and fish density alters habitat selection, growth, and habitat suitability curves for juvenile coho salmon (*Oncorhynchus kisutch*). *Canadian Journal of Fisheries and Aquatic Sciences* 62 (8): 1691-1701.
- Rosenfeld, J.S., M. Porter, and E. Parkinson. 2000. Habitat factors affecting the abundance and distribution of juvenile cutthroat trout (*Oncorhynchus clarki*) and coho salmon (*Oncorhynchus kisutch*). *Canadian Journal of Fisheries and Aquatic Sciences* 57: 766-774.
- Rosgen, D.L. 1994. A classification of natural rivers. *Catena* 22: 169-199.
- Rosgen, D. 1996. Applied river morphology. *Wildland Hydrology*. Pagosa Springs, Colorado.
- Rosgen, D.L., H.S. Silvey, and J.P. Potyondy. 1986. The use of channel maintenance flow concepts in the Forest Service. *Hydrological Science and Technology* 2(1): 19-26.
- Ross, S.T. 1986. Resource partitioning in fish assemblages: a review of field studies. *Copeia* 1986: 352-388.
- Ross, S.T., and J.A. Baker. 1983. The response of fishes to periodic spring floods in a southeastern stream. *American Midland Naturalist* 109: 1-14.

- Ross, Stephen T., J.G. Knight, and S.D. Wilkins. 1990. Longitudinal occurrence of the bayou darter (Percidae: *Etheostoma rubrum*) in Bayou Pierre - a response to stream order... *Polskie Archiwum Hydrobiologii* 37 (1-2): 221-233.
- Ross, Stephen T., J.G. Knight, and S.D. Wilkins. 1992. Distribution and microhabitat dynamics of the threatened Bayou Darter, *Etheostoma rubrum*. *Copeia* 1992 (3): 658-671.
- Ross, S.T., W.J. Matthews, and A.J. Echelle. 1985. Persistence of stream fish assemblages: effects of environmental change. *American Naturalist* 126: 24-40.
- Rountree, M.W., K.H. Rogers, and G.L. Heritage. 2000. Landscape state change in the semi-arid Sabie River, Kruger National Park, in response to flood and drought. *S. Afr. Geogr. J.* 82: 173-181.
- Roussel, J.M., and A. Bardonnet. 1997. Diel and seasonal patterns of habitat use by fish in a natural salmonid brook: an approach to the functional role of the riffle-pool sequence. *Bulletin Francais Peche Pisciculture* 346:573-588.
- Roussel, J.M., and A. Bardonnet. 1999. Ontogeny of diel pattern of stream-margin habitat use by emerging brown trout, *Salmo trutta*, in experimental channels: influence of food and predator presence. *Environmental biology of Fishes* 56: 253-262.
- Roussel, J.M., A. Bardonnet, and A. Claude. 1999. Microhabitats of brown trout when feeding on drift and when resting in a lowland salmonid brook: effects on weighted usable area. *Arch. Hydrobiol.* 146: 413-429.
- Roy, A.G., R. Roy, and N. Bergeron. 1988. Hydraulic geometry and changes in flow velocity at a river confluence with coarse bed material. *Earth Surface Processes and Landforms* 13: 583-598.
- Roy, A.H., C.L. Faust, M.C. Freeman, and J.L. Meyer. 2005. Reach-scale effects of riparian forest cover on urban stream ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* 62 (10): 2312-2329.
- Rozengurt, M.A., and J.W. Hedgpeth. 1989. The impact of altered river flow on the ecosystem of the Caspian Sea. *CRC Critical Reviews in Aquatic Science* 1: 337-362.
- Rubec, P.J., J.C.W. Bexley, H. Norris, M.S. Coyne, M.E. Monaco, S.G. Smith, and J.S. Ault. 1999. Suitability modeling to delineate habitat essential to sustainable fisheries. *American Fisheries Society Symposium* 22: 108-133.
- Rubin, D.M. D.J. Topping, J.C. Schmidt et al. 2002. Recent sediment studies refute Glen Canyon Dam hypothesis. *Eos* 83: 273-278.
- Rubin, J.F. 1998. Survival and emergence pattern of the sea trout fry in substrata of different compositions. *J. Fish Biol.* 53: 84-92.

- Rubin, S.P., T.C. Bjornn, and B. Dennis. 1991. Habitat suitability curves for juvenile chinook salmon and steelhead development using a habitat-oriented sampling approach. *Rivers* 2 (1): 12-29.
- Rudek, J., H.W. Paerl, M.A. Mallin, and P.W. Bates. 1991. Seasonal and hydrological control of phytoplankton nutrient limitation in the lower Neuse River estuary, North Carolina. *Marine Ecology Progress Series* 75: 133-142.
- Ruggles, C.P. 1966. Depth and velocity as a factor in stream rearing and production of juvenile coho salmon. *Canadian Fish Culturist* 38: 215-228.
- Rulifson, R.A., and C.S. Manooch, III. 1990. Recruitment of juvenile striped bass in the Roanoke River, North Carolina, as related to reservoir discharge. *North American Journal of Fisheries Management* 10: 397-407.
- Rutherford, D.A., K.R. Gelwicks, and W.E. Kelso. 2001. Physicochemical effects of the flood pulse on fishes in the Atchafalaya River basin, Louisiana. *Transactions of the American Fisheries Society* 130 (2): 276-288.
- Sabaton, C., Y. Souchon, J.M. Lascaux, F. Vandewalle, P. Baran, D. Baril, H. Capra, V. Gouaud, F. Lauters, P. Lim, G. Merle, and G. Paty. 2004. The "Guaranteed Flow Working Group": A French evaluation of microhabitat component of IFIM based on habitat and brown trout population monitoring. *Hydroecologie Appliquee* 14 (1): 245-270.
- Sabo, J.L., R. Sponseller, M. Dixon, K. Gade, T. Harms, J. Heffernan, A. Jani, G. Katz, C. Soykan, J. Watts, and J. Welter. 2005. Riparian zones increase regional species richness by harboring different, not more, species. *Ecology* 86 (1): 56-62.
- Sabo, M.J. 1993. Microhabitat use and its effect on growth of age-0 smallmouth bass in the North Anna River, Virginia. Ph.D. dissertation, Virginia Polytechnic Institute and State University, Blacksburg. 174 pp.
- Sabo, M.J., and D.J. Orth. 1994. Temporal variation in microhabitat use by age-0 smallmouth bass in the North Anna River, Virginia. *Transactions of the American Fisheries Society* 123: 733-746.
- Sabo, M.J., D.J. Orth, and E.J. Pert. 1996. Effect of stream microhabitat characteristics on rate of net energy gain by juvenile smallmouth bass, *Micropterus dolomieu*. *Environmental Biology of Fishes* 46: 393-403.
- Sabo, M.J., C.F. Bryan, W.E. Kelso, and D.A. Rutherford. 1999. Hydrology and aquatic habitat characteristics of a riverine swamp: I. Influence of flow on water temperature and chemistry.

Regulated Rivers: Research and Management 15: 505-523.

Saffel, P.D., and D.L. Scarnecchia. 1995. Habitat use by juvenile bull trout in belt-series geology watersheds of northern Idaho. Northwest Science 69: 304-317.

Sagnes, P., J.-Y. Champagne, and R. Morel. 2000. Shifts in drag and swimming potential during grayling ontogenesis: relations with habitat use. Journal of Fish Biology 57: 52-68.

Sagnes, P. P. Gaudin, and B. Statzner. 1997. Shifts in morphometrics and their relation to hydrodynamic potential and habitat use during grayling ontogenesis. Journal of Fish Biology 50: 846-858.

Sahin, V., and M.J. Hall. 1996. The effects of afforestation on water yields. J. Hydrol. 178: 293-309.

Sale, M.J., E.D. Brill, Jr., and E.E. Herricks. 1982. An approach to optimizing reservoir operations for downstream aquatic resources. Water Res. Research 18: 705-712.

Sale, M.J., S.F. Railsback, and E.E. Herricks. 1982. Frequency analysis of aquatic habitat: a procedure for determining instream flow needs. Pp. 340-346 in: N.B. Armantrout (ed.) Acquisition and utilization of aquatic habitat inventory information. Proceedings of a symposium, Portland, Oregon. American Fisheries Society, Western Division, Bethesda.

Salinger, D.H., and J.J. Anderson. 2006. Effects of temperature and flow on adult salmon migration swim speed and delay. Transactions of the American Fisheries Society 135 (1): 188-199.

Salo, J. R. Kalliola, I. Hakkinen, Y. Makinen, P. Niemela, M. Puhakka, and P.D. Coley. 1986. River dynamics and the diversity of Amazon lowland forest. Nature 322: 254-258.

Saltveit, S.J., T. Bremnes, and O.R. Lindas. 1995. Effect of sudden increases in discharge in a large river on newly emerged Atlantic salmon (*Salmo salar*) and brown trout (*S. trutta*) fry. Ecology of Freshwater Fish 4: 126-136.

Saltveit, S.J., J.H. Halleraker, J.V. Arnekleiv, and A. Harby. 2001. Field experiments on stranding in juvenile Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*) during rapid flow decreases caused by hydropeaking. Journal of Regulated Rivers 17: 609-622.

Sandheinrich, M.B., and G.J. Atchison. 1986. Fish associated with dikes, revetments, and abandoned channels in the middle Missouri River. Proceedings of the Iowa Academy of Science 93: 188-191.

Sando, S.K. 1981. The spawning and rearing habitats of rainbow trout and brown trout in two rivers in Montana. M.S. thesis, Montana State University.

Scarnecchia, D.L. 1981. Effects of streamflow and upwelling on yield of wild coho salmon

(*Oncorhynchus kisutch*) in Oregon. *Canadian Journal of Fisheries and Aquatic Sciences* 38: 471-475.

Scarnecchia, D.L., and E.P. Bergersen. 1987. Trout production and standing crop in Colorado's small streams, as related to environmental features. *North American Journal of Fisheries Management* 7 (3): 315-330.

Scatena, F.N., and S.L. Johnson. 2001. Instream-flow analysis for the Luquillo Experimental Forest, Puerto Rico: Methods and analysis. U.S. Forest Service and International Institute of Tropical Forestry, Rio Piedras, Puerto Rico.

Scheerer, P.D. 2002. Implications of floodplain isolation and connectivity on the conservation of an endangered minnow, Oregon chub, in the Willamette River, Oregon. *Transactions of the American Fisheries Society* 131 (6): 1070-1080.

Scheidegger, K.L., and M.B. Bain. 1995. Larval fish distribution and macrohabitat use in free-flowing and regulated rivers. *Copeia* 1995: 125-135.

Scheurer, J.A., K.D. Fausch, and K.R. Bestgen. 2003. Multiscale processes regulate brassy minnow persistence in a Great Plains river. *Transactions of the American Fisheries Society* 132 (5): 840-855.

Schlacher, T.A., and T.H. Wooldridge. 1996. Ecological responses in freshwater supply and quality in South Africa's estuaries: Lessons for management and conservation. *Journal of Coastal Conservation* 2: 115-130.

Schlosser, I.J. 1982. Fish community structure and function along two habitat gradients in a headwater stream. *Ecological Monographs* 52: 395-414.

Schlosser, I.J. 1985. Flow regime, juvenile abundance, and the assemblage structure of stream fishes. *Ecology* 66: 1484-1490.

Schlosser, I.J. 1987. The role of predation in age- and size-related habitat use by stream fishes. *Ecology* 68: 651-659.

Schlosser, I.J. 1987. A conceptual framework for fish communities in small warmwater streams. Pp. 17-24 in: W.J. Matthews and D.C. Heins (eds.) *Community and evolutionary ecology of North American freshwater fishes*. Oklahoma University Press.

Schlosser, I.J. 1990. Environmental variation, life history attributes, and community structure in stream fishes: implications for environmental management and assessment. *Environmental Management* 14 (5): 621-628.

Schlosser, I.J. 1992. Effects of life-history attributes and stream discharge on filter-feeder colonization. *Journal of the North American Benthological Society* 11: 366-376.

- Schlosser, I.J. 1995. Dispersal, boundary processes, and trophic-level interactions in streams adjacent to beaver ponds. *Ecology* 76 (3): 907-925.
- Schlosser, I.J. 1995. Critical landscape attributes that influence fish population dynamics in headwater streams. *Hydrobiologia* 303: 71-81.
- Schlosser, I.J., and P.J. Angermeier. 1990. The influence of environmental variability, resource abundance, and predation on juvenile cyprinid and centrarchid fishes. *Pol. Arch. Hydrobiol.* 37: 265-284.
- Schlosser, I.J., and K.K. Ebel. 1989. Effects of flow regime and cyprinid predation on a headwater stream. *Ecological Monographs* 59: 41-57.
- Schlosser, I.J., J.D. Johnson, W.L. Knotek, and M. Lapinska. 2000. Climate variability and size-structured interactions among juvenile fish along a lake-stream gradient. *Ecology* 81 (4): 1046-1057.
- Schlosser, I.J., and L.A. Toth. 1984. Niche relationships and population ecology of rainbow (*Etheostoma caeruleum*) and fantail (*E. flabellare*) darters in a .... *Oikos* 42: 229-238.
- Schmetterling, D.A. 2000. Redd characteristics of fluvial westslope cutthroat trout in four tributaries to the Blackfoot River, Montana. *North American Journal of Fisheries Management* 20 (3): 776-783.
- Schmetterling, D.A. 2001. Seasonal movements of fluvial westslope cutthroat trout in the Blackfoot River drainage, Montana. *North American Journal of Fisheries Management* 21 (3): 507-520.
- Schmidt, J.C., R.H. Webb, R.A. Valdez, G.R. Marzolf, and L.E. Stevens. 1998. Science and values in river restoration in the Grand Canyon. *BioScience* 48: 735-747.
- Scholz, O., B. Gawne, B. Ebner, and I. Ellis. 2002. The effects of drying and re-flooding on nutrient availability in ephemeral deflation basin lakes in western New South Wales, Australia. *River Research and Applications* 18 (2): 185-196.
- Schrader, W.C. 1989. Trout mortality, movements, and habitat selection during winter in South Willow Creek, Montana. M.S. thesis, Montana State University, Bozeman. 89 pp.
- Schrank, A.J., and F.J. Rahel. 2006. Factors influencing summer movement patterns of Bonneville cutthroat trout (*Oncorhynchus clarkii utah*). *Canadian Journal of Fisheries and Aquatic Sciences* 63 (3): 660-669.
- Schroeder, W.W. 1978. Riverine influence on estuaries: A case study, p. 347-364 in: M.L. Wiley (ed.), *Estuarine Interactions*. Academic Press, Inc., New York.

Schuett-Hames, D.E., N.P. Peterson, R. Conrad, and T.P. Quinn. 2000. Patterns of gravel scour and fill after spawning by chum salmon in a western Washington stream. *North American Journal of Fisheries Management* 20 (3): 610-617.

Schultz, A.A., O.E. Maughan, S.A. Bonar, and W.J. Matter. 2003. Effect of flooding on abundance of native and nonnative fishes downstream from a small impoundment. *North American Journal of Fisheries Management* 23 (2): 503-511.

Scott, D., and C.S. Shirvell. 1987. A critique of the Instream Flow Incremental Methodology and observations on flow determination in New Zealand. Pages 27-44 in J.F. Craig and J.B. Kemper, editors. *Regulated Streams: Advances in Ecology*. Plenum Press, New York and London. 431 pp.

Scott, M.L., G.T. Auble, and J.M. Friedman. 1996. Fluvial processes and the establishment of bottomland trees. *Geomorphology* 14: 327-339.

Scott, M.L., G.T. Auble, and J.M. Friedman. 1997. Flood dependency of cottonwood establishment along the Missouri River, Montana, USA. *Ecological Applications* 7: 677-690.

Scott, M.L., J.M. Friedman, and G.T. Aubele. 1996. Fluvial processes and the establishment of bottomland trees. *Geomorphology* 14: 327-339.

Scott, M.L., G.C. Lines, and G.T. Aubele. 2000. Channel incision and patterns of cottonwood stress and mortality along the Mojave River, California. *Journal of Arid Environments* 44: 399-414.

Scott, M.L., P.B. Shafroth, G.T. Auble, and E.D. Eggleston. 1997. Flood dependency of cottonwood establishment along the Missouri River, Montana, USA. *Ecological Applications* 7: 677-690.

Scott, M.L., M.A. Wondzell, and G.T. Auble. 1993. Hydrograph characteristics relevant to the establishment and growth of western riparian vegetation. Pp. 237-246 in: H.J. Morrel-Soytoux, editor. *Proceedings of the Thirteenth Annual American Geophysical Union Hydrology Days*. Atherton, CA: Hydrology Days Publications.

Scrivener, J.C., and M.J. Brownlee. 1989. Effect of forest harvesting on spawning gravel and incubation survival of chum (*Oncorhynchus keta*) and coho salmon (*O. kisutch*) in Carnation Creek, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 681-696.

Scruton, D.A., and R.J. Gibson. 1993. The development of habitat suitability curves for juvenile Atlantic salmon (*Salmo salar*) in riverine habitat in insular Newfoundland, Canada. *Canadian Special Publication of Fisheries and Aquatic Sciences* 118: 149-161.

- Scruton, D.A., L.M.N. Ollerhead, K.D. Clarke, C. Pennell, K. Alfredsen, A. Harby, and D. Kelley. 2003. The behavioural response of juvenile Atlantic salmon (*Salmo salar*) and brook trout (*Salvelinus fontinalis*) to experimental hydropeaking on a Newfoundland (Canada) river. *River Research and Applications* 19: 577-587.
- Sear, D.A. 1993. Fine sediment infiltration into gravel spawning beds within a regulated river experiencing floods: ecological implications for salmonids. *Regulated Rivers: Research and Management* 8: 373-390.
- Sechnick, C.W., R.F. Carline, R.A. Stein, and E.T. Rankin. 1986. Habitat selection by smallmouth bass in response to physical characteristics of a simulated stream. *Transactions of the American Fisheries Society* 115 (2): 314-321.
- Secretan, Y., M. Leclerc, S. Duchesne, and M. Heniche. 2001. Une methodologie de modelisation numerique de terrain pour la simulation hydrodynamique bidimensionnelle. *Revue de Sciences de l'eau* 14 (2): 187-212.
- Seegrist, D.W., and R. Gard. 1972. Effects of floods on trout in Sagehen Creek, California. *Transactions of the American Fisheries Society* 101: 478-482.
- Seelbach, P.W. 1993. Population biology of steelhead in a stable-flow, low-gradient tributary of Lake Michigan. *Transactions of the American Fisheries Society* 122: 179-198.
- Segelquist, C.A., M.L. Scott, and G.T. Auble. 1993. Establishment of *Populus deltoides* under simulated alluvial groundwater declines. *American Midland Naturalist* 130: 274-285.
- Seiler, D., S. Neuhauser, and L. Kishimoto. 2003. 2002 Skagit River wild 0+ Chinook production evaluation annual report. Washington Department of Fish and Wildlife, Rep. FPA 03-11.
- Sempeski, P., and P. Gaudin. 1995. Habitat selection by grayling. II. Preliminary results on larval and juvenile daytime habitats. *Journal of Fish Biology* 47: 345-349.
- Sempeski, P., and P. Gaudin. 1995. Construction of habitat preference curves for spawning sites and young stages of grayling (*Thymallus thymallus*, L.). *Bull. Fr. Peche Piscic.* 337/338/339: 277-282.
- Sempeski, P., and P. Gaudin. 1995. Habitat selection by grayling - I. Spawning habitats. *J. Fish Biol.* 47:256-265.
- Serafy, J.E., K.C. Lindeman, T.E. Hopkins, and J.S. Ault. 1997. Effects of freshwater canal discharge on fish assemblages in a subtropical bay: Field and laboratory observations. *Marine Ecology Progress Series* 160: 161-172.

Serchuk, F.M., C.J. Schmidt, and B. Floyd. 1980. Rainbow trout: a population simulation based on individual responses to varying environmental and demographic parameters. *Environmental Biology of Fishes* 5: 15-26.

Sexauer, H.M., and P.W. James. 1997. A comparison of the microhabitat use by juvenile bull trout in four streams located in the eastern Cascades, Washington. Pp. 361-370 in: W.C. Mackay, M.K. Brewin, and M. Monita, eds. *Trout Unlimited Canada*. Bull Trout Task Force, Calgary, Alberta.

Shafroth, P.G., G.T. Auble, J.C. Stromberg, and D.T. Patten. 1998. Establishment of woody riparian vegetation in relation to annual patterns of streamflow, Bill Williams River, Arizona. *Wetlands* 18: 577-590.

Shafroth, P.G., J.M. Friedman, G.T. Auble, M.L. Scott, and J.H. Braatne. 2002. Potential responses of riparian vegetation to dam removal. *BioScience* 52: 703-712.

Shafroth, P.G., J.C. Stromberg, and D.T. Patten. 2000. Woody riparian vegetation response to different alluvial water table regimes. *Western North American Naturalist* 60: 66-76.

Shankman, D. 1993. Channel migration and vegetation patterns in the southeastern coastal plain. *Conservation Biology* 7: 176-183.

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. California Department of Fish and Game, Fisheries Bulletin 98, 375 pp.

Sharma, R., and R. Hilborn. 2001. Empirical relationships between watershed characteristics and coho salmon (*Oncorhynchus kisutch*) smolt abundance in 14 western Washington streams. *Canadian Journal of Fisheries and Aquatic Sciences* 58 (7): 1453-1463.

Sheldon, A.L., and G.K. Meffe. 1995. Path analysis of collective properties and habitat relationships of fish assemblages in coastal plain streams. *Canadian Journal of Fisheries and Aquatic Sciences* 52 (1): 23-33.

Sheldon, F., A.J. Boulton, and J.T. Puckridge. 2002. Conservation value of variable connectivity: aquatic invertebrate assemblages of channel and floodplain assemblages of channel and floodplain habitats of a central Australian arid-zone river, Cooper Creek. *Biological Conservation* 103: 13-31.

Sheldon, F., M.C. Thoms, O. Berry, and J.T. Puckridge. 2000. Using disaster to arid zone revent catastrophe: referencing the impacts of flow changes in large dryland rivers. *Regulated*

Rivers: Research and Management 16: 403-420.

Sheldon, J.E., and M. Alber. 2002. A comparison of residence time calculations using simple compartment models of the Altamaha River estuary, Georgia. *Estuaries* 25 (6B): 1304-1317.

Shellberg, J.G. 2002. Hydrologic, geomorphic, and biologic influences on redd scour in bull charr (*Salvelinus confluentus*) spawning streams. M.Sc. thesis, University of Washington. Seattle, WA. 206 pp. (<http://depts.washington.edu/cwws/Theses/shellberg.html>).

Shepard, M.F. 1972. Timing of adult steelhead migrations as influenced by flow and temperature in four representative Washington streams. M.Sc. thesis, University of Washington. Seattle, WA. 197 pp.

Sheppard, J.D., and J.H. Johnson. 1985. Probability-of-use for depth, velocity, and substrate by subyearling coho salmon and steelhead in Lake Ontario tributary streams. *North American Journal of Fisheries Management* 5 (2B): 277-282.

Sher, A.A., D.L. Marshall, and S.A. Gilbert. 2000. Competition between native *Populus deltoides* and invasive *Tamarix ramosissima* and the implications of reestablishing flooding disturbance. *Conservation Biology* 14: 1744-1754.

Sheridan, W.L. 1962. Waterflow through a salmon spawning riffle in southeastern Alaska. U.S. Fish and Wildlife Service, Special Rep. - Fish. 407. 20 pp.

Sherton, C.C. 1981. Preserving instream flows in Oregon's rivers and streams. *Environmental Law* 11: 379-419.

Shields, F.D., Jr., S.S. Knight, and C.M. Cooper. 1994. Effects of channel incision on base flow stream habitat and fishes. *Environmental Management* 18: 43-57.

Shirvell, C.S. 1986. Pitfalls of physical habitat simulation in the Instream Flow Incremental Methodology. Canadian Technical Report of Fisheries and Aquatic Sciences 1460: 68 pp.

Shirvell, C.S. 1989. Ability of PHABSIM to predict chinook salmon spawning habitat. *Regulated Rivers: Research & Management* 3 (1-4): 277-289.

Shirvell, C.S. 1989. Habitat models and their predictive capability to infer habitat effects on stock size. In: C.D. Levings, L.B. Holtby, and M.A. Henderson (eds.), *Proceedings of the National Workshop on Effects of Habitat Alteration on Salmonid Stocks*. Can. Spec. Publ. Fish. Aquat. Sci. No. 105. Pp. 173-179.

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 (5): 852-861.

Shirvell, C.S. 1994. Effects of changes in streamflow on the microhabitat use and movements of sympatric juvenile coho salmon (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*) in a natural stream. Canadian Journal of Fisheries and Aquatic Sciences 51 (7): 1644-1652.

Shirvell, C.S., and R.G. Dungey. 1983. Microhabitats chosen by brown trout for feeding and spawning in rivers. Transactions of the American Fisheries Society 112 (3): 355-367.

Shtaf, L.G., D.S. Pavlov, M.A. Skorobogativ, and A.S. Baryekian. 1983. [Fish behavior as affected by the degree of flow turbulence.] Voprosy Ikhtiologii 3: 307-317. (In Russian)

Shuler, S.W., and R.B. Nehring. 1993. Using the Physical Habitat Simulation Model to evaluate a stream habitat enhancement project. Rivers 4: 175-193.

Shuler, S.W., R.B. Nehring, and K.D. Fausch. 1994. Diel habitat selection by brown trout in the Rio Grande River, Colorado, after placement of boulder structures. North American Journal of Fisheries Management 14: 99-111.

Shumway, D.L., G.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 (4): 342-356.

Shuter, B.J., and J.R. Post. 1990. Climate, population variability, and the zoogeography of temperate fishes. Transactions of the American Fisheries Society 119: 314-336.

Sierra, J.P., A. Sanchez-Arcilla, P.A. Figueras, J. Gonzalez del Rio, E.K. Rasmussen, and C. Mosso. 2004. Effects of discharge reductions on salt wedge dynamics of the Ebro River. River Research and Applications 20: 61-77.

Silk, N., J. McDonald, and R. Wigington. 2000. Turning instream flow water rights upside down. Rivers 7: 298-313.

Silver, S.J., G.E. Warren, and P. Doudoroff. 1963. Dissolved oxygen requirements of developing steelhead trout and chinook salmon embryos at different water velocities. Transactions of the American Fisheries Society 92 (4): 327-343.

Simm, D.J., D.E. Walling, P.D. Bates, and M.G. Anderson. 1997. The potential application of finite element modelling of flood plain inundation to predict patterns of overbank deposition. Hydrological Sciences 42: 859-875.

Simmons, D.L., and R.J. Reynolds. 1982. Effect of urbanization on base flow of selected south-shore streams, Long Island, New York. Water Resources Bulletin 18: 797-805.

- Simons, D.B., 1979. Effects of stream regulation on channel morphology. Pp. 95-111 in J.V. Ward and J.A. Stanford, editors. The ecology of regulated streams. Plenum Press, New York.
- Simonson, T.D., J. Lyons, and P.D. Kanehl. 1994. Quantifying fish habitat in streams: transect spacing, sample size, and a proposed framework. North American Journal of Fisheries Management 14: 607-615.
- Simonson, T.D., and R.J. Neves. 1993. Habitat suitability and reproductive traits of the orangefin madtom *Noturus gilberti* (Pisces: Ictaluridae). American Midland Naturalist 127: 115-124.
- Simonson, T.D., and W.A. Swenson. 1990. Critical stream velocities for young-of-year smallmouth bass in relation to habitat use. Transactions of the American Fisheries Society 119 (5): 902-909.
- Simpkins, D.G., W.A. Hubert, and T.A. Wesche. 2000. Effects of fall-to-winter changes in habitat and frazil ice on the movements and habitat use of juvenile rainbow trout in a Wyoming tailwater. Transactions of the American Fisheries Society 129 (1): 101-118.
- Singh, K.P., and S.M. Broeren. 1989. Hydraulic geometry of streams and stream habitat assessment. J. Water Res. Planning Manag. 115: 583-597.
- Sinha, M., M.K. Mukhopadhyay, P.M. Mitra, M.M. Bagchi, and H.C. Karamkar. 1996. Impact of the Farakka barrage on the hydrology and fishery of the Hooghly Estuary. Estuaries 19 (3): 710-722.
- Skagen, S.K., C.P. Melcher, W.H. Howe, and F.L. Knopf. 1998. Comparative use of riparian corridors and oases by migrating birds in southeast Arizona. Conservation Biology 12: 896-909.
- Sklar, F.H. and J.A. Browder. 1998. Coastal environmental impacts brought about by alterations to freshwater flow in the Gulf of Mexico. Environmental Management 22: 547-562.
- Skreslet, S. (ed.) 1986. The role of freshwater outflow in coastal marine ecosystems. NATO ASI Series, G edition. Springer, Berlin.
- Skreslet, S. 1986. Freshwater outflow in relation to space and time dimensions of complex ecological interactions in coastal waters, p. 3-12. In: S. Skreslet (ed.). The role of freshwater outflow in coastal marine ecosystems. Springer-Verlag, Berlin, Germany.
- Slinger, J.H., S Taljaard, and J.L. Largier. 1994. Changes in estuarine water quality in response to a freshwater flow event, p. 551-56. In: K.R. Dyer and R.J Orth (eds.), Changes in fluxes in Estuaries: Implications from Science to Management. Olsen and Olsen, Fredensborg, Denmark.
- Smetacek, V.S. 1986. Impact of freshwater discharge on production and transfer of materials in the marine environment. Pages 85-106 in: S. Skeslet (ed.). The role of freshwater outflow in

coastal marine ecosystems. Springer, Berlin.

Smith, A.K. 1973. Development and application of spawning velocity and depth criteria for Oregon salmonids. *Transactions of the American Fisheries Society* 102 (2): 312-316.

Smith, B.D. 2000. Trends in wild adult steelhead (*Oncorhynchus mykiss*) abundance for snowmelt-driven watersheds of British Columbia in relation to freshwater discharge. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (2): 285-297.

Smith, D.L. 2003. The shear flow environment of juvenile salmonids. Doctoral dissertation. University of Idaho, Moscow.

Smith, D.L., E.L. Brannon, and M. Odeh. 2005. Response of juvenile rainbow trout to turbulence produced by prismatic shapes. *Transactions of the American Fisheries Society* 134 (3): 217-229.

Smith, D.L., E.L. Brannon, B. Shafii, and M. Odeh. 2006. Use of the average and fluctuating velocity components for estimation of volitional rainbow trout density. *Transactions of the American Fisheries Society* 135 (2): 431-441.

Smith, F.E. 1976. Water development impact on fish resources and associated values on the Trinity River, California. Pp. 98-111 in: J.F. Orsborn and C.H. Allman (eds) *Instream Flow Needs*, vol. ii, Bethesda, Maryland: American Fisheries Society.

Smith, G.L. (Ed.) 1979. Proceedings, workshop in instream flow habitat criteria and modeling. *Colorado Water Resour. Res. Inst. Inform. Ser.* 40.

Smith, I.M., and M.J. Sale. 1993. Standardizing instream flow requirements at hydropower projects in the Cascades Mountains, Washington. Pp. 286-295 in W.D. Hall, ed. *Waterpower '93*, proceedings of the international conference on hydropower. American Society of Civil Engineers, New York.

Smith, J.J., and H.W. Li. 1984. Energetic factors influencing foraging tactics of juvenile steelhead trout, *Salmo gairdneri*. Pp. 173-180 in: D.L.G. Noakes et al. (Eds) *Predators and prey in fishes*. The Hague: Junk Publishers.

Smith, S.D., J.L. Nachlinger, A.B. Wellington, and Fox. 1989. Water relations of obligate riparian plants as a function of streamflow diversion on the Bishop Creek watershed. Pp. 360-365 in: D.L. Abell (ed) *California riparian systems conference: Protection, management and restoration for the 1990s*. U.S. Forest Service General Technical Report PSW-110.

Smith, S.D., R.B. Wellington, J. Nachlinger, and Fox. 1991. Functional responses of riparian vegetation to streamflow diversion in the eastern Sierra Nevada. *Ecological Applications* 1 (1):

89-97.

Smith, S.G., W.D. Muir, E.E. Hockersmith, R.W. Zabel, R.J. Graves, C.V. Ross, W.P. Connor, and B.D. Arnesberg. 2003. Influence of river conditions on survival and travel time of Snake River subyearling fall Chinook salmon. *North American Journal of Fisheries Management* 23 (3): 939-961.

Smith, S.G., W.D. Muir, J.G. Williams, and J.R. Skalski. 2002. Factors associated with travel time and survival of migrant yearling chinook salmon and steelhead in the lower Snake River. *North American Journal of Fisheries Management* 22 (2): 385-405.

Smith, T.A., and C.E. Kraft. 2005. Stream fish assemblages in relation to landscape position and local habitat variables. *Transactions of the American Fisheries Society* 134 (2): 430-440.

Smock, L.A., J.E. Gladden, J.L. Riekenberg, L.C. Smith, and C.R. Black. 1992. Lotic macroinvertebrate production in three dimensions: channel surface, hyporheic, and floodplain environments. *Ecology* 73: 876-886.

Smoker, W.A. 1953. Stream flow and silver salmon production in western Washington. Washington Department of Fisheries, Fisheries Research Papers 1 (1): 5-12.

Smoker, W.A. 1955. Effects of streamflow on silver salmon production in western Washington. Doctoral dissertation. University of Washington, Department of Fisheries, Seattle.

Smoker, W.A. 1956. Preliminary report on Minter Creek streamflows on the juvenile production of silver salmon, chum salmon and steelhead trout. Unpublished report, Washington Department of Fisheries, Olympia.

Smolders, A.J.P., M.A. Guerrero Hiza, G. van der Velde, and J.G.M. Roelofs. 2002. Dynamics of discharge, sediment transport, heavy metal pollution and sabalo (*Prochilodus lineatus*) catches in the lower Pilcomato River (Bolivia). *River Research and Applications* 18 (5): 415-428.

Snedaker, S., D. De Sylva, and D. Cottrell. 1977. A review of the role of freshwater in estuarine ecosystems. Final report, Southwest Florida Water Management District, Brooksville, Florida.

Snedden, G.A., W.E. Kelso, and D.A. Rutherford. 1999. Diel and seasonal patterns of spotted gar movement and habitat use in the lower Atchafalaya River basin, Louisiana. *Transactions of the American Fisheries Society* 128: 144-154.

Snodgrass, J.W., L. Bryan, Jr., R.F. Lide, and G.M. Smith. 1996. Factors affecting the occurrence and structure of fish assemblages in isolated wetlands of the upper coastal plain, U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 443-454.

Snodgrass, J.W., and G.K. Meffe. 1998. Influence of beavers on stream fish assemblages:

effects of pond age and watershed position. *Ecology* 79: 928-942.

Sokal, R.R., and F.J. Rohlf. 1981. *Biometry*. Second edition. W.H. Freeman and Company, San Francisco.

Solazzi, M.F., T.E. Nickelson, S.L. Johnson, and J.D. Rodgers. 2000. Effects of increasing winter rearing habitat on abundance of salmonids in two coastal Oregon streams. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (5): 906-914.

Soloman, D.J., and D. Paterson. 1980. Influence of natural and regulated streamflow on survival of brown trout (*Salmo trutta* L.) in a chalk stream. *Environmental Biology of Fishes* 5: 379-382.

Sommer, T.R., W.C. Harrell, A. Mueller-Solger, B. Tom, and J.W. Kimmerer. 2004. Effects of flow variation on the channel and floodplain biota and habitats of the Sacramento River, California, USA. *Aquatic Conservation: Marine and Freshwater Ecosystems* 14: 247-261.

Sommer, T., W.C. Harrell, and M. Nobriga. 2005. Habitat use and stranding risk of juvenile Chinook salmon on a seasonal floodplain. *North American Journal of Fisheries Management* 25 (4): 1493-1504.

Sommer, T., B. Harrell, M. Nobriga, R. Brown, P. Moyle, W. Kimmerer, and L. Schemel. 2001. California's Yolo Bypass: evidence that flood control can be compatible with fisheries, wetlands, wildlife, and agriculture. *Fisheries* 26: 6-16.

Sommer, T.R., M.L. Nobriga, W.C. Harrell, W. Batham, and W.J. Kimmerer. 2001. Floodplain rearing of juvenile chinook salmon: evidence of enhanced growth and survival. *Canadian Journal of Fisheries and Aquatic Sciences* 58: 325-333.

Souchon, Y., H. Andriamahefa, P. Breil, M.B. Albert, H. Capra, and N. Lamouroux. 2002. Vers de nouveaux outils pour l'aide a la gestion des hydrosystemes: couplage des recherches physiques et biologiques su les cours d'eau. *Natures Sciences Societes* 10: 26-41.

Souchon, Y., and H. Capra. 2004. Aquatic habitat modelling: biological validations of IFIM/Phabsim methodology and new perspectives. *Hydroecologie Appliquee* 14 (1): 9-25.

Souchon, Y. F. Trocherie, E. Fragnoud, and C. Lacombe. 1989. Les modeles numerique des microhabitats des poissons: applications et nouveaux developpements. *Revue des Sciences de l'Eau* 2: 807-830.

Southall, P.D., and W.A. Hubert. 1984. Habitat use by adult paddlefish in the upper Mississippi River. *Transactions of the American Fisheries Society* 113: 125-131.

- Sowa, S.P., and C.F. Rabeni. 1995. Regional evaluation of the relation of habitat to distribution and abundance of smallmouth bass and largemouth in Missouri streams. *Transactions of the American Fisheries Society* 124: 240-251.
- Sowden, T.K., and G. Power. 1985. Prediction of rainbow trout embryo survival in relation to groundwater seepage and particle size of spawning substrates. *Transactions of the American Fisheries Society* 114: 804-812.
- Spalding, S., N.P. Peterson, and T.P. Quinn. 1995. Summer distribution, survival, and growth of juvenile coho salmon under varying experimental conditions of brushy instream cover. *Transactions of the American Fisheries Society* 124 (1): 124-130.
- Sparks, R.E. 1992. Risks of altering the hydrologic regime of large rivers. Pp. 119-152 in: J. Cairns, Jr., B.R. Niederlehner, and D.R. Orvos, editors. *Predicting ecosystem risk: advances in modern environmental toxicology*, volume 20. Princeton Scientific Publishing, Princeton, New Jersey.
- Sparks, R.E. 1995. Need for ecosystem management of large rivers and their floodplains. *BioScience* 45: 168-182.
- Sparks, R.E., P.B. Bayley, S.L. Kohler, and L.L. Osborne. 1990. Disturbance and recovery of large floodplain rivers. *Environmental Management* 14: 699-709.
- Sparks, R.E., J.C. Nelson, and Y. Yin. 1998. Naturalisation of the flood regime in regulated rivers. *BioScience* 48: 706-720.
- Sparks, R.E., and A. Spink. 1998. Disturbance, succession and ecosystem processes in rivers and estuaries: effects of extreme hydrologic events. *Regulated Rivers: Research and Management* 14: 155-159.
- Speas, D.W. 2000. Zooplankton density and community composition following an experimental flood in the Colorado River, Grand Canyon, Arizona. *Regulated Rivers: Research and Management* 16: 73-81.
- Speed, T. 1993. Modeling and managing a salmon population. Pp. 267-292 in: V. Barnett and K.F. Turkman, eds. *Statistics for the environment*. Wiley, New York.
- Spina, A.P. 2001. Incubation discharge and aspects of brown trout population dynamics. *Transactions of the American Fisheries Society* 130: 322-327.
- Spina, A.P. 2003. Habitat associations of steelhead trout near the southern extent of their range. *Calif. Fish Game* 2: 81-95.
- Spranza, J.J., and E.H. Stanley. 2000. Condition, growth, and reproductive styles of fishes exposed to different environmental regimes in a prairie drainage. *Environmental Biology of Fishes* 59 (1): 99-109.

- Stalnaker, C.B. 1980. The use of habitat structure preferenda for establishing flow regimes necessary for the maintenance of fish habitat. Pp. 321-337 in: J.V. Ward and J.A. Stanford (eds.) *The ecology of regulated streams*. Plenum Publishing Corporation, New York.
- Stalnaker, C.B. 1981. Low flow as a limiting factor in warmwater streams. Pp. 192-199 in: L. Krumholz (ed.) *Warmwater Streams Symposium*. Bethesda, Maryland: American Fisheries Society.
- Stalnaker, C.B. 1982. Instream flow assessment comes of age in the decade of the 1970s. Pp. 119-142 in: W.T. Mason, Jr., and S. Iker (ed.) *Research on fish and wildlife habitat*. EPA-600/8-82-022.
- Stalnaker, C.B. 1990. Minimum flow is a myth, p. 31-33. In: M.B. Bain (ed.). *Ecology and Assessment of Warm Water Streams: Workshop Synopsis*. U.S. Fish and Wildlife Service, Washington, D.C.
- Stalnaker, C.B. 1993. Fish habitat models in environmental assessments. Pp. 104-162 in: S.G. Hildebrand and J.B. Cannon (eds.) *Environmental Analysis: The NEPA Experience*. CRC Press, Boca Raton, Florida.
- Stalnaker, C.B. 1994. Evolution of instream flow habitat modeling. Chapter 14. P. Calow and G.E. Petts (eds.) *The Rivers Handbook, Hydrological and Ecological Principles*. Vol. II. Blackwell Scientific ...
- Stalnaker, C.B., and J.L. Arnette. 1976. Methodologies for determination of stream resource flow requirements: an assessment. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.
- Stalnaker, C.B., K.D. Bovee, and T.J. Waddle. 1996. Importance of the temporal aspects of habitat hydraulics to fish population studies. *Regulated Rivers: Research and Management* 12: 145-153.
- Stalnaker, C.B., B.L. Lamb, J. Henriksen, K. Bovee, and J. Bartholow. 1995. The instream flow incremental methodology: a primer for IFIM. National Biological Service Biological Report 29. 45 pp.
- Stalnaker, C.B., R.T. Milhous, and K.D. Bovee. 1989. Hydrology and hydraulics applied to fishery management in large rivers, pp. 13-30 in: D.P. Dodge (ed.), *Proceedings of the International Large Rivers Symposium*. Canadian Sp. Publ. Fish. Aquatic. Sci. 106.
- Stalnaker, C.B., and E.J. Wick. 2000. Planning for flow requirements to sustain stream biota. Chapter 16 in: E.E. Wohl, ed. *Inland Flood Hazards: Human, Riparian, and Aquatic Communities*. Cambridge University Press, London.
- Stancil, V.F. 2000. Effects of watershed and habitat conditions on stream fishes of the upper Roanoke River watershed, Virginia. M.S. thesis, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

- Standen, E.M., S.G. Hinch, and P.S. Rand. 2004. Influence of river speed on path selection by migrating adult sockeye salmon (*Oncorhynchus nerka*). *Canadian Journal of Fisheries and Aquatic Sciences* 61 (6): 905-912.
- Stanford, J.A. 1994. Instream flows to assist the recovery of endangered fishes of the upper Colorado River basin. *National Biological Survey Biological Report* 24. 47 pp.
- Stanford, J.A., and J.V. Ward. 1988. The hyporheic habitat of river ecosystems. *Nature (London)* 335: 64-66.
- Stanford, J.A., and J.V. Ward. 1993. An ecosystem perspective of alluvial rivers: connectivity and the hyporheic corridor. *Journal of the North American Benthological Society* 12: 48-62.
- Stanford, J.A., J.V. Ward, W.J. Liss, C.A. Frissell, R.N. Williams, J.A. Lichatowich, and C.C. Coutant. 1996. A general protocol for restoration of regulated rivers. *Regulated Rivers* 12: 391-414.
- Stanley, E.H., D.L. Buschman, A.J. Boulton, N.B. Grimm, and S.G. Fisher. 1994. Invertebrate resistance and resilience to intermittency in a desert stream. *American Midland Naturalist* 131: 288-300.
- Stanley, E.H., S.G. Fisher, and N.B. Grimm. 1997. Ecosystem expansion and contraction in streams. *BioScience* 47: 427-435.
- Stanley, J.G., and J.G. Trial. 1995. Habitat suitability index models: nonmigratory freshwater life history stages of Atlantic salmon. U.S. DOI, Biol. Sci. Rep. 3.
- Starrett, W.C. 1951. Some factors affecting the abundance of minnows in the Des Moines River, Iowa. *Ecology* 32: 13-27.
- Statzner, B., M.F. Arens, J.Y. Champagne, R. Morel, and E. Herouin. 1999. Silk-producing stream insects and gravel erosion: Significant biological effects shear stress. *Water Resources Research* 35: 3495-3506.
- Statzner, B., J.A. Gore, and V.H. Resh. 1988. Hydraulic stream ecology: observed patterns and potential applications. *Journal of the North American Benthological Society* 17: 324-337.
- Statzner, B., and B. Higler. 1986. Stream hydraulics as a major determinant of benthic invertebrate zonation patterns. *Freshwater Biology* 16: 127-139.
- Stearly, R.F., and G.R. Smith. 1993. Phylogeny of the Pacific trouts and salmon (*Oncorhynchus*) and genera of the family Salmonidae. *Transactions of the American Fisheries Society* 122 (1): 1-33.
- Stednick, J.D. 1996. Monitoring the effect of timber harvest on annual water yield. *J. Hydrol.*

176: 79-95.

Stefferd, J.A. 1993. Spawning season and microhabitat use by California golden trout (*Oncorhynchus mykiss aquabonita*) in the southern Sierra Nevada. California Fish and Game 79: 133-144.

Steffler, P. 2000. River 2D. Two dimensional depth averaged model of river hydrodynamics and fish habitat. Users manual. University of Alberta.

Steingrimsson, S.O., and J.W.A. Grant. 1999. Allometry of territory-size and metabolic rate as predictors of self-thinning in young-of-the-year Atlantic salmon. Journal of Animal Ecology 68: 17-26.

Stevens, D.E. 1977. Striped bass (*Morone saxatilis*) year class strength in relation to river flow in the Sacramento-San Joaquin estuary, California. Transactions of the American Fisheries Society 106 (1): 34-42.

Stevens, D.E. and L.W. Miller. 1983. Effects of river flow on abundance of young chinook salmon, American shad, longfin smelt, and delta smelt in the Sacramento-San Joaquin River system. North American Journal of Fisheries Management 3: 425-437.

Stevens, L.E., J.C. Schmidt, T.J. Ayers, and B.T. Brown. 1995. Flow regulation, geomorphology, and Colorado River marsh development in the Grand Canyon, Arizona. Ecological Applications 5: 1025-1039.

Stevenson, R.J. 1990. Benthic algal community and dynamics in a stream during and after a spate. Journal of the North American Benthological Society 9:277-288.

Stevenson, R.J. 1996. The stimulation and drag of current. Pages 321-341 in: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe, editors. Algal ecology: freshwater benthic ecosystems. Academic Press, New York, New York, USA.

Stier, D.J., and J.H. Crance. 1985. Habitat suitability index models and instream flow suitability curves: American shad. U.S. Fish and Wildlife Service Biological Report 82 (10.88).

Stine, S., D. Gaines, and P. Vorster. 1984. Destruction of riparian systems due to water development in the Mono Lake watershed. Pp. 528-533 in: R.E. Warner and K.L. Hendrix (eds.) California riparian systems: Ecology, conservation, and productive management. Berkeley: University of California Press.

Stober, Q.J. 1984. Interpretation of IFIM results. Unpublished paper presented at Pacific Fishery Biologists, 46<sup>th</sup> annual conference, Ocean Shores, WA, March 19-21.

Stockton, C.W., and G.C. Jacoby. 1976. Long-term surface-water supply and streamflow trends in the Upper Colorado River Basin based on tree ring analyses. Bulletin 18. Lake Powell

Research Project, University of California, Los Angeles.

Stolbov, A.Y., and Y.S. Alikin. 1978. Temperature dependence of active metabolism and swimming speed of the Baikal grayling, *Thymallus arcticus baicalensis*. *Journal of Ichthyology* 17: 178-179.

Strayer, D. 1983. The effects of surface geology and stream size on freshwater mussel (*Bivalvia*, *Unionidae*) distribution in southeastern Michigan, U.S.A. *Freshwater Biology* 13: 253-264.

Stringham, E. 1924. The maximum speed of freshwater fishes. *American Naturalist* 58: 156-161.

Stromberg, J.C. 1993. Instream flow models for mixed deciduous riparian vegetation within a semiarid region. *Regulated Rivers: Research & Management* 8: 225-235.

Stromberg, J.C. 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar after large floods in central Arizona. *Great Basin Naturalist* 57: 198-208.

Stromberg, J.C. 2001. Influence of stream flow regime and temperature on growth rate of the riparian tree, *Platanus wrightii*, in Arizona. *Freshwater Biology* 46: 227-239.

Stromberg, J.C. 2001. Restoration of riparian vegetation in the southwestern United States: importance of flow regimes and fluvial dynamism. *J. Arid Environ.* 49: 17-34.

Stromberg, J.C., J. Fry, and D.T. Patten. 1997. Marsh development after large floods in an alluvial, arid-land river. *Wetlands* 17: 292-300.

Stromberg, J.C., and D.T. Patten. 1989. Early recovery of an eastern Sierra Nevada riparian system after forty years of stream diversion. Pp. 399-404 in: D.L. Abell (ed.) *California riparian systems conference: Protection, management and restoration for the 1990s*. U.S. Forest Service General Technical Report PSW-110.

Stromberg, J.C., and D.T. Patten. 1990. Riparian vegetation instream flow requirements: A case study from a diverted stream in the eastern Sierra Nevada, California. *Environmental Management* 14 (2): 185-194.

Stromberg, Julie, and Duncan T. Patten. 1991. Instream flow requirements for cottonwoods at Bishop Creek, Inyo County, California. *Rivers* 2 (1): 1-11.

Stromberg, J.C., and D.T. Patten. 1992. Mortality and age of black cottonwood stands along diverted and undiverted streams in the eastern Sierra Nevada, California. *Madrono* 39: 205-223.

Stromberg, J.C., D.T. Patten, and B.D. Richter. 1991. Flood flows and dynamics of Sonoran

riparian forests. *Rivers* 2 (3): 221-235.

Stromberg, J.C., B.D. Richter, D.T. Patten, and L.G. Wolden. 1993. Response of a Sonoran riparian forest to a 10-year return flood. *Great Basin Naturalist* 53: 118-130.

Stromberg, J.C., J.A. Tress, S.D. Wilkins, and Clark. 19??. Response of velvet mesquite to groundwater decline. *Journal of Arid Environments*

Stoneman, C.L., and M.L. Jones. 2000. The influence of habitat features on the biomass and distribution of three species of southern Ontario salmonines. *Transactions of the American Fisheries Society* 129 (3): 639-657.

Studley, T.K., S.F. Railsback, and J.E. Baldrige. 1996. Predicting fish population response to instream flows. *Hydro Review* 15 (6): 48-57.

Studley, T.K., and 10 coauthors. 1995. Response of fish populations to altered flows project, volumes I-III, predicting trout populations from streamflow and habitat variables. Pacific Gas and Electric Company, Report 009.4-94.3, San Ramon, California.

Sullivan, A.M. 2000. Habitat suitability index modeling for fisheries management using a geographic information system: an analysis of environmental factors and essential fish habitat. Master's thesis, Florida Institute of Technology, Melbourne.

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

Sutcliffe, W.H., Jr. 1973. Correlations between seasonal river discharge and local landings of American lobster (*Homarus americanus*) and Atlantic halibut (*Hippoglossus hippoglossus*) in the Gulf of St. Lawrence. *Journal of the Fisheries Research Board of Canada* 30 (6): 856-859.

Swales, S., F. Caron, J.R. Irvine, and C.D. Levings. 1988. Overwintering habitats of coho salmon (*Oncorhynchus kisutch*) and other juvenile salmonids in the Keogh River system, British Columbia. *Canadian Journal of Zoology* 66: 254-261.

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.

Swales, S., and C.D. Levings. 1989. Role of off-channel ponds in the life cycle of coho salmon (*Oncorhynchus kisutch*) and other juvenile salmonids in the Keogh River system, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 232-242.

Swales, S., A.W. Storey, I.D. Roderick, and B.S. Figa. 1999. Fishes of floodplain habitats of the Fly river system, Papua New Guinea, and changes associated with El Nino droughts and algal blooms. *Environmental Biology of Fishes* 51: 399-410.

- Swan, G.A. 1989. Chinook salmon spawning surveys in deep waters of a large, regulated river. *Regulated Rivers: Research and Management* 4: 355-370.
- Swanberg, T. 1997. Movements and habitat use by fluvial bull trout in the Blackfoot River, Montana. *Transactions of the American Fisheries Society* 126: 735-746.
- Swansburg, E., N. El-Jabi, D. Caissie, and G. Chaput. 2004. Hydrometeorological trends in the Miramichi River, Canada: Implications for Atlantic salmon growth. *North American Journal of Fisheries Management* 24 (2): 561-576.
- Sweeney, B.W., T.L. Bott, J.K. Jackson, L.A. Kaplan, J.D. Newbold, L.J. Standley, W.C. Hession, and R.J. Horwitz. 2004. Riparian deforestation, stream narrowing, and loss of stream ecosystem services. *Proceedings of the National Academy of Sciences* 101 (39): 14132-14137.
- Swift, C.H., III. 1976. Estimation of stream discharges preferred by steelhead trout for spawning and rearing in western Washington. U.S. Geological Survey Open-File Report 75-155, Tacoma.
- Symons, P.E.K. 1976. Behavior and growth of juvenile Atlantic salmon (*Salmo salar*) and three competitors at two stream velocities. *Journal of the Fisheries Research Board of Canada* 33: 2766-2773.
- Symons, P.E.K., and M. Heland. 1978. Stream habitats and behavioral interactions of underyearling and yearling Atlantic salmon (*Salmo salar*). *Journal of the Fisheries Research Board of Canada* 35: 175-183.
- Tabacchi, E., D.L. Corbell, R. Hauer, et al. 1998. Development, maintenance and role of riparian vegetation in the river landscape. *Freshwater Biology* 40: 497-516.
- Talbot, M.M., W.T. Knoop, and G.C. Bate. 1990. The dynamics of estuarine macrophytes in relation to flood/siltation cycles. *Botanica Marina* 33: 159-164.
- Talmage, P.J., J.A. Perry, and R.M. Goldstein. 2002. Relation of instream habitat and physical conditions to fish communities of agricultural streams in the northern midwest. *North American Journal of Fisheries Management* 22 (3): 825-833.
- Tan, L.W., and R.J. Shiel. 1993. Responses of billabong rotifer communities to inundation. *Hydrobiologia* 255/256: 361-369.
- Tappel, P.D., and T.C. Bjornn. 1983. A new method of relating size of spawning gravel to salmonid embryo survival. *North American Journal of Fisheries Management* 3: 123-135.
- Tarbet, K., and T.B. Hardy. 1996. Evaluation of one-dimensional and two-dimensional hydraulic modeling in a natural river and implications in instream flow assessment methods. In: *Proceedings of the 2<sup>nd</sup> International Symposium on Habitat Hydraulics*. June 1996, Quebec,

Canada. B395-B406.

Tautz, A.F., and C. Groot. 1975. Spawning behavior of chum salmon (*Oncorhynchus keta*) and rainbow trout (*Salmo gairdneri*). Journal of the Fisheries Research Board of Canada 32: 633-642.

Taylor, B.E., and D.L. Mahoney. 1990. Zooplankton in Rainbow Bay, a Carolina Bay pond: population dynamics in a temporary habitat. Freshwater Biology 24: 597-612.

Taylor, C.M. 1997. Fish species richness and incidence patterns in isolated and connected stream pools: effects of pool volume and spatial position. Oecologia 110: 560-566.

Taylor, E.B. 1988. Water temperature and velocity as determinants of microhabitats of juvenile chinook and coho salmon in a laboratory stream. Transactions of the American Fisheries Society 117: 22-28.

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

Taylor, R.C. 1983. Drought-induced changes in crayfish populations along a stream continuum. American Midland Naturalist 110: 286-298.

Taylor, R.C. 1988. Population dynamics of the crayfish *Procambarus spiculifer* observed in different-sized streams in response to two droughts. Journal of Crustacean Biology 8: 401-409.

Tennant, D.L. 1976. Instream flow regimes for fish, wildlife, recreation and related environmental resources. Fisheries 1 (4): 6-10.

Tennant, D.L. 1976. Instream flow regimes for fish, wildlife, recreation and related environmental resources. Pp. 359-373 in: N.B. Armantrout, editor. Acquisition and utilization of aquatic habitat inventory information. Proceedings of a symposium, Portland, Oregon. American Fisheries Society, Western Division, Bethesda.

Terrell, J.W. (Editor). 1984. Proceedings of a workshop on fish habitat suitability index models. Washington, D.C.: U.S. Fish and Wildlife Service (Biological Report 85[6])

Tessman, S.A. 1980. Environmental Assessment, Technical Appendix E, in Environmental Use sector Reconnaissance Elements of the Western Dakotas Region of South Dakota study. Water Resources Research Institute, South Dakota State University, Brookings, South Dakota.

Tharme, R.E. 1996. Review of international methodologies for the quantification of the instream flow requirements of rivers. Department of Water Affairs and Forestry, Pretoria, South Africa.

- Tharme, R.E. 1997. Sabie-Sand River system: Instream flow requirements. Department of Water Affairs and Forestry, Pretoria, South Africa.
- Tharme, R.E. 2003. A global perspective on environmental flow assessment: emerging trends in the development and application of environmental flow methodologies for rivers. *Rivers Research and Application* 19: 397-441.
- Tharme, R.E., and J.M. King. 1998. Development of building block methodology for instream flow assessments and supporting research on the effects of different magnitude flows on riverine ecosystems. Water Research Commission, Cape Town, South Africa.
- Thielke, J. 1985. A logistic regression approach for developing suitability-of-use functions for fish habitat. Pp. 32-38 in: F.W. Olson, R.G. White, and R.H. Hamre (editors), *Proceedings of the Symposium on Small Hydropower and Fisheries*. American Fisheries Society, Aurora, Colorado.
- Thieme, M.L., C.C. McIvor, M.J. Brouder, and T.L. Hoffnagle. 2001. Effects of pool formation and flash flooding on relative abundance of young-of-year flannelmouth suckers in the Paria River, Arizona. *Regulated Rivers: Research and Management* 17: 145-156.
- Thomas, A.E. 1975. Migration of chinook salmon fry from simulated incubation channels in relation to water temperature, flow, and turbidity. *Progressive Fish-Culturist* 37 (4): 219-223.
- Thomas, D.L., and E.J. Taylor. 1990. Study designs and tests for comparing resource use and availability. *Journal of Wildlife Management* 54: 322-330.
- Thomas, J.A., and K.D. Bovee. 1993. Application and testing of a procedure to evaluate transferability of habitat suitability criteria. *Regulated Rivers: Research & Management* 8: 285-294.
- Thomas, R.B., and W.F. Megahan. 1998. Peak flow responses to clear-cutting and roads in small and large basins, western Cascades, Oregon: a second opinion. *Water Resour. Res.* 34: 3393-3403.
- Thompson, K.E. 1972. Determining instream flows for fish life. Pp. 31-50 in: *Proceedings of the instream flow requirement workshop*. Pacific Northwest River Basins Commission, Portland, Oregon.
- Thoms, M.C., and F. Sheldon. 2000. Water resource development and hydrological change in a large dryland river: the Barwon-Darling River, Australia. *Journal of Hydrology* 228: 10-21.
- Thorne, R.E., and J.J. Ames. 1987. A note on the variability of marine survival of sockeye salmon (*Oncorhynchus nerka*) and effects of flooding on spawning success. *Canadian Journal of Fisheries and Aquatic Sciences* 44: 1791-1795.

- Thurow, R.F. 1997. Habitat utilization and diel behaviour of juvenile bull trout (*Salvelinus confluentus*) at the onset of winter. *Ecology of Freshwater Fish* 6: 1-7.
- Thurow, R.F., and J.G. King. 1994. Attributes of Yellowstone cutthroat trout redds in a tributary of the Snake River, Idaho. *Transactions of the American Fisheries Society* 123 (1): 37-50.
- Tiffan, K.F., L.O. Clark, R.D. Garland, and D.W. Rondorf. 2006. Variables influencing the presence of subyearling fall Chinook salmon in shoreline habitats of the Hanford Reach, Columbia River. *North American Journal of Fisheries Management* 26 (2): 351-360.
- Tiffan, K. F., R.D. Garland, and D.W. Rondorf. 2002. Quantifying flow-dependent changes in subyearling fall chinook salmon rearing habitat using two-dimensional spatially explicit modeling. *North American Journal of Fisheries Management* 22 (3): 713-726.
- Tockner, K., F. Malard, and J.V. Ward. 2000. An extension of the flood pulse concept. *Hydrological Processes* 14: 2861-2883.
- Tockner, K., F. Scheimer, C. Baumgartner, G. Kum, E. Weigand, I. Zweimuller, and J.V. Ward. 1999. The Danube restoration project: species diversity patterns across connectivity gradients in the floodplain system. *Regulated Rivers: Research and Management* 15: 245-258.
- Tockner, K., J.V. Ward, P.J. Edwards, and J. Kollmann. 2002. Riverine landscapes: an introduction. *Freshwater Biology* 47: 497-500.
- Todd, B.L., and C.F. Rabeni. 1989. Movement and habitat use by stream-dwelling smallmouth bass. *Transactions of the American Fisheries Society* 118 (3): 229-242.
- Tomasko, D.A. and M.O. Hall. 1999. Productivity and biomass of the seagrass *Thalassia testudineum* along a gradient of freshwater influence in Charlotte Harbor, Florida. *Estuaries* 22: 592-602.
- Tompkins, M.R., and E. Herricks. 2004. PHABSIM analysis of a straight trapezoidal reach and a highly sinuous reach in a low-order agricultural stream in the midwest. *Hydroecologie Appliquee* 14 (1): 175-192.
- Torgerson, C.E., D.M. Price, H.W. Li, and B.A. McIntosh. 1999. Multiscale thermal refugia and stream habitat associations of chinook salmon in northeastern Oregon. *Ecological Applications* 9: 327-345.
- Toth, L.A. 1995. Principles and guidelines for restoration of river/floodplain ecosystem - Kissimmee River, Florida. Pp. 49-73 *in*: J. Cairns, ed. *Rehabilitating Damaged Ecosystems*. Lewis Publications, CRC Press, Cherry Hill, NJ.

Toth, L.A., S.L. Melvin, D.A. Arrington, and J. Chamberlain. 1998. Hydrological manipulation of the channelized Kissimmee River: implications for restoration. *BioScience* 48: 757-764.

Townsend, C.R. 1989. The patch dynamics concept of stream community ecology. *J. N. Am. Benthol. Soc.* 8: 36-50.

Townsend, C.R., and A.G. Hildrew. 1994. Species traits in relation to a habitat templet for river systems. *Freshwater Biology* 31: 265-276.

Travnicek, V.H., M.B. Bain, and M.J. Maceina. 1995. Recovery of a warmwater fish assemblage after the initiation of a minimum-flow release downstream from a hydroelectric dam. *Transactions of the American Fisheries Society* 124 (6): 836-844.

Travnicek, V.H., and M.J. Maceina. 1994. Comparison of flow regulation effects on fish assemblages in shallow and deep water habitats in the Tallapoosa River, Alabama. *Journal of Freshwater Ecology* 9: 207-216.

Tremblay, G., F. Caron, R. Verdon, and M. Lessard. 1993. Influences des parametres hydromorphologiques sur l'utilisation de l'habitat par les juveniles du saumon atlantiques (*Salmo salar*). In: *Production of juvenile Atlantic salmon, Salmo salar, in natural waters*. Edited by: R.J. Gibson and R.E. Cutting. *Can. Spec. Publ. Fish. Aquat. Sci. No. 118*, pp. 127-137.

Trepanier, S., M.A. Rodriguez, and P. Magnan. 1996. Spawning migrations in landlocked Atlantic salmon: time series modelling of river discharge and water temperature effects. *Journal of Fish Biology* 48 (5): 925-936.

Trihey, E.W. 1981. Using time series stream flow data to determine project effects on physical habitat for spawning pink salmon. Pp. 232-240 in: N.B. Armantrout, editor. *Acquisition and utilization of aquatic habitat inventory information. Proceedings of a symposium, Portland, Oregon.* American Fisheries Society, Western Division, Bethesda.

Trihey, E.W., and D.L. Wegner. 1983. Field data collection procedures for use with the Physical Habitat Simulation system of the Instream Flow Group. U.S. Fish and Wildlife Service, Cooperative Instream Flow Service Group, Fort Collins, Colorado.

Trimble, S.W., F.H. Weirich, and B.L. Hoag. 1987. Reforestation and the reduction of water yield on the Southern Piedmont since circa 1940. *Water Resour. Res.* 23: 425-437.

Tripp, D.B., and V.A. Poulin. 1985. Gravel scour as a factor limiting chum and coho spawning success. In: *Proceedings of the 1985 northeast Pacific pink and chum salmon workshop.* Department of Fisheries and Oceans. Pages 27-37.

Troendle, C.A., and G.S. Bevenger. 1996. Effects of fire on streamflow and sediment transport Shoshone National Forest, Wyoming. Pp. 43-52 in: J. Greenlee (ed.), *Proceedings of the second biennial conference on the Greater Yellowstone Ecosystem: the ecological implications of fire in*

Greater Yellowstone. International Association of Wildland Fire, Fairfield, Washington.

Trotzky, H.M., and R.W. Gregory. 1974. The effects of water flow manipulation below a hydroelectric power dam on the bottom fauna of the upper Kennebec River, .... Transactions of the American Fisheries Society 103 (2): 318-324.

Trudel, M., and D.W. Welch. 2005. Modeling the oxygen consumption rates in Pacific salmon and steelhead: model development. Transactions of the American Fisheries Society 134 (6): 1341-1561.

Trush, W.J., S.F. McBain, and L.B. Leopold. 2000. Attributes of an alluvial river and their relation to water policy and management. Proceedings of the National Academy of Sciences 97 (22): 11858-11863.

Tschapinski, 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 overwintering survival. Canadian Journal of Fisheries and Aquatic Sciences 40: 452-461.

Tsou, T.-S., and R.E. Matheson, Jr. 2002. Seasonal changes in the nekton community of the Suwannee River estuary and the potential impacts of freshwater withdrawal. Estuaries 25 (6B): 1372-1381.

Tsujimoto, T., and T. Tashiro. 2004. Application of population dynamics modeling to habitat evaluation. Hydroecologie Appliquee 14 (1): 161-174.

Tung, Y.-K., Y. Bao, L.W. Mays, and G.H. Ward. 1990. Optimization of freshwater inflow to estuaries. Journal of Water Resources Planning and Management 116: 567-584.

Turner, J.L., and H.K. Chadwick. 1972. Distribution and abundance of young-of-the-year striped bass, *Morone saxatilis*, in relation to river flow in the Sacramento-San Joaquin estuary. Transactions of the American Fisheries Society 101: 442-452.

Turnpenney, A.W.H., and R. Williams. 1980. Effects of sedimentation on the gravels of an industrial river system. Journal of Fish Biology 17: 681-693.

Tyler, J.A. 1993. Effects of water velocity, group size, and prey availability on the stream-drift capture efficiency of blacknose dace, *Rhinichthys*.... Canadian Journal of Fisheries and Aquatic Sciences 50 (5): 1055-1061.

Tyler, J.A., and J.F. Gilliam. 1995. Ideal free distributions of stream fish: a model and test with minnows, *Rhinichthys atratulus*. Ecology 76 (2): 580-592.

- Tyree, M.T., K.J. Kolb, S.J. Rood, and S. Patino. 1994. Vulnerability to drought-induced cavitation of riparian cottonwoods in Alberta: a possible factor in the decline of the ecosystem? *Tree Physiology* 14: 455-466.
- Tyus, H.M. 1990. Effects of altered stream flows on fishery resources. *Fisheries* 15 (3): 18-20.
- Tyus, H.M. 1992. An instream flow philosophy for recovering endangered Colorado River fishes. *Rivers* 3 (1): 27-36.
- Tyus, H.M., and G.B. Haines. 1991. Distribution, habitat use, and growth of age-0 Colorado squawfish in the Green River Basin, Colorado and Utah. *Transactions of the American Fisheries Society* 120 (1): 79-89.
- Tyus, H.M., and C.A. Karp. 1989. Habitat use and streamflow needs of rare and endangered fishes, Yampa River, Colorado. Washington, D.C.: USFWS (Biological Report 89 [14]).
- Tyus, H.M., and C.W. McAda. 1984. Migration, movements, and habitat preferences of Colorado squawfish, *Ptychocheilus lucius*, in the Green, White, and Yampa rivers, Colorado and Utah. *Southwestern Naturalist* 29: 289-299.
- Unmack, P.J. 2001. Fish persistence and fluvial geomorphology in central Australia. *J. Arid Environ.* 49: 653-669.
- Unwin, M.J. 1997. Survival of chinook salmon, *Oncorhynchus tshawytscha*, from a spawning tributary of the Rakaia River, New Zealand, in relation to spring and summer mainstem flows. U.S. National Marine Fisheries Service Fishery Bulletin 95: 812-825.
- U.S. Environmental Protection Agency. 2000. Ensuring adequate instream flows in New England. USEPA, New England Office, Boston.
- Vadas, R.L., Jr. 1992. Seasonal habitat use, species associations, and assemblage structure of forage fishes in Goose Creek, northern Virginia. II. Mesohabitat patterns. *Journal of Freshwater Ecology* 7: 149-164.
- Vadas, R.L., Jr. 1994. Habitat tools for assessing instream-flow needs for fishes in the upper Roanoke River, Virginia. Doctoral dissertation. Virginia Polytechnic Institute and State University, Blacksburg.
- Vadas, R.L., Jr. 2000. Instream-flow needs for anadromous salmonids and lamprey on the Pacific coast, with special reference to the Pacific Southwest. *Environmental Monitoring and Assessment* 64: 331-358.
- Vadas, R.L., Jr., and D.J. Orth. 1993. A new technique for estimating the abundance and habitat use of stream fishes. *Journal of Freshwater Ecology* 8: 305-317.
- Vadas, R.L., Jr., and D.J. Orth. 1997. Species associations and habitat use of stream fishes: the

effects of unaggregated-data analysis. *Journal of Freshwater Ecology* 12: 27-37.

Vadas, R.L., Jr., and D.J. Orth. 1998. Use of physical variables to discriminate visually determined mesohabitat types in North American streams. *Rivers* 6 (3): 143-159.

Vadas, R.L., Jr., and D.J. Orth. 2000. Habitat use of fish communities in a Virginia stream system. *Environmental Biology of Fishes* 59: 253-269.

Vadas, R.L., Jr., and D.J. Orth. 2001. Formulation of habitat-suitability models for stream-fish guilds: Do the standard methods work? *Transactions of the American Fisheries Society* 130 (2): 217-235.

Vadas, R.L., Jr., and D.L. Weigmann. 1993. The concept of instream flow and its relevance to drought management in the James River basin. Virginia Water Resources Research Center, Bulletin 182. Virginia Polytechnic Institute and State University, Blacksburg.

Valdez, R.A., T.L. Hoffnagle, C.C. McIvor, T. McKinney, and W.C. Liebfried. 2001. Effects of a test flow on fishes of the Colorado River in Grand Canyon, Arizona. *Ecological Applications* 11: 686-700.

Valdez, R.A., P.B. Holden, and T.B. Hardy. 1990. Habitat suitability index curves for humpback chub of the upper Colorado River basin. *Rivers* 1 (1): 31-42.

Valdimarsson, S.K., and N.B. Metcalfe. 1998. Shelter selection in juvenile Atlantic salmon, or why do salmon seek shelter in winter? *Journal of Fish Biology* 52: 42-49.

Valdimarsson, S.K., N.B. Metcalfe, J.E. Thorpe, and F.A. Huntingford. 1997. Seasonal changes in sheltering: effect of light and temperature on diel activity in juvenile salmon. *Animal Behavior* 54: 1405-1412.

Valentin, S., P. Sempeski, Y. Souchon, and P. Gaudin. 1994. Short-term habitat use by young grayling (*Thymallus thymallus*) under variable flow conditions in an experimental stream. *Fisheries Research and Management* 1: 57-65.

Valentin, S., Y. Souchon, and J.G. Wasson. 1994. Evaluation of hydro-peaking effects on fish community and habitat. Pages 138-151 in: I.G. Crown, editor. *Rehabilitation of freshwater fisheries*. Fishing News Books, Oxford.

Valett, H.M., M.A. Baker, J.A. Morrice, C.S. Crawford, M.C. Molles, Jr., C.N. Dahm, D.L. Moyer, J.R. Thibault, and L.M. Ellis. 2005. Biogeochemical and metabolic responses to the flood pulse in a semiarid floodplain. *Ecology* 86 (1): 220-234.

Van den Avyle, M.J., and M.A. Maynard. 1994. Effects of saltwater intrusion and flow diversion on reproductive success of striped bass in the Savannah River estuary. *Transactions of the American Fisheries Society* 123 (6): 886-903.

- Van den Berghe, E.P., and M.R. Gross. 1989. Natural selection resulting from female breeding competition in a Pacific salmon (coho: *Oncorhynchus kisutch*). *Evolution* 43 (1): 125-140.
- Van den Brink, F.W.B., J.P.H.M. De Leeuw, G. Van Der Velde, and G.M. Verheggen. 1993. Impact of hydrology on the chemistry and phytoplankton development in floodplain lakes along the lower Rhine and Meuse. *Biogeochemistry* 19: 103-128.
- Van der Nat, D., A. Schmidt, K. Tockner, P.J. Edwards, and J.V. Ward. 2002. Inundation dynamics in braided flood plains. *Ecosystems* 5: 636-647.
- Van der Nat, D., A. Schmidt, K. Tockner, P.J. Edwards, J.V. Ward, and A.M. Gurnell. 2003. Habitat change in braided flood plains Tagliamento, NE-Italy. *Freshwater Biology* 48: 1799-1812.
- Van Horne, B. 1983. Density as a misleading indicator of habitat quality. *Journal of Wildlife Management* 47: 893-901.
- Van Kirk, R.W., and R. Martin. 2000. Interaction among aquatic vegetation, waterfowl, flows, and the fishery below Island Park Dam. *Intermountain Journal of Science* 6: 249-262.
- Van Niekerk, A.W., G.L. Heritage, and B.P. Moon. 1995. River classification for management: the geomorphology of the Sabie River in the Eastern Transvaal. *S. Afr. Geogr.* 77: 68-76.
- Van Winkle, W., C.C. Coutant, H.I. Jager, J.S. Mattice, D.J. Orth, R.G. Otto, S.F. Railsback, and M.J. Sale. 1997. Uncertainty and instream flow standards: Perspectives based on hydropower research and assessment. *Fisheries* 22 (7): 21-22.
- Van Winkle, W., H.I. Jager, S.F. Railsback, B.D. Holcomb, T.K. Studley, and J.E. Baldrige. 1998. Individual-based model of sympatric populations of brown and rainbow trout for instream flow assessment: model description and calibration. *Ecological Modelling* 110: 175-207.
- 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.
- Vaux, W.G. 1968. The flow and interchange of water in a stream bed. *U.S. Fish and Wildlife Service Fishery Bulletin* 66: 479-489.
- Vehanen, T., P.L. Bjerke, J. Heggenes, A. Huusko, and A. Maki-Petays. 2000. Effect of fluctuating flows and temperature on cover type selection by juvenile brown trout in artificial flumes. *Journal of Fish Biology* 56: 923-937.
- Vehanen, T., and A. Huusko. 2002. Behaviour and habitat use of young-of-the-year Atlantic salmon (*Salmo salar*) at the onset of winter in artificial streams. *Arch. Hydrobiol.* 154: 133-150.
- Verry, E.S., J.R. Lewis, and K.N. Brooks. 1983. Aspen clear-cutting increases snowmelt and

- storm peak flows in north central Minnesota. *Water Resour. Bull.* 19: 59-67.
- Videler, J.J., and C.S. Wardle. 1991. Fish swimming stride by stride: speed limits and endurance. *Rev. Fish Biol. Fish.* 1: 23-40.
- Vilizzi, L., G.H. Copp, and J.M. Roussel. 2004. Assessing variation in suitability curves and electivity profiles in temporal studies of fish habitat use. *River Res. Appl.* 20: 605-618.
- Vinson, M.R., D.K. Vinson, and T.R. Angradi. 1992. Aquatic macrophytes and instream flow characteristics of a Rocky Mountain river. *Rivers* 3 (4): 260-265.
- Viroux, L. 1997. Zooplankton development in two large lowland rivers, the Moselle (France) and the Meuse (Belgium), in 1993. *Journal of Plankton Research* 19: 1743-1762.
- Vogel, S. 1981. *Life in moving fluids: the physical biology of flow.* Willard Grant Press, Boston, Mass.
- Vokoun, J.C. 2003. Movement and habitat use of flathead catfish (*Pylodictis olivaris*) in two Missouri interior streams. Doctoral dissertation. University of Missouri, Columbia.
- Vondracek, B., and D.R. Longanecker. 1993. Habitat selection by rainbow trout *Oncorhynchus mykiss* in a California stream: implications for the Instream Flow Incremental Methodology. *Ecology of Freshwater Fish* 2: 173-186.
- Voos, K.A. 1981. Simulated use of the exponential polynomial/maximum likelihood technique in developing suitability of use functions for ... Ph.D. thesis. Utah State University, Logan, Utah. 85 pp.
- Vorosmarty, C.J., P. Green, J. Salisbury, and R.B. Lammers. 2000. Global water resources: Vulnerability from climate change and population growth. *Science* 289: 284-288.
- Vorosmarty, C., and D. Sahagian. 2000. Anthropogenic disturbance of the terrestrial water cycle. *BioScience* 50: 753-765.
- Vronskiy, B.B. 1972. Reproductive biology of the Kamchatka River chinook salmon [*Oncorhynchus tshawytscha* (Walbaum)]. *J. Ichthyol.* 12: 259-273.
- Vronskii, B.B., and V.N. Leman. 1991. Spawning station, hydrological regime and survival of progeny in nests of chinook salmon, *Oncorhynchus tshawytscha*, in the Kamchatka River basin. *Journal of Ichthyology* 31: 91-102.
- Wada, L.L.L. 1991. Summer habitat use by Apache trout (*Oncorhynchus apache*), in five streams on the Fort Apache Indian Reservation. Master's thesis, University of Arizona, Tucson.
- Waddle, T. 1992. Are high and low flow habitat values really the same? Pp. 374-379 in M.

Karamouz, editor. Water resources planning and management: saving a threatened resources - in search of solutions. American Society of Civil Engineers, New York.

Waddle, T., P. Steffler, A. Ghanem, C. Katopodis, and A. Locke. 2000. Comparison of one and two-dimensional open channel flow models for a small habitat stream. *Rivers* 7 (3): 205-220.

Waite, I. R., and R.A. Barnhart. 1992. Habitat criteria for rearing steelhead: A comparison of site-specific and standard curves for use in the Instream Flow Incremental Methodology. *North American Journal of Fisheries Management* 12 (1): 40-46.

Walburg, C.H., J.F. Novotny, K.E. Jacobs, W.D. Swink, T.M. Campbell, J.M. Nestler, and G.E. Saul. 1981. Effect of reservoir releases on tailwater ecology: a literature review. U.S. Army Engineer Waterways Experiment Station, Technical Report E-81-12, Vicksburg, Mississippi.

Walker, K.F., F. Sheldon, and J.T. Puckridge. 1995. A perspective on dryland river ecosystems. *Regulated Rivers* 11: 85-104.

Wallace, J.B., J.R. Webster, and J.L. Meyer. 1995. Influence of log additions on physical and biotic characteristics of a mountain stream. *Canadian Journal of Fisheries and Aquatic Sciences* 52 (10): 2120-2137.

Walters, C., L. Gunderson, and C.S. Holling. 1992. Experimental policies for water management in the Everglades. *Ecological Applications* 2: 189-202.

Walters, C.J., and F. Juanes. 1993. Recruitment limitation as a consequence of natural selection for use of restricted feeding habits and predation risk-taking by juvenile fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 50 (10): 2058-2070.

Walters, M.A., R.O. Teskey, and T.M. Hinckley. 1980. Impact of water level changes on woody riparian and wetland communities. Washington, D.C.: U.S. Fish and Wildlife Service (OBS-78/95).

Wang, L., J. Lyons, and P. Kanehl. 2003. Impacts of urban land cover on trout streams in Wisconsin and Minnesota. *Transactions of the American Fisheries Society* 132 (5): 825-839.

Wankowski, J.W.J. 1981. Behavioral aspects of predation by juvenile Atlantic salmon (*Salmo salar* L.) on particulate, drifting prey. *Animal Behaviour* 29: 557-571.

Wankowski, J.W.J., and J.E. Thorpe. 1979. Spatial distribution and feeding in Atlantic salmon *Salmo salar* L. juveniles. *J. Fish Biol.* 14: 239-247.

Ward, B.R. 2000. Declivity in steelhead (*Oncorhynchus mykiss*) recruitment at the Keogh River over the past decade. *Canadian Journal of Fisheries and Aquatic Sciences* 57 (2): 298-306.

- Ward, B.R., and P.A. Slaney. 1988. Life history and smolt-to-adult survival of Keogh River steelhead trout (*Salmo gairdneri*) and the relationship to smolt size. *Canadian Journal of Fisheries and Aquatic Sciences* 45: 1110-1122.
- Ward, B.R., P.A. Slaney, A.R. Fachin, and R.W. Land. 1989. Size-biased survival in steelhead trout: back-calculated lengths from adults' scales compared to migrating smolts at the Keogh River, B.C. *Canadian Journal of Fisheries and Aquatic Sciences* 46: 1853-1858.
- Ward, G.H. 1985. Evaluation of marsh enhancement by freshwater diversion. *Journal of Water Resources Planning and Management, ASCE* 111: 1-23.
- Ward, G.H., M.J. Irlbeck, and P.A. Montagna. 2002. Experimental river diversion for marsh enhancement. *Estuaries* 25 (6B): 1416-1425.
- Ward, J.V. 1989. Riverine-wetland interactions. Pp. 385-400 in: R.R. Sharitz and W. Gibbons, eds. *Freshwater wetlands and wildlife*. United States Department of Energy, Office of Scientific and Technical Information, Oak Ridge, Tennessee.
- Ward, J.V. 1998. Riverine landscapes: biodiversity patterns, disturbance regimes and aquatic conservation. *Biological Conservation* 83: 267-278.
- Ward, J.V., and J.A. Stanford. 1995. Ecological connectivity in alluvial river ecosystems and its disruption by flow regulation. *Regulated Rivers: Research and Management* 11: 105-119.
- Ward, J.V., L. Tockner, and F. Schiemer. 1999. Biodiversity of floodplain river ecosystems: ecotones and connectivity. *Regulated Rivers: Research and Management* 15: 125-139.
- Wardle, C.S. 1980. Effects of temperature on the maximum swimming speed of fishes. Pp. 519-531 in: M.A. Ali, editor, *Environmental physiology of fishes*. Plenum, New York.
- Waters, B.F. 1976. A methodology for evaluating the effects of different streamflows on salmonid habitat. Pages 224-234 in: J.F. Orsborn and C.H. Allman, editors. *Proceedings of the Symposium and Specialty Conference on Instream Flow Needs*. II, 3-6 May 1976, Boise, Idaho. American Fisheries Society, Bethesda, MD.
- Weatherly, N.S., E.W. Campbellendrum, and S.J. Ormerod. 1991. The growth of brown trout in mild winters and summer droughts in upland Wales - model validation and preliminary prediction. *Freshwater Biology* 26: 121-131.
- Weaver, C.R. 1963. Influence of water velocity upon orientation and performance of adult migrating salmonids. *Fishery Bulletin* 63: 97-121.
- Webb, B.W., and D.E. Walling. 1993. Temporal variaability in the impact of river regulation on thermal regime and some biological implications. *Freshw. Biol.* 29: 167-182.

- Webb, J.H., R.J. Fryer, J.B. Taggart, C.E. Thompson, and A.F. Youngson. 2001. Dispersion of Atlantic salmon (*Salmo salar*) fry from competing families as revealed by DNA profiling. *Canadian Journal of Fisheries and Aquatic Sciences* 52 (12): 2386-2395.
- Webster, D.A., and G. Eiriksdottir. 1976. Upwelling as a factor influencing choice of spawning sites by brook trout (*Salvelinus fontinalis*). *Transactions of the American Fisheries Society* 105: 416-421.
- Weihls, D. 1973. Optimal fish cruising speed. *Nature (London)* 245: 48-50.
- Weisberg, S.B., and W. H. Burton. 1993. Enhancement of fish feeding and growth after an increase in minimum flow below the Conowingo Dam. *North American Journal of Fisheries Management* 13 (1): 103-109.
- Weisberg, S.B., A.J. Janicki, J. Gerritsen, and H.T. Wilson. 1990. Enhancement of benthic macroinvertebrates by minimum flow from a hydroelectric dam. *Regulated Rivers: Research and Management* 5: 265-277.
- Weise, A.M., M. Levasseur, F.J. Saucier, S. Senneville, E. Bonneau, S. Roy, G. Sauve, S. Michaud, and J. Fauchot. 2002. The link between precipitation, river runoff, and blooms of the toxic dinoflagellate *Alexandrium tamarense* in the St. Lawrence. *Canadian Journal of Fisheries and Aquatic Sciences* 59 (3): 464-473.
- Welcomme, R. 1979. *Fisheries ecology of floodplain rivers*. Longman, London. 317 pp.
- Welcomme, R. 1989. Review of the present state of knowledge of fish stocks and fisheries of African rivers. Pp. 515-532 in: D.P. Dodge (ed.), *Proceedings of the International Large Rivers Symposium*. *Canadian Sp. Publ. Fish. Aquatic. Sci.* 106.
- Welcomme, R., and D. Hagborg. 1977. Towards a model of a floodplain fish population and its fishery. *Environmental Biology of Fishes* 2: 7-74.
- Welcomme, R., R.A. Ryder, and J.A. Sedell. 1989. Dynamics of fish assemblages in river systems - a synthesis. Pp. 569-577 in: D.P. Dodge (ed.), *Proceedings of the International Large Rivers Symposium*. *Canadian Sp. Publ. Fish. Aquatic. Sci.* 106.
- Welsh, H.H., Jr., G.R. Hodgson, B.C. Harvey, and M.F. Roche. 2001. Distribution of juvenile coho salmon in relation to water temperatures in tributaries of the Mattole River, California. *North American Journal of Fisheries Management* 21 (3): 464-470.
- Wenzel, C.R. 1993. Flushing flow requirements of a large, regulated Wyoming river to maintain trout spawning habitat quality. M.S. thesis, Department of Range Management, University of Wyoming, Laramie.
- Wesche, T.A. 1973. Parametric determination of minimum stream flow for trout. *Water*

Resources Research Institute, University of Wyoming, Laramie. 102 pp.

Wesche, T.A. 1974. Evaluation of trout cover in smaller streams. Proceedings of the Annual Conference of the Western Association of Game and Fisheries Commissioners 54: 286-294.

Wesche, T.A. 1980. A procedure for measuring trout cover in smaller streams. Proceedings of the Annual Conference of the Western Association of Fish and Wildlife Agencies 80: 466-479.

Wesche, T.A., C.M. Goertler, and W.A. Hubert. 1987. Modified habitat suitability index model for brown trout in southeastern Wyoming. North American Journal of Fisheries Management 7 (2): 232-237.

Wesche, T.A., V.R. Hasfurther, W.A. Hubert, and Q.D. Skinner. 1987. Assessment of flushing flow needs in a steep, rough, regulated tributary. Pp. 59-70 in: J.F. Craig and J.B. Kemper, editors. Regulated Streams: Advances in Ecology. Plenum Press, New York and London.

Wesche, T.A., S.W. Wolff, and Q.D. Skinner. 1989. Response of mountain stream channels and associated areas to flow regulation. P. 182 in: R.E. Gresswell, B. Barton, and J.L. Kershner (eds.), Practical Approaches to Riparian Resource Management. U.S. Bureau of Land Management, Billings, MT.

Westlake, D.F. 1967. Some effect of low-velocity currents on the metabolism of aquatic macrophytes. Journal of Experimental Botany 18: 187-205.

Wetherall, J.A. 1971. Estimation of survival rates for chinook salmon during their downstream migration in the Green River, Washington. Ph.D. dissertation. College of Fisheries, University of Washington, Seattle. 170 pp.

Wetmore, S.H., R.J. Mackay, and R.W. Newbury. 1990. Characterization of the hydraulic habitat of *Brachycentrus occidentalis*, a filter-feeding caddisfly. Journal of the American Benthological Society 9: 157-169.

Whalen, K.G., and D.L. Parrish. 1999. Nocturnal habitat use of Atlantic salmon parr in winter. Canadian Journal of Fisheries and Aquatic Sciences 56 (9): 1543-1550.

Whalen, K.G., D.L. Parrish, and M.E. Mather. 1999. Effect of ice formation on selection of habitats and winter distribution of post-young-of-the-year Atlantic salmon parr. Canadian Journal of Fisheries and Aquatic Sciences 56 (1): 87-96.

Wheeler, A.P., and M.S. Allen. 2003. Habitat and diet partitioning between shoal bass and largemouth bass in the Chipola River, Florida. Transactions of the American Fisheries Society 132 (3): 438-449.

Wheelock, K. 2003. Pulsed river flooding effects on sediment desposition in Breton Sound estuary, Louisiana. Thesis, Louisiana State University, Baton Rouge, Louisiana, USA.

- White, D.S. 1990. Biological relationships to convective flow patterns within stream beds. *Hydrobiologia* 196: 149-158.
- White, G. 1988. The environmental effects of the high dam at Aswan. *Environment*
- White, R.G., A.E. Bingham, R.A. Ruediger, and T.S. Vogel. 1981. Response of fish and fish-food organisms to reduction in stream discharge. *Proceedings of the 60<sup>th</sup> Annual Conference of the Western Association of Fish and Wildlife Agencies*: 480-493.
- White, R.J. 1973. Stream channel suitability for coldwater fish. *Proceedings of the 28th Annual Meeting of the Soil Conservation Society of America (Plants, Animals and Man)*, September 30 - October 3, Hot Springs, Arkansas. pp. 61-79.
- White, R.J. 1975. Trout population responses to streamflow fluctuation and habitat management in Big Roche-a-Cri Creek, Wisconsin. *Internationale Vereinigung fur Theoretische und Angewandte Limnologie Verhandlungen* 19: 2469-2477.
- White, R.J. 1978. Limitations of trout stream management. ??
- Whited, D., J.A. Stanford, and J.S. Kimball. 2002. Application of airborne multispectral digital imagery to quantify riverine habitats at different base flows. *River Research and Application* 18: 583-594.
- Whitfield, A.K. 1994. Abundance of larval and 0+ juvenile marine fishes in the lower reaches of three southern African estuaries with differing freshwater inputs. *Marine Ecology Progress Series* 105: 257-267.
- Whitfield, A.K. and M.N. Bruton. 1989. Some biological implications of reduced fresh water inflow into eastern Cape estuaries: A preliminary assessment. *South African Journal of Science* 85: 691-694.
- Whitfield, A.K., and T.H. Wooldridge. 1994. Changes in freshwater supplies to southern African estuaries: Some theoretical and practical considerations, p. 41-50. In: K.R. Dyer and R.J. Orth (eds.). *Changes in Fluxes in Estuaries: Implications from Science and Management*. Olsen and Olsen, Fredensborg, Denmark.
- Whitfield, P.H., and H. Schreier. 1981. Hysteresis in relationships between discharge and water chemistry in the Fraser River Basin, British Columbia. *Limnology and Oceanography* 26: 1179-1182.
- Whiting, P.J. 1998. Floodplain maintenance flows. *Rivers* 6 (3): 160-170.
- Whiting, P.J., and M. Pomeranets. 1997. A numerical study of bank storage and its contribution to streamflow. *Journal of Hydrology* 202: 121-136.
- Wiberg, P.L., and J.D. Smith. 1991. Velocity distribution and bed roughness in high-gradient

streams. *Water Resources Research* 27: 825-838.

Wickett, W.P. 1951. The coho salmon population of Nile Creek. Fisheries Research Board of Canada Pacific Prog. Rep. 89: 88-89.

Wickett, W.P. 1958. Review of certain environmental factors affecting the production of pink and chum salmon. *Journal of the Fisheries Research Board of Canada* 15: 1103-1126.

Wickham, M.G. 1967. Physical microhabitat of trout. M.S. thesis. Colorado State University, Fort Collins.

Wiens, J.A. 2002. Riverine landscapes: taking landscape ecology into the water. *Freshwater Biology* 47: 501-515.

Wilber, D.H. 1992. Association between freshwater inflows and oyster productivity in Apalachicola Bay, Florida. *Estuar Coast Shelf Sci* 35: 179-190.

Wilber, D.H. 1994. The influence of Apalachicola River flows on the blue crab, *Callinectes sapidus*, in north Florida. *Fishery Bulletin* 92: 180-188.

Wilber, D.A., and R. Bass. 1998. Effect of Colorado River diversion on Matagordo Bay epifauna. *Estuarine, Coastal and Shelf Science* 47: 309-318.

Wilcock, P.R., G.M. Kondolf, W.V. Matthews, and A.F. Barta. 1996. Specification of sediment maintenance flows for a large gravel-bed river. *Water Resources Research* 32 (9): 2911-2921.

Wildhaber, M.L., V.M. Tabor, J.E. Whitaker, A.L. Allert, D.W. Mulhern, P.J. Lamberson, and K.L. Powell. 2000. Ictalurid populations in relation to the presence of a main-stem reservoir in a midwestern warmwater stream with emphasis on the threatened Neosho madtom. *Transactions of the American Fisheries Society* 129 (6): 1264-1280.

Wildhaber, M.L., P.J. Lamberson, and D.L. Galat. 2003. A comparison of measures of riverbed form for evaluating distributions of benthic fishes. *North American Journal of Fisheries Management* 23 (2): 543-557.

Wiley, D. 1995. Development and evaluation of flushing flow recommendations for the Big Horn River. Master's thesis, University of Wyoming, Laramie.

Wiley, D.J. 2004. Relations between physical habitat and American eel abundance in five river basins in Maryland. *Transactions of the American Fisheries Society* 133 (3): 512-526.

Wiley, M.J., and S.J. Kohler. 1981. An assessment of biological interactions in an epilithic stream community using time lapse cinematography. *Hydrobiologia* 78: 183-188.

Williams, D.D. 1980. Temporal patterns in recolonization of stream benthos. *Archives of*

Hydrobiology 90: 56-74.

Williams, G.P. 1978. Bankfull discharge of rivers. *Water Resources Research* 14: 1141-1153.

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

Williams, I.V., and J.R. Brett. 1987. Critical swimming speed of Fraser and Thompson river pink salmon (*Oncorhynchus gorbuscha*). *Canadian Journal of Fisheries and Aquatic Sciences* 44: 348-356.

Williams, J.G. 1996. Lost in space: minimum confidence intervals for idealized PHABSIM studies. *Transactions of the American Fisheries Society* 125 (3): 458-465.

Williams, J.G. 1997. Comment: testing the independence of microhabitat preferences and flow (part 1). *Transactions of the American Fisheries Society* 126 (3): 536-537.

Williams, J.G. 2001. Tripping over spatial scales: a comment on Guay et al. (2000). *Canadian Journal of Fisheries and Aquatic Sciences* 58 (10): 2105-2107.

Williams, J.G. 2001. Testing models used for instream flow assessment. *Fisheries* 26 (12): 19-20.

Williams, J.G., and G.M. Matthews. 1995. A review of flow and survival relationships for spring and summer chinook salmon, *Oncorhynchus tshawytscha*, from the Snake River basin. *Fishery Bulletin* 93: 732-740.

Williams, J.G., S.G. Smith, and W.D. Muir. 2001. Survival estimates for downstream migrant yearling juvenile salmonids through the Snake and Columbia Rivers hydropower system, 1966-1980 and 1993-1999.

Williams, J.G., T.P. Speed, and W.F. Forrest. 1999. Comment: Transferability of habitat suitability criteria. *North American Journal of Fisheries Management* 19 (2): 623-625.

Williams, P.B. 1989. Managing freshwater inflow to the San Francisco Bay estuary. *Regulated Rivers: Research and Management* 4: 285-298.

Williams, R.D., and R.N. Winget. 1979. Macroinvertebrate response to flow manipulation in the Strawberry River, Utah. Pp. 365-376 in: J.V. Ward and J.A. Stanford (eds.) *The ecology of regulated streams*. Plenum Publishing Corporation, New York.

Williams, R.N., P.A. Bisson, D.L. Bottom, L.D. Calvin, C.C. Coutant, M.W. Erho, C.A. Frissell, J.A. Lichatowich, W.J. Liss, W.E. McConaha, P.R. Mundy, J.A. Stanford, and R.R. Whitney. 1999. Return to the river: scientific issues in the restoration of salmonid fishes in the Columbia

River. Fisheries 24: 10-19.

Williams, R.W., R.M. Laramie, and J.J. Ames. 1975. A catalog of Washington streams and salmon utilization, Volume 1 Puget Sound region. Washington Department of Fisheries, Olympia.

Williamson, S.C., J.M. Bartholow, and C.B. Stalnaker. 1993. A conceptual model for quantifying pre-smolt production from flow-dependent physical habitat and water temperature. Regulated Rivers: Research & Management 8: 15-28.

Wilson, K.W., and M.C. Belk. 2001. Habitat characteristics of leatherside chub (*Gila copei*) at two spatial scales. Western North American Naturalist 61: 36-42.

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.

Wilzbach, M.A., K.W. Cummins, and J.D. Hall. 1986. Influence of habitat manipulations on interactions between cutthroat trout and invertebrate drift. Ecology 67: 898-911.

Wing, M.G., and A. Skaugset. 2002. Relationships of channel characteristics, land ownership, and land use patterns to large woody debris in western Oregon streams. Canadian Journal of Fisheries and Aquatic Sciences 59 (5): 796-807.

Winkle, P.L., W.A. Hubert, and F.J. Rahel. 1990. Relations between brook trout standing stocks and habitat features in beaver ponds in southeastern Wyoming. North American Journal of Fisheries Management 10 (1): 72-79.

Winterbottom, S.J., and D.J. Gilvear. 1997. Quantification of channel bed morphology in gravel-bed rivers using airborne multispectral imagery and aerial photography. Regulated Rivers: Research and Management 13: 489-499.

Wiseman, W.J. and F.J. Kelly. 1994. Salinity variability within the Louisiana coastal current during the 1982 flood season. Estuaries 17: 732-739.

Wissel, B., A. Gace, and B. Fry. 2005. Tracing river influences on phytoplankton dynamics in two Louisiana estuaries. Ecology 86 (10): 2751-2762.

Wissmar, R.C. (and S. Craig.) 1997. Bull trout spawning activity, Gold Creek, Washington. University of Washington School of Fisheries, Fisheries Research Institute FRI-UW-9701. 15 pp.

Witzel, L.D., and H.R. MacCrimmon. 1983. Redd-site selection by brook trout and brown trout

in southwestern Ontario streams. *Transactions of the American Fisheries Society* 112 (6): 760-771.

Woinarski, J.C.Z., C. Brock, M. Armstrong, C. Hempel, D. Cheal, and K. Brennan. 2000. Bird distribution in riparian vegetation in the extensive natural landscape of Australia's tropical savannah: a broad-scale survey and analysis of a distributional data base. *Journal of Biogeography* 27: 843-868.

Wolff, S.W., T.A. Wesche, D.D. Harris, and W.A. Hubert. 1990. Brown trout population and changes associated with increased minimum flows in Douglas Creek, Wyoming. U.S. Fish and Wildlife Service Biological Report 90 (11).

Wolman, M.G., and J.P. Miller. 1960. Magnitude and frequency of forces in geomorphic processes. *Journal of Geology* 68: 54-74.

Wondzell, S.M., and F.J. Swanson. 1996. Seasonal and storm dynamics of the hyporheic zone of a 4<sup>th</sup>-order mountain stream. I. Hydrological processes. *J. North Am. Benthol. Soc.* 15: 3-19.

Wondzell, S.M., and F.J. Swanson. 1999. Floods, channel change, and the hyporheic zone. *Water Resources Research* 35: 555-567.

Wong, S. 2002. Villagers chart recovery since Pak Mun gates opened. *World Rivers Review* 17: 10-11.

Woo, M-K., and P.R. Waylen. 1984. Areal prediction of annual floods generated by two distinct processes. *Hydrol. Sci. J.* 29: 75-88.

Wood, P.J., and G.E. Petts. 1994. Low flows and recovery of macroinvertebrates in a small regulated chalk stream. *Regulated Rivers: Research and Management* 9: 303-316.

Wood, R.K., and Whelon. 1965. Low-flow regulations as a means of improving stream fishing. *Proceedings of the Annual Conference of Southeastern Game and Fish Commissioners* 16: 375-386.

Wooley, C.M., and E.J. Crateau. 1985. Movement, microhabitat, exploitation, and management of Gulf of Mexico sturgeon, Apalachicola River, Florida. *North American Journal of Fisheries Management* 5: 590-605.

Wootton, J.T., M.S. Parker, and M.E. Power. 1996. Effects of disturbance on river food webs. *Science* 273: 1558-1561.

Wright, J.F., and A.D. Berrie. 1987. Ecological effects of groundwater pumping and a natural drought on the upper reaches of a chalk stream. *Regulated Rivers: Research and Management* 1: 145-160.

- Wright, J.F., P.D. Hiley, D.A. Cooling, A.C. Cameron, Wigha.... 1984. The invertebrate fauna of a small chalk stream in Berkshire, England, and the effect of intermittent flow. *Arch. Hydrobiol.* 99: 176-199.
- Wu, F.-C., and C.-F. Wang. 2002. Effect of flow-related substrate alteration on physical habitat: a case study of the endemic river loach *Sinogastromyzon puliensis* (Cypriniformes, Holmalopteridae) downstream of Chi-Chi diversion weir, Chou-Shi Creek, Taiwan. *River Research and Applications* 18 (2): 155-170.
- Xenopoulos, M.A., and D.M. Lodge. 2006. Going with the flow: using species-discharge relationships to forecast losses in fish biodiversity. *Ecology* 87 (8): 1907-1914.
- Xenopoulos, M.A., D.M. Lodge, J. Alcamo, M. Marker, K. Schulze, and D.P. van Vuuren. 2005. Scenarios of freshwater fish extinctions from climate change and water withdrawal. *Global Change Biology* 11: 1557-1564.
- Yin, K., P.J. Harrison, and R.J. Beamish. 1997. Effects of a fluctuation in Fraser River discharge on primary production in the central Strait of Georgia, British Columbia, Canada. *Canadian Journal of Fisheries and Aquatic Sciences* 54 (5): 1015-1024.
- Young, A.A., and H.F. Blaney. 1942. Use of water by native vegetation. California Department of Public Works, Division of Water Resources, Sacramento 160 pp.
- Young, K. A. 2001. Habitat Diversity and Species Diversity: Testing the Competition Hypothesis With Juvenile Salmonids. *Oikos* 95: 87-93.
- Young, M.K. 1996. Summer movements and habitat use by Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*) in small, montane streams. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 1403-1408.
- Young, M.K. 1998. Absence of autumnal changes in habitat use and location of adult Colorado River cutthroat trout in a small stream. *Transactions of the American Fisheries Society* 127: 147-151.
- Young, M.K., W.A. Hubert, and T.A. Wesche. 1991. Selection of measures of substrate composition to estimate survival to emergence of salmonids and to detect changes in stream substrates. *North American Journal of Fisheries Management* 11: 339-346.
- Yu, S.-L., and E.J. Peters. 2002. Diel and seasonal habitat use by red shiner (*Cyprinella lutrensis*). *Zoological Studies* 41: 229-235.
- Yu, S.-L., E.J. Peters, and W.W. Stroup. 1995. Application of logistic regression to develop habitat suitability criteria for sand shiner, *Notropis stramineus*. *Rivers* 5 (1): 22-34.
- Zalewski, M. 2002. Ecohydrology - the use of ecological and hydrological processes for sustainable management of water resources. *Hydrological Sciences Journal* 47: 825-834.
- Zalewski, M., and R.J. Naiman. 1985. The regulation of riverine fish communities by a

continuum of abiotic-biotic factors. Pages 3-9 in: J.S. Alabaster, editor. Habitat modification and freshwater fisheries. Food and Agriculture Organization of the United Nations, EIFAC/85, Rome.

Zedler, J.B. 1983. Freshwater impacts in normally hypersaline marshes. *Estuaries* 6: 346-355.

Zeug, S.C., K.O. Winemiller, and S. Tarim. 2005. Response of Brazos River oxbow fish assemblages to patterns of hydrologic connectivity and environmental variability. *Transactions of the American Fisheries Society* 134 (5): 1389-1399.

Zigler, S.J., M.R. Dewey, and B.C. Knights. 1999. Diel movement and habitat use by paddlefish in Navigation Pool 8 of the Upper Mississippi River. *North American Journal of Fisheries Management* 19 (1): 180-187.

Zigler, S.J., M.R. Dewey, and B.C. Knights, A.L. Runstrom, and M.T. Steingraeber. 2003. Movement and habitat use by radio-tagged paddlefish in the upper Mississippi River and tributaries. *North American Journal of Fisheries Management* 23 (1): 189-205.

Zigler, S.J., M.R. Dewey, and B.C. Knights, A.L. Runstrom, and M.T. Steingraeber. 2004. Hydrologic and hydraulic factors affecting passage of paddlefish through dams in the upper Mississippi River. *Transactions of the American Fisheries Society* 133: 160-172.

Zillges, G. 1977. Methodology for determining Puget Sound coho escapement goals, escapement estimates, 1977 pre-season run size prediction and in-season run assessment. Washington Department of Fisheries Technical Report 28. Olympia.

Zincone, L.H., Jr., and R.A. Rulifson. 1991. Instream flow and striped bass recruitment in the lower Roanoke River, North Carolina. *Rivers* 2 (2): 125-137.

Zoellick, B.W. 1999. Stream temperatures and the elevational distribution of redband trout in southwestern Idaho. *Great Basin Naturalist* 59: 136-143.

Zoellick, B.W., and B.S. Cade. 2006. Evaluating redband trout habitat in sagebrush desert basins in southwestern Idaho. *North American Journal of Fisheries Management* 26 (2): 268-281.

Zorn, T.G., and P.W. Seelbach. 1995. The relation between habitat availability and the short-term carrying capacity of a stream reach for smallmouth bass. *North American Journal of Fisheries Management* 15: 773-783.

Zorn, T.G., P.W. Seelbach, and M.J. Wiley. 2002. Distributions of stream fishes and their relationship to stream size and hydrology in Michigan's lower peninsula. *Transactions of the American Fisheries Society* 131 (1): 70-85.

