

**Exhibit SNC 000012**

**Dr. Charles C. Coutant**  
**Curriculum Vitae**

## RESUME

**CHARLES C. COUTANT**

December 2008

Present Position

Oak Ridge National Laboratory, retired. Private consultant. (October 1, 2005-present)

Born

Jamestown, New York, August 2, 1938

Education

Ph. D.	Lehigh University, Bethlehem, Pennsylvania	Biology 1965
M. S.	Lehigh University, Bethlehem, Pennsylvania	Biology 1962
B. A.	Lehigh University, Bethlehem, Pennsylvania	Biology 1960

Previous Positions

Distinguished Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831-6036 (2003-2005)

Senior Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory, (1982-1985; 1986-1988; 1992-2003)

Manager, ORNL Exploratory Studies Program, Central Management, and Senior Research Ecologist, Oak Ridge National Laboratory (1989-1992)

Manager, DOE Global Carbon Cycle Program, and Senior Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory (1985-1986)

Team Leader, Multi-Media Modeling Project and Senior Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory (1979-1982)

Manager, Thermal Effects Program, and Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory (1970-1979)

Research Scientist, Biology Department (later Ecosystems Department), Battelle-Pacific Northwest Laboratories, Richland, Washington 99352 (1965-1970)

U. S. Public Health Service Predoctoral Fellow, Lehigh University, Bethlehem, Pennsylvania, 18015 (1963-1965)

Professional Societies

American Association for the Advancement of Science (Fellow)  
 American Institute of Fishery Research Biologists (Fellow)  
 American Fisheries Society (numerous offices, including President)

American Society for Limnology and Oceanography  
American Society for Testing and Materials (lapsed)  
Ecological Society of America  
Sigma Xi  
Water Pollution Control Federation (lapsed)

#### Professional and Academic Honors

2002 Distinguished Scientist of the Year, UT-Battelle (manager of ORNL)  
2001 Distinguished Publication Award, American Society for Information Science (E. TN Chapter)  
1999 Scientific Achievement Award, Southern Division, American Fisheries Society  
1997 Distinguished Service Award, American Fisheries Society  
1996-97 President, American Fisheries Society  
1993-1996 Progression from Second Vice Pres., First Vice Pres., Pres. Elect, American Fisheries Society  
1993 Elected as Second Vice President, American Fisheries Society  
1991-1994 Coeditor, *Transactions of the American Fisheries Society*  
1990-1991 President, Oak Ridge Chapter, Sigma Xi  
1987-1989 President, Water Quality Section, American Fisheries Society  
1987 Distinguished Publication Award, American Society for Information Science  
1986-1988 Editorial Board, *Transactions of the American Fisheries Society*  
1986-1987 President, Southern Division, American Fisheries Society  
1986 President, Tennessee Chapter, American Fisheries Society  
1986 Outstanding Publication Award, Martin Marietta Energy Systems, Inc.  
1985 Present-Elect, Southern Division, American Fisheries Society  
1984 Achievement Award for Excellence in Fisheries, Tennessee Chapter American Fisheries Society  
1983 Fellow, American Association for the Advancement of Science  
1980 Southeast Regional Lecturer, Sigma Xi  
1978-1979 Editorial Board, *Environmental Science and Technology*  
1978 Fellow, American Institute for Fishery Research Biologists  
1975-1982 Editor, Underwater Telemetry Newsletter  
1968 Best Award, Battelle-Northwest, Richland, Washington (Power Plant Siting Study)  
1968 Director's Award, Battelle-Northwest (Power Plant Siting Study)  
1963 U.S. Public Health Service Predoctoral Fellowship in Water Pollution Control  
1963 Darbaker Prize, Pennsylvania Academy of Science (Excellent Microbiology Paper)

#### Professional Experience

##### Water Quality

Research and analysis on interactions between water quality and the biological integrity of water, including pollution monitoring and field studies for industry through Lehigh University (graduate assistant) and in private consulting (1960-1965) and annual literature reviews on thermal effects of Water Pollution Control Federation (1967-1978).

Member of National Academy of Sciences Committee on Water Quality, Panel on Freshwater Aquatic Life and Wildlife, and coauthor of the "Blue Book" on water quality, Water Quality Criteria 1972 (National Academy of Sciences/National Academy of Engineering 1973).

American Society for Testing and Materials (ASTM) Task Group Chairman for developing standard practice for evaluating transport/fate models for chemicals in the environment (1981-1984).

### Aquatic Ecology and Fisheries

Ph.D. dissertation research on effects of dam discharges on stream ecology; Masters and Postdoctoral research on aquatic macroinvertebrate community responses to pollutants.

Research and analysis on aquatic resources of the middle Columbia River (1965-1970), particularly their responses to thermal effluents. Member, Independent Scientific Advisory Board (previously called the Scientific Review Group and Independent Scientific Group) overseeing the Columbia River Fish and Wildlife Program for Bonneville Power Administration, Northwest Power Planning Council, National Marine Fisheries Service and Columbia River Tribes (1989-2005). Member, Independent Scientific Review Panel for the Northwest Power and Conservation Council (formerly called the Northwest Power Planning Council) for evaluating proposals for the BPA-funded Columbia River Basin Fish and Wildlife Program (1997-2005).

Research and analysis on thermal, entrainment, and impingement effects of thermal power station cooling systems on aquatic organisms, principally fishes.

Thermal ecology of the striped bass (*Morone saxatilis*) and Chinook salmon (*Oncorhynchus tshawytscha*).

Thermal niche partitioning of lakes and estuaries.

Management of power station thermal discharges for environmental benefits.

Introduction of the concept of turbulent attraction flow (simulation of stream turbulence) for guiding migrating fish.

### Environmental Impact Assessment

Environmental impact assessments (NEPA EISs) and hearing testimony on impacts of nuclear and fossil-fuel power stations on water quality and aquatic ecology and fisheries for Bonneville Power Administration, Atomic Energy Commission, Nuclear Regulatory Commission, and Department of Energy (Nuclear Power Plant Siting in the Pacific Northwest, Palisades Nuclear Plant, Shoreham Nuclear Plant, Indian Point Nuclear Plant, Kyger Creek Power Plant). Involved aquatic impacts of construction (e.g., dredging) and operation (e.g., thermal, entrainment, impingement, chlorination).

Environmental impact assessments (NEPA EISs) for the Federal Energy Regulatory Commission on two hydroelectric dams in Alaska (Susitna Project), hydropower development in the upper Ohio River basin (cumulative impacts of 19 projects), nine hydropower projects in the Skagit River basin (Washington),

and existing hydropower projects on the Mokelumne and Tuolumne rivers, California. Mentored ORNL staff for other FERC EIS projects.

### Project Management

Technical direction and budgetary management for power station cooling systems research and multimedia (air, land, water) modeling projects, each with funding in the \$0.5-1 million per year range (1970s dollars), including supervision of up to 20 staff.

Development of a project evaluation process for the Bonneville Power Administration's Columbia River Fish and Wildlife Program.

Management (from ORNL) of the Department of Energy's \$4 million/year national research program on environmental determinants of carbon dioxide in the atmosphere as related to CO<sub>2</sub>-induced global climate change.

Management of Oak Ridge National Laboratory's \$8-12 million per year Exploratory Studies Program to support innovative new research ideas.

### Advisory Capacity

Research coordination projects, including book preparation, for United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Atomic Energy Agency (IAEA).

Research consultation with governmental agencies: Sweden, Federal Republic of Germany, United Nations Food and Agriculture Organization (FAO), Province of Ontario (Canada), and numerous review boards.

National Advisory Council for Electric Power Research Institute (EPRI).

Regulatory guideline preparation and review for implementation of Section 316(a) of the Clean Water Act for the Environmental Protection Agency (EPA).

Member or chair of several technical advisory committees for resolution of specific energy-environment conflicts.

Program reviewer for USGS Biological Resources Division, USEPA Western Ecology Laboratory (chair), South Carolina Water Department of Natural Resources, NOAA Fisheries' Northwest Fisheries Science Center

Member, Scientific Review Group for Bonneville Power Administration's Columbia River Fish and Wildlife Program.

Member, Independent Scientific Advisory Board for Northwest Power and Conservation Council, National Marine Fisheries Service, and Columbia River Tribes

Member, Independent Scientific Review Panel for Northwest Power and Conservation Council for scientific review of funding proposals to Bonneville Power Administration Fish and Wildlife Program.

Advisor to Environment Canada on thermal effects on aquatic life.

### Industrial Technical Assistance

Environmental consulting and testimony for power station environmental impact assessments, including thermal effects studies (Virginia Power Company, Commonwealth Edison Company, Electricity Corporation of New Zealand, Georgia Power Company, Carolina Power & Light Co., Public Service Electric and Gas Co., Pacific Gas and Electric Company, Dynegy, Dominion Power, Vermont Yankee, Southern Nuclear Company), hydropower development (Beak Associates, Puget Power), and water diversions (Sacramento County, California; City of Newport News, Virginia). Author of thermal effects 316(a) Demonstration for Blue Ridge Paper Products. Technical advisor to a stakeholder group evaluating revision of Colorado temperature standards.

### Publications

- Coutant, C. C. 1962. The effect of a heated water effluent upon the macro-invertebrate riffle fauna of the Delaware River . Proceedings of the Pennsylvania Academy of Science 36: 58-71.
- Coutant, C. C. 1963. Steam plankton above and below Green Lane Reservoir. Proceedings of the Pennsylvania Academy of Science 37 :122-126.
- Coutant, C. C. 1964. Insecticide Sevin: Effect of aerial spraying on drift of stream insects. Science 146:420-421.
- Coutant, C. C. 1966. Bacteria in an impounding reservoir. Journal of the American Water Works Association 58:1275- 1277.
- Coutant, C. C. 1966. Positive phototaxis in first instar caddis larvae. pp. 122-123. IN Pacific Northwest Laboratory Annual Report for 1965. BNWL-280. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1967. Biological considerations in water management. pp. 75-84, IN The Use of Simulation in Water Research. Water Resources Research Institute, Oregon State University, Corvallis, Oregon.
- Coutant, C. C. 1967. Upstream dispersion of adult caddis flies, pp. 186-187. IN Pacific Northwest Laboratory Annual Report for 1966. BNWL-480, Vol. 1. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1967. Retention of radionuclides in Columbia River bottom organisms. pp. 170-171. IN Pacific Northwest Laboratory Annual Report for 1966. BNWL-480, Vol. 1. Battelle-Northwest Laboratories, Richland, Washington.

- Coutant, C. C., D. G. Watson, C. E. Cushing, and W. L. Templeton. 1967. Observations on the life history of the limpet snail *Fisherola nutalli* Haldeman. pp. 190-191. IN Pacific Northwest Laboratory Annual Report for 1966. BNWL-480, Vol. 1. Battelle-Northwest Laboratories, Richland, Washington.
- Cushing, C. E., D. G. Watson, R. B. Hall, and C. C. Coutant. 1967. Environmental effects of extended reactor shutdown fish. pp. 71 -75. IN The Environmental Effects of an Extended Hanford Plant Shutdown, BNWL-CC-1056. Battelle-Northwest Laboratories, Richland, Washington.
- Harty, H., R. F. Corlett, C. C. Coutant, R. E. Brown, J. F. Fletcher, H. E. Hawthorn, R. T. Jaske, C. L. Simpson, W. L. Templeton, W. A. Watts, M. A. Wolf, J. B. Burnham, J. G. Rake, and G. L. Wilfert. 1967. Final report on nuclear power siting in the Pacific Northwest to Bonneville Power Administration, Portland, Oregon. Battelle-Northwest Laboratories, Richland, Washington. 545 pp.
- Watson, D. G., C. E. Cushing, and C. C. Coutant. 1967. Environmental effects of extended reactor shutdown - plankton and invertebrates. pp. 67-70. IN The Environmental Effects of an Extended Hanford Plant Shutdown. BNWL-CC-1056. Battelle-Northwest Laboratories, Richland, Washington.
- Watson, D. G., C. E. Cushing, C. C. Coutant, and W. L. Templeton. 1967. Radionuclides in Columbia River organisms. pp. 164-169. IN Pacific Northwest Laboratory Annual Report for 1966. BNWL-480, Vol. 1. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1968. Responses to elevated temperature of fishes near Prescott, Oregon important to the commercial or sport fisheries of the Columbia River. Report to Portland General Electric Company, Portland, Oregon. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1968. Behavior of adult salmon and steelhead trout migrating past Hanford thermal discharges. p. 9.10. IN Pacific Northwest Laboratory Annual Report for 1967. BNWL-714, Vol. 1, Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1968. Effect of temperature on the development rate of bottom organisms. p. 9.13. IN Pacific Northwest Laboratory Annual Report for 1967. BNWL-714, Vol. 1. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1968. Thermal pollution - biological effects. A review of the literature of 1967. Journal of the Water Pollution Control Federation 40:1047-1052.
- Coutant, C. C., and C. R. Cole. 1968. Modeling of aquatic systems. p. 9.30. IN Pacific Northwest Laboratory Annual Report for 1967. BNWL-714, Vol. 1. Battelle Northwest Laboratories, Richland, Washington.
- Coutant, C. C., and C. D. Becker. 1968. Information on timing and abundance of fishes near Prescott, Oregon, important to the commercial and sport fisheries of the Columbia River. Report for the Portland General Electric Company, Portland, Oregon. Battelle Northwest Laboratories, Richland, Washington.
- Coutant, C. C., and R. G. Genoway. 1968. An exploratory study of interaction of increased temperature and nitrogen supersaturation on mortality of adult salmonids. Contract No. 12-17-0001-1785. U.S. Bureau of Commercial Fisheries. Battelle-Northwest Laboratories, Richland, Washington.

- Coutant, C. C. 1969. Debate on thermal issue continues. *Environmental Science and Technology* 3(5):425-427.
- Coutant, C. C. 1969. Responses of salmonid fishes to acute thermal shock. pp. 2.19-2.26. IN Pacific Northwest Laboratory Annual Report for 1968. BNWL-1050, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C., C. D. Becker, and E. F. Prentice. 1969. Passage of downstream migrants. pp. 2.27-2.30. IN Pacific Northwest Laboratory Annual Report for 1968. BNWL-1050, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1969. Behavior of sonic-tagged chinook salmon and steelhead trout migrating past Hanford thermal discharges. pp. 2.39-2.44. IN Pacific Northwest Laboratory Annual Report for 1968. BNWL-1050, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1969. Temperature, reproduction and behavior. *Chesapeake Science* 10(3-4):261-274.
- Coutant, C. C. 1969. Effects of thermal loading: The Columbia River story. pp. 34-39. IN *Nuclear Power and the Environment: An Enquiry*. Conservation Society of Southern Vermont, Bondville, Vermont.
- Coutant, C. C. 1969. Thermal pollution - biological effects. A review of the literature of 1968. *Journal of the Water Pollution Control Federation* 41(6): 1036-1053.
- Becker, C. D., and C. C. Coutant. 1969. Experimental drifts of juvenile salmonids through effluent discharges at Hanford. Part 1. 1968 Drifts. BNWL-1499. Battelle-Northwest Laboratories, Richland, Washington. 35 pp.
- Cushing, C. E., D. G. Watson, C. C. Coutant, and W. L. Templeton. 1969. Effect of Hanford reactor shutdown on Columbia River biota. pp. 291-299. IN *Symposium on Radioecology*, D. J. Nelson and F. C. Evans (editors). CONF-670503 U.S. Atomic Energy Commission. National Technical Information Service, Springfield, Virginia.
- Jaske, R. T., W. L. Templeton, and C. C. Coutant. 1969. Thermal death models. *Industrial Water Engineering* 6(10):24-27.
- Coutant, C. C. 1970. Thermal resistance studies on salmonid fish. pp. 3.19-3.20. IN Pacific Northwest Laboratory Annual Report for 1969. BNWL-1306, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1970. Thermal pollution - biological effects. A review of the literature of 1969. *Journal of the Water Pollution Control Federation* 42(6):1025- 1057.
- Coutant, C. C. 1970. Relative vulnerability of thermally shocked salmonids to predation. p. 3.11. IN Pacific Northwest Laboratory Annual Report for 1969. BNWL-1306, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.

- Coutant, C. C. 1970. Thermal resistance of adult coho and jack chinook salmon and steelhead trout from the Columbia River. BNWL-1508. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1970. Behavior of sonic-tagged Chinook salmon and steelhead trout migrating past Hanford thermal discharges (1967). BNWL-1531. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1970. Exploratory studies of the interactions of gas supersaturation and temperature on mortality of juvenile salmonids. BNWL-1529. Battelle Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1970. Biological aspects of thermal pollution. I. Entrainment and discharge canal effects. *Critical Reviews in Environmental Control* 1(3):341-381.
- Coutant, C. C. 1970. Biological limitations on the use of waste heat in aquaculture. pp. 51-61. IN Conf. Beneficial Uses of Thermal Discharges. New York State Dept. of Environmental Conservation, Albany, New York.
- Auerbach, S. I., D. J. Nelson, S. V. Kaye, D. E. Reichle, and C. C. Coutant. 1970. Ecological considerations in reactor power plant siting. pp. 804-820. IN Environmental Aspects of Nuclear Power Stations. International Atomic Energy Agency Symposium 146/53, Vienna, Austria.
- Coutant, C. C., and C. D. Becker. 1970. Growth of Columbia River limpets, *Fisherola nuttalli* (Haldeman), in normal and reactor-warmed water. BNWL-1537. Battelle Northwest Laboratories, Richland, Washington. 12 pp.
- Coutant, C. C., J. M. Dean, and C. R. Cole. 1970. Modeling thermal death of fishes in fluctuating lethal temperatures. pp. 3.9-3.11. IN Pacific Northwest Laboratory Annual Report for 1969. BNWL-1306, Vol. 1, Part 2. Battelle Northwest Laboratories, Richland, Washington.
- Becker, C. D., C. C. Coutant, and E. F. Prentice. 1970. Plume drifts with juvenile salmon. pp. 3.18-3.19. IN Pacific Northwest Laboratory Annual Report for 1969. BNWL-1306, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Jaske, R. T., W. L. Templeton, and C. C. Coutant. 1970. Methods of evaluating effects of transient conditions in heavily loaded and extensively regulated streams. *Chemical Engineering Progress Symposium Series* 67(107):31-39.
- Nelson, J. L., V. Bruns, C. C. Coutant, and R. Carlile. 1970. Behavior and reactions of copper sulfate in an irrigation canal. *Pesticide Monitoring Journal* 3(3):186.
- Templeton, W. L., and C. C. Coutant. 1970. Studies on the biological effects of thermal discharges from nuclear reactors to the Columbia River at Hanford. pp. 491-614. IN Environmental Aspects of Nuclear Power Stations. International Atomic Energy Agency Symposium 146/53, Vienna, Austria.
- Watson, D. G., C. E. Cushing, C. C. Coutant, and W. L. Templeton. 1970. Radioecological Studies on the Columbia River, Parts I and II. BNWL-1377. Battelle-Northwest Laboratories, Richland, Washington. 46 pp. + appendices.

- Coutant, C. C. 1971. Thermal pollution - biological effects. *Journal of the Water Pollution Control Federation* 43(6):1292-1334.
- Coutant, C. C. 1971. Effects on organisms of entrainment in cooling water: Steps toward predictability. *Nuclear Safety* 12(6):600-607.
- Coutant, C. C. 1971. Great Lakes ecology. pp. 93-123, IN F. A. Butrico, C. J. Touhill, and I. L. Whitman (editors), *Resource Management in the Great Lakes Basin*. Heath Lexington Books, Lexington, Massachusetts.
- Becker, C. D., and C. C. Coutant. 1971. Bionomics of Columbia River limpets in normal and reactor-warmed water. pp. 2.27-2.28. IN *Pacific Northwest Laboratory Annual Report for 1970*. BNWL-1550, Vol. 1, Part 2. Battelle-Northwest Laboratories, Richland, Washington.
- Becker, C. D., C. C. Coutant, and E. F. Prentice. 1971. Experimental drifts of juvenile salmonids through effluent discharges at Hanford. Part II. 1969 drifts and conclusions. BNWL-1527. Battelle-Northwest Laboratories. Richland, Washington. 61 pp.
- Templeton, W. L., and C. C. Coutant. 1971. A Bibliography of Ecological Publications Supported by the U.S. Atomic Energy Commission Related to Columbia River Thermal Effects Studies. BNWL-1543. Battelle-Northwest Laboratories, Richland, Washington.
- Watson, D. G., C. E. Cushing, C. C. Coutant, and W. L. Templeton. 1971. Cycling of radionuclides in Columbia River biota. pp. 144-157. IN D. D. Hemphill (editor), *Trace Substances in Environmental Health - IV*. University of Missouri, Columbia, Missouri.
- Coutant, C. C. 1972. Index for annual reviews 1967-1970. Thermal pollution-biological effects. ORNL/EIS-71/25. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 120 pp.
- Coutant, C. C. 1972. Successful cold branding of nonsalmonids. *Progressive Fish-Culturist* 34(3):131-132.
- Coutant, C. C. 1972. Ecological effects of power plant cooling. *Interdisciplinary Seminar for the Water Resources Development Program*. Report No. 17:23-44. Water Resources Research Center, The University of Tennessee, Knoxville, Tennessee.
- Coutant, C. C. 1972. Effect of thermal shock on vulnerability to predation in juvenile salmonids, I. Single shock temperature. BNWL-1521. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1972. Effect of thermal shock on vulnerability to predation in juvenile salmonids, II. A dose response by rainbow trout to three shock temperatures. BNWL-1519. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C. 1972. Biological aspects of thermal pollution. II. Scientific basis for water temperature standards at power plants. *Critical Reviews in Environmental Control* 3(1):1-24.

- Coutant, C. C. 1972. Some biological considerations for the use of power plant cooling water in aquaculture. pp. 104-113. IN J. L. Gaudet (editor), Report of the 1970 Workshop on Fish Feed Technology and Nutrition. U.S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Resource Publication 102. Superintendent of Documents, Washington, D.C.
- Coutant, C. C., and J. M. Dean. 1972. Relationships between equilibrium loss and death as responses of juvenile chinook salmon and rainbow trout to acute thermal shock. BNWL-1520. Battelle-Northwest Laboratories, Richland, Washington.
- Coutant, C. C., and C. P. Goodyear. 1972. Thermal effects. Journal of the Water Pollution Control Federation 44(6):1250-1294.
- Coutant, C. C., E. E. Huber, and H. A. Pfuderer. 1972. Thermal effects on aquatic organisms: Annotated bibliography of 1971 literature. ORNL/EIS-72/28. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 155 pp.
- Mattice, J. S., and C. C. Coutant. 1972. AIF topical conference on water quality problems. Nuclear News 15(11):122-126.
- Coutant, C. C. 1973. Effect of thermal shock on vulnerability of juvenile salmonids to predation. Journal of the Fisheries Research Board of Canada 30:965-973.
- Coutant, C. C. 1973. Heat and temperature. pp. 151-171. IN Water Quality Criteria 1972. Environmental Studies Board, National Academy of Sciences/National Academy of Engineering. U.S. Environmental Protection Agency, EPA.R3.73.033. Washington, D.C.
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- Bowen, S. H., and C. C. Coutant. 1973. Thermal effect on feeding competition between rainbow trout and bluegill. pp. 1029-1033. IN D. J. Nelson (editor), Radionuclides in Ecosystems. Third National Symposium on Radioecology. CONF-710501 U.S. Atomic Energy Commission. National Technical Information Service, Springfield, Virginia.
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- Coutant, C. C., and H. A. Pfuderer. 1973. Thermal effects on aquatic organisms. ORNL/EIS-73/28. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 183 pp.
- Coutant, C. C., and H. A. Pfuderer. 1973. Thermal effects. Journal of the Water Pollution Control Federation 45(6):1331-1369.

- Rochelle, J. M., and C. C. Coutant. 1973. Temperature sensitive ultrasonic fish tag, Q-5099. ORNL/TM-4438. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 26 pp.
- Coutant, C. C. 1974. Physiology for the fishery ecologist. *Ecology* 55(3):686-687.
- Coutant, C. C., H. M. Ducharme, Jr., and J. R. Fisher. 1974. Effects of cold shock on vulnerability of juvenile channel catfish (*Ictalurus punctatus*) and largemouth bass (*Micropterus salmoides*) to predation. *Journal of the Fisheries Research Board of Canada* 31(3):351-354.
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- Coutant, C. C. 1975. Responses of bass to natural and artificial temperature regimes. pp. 272-285. IN R. H. Stroud and H. Clepper (editors), *Black Bass Biology and Management*. Sport Fishing Institute, Washington, D.C.
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Notes:

1. Some ISAB and ISRP reports are listed as ISAB or ISRP authorship, without all board members' names. ISRP reports are listed only when I was a coauthor; other ISRP numbered reports did not include me as part of the review team. Short letter reports are not included.
2. Proprietary consulting reports are not included.