

References: Endangered and Threatened Species; Proposed Critical Habitat for the Gulf of Maine Distinct Population Segment of Atlantic Salmon

- Allen, R. 1940. Studies on the biology of the early stages of the salmon (*Salmo salar*): growth in the river Eden. *Journal of Animal Ecology* **9(1)**: 1-23
- Allendorf, F.W., Luikart, G.. 2007. Conservation and the genetics of populations. Blackwell Publishing. Malden, Massachusetts. USA.
- 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. American Rivers, Washington D.C.
- Annear, T., I. Chisholm, H. Beecher, A. Locke, and 12 other others. 2004. Instream Flows for riverine resource stewardship, revised edition. Instream Flow Council, Cheyenne, WY
- Anthony, V.C. 1994. The significance of predation on Atlantic salmon. In: Calabi, S. and A. Stout [eds.] A Hard Look at Some Tough Issues. NE Atlantic Salmon Mgmt. Conf. Silver Quill, Camden Maine, p. 240 – 288
- Armstrong, J. D., Kemp, P., Kennedy, G., Ladle, M., Milner, N., 2002. Habitat requirements of Atlantic salmon and brown trout in rivers and streams. *Fisheries Research* **1428**: 1-28
- Atkins, C.G. & N.W. Foster. 1867. Report of Commission on Fisheries. *In Twelfth Annual Report of the Secretary of the Maine Board of Agriculture 1867*. Stevens and Sayward Printers to the state, Augusta, ME. Pages 70 – 194
- Bachman, R. 1984. Foraging behavior of free ranging wild and hatchery brown trout in a stream. *Trans. Am. Fish. Soc.* **113**: 1-32
- Baum, E.T. 1983. The Penobscot River; an Atlantic salmon river management report. Maine Atlantic Sea Run Salmon Commission. State of Maine. 67pp
- Baum, E.T. 1997. Maine Atlantic Salmon: A National Treasure, 1st Ed. Hermon, ME: Atlantic Salmon Unlimited
- Baum, E.T. and A.L. Meister. 1971. Fecundity of Atlantic salmon (*Salmo salar*) from two Maine Rivers. *Journal of the Fishereis Research Board of Canada* **28(5)**: 764-767
- Baum, E.T., and R.C. Spencer. 1990. Homing of adult Atlantic salmon released as hatchery-reared smolts in Maine rivers. Working paper 1990-17. Working Group

- on North Atlantic Salmon, International Council for the Exploration of the Sea. 9 pp.
- Beland, K.F., Jordan, R.M., Meister, A.L. 1982 (b). Water depth and velocity preferences of spawning Atlantic salmon in Maine rivers. *N. Am. J. Fish. Man.* 2: 11-13
- Beschta, R. L., J. R. Boyle, C. C. Chambers, W. P. Gibson, S. V. Gregory, J. Grizzel, J. C. Hagar, J. L. Li, W. C. McComb, M. L. Reiter, G. H. Taylor, and J. E. Warila. 1995. Cumulative effects of forest practices in Oregon. Oregon State University, Corvallis. Prepared for the Oregon Department of Forestry. Salem, Oregon
- Beschta, R. L., R. E. Bilby, G. W. Brown, L. B. Holtby, and T. D. Hofstra. 1987. Stream temperature and aquatic habitat: fisheries and forestry interactions. Pages 191-232 *In: E. O. Saki and T. W. Cundy, editors. Streamside management: forestry and fishery interactions. University of Washington, College of Forest Research, Seattle, WA*
- Bjornn, T. C., D. W. Reiser. 1991. Habitat requirements of salmonids in streams. *In: Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. American Fisheries Society Special Publication 19:83-138*
- Bley, P.W. 1987. Age, growth, and mortality of juvenile Atlantic salmon in streams: a review. *Biological Report 87(4). U.S. Fish and Wildlife Service, Washington, D.C.*
- Bley, P. W. and J. R. Moring. 1988. Freshwater and ocean survival of Atlantic salmon and steelhead: A synopsis. *Biological report 88(9). Maine Cooperative Fish and Wildlife Research Unit. University of Maine, Orono, ME*
- Brodeur, J.C., F. Okland, B. Finstad, D.G. Dixon, and R.S. McKinley. 2001. Effects of Subchronic Exposure to Aluminum in Acidic Water on Bioenergetics of Atlantic Salmon (*Salmo salar*). *Ecotoxicology and Environmental Safety* 49: 226-234
- Brodeur, J.C., Ytrestøyl, T., Finstad, B. & McKinley, R. S. 1999. Increase of heart rate without elevation of cardiac output in adult Atlantic salmon (*Salmo salar*) exposed to acidic water and aluminum. *Canadian Journal of Fisheries and Aquatic Sciences.* 56: 184-190
- Brown, S.B., R.E. Evans, H.S. Majewski, G.B. Sangalang, and J.F. Klaverkamp. 1990. Responses of plasma electrolytes, thyroid hormones, and gill histology in Atlantic salmon (*Salmo salar*) to acid and limed river waters. *Canadian Journal of Fisheries and Aquatic Sciences.* 47(12): 2431-2440
- Chamberlin, T. W., R. Harr, and F. Everest. 1991. Timber harvesting, Silviculture, and watershed processes. Influences of forest and rangeland management on salmonid fishes and their habitats. *American Fisheries Society Special Publication. 19: 181-205*

- Cunjak, R. A. 1988. Behavior and microhabitat of young Atlantic salmon (*Salmo salar*) during winter. Canadian Journal of Fisheries and Aquatic Sciences **45(12)**: 2156-2160.
- Cunjak, R.A., E.M.P. Chadwick, and M. Shears. 1989. Downstream movements and estuarine residence by Atlantic salmon parr (*Salmo salar*). Canadian Journal of Fisheries and Aquatic Sciences. **46(9)**:1466-1471.
- Cunjak, R.A., R.L. Saunders, and E.M.P. Chadwick. 1990. Seasonal variations in the smolt characteristics of juvenile Atlantic salmon (*Salmo salar*) from estuarine and riverine environments. Can. J. Fish. and Aquat. Sci. 47(4): 813-820
- 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
- Danie, D., J. Trial, J. Stanley, L. Shanks, and N. Benson. 1984. Species profiles: life histories and environmental requirements of coastal fish and invertebrates (North Atlantic): Atlantic salmon. USFWS, report FWS/OBS-82/11.22
- Decola, J. N. 1970. Water quality requirements for Atlantic salmon, US Department of the Interior. Federal Water Quality Administration, N.E., Region, Boston, Mass. 42 pp.
- Dempson, J.B., M.F. O'Connell, and M. Shears. 1996. Relative production of Atlantic salmon from fluvial and lacustrine habitats estimated from analyses of scale characteristics. Journal of Fish Biology 48: 329-341
- Dieperink, C., B.D. Bak, L.-F. Pedersen, M.I Pedersen and S. Pedersen. 2002. Predation on Atlantic salmon and sea trout during their first days as postsmolts. J. Fish. Bio. 61: 848 – 852
- Dill, R., C. Fay, M. Gallagher, D. Kircheis, S. Mierzykowski, M. Whiting, T. Haines. 2001. Water quality issues as potential limiting factors affecting juvenile Atlantic salmon life stages in Maine Rivers. /A report to/: The Maine Atlantic Salmon Technical Advisory Committee (TAC). Ad Hoc Committee on Water Quality. 29pp.
- Dittman, A.H. and T.P. Quinn. 1996. Homing in Pacific salmon: Mechanisms and ecological basis. Journal of Experimental Biology. **199**:83-91.
- Doudoroff, P., and C.E. Warren. 1965. Environmental requirements of fishes and wildlife: dissolved oxygen requirements of fishes. Oregon Agricultural Experiment Station Special Report 141
- Dudley R. W. and G. J. Stewart. 2006. Estimated effects of ground-water withdrawals on streamwater levels of the Pleasant River near Crebo Flats, Maine, July 1 to

September 30, 2005: U.S. Geological Survey Scientific Investigations Report 2006-5268, 14 pp.

- Duston, J., Saunders, R.L. 1990. The entrainment role of photoperiod on hypoosmoregulatory and growth-related aspects of smolting in Atlantic salmon (*Salmo salar*). *Can. J. Zool.* **68**: 707-715
- Dutil, J.D., and J.M. Coutu. 1988. Early marine life of Atlantic salmon, *Salmo salar*, postsmolts in the northern Gulf of St. Lawrence. *Fishery Bulletin* 86: 197 – 212
- Eisler, R., Copper hazards to fish, wildlife, and invertebrates: a synoptic review. 1998. U.S. Geological Survey, Biological Resources Division, Biological Science Report
- Elliott, J. M. 1991. Tolerance and resistance to thermal stress in juvenile Atlantic salmon, *Salmo salar*. *Freshwater Biology.* 25: 61-70
- Elson, P. 1975. Atlantic salmon rivers, smolt production and optimal spawning: an overview of natural production. *In*: J. Bohne and L. Sochasky (eds.), New England Atlantic salmon Restoration Conference. Sp. Pub. **6**: 96-119. Int. Atl. Salm. Ged. St. Andrews, N.B., Canada
- Erkinaro, J., E. Niemelä, A. Saari, Y. Shustov, and L. Jørgenson. 1998. Timing of habitat shift by Atlantic salmon parr from fluvial to lacustrine habitat: analysis of age distribution, growth, and scale characteristics. *Can. J. Fish. Aquat. Sci.* **55**: 2266-2273
- Farmer, G.J., R.L. Saunders, T.R. Goff, C.E. Johnston and E.B. Henderson. 1989. Some physiological responses of Atlantic salmon (*Salmo salar*) exposed to soft acidic water during smolting. *Aquaculture*, **82**: 229-244
- Fay C., M. Bartron, S. Craig, A. Hecht, J. Pruden, R. Saunders, T. Sheehan and J. Trial. 2006. Status review for anadromous Atlantic salmon (*Salmo salar*) in the United States. Report to the National Marine Fisheries Service and U.S. Fish and Wildlife Service. 294 pp
- Franklin I. R.. 1980. Evolutionary change in small populations. *In* M. E. Soulé & B. A. Wilcox (Eds.), *Conservation Biology: An evolutionary –ecological perspective.* (pp. 135-149). Sunderland, Massachusetts: Sinauer Associates, Inc.
- Fried S.M., J.D. McCleave, and G.W. LaBar. 1978. Seaward Migration of Hatchery – Reared Atlantic Salmon, *Salmo salar*, smolts in the Penobscot River Estuary, Maine: Riverine Movements. *J. Fish. Res. Board Can.* **35**: 76-87
- Friedland, K.D., D.G. Reddin, and J.F. Kocik. 1993. Marine Survival of N. American and European Atlantic salmon: effects of growth and environment. *ICES J. of Marine Sci.* **50**: 481- 492

- Friedland, K.D., D.G. Reddin, J.R. McMenemy, and K.F. Drinkwater. 2003. Multidecadal trends in North American Atlantic salmon (*Salmo salar*) stocks and climate trends relevant to juvenile survival. *Can. J. Fish. Aquat. Sci.* **60**: 563-583
- Friedland, K.D., J. Dutil, and T. Sadusky. 1999. Growth Patterns in postsmolts and the nature of the marine juvenile nursery for Atlantic salmon, *Salmo salar*. *Fishery Bulletin*. **97(3)**: 472-481
- Furniss, M.J., T. D. Roelofs, and C. S. Yee. 1991. Road construction and maintenance. Influences of forest and rangeland management on Salmonid fishes and their habitats. *American Fisheries Society Special Publication* 19: 297-323
- Gharrett, A.J. and W.W. Smoker. 1993. A perspective on the adaptive importance of genetic infrastructure in salmon populations to ocean ranching in Alaska. *Fisheries Research* **18**: 45-58.
- Gibson, R. J. 1993. The Atlantic salmon in freshwater: Spawning, rearing and production. *Reviews in Fish Biology and Fisheries* **3(1)**: 39-73
- Giger, R.D. 1973. Streamflow requirements of salmonids. Oregon Wildlife Commission, Job Final Report, Project AFS-62-1, Portland, OR
- GNP (Great Northern Paper, Inc). 1995. 1995 Report on the effectiveness of the permanent downstream passage system for Atlantic salmon at Weldon Dam. Mattaceunk Project – FERC No. 2520. Great Northern Paper, Inc. Millinocket, ME. 93pp.
- GNP (Great Northern Paper, Inc). 1997. 1997 Report on the effectiveness of the permanent downstream passage system for Atlantic salmon at Weldon Dam. Mattaceunk Project – FERC No. 2520. Great Northern Paper, Inc. Millinocket, ME. 61pp. and appendices.
- Grant, J.W.A., S. O. Steingrímsson, E.R. Keeley, and R.A. Cunjak. 1998. Implications of territory size for the measurement and prediction of salmonid abundance in streams. *Can. J. Fish. Aquat. Sci.* **55(suppl. 1)**: 181-190
- Gregory, S. V., F. J. Swanson, W. A. McKee, and K. W. Cummins. 1991. An ecosystem perspective of riparian zones. *Bioscience* **41**: 540-551
- Gustafson-Greenwood, K. I., and J. R. Moring. 1991. Gravel compaction and permeabilities in redds of Atlantic salmon, *Salmo salar* L. *Aquaculture and Fisheries Management* 22:537-540.
- Gustafson-Marjenan, K. I., and H. B. Dowse. 1983. Seasonal and diel patterns of emergence from the redd of Atlantic salmon (*Salmo salar*) fry. *Canadian Journal of Fisheries and Aquatic Sciences* **40**: 813-817

- Haines, T. A. 1981. Acidic precipitation and its consequences for aquatic ecosystems: A Review. Transactions of the American Fisheries Society. **110**: 669-707
- Haines, T. A. 1992. New England's rivers and Atlantic salmon. Pages 131-139 in R. H. Stroud, ed. Stemming the tide of coastal fish habitat loss. National Coalition for Marine Conservation, Savannah, GA.
- Halvorsen, M. & Svenning, M.-A. 2000. Growth of Atlantic salmon parr in fluvial and lacustrine habitats. Journal of Fish Biology **57**: 145-160.
- Handeland, S.O., T. Jarvi, A. Ferno, and O. Stefansson. 1996. Osmotic stress antipredator behavior and mortality of Atlantic salmon (*Salmo salar*) smolts. Can. J. Fish. Aquat. Sci. 53(12): 2673-2680
- Hansen, L.P. and B. Jonsson. 1989. Salmon ranching experiments in the River Imsa: effect of timing of Atlantic salmon (*Salmo salar*) smolt migration on survival to adults. Aquaculture. **82**: 367-373
- Hansen, L.P. and T.P. Quinn. 1998. The marine phase of the Atlantic salmon (*Salmo salar*) life cycle, with comparisons to Pacific salmon. Can. J. Fish. Aquat. Sci. **55(S1)**: 104-118
- Heinz Center. 2002. Dam Removal: Science and Decision Making. The John Heinz III Center for Science, Economics, and the Environment. Washington, D.C.
- Heggenes, J. 1990. Habitat utilization and preferences in juvenile Atlantic salmon (*Salmo salar*) in streams. Regulated Rivers: Research and Management 5(4): 341-354
- Heggenes, J., J. Bagliniere, and R. Cunjak. 1999. Spatial niche variability for young Atlantic salmon (*Salmo salar*) and brown trout (*S. trutta*) in heterogeneous streams. Ecol. Freshw. Fish 8: 1-21
- Hiscock, M. J., D. A. Scruton, J. A. Brown, and C. J. Pennell. 2002. Diel activity pattern of juvenile Atlantic salmon (*Salmo salar*) in early and late winter. Hydrobiologia **483**: 161-165.
- Hoar, W.S. 1988. The physiology of smolting salmon. In: W.S. Hoar and D.J. Randall, Editors, Fish Physiology XIB, Academic Press, New York. pp. 275-343
- Holbrook, C.M. 2007. Behavior and Survival of Migrating Atlantic Salmon (Salmo salar) in the Penobscot River and Estuary, Maine: Acoustic Telemetry Studies of Smolts and Adults. M.S. Thesis. University of Maine, Orono, Maine.
- Holm, M., I Huse, E. Waatevik, K. Doeving, J. Aure. 1982. Behavior of Atlantic salmon smolts during seaward migration. 1: Preliminary report on ultrasonic tracking in a

- Norwegian fjord system. ICES; Copenhagen (Denmark); ICES Council Meeting 1982. (Collected Papers) 17pp.
- Hornbeck, J.W., R.S. Pierce, and C.A. Federer. 1970. Streamflow changes after forest clearing in New England. *Water Resources Research* **6**: 1124-1132
- Hosmer, M.J., Stanley, J.G., and Hatch, R.W. 1979. Effects of hatchery procedures on later return of Atlantic salmon to rivers of Maine. *Progressive Fish Culturist*. 32: 115-119
- Hutchings, J.A. 1986. Lakeward migrations by juvenile Atlantic salmon, *Salmo salar* . *Canadian Journal of Fisheries and Aquatic Sciences*. **43(4)**: 732-741
- Hvidsten, N.A. and L.P. Hansen. 1988. Increased recapture rate of adult Atlantic salmon (*Salmo salar* L.) stocked as smolts at high water discharge. *J. Fish Bio.* 32(1): 153-154
- Hvidsten, N.A. Mokkelgjerd, P.I. 1987. Predation on salmon smolts, *Salmo salar* L., in the estuary of the river Suma, Norway. *J. Fish. Bio.* 30: 273-280
- Hyvarinen, P., P. Suuronen and T. Laaksonen. 2006. Short-term movement of wild and reared Atlantic salmon smolts in brackish water estuary – preliminary study. *Fish. Mgmt. Eco.* **13(6)**: 399-401
- Ibbotson, A.T., W.R.C. Beaumont, A. Pinder, S. Welton, M. Ladle. 2006. Diel migration patterns of Atlantic salmon smolts with particular reference to the absence of crepuscular migration. *Ecology of Freshwater Fish.* 15(4): 544-551
- IEc^a (Industrial Economics, Incorporated). 2008. Economic Analysis of critical habitat designation for the Gulf of Maine distinct population segment of Atlantic salmon. Report to the National Marine Fisheries Service. Prepared by Industrial Economics, Incorporated. Cambridge, Ma.
- IEc^b (Industrial Economics, Incorporated). 2008. Critical habitat designation for the Gulf of Maine DPS of Atlantic salmon: Initial Regulatory Flexibility Analysis and Energy Impact Analysis. DRAFT. Report to the National Marine Fisheries Service. Prepared by Industrial Economics, Incorporated. Cambridge, Ma.
- Jago, C.H. and T.A. Haines. 1997. Changes in gill morphology of Atlantic salmon (*Salmo salar*) smolts due to addition of acid and aluminum to stream water. *Environmental Pollution*. 97(1-2): 137-146
- Jarvi, T. 1989a. Synergistic effect on mortality in Atlantic salmon, *Salmo salar*, smolts caused by osmotic stress and presence of predators. *Enviro. Biol. Fishes.* 26: 149-152

- Jarvi, T. 1989b. The effect of osmotic stressors on the anti-predator behavior of Atlantic salmon smolts – a test of “maladaptive anti-predator behavior” hypothesis. *Nord J. Freshwater Res.* 65: 71-79
- Jarvi, T. 1990. Cumulative acute physiological stress in Atlantic salmon smolts; the effect of osmotic imbalance and the presence of predators. *Aquaculture* 89: 337-350
- Jensen, K., and E. Snekvik. 1972. Low pH levels wipe out salmon and trout populations in southernmost Norway. *Ambio* 1: 223-225
- Johnston, C. E., and Saunders, R.L. 1981. Parr-smolt transformation of yearling Atlantic salmon (*Salmo salar*) at several rearing temperatures. *Can. J. Fish. Aquat. Sci.* **38**: 1189-1198
- Jordan, R. M. and Beland, K. F.. 1981. Atlantic Sea Run Salmon Commission. Augusta, Maine
- Kalleberg, H. 1958. Observations in a stream tank of territoriality and competition in juvenile salmon and trout (*Salmo salar* L. and *S. trutta* L.). *Rep. Inst. Freshw. Res. Drottningholm* **39**: 55-98
- Klemetson, A., P.A. Amundsen, J.B. Dempson, B. Jonsson, N. Jonsson, M.F. O’Connell, and E. Mortensen. 2003. Atlantic salmon *Salmon salar* (L.), brown trout *Salmo trutta* (L.) and Arctic charr *Salvelinus alpinus* (L.): a review of aspects of their life histories. *Ecology of Freshwater Fish* 12(1): 1-59
- Kroglund F. and M. Staurnes. 1999. Water quality requirements of smolting Atlantic salmon (*salmo salar*) in limed acid rivers. *Can. J. Fish. Aquat. Sci.* **56**: 2078-2086
- LaBar, G.W., J.D. McCleave, and S.M. Fried. 1978. Seaward migration of hatchery reared Atlantic salmon (*Salmo salar*) smolts in the Penobscot River estuary, Maine: open-water movements. *Journal du Conseil. International Council for the Exploration of the Sea* **38(2)**: 257-269
- Lacroix, G.L. and D.R. Townsend. 1987. Responses of juvenile Atlantic salmon (*Salmo salar*) to episodic increases in acidity of Nova Scotia rivers. *Canadian Journal of Fisheries and Aquatic Sciences.* 44(8): 1475-1484
- Lacroix G.L., Paul McCurdy, Derek Knox. 2004. Migration of Atlantic Salmon Postsmolts in Relation to Habitat Use in a Coastal System. *Trans. Am. Fish. Soc.* **133(6)**: 1455-1471
- Lacroix, G.L. and McCurdy, P. 1996. Migratory behavior of post-smolt Atlantic salmon during initial stages of seaward migration. *J. Fish Biol.* **49**: 1086-1101
- Lacroix, G.L., D. Knox and M.J. W. Stokesbury. 2005. Survival and behavior of postsmolt Atlantic salmon in coastal habitat with extreme tides. *J. Fish Bio.* **66(2)**: 485-498

- Lacroix, Gilles L. and Derek Knox. 2005. Distribution of Atlantic salmon (*Salmo salar*) postsmolts of different origins in the Bay of Fundy and Gulf of Maine and evaluation of factors affecting migration, growth and survival. *Can. J. Fish. Aquat. Sci.* **62(6)**: 1363-1376
- Laitta, M. T., K.J. Legleiter, K.M. Hanson. 2004. The national watershed boundary dataset. *Hydroline*. Online newsletter of ESRI. Available at http://www.esri.com/library/newsletter/hydroline/hydroline_summer2004.pdf. Accessed August 2005.
- Larson, K., and C. Moehl. 1990. Fish entrainment by dredges in Grays Harbor, Washington. In: *Effects of Dredging on anadromous Pacific Coast Fishes*. C.A. Simenstad. Washington Sea Grant Program, University of Washington
- Larsson, P.O. 1977. The importance of time and place of release of salmon and sea trout on the results of stocking. *ICES CO 1977/M*: 42. 10pp.
- Larsson, P.O. 1985. Predation on migrating smolt as a regulating factor in Baltic salmon, *Salmo salar* L., populations. *J. Fish Bio.* 26(4): 391-397
- Leivestad, H. and I.P. Muniz. 1976. Fish kill at low pH in a Norwegian River. *Nature*. 259: 391-392
- Leivestad, H., G. Hendry, I.P. Muniz, and E. Snekvik. 1976. Effects of acid precipitation on freshwater organisms. 87-111 In: *Impact of acid precipitation on forest and freshwater ecosystems in Norway* (ed. F.W. Brackke). Research Report 6/76, SNSF Project, Oslo, Norway
- LePage, C.A., M.E. Foley, and W.B. Thompson. 1991. Mining in Maine: Past, Present, and Future. Maine Geological Survey Open-File 91-7. Department of Conservation, Maine Geological Survey, State of Maine.
<http://www.maine.gov/doc/nrimc/mgs/explore/mining/minemaine.htm>
- Lundqvist, H. 1980. Influence of photoperiod on growth in Baltic salmon parr (*Salmo salar* L.) with special reference to the effect of precocious sexual maturation. *Canadian Journal of Zoology*. **58(5)**: 940-944
- Magee, J.A., M. Obedzinski, S.D. McCormick, and J.F. Kocik. 2003. Effects of episodic acidification on Atlantic salmon (*Salmo salar*) smolts. *Canadian Journal of Fisheries and Aquatic Sciences* 60(2): 214-221
- Magee, J.A., T.A. Haines, J.F. Kocik, K.F. Beland, and S.D. McCormick. 2001. Effects of acidity and aluminum on the physiology and migratory behaviour of Atlantic salmon smolts in Maine, USA. *Water, Air, and Soil Pollution*. 130(1-4): 881-886
- MASTF (Maine Atlantic Salmon Task Force). 1997. Atlantic Salmon Conservation Plan for Seven Rivers. State of Maine, Augusta, ME. 435pp

- Marschall, E.A., T.P. Quinn, D.A. Roff, J. A. Hutchings, N.B. Metcalfe, T.A. Bakke, R.L. Saunders and N. LeRoy Poff. 1998. A Framework for understanding Atlantic salmon (*Salmo salar*) life history. *Can. J. Fish. Aquat. Sci.* **55(Suppl. 1)**: 48-58.
- McCabe, G.T. 1997. Fishes in bottom habitats in six flowland disposal areas of the lower Columbia River, 1996-97. Coastal Zone and Estuarine Studies Division. Northwest Fisheries Science Center, National Marine Fisheries Service
- McCleave, J.D., 1978. Rythmic aspects of estuarine migration of hatchery-reared Atlantic salmon, *Salmo salar*, smolts. *J. Fish Biol.* **12**: 559-570
- McCormick S.D., L.P. Hansen, T. Quinn, and R. Saunders. 1998. Movement, migration, and smolting of Atlantic salmon (*Salmo salar*). *Can. J. Fish. Aquat. Sci.* **55(Suppl. 1)**: 77-92
- McCormick S.D., R.A. Cunjak, B. Dempson, M. O'Dea, J. Carey. 1999. Temperature-related loss of smolt characteristics in Atlantic salmon (*Salmo salar*) in the wild. *Can. J. Fish Aquat. Sci.* **56**: 1649-1658
- McCormick, S.D. and R.L. Saunders. 1987. Preparatory physiological adaptations for marine life of salmonids: Osmoregulation, growth, and metabolism. Common Strategies of Anadromous and Catadromous Fishes. Proceedings of an International Symposium held in Boston, Massachusetts, USA, March 9-13, 1986. American Fisheries Society Symposium. **1**: 211-229
- McCormick, S.D., J.M. Shrimpton, S. Moriyama, and B.T. Bjornsson. 2002. Effects of an advanced temperature cycle on smolt development and endocrinology indicate that temperature is not a zeitgeber for smolting in Atlantic salmon. *Journal of Experimental Biology.* **205**: 3553-3560
- McGraw, K. and D. Armstrong. 1990. Fish entrainment by dredges in Grays Harbor, Washington. In: C.A. Simenstad (ed). Effects of dredging on anadromous Pacific Coast Fishes. Washington Sea Grant Program, University of Washington
- McLaughlin, E. and A. Knight. 1987. Habitat criteria for Atlantic salmon. Special Report, U.S. Fish and Wildlife Service, Laconia, New Hampshire. 18pp.
- Meister, A.L. 1958. The Atlantic salmon (*Salmo salar*) of Cove Brook, Winterport, Maine. M.S. Thesis. University of Maine. Orono, ME. 151pp.
- Milligan, C. L. & Wood, C. M. 1982. Disturbances in haematology, fluid volume distribution and circulatory function associated with low environmental pH in the rainbow trout, *Salmo gairdneri*. *Journal of Experimental Biology* **99**: 397-415
- Moore, A., E.C.E. Potter, N.J. Milner, S. Bamber. 1995. The migratory behavior of wild Atlantic salmon (*Salmo salar*) smolts in the estuary of the River Conway. North Wales. *Can J. Fish. Aquat. Sci.* **52**: 1923-1935

- Montgomery, D. R., and J. M. Buffington. 1993. Channel classification, prediction of channel response, and assessment of channel condition. TFW-SH10-93-002, Prepared for the SHAMW committee of the Washington State Timber Fish & Wildlife agreement. Timber Fish & Wildlife, Seattle, Washington.
- Morantz, D., R. Sweeney, C. Shirvell, and D. Longard. 1987. Selection of microhabitat in summer by juvenile Atlantic salmon (*Salmo salar*). Can. J. Fish. Aquat. Sci. **44**: 120-129
- Morse C. and S. Kahl. 2003. Measuring the impact of development on Maine surface waters. The University of Maine – Senator George J. Mitchell Center for Environmental and Watershed Research. UMaine.edu/WaterResearch
- NRC (National Research Council). 2004. Atlantic Salmon in Maine. National Academy Press. Washington, D.C. 304pp.
- New England Fisheries Management Council, 1998. Atlantic salmon (*Salmo salar*) Life History and Habitat Requirements. Essential Fish Habitat Source Document. Saugus, MA.
- Nelson, R.L., M.L. McHenry, and W.S. Platts. 1991. Mining. American Fisheries Society Special Publication **19**:425-457
- Nightingale, B. and C.A. Simenstad. 2001a. Dredging Activities: Marine Issues. Overwater Whitepaper prepared for Washington State Transportation Commission, Department of Transportation and in cooperation with U.S. Department of Transportation, Federal Highway Administration. Research Project T1803, Task 35. 182pp.
- Nightingale, B. and C.A. Simenstad. 2001b. Overwater Structures: Marine Issues. Overwater Whitepaper prepared for Washington State Transportation Commission, Department of Transportation and in cooperation with U.S. Department of Transportation, Federal Highway Administration. Research Project T1803, Task 35. 181pp.
- 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
- NMFS and FWS (National Marine Fisheries Service) and (United States Fish and Wildlife Service). 1999. Review of the status of anadromous Atlantic salmon (*Salmo salar*) under the US Endangered Species Act. National Marine Fisheries Service, Silver Spring, MD. 230pp
- NMFS and FWS (National Marine Fisheries Service) and (United States Fish and Wildlife Service). 2005. Final Recovery Plan for the Gulf of Maine Distinct Population Segment of Atlantic Salmon (*Salmo salar*). National Marine Fisheries Service, Silver Spring, MD. 325pp.

- Norris, L. A., H. W. Lorz and S. V. Gregory. 1991. Forest Chemicals *In: Influences of Forest and Rangeland Management of Salmonid Fishes and Their Habitats*. American fisheries Society Special Publication 19:207-296
- Pepper, V.A. 1976. Lacustrine nursery areas for Atlantic salmon in Insular Newfoundland. Fishereis and Marine Service Technical Report 671. xiii+61 pp.
- Pepper, V.A., N.P. Oliver, R. Blunden. 1984. Lake surveys and biological potential for natural lacustrine rearing of juvenile Atlatnic salmon (*Salmo salar*) in Newfoundland. Canadian Technical Report of Fisheries and Aquatic Sciences 1295. iv+ 72 pp.
- Peterson, R. H.. 1978. Physical characteristics of Atlantic salmon spawning gravel in some New Brunswick streams. Fish. Mar. Serv. Tech. Rep. No. 785. iv+28 pp.
- Power, G. and G. Shooner. 1966. Juvenile salmon in the estuary and lower Nabisipi River and some results of tagging. Journal of the Fisheries Research Board of Canada. **23**: 947–961
- Randall, R. G. 1982. Emergence, population densities, and growth of salmon and trout fry in two New Brunswick streams. Canadian Journal of Zoology **60(10)**: 2239-2244
- Reddin, D. G. and W.M. Shearer. 1987. Sea-surface temperature and distribution of Atlantic salmon in the Northwest Atlantic Ocean. American Fisheries Society Symposium.
- Reddin, D.G and K.D. Friedland. 1993. Marine environmental factors influencing the movement and survival of Atlantic salmon. pages 70-103. *In: Mills, E.D. 1993. Salmon in the sea*. Fishing News Books, Blackwell Scientific, Cambridge, MA.
- Reddin, D.G and P.B. Short. 1991. Postsmolt Atlantic salmon (*Salmo salar*) in the Labrador Sea. Can. J. Fish Aquat. Sci. **48**: 2-6
- Reddin, D.G. 1985. Atlantic salmon (*Salmo salar*) on and east of Grand Bank. J. Northwest. Atln. Fish. Sci. **6**: 157-164
- Reddin, D.G. 1988. *Ocean* life of Atlantic salmon (*Salmo salar* L.) in the Northwest Atlantic. pp. 483 – 511. *In* D. Mills and D. Piggins [eds.] *Atlantic Salmon: Planning for the Future*. Proceedings of the 3rd International Atlantic Salmon symposium
- Reddin, D.J., D.E. Stansbury, P.B. Short. 1988. Continent of origin of Atlantic salmon (*Salmo salar* L.) caught at West Greenland. Journal du Conseil International pour l'Eploration de la Mer, **44**: 180-8.
- Reiman, B. E. & F. W. Allendorf. 2001. Effective population size and genetic conservation criteria for bull trout. N. Am. J. Fish. Mgt. **21**:756-764.

- Reisenbichler, R.R. 1988. Relation between distance transferred from natal stream and recovery rate for hatchery coho salmon. *N. Am. J. Fish. Mgt.* **8(2)**: 172-174.
Research Station, Newtown Square, PA. 188 p.
- Riddell, B. E. and W. C. Leggett. 1981. Evidence of an adaptive basis for geographic variation in body morphology and time of downstream migration of juvenile Atlantic salmon (*Salmo salar*). *Can. J. Fish. Aquat. Sci.* **38**: 308-320.
- 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. *Can. J. Fish. Aquat. Sci.* **41(3)**: 469-475
- Ritter, J.A. 1989. Marine migration and natural mortality of North American Atlantic salmon (*Salmo salar* L.). *Can. MS Rep. Fish. Aquat. Sci.*. No. 2041. 136 p.
- Rosseland B. O. and O. K. Skogheim. 1984. A comparative study on salmonid fish species in acid aluminum-rich water II. Physiological stress and mortality of one- and two-year-old fish. *Inst. Freshwater Res. Drottningholm Rep.* **61**: 186-194
- Rosseland B. O., T. D. Eldhuset and M. Staurnes. 1990. Environmental effects of aluminum. *Environ. Geochem. Health.* **12**: 17-27
- Ruggles, C.P. 1980. A review of the downstream migration of Atlantic salmon. Canadian Technical Report of Fisheries and Aquatic Sciences No. 952. Freshwater and Anadromous Division Research Branch, Department of Fisheries and Oceans. Halifax, NS. 39pp
- Sprague, J., P. Elson, and R. Saunders. 1965. Sublethal copper-zinc pollution in a salmon river – A field and laboratory study. *International Journal of Air and Water Pollution.* **9**: 531-543
- Saunders, R., M. A. Hachey, C. W. Fay. 2006. Maine diadromous fish community: past, present, and implications for Atlantic salmon recovery. *Fisheries.* **31(11)**: 537-547
- Saunders, R.L., E.B. Henserson, P.R. Harmon, C.E. Johnston and J.G. Eales. 1983. Effects of low environmental pH on smolting Atlantic salmon (*Salmo salar*). *Can. J. Fish. Aquat. Sci.* **40**: 1203-1211
- Schaffer, W.M. and P.F. Elson. 1975. The adaptive significance of variations in life history among local populations of Atlantic salmon in North America. *Ecology* **56**: 577-590
- Schulze, M.B. 1996. Using a field survey to assess potential temporal and spatial overlap between piscivores and their prey and a bioenergetics model to examine potential

- consumption of prey, especially juvenile anadromous fish, in the Connecticut River estuary. Master's thesis. University of Massachusetts, Amherst.
- Scott, W.B. and E.J. Crossman. 1973. Freshwater Fishes of Canada. Bulletin 184. Fisheries Research Board of Canada. Ottawa, Ca.
- Seaber, P.R., F.P. Kapinos, & G.L. Knapp. 1994. Hydrologic Unit Maps. U.S. Geological Survey water supply-paper; 2294. Supt. of Docs. No.: I 19,13:2294.
- Shelton, R.G.J., J.C. Holst, W.R. Turrell, J.C. MacLean, I.S. McLaren. 1997. Young Salmon at Sea. *In: Managing Wild Atlantic Salmon: New Challenges – New Techniques*. Whoriskey, F.G and K.E. Whelan. [eds.]. Proceedings of the Fifth Int. Atlantic Salmon Symposium, Galway, Ireland.
- Shepard, S.L. 1991. Evaluation of upstream and downstream fish passage facilities at the West Enfield hydroelectric project (FERC #2600-010). Report to the US Federal Energy Regulatory Commission. Bangor Hydro-Electric Company.
- Smith, T.R. and T.A. Haines. 1995. Mortality, Growth, Swimming Activity and Gill Morphology of Brook trout (*Salvelinus fontinalis*) and Atlantic salmon (*Salmo salar*) Exposed to Low pH with and without Aluminum. *Environmental Pollution* 90(1): 33-40
- Spence, B.. C., G. A. Lomnický, R. M. Hughes, and R. P. Novitzki. 1996. An ecosystem approach to salmonid conservation. TR-4501-96-6057. ManTech Environmental Research Services Corp., Corvallis OR. (Available from the National Marine Fisheries Service, Portland, Oregon.)
- Spicer, A.V., J.R. Moring, and J.G. Trial. 1995. Downstream migratory behavior of hatchery-reared, radio-tagged Atlantic salmon (*Salmo salar*) smolts in the Penobscot River, Maine, USA. *Fisheries Research* 23:255-266.
- Sprague, J., P. Elson, and R. Saunders. 1965. Sublethal copper-zinc pollution in a salmon river – A field and laboratory study. *International Journal of Air and Water Pollution*. 9: 531-543
- Stabell, O.B. 1984. Homing and olfaction in salmonids: A critical review with special reference to the Atlantic salmon. *Biological Review of the Cambridge Philosophical Society* 59(3): 333-338.
- Staurnes M., L. P. Hansen, K. Fugelli, and O. Haraldstad. 1996. Short-term exposure to acid water impairs osmoregulation, seawater tolerance, and subsequent marine survival of smolts of Atlantic salmon (*Salmo salar* L.). *Can. J. Fish. Aquat. Sci.* 53: 1695-1704
- Staurnes, M., F. Kroglund, and B.O. Rosseland. 1995. Water quality requirements of Atlantic salmon (*Salmo salar*) in water undergoing acidification or liming in Norway. *Water Air and Soil Pollution* 85: 347-352

- Staurnes, M., P. Blix, and O.B. Reite. 1993. Effects of acid water and aluminum on parr smolt transformation and seawater tolerance in Atlantic salmon, *Salmo salar*. Canadian Journal of Fisheries and Aquatic Sciences **50**: 1816-1827
- Stefansson, S.O., B.T.H. Bjornsson, K. Sundell, G. Nyhammer, S.D. McCormick. 2003. Physiological characteristics of wild Atlantic salmon post-smolts during estuarine and coastal migrations. J. Fish. Bio. **63(4)**: 942-955
- Swansburg, E., G. Chaput, D. Moore, D. Caissie, and N. El-Jabi. 2002. Size variability of juvenile Atlantic salmon: links to environmental conditions. Journal of Fish Biology **61**: 661-683
- Symons, P. and M. Heland. 1978. Stream habitats and behavioral interactions of underyearling and yearling Atlantic salmon (*Salmo salar*). J. Fish. Res. Bd. Can. **35**: 175-183
- Tallman, R.F. and M.C. Healey. 1994. Homing, straying, and gene flow among seasonally separated populations of chum salmon (*Onchorhynchus keta*). Can. J. Fish. Aquat. Sci. **51(3)**: 577-588.
- Thorpe, J.E. and Morgan, R.I.G., 1978. Periodicity in Atlantic salmon, *Salmo salar* L., smolt migration. J. Fish Biol. **12**: 541-548
- Trombulak, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology 14(1): 18-30
- USASAC (United States Atlantic Salmon Assessment Committee). 2004. Annual Report of the U.S. Atlantic Salmon Assessment Committee Report No. 16 – 2003 Activities. Annual Report 2004/16. Woods Hole, MA – February 23-26, 2004. 74pp. and appendices
- USASAC (United States Atlantic Salmon Assessment Committee). 2005. Annual Report of the U.S. Atlantic Salmon Assessment Committee Report No. 17 – 2004 Activities. Annual Report 2005/17. Woods Hole, MA – February 28-March 3, 2005. 110pp. and appendices
- United States Department of Agriculture (USDA) . 2002 Census of Agriculture. Maine State and County Data. U.S. Department of Agriculture AC-02-A-19. Issued March 2004.
- USEPA (United States Environmental Protection Agency). 2003. National Management Measures for the Control of Nonpoint Pollution from Agriculture. Office of Water (4503T), 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. EPA-841-B-03-004
- USGS (United States Geological Survey. 2006. Mineral Industry Surveys. U.S. Peat Producers in 2005. **Internet:** <http://minerals.usgs.gov/minerals>

- Waples, R. S. & M. Yokota. 2007. Temporal estimates of effective population size in species with overlapping generations. *Genetics* **175**: 219-233.
- Waters, T. W. 1995. Sediment in streams: Sources, biological effects, and control. American Fisheries Society Monograph 7.
- Whalen, K. G., D. L. Parish, and M. E. Mather. 1999a. Effect of ice formation on selection habitats and winter distribution of post-young-of-the-year Atlantic salmon parr. *Canadian Journal of Fisheries and Aquatic Sciences* **56(1)**: 87-96
- Whalen, K. G., D. L. Parrish, and S. McCormick. 1999b. Migration timing of Atlantic salmon smolts relative to environmental and physiological factors. *Trans. of the Amer. Fish. Soc.* **128**: 289-301
- White, H.C. 1942. Atlantic salmon redds and artificial spawning beds. *J. Fish. Res. Bd. Can.* **6**: 37-44
- Wickett, W.P. 1954. The oxygen supply to salmon eggs in spawning beds. *J. Fish. Res. Board Can.* **6**: 933-953
- Wildish, D. J., and J. Power. 1985. Avoidance of suspended sediments by smelt as determined by a new "single fish" behavioral bioassay. *Bull. Environ. Contam. Toxic.* no. 34: 770-774
- Wright, R., T. Dale, E. Gjessing, G. Hendrey, Al Hericksen, M. Johannessen, and I. Muniz. 1976. Impacts of acid precipitation on freshwater ecosystems in Norway. United States Forest Service General Technical Report NE-23: 459-476