

REFERENCES

- Aitken, J.K. 1998. The importance of estuarine habitats to anadromous salmonids of the Pacific Northwest: a literature review. U.S. Fish and Wildlife Service, Lacey, WA. 25pp.
- Baldwin, C.M., D.A. Beauchamp, and J.J. Van Tassell. 2000. Bioenergetic assessment of temporal food supply and consumption demand by salmonids in the Strawberry Reservoir food web. *Trans. Am. Fish. Soc.* 129:429-450.
- Bartell, S.M., J.E. Breck, R.H. Gardner, and A.L. Brenkert. 1986. Individual parameter perturbation and error analysis of fish bioenergetics models. *Can. J. Fish. Aquat. Sci.* 43:160-168.
- Bax, N.J., E.O. Salo, B.P. Snyder, C.A. Simenstad, and W.J. Kinney. 1978. Salmonid outmigration studies in Hood Canal. Final Report, Phase III, January to July, 1977. FRI-UW-7819. 128p.
- Beamish, R. J., and C. Mahnken. 1998. Natural regulation of the abundance of coho and other species of Pacific salmon according to a critical size and critical period hypothesis. NPAFC Doc. No. 319. 26p.
- Beamish, R.J., M. Folkes, R. Sweeting, and C. Mahnken. 1998. Intra-annual changes in the abundance of coho, chinook, and chum salmon in Puget Sound in 1997. Puget Sound Research, Puget Sound Water Quality Action Team, Olympia, WA, p.531-541.
- Beamish, R.J., B.L. Thomson, and G.A. McFarlane. 1992. Spiny dogfish predation on chinook and coho salmon and the potential effects on hatchery-produced salmon. *Trans. Am. Fish. Soc.* 121: 444-455.
- Beauchamp, D.A. 1990. Diel and seasonal food habits of rainbow trout stocked as juveniles in Lake Washington. *Trans. Am. Fish. Soc.* 119:475-482.
- Beauchamp, D.A., M.G. LaRiviere, and G.L. Thomas. 1995. An evaluation of competition and predation as limits to juvenile kokanee and sockeye salmon production in Lake Ozette, Washington. *N. Amer. J. Fish. Man.* 15:193-207.
- Beauchamp, D.A., S.A. Vecht, and G.L. Thomas. 1992. Seasonal, diel, and size-related food habits of cutthroat trout in Lake Washington. *Northw. Sci.* 66:149-159.
- Beauchamp, D.A., D.E. Pflug, and G. Lucchetti. 1987. Snohomish River juvenile salmon outmigration study. The Tulalip Tribes.
- Boldt, J. and L.J. Haldorson. 2002. A bioenergetics approach to estimating consumption of zooplankton by juvenile pink salmon in Prince William Sound, Alaska. *AK Fish. Res. Bull.* 9(2):111-127.

- Bostick, W.E. 1955. Duwamish River seining studies. In Puget Sound Stream Studies. Prog. Rep. July-Nov. 1953. WDFW, Olympia, WA.
- Brandt, S.B., D.M. Mason, E.V. Vincent. 1992. Spatially-explicit models of fish growth rate. Fisheries (Bethesda). 17(2):23-35.
- Brandt, S.B., and K.J. Hartman. 1993. Innovative approaches with bioenergetics models: future applications to fish ecology and management. Trans. Amer. Fish. Soc. 122:731-735.
- Breck, J.E. 1993. Foraging theory and piscivorous fish: are forage fish just big zooplankton? Trans. Amer. Fish. Soc. 122:902-911.
- Brodeur, R.D. 1990. Feeding ecology of and food consumption by juvenile salmon in coastal waters, with implications for early ocean survival. Dissertation. Univ. Wash. 286p.
- Brodeur, R.D., R.C. Francis, and W.G. Pearcy. 1992. Food consumption of juvenile coho (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*) on the continental shelf of Washington and Oregon. Can. J. Fish. Aquat. Sci. 49:1670-1685.
- Buckley, R.M. 1999. Incidence of cannibalism and intra-generic predation by chinook salmon (*Oncorhynchus tshawytscha*) in Puget Sound, Washington. WDFW. RAD 99-04. 22pp.
- Burns, Robert. 1985. The Shape and Form of Puget Sound. Puget Sound Books. Washington Sea Grant Publication. University of Washington Press. 100p.
- Cardwell, R.D. and K.L. Fresh. 1979. Predation upon Juvenile Salmon. State of Wash. Dept. Fish Progr. Rep. Draft No. 8.
- Cartwright, M.A., D.A. Beauchamp, and M.D. Bryant. 1998. Quantifying cutthroat trout (*Oncorhynchus clarki*) predation on sockeye salmon (*Oncorhynchus nerka*) fry using a bioenergetics approach. Can. J. Fish. Aquat. Sci. 55:1285-1295.
- Cheng, L., and M.C. Birch. 1978. Insect flotsam: an unstudied marine resource. Ecol. Ent. 3:87-97.
- Ciannelli, L, R.D. Brodeur, and T.W. Buckley. 1998. Development and application of a bioenergetics model for juvenile walleye pollock. J. Fish. Biol. 52:879-898.

- Conley, R.L. 1977. Distribution, relative abundance, and feeding habits of marine and juvenile anadromous fishes of Everett Bay, Washington. Masters thesis, UW, Seattle, WA. 61p.
- Davis, N.D. 1993. Caloric content of oceanic zooplankton and fishes for studies of salmonid food habits and their ecologically related species. (NPAFC doc.) FRI-UW-9312. Fisheries Research Institute, University of Washington, Seattle. 10pp.
- Davis, N.D., K.W. Myers, and Y. Ishida. 1998. Caloric value of high-seas salmon prey organisms and simulated salmon ocean growth and prey consumption. N. Pac. Anadr. Fish Comm. Bull. No. 1: 146-162.
- Dawley, E.M., R.D. Lederwood, T.H. Blam, C.W. Sims, J.T. Durkin, R.A. Kirn, A.E. Rankis, G.E. Monan, and F.J. Ossiander. 1986. Migrational characteristics, biological observations, and relative survival of juvenile salmonids entering the Columbia River Estuary, 1966-1983. Unpub. Rep. NMFS, Seattle, WA. 256p.
- Emmett, R.L. 1997. Estuarine survival of salmonids: The importance of interspecific and intraspecific predation and competition. *In* Estuarine and ocean survival of Northeastern Pacific salmon: Proceedings of the workshop. *Edited by* Emmett, R.L., and M.H. Schiewe. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-29, 313 p.
- Feller, R.J. 1974. Trophic analysis of juvenile pink and chum salmon from Puget Sound, 1970-1972. *In* Proceedings of the 1974 northeast Pacific pink and chum workshop. *Edited by* Harding, D.R., DOE, Fisheries, Vancouver, B.C. p.149-160.
- Fisher, J.P., and W.G. Pearcy. 1996. Dietary overlap of juvenile fall- and spring- run chinook salmon, *Oncorhynchus tshawytscha*, in Coos Bay, Oregon. Fish. Bull. 95: 25-38.
- Flagg, T.A., B.A. Berejikian, J.E. Colt, W.W. Dickhoff, L.W. Harrell, D.J. Maynard, C.E. Nash, M.S. Strom, R.N. Iwamoto, and C.V.W. Mahnken. 2000. Ecological and behavioral impacts of artificial production strategies on the abundance of wild salmon populations. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-41, 92 p.
- Fresh, K.L., D. Rabin, C. Simenstad, E.O. Salo, K. Garrison, and L. Matheson. 1978. Fish ecology studies in the Nisqually Reach area of southern Puget Sound, Washington. Final Report, Fish. Res. Inst., Univ. Wash. 229p.
- Fresh, K.L. 1979. Distribution and abundance of fishes occurring in the nearshore surface waters of northern Puget Sound, Washington. M.S. thesis, U. Washington, Seattle, WA. 120p.

Fresh, K.L., R.D. Cardwell, and R.R. Koons. 1981. Food Habits of Pacific salmon, baitfish and their potential competitors and predators in the marine waters of Washington, August 1978 to September 1979. State of Wash. Dept. Fish. Progr. Rep. No. 145.

Furnell, D.J., and J.R. Brett. 1986. Model of monthly marine growth and natural mortality for Babine Lake sockeye salmon (*Oncorhynchus nerka*). Can. J. Fish. Aquat. Sci. 43: 999-1004.

Gallagher, A.F. 1980. An analysis of factors affecting brood year returns of the wild stocks of Puget Sound chum (*Oncorhynchus keta*) and pink salmon (*Oncorhynchus gorbuscha*). M.S. thesis, U. Washington, Seattle, WA. 152p.

Godin, J-G.J. 1981. Daily patterns of feeding behavior, daily rations, and diets of juvenile pink salmon (*Oncorhynchus gorbuscha*) in two marine bays of British Columbia. Can. J. Fish. Aquat. Sci. 38:10-15.

Gosho, M.E. 1976. The food and feeding habits of juvenile pink salmon in the estuaries of Kodiak Island, Alaska. Thesis, U. Washington, Seattle, WA. 62p.

Gregory, R.S. and C.D. Levings. 1996. The effects of turbidity and vegetation on the risk of juvenile salmonids, *Oncorhynchus* spp., to predation by adult cutthroat trout, *O. clarkii*. Env. Biol. Fish. 47:279-288.

Gregory, R.S. and C.D. Levings. 1998. Turbidity reduces predation on migrating juvenile Pacific salmon. Trans. Amer. Fish. Soc. 127:275-285.

Hansen, M.J., D. Boisclair, S.B. Brandt, and S.W. Hewett. 1993. Applications of bioenergetics models to fish ecology and management: Where do we go from here? Trans. Amer. Fish. Soc. 122:1019-1030.

Hanson, P.C., T.B. Johnson, D.E. Schindler, and J.F. Kitchell. 1997. Fish bioenergetics 3.0. Wisc. Sea Grant Inst. WISCU-T-97-001.

Hargreaves, B.N. 1997. Early ocean survival of salmon off British Columbia and impacts of the 1983 and 1991-95 El Nino events. In Estuarine and ocean survival of Northeastern Pacific salmon: Proceedings of the workshop, Edited by Emmett, R.L., and M.H. Schiewe. NMFS-NWFSC-29. 313p.

Harris, C.K., and A.C. Hart. 1977. Assessment of pelagic and nearshore fish in three bays of east and south coasts of Kodiak Island, Alaska. Fin. Rep., Fish. Res. Inst., U. Washington, Seattle, WA. FRI-UW-7719. pp.26-29, 101-103.

Hatchery Scientific Review Group (HSRG) – Lars Mobrand (chair), John Barr, Lee Blankenship, Don Campton, Trevor Evelyn, Conrad Mahnken, Bob Piper, Lisa Seeb, and

- Bill Smoker. February 2002. *Hatchery Reform Recommendations*. Seattle, WA. 163p. http://www.ltk.org/pdf/HSRG_Recommendations_Feb_02.pdf
- Healey, M.C. 1979. Detritus and juvenile salmon production in the Nanaimo Estuary: I. Production and feeding rates of juvenile chum salmon (*Oncorhynchus keta*). J. Fish. Res. Board Can. 36:488-496.
- Healey, M.C. 1980a. Utilization of the Nanaimo River estuary by juvenile chinook salmon, *Oncorhynchus tshawytscha*. Fish. Bull. 77:653-668.
- Healey, M.C. 1980b. The ecology of juvenile salmon in Georgia Strait, British Columbia. In Salmonid ecosystems of the North Pacific. Edited by W.J. McNeil and D.C. Himsworth. OSU Press, Corvallis, OR. pp. 203-229.
- Healey, M.C. 1982a. Juvenile Pacific salmon in estuaries: the life support system. In Estuarine Comparisons. Edited by V.S. Kennedy. Academic Press. pp. 343-364.
- Healey, M.C. 1982b. Timing and relative intensity of size-selective mortality of juvenile chum salmon (*Oncorhynchus keta*) during early sea life. Can. J. Fish. Aquat. Sci. 36: 952-957.
- Henderson, M.A., and A.J. Cass. 1991. Effects of smolt size on smolt-to-adult survival for Chilko Lake sockeye salmon (*Oncorhynchus nerka*). Can. J. Fish. Aquat. Sci. 48: 988-994.
- Hjort, J. 1914. Fluctuations in the great fisheries of northern Europe viewed in the light of biological research. Rapp. P. -v. Reun. Cons. Int. Explor. Mer. 201-228.
- Hodgson, S. and K. Brakensiek. 2003. Juvenile salmon utilization of the lower Nisqually River and estuary. NWIFC report.
- Holtby, L.B., B.C. Anderson, and R.K. Kadowaki. 1990. Importance of smolt size and early ocean growth to interannual variability in marine survival of coho salmon (*Oncorhynchus kisutch*). Can. J. Fish. Aquat. Sci. 47(11): 2181-2194.
- Howick, G.L. and W.J. O'Brien. 1983. Piscivorous feeding behavior of largemouth bass: and experimental analysis. Trans. Amer. Fish. Soc. 112:508-516.
- Iwamoto, R.N. and E.O. Salo. 1977. Estuarine survival of juvenile salmonids: A review of the literature. Wash. Dept. Fish. Contract No. 807. FRI-UW. 64p. (Draft manuscript).

- Jauquet, J.M. 2002. Coastal cutthroat trout (*Oncorhynchus clarki clarki*) diet in south Puget Sound, Washington 1999-2002. Masters thesis, Evergreen State College, WA. 77p.
- Kaczynski, V.W., R.J. Feller, and J. Clayton. 1973. Trophic analysis of juvenile pink and chum salmon (*Oncorhynchus gobusha* and *O. keta*) in Puget Sound. J. Fish. Res. Board Can. 30:1003-1008.
- Kareiva, P., M. Marvier, and M. McClure. 2000. Recovery and management options for spring/summer chinook salmon in the Columbia River basin. Sci. 290:977-979.
- Kitchell, J.F., D.J. Stewart, and D. Weininger. 1977. Applications of a bioenergetics model to perch (*Perca flavescens*) and walleye (*Stizostedion vitreum*). J. Fish. Res. Board Can. 34:1922-1935.
- Lagler, K.F. and A.T. Wright. 1962. Predation of the Dolly Varden, *Salvelinus malma*, on young salmon, *Oncorhynchus spp.*, in an estuary of southeastern Alaska. Trans. Amer. Fish. Soc. 91(1):90-93.
- LeBrasseur, R.J., and R.R. Parker. 1964. Growth rate of central British Columbia pink salmon (*Oncorhynchus gorbuscha*). J. Fish. Res. Board. Can. 21: 1101-1128.
- Levings, C.D., C.D. McAllister, and B.D. Chang. 1986. Differential use of the Campbell River estuary, British Columbia, by wild and hatchery-reared juvenile chinook salmon (*Oncorhynchus tshawytscha*). Can. J. Fish. Aquat. Sci. 43:1386-1397.
- Levy, D.A. and C.D. Levings. 1978. A description of the fish community of the Squamish River estuary, British Columbia: Relative abundance, seasonal changes, and feeding habits of salmonids. Fish. Mar. Serv. M.S. Rep. 1475. 63pp.
- Mathews, S.B. and R. Buckley. 1976. Marine mortality of Puget Sound coho salmon (*Oncorhynchus kisutch*). J. Fish. Res. Board. Can. 33:1677-1684.
- McMahon, T.E., and L.B. Holtby. 1992. Behaviour, habitat use, and movements of coho salmon (*Oncorhynchus kisutch*) smolts during seaward migration. Can. J. Fish. Aquat. Sci. 49(7):1478-1485.
- Miyamoto, J., T. Deming, and D. Thayer. 1980. Estuarine residency and habitat utilization by juvenile anadromous salmonids within Commencement Bay, Tacoma, Wash. Puyallup Tribal Fisheries Division, Fish. Mgmt. Div. Tech. Rep. No. 80-1 (Draft)
- Mortensen, D., A. Wertheimer, S. Taylor, and J. Landingham. 2000. The relation between early marine growth of pink salmon, *Oncorhynchus gorbuscha*, and marine

water temperature, secondary production, and survival to adulthood. *Fish. Bull.* 98:319-335.

Murphy, M.L., H.W. Jaenicke, and E.V. Jr. Farley. 1998. The importance of early marine growth to interannual variability in production of southeastern Alaska pink salmon. NPAFC Tech. Rep. pp. 18-19.

Myers, K.W. 1978. Comparative analysis of stomach contents of cultured and wild juvenile salmonids in Yaquina Bay, Oregon. *In* Gutshop '78: Fish food habits studies. Proceedings of the second Pacific northwest technical workshop. Edited by S.J. Lipovsky and C.A. Simenstad. Washington Sea Grant, U. Washington, Seattle, WA.

Myers, K.W.W. 1980. An investigation of the utilization of four study areas in Yaquina Bay, Oregon, by hatchery and wild juvenile salmonids. M.S. thesis. Oregon state Univ., Corvallis, OR. 233p.

Neilson, J.D., and G.H. Geen. 1986. First-year growth of Sixes River chinook salmon as inferred from otoliths: effects of mortality and age at maturity. *Trans. Amer. Fish. Soc.* 115:28-33.

Ney, J.J. 1990. Trophic economics in fisheries: assessment of demand-supply relationships between predators and prey. *Rev. Aquat. Sci.* 2:55-81.

Ney, J.J. 1993. Bioenergetics modeling today: Growing pains on the cutting edge. *Trans. Amer. Fish. Soc.* 122:736-748.

Orsi, J.A., M.V. Sturdevant, J.M. Murphy, D.G. Mortensen, and B.L. Wing. 2000. Seasonal habitat use and early marine ecology of juvenile Pacific salmon in southeastern Alaska. NPAFC Bull. No. 2:111-122.

Orsi, J.A., D.G. Mortensen, D.L. Tersteeg, and R. Focht. 2001. Early marine growth and habitat utilization of two major southeastern Alaska chum salmon stocks, based on thermally marked otoliths recovered 1997-2000. NPAFC Tech. Report No. 3. pp. 16-18.

Paine, R.T. 1980. Food webs: linkage, interaction strength, and community structure. *J. Animal Ecol.* 49:667-685.

Paine, R.T. 1988. Food webs: road maps of interactions or grist for theoretical development. *Ecol.* 69:1648-1654.

Parker, R.R. 1962. Estimates of ocean mortality rates for Pacific salmon (*Oncorhynchus*). *J. Fish. Res. Bd. Can.* 19(4):561-589.

- Parker, R.R. 1968. Marine mortality schedules of pink salmon of the Bella Coola River, central British Columbia. *J. Fish. Res. Bd. Canada* 25: 757-794.
- Parker, R.R. 1971. Size selective predation among juvenile salmonid fishes in a British Columbia inlet. *J. Fish. Res. Bd. Canada* 28: 1503-1510.
- Pearsons, T.N. and A.L. Fritts. 1999. Maximum size of chinook salmon consumed by juvenile coho salmon. *N. Amer. J. Fish. Mgmt.* 19:165-170.
- Perry, R.I., Hargreaves, N.B., Waddell, B.J., and D.L. Mackas. 1996. Spatial variations in feeding and condition of juvenile pink and chum salmon off Vancouver Island, British Columbia. *Fish. Ocean.* 5(2):73-88.
- Rand, P.S., D.J. Stewart, B.F. Lantry, L.G. Rudstam, O.E. Johansson, A.P. Goyke, S.B. Brandt, R. O'Gorman, and G.W. Eck. 1995. Effect of lake-wide planktivory by the pelagic community in Lakes Ontario and Michigan. *Can. J. Fish. Aquat. Sci.* 52:1546-1563.
- Reimers, P.E. 1973. The length of residence of juvenile fall chinook salmon in Sixes River, Oregon. *Res. Rept. Fish. Comm. OR* 4(2):3-41.
- Royal, L.A. 1962. Survival in the estuaries, a most critical phase. *West. Fish.* September. p.16-17.
- Salo, E.O. 1969. Final report for the period June 1, 1965-September 30, 1968, Estuarine ecology research project. FRI-UW. 80pp.
- Salo, E.O., N.J. Bax, T.E. Prinslow, C.J. Whitmus, B.P. Snyder, and C.A. Simenstad. 1980. The effects of construction of naval facilities on the outmigration of juvenile salmonids from Hood Canal, Washington. Final Rep. FRI-UW-8006. 159p.
- Shepard, M.F. 1981. Status and review of the knowledge pertaining to the estuarine habitat requirements and life history of chum and chinook salmon juveniles in Puget Sound. WA Coop. Fish. Res. Unit, UW.
- Sibert, J. 1975. Residence of juvenile salmonids in the Nanaimo River estuary. *Fish. Mar. Ser. Dev. Tech. Rep.* 537. 23pp.
- Simenstad, C.A., W.J. Kinney, S.S. Parker, E.O. Salo, J.R. Cordell, and H. Buechner. 1980. Prey community structure and trophic ecology of outmigrating juvenile chum and pink salmon in Hood Canal, Washington: A synthesis of three years' studies, 1977-1979. Final Rep. *Fish. Res. Inst., U. Washington, Seattle, WA.* FRI-UW-8026. 113p.

- Simenstad, C.A., K.L. Fresh, and E.O. Salo. 1982. The role of Puget Sound and Washington coastal estuaries in the life history of Pacific salmon: an unappreciated function. *In Estuarine Comparisons. Edited by V.S. Kennedy.* Academic Press. pp. 343-364.
- Simenstad, C.A., C.D. Tanner, R.M. Thom, and L.L. Conquest. 1991. Puget Sound Estuary Program: Estuarine Habitat Assessment Protocol. EPA 910/9-91-037. p. 104.
- Sogard, S.M. 1997. Size-selective mortality in the juvenile stage of teleost fishes: A review. *Bull. Mar. Sci.* 60(3): 1129-1157.
- Stewart, D.J., J.F. Kitchell, and L.B. Crowder. 1981. Forage fishes and their salmonid predators in Lake Michigan. *Trans. Am. Fish. Soc.* 110:751-763.
- Stewart, D.J. and M. Ibarra. 1991. Predation and production by salmonine fishes in Lake Michigan, 1978-88. *Can. J. Fish. Aquat. Sci.* 48:909-922.
- Stober, Q.J, S.J. Walden, and D.T. Griggs. 1973. Juvenile salmonid migration through Skagit Bay, pp.35-70. *In Ecological studies of proposed Kiket Island nuclear power site. Edited by Q.J. Stober and E.O. Salo.* FRI-UW-7304. 537pp.
- Sturdevant, M.V. 1999. Forage fish diet overlap, 1994-1996. *Exxon Valdez Oil Spill Restoration Project Final Report (Restoration Project 97163C), Auke Bay Laboratory, National Marine Fisheries Service, Juneau, Alaska*
- Thayer, G.W., W.E. Schaaf, J.W. Angelovic, and M.W. LaCroix. 1973. Caloric measurements of some estuarine organisms. *Fish. Bull.* 71(1):289-296.
- Thorpe, J.E. 1994. Salmonid fishes and the estuarine environment. *Estuaries* 17:76-93.
- Tovey, C.P. 1999. The relationship between marine survival rates of Robertson Creek chinook salmon (*Oncorhynchus tshawytscha*) and their first marine year lengths and growth rates. M.S. thesis, U. British Columbia. 114p.
- Tyler, R.W. 1963. Distribution and migration of young salmon in Everett Harbor, 1962. Final Rep., Contract – Everett Bay Studies, April 1, 1962-Dec. 31, 1962. FRI-UW. 26pp.
- Ward, B.E., P.A. Slaney, A.R. Facchin, and R.W. Land. 1989. Size-biased survival in steelhead trout (*Oncorhynchus mykiss*): back-calculated lengths from adults' scales compared to migrating smolts at the Keogh River, British Columbia. *Can. J. Fish. Aquat. Sci.* 46: 1853-1858.

Wetherall, J.A. 1970. Estimation of survival rates for chinook salmon during their downstream migration in the Green River, Washington. PhD dissertation. UW, Seattle. 170pp.

Willette, M. 1996. Impacts of the *Exxon Valdez* oil spill on the migration, growth, and survival of juvenile pink salmon in Prince William Sound. Am. Fish. Soc. Symp. 18:533-550.

Wing, B.L. 1985. Salmon stomach contents from the Alaska troll logbook program 1977-84. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/NWC-91.

Zar, J.H. 1999. Biostatistical Analysis, 4th edition. Prentice Hall, NJ, USA.