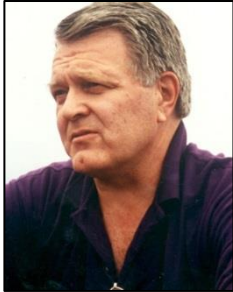


Attachment E

Curriculum Vitae:

Don Weitkamp, Ph.D., and Walton Dickhoff, Ph.D.

DON WEITKAMP, PH.D.



EXPERIENCE: 45+ years

RELEVANT EXPERIENCE:

- Net-Pen & Salmon Hatcheries
- ESA Analysis
- Estuarine Habitat Assessment
- Permitting
- Mitigation
- Habitat Monitoring
- Literature Reviews to Assess Effects

EDUCATION:

Ph.D., Fisheries, 1977
University of Washington

M.S., Invertebrate Pathology, 1971
University of Washington

B.S., Zoology, 1966
Washington State University

SUMMARY OF EXPERTISE

Don is an aquatic biologist and water quality expert who has been working with coastal and inland ports since the 1970s. Don began working with shoreline redevelopment issues and special studies for Puget Sound areas in the 1970s & 80s. His work includes considerable experience with aquaculture projects. He began his scientific career working with the shellfish industry issues as a research associate with the Fisheries Research Institute of the University of Washington. His master's thesis was prepared on research dealing with a parasite of cultured mussels and oysters. His initial research on fin fish dealt with dissolved gas supersaturation and its effects on riverine and hatchery fish throughout the Columbia R. basin. This work investigated the prevalence of supersaturation, its causes and control measures, as well as the biological effects. He designed and directed research sampling in river populations, controlled populations in live cages, and conducted a mobile live cage experiment. He has provided services in program management, permitting, ESA, NEPA/SEPA, water quality, habitat restoration, regulatory compliance, and interagency coordination for ports, irrigation districts, the Corps of Engineers and dam operators.

Don has conducted numerous projects dealing with both hatchery and net pen techniques of aquaculture. His hatchery experience has dealt with the genetics of hatchery populations, the strategic program issues of accelerated rearing, and hatchery effluents. It also includes a 15-year study of fall chinook spawning in the Hanford Reach and its relation to hatchery practices, for an area strongly influenced by dam operation. He has directed studies of migration timing and survival of hatchery population of salmonids in the Columbia River. Other research has included invertebrate organisms that inhabit freshwater and marine environments. Topics of this research include: habitat restoration, contaminated sediments, assessments of invertebrate populations, and evaluation of invertebrate habitats

REPRESENTATIVE PROJECTS

Net-Pen Aquaculture Programmatic EIS: Don oversaw and participated in preparation of the SEPA programmatic EIS for net-pen rearing of salmon in Puget Sound. This project, for the State of Washington, identified alternatives, a vision of how aquaculture could be implemented, and assessed impacts and mitigation potentials for this action.

Harding Creek Aquaculture Project: Don directed a two-year effort to assess the environmental impacts of a proposed hatchery and net pen facility in a remote area of Puget Sound in Washington State. The project had the potential to impact both commercial fisheries and recreational use of the local area. The project conducted water quality monitoring and computational modeling to identify impacts and prepared environmental documentation. Don provided expert testimony at regulatory hearings on the resulted in authorization of the controversial project.

Sea Farms Environmental Assessment: An operational net-pen farm in southern Puget Sound was accused of producing unfavorable environmental impacts, and thus prevented from expansion. Don guided environmental monitoring and computational modeling to assess these impacts. He then provided expert testimony at regulatory hearings to obtain permits necessary for expansion of the net pen operation.

Skagit Net Pen Siting: A private entity and a native American tribe proposed to construct a large net pen operation in northern Puget Sound in an area commonly used for recreational purposes. Don directed an evaluation and computational modeling effort to identify a favorable site within the proposed area. A site was identified that would have no environmental impacts on the benthic habitat.

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Net Pen Deposition Modeling: Directed a project to allow siting of a salmon net-pen operation in a bay adjacent to the Strait of Juan de Fuca. Recreational and commercial fishing interests necessitated a thorough examination of potential impacts to sediment and water quality. Computation modeling was used to predict impacts showing that waste accumulation would be limited to a thin layer within 100 m of the pens.

Steelhead Genetics Characterization: Don directed a study to genetically identify the portions of a returning steelhead run that originated from hatchery and wild fish production. Samples were collected from adults trapped at Wells Dam for hatchery production. Electrophoresis examination of these samples identified the portions of these fish produced by the hatchery and by wild fish spawning.

Aquaculture Monitoring Program, Maine: Assigned Principal for development of an environmental monitoring program for the State of Maine related to marine aquaculture. This project included evaluating state and federal water quality regulations, reviewing regulations in other countries, and developing a water quality and sediment monitoring plan for incorporation into state regulations. He also presented the findings and recommendations before a state legislative committee.

Hatchery Production Environmental Assessment: Oversaw a NEPA environmental assessment of a large salmon and steelhead hatchery program for a major Columbia River tributary, the Yakima River. Analysis of multiple proposed sites included potential effects on existing fisheries populations, water quality and quantity, land use and recreation, and wildlife. This hatchery system incorporates adaptive management strategies for program development and is being used as a prototype for the entire Columbia Basin.

Hatchery Effectiveness Survey: Assigned Principal for a comprehensive survey to identify non-published research projects conducted in the last 10 to 15 years on all aspects of salmon, trout, and sturgeon culture. The project developed a computerized database that summarizes this information and makes it readily available.

Cedar River Sockeye Project: Assigned Principal and technical expert for the site selection of a sockeye spawning channel or hatchery on the Cedar River in Washington State. Duties include the identification and evaluation of impacts to natural spawning populations in the river in general and at specific proposed sites and preparation of the fisheries section of the EIS.

Hatchery Accelerated Smoltification: Don directed a three-year study to evaluate the feasibility of accelerating the growth of spring chinook at the Leavenworth Natural Fish Hatchery using warm well water. This project evaluated the potential benefits of establishing an age-0 Chinook program in the Columbia River to increase survival and reduce rearing time.

Juvenile Salmon Studies, Elliott Bay and Duwamish River. Port of Seattle: Don conducted a number of studies in the Duwamish estuary and Elliott Bay to monitor juvenile salmon and resident fish populations. These investigations evaluated the effects of dredging, filling, and other shoreline modifications on juvenile salmon, prey organisms, and fish populations. These studies of the invertebrates and fish involved sampling to establish population densities and habitat types, measuring effects of habitat alterations and enhancement, and determining fish behavior to evaluate the impacts of dredging, filling and pier construction.

Columbia River Channel Deepening ESA Reconsultation: Don prepared the ESA evaluation of the Corps-proposed channel deepening action to address concerns the Federal Services had for the initial consultation evaluation. This evaluation met Services concerns for ESA listed species occurring in the Columbia R. allowing the action to be approved.

Salmon Spawning Assessment Vernita Bar: He helped design and conducted extensive studies of fall Chinook spawning for over 15 years at the largest natural spawning site in the U.S. (Hanford Reach). This FERC license study evaluated all factors potentially affecting spawning success with special emphasis on spawning habitat and flow fluctuations. It included development of an artificial spawning area to mitigate possible impacts due to flow regulation. These efforts resulted in operating criteria for Priest Rapids Dam, during the spawning period, that minimize the upper elevations at which the Chinook spawn, resulting in lower required flows during crucial spring periods.

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Pier Removal, WA Dept. Natural Resources: Don led a project to remove three large derelict piers with over 2,500 creosote treated piles. This included coordination with agencies to permit cutting the piles, developing and conducting contaminant investigations and monitoring of water, sediment, and biota for contamination.

PUBLICATIONS

Weitkamp, D.E. 2009. Creosote release analysis ASARCO Docks removal. Report to Washington Department of Natural Resources and U.S. Environmental Protection Agency, Seattle, Washington. 8 p.

Weitkamp, D.E. 2009. Biological Evaluation ASARCO Docks removal. For Washington Department of Natural Resources to National Marine Fisheries Service. 60 p.

Parametrix. 2009. Puget Creek beach site, sediment investigation and feasibility study. Report to Washington Department of Natural Resources and Pierce County, Tacoma, Washington. 46 p.

Weitkamp, D.E. 2009. Informal ESA Consultation Report. Blackwell Island Marina. To U.S. Fish and Wildlife Service, Spokane Washington. 6 p.

Weitkamp, D.E. 2008. Report on potential effects of Post Falls Hydroelectric Project on fish resources. Report to Avista Corporation, Spokane, Washington. 69 p. + appendix.

Weitkamp, D.E. 2007. Fisheries resources additional analysis and supplemental information on bull trout and bull trout critical habitat in the Coeur d'Alene Lake Basin. Report to U.S. Fish and Wildlife and Avista Corporation, Spokane, Washington. 89 p.

Weitkamp, D.E. 2006. Report on potential effects of Post Falls Hydroelectric Project on fish resources, Post Falls Hydroelectric Project FERC No. 12606. Parametrix, Bellevue, Washington. 74 p.

Avista and Parametrix, Inc. 2007. Ramping rate evaluation Spokane River Hydroelectric Project. Report prepared in cooperation with the Washington Department of Fish and Wildlife and the Idaho Department of Fish and Game, Avista Corporation, Spokane, Washington. 50 p. <http://198.181.17.155/hydrodocs/2004-0513.pdf>

Weitkamp, D.E. 2006. Annotated bibliography revised fish resources factual information, Post Falls Hydroelectric Project FERC No. 12606. Parametrix, Bellevue, Washington. 188 p.

Weitkamp, D.E. 2006. Endangered Species Act - Section 9 consultation biological analysis. Draft report by Parametrix to Snohomish County, Everett, Washington. 81 p.

Weitkamp, D.E. 2006. Steelhead Mid-Columbia annotated bibliography. Report by Parametrix to Quincy-Columbia Irrigation District and others, Quincy, Washington. 32 p.

Parametrix. 2006. Crab Creek steelhead issues. Report to Quincy-Columbia Irrigation District and others, Quincy, Washington. 8 p.

Weitkamp, D.E. 2005. Habitat use and movement of adult westslope cutthroat trout in Coeur d'Alene Lake and the lower St. Joe, St. Maries, and Coeur d'Alene Rivers. Unpublished report to Fisheries Workgroup, Spokane River Hydroelectric Project, FERC Project No. 2545, Avista Corp. Spokane, Washington. 173 p. <http://198.181.17.155/hydrodocs/2005-0082.pdf>

Weitkamp, D.E. 2004. Summary review Lake Spokane drawdown effects to fish and aquatic habitat. Report by Parametrix to Fisheries Workgroup Spokane River Relicensing Project, Avista Corp., Spokane, Washington. 17 p. <http://198.181.17.155/hydrodocs/2003-0655.pdf>

Sullivan, R.D., D.E. Weitkamp, T. J. Swant, and J. M. DosSantos. 2004. Changing spill patterns to control dissolved gas supersaturation. Hydro Review XXIII (5):106-112.

Underwood, K., D. Weitkamp, and R. Cardwell. 2004. Factors influencing successful fisheries in Lake Roosevelt, WA. Unpublished report by S. P. Cramer & Associates and Parametrix. Inc. 59 p.

Weitkamp, D.E. 2004. Summary review Lake Spokane drawdown effects to fish and aquatic habitat. Report by Parametrix to Fisheries Workgroup Spokane River Relicensing Project, Avista Corp., Spokane, Washington. 17 p.

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- Weitkamp, D.E., and P. Noonan. 2003. Best available science, environmental critical areas update aquatic habitat guideline. Report by Parametrix to City of Seattle, Seattle Public Utilities, Seattle, Washington. 84 p.
- Weitkamp, D.E. 2003. Potential northern pike control to enhance cutthroat trout survival, Coeur d'Alene Lake. Report by Parametrix to Fisheries Workgroup Spokane River Relicensing Project, Avista Corp., Spokane, Washington. 9 p. <http://198.181.17.155/hydrodocs/2003-0648.pdf>
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- Weitkamp, D.E., R.D. Sullivan, T. Swant, and J. DosSantos. 2003. Gas Bubble Disease in Resident Fish of the Lower Clark Fork River. Transactions of the American Fisheries Society 132:865-876.
- Weitkamp, D.E., and R.P. Sullivan. 2002. Today's technologies for marking and tagging fish. Hydro Review XXI(5):24-33.
- Weitkamp, D.E., and D. Gillingham. 2002. Juvenile salmon observations Asarco shoreline 2001. Unpublished report by Parametrix, Inc. to ASARCO Inc., Tacoma, Washington. 15 p.
- Parametrix. 2002. Biological review Tri-County Model 4(d) Rule response proposal. Unpublished report by Parametrix for Tri-County Salmon Conservation Coalition, c/o King County Endangered Species Act Policy Coordination Office, Seattle, Washington. 176 p + appendices.
- Parametrix. 2002. Lower Tolt Liver floodplain reconnection alternatives and analysis. Report by Parametrix to Seattle City Light and King County Department of Natural Resources, Seattle, Washington. 116 p.
- Parametrix. 2002. Biological assessment, Restoration of South Park Bridge No. 3179. Report to King County Department of Transportation, Seattle, Washington. 44 p.
- Weitkamp, D.E. 2001. Listed species ecology Columbia River navigation channel reconsultation. Unpublished report by Parametrix, Inc. to Lower Columbia River Sponsor Ports c/o Port of Portland, Portland, Oregon.
- Parametrix. 2001. Biological Assessment Chinese Reconciliation Park. Report to City of Tacoma, Tacoma, Washington. 81 p.
- Weitkamp, D.E., and G.T. Ruggione. 2000. Factors affecting Chinook populations, background report. Prepared by Parametrix, Inc, Natural Resources Consultants, and Cedar River Associates for City of Seattle, Seattle, Washington. 224 p.
- Weitkamp, D.E. 2000. Total dissolved gas supersaturation in the natural river environment. Rocky Reach Hydroelectric Project No. 2145. Unpublished report by Parametrix, Inc. to Chelan County Public Utility District, Wenatchee, Washington. 15 p.
- Weitkamp, D.E., and B.D. Sullivan. 2000. Analysis of total dissolved gas data Rocky Reach Dam 1997-2000. Report by Parametrix to Chelan County PUD No. 1, Wenatchee, Washington. 40 p.
- Weitkamp, D.E., and B.D. Sullivan. 2000. Cabinet Gorge Dam spill gate evaluations, 2000. Unpublished report to Avista Corp. Spokane, Washington. 34 p. + Appendices.
- Sullivan, B.D., and D.E. Weitkamp. 2000. Gas bubble disease monitoring lower Clark Fork River, 2000. Unpublished report to Avista Corp. Spokane, Washington. 31 p. + Appendices.

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- Sullivan, B.D., and D.E. Weitkamp. 2000. Total dissolved gas monitoring Cabinet Gorge And Noxon Rapids hydroelectric projects 2000. Unpublished report to Avista Corp. Spokane, Washington. 37 p. + Appendices.
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- Parametrix. 2000. Habitat plan and design report St. Paul Waterway nearshore facility. Appendix Z of Final Thea Foss Round 3 Data Evaluation and Pre-Remedial Design Evaluation Report prepared for City of Tacoma, Simpson Tacoma Kraft, and U.S. EPA, Tacoma, Washington. 52 p.
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- Weitkamp, D.E. and R.D. Sullivan. 1993. Biological risks associated with John Day Reservoir drawdown. Unpublished report by Parametrix, Inc. to Northwest Irrigation Utilities, Portland, Oregon. 22 p.

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- Weitkamp, D.E. 1992. Snake River transportation data summary. Report to Salmon Recovery Plan Team, National Marine Fisheries Services by Northwest Irrigation Utilities, Portland, Oregon. 7 p.
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- Weitkamp, D.E. 1974. Final report, Snake River 1973 dissolved gas studies. Report to Idaho Power Co., Parametrix, Inc., Bellevue, Washington. 81 p.
- Weitkamp, D.E. 1974. Evaluation of the adequacy of the Scott Paper Co. submarine outfall in Guemes Channel. Report to Scott Paper Co. Everett, Washington. 82 p.
- Weitkamp, D.E. 1974. Dissolved gas supersaturation, Grand Coulee Dam Project, 1973. Report to Bureau of Reclamation. Parametrix, Inc., Bellevue, Washington.
- Weitkamp, D.E. 1973. Resource and literature review, dissolved gas supersaturation and gas bubble disease. Parametrix, Inc., Bellevue, Washington. 60 p.
- Weitkamp, D.E. 1971. The early life history of Mytilicola orientalis. Thesis, University of Washington, Seattle, Washington. 91 p.
- Weitkamp, D.E. and G. Tutmark. 1971. Preliminary survey of log dumps and log storage areas on the first five year logging plan. Admiralty Island. Report to U.S. Plywood-Champion Papers, Inc. 83 p.
- Sparks, A.K., K.K. Chew, E.J. Jones, L. Schwartz, and D.E. Weitkamp. 1968. Epizootics in experimental marine shellfish populations. Research in Fisheries, University of Washington, Contribution No. 280.
- Jones, E.J., D.E. Weitkamp, and A.K. Sparks. 1969. Oyster mortality investigations. Research in Fisheries, University of Washington, Contribution No. 300.

Curriculum Vitae Walton W. Dickhoff

Education

A.B. Biological Sciences, 1970, University of California, Berkeley.

Ph.D. Physiology, 1976, University of California, Berkeley.

Honors/Awards

U.S. Public Health Service Trainee, 1970-1974.

National Institutes of Health Fellowship, 1976-1977.

Tashiro Fellowship, Kitasato University, Japan, 1987.

Research Faculty Fellowship, University of Washington, College of Ocean and Fishery Sciences, 1987-1988.

Distinguished Research Award, University of Washington, College of Ocean and Fishery Sciences, 1991.

NOAA Distinguished Career Award, 2004

NOAA Fisheries Employee of the Year 2007

NOAA Administrators Award 2011

Employment

2018

Retired

2016-2017

Senior Scientist, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle

2003-2016

Division Director, Environmental and Fisheries Sciences Division, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle

1987-2012

Professor (WOT), School of Fisheries, University of Washington.

1986-2003

Physiologist, National Marine Fisheries Service, Northwest Fisheries Research Center, Seattle.

1993-2002

Director, Cooperative Education and Research Program(UW/NMFS)

1988-1989

Assistant Director, Aquaculture Division, School of Fisheries, UW.

1984-1987

Research Associate, School of Fisheries, University of Washington.

1977, '79, '80, '82

Acting Assistant Professor, Dept. Zoology, University Washington.

1975-1984

Research Associate, Dept. Zoology, University of Washington.

1974-1975

Research Assistant, Dept. Physiology/Anatomy, University of California, Berkeley.

Professional Activities

Professional Memberships:

American Association for the Advancement of Science, American Fisheries Society, Society of Integrative and Comparative Biology (formerly American Society of Zoologists; Chair, Division of Comparative Endocrinology 1993-96), Endocrine Society, Society for the Protection of Old Fishes; U.S. Representative on International Federation of Comparative Endocrinological Societies 1996-2001.

Editorships:

Member of Editorial Board of General and Comparative Endocrinology 1978-1991.

Served as Acting Editor-in-Chief of General and Comparative Endocrinology in 1979, 1981, 1983 and 1984.

Editor of General and Comparative Endocrinology 2001-2004

Invited to present papers at the following international meetings:

North Pacific Aquaculture Symposium, Anchorage Alaska, Newport Oregon, August, 1980.

Smoltification Symposium, La Jolla, California, June, 1981.

IX International Symposium on Comparative Endocrinology, Hong Kong, December, 1981.

Symposium on Fish Migration and Reproduction, Tokyo, Japan, December, 1981.

19th Gunma Symposium on Endocrinology, Maebashi, Japan, December, 1981.

U.S.-Japan Cooperative Program, Natural Resources-Aquaculture, Tokyo, Japan, October, 1982.

X International Symposium on Comparative Endocrinology, Copper Mountain, Colorado, June, 1985.

U.S.-Japan Cooperative Program on Natural Resources-Aquaculture Woods Hole, Massachusetts, October, 1985.

International Symposium on Common Strategies of Anadromous and Catadromous Fishes, Boston, Massachusetts, March, 1986.

First International Symposium on Fish Endocrinology, Edmonton, Canada, June 12-17, 1988.

Third International Smoltification Workshop, Trondheim, Norway, June 27-July 3, 1988.

U.S.-Japan Cooperative Program on Natural Resources-Aquaculture, Ise City, Japan, October, 1988.

Symposium on Unconventional Vertebrates as Models in Endocrine Research, NIH, Bethesda, MD, December 5-6, 1988.

XI International Symposium on Comparative Endocrinology, Malaga, Spain, May 14-20, 1989.

Applications of Comparative Endocrinology to Aquaculture Symposium, Almuñecar, Spain, May 22-23, 1989.

Symposium on Advances in Fish Pituitary Hormones, Tokyo, Japan, Sept. 21-22, 1992.

Symposium on Applications of Endocrinology to Aquaculture in the Pacific Rim, Bodega Bay, California, September 1994.

Symposium on Biotechnology in Aquaculture, AAAS Annual Meeting, Baltimore, Maryland, February 1996.

3rd International Symposium on Fish Endocrinology, Hakodate, Japan, June 1996.

Satellite Symposium on fish Migration, Lake Toya, Japan, June 1996.

International Symposium on Insulin Family Peptides, Barcelona, Spain, August 1997.

XII International Symposium on Comparative Endocrinology, Yokohama, Japan, Nov., 1997.

“Molecular Ancestry of Vertebrate Polypeptide Hormones and Neuropeptides”, Waseda University, Tokyo, Japan, Nov. 1997.

International Congress on Fish Biology, Vancouver B.C. Canada, July 2002.

Served on the following committees/professional organizations:

Program Officer (elected), Division of Comparative Endocrinology, American Society of Zoologists, 1987- 1989.

Co-organizer, Western Regional Conference on Comparative Endocrinology, Seattle, 1988.

Organizer of XII Annual Smoltification Workshop, Seattle, October, 1990.

Division Chair (elected), Division of Comparative Endocrinology, American Society of Zoologists, 1993-95.

U.S. Representative (elected), International Federation of Comparative Endocrinological Societies, 1996-1999.

Organizer, Fourth International Symposium on Fish Endocrinology, Seattle, WA, July 31-August 3, 2000.

Instructional Activities

Taught undergraduate courses in Dept. Physiology/Anatomy, University of California, Berkeley, 1971 to 1975.

Taught undergraduate and graduate courses in Dept. Zoology, University of Washington, 1977 – 1985, and in School of Fisheries and School of Aquatic and Fishery Sciences, University of Washington 1985 – 2000.

Graduate Advising

Graduate Faculty Member University of Washington and Oregon State University and mentored over 100 graduate students and post-docs.

Publications
Walton W. Dickhoff

1976

1. Matty, A.J., K. Tsuneki, W.W. Dickhoff and A. Gorbman. 1976. Thyroid and gonadal function in hypophysectomized hagfish, *Eptatretus stouti*. Gen. Comp. Endocrinol. 30:500-516.

1977

2. Dickhoff, W.W. and A. Gorbman. 1977. *In vitro* thyrotropic effect of the pituitary of the Pacific hagfish, *Eptatretus stouti*. Gen. Comp. Endocrinol. 31:75-79.
3. Dickhoff, W.W. 1977. A rapid, high-efficiency bioassay of melanocyte-stimulating hormone. Gen. Comp. Endocrinol. 33:304-306.

1978

4. Dickhoff, W.W., J.W. Crim and A. Gorbman. 1978. Lack of effect of synthetic thyrotropin releasing hormone on Pacific hagfish (*Eptatretus stouti*) pituitary-thyroid tissue *in vitro*. Gen. Comp. Endocrinol. 35:96-98.
5. Crim, J.W., W.W. Dickhoff and A. Gorbman. 1978. Comparative endocrinology of piscine hypothalamic hypophysiotropic peptides: distribution and activity. Amer. Zool. 18:411-424.
6. Dickhoff, W.W., L.C. Folmar and A. Gorbman. 1978. Changes in plasma thyroxine during smoltification of coho salmon, *Oncorhynchus kisutch*. Gen. Comp. Endocrinol. 36:229-232.
7. Gorbman, A. and W.W. Dickhoff. 1978. Endocrine control of reproduction in hagfish. In: Comparative Endocrinology (P.J. Gaillard and H.H. Boer, eds.) Elsevier/North Holland Biomedical Press, Amsterdam, pp. 49-54.

1979

8. Folmar, L.C. and W.W. Dickhoff. 1979. Plasma thyroxine and gill Na⁺-K⁺ ATPase changes during seawater acclimation of coho salmon, *Oncorhynchus kisutch*. Comp. Biochem. Physiol. 36A:329-332.
9. Dickhoff, W.W. and C.S. Nicoll. 1979. Studies on the melanocyte-stimulating hormones of the neurointermediate lobe of the American bullfrog, *Rana catesbeiana*. I. Electrophoretic and chromatographic separation and identification of the intraglandular and secreted forms of melanotropic peptides. Gen. Comp. Endocrinol. 39:313-321.

1980

10. Yu, J. Y.-L., W.W. Dickhoff, Y. Inui and A. Gorbman. 1980. Sexual patterns of protein metabolism in liver and plasma of hagfish, *Eptatretus stouti*, with special reference to vitellogenesis. Comp. Biochem. Physiol. 65B:111-117.
11. Folmar, L. C. and W.W. Dickhoff. 1980. The parr-smolt transformation (smoltification) and seawater adaptation in salmonids. A review of selected literature. Aquaculture 21:1-37.
12. Weisbart, M., W.W. Dickhoff, A. Gorbman and D.R. Idler. 1980. The presence of steroids in the sera of the Pacific hagfish, *Eptatretus stouti*, and the sea lamprey, *Petromyzon marinus*. Gen. Comp. Endocrinol. 41:506-519.

1981

13. Folmar, L.C. and W.W. Dickhoff. 1981. Evaluation of some physiological parameters as predictive indices of smoltification. *Aquaculture* 23:309-324.
14. Yu, J. Y.-L., W.W. Dickhoff, P. Swanson and A. Gorbman. 1981. Vitellogenesis and its hormonal regulation in the Pacific hagfish, *Eptatretus stouti*. *Gen. Comp. Endocrinol.* 43:492-503.
15. Turner, R.T., W.W. Dickhoff and A. Gorbman. 1981. Estrogen binding to hepatic nuclei of Pacific hagfish, *Eptatretus stouti*. *Gen. Comp. Endocrinol.* 45:26-29.
16. Grau, E.G., W.W. Dickhoff, R.S. Nishioka, H.A. Bern and L.C. Folmar. 1981. Lunar phasing of the thyroxine surge preparatory to seaward migration of salmonid fishes. *Science* 211:607-609.
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18. Sower, S. A., W.W. Dickhoff and R.N. Iwamoto. 1981. Hormone-induced ovulation in coho salmon, steelhead trout hybrids, and Atlantic salmon. In: *Salmon Broodstock Maturation* (T. Noshio, ed.) Washington Sea Grant Publication. Seattle, WA. pp. 81-82.

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19. Gorbman, A., W.W. Dickhoff, J.L. Mighell, E.F. Prentice and F.W. Waknitz. 1982. Morphological indices of developmental progress in the parr-smolt coho salmon, *Oncorhynchus kisutch*. *Aquaculture* 28:1-20.
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29. Dickhoff, W.W., C. Sullivan and C.V.W. Mahnken. 1983. Methods of measuring and controlling the parr to smolt transformation (smoltification) of juvenile salmon. In: C.J. Sinderman, ed., Proc. 11th Ann. U.S.-Japan Nat. Res. Symp. Tokyo, Japan, 1982. NOAA Tech. Report NMFS 27, pp. 5-9.
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33. Plisetskaya, E., A. Rich, W.W. Dickhoff and A. Gorbman. 1984. A study of triiodothyronine-catecholamine interactions: their effect on plasma fatty acids in Pacific hagfish, *Eptatretus stouti*. *Comp. Biochem. Physiol.* 78A:767-772.
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37. Sower, S.A., W.W. Dickhoff, T.A. Flagg, J.L. Mighell and C.V.W. Mahnken. 1984. Effects of estradiol and diethylstilbestrol on sex reversal and mortality in Atlantic salmon, *Salmo salar*. *Aquaculture* 43:75-81.
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40. Bhattacharya, S., E. Plisetskaya, W.W. Dickhoff and A. Gorbman. 1985. The effects of estradiol and triiodothyronine on protein metabolism by hepatocytes of juvenile coho salmon (*Oncorhynchus kisutch*). *Gen. Comp. Endocrinol.* 57:103-109.

41. Sullivan, C.V., W.W. Dickhoff, C.V.W. Mahnken and W.K. Hershberger. 1985. Changes in the hemoglobin system of the coho salmon, *Oncorhynchus kisutch*, during smoltification and triiodothyronine and propylthiouracil treatment. *Comp. Biochem. Physiol.* 81A:807-813.

1986

42. Plisetskaya, E., W.W. Dickhoff, T.L. Paquette and A. Gorbman. 1986. The assay of salmon insulin by homologous radioimmunoassay. *Fish Physiol. Biochem.* 1:35-41.
43. Johnson, O.W., W.W. Dickhoff and F.M. Utter. 1986. Comparative growth and development of diploid and triploid coho salmon *Oncorhynchus kisutch*. *Aquaculture* 57:329-336.

1987

44. Sullivan, C.V., D.S. Darling and W.W. Dickhoff. 1987. Nuclear receptor for L-triiodothyronine in trout erythrocytes. *Gen. Comp. Endocrinol.* 65:149-160.
45. Swanson, P., W.W. Dickhoff and A. Gorbman. 1987. Pituitary thyrotropin and gonadotropin of coho salmon (*Oncorhynchus kisutch*): separation by chromatofocusing. *Gen. Comp. Endocrinol.* 65:269-287.
46. Sullivan, C.V., R.N. Iwamoto and W.W. Dickhoff. 1987. Thyroid hormones in blood plasma of developing salmon embryos. *Gen. Comp. Endocrinol.* 65:337-345.
47. Dickhoff, W.W. and C.V. Sullivan. 1987. Thyroid involvement in salmon smoltification-with special reference to metabolic and developmental processes. In "Common Strategies of Anadromous and Catadromous Fishes," M.J. Dadswell, R.J. Klauda, C.M. Moffit and R.L. Saunders, eds. Symposium series no. 1, American Fisheries Society, Bethesda, MD. pp. 197-210.
48. Brown, C.L., C.V. Sullivan, H.A. Bern and W.W. Dickhoff. 1987. Occurrence of thyroid hormones in early developmental stages of teleost fish. In: "10th Annual Larval Fish Conference", R.D. Hoyt, ed. Symposium series no. 2, American Fisheries Society, Bethesda, MD. pp.144-150.
49. Sullivan, C.V., D.S. Darling and W.W. Dickhoff. 1987. Effects of triiodothyronine and propylthiouracil on thyroidal function and smoltification of coho salmon (*Oncorhynchus kisutch*). *Fish Physiol. Biochem.* 4:121-135.
50. Swanson, P. and W.W. Dickhoff. 1987. Variation in thyroid response to thyroid-stimulating hormone in juvenile coho salmon (*Oncorhynchus kisutch*). *Gen. Comp. Endocrinol.* 68:473-485.

1988

51. Swanson, P., E.G. Grau, L.M.H. Helms and W.W. Dickhoff. 1988. Thyrotropic activity of salmon pituitary hormones in the Hawaiian parrotfish thyroid *in vitro*. *J. Exp. Zool.* 245:194-199.
52. Plisetskaya, E., P. Swanson, M.G. Bernard and W.W. Dickhoff. 1988. Insulin in coho salmon (*Oncorhynchus kisutch*) during the parr to smolt transformation. *Aquaculture* 72:151-164.

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53. Dickhoff, W.W. 1989. Salmonids and annual fishes: Death after sex. In: "Development, Maturation, and Senescence of the Neuroendocrine System", Schreibman, M.P. and Scanes, C.G., eds., Academic Press, San Diego, pp. 253-266.
54. Sullivan, C.V., M.G. Bernard, A. Hara and W.W. Dickhoff. 1989. Thyroid hormones in trout reproduction: Enhancement of GnRH α analogue and partially purified salmon gonadotropin-induced ovarian maturation *in vivo* and *in vitro*. *J. Exp. Zool.* 250:188-195.

55. Dickhoff, W.W., L. Yan, E.M. Plisetskaya, C.V. Sullivan, P. Swanson, A. Hara and M.G. Bernard. 1989. Relationship between metabolic and reproductive hormones in salmonid fish. *Fish Physiol. Biochem.* 7:147–155.
56. Swanson, P., M. Bernard, M. Nozaki, K. Suzuki, H. Kawauchi and W.W. Dickhoff. 1989. Gonadotropins I and II in coho salmon. *Fish Physiol. Biochem.* 7:169–176.
57. Dickhoff, W.W., C.V.W. Mahnken, F.W. Waknitz, W.S. Zaugg, M.G. Bernard and C.V. Sullivan. 1989. Effect of temperature and feeding on smolting and seawater survival of Atlantic salmon (*Salmo salar*). *Aquaculture* 82:93–102.

1990

58. Nozaki, M., N. Naito, P. Swanson, W.W. Dickhoff, Y. Nakai, K. Suzuki and H. Kawauchi. 1990. Salmonid pituitary gonadotroph cells: II. Ontogeny of GTH I and GTH II cells in the rainbow trout (*Salmo gairdneri irideus*). *Gen. Comp. Endocrinol.* 77:358–367.
59. Dickhoff, W.W. and P. Swanson. 1990. Functions of salmon pituitary glycoprotein hormones: The "Maturation surge hypothesis". In: "Progress in Comparative Endocrinology" A. Epple, C.G. Scanes and M.H. Stetson, eds. *Prog. Clin. Biol. Res.* Vol 342. p. 349–356.
60. Dickhoff, W.W., C.L. Brown, C.V. Sullivan and H.A. Bern. 1990. Fish and amphibian models for developmental endocrinology. *J. Exp. Zool. Suppl.* 4:90-97

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61. Swanson, P., K. Suzuki, H. Kawauchi and W.W. Dickhoff. 1991. Isolation and characterization of two coho salmon gonadotropins, GTH I and GTH II. *Biology of Reproduction* 44:29-38.
62. Plisetskaya, E.M., L.I. Buchelli-Narvaez, R.W. Hardy and W.W. Dickhoff. 1991. Effects of injected and dietary arginine on plasma insulin levels and growth of Pacific salmon and rainbow trout. *Comp. Biochem Physiol.* 98A:165-170.
63. Yan, L., P. Swanson and W.W. Dickhoff. 1991. Binding of gonadotropins (GTH I and GTH II) to coho salmon gonadal membrane preparations. *J. Exp. Zool.* 258:221-230.
64. Liu, H.W., W.W. Dickhoff and R.R. Stickney. 1991. Changes in plasma concentrations of sex steroids in adult Pacific halibut, Hippoglossus stenolepis. *J. World Aquaculture Society* 22:30-35.
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66. Rand-Weaver, M., P. Swanson, H. Kawauchi and W.W. Dickhoff. 1992. Somatolactin, a novel pituitary protein: purification and plasma levels during reproductive maturation of coho salmon. *J. Endocrinol.* 133:393-403.
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