

P. James Williams

Personal

Born: August 5, 1958 (Port Elgin, New Brunswick)
Citizenship: Canadian
Marital status: married

Present Address

Biology Dept., St.F.X.
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Present Position

Assistant Professor

Current Research

Evaluation of the developmental effects of environmental exposure to PAHs and PCBs on young-of-the-year winter flounder (*Pleuronectes americanus*).

Development of behavioural biomarkers in larval and juvenile fish as indicators of exposure to contaminated sediment associated with the Sydney Tar Ponds.

Effects of acute exposure to Orimulsion, a novel power-plant fuel, on phytoplankton, zooplankton, bivalves and fish eggs-larvae.

Academic History

Ph.D. 1987-1994. Biology. Memorial University of Newfoundland, St. John's, Newfoundland.

fish. Thesis title: Anti-predator defences of larval marine

Supervisor: Dr. Joseph A. Brown

Academic History, cont.

M.Sc. 1985. Biology. Acadia University, Wolfville, Nova Scotia.

Thesis title: Use of otoliths for stock discrimination of American shad (Alosa sapidissima)

Supervisor: Dr. Graham Daborn

B.Sc. 1980. Biology. Dalhousie University, Halifax, Nova Scotia.

Biology-related courses

- Memorial University

Graduate seminar in Animal Behaviour

- Acadia University

Animal Physiology, Graduate Seminar in Animal Ecology and Behaviour, Seminar in Animal Ecology, Marine Fisheries, Estuarine Ecology.

- Dalhousie University

Introductory Biology, Ecology, Genetics, Invertebrate Zoology, Vertebrate Zoology, Oceanography, Biological Oceanography, Structure and Function of Ecosystems, Coastal Ecosystems, Theoretical Ecology, Limnology, Ichthyology, Ecological Sampling Techniques.

Publications

- Publications

Williams, P.J., Courtenay, S.C., and C.E. Wilson. Annual sex steroid profiles and effect of gender and season on cytochrome P450 mRNA induction in Atlantic Tomcod (*Microgadus tomcod*). (1998). Environmental Toxicology and Chemistry. 17:1582-1588

Williams, P.J., Courtenay, S.C., and I.I. Wirgin. Use of enrofloxacin to control atypical furunculosis (Aeromonas salmonicida) in a non-salmonid fish, the Atlantic tomcod (Microgadus tomcod Walbaum). (1997). Journal of Aquatic Animal Health 9:26-222.

- Publications, cont.

Williams, P.J., Courtenay, S.C., and I.I. Wirgin. Effects of an antibiotic (Baytril, enrofloxacin) on PCB-initiated induction of Cytochrome P4501A mRNA in sexually mature Atlantic tomcod (Microgadus tomcod). (1997). *Environmental Toxicology and Chemistry* 16(2): 241-244.

Williams, P.J., Brown, J.A., Gotceitas, V., and P. Pepin. Developmental changes in the escape response performance of five species of marine larval fish. (1996). *Canadian Journal of Fisheries and Aquatic Sciences* 53(6): 1246-1253.

Wirgin, I.I., Konkle, B., Pedersen, M., Grunwald, C., Williams, P.J., and S. Courtenay. A comparison of cytochrome P4501A (CYP1A) mRNA inducibility in four species of Atlantic coast anadromous fishes. (1996). *Estuaries*, 19(4):913-922.

Courtenay, S., Williams, P.J., Vardy, C., and I.I. Wirgin. (1995). Atlantic tomcod and smooth flounder as indicators of organic pollution in the Miramichi estuary. In: Chadwick, E.M.P. (ed.) *Water, Science and the Public: the Miramichi ecosystem*. National Res. Council Canada Monograph Series. No. 1.

Courtenay, S.C., Williams, P.J., Grunwald, C., Konkle, B., Ong, T.L., and I.I. Wirgin (1994). Assessment of within group variation in CYP1A mRNA inducibility in environmentally exposed and chemically treated Atlantic tomcod. *Environmental Health Perspectives* 102: 85-90.

Williams, P.J., Brown, J.A. (1992). Developmental changes in the escape response of larval winter flounder (Pleuronectes americanus) from hatch through metamorphosis. *Mar. Ecol. Prog. Ser.* 88: 185-193.

Williams, P.J., Brown, J.A. (1991). Developmental changes in foraging-predator avoidance trade-offs in larval lumpfish Cyclopterus lumpus. *Mar. Ecol. Prog. Ser.* 76: 53-60.

Dadswell, M.J., Melvin, G.D., Williams, P.J., Themelis,

D.E. (1987). Influences of origin, life history, and chance on the Atlantic coast migration of American shad. Amer. Fish. Soc. Symp. 1: 313-330.

- Publications, cont.

Dadswell, M.J., Melvin, G.D., Williams, P.J. (1983). Effect of turbidity on the temporal and spatial utilization of the inner Bay of Fundy by American shad (Alosa sapidissima) (Pisces:Clupeidae) and its relationship to local fisheries. Can. J. Fish. Aquat. Sci. 40(Suppl. 1): 322-330.

- Refereed scientific papers

Dadswell, M.J., Melvin, G.D., Williams, P.J., Brown, G.S. (1984). Possible impact of large-scale tidal power developments in the Upper Bay of Fundy on certain migratory fish stocks of the Northwest Atlantic. In (Gordon, D.C. Jr. and Dadswell, M.J., eds.) Update on the marine environmental consequences of tidal power developments in the upper reaches of the Bay of Fundy. Can. Tech. Rep. Fish. Aquat. Sci. No. 1256: VII + 686 p.

Papers Presented

Southern Gulf of St. Lawrence biomonitoring project II: Field program. Presented at the Green Plan Toxic Chemicals Program wrap-up conference, January 1997, Ottawa, Ont.

Endogenous variation due to sex and season in CYP1A mRNA levels of Atlantic tomcod. Presented at the 17th annual meeting of the Society of Environmental Toxicology and Chemistry, Washington, D.C. USA, November 1996.

Biomonitoring of Maritime estuaries using Atlantic tomcod (Microgadus tomcod) as a biosentinal. Presented at the research, monitoring and natural resources management in the greater Kouchibouquac ecosystem workshop, November 1995, Richibucto, New Brunswick.

A diet of sand shrimp (Crangon septemspinosa) from the Miramichi river induces cytochrome P4501A mRNA in the Atlantic tomcod (Microgadus tomcod). Presented at the 22nd annual aquatic toxicology workshop, October 1995, St. Andrews, New Brunswick.

Atlantic tomcod and smooth flounder as biosentinel species for organic pollutants in Maritime estuaries. Presented at the 1994 annual meeting of the American Fisheries Society, Halifax, Nova Scotia.

Papers Presented, cont.,

Comparison of the escape responses of larval flounder, cod, capelin and radiated shanny. Presented at the 1992 Canadian Society of zoologists meeting, St. Francis Xavier Univ., Antigonish, Nova Scotia.

Developmental changes in the escape response of larval winter flounder (Pleuronectes americanus) from hatch through metamorphosis. Presented at the 1992 Canadian Conference for Fisheries Research, at Halifax, N.S.

Development of predator avoidance and feeding behaviour of larval cod (Gadus morhua L.). Presented at the 1988 meeting of the International Council for the Exploration of the Sea, Early Life History Symposium at Bergen, Norway.

Stock discrimination of migrating American shad (Alosa sapidissima) using otolith shape. Presented at the 1983 meeting of the American Fisheries Society in Mt. Snow, Vermont.

Feasibility of use of otoliths for ageing of American shad (Alosa sapidissima). Presented at the 1981 Fundy Environmental Studies Conference, Wolfville, N.S.

Teaching Experience

Lecturer for two sections of Introductory Biology at Memorial University Fall 1992.

Laboratory instructor at Memorial University from 1987-1991. Courses taught included Introductory Biology and Biology of the Vertebrates.

Laboratory instructor at Acadia University from 1981-1984. Taught Introductory Biology.

Related Work Experience

1986 (fall) Position: Project head, field collection and tagging of juvenile scallops in the Bay of Fundy, contract for Dept. of Fisheries and Oceans. Supervised diving,

collection, and tagging of juvenile scallops over 200 km of Nova Scotia coastline.

1986 (summer) Position: Field and Lab technician. Project involved sonic tracking of tagged American shad in order to determine mortality associated with Fundy Tidal Power plant turbines and fishways, Annapolis River, Nova Scotia.

Related Work Experience, cont.,

1985 Position: Field supervisor for shad tagging study, work done for Hudson River Shad Foundation via Acadia Institute. Duties included supervision and coordination of tagging studies in Hudson River, New York and Cobequid Bay, Nova Scotia.

1983-1984 Position: Biological consultant. Successful completion of three contracts for the Dept. of Fisheries and Oceans. The largest of these contracts was awarded as a result of an unsolicited proposal, and involved assessing the impact of proposed tidal power development on the larvae of commercially important fish, molluscs, and crustaceans in the Minas Basin.

1979-1982 Position: Chief field technician for shad tagging study carried out by the Dept. of Fisheries and Oceans in the Upper Bay of Fundy. Considerable river work was also required during this period, involving electro-fishing for salmon parr, gill-netting for shad, striped bass, sturgeon, and salmon; collection of blood, scale and otolith samples.

1978 Position: Field and Lab technician at the Biological station, St. Andrews, N.B. Work included sorting and identification of invertebrates and fish collected by otter trawl, beach seine, and gill net. Benthic samples were also collected and analysed for both grain size distribution and invertebrate infauna.

Awards

Memorial University Graduate Fellowship, 1990-1992

NSERC Postgraduate Scholarship, 1987-1989

Noel Shore Fish and Game Association scholarship 1984

Acadia University graduate scholarship 1983

Memberships

Member of the Society of Environmental Toxicology and Chemistry.