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Citizenship: Canadian

Languages: English, French

Education:

B.Sc. (Biology) 1975: University of Prince Edward Island
M.Sc. (Biology) 1978: Université Laval
Ph.D. (Biology) 1985: Carleton University
Post-doctoral Fellow 1984-1987: Memorial University of
Newfoundland

Teaching experience:

1985: Sessional Lecturer at Memorial University.
1991-1993: Associate Professor, Université de Moncton

Research experience and appointments:

1976-1977: MSc research, seabird ecology in the Gulf of
St. Lawrence.
1979-1980: Canadian Wildlife Service, Halifax. Seabird
censuses in Newfoundland and Labrador.
1980-1981: MacLaren Plansearch Ltd., St. John's Nfld.
Surveys of marine birds and mammals on the Grand
Banks.
1981-1984: PhD research on Arctic seabird ecology.
1984-1987: Post-doctoral research on seabird energetics
and marine food chains in Newfoundland.
1987-1989: Biologist, Department of Fisheries and
Oceans, Moncton. Herring stock assessment.
1989-1991: Research Scientist, Department of Fisheries
and Oceans. Herring ecology and stock assessment.
1991-1993: Associate Professor, Université de Moncton.
1993-1996: Assessment Biologist, Canada-Prince
Edward Island program on Watershed Improvement
and Department of Fisheries and Oceans,
Charlottetown. Salmonid research and stock
assessment.
1996-2022: Research Scientist, Department of Fisheries
and Oceans, Charlottetown. American eel and Atlantic
salmon research and stock assessment.
1992-present (various dates and titles) Research
Associate and Adjunct Professor, Université de
Moncton, University of Prince Edward Island, Acadia
University, University of New Brunswick
2022-: Scientist Emeritus, Department of Fisheries and
Oceans

Leadership of scientific committees:

Convener, Workshop on effects of land use practices on
fish, shellfish, and their habitats on Prince Edward
Island, 1999.
Convener, A workshop on research strategies into the

causes of declining Atlantic salmon returns to North
American rivers, 2000.

Chair, Southern Gulf groundfish advisory meeting,
February 2001

Co-convener, International Eel Symposium, 2003
Founding co-chair, Canadian Eel Science Working
Group, 2003-2008.

Chair, Southern Gulf groundfish advisory meeting,
February 2006

Chair, ICES Study Group on anguillid eels in saline
waters, 2009.

Chair, Pre-COSEWIC review of striped bass, 2011

Chair, Allowable harm assessment of striped bass from
the southern Gulf of St. Lawrence, 2011.

Chair, Gulf Region Atlantic salmon Regional Assessment
Process, 2012.

Co-convener, International Eel Symposium, 2014.

Primary publications

- Cairns, D.K. 1979. Censusing hole-nesting auks by visual
counts. *Bird-banding* 50:358-364.
- Cairns, D.K. 1980. Nesting density, habitat structure, and
human disturbance as factors in black guillemot
reproduction. *Wilson Bull.* 92:352-361.
- Cairns, D.K. 1981. Breeding, feeding, and chick growth of
the black guillemot (*Cephus grylle*) in southern Quebec.
Can. Field-Naturalist 95:312-318.
- Cairns, D.K., and B. deYoung. 1981. Back-crossing of a
common murre (*Uria aalge*) and a common murre - thick-
billed murre hybrid (*U. aalge* x *U. lomvia*). *Auk* 98:847.
- Cairns, D.K. 1983. Examining nesting cavities with an
optical fiberscope. *Wilson Bull.* 95:492.
- Cairns, D.K. 1985. Ermine visitation to black guillemot
colonies in northeastern Hudson Bay. *Condor* 87:144-145.
- Cairns, D.K. 1986. Plumage colour in pursuit-diving
seabirds: why do penguins wear tuxedos? *Bird Behav.*
6:58-65.
- Birt, V.L., T.P. Birt, D. Goulet, D.K. Cairns, and W.A.
Montevecchi. 1987. Ashmole's halo: direct evidence for
prey depletion by a seabird. *Mar. Ecol. Prog. Ser.* 40:205-
208.
- Birt, V.L., and D.K. Cairns. 1987. Kleptoparasitic interactions
between black guillemots and arctic skuas in northeastern
Hudson Bay. *Ibis* 129:190-196.
- Cairns, D.K. 1987. The ecology and energetics of chick
provisioning by black guillemots. *Condor* 89:627-635.
- Cairns, D.K. 1987. Diet and foraging ecology of black
guillemots in northeastern Hudson Bay. *Can. J. Zool.*
65:1257-1263.
- Cairns, D.K. 1987. Seabirds as indicators of marine food
supplies. *Biol. Oceanogr.* 5:261-271.
- Cairns, D.K., K.A. Bredin, and V.L. Birt. 1987. A tunnel for
hidden access to blinds at high latitude seabird colonies.
J. Field Ornithol. 58:69-72.
- Cairns, D.K., K.A. Bredin, V.L. Birt, and W.A. Montevecchi.
1987. Electronic activity recorders for aquatic wildlife. *J.*
Wildl. Manage. 51:393-397.



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- Cairns, D.K., K.A. Bredin, and W.A. Montevecchi. 1987. Activity budgets and foraging ranges of breeding common murrelets. *Auk* 104:218-224.
- Cairns, D.K., and R.D. Elliot. 1987. Oil spill impact assessment for seabirds: the role of refugia and growth centres. *Biol. Conserv.* 31:1-9.
- Montevecchi, W.A., D.K. Cairns, A.E. Burger, R.D. Elliot, and J. Wells. 1987. The status of common black-headed gulls *Larus ridibundus* in Newfoundland and Labrador. *Amer. Birds* 41:197-203.
- Montevecchi, W.A., V.L. Birt, and D.K. Cairns. 1988. Dietary changes of seabirds associated with local fisheries failures. *Biol. Oceanogr.* 5:153-161.
- Montevecchi, W.A., D.K. Cairns, and V.L. Birt. 1988. Migration of post-smolt Atlantic salmon, *Salmo salar*, off northeastern Newfoundland, as inferred by tag recoveries in a seabird colony. *Can. J. Fish. Aquat. Sci.* 45:568-571.
- Birt-Friesen, V.L., W.A. Montevecchi, D.K. Cairns, and S.A. Macko. 1989. Activity-specific metabolic rates of free-living northern gannets *Sula bassanus* and other seabirds. *Ecology* 70:357-367.
- Cairns, D.K. 1989. The regulation of seabird colony size: a hinterland model. *Amer. Nat.* 134:141-146.
- Cairns, D.K., W.A. Montevecchi, V.L. Birt-Friesen, and S.A. Macko. 1990. Energy expenditures, activity budgets, and prey harvests of breeding common murrelets. *In* S.G. Sealy (ed.). *Auks at sea. Studies Avian Biol.* 14:84-92.
- Cairns, D.K., and D.C. Schneider. 1990. Hot spots in cold water: feeding habitat selection by thick-billed murrelets. *In* S.G. Sealy (ed.). *Auks at sea. Studies Avian Biol.* 14:52-60.
- Chadwick, E.M.P., D.K. Cairns, H.M. Dupuis, K.V. Ewart, M.H. Kao, and G.L. Fletcher. 1990. Antifreeze protein levels reflect the migratory behaviour of herring in the southern Gulf of St. Lawrence. *Can. J. Fish. Aquat. Sci.* 47:1534-1536.
- Cairns, D.K., G. Chapdelaine, and W.A. Montevecchi. 1991. Prey exploitation by seabirds in the Gulf of St. Lawrence. *In* J.-C. Therriault (ed.). *The Gulf of St. Lawrence: small ocean or big estuary?* *Can. Spec. Publ. Fish. Aquat. Sci.* 113:277-291.
- Cairns, D.K. 1992. Population regulation of seabird colonies. *Current Ornithol.* 9:37-61.
- Cairns, D.K. 1992. Bridging the gap between ornithology and fisheries science: use of seabird data in stock assessment models. *Condor* 94:811-824.
- Cairns, D.K. 1992. Diving behavior of black guillemots in northeastern Hudson Bay. *Colonial Waterbirds* 15:245-248.
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- Bourque, C., and D.K. Cairns. 1994. Efficiency and accuracy of an automated data capture and error-checking system for laboratory fish processing. *N. Am. J. Fish. Manage.* 14:650-655.
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- Cairns, D.K., and J.J. Kerekes. 2000. Fish harvest by common loons and common mergansers in Kejimikujik National Park, Nova Scotia, Canada, as estimated by bioenergetic modeling. Pp. 125-135 in F.A. Comin, J.A. Herrera and J. Ramirez (eds.). *Limnology and aquatic birds: monitoring, modelling, and management.* Universidad Autonoma de Yucatan, Mérida (Mexico).
- Hipfner, J.M., H.G. Gilchrist, A.J. Gaston, and D.K. Cairns. 2002. Status of common eiders, *Somateria mollissima*, nesting in the Digges Sound Region, Nunavut. *Can. Field-Nat.* 116:22-25.
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- Montevecchi, W.A., and D.K. Cairns. 2003. Predation on post-smolt Atlantic salmon by gannets: research implications and opportunities. Pp. 61-77 in D. Mills (ed.). *Salmon at the edge.* Blackwell, Oxford.
- Cairns, D.K., J.C. Shiao, Y. Iizuka, W.-N. Tzeng, and C.D. MacPherson. 2004. Movement patterns of American eels in an impounded watercourse, as indicated by otolith microchemistry. *North American J. Fish. Manage.* 24:452-458.
- Lamson, H.M., J.C. Shiao, Y. Iizuka, W.N. Tzeng, and D.K. Cairns. 2006. Movement patterns of American eels (*Anguilla rostrata*) between salt- and freshwater in a coastal watershed, based on otolith microchemistry. *Mar. Biol.* 149:1567-1576.
- Cairns, D.K., A.J. Gaston, and F. Huettmann. 2008. Endothermy, ectothermy, and the global structure of marine vertebrate communities. *Mar. Ecol. Prog. Ser.* 356:239-250.
- Jessop, B.M., D. K. Cairns, I. Thibault, and W.-N. Tzeng. 2008. New insights on American eel *Anguilla rostrata* life history from otolith microchemistry. *Aquat. Biol.* 1:205-216.



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- Lamson, H.M., D.K. Cairns, J.C. Shiao, Y. Iizuka, and W.N. Tzeng. 2009. American eel, *Anguilla rostrata*, growth in fresh and salt water: implications for conservation and aquaculture. *Fish. Manage. Ecol.* 16:306-314.
- Tomie, J.P.N., D.K. Cairns, and S.C. Courtenay. 2013. How American eels *Anguilla rostrata* construct and respire in burrows. *Aquat. Biol.* 19:287-296.
- Clément, M., A.G. Chiasson, G. Veinott, and D.K. Cairns. 2014. What otolith microchemistry and stable isotope analysis reveal and conceal about anguillid eel movements across salinity boundaries. *Oecologia* 175:1143-1153.
- Tomie, J.P.N., D.K. Cairns, R.S. Hobbs, M. Desjardins, G.L. Fletcher, and S.C. Courtenay. 2016. American eel (*Anguilla rostrata*) substrate selection for daytime refuge and winter thermal sanctuary. *Mar. Freshwater Res.* 68:95-105.
- Tummon Flynn, P., K.D. Lynn, D.K. Cairns, and P.A. Quijon. 2019. The role of the non-indigenous green crab (*Carcinus maenas*) in the decline of a unique strain of Irish moss (*Chondrus crispus*): direct and indirect effects. *ICES J. Mar. Sci.* 76:2338-2348.
- Tummon Flynn, P., K.D. Lynn, D.K. Cairns, and P.A. Quijon. 2021. Mesograzers interactions with a unique strain of Irish moss (*Chondrus crispus*): colonization, feeding, and algal condition-related effects. *Mar. Ecol. Prog. Ser.* 669:83-96.
- Cairns, D.K., J. Benchetrit, L. Bernatchez, V. Bornarel, J.M. Casselman, M. Castonguay, A.R. Charsley, M. Dorow, H. Drouineau, J. Frankowski, A. Haro, S.D. Hoyle, D.C. Knickle, M.A. Koops, L.A. Poirier, J.T. Thorson, J. Young, and X. Zhu. 2022. Thirteen novel ideas and underutilized resources to support progress toward a range wide American eel stock assessment. *Fisheries Management and Ecology*.

Edited book

- Casselman, J.M., and D.K. Cairns (eds.). 2009. Eels at the edge: science, status, and conservation concerns. *American Fisheries Society Symposium* 58, Bethesda, Maryland. 460 pp.

Other reports and publications

- Cairns, D.K. 1978. Some aspects of the biology of the black guillemot (*Cephus grylle*) in the estuary and the Gulf of St. Lawrence. M.Sc. thesis, Université Laval, Quebec City. 89 pp.
- Cairns, D.K. 1978. Les oiseaux marins du golfe Saint-Laurent. *Carnets de zoologie* 38:57-60.
- Cairns, D.K. 1980. Seabirds of Western Head, St. Mary's Bay. *Osprey* 12:3-8.
- Cairns, D.K. 1980. Les îles du golfe Saint-Laurent: un aperçu biogéographique. *Carnets de zoologie* 40:19-23.

- Cairns, D.K. 1982. Review of "Watershed Red". *Can. Field-Natur.* 96:504.
- Cairns, D.K. 1983. Evidence for hybrid murre reconsidered - a comment. *Auk* 100:237-238.
- Cairns, D.K. 1984. The foraging ecology of the black guillemot (*Cephus grylle*). Ph.D. thesis, Carleton University, Ottawa. 209 pp.
- Gaston, A.J., D.K. Cairns, R.D. Elliot, and D. Noble. 1985. A natural history of Digges Sound. *Canadian Wildlife Service Report Series* no. 46. 61 pp.
- Cairns, D.K., R.D. Elliot, W. Threlfall, and W.A. Montevecchi. 1986. Researcher's guide to Newfoundland seabird colonies. *Memorial Univ. Newfoundland Biol. Dept. Occ. Pap.* no. 10. 50 pp.
- Cairns, D.K., E.M.P. Chadwick, and C. Bourque. 1988. Catch rates by index fishermen in the 4T herring fishery, 1986-1987. *Can. Tech. Rep. Fish. Aquat. Sci.* no. 1660. 19 pp.
- Cairns, D.K., J.A. Wright, and E.M.P. Chadwick. 1988. Acoustic backscatter estimates and school behaviour of herring in NAFO Divisions 4T and 4Vn, November 1987. *Can. Atl. Fish. Sci. Adv. Comm. Res. Doc.* 88/46. 41 pp.
- Chadwick, E.M.P., and D.K. Cairns. 1988. Assessment of Atlantic herring in NAFO Division 4T, 1987. *Can. Atl. Fish. Sci. Adv. Comm. Res. Doc.* 88/38. 54 pp.
- Cairns, D.K. 1989. Gear types, seasonal distribution of effort, and bycatch of the smelt fishery in the southern Gulf of St. Lawrence. *Can. Tech. Rep. Fish. Aquat. Sci.* no. 1668. 20 pp.
- Cairns, D.K., W.A. Montevecchi, and W. Threlfall. 1989. Researchers' guide to Newfoundland seabird colonies. Second edition. *Memorial Univ. Nfld. Occ. Pap. Biol. No.* 14. 34 pp.
- Cairns, D.K., J.A. Wright, and E.M.P. Chadwick. 1989. Distribution and acoustic backscatter of herring in NAFO divisions 4T and 4Vn, November-December 1988. *Can. Atl. Fish. Sci. Adv. Comm. Res. Doc.* 89/42. 51 pp.
- Armellin, A., M. Castonguay, F. Grégoire, and D. Cairns. 1990. Survey of Atlantic Mackerel (*Scomber scombrus*) seine fishing in the southern Gulf of St. Lawrence. *Can. Ind. Rep. Fish. Aquat. Sci.* no. 202. 26 pp.
- Cairns, D.K., and J.A. Wright. 1990. Distribution and acoustic backscatter of herring in NAFO Division 4T, November 1989. *Can. Atl. Fish. Sci. Adv. Comm. Res. Doc.* 90/72. 20 pp.
- Clayton, R.R., E.M.P. Chadwick, G.A. Nielsen, G.J. Chaput, D.K. Cairns, S.C. Courtenay, and H.M.C. Dupuis. 1991. Index programs: their value in southern Gulf of St. Lawrence fish stock assessments. *Inter. Council Explor. Seas C.M.* 1991/D:1. 16 pp.
- Clayton, R.R., G.A. Nielsen, H.M.C. Dupuis, and D.K. Cairns. 1991. Assessment of Atlantic herring in NAFO Division 4T, 1990. *Can. Atl. Fish. Sci. Adv. Comm. Res. Doc.* 91/66. 76 pp.
- Cairns, D.K., S.N. Messieh, E. Wade, P.A. MacPherson, and G.C.J. Bourque. 1993. Timing, location, and biomass of herring spawn deposition at Fisherman's Bank, Prince Edward Island, 1987-1990. *Can. Tech. Rep. Fish. Aquat. Sci. No.* 1928. 60 pp.
- Cairns, D.K. 1995. Guillemot à miroir. Pp. 562-565 in J. Gauthier and Y. Aubry (eds). *Atlas des oiseaux nicheurs*



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- Cairns, D.K. 1995. Herring spawn volume at Fisherman's Bank, Prince Edward Island, in 1994. DFO Atl. Fish. Res. Doc. 95/121. 10 pp.
- Cairns, D.K., K. Davidson, and R. Angus. 1995. Status of Atlantic salmon in the Morell, Mill, Dunk, West, and Valleyfield Rivers, Prince Edward Island, in 1994. DFO Atl. Fish. Res. Doc. 95/100. 28 pp.
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- Cairns, D.K., C. LeBlanc, and C. MacDougall. 1996. Herring spawn volume and progenitor biomass at Fisherman's Bank, Prince Edward Island, in 1995. DFO Atl. Fish. Res. Doc. 96/121. 12 pp.
- Cairns, D.K. 1997. Status of Atlantic salmon on Prince Edward Island in 1996. Can. Stock Assess. Sec. Res. Doc. 97/21. 44 pp.
- Cairns, D.K. 1997. A biological review of commercial diadromous fishes of Prince Edward Island. Can. Stock Assess. Sec. Res. Doc. 97/74. 53 pp.
- Cairns, D.K. 1997. Fortin, Pierre. Pp. 279-281 in K.B. Sterling, R.P. Harmond, G.A. Cevalasco, and L.F. Hammond (eds.). Biographical dictionary of American and Canadian naturalists and environmentalists. Greenwood Press, Westport CT.
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- Chaput, G., A. Locke, and D.K. Cairns. 1997. Status of American eels (*Anguilla rostrata*) from the southern Gulf of St. Lawrence. Pp. 69-93 in R.H. Peterson (ed.). The American eel in eastern Canada: stock status and management strategies. Can. Tech. Rep. Fish. Aquat. Sci. No. 2196.
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- O'Connell, M.F., D.G. Reddin, P.G. Amiro, F. Caron, T.L. Marshall, G. Chaput, C.C. Mullins, A. Locke, S.F. O'Neil and D.K. Cairns. 1997. Estimates of conservation spawner requirements for Atlantic salmon (*Salmo salar*) for Canada. Dept. Fisheries and Oceans Stock Assessment Secretariat Res. Doc. 97/100. 58 pp.
- Cairns, D.K. 1998. Diet of cormorants, mergansers, and kingfishers in northeastern North America. Can. Tech. Rep. Fish. Aquat. Sci. No. 2225. 32 pp.
- Cairns, D.K. 1998. Hauling shags over the carpet: the role of cormorants in estuarine ecosystems. Pp. 71-72 in Proceedings of the workshop on estuaries in the southern Gulf of St. Lawrence. Parks Canada Ecosystem Science Review Reports No. 12.
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- Marshall, T.L., G.J. Chaput, P.G. Amiro, D.K. Cairns, R.A. Jones, S.F. O'Neil, and J.A. Ritter. 1999. Assessments of Atlantic salmon stocks of the Maritimes Region, 1998. Can. Stock Assessment Secretariat Res. Doc. 99/25.
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- Cairns, D.K., and D.G. Reddin. 2000. The potential impact of seal and seabird predation on North American Atlantic salmon. Can. Stock Assessment Secretariat Res. Doc. 2000/12. 34 pp.
- Cairns, D.K. 2001. Approaches and methods for the scientific evaluation of bird and mammal predation on salmon in the Northwest Atlantic. Can. Stock Assessment Secretariat Res. Doc. 2001/011. 12 pp.
- Bradford, R.G., D.K. Cairns, and B. Jessop. 2001. Update on the status of striped bass (*Morone saxatilis*) in eastern Canada in 1998. Can. Stock Assessment Secretariat Res. Doc. 2001/007. 14 pp.
- Cairns, D.K. (Ed.). 2001. An evaluation of possible causes of the decline in pre-fishery abundance of North American Atlantic salmon. Can. Tech. Rep. Fish. Aquat. Sci. No. 2358. 67 pp.
- Cairns, D.K. (Ed.). 2002. Effects of land use practices on fish, shellfish, and their habitats on Prince Edward Island. Can. Tech. Rep. Fish. Aquat. Sci. no. 2408. 157 pp.
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CV updated 24 Feb 2023