

CURRICULUM VITAE

Graham Edward Gillespie

Not Relevant

Not Relevant

Work: (250) 756-7215

Email: Graham.Gillespie@dfo-mpo.gc.ca

Not Relevant

EDUCATION

1985 Bachelor of Science in Biology, University of Victoria

WORK EXPERIENCE

Invertebrate Research Biologist

July 1994 – present

Supervisor: J.A. Boutillier

Fisheries and Oceans Canada

Pacific Biological Station, Nanaimo, B.C.

- I am responsible for planning, organizing and participating in research into the biology, ecology, and population dynamics of commercially and/or ecologically important invertebrate stocks or species at risk of the northeast Pacific Ocean, with emphasis on bivalves, cephalopods, crustaceans and non-indigenous invertebrates.
- I provide authoritative fisheries assessment advice through the Canadian Science Advice Review Secretariat for invertebrate stocks.
- As Program Head, I manage and direct human, financial and materiel resources to ensure that project and program deliverables support Departmental objectives and follow Departmental policies (Sustainable Fisheries Framework, Precautionary Approach, Benthic Impacts, Forage Species, New and Emerging Fisheries). I have directed up to seven people and budgets totalling approximately \$100K.
- I lead and participate in Divisional, inter-Sectoral, National and International committees and working groups that provide authoritative scientific advice to scientists, policy makers, resource managers or stakeholders:
 - Pacific Science Advice Review Committee (Invertebrates)
 - Shellfish Working Group
 - Lobster and Dungeness Crab Precautionary Approach Working Group
 - New and Emerging Fisheries Policy Working Group
 - National Taxonomy Network (co-chair)
 - National Science Data Management Committee Standards Subcommittee
 - PICES Working Group 21 on Non-indigenous Species
 - PICES Working Group 24 on Environmental Interactions of Aquaculture
- I lead and participate in programs that collect, collate, verify and prepare data for stock analyses, alter existing computer programs or create new programs for data manipulation and analysis.
- I direct or conduct analysis of data and production of Data, Manuscript, and Technical Reports, CSAS documents and formal publications (see list below).
- I lead or perform laboratory analysis of fish and invertebrates from research or commercial samples; I lead and participate in field and laboratory research investigations.
- I select new Program, Section or Divisional staff using approved HR processes.
- I train departmental or other governmental organization staff, contractors, First Nations or industry biologists and samplers in field sampling, laboratory and reporting protocols, and conduct or direct quality control of third-party samples.
- I act as Section Head, as required (approximately 100 days over the last two years).

Hook and Line Support Biologist

September 1993 – June 1994

Supervisor: T. Shardlow

Fisheries & Oceans Canada

South Coast Division Office, Nanaimo, B.C.

- I was responsible for assembling, analyzing, and interpreting catch data and biological parameters required for management of salmon stocks exploited by the commercial troll fishery.
- I assisted in compilation and writing of biological reports, including analysis of data, summarizing results, and forming conclusions.
- I planned, organized, and directed investigations to determine exploitation, rehabilitation, and enhancement of salmon stocks.
- I performed other related duties, such as providing biological advice and information to fisheries staff, fishers, and the public.

Groundfish Research Technician
November 1986 – September 1993

Supervisors: B.M. Leaman and R.D. Stanley
Fisheries & Oceans Canada
Pacific Biological Station, Nanaimo, B.C.

- I was responsible for planning, organizing and participating in research into the biology, ecology, and population dynamics of commercially important groundfish stocks of the northeast Pacific ocean, with emphasis on rockfish.
- I collected, collated, verified and prepared data for input and stock analyses, altered existing computer programs or created new programs for data manipulation and analysis.
- I conducted preliminary analysis of data and produced segments of, or entire Data, Manuscript, and Technical Reports, or formal publications.
- I performed laboratory analysis of fish from research or commercial samples.
- I participated in field and laboratory research investigations, and coordinated operations of different segments of these investigations.

PERSONAL REFERENCES

Dr. Neil F. Bourne
Fisheries and Oceans Canada
Pacific Biological Station
3190 Hammond Bay Road
Nanaimo, British Columbia
V9T 6N7
(250) 756-7244

Mr. James A. Boutillier
Fisheries and Oceans Canada
Pacific Biological Station
3190 Hammond Bay Road
Nanaimo, British Columbia
V9T 6N7
(250) 756-7048

PUBLICATIONS

Therriault, T.W., A.M. Weise, G.E. Gillespie and T.J. Morris. Submitted. Risk assessment for New Zealand mud snail (*Potamopyrgus antipodarum*) in Canadian waters. CSAS Res. Doc. 2010/xxx. 60 p.

Gillespie, G.E. Submitted. Update COSEWIC Status Report on Olympia Oyster *Ostrea lurida* Carpenter, 1864. Report submitted to the Committee on the Status of Endangered Wildlife in Canada.

Stanton, L.M., T.C. Norgard, S.E.M. MacConnachie and G.E. Gillespie. In prep. Field verification of historic records of Olympia Oysters (*Ostrea lurida* Carpenter, 1864) in British Columbia – 2009. Can. Tech. Rep. Fish. Aquat. Sci.

Norgard, T.C., S. Davies, L.M. Stanton and G.E. Gillespie. 2010. Evaluation of survey methodologies for monitoring Olympia Oyster (*Ostrea lurida* Carpenter, 1864) populations in British Columbia. CSAS Res. Doc. 2010/006. iv + 56 p.

Gillespie, G.E. 2009. Status of the Olympia oyster, *Ostrea lurida* Carpenter 1864, in British Columbia, Canada. J. Shellfish Res. 28(1): 59-68.

- Behrens Yamada, S. and G.E. Gillespie. 2008. Will the European green crab (*Carcinus maenas*) persist in the Pacific Northwest? ICES J. Mar. Sci. 65: 725-729.
- Davidson, T.M., V.E.F. Brenneis, C. de Rivera, R. Draheim and G.E. Gillespie. 2008. Northern range expansion and coastal occurrences of the New Zealand mud snail, *Potamopyrgus antipodarum* (Gray, 1843) in the northeast Pacific. Aquatic Invasions 3(3): 349-353.
- Fong, K.H. and G.E. Gillespie. 2008. Evaluation of abundance-based index methods for Dungeness crab, *Cancer magister*, and spot prawn, *Pandalus platyceros*. Can. Sci. Advice Secret. Res. Doc. 2008/049. 46 p.
- Dunham, J.S., B. Koke, G.E. Gillespie and G. Meyer. 2007. An exploratory survey for littleneck clams (*Protothaca staminea*) in the Broughton Archipelago, British Columbia – 2006. Can. Manuscr. Rep. Fish. Aquat. Sci. 2787: 33 p.
- Gillespie, G.E. 2007. Distribution of non-indigenous intertidal species on the Pacific Coast of Canada. Nippon Suisan Gakkaishi 73(6): 1133-1137.
- Gillespie, G.E., A.C. Phillips, D.L. Paltzat and T.W. Theriault. 2007. Status of the European green crab, *Carcinus maenas*, in British Columbia – 2006. Can. Tech. Rep. Fish. Aquat. Sci. 2700: 39 p.
- Trudel, M., G. Gillespie, J. Cosgrove and B. Wing. 2006. Warm water species in British Columbia and Alaska. p. 53. In: DFO. State of the Pacific Ocean 2005. DFO Sci. Ocean Status Report. 2006/001.
- Boutillier, J.A. and G.E. Gillespie. 2005. A phased approach to fishery development in the deep sea – a case study for the grooved Tanner crab (*Chionoecetes tanneri*). p. 235-246. In: R. Shotton [ed.]. Deep Sea 2003: Conference on the governance and management of deep-sea fisheries. Pt. 1: Conference reports. FAO Fisheries Proceedings 3/1.
- Gillespie, G.E. and N.F. Bourne. 2005. Exploratory intertidal bivalve surveys in British Columbia – 2002. Can. Manuscr. Rep. Fish. Aquat. Sci. 2733. 199 p.
- Gillespie, G.E. and N.F. Bourne. 2005. Exploratory intertidal bivalve surveys in British Columbia – 2004. Can. Manuscr. Rep. Fish. Aquat. Sci. 2734. 144 p.
- Gillespie, G.E., W.C. Hajas and J.S. Dunham. 2005. Evaluation of assessment and management frameworks in the British Columbia depuration fishery for intertidal clams. Can. Sci. Advisory Secret. Res. Doc. 2005/052. 95 p.
- Perry, R.I., R. Purdon, G. Gillespie and E. Blewett. 2005. Canada's staged approach to new and developing fisheries: concept and practice. p. 553-569. In: G.H. Kruse, V.F. Gallucci, D.E. Hay, R.I. Perry, R.M. Peterman, T.C. Shirley, P.D. Spencer, B. Wilson and D. Woodby [eds.]. Fisheries Assessment and Management in Data-Limited Situations. Alaska Sea Grant Program, University of Alaska Fairbanks. AK-SG-05-02.
- Fong, K.H., G.E. Gillespie, A.C. Phillips and G.G. Krause. 2004. Exploratory surveys for inshore Tanner crabs (*Chionoecetes bairdi*) in Rivers Inlet and Fitz Hugh Sound, British Columbia, January-March, 2004. Can Data Rep. Fish. Aquat. Sci. 1153. 104 p.
- Gillespie, G.E., N.F. Bourne and B. Rusch. 2004. Exploratory intertidal bivalve surveys in British Columbia – 2000 and 2001. Can. Manuscr. Rep. Fish. Aquat. Sci. 2681. 120 p.
- Rutherford, D.T., H. Nguyen and G.E. Gillespie. 2004. Update on effort standardization for the in-season monitoring of the prawn trap fishery. PSARC Working Paper I2004-01. 13 p.

- Gillespie, G.E., K.H. Fong, A.C. Phillips, G.R. Meyer and J.A. Boutillier. 2003. Development of a new fishery for Tanner crabs (*Chionoecetes tanneri* Rathbun, 1893) off British Columbia: 2003 status report. Can. Sci. Advice Secret. Res. Doc. 2004/132. 87 p.
- Peden, A.E. and G.E. Gillespie. 2003. Marine fishes. p. 5-32. *In*: The vertebrates of British Columbia: Scientific and English names. Standards for Components of British Columbia's Biodiversity No. 2. Ver. 4. Ministry of Sustainable Resource Management, Victoria, B.C.
- Rutherford, D.T., L.L. Barton, G.E. Gillespie and J.A. Boutillier. 2003. Implications of using historical catch to set reference points for the British Columbia shrimp by trawl fishery. Can. Sci. Advice Secret. Res. Doc. 2004/026. 53 p.
- Walters, L.C. and G.E. Gillespie. 2002. A review of the biology of opal squid (*Loligo opalescens* Berry), and of selected loliginid fisheries. Can. Sci. Advice Secret. Res. Doc. 2002/131. 110 p.
- DFO. 2001. Varnish clam. DFO Stock Status Report C6-13(2001). 3 p.
- DFO. 2001. Manila clams (Area 7). DFO Stock Status Report C6-15(2001). 5 p.
- Gillespie, G.E., T.C. Norgard and F.E. Scurrah. 2001. Status of Manila clam (*Venerupis philippinarum*) stocks in Area 7, with a proposal for active management of a data-limited fishery. Can. Stock Assess. Secret. Res. Doc. 2001/089. 59 p.
- Gillespie, G.E., B. Rusch, S.J. Gormican, R. Marshall and D. Munroe. 2001. Further investigations of the fishery potential of the exotic varnish clam, *Nuttallia obscurata*, in British Columbia. CSAS Res. Doc. 2001/143. 59 p.
- Jamieson, G.S., L. Chew, G. Gillespie, A. Robinson, L. Bendell-Young, B. Heath, B. Bravender, A. Thompkins, D. Nishimura and P. Doucette. 2001. Phase 0 review of the environmental impacts of shellfish aquaculture in Baynes Sound. Can. Stock Assess. Secret. Res. Doc. 2001/125. 103 p.
- Workman, G.W., J.A. Boutillier, A.C. Phillips, G.E. Gillespie, W-G. Park, D. Clark and B. Pennell. 2001. Results from a bottom trawl survey of grooved Tanner crab, *Chionoecetes tanneri* Rathbun, stocks off the west coast of Vancouver Island, July 21-August 3, 1999. Can. Manuscr. Rep. Fish. Aquat. Sci. 2568: 79 p.
- Campagna, S., G.E. Gillespie and W. Shaw. 2000. Review of the 1997 and 1998 pilot commercial fisheries for neon flying squid (*Ommastrephes bartrami*) off the west coast of Canada. Can. Ind. Rep. Fish. Aquat. Sci. 256. 74 p.
- Gillespie, G.E. 2000. COSEWIC status report on the Olympia oyster *Ostrea conchaphila* in Canada. *In*: COSEWIC assessment and update status report on the Olympia oyster *Ostrea conchaphila* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. 1-30 pp.
- Gillespie, G.E. 2000. Preliminary review of experimental harvest rates in the depuration fishery for intertidal clams. Can. Stock Assess. Secret. Res. Doc. 2000/122. 52 p.
- Gillespie, G.E. and N.F. Bourne. 2000. Exploratory intertidal clam surveys in British Columbia – 1998. Can. Manuscr. Rep. Fish. Aquat. Sci. 2508. 100 p.
- DFO. 1999. Native littleneck clam. DFO Stock Status Report C6-02(1999). 4 p.
- DFO. 1999. Manila clam. DFO Stock Status Report C6-03(1999). 5 p.
- DFO. 1999. Opal squid. DFO Stock Status Report C6-04(1999). 3 p.

- DFO. 1999. Neon flying squid. DFO Stock Status Report C6-12(1999). 4 p.
- DFO. 1999. Varnish clam. DFO Stock Status Report C6-13(1999). 3 p.
- Gillespie, G.E. 1999. Stock assessment and management frameworks for the proposed fishery for sea mussels (*Mytilus californianus*) in British Columbia. Can. Stock Assess. Secret. Res. Doc.99/116. 43 p.
- Gillespie, G.E. 1999. Status of the Olympia oyster, *Ostrea conchaphila*, in Canada. Can. Stock Assess. Secret. Res. Doc. 99/150. 29 p.
- Gillespie, G.E. and A.R. Kronlund. 1999. A manual for intertidal clam surveys. Can. Tech. Rep. Fish. Aquat. Sci. 2270. 144 p.
- Gillespie, G.E., T.C. Norgard and F.E. Scurrah. 1999. Review of the Area 7 Manila clam fishery. Can. Stock Assess. Secret. Res. Doc. 99/197. 61 p.
- Gillespie, G.E., M. Parker and W. Merilees. 1999. Distribution, abundance, biology and fisheries potential of the exotic varnish clam (*Nuttallia obscurata*) in British Columbia. Can. Stock Assess. Secret. Res. Doc. 99/193. 38 p.
- Jamieson, G.S., R.B. Lauzier and G.E. Gillespie. 1999. Phase 1 framework for undertaking an ecological assessment of the outer coast rocky intertidal zone. Can. Stock Assess. Secret. Res. Doc 99/209.
- Gillespie, G.E. and N.F. Bourne. 1998. Exploratory intertidal clam surveys in British Columbia - 1997. Can. Manuscr. Rep. Fish. Aquat. Sci. 2465. 43 p.
- Gillespie, G.E. and L.C. Walther [eds.]. 1998. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1996. Can. Tech. Rep. Fish. Aquat. Sci. 2221. 340 p.
- Gillespie, G.E., G. Parker and J. Morrison. 1998. A review of octopus fisheries biology and British Columbia octopus fisheries. Can. Stock Assess. Sec. Res. Doc. 98/87. 66 p.
- Heritage, G.D., G.E. Gillespie and N.F. Bourne. 1998. Exploratory intertidal clam surveys in British Columbia - 1994 and 1996. Can. Manuscr. Rep. Fish. Aquat. Sci. 2464. 114 p.
- Waddell, B.J., G.E. Gillespie and L.C. Walther. [eds.]. 1998. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1995. Part 1. Bivalves. Can. Tech. Rep. Fish. Aquat. Sci. 2214: 437 p.
- Waddell, B.J., G.E. Gillespie and L.C. Walther. 1998. [eds.]. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1995. Part 2. Echinoderms. Can. Tech. Rep. Fish. Aquat. Sci. 2215: 169 p.
- Gillespie, G.E. 1997. Review of Biology, Fisheries and Assessment of North Pacific Oceanic Squids, Particularly *Ommastrephes bartrami*, *Onychoteuthis borealijaponica*, *Gonatopsis borealis* and *Beryteuthis magister*. Can. Stock Assess. Secret. Res. Doc. 97/143. 40 p.
- Gillespie, G.E. and J. Bond. 1997. Evaluation of harvest models for Manila clam fisheries in British Columbia. Can. Stock Assess. Secret. Res. Doc. 97/144. 44 p.
- Gillespie, G.E. and W. Shaw. 1997. Review of the 1996 pilot commercial fishery for neon flying squid (*Ommastrephes bartrami*) off the west coast of Canada. Can. Ind. Rep. Fish. Aquat. Sci. 241. 18 p. + app.

- Gillespie, G.E. and S.J. Westrheim. 1997. Synopsis of information on marine fishes utilized as prey by marine and shoreline birds of the Queen Charlotte Islands. p. 36-55. *In*: K. Vermeer and K.H. Morgan [eds.]. The ecology, status and conservation of marine and shoreline birds of the Queen Charlotte Islands. Can. Wildl. Serv. Occas. Pap. 93. Ottawa.
- Cornthwaite, A.M., W. Carolsfeld, G.E. Gillespie, B.M. Leaman and R.D. Stanley. 1996. Cruise details and biological information from the Pacific ocean perch larval surveys aboard the R/V W.E. RICKER, April 16-30, 1992, and June 9-18, 1993. Can. Data Rep. Fish. Aquat. Sci. 984. 97 p.
- Gillespie, G.E. 1995. Distribution and biology of the exotic varnish clam, *Nuttallia obscurata* (Reeve, 1857), in the Strait of Georgia, British Columbia. J. Shellfish Res. 14(2): 578.
- Gillespie, G.E. and T.F. Shardlow. 1995. Review of 1993 south coast troll fisheries. Can. Manuscr. Rep. Fish. Aquat. Sci. 2303: 89 p.
- Gillespie, G.E., A.R. Kronlund and G.D. Heritage. 1995. Intertidal clam stock estimates for selected depuration harvest beaches, 1994. p. 3-46. *In*: B.J. Waddell, G.E. Gillespie and L.C. Walthers [eds.]. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1995. Part 1. Bivalves. Can. Tech. Rep. Fish. Aquat. Sci. 2214.
- Gillespie, G.E., A.R. Kronlund and G.D. Heritage. 1995. Stock assessment of Manila clams at Savary Island, British Columbia - 1995. p. 245-317. *In*: B.J. Waddell, G.E. Gillespie and L.C. Walthers [eds.]. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1995. Part 1. Bivalves. Can. Tech. Rep. Fish. Aquat. Sci. 2214.
- Kronlund, A.R., G.E. Gillespie and G.D. Heritage. 1995. Survey methodology for intertidal bivalves. p. 127-243. *In*: B.J. Waddell, G.E. Gillespie and L.C. Walthers [eds.]. Invertebrate Working Papers reviewed by the Pacific Stock Assessment Review Committee (PSARC) in 1995. Part 1. Bivalves. Can. Tech. Rep. Fish. Aquat. Sci. 2214.
- Merilees, W. and G.E. Gillespie. 1995. Two new exotic bivalves in Georgia Strait. Discovery 24(4): 143-145.
- Collicutt, L.D., T.F. Shardlow and G.E. Gillespie. 1994. North Vancouver Island sport fishery creel survey statistics for salmon and groundfish, 1993. Can. Tech. Rep. Fish. Aquat. Sci. 1974: 53 p.
- Collicutt, L.D., T.F. Shardlow, B.D. Smith and G.E. Gillespie. 1994. North Vancouver Island sport fishery creel survey statistics for salmon and groundfish, 1992. Can. Tech. Rep. Fish. Aquat. Sci. 1973: 53 p.
- Gillespie, G.E. and M.W. Saunders. 1994. First verified record of the shortfin mako shark, *Isurus oxyrinchus*, and second records or range extensions for three additional species, from British Columbia waters. Canadian Field-Naturalist 108(3): 347-350.
- Gillespie, G.E. 1993. An updated list of the fishes of British Columbia, and those of interest in adjacent waters, with numeric code designations. Can. Tech. Rep. Fish. Aquat. Sci. 1918. 116 p.
- Gillespie, G.E., R.D. Stanley and B.M. Leaman. 1993. Cruise details and biological information from the juvenile rockfish surveys aboard the R/V W.E. RICKER, March 11-29, 1991, and the F/V ISLAND SUN, June 3-11, 1991. Can. Data Rep. Fish. Aquat. Sci. 920. 116 p.
- Hand, C.M., B.J. Waddell, D.J. Murie and G.E. Gillespie. 1993. R/V W.E. RICKER juvenile Pacific cod (*Gadus macrocephalus*) survey off the southwest coast of Vancouver Island, September 21-October 2, 1992. Can. Data Rep. Fish. Aquat. Sci. 899. 77 p.

- Kieser, R., K. Cooke, R.D. Stanley and G.E. Gillespie. 1993. Experimental hydroacoustic estimation of rockfish (*Sebastes* spp.) biomass off Vancouver Island, November 13-25, 1991. Can. Manuscr. Rep. Fish. Aquat. Sci. 2185. 40 p.
- Gillespie, G.E. 1992. Biological Sciences Branch assessment for Fish Transplant Committee re: Blundell Seafoods transplant application to import live New Zealand eels. Manuscr. prepared for British Columbia Fish Transplant Committee. 7 p.
- Gillespie, G.E., R.D. Stanley and B.M. Leaman. 1992. Cruise details and biological information from the Pacific ocean perch larval sampling cruise aboard the R/V W.E. RICKER, March 11-29, 1991. Can. Data Rep. Fish. Aquat. Sci. 873. 53 p.
- Antonsen, B.L., R.P. Foucher, J. Fargo, G.E. Gillespie, T. Johanson, A.V. Tyler and H.L. Waye. 1990. F/V EASTWARD HO assemblage survey of Hecate Strait, May 24-June 13, 1989. Can. Data Rep. Fish. Aquat. Sci. 783: 142 p.
- Gillespie, G.E. 1990. Range extensions and records of rare fishes from the coastal waters of British Columbia. Canadian Field-Naturalist 105(1): 124-126.
- Gillespie, G.E. and B.M. Leaman. 1990. Rockfish sampling cruise: F/V OCEAN SELECTOR, July 12-30, 1989. Can. Manuscr. Rep. Fish. Aquat. Sci. 2061: 89 p.
- Foucher, R.P., A.V. Tyler, J. Fargo and G.E. Gillespie. 1989. Reproductive biology of Pacific cod and English sole from the cruise of the F/V BLUE WATERS to Hecate Strait, January 30 to February 11, 1989. Can. Manuscr. Rep. Fish. Aquat. Sci. 2026: 85 p.
- Gillespie, G.E. and R.D. Stanley. 1989. Cruise details and biological information from the shelf rockfish sampling cruise aboard the F/V EASTWARD HO, October 31-November 24, 1989. Can. Manuscr. Rep. Fish. Aquat. Sci. 2045: 46 p.
- Shardlow, T.F., K.K. English, T. Hoyt, G.E. Gillespie and T.A. Calvin. 1989. Strait of Georgia Creel Survey sport fishery statistics, 1983. Can. Manuscr. Rep. Fish. Aquat. Sci. 1872: 53 p.
- Gillespie, G.E. 1988. 1986 Strait of Georgia shaker monitoring project. p. 70-73. In: Shardlow, T.F., T.G. Hoyt and A.D. Anderson. Review of 1986 South Coast salmon troll fisheries. Can. Tech. Rep. Fish. Aquat. Sci. 1560. 99 p.
- Leaman, B.M., G.E. Gillespie, D.A. Nagtegaal, and R.D. Stanley. 1988. Biomass survey of rockfish stocks off the southwest coast of Vancouver Island, September 8-22, 1985 (M/V HOWE BAY). Can. Tech. Rep. Fish. Aquat. Sci. 1611: 99 p.
- Gillespie, G.E. 1987. Recovery of an Atlantic salmon (*Salmo salar*) on the west coast of Vancouver Island. Department of Fisheries and Oceans Awareness Note 8/87. 1 p.