

CURRICULUM VITAE

FRED W. ALLENDORF

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Division of Biological Sciences
University of Montana
Missoula, MT 59812
USA

BIRTH: 29 April 1947; Philadelphia, Pennsylvania

MILITARY SERVICE: U.S. Army, 1965-1968 (Vietnam, 1966-1967)

EDUCATION: B.S., Zoology, Pennsylvania State University, 1971
M.S., Fisheries, University of Washington, 1973
Ph.D., Fisheries and Genetics (Individual PhD), University of Washington, 1975
(co-directors, Fred Utter and Joe Felsenstein)

POST-DOCTORAL: Research Fellow, 1975-1976, Aarhus University, Denmark (Freddy Christiansen)
NATO/NSF Fellow, 1978-1979, Nottingham University (Bryan Clarke)

RESEARCH INTERESTS: Population Genetics and Conservation Biology

APPOINTMENTS

2009-present	Regents Professor of Biology Emeritus, University of Montana
2013-present	Adjunct Professor of Biology, Victoria University of Wellington, New Zealand
2013	Fulbright Senior Specialist, University of Western Australia
2013	Visiting Scientist, Hatfield Marine Science Center, Oregon
2005-2012	Professorial Research Fellow, Victoria University of Wellington, New Zealand
2012	Visiting Scientist, Hawai'i Institute of Marine Biology, UH-Manoa
2010-2011	Lavern Weber Visiting Scientist, Hatfield Marine Science Center, Oregon
2009-2010	Distinguished Visiting Scientist Fellowship, CSIRO, Australia
2007-2008	Gledden Visiting Senior Fellowship, University of Western Australia
2004-2008	Regents Professor of Biology, University of Montana
2000-2001	Fulbright Senior Scholar, Victoria University of Wellington, New Zealand
1997-1998	Hill Visiting Professor, University of Minnesota
1992-1993	Visiting Professor, University of Oregon
1989-1990	Program Director, Population Biology, National Science Foundation
1983-1984	Visiting Scientist, Department of Genetics, University of California, Davis
1976-2004	Assistant, Associate, and Professor of Biology, University of Montana

AWARDS

Awarded the 2015 *Molecular Ecology Prize* by the journal *Molecular Ecology* for lifetime achievements in the fields of molecular ecology and conservation genetics.

One of five invited speakers at Crafoord Prize Symposium in Stockholm, 5 May 2015, entitled "Genetic variation in natural populations". The prize was awarded to Richard Lewontin and Tomoko Ohta for "their pioneering analyses and fundamental contributions to the understanding of genetic polymorphism."

One of four scientists inducted into the inaugural group of the American Fisheries Society's Genetics Section Hall of Excellence, 2014.

Keynote speaker at the 2013 Annual Meeting of the Canadian Society of Ecology and Evolution on the meeting theme "Range margins in a rapidly changing world." Kelowna, British Columbia. May 2013.
Fulbright Senior Specialist Award, University of Western Australia, 2013
American Fisheries Society's 2011 Award of Excellence in recognition of outstanding contributions to fisheries science and aquatic biology
Lavern Weber Visiting Scientist Fellowship, Hatfield Marine Science Center, Oregon, 2010
Distinguished Visiting Scientist Fellowship, CSIRO, Australia, 2009
Gledden Visiting Senior Fellowship, University of Western Australia, 2007
Appointed Regents Professor, University of Montana, 2004
Erskine Fellow, University of Canterbury, New Zealand, 2003
Fulbright Senior Scholar, New Zealand, 2000-2001
Hill Visiting Professor, University of Minnesota, 1997
Elected President, American Genetic Association, 1997
Burlington Northern Faculty Achievement Award, University of Montana, 1991
Elected Fellow, American Association for the Advancement of Science (AAAS), 1987
Burlington Northern Faculty Achievement Award, University of Montana, 1987
University of Montana Distinguished Scholar Award, 1985
European Molecular Biology Organisation (EMBO), Fellowship, University of Stockholm, 1979
NATO/NSF Postdoctoral Fellowship, University of Nottingham, 1978-1979
National Marine Fisheries Service, US NOAA, Special Achievement Award, 1973 and 1975

STUDENT HONORS:

Andrew Whiteley received a 2003 Raney Award from the American Society of Ichthyologists and Herpetologists for his dissertation research under my direction.
Charles Daugherty elected Fellow of The Royal Society of New Zealand, 1999
Gordon Luikart received a Fulbright Fellowship to spend a year (1994-1995) in Australia as part of his dissertation research under my direction.
Steve Forbes (1990) and Dara Newman (1994) received NSF Dissertation Improvement Grants for their dissertation research under my direction.
Robb Leary received the 1984 Theodosius Dobzhansky Prize by the Society for the Study of Evolution for his dissertation research under my direction (Evolution 38:995).

MAJOR GRANTS

NSF Research Grant. 1980-1983, \$70,000
NSF Research Grant, Population Biology, 1980-1982, \$60,000
NSF Research Grant, Population Biology, 1983-1986, \$121,000
NSF Faculty Research Opportunity Award, 1986, \$10,000
U. S. Department of Agriculture Grant, Aquaculture, 1983-1985, \$43,000
NSF Research Grant, Population Biology, 1986-1989, \$148,000
NSF Dissertation Research Grant, Steve Forbes, 1988-1990, \$9,850
NSF Research Grant, Population Biology, 1989-1993, \$150,000
NSF Research Grant, Conservation and Restoration Biology, 1993-1998, \$265,000
NSF Dissertation Research Grant, Dara Newman, 1992-1994, \$9,500
NSF Grant. Training within Environmental Biology. P.F. Kukuk (Project Director), C.A. Brewer and F.W. Allendorf (co-PIs). Graduate Research Traineeship, 1995-2002, \$562,500.
NSF Equipment Grant, P. Kukuk, L.S. Mills, and F.W. Allendorf (co-PIs). Acquisition of instrumentation in evolutionary and conservation genetics. \$128,000.
Project Director, NSF Postdoctoral Research Fellowship in Biological Informatics, Dr. Eleanor Steinberg. 1999-2001. \$100,000.

NSF Small Grant for Experimental Research. Detection of trout species by PCR amplification of DNA from stream water. \$47,000. 2000-2002.

Exxon Valdez Oil Spill Trustee Council, Construction of a linkage map for the pink salmon genome, 1996-2004, \$1,420,000

The Royal Society of New Zealand. Marsden Fund. Do mutations in mitochondrial DNA affect population viability? Co-PI with Neil Gemmell, Canterbury University. \$NZ480,000, 3 years.

NSF Small Grant for Experimental Research, A population genomic approach to understand life history variation and sex chromosome evolution in rainbow trout. 2005-2006, \$44,000.

Council for International Exchange of Scholars Fulbright Alumni Initiative Program. Collaborative Program in Conservation Biology. 2004-2006. \$24,000. Co-PI with C.H. Daugherty.

National Center for Ecological Analysis & Synthesis (NCEAS) and National Evolutionary Synthesis Center (NESCent) jointly funded Working Group. Genetic monitoring: Development of tools for conservation and management. \$114,800, 2007-2010. Co-PI with M.K. Schwartz.

NSF. Opportunities for Promoting Understanding through Synthesis (OPUS). Population genetics and management of exploited populations. 2008-2012, \$128,653. DEB 0742181. PI with co-PI G.Luikart.

Australian Research Council Linkage Grant. Co-PI with PI, Paul Sunnucks, Monash University. Genomics for persistence of Australian freshwater fish. \$AU455,000. 2012-2016.

NSF, Evolutionary Processes. Evolutionary mechanisms influencing the spread of hybridization: genomics, fitness, and dispersal. 2013-2017, \$600,000. DEB 1258203. Co-PI with G. Luikart, W. H. Lowe, and C.C. Muhlfeld.

ASSOCIATE EDITORSHIPS: Evolution (1987-1990)
Journal of Heredity (1986-1989)
Molecular Biology and Evolution (1994-1996)
Conservation Genetics (1999-2005)
Proceedings of Royal Society B: Biological Sciences (2008-2014)

EDITORIAL BOARDS: Molecular Biology and Evolution (1983-1989)
Progressive Fish Culturist (1986-1989)
Conservation Biology (1990-1993)
Conservation Biology (Special Assigning Editor, 2002-2010)
Molecular Ecology (1991-1995)
New Zealand Journal of Marine and Freshwater Research (2003-2012)
Evolutionary Applications (2011-present)
Review and Perspective Editor, Journal of Heredity (2013-present)

PROFESSIONAL SERVICE:

Panel Member, Population Biology and Physiological Ecology, NSF (1987-1989)
Panel Member, International Program, NSF (1987)
Panel Member, Conservation and Restoration Biology, NSF (1991-1992; 1995)
Council Member, The American Genetic Association (1986-1989)
Genetics Nomenclature Committee, American Fisheries Society (1986-1991)
Member, Committee on the Protection and Management of Pacific Northwest Anadromous Salmonids, National Research Council (1992-1995)
Chair, Committee of Visitors, Systematic and Population Biology Programs, NSF (1993)
Member, AAAS Council, Biological Sciences Division (1996-1998)
President, American Genetic Association (1997)
Panel member, Dissertation Improvement Grants, NSF (1997)
Member, Board of Trustees, The Nature Conservancy, Montana Chapter (1995-2001).
Chair, Nominations Committee, American Genetic Association (1999)
Member, Invasive Species Collaboratory, NSF (1999-2004)
Co-Chair, Organizing Committee, 2000 Annual Meeting of Society for Conservation Biology (SCB), Missoula, MT

Panel Member, Evolutionary Genetics, NSF (2003-2007)
Fulbright Program for U.S. Students, Science Proposal Review Panel, 2005-2008.
Member, International Scientific Advisory Panel, Allan Wilson Centre for Molecular Ecology & Evolution, New Zealand. 2005-present
Panel Member, Organism-Environment Interactions, Division of Integrative Organismal Systems, NSF (2013)

TEACHING

I taught the following courses over my last five years at the University of Montana before I retired:

- Genetics and Evolution (Biol 223; lower-division)
- Conservation Genetics (Biol 480; upper-division/grad)
- Conservation Ecology (Biol 452; field course, Flathead Lake BioStation)
- Advanced Population Genetics (Biol 595; graduate)
- Micro- and Macro-Evolution, co-taught with Ken Dial (Biol 595; graduate)
- Ecology and Buddhism (Environmental Studies 594; graduate)

Nicky Nelson (Victoria University of Wellington, VUW) and I taught a **Conservation Biology** class by videoconference jointly at VUW and University of Montana. This course was part of collaborative program in Conservation Biology funded by a grant to myself and Charles Daugherty (VUW) from the Council for International Exchange of Scholars Fulbright Alumni Initiative Program.

I taught **Applied Conservation Genetics** at the National Conservation Training Center (NCTC) of the US Fish & Wildlife Service almost annually for 10 years. In addition, I have taught a similar course at several universities throughout the world (University of Western Australia, Victoria University of Wellington (New Zealand), University of Minnesota, and the University of Oregon). I also taught **Conservation Genetics Workshops** in Thailand in 2004 and 2006, and at the National Zoological Gardens of South Africa and the South African Institute for Aquatic Biodiversity in 2012.

I co-taught **Conservation Genetics** at the Organization for Tropical Studies, Las Cruces Biological Station, Costa Rica, May-June 2014.

I have taught the following graduate courses at the Hatfield Marine Science Center of Oregon State University since 2011:

- Genetics of Exploited Populations (FW 599) Co-taught with Kathleen O'Malley
- Genetic Monitoring (FW 599) Co-taught with Scott Baker and Sue Haig

CONSERVATION GENETIC BIBLIOGRAPHY

I have compiled a bibliography focused on genetics and conservation that contains over 105,000 references. This bibliography is updated regularly can be searched at <http://www.lib.umt.edu/guide/allendorf.htm>. The primary focus of this bibliography is genetic variation in natural populations of animals, plants, and microbes. The secondary focus has been conservation, with an emphasis on the application of genetic principles to conservation. There is a taxonomic bias towards fish, especially salmon, trout, and their kin. There has been no effort to exclude papers dealing with other taxa, but there has been an effort to include more papers on the general biology and natural history of salmonid fishes.

GRADUATE STUDENTS DIRECTED

The success of my former graduate students has been my most gratifying achievement. Nine of them currently have tenure-track faculty positions in the US, Canada, and New Zealand. Eight of them currently hold research positions with agencies or as post-docs. Eight of my MS students went on to work in research positions for management agencies.

- Mitchell, N. J. 1977. Genetic variation in populations of *Peromyscus maniculatus* in northwestern Montana. M. A.
- Wishard (now Seeb), L. N. 1977. Larval growth in *Rana pretiosa*: Ecological and genetic factors. M.A.
- O'Malley, D. 1977. Inheritance of isozyme variation and heterozygosity in ponderosa pine. M. A., Botany.
- Daugherty, C.H. 1979. Population ecology and genetics of *Ascaphus truei*: An examination of gene flow and natural selection. Ph. D. (co-director).
- Phelps, S.R. 1980. Genetic population structure of the kokanee, *Oncorhynchus nerka*, in Flathead Lake, Montana. M. A.
- Woods, J.H. 1982. Amount and distribution of isozyme variation in ponderosa pine from eastern Montana. M. S., Forestry. (co-director).
- Aronson, M.E. 1985. Effect of the *Pgml-t* regulatory gene on liver metabolism in rainbow trout. M. A.
- Danzmann, R.G. 1986. Biochemical genetics of developmental rates of rainbow trout. Ph. D.
- Ferguson, M.M. 1986. Gene regulation and developmental divergence in salmonid fishes. Ph. D.
- Leary, R.F. 1986. Genetic control of meristic variation in salmonid fishes. Ph. D.
- Everett, R.J. 1986. The population genetics of Arctic grayling (*Thymallus arcticus*) of Montana. M. A.
- Forbes, S.H. 1990. Mitochondrial and nuclear genotypes in trout hybrid swarms: tests for gametic equilibrium and effects on phenotypes. Ph. D.
- Gellman, W.A. 1991. Sex linkage of two isozyme loci in rainbow trout. M.A.
- Sage, G.K. 1993. Population genetic analysis of westslope cutthroat trout in the Bob Marshall Wilderness. M. A.
- Lee-Chadde, S. 1994. Genetic effects of supplementation on wild populations of salmon. M. A.
- Newman, D. 1996. Importance of genetic factors on fecundity and survival of small populations. Ph. D.
- Luikart, G. 1992. Conservation genetics and mtDNA variation in bighorn sheep. M. A.
1997. Usefulness of molecular markers for detecting population bottlenecks and monitoring genetic change. Ph. D.
- Kanda, N. 1998. Genetic population structure and conservation of bull trout (*Salvelinus confluentus*). Ph.D.
- Pilgrim, K. 1999. Identification of the sex-determining locus in pink salmon. M.A.
- Thelen, G. 1999. Heterozygosity and fitness in rainbow trout: Marker loci or chromosomal segments? M.A.
- Smithwick, P. 2000. Development of nuclear DNA markers to detect hybridization between cutthroat and rainbow trout. M.A.
- Tallmon, D. 1995. Genetics, metapopulation structure, and conservation of salmonid fishes. M.A.
2001. Ecological and genetic effects of forest fragmentation on California red-backed voles. Ph.D. (co-director)
- Powers, L. 2002. Population genetics of the freshwater mussel *Margaritifera falcata*. M.A.
- Hitt, N. 2002. Introgressive hybridization between westslope cutthroat trout and rainbow trout: the role of limiting factors in the Flathead River system, Montana. M.A. (co-director)
- Funk, W.C. 2004. Ph.D. Patterns and consequences of dispersal in Columbia spotted frogs (*Rana luteiventris*). (co-director).
- Whiteley, A.R. 2005. Ph.D. Genetic and morphological diversity in the mountain whitefish, *Prosopium williamsoni*. (co-director)
- Hastings, K. Ph.D. 2005. Long-term persistence of isolated fish populations in the Alexander Archipelago. (co-director)
- Ramstad, K. 2006. Ph.D. Colonization and local adaptation of sockeye salmon (*Oncorhynchus nerka*) in Lake Clark, Alaska.
- Boyer, M. M.S. 2006. Rainbow trout invasion and the spread of hybridization with native westslope cutthroat trout.
- Gardipee, F. MA. 2007. Development of fecal DNA sampling methods to assess genetic population structure of Greater Yellowstone Bison. (co-director)
- Pierson, J. Ph.D. 2010. Genetic population structure and dispersal of two North American woodpeckers in ephemeral habitats. (co-director)
- Short Bull, R. MS. 2011. The importance of replication in landscape genetics: the American black bear in the Rocky Mountains. (co-director)
- Bingham, D. MS. 2011. Conservation genetics of sauger in the Upper Missouri River drainage.

- O'Brien, M. MS. 2012. Brucellosis transmission between wildlife and livestock in the Greater Yellowstone Ecosystem: Inferences from DNA genotyping. (co-director)
- Tucker, Jody. PhD. 2013. Monitoring fisher population abundance with noninvasive genetic sampling. (co-director)
- Kardos, Marty. PhD. 2013. The genetic basis of fitness: detecting inbreeding depression and selective sweeps in bighorn sheep. (co-director).
- Taylor, Helen. Ph.D. 2014. Victoria University of Wellington. Ecology and genomics in a recovering species: a study of little spotted kiwi (*Apteryx owenii*). (co-director)
- Addis, Brett. MS. 2013. Genetic structure and disease prevalence among boreal toads (*Bufo boreas boreas*) in Glacier National Park. (co-director)
- Ph.D. The role of selection in maintaining variation in dispersal distance in the stream salamander *Gyrinophilus porphyriticus*. (co-director)

POST-DOCTORAL RESEARCHERS DIRECTED

- Paul Spruell, 1995-2000, Conservation genetics of bull trout
- Eleanor Steinberg, 1999-2001, NSF Postdoctoral Research Fellowship in Biological Informatics. Genomics of pink salmon.
- John Wenburg, 2000-2001, Hybridization and conservation of trout species
- Megan McPhee, 2006-2008, Sex chromosome evolution and life history variation in rainbow trout. (Co-director)
- Sebastien Paquette, 2008-2011, Victoria University of Wellington, Use of genomics to identify important stocks of marine fish. (Co-director)
- Kristina Ramstad, 2010-2014, Victoria University of Wellington, Conservation genomics of little spotted kiwi and rowi. (Co-director)
- Morten Limborg, 2012-2014. Genomics of anadromy in salmonid fishes. University of Washington. (Member of supervisory committee)

GROUP LEADERSHIP

Mike Schwartz and I co-directed a Working Group entitled "Genetic monitoring: Optimal design and development of tools for data analysis" that was jointly funded by the National Center for Ecological Analysis and Synthesis (NCEAS) and the National Center for Evolutionary Synthesis (NESCent). Members included C. Scott Baker (USA), David Gregovich (USA), Michael M. Hansen (Denmark), Jennifer Jackson (UK), Kate Kendall (USA), Linda Laikre (Sweden), Kevin McKelvey (USA), Maile Neel (USA), Isabelle Olivieri (France), Nils Ryman (Sweden), Ruth Short Bull USA, Jeff Stetz USA, Dave Tallmon (USA), Christina Vojta (USA), Don Waller (USA), Robin Waples (USA).

- Laikre, L., and 20 others. 2010. Neglect of genetic diversity in implementation of the Convention on Biological Diversity. *Conservation Biology* 24:86-88.
- Tallmon, D.T. and 9 others. 2010. When are genetic methods useful for estimating contemporary abundance and detecting population trends? *Molecular Ecology Resources* 10:684-692.
- Laikre, L., M.K. Schwartz, R.S. Waples, N. Ryman, and The GeM Working Group. 2010. Compromising genetic diversity in the wild: unmonitored large-scale release of plants and animals. *Trends in Ecology and Evolution* 25:520-529.
- Stetz, J. B., K. C. Kendall, C. D. Vojta, and the GeM Working Group. 2011. Genetic monitoring for managers: A new online resource. *Journal of Fish and Wildlife Management* 2:216-219.
- Jackson, J., L. Laikre, C.S. Baker, K.C. Kendall, and the GeM Working Group. 2012. Guidelines for collecting and maintaining archives for genetic monitoring. *Conservation Genetics Resources* 4:527-536.
- Hansen, M.H., I. Olivieri, D.M. Waller, E. E. Nielsen, and the GeM Working Group. 2012. Monitoring adaptive genetic responses to environmental change. *Molecular Ecology* 21:1311-1329.
- Tallmon, D.A., Gregovich, D., R.S. Waples, and M.K. Schwartz. 2012. Detecting population recovery using gametic disequilibrium based effective population size estimates. *Conservation Genetics Resources* 4:987-989.

Neel, M.C., R. S. Waples, K. McKelvey, N. Ryman, M. W. Lloyd, R. Short Bull, F. W. Allendorf, and M. K. Schwartz. 2014. Estimation of effective population size in continuously distributed populations: There goes the neighborhood. *Heredity* 111:189-199.

Waples, R. S., G. Luikart, J. R. Faulkner, and D. A. Tallmon. 2013. Simple life-history traits explain key effective population size ratios across diverse taxa. *Proceedings of the Royal Society B: Biological Sciences* 280:

Wikipedia: http://en.wikipedia.org/wiki/Genetic_monitoring

Genetic Monitoring for Managers: http://alaska.fws.gov/gem/mainPage_1.htm

RADIO INTERVIEWS

Interviewed (Evolution and the Future) by Kim Hill on New Zealand National Radio on 7 May 2011.

<http://www.radionz.co.nz/national/programmes/saturday/audio/2488696/fred-allendorf-evolution-and-the-future>

Interviewed (Genetics and Conservation Biology) on What Now by Ken Rose (KOWS, Occidental, CA) on 19 December 2011.

EDITED COLLECTIONS

Editor for special issue of the *Journal of Heredity* (Aug-Sep 1998) containing papers resulting from American Genetics Association Presidential Symposium (Conservation and Genetics of Marine Organisms).

Editor for Special Section of *Conservation Biology* (Feb 2003; Population Biology of Invasive Species). These papers were presented in a symposium at the annual meeting of the Society for Conservation Biology in Hilo, Hawaii, 2001.

ZEN ESSAYS

Allendorf, F.W. 1997. The conservation biologist as Zen student. *Conservation Biology* 11:1045-1046.

Allendorf, F.W., and B. Byers. 1998. Salmon in the net of Indra: A Buddhist view of nature and communities. *Worldviews: Environment, Culture, Religion* 2:37-52.

Allendorf, F.W. 2010. No separation between present and future. In: *Moral Ground: Ethical Action for a Planet in Peril*, edited by K.D. Moore and M. P. Nelson. Trinity University Press, San Antonio. Pp. 202-207.

BOOKS

Allendorf, F.W., and G. Luikart. 2007. *Conservation and the Genetics of Populations*. Blackwell Publishing. 642 pp.

Allendorf, F.W., G. Luikart, and S.N. Aitken. 2013. *Conservation and the Genetics of Populations*. Wiley-Blackwell Publishing. 2nd edition. 602 pp.

BOOK CHAPTERS

Utter, F.M., H.O. Hodgins, F.W. Allendorf, A.G. Johnson, and J.L. Mighell. 1973. Biochemical variants in Pacific salmon and rainbow trout: their inheritance and application in population studies. In: *Genetics and Mutagenesis of Fish*, pp. 329-339. Springer-Verlag, Berlin.

Utter, F.M., H.O. Hodgins, and F.W. Allendorf. 1974. Biochemical genetic studies of fishes: potentialities and limitations. In: *Biochemical and Biophysical Perspectives in Marine Biology*, Vol. 1, pp. 213-238.

Allendorf, F.W., F.M. Utter, and B.P. May. 1975. Gene duplication in the family Salmonidae: II. Detection and determination of the genetic control of duplicate loci through inheritance studies and the examination of populations. In: *Isozymes IV: Genetics and Evolution*, pp. 415-432. Clement L. Markert, editor. Academic Press, New York.

- Utter, F.M., F.W. Allendorf, and B.P. May. 1976. The use of protein variation in the management of salmonid populations. Trans. 41st North American Wildlife and Natural Resources Conference. pp. 373-384.
- Utter, F.M., F.W. Allendorf, and B.P. May. 1976. Genetic delineation of salmonid populations. In: *Salmonid Genetics: Status and Role in Aquaculture*. T. Noshio and W. Hershberger, editors. University of Washington Sea Grant Publication.
- Allendorf, F.W. 1977. Genetic variation in populations of fish. In: *Fish Genetics-Fundamentals and Implications to Fish Management*, pp. 35-39. C.M. Fetterhoff, editor. Great Lakes Fishery Commission, Mich.
- Utter, F.M., and F.W. Allendorf. 1977. Determination of the breeding structure of steelhead trout (*Salmo gairdneri*) populations through gene frequency analysis. Calif. Coop. Fish. Res. Unit Special Report 77-1:44-54.
- Allendorf, F.W., and F.M. Utter. 1979. Population genetics. In: *Fish Physiology, Volume 8*, pp. 407-454. W.S. Hoar, D.J. Randall, and J.R. Brett, editors. Academic Press, New York.
- Allendorf, F.W., R.F. Leary, and K.L. Knudsen. 1983. Structural and regulatory variation of phosphoglucomutase in rainbow trout. In: *Isozymes: Current Topics in Biological and Medical Research, Vol. 9*, pp. 123-142. Alan R. Liss Publ. Co., N.Y.
- Allendorf, F.W. 1983. Isolation, gene flow, and genetic differentiation among populations. In: *Genetics and Conservation*, edited by C. Schonewald-Cox, et al. Benjamin/Cummings. pp. 51-65.
- Allendorf, F.W., and G. Thorgaard. 1984. Tetraploidy and the evolution of salmonid fishes. In: *The Evolutionary Genetics of Fishes*, B.J. Turner, ed., Plenum Press, pp. 1-53.
- Allendorf, F.W., and R.F. Leary. 1986. Heterozygosity and fitness in natural populations of animals. In: *Conservation Biology: The Science of Scarcity and Diversity*. M. Soulé, editor. Sinauer Assoc. pp. 57-76.
- Allendorf, F.W., N. Ryman, and F.M. Utter. 1987. Genetics and fishery management: Past, present, and future. In: *Population Genetics and Fisheries Management*, edited by N. Ryman and F.M. Utter. University of Washington Press, pp. 1-19.
- Allendorf, F.W., and N. Ryman. 1987. Genetic management of hatchery stocks. In: *Population Genetics and Fisheries Management*, edited by N. Ryman and F.M. Utter. University of Washington Press, pp. 141-159.
- Thorgaard, G.H., and F. W. Allendorf. 1988. Developmental genetics of fishes. In: *Developmental Genetics of Animals and Plants*, edited by G. M. Malacinski. Macmillan Publishing Company, pp. 363-391.
- Powers, D.A., F.W. Allendorf, and T. Chen. 1990. Application of molecular techniques to the study of marine recruitment problems. In: *Large Marine Ecosystems: Patterns, Processes, and Yields*, ed. by K. Sherman, L.M. Alexander, and B.D. Gold. Amer. Assoc. Advancement Sci., pp. 104-121.
- Allendorf, F.W., and M.M. Ferguson. 1990. Genetics. In: *Methods for Fish Biology*, edited by C.B. Schreck and P.B. Moyle. Amer. Fish. Soc., Bethesda, Maryland, pp. 35-63.
- Ferguson, M.M., and F.W. Allendorf. 1991. Evolution of the fish genome. In: *Biochemistry and Molecular Biology of Fishes*, edited by P.W. Hochachka and T.P. Mommsen. Elsevier. pp. 25-42.
- Allendorf, F.W., R.B. Harris, and L.H. Metzgar. 1991. Estimation of effective population size of grizzly bears by computer simulation. Proceedings Fourth International Congress of Systematics and Evolutionary Biology, pp. 650-654. Dioscorides Press, OR.
- Allendorf, F. W., R. J. Everett, A. J. Gharrett, M. K. Glubokovsky, W. Jones, T. P. Quinn, J. E. Seeb, W. Smoker, and F. M. Utter. 1992. Biological interactions of wild enhanced stocks of salmon in Alaska: Genetic considerations. In Mathisen, O. A. and G. L. Thomas, eds. *Biological Interactions of Wild Enhanced Stocks of Salmon in Alaska*. Juneau Center Fish. and Ocean. Sciences Publ. 9201.
- Allendorf, F.W., and R.S. Waples. 1996. Conservation and genetics of salmonid fishes. In: *Conservation Genetics: Case Histories from Nature*, edited by J.C. Avise and J.L. Hamrick. Chapman & Hall. pp. 238-280.
- Kanda, N., R.F. Leary, and F.W. Allendorf. 1997. Population genetic structure of bull trout in the Upper Flathead River drainage. Pages 299-308, Proceedings, Friends of the Bull Trout Conference. Trout Unlimited, Calgary, Alberta.
- Allendorf, F.W. 1997. Genetics and demography of grizzly bear populations. In: *Principles of Conservation Biology, Second Edition*, G K. Meffe and C.R. Carroll. Sinauer Associates. pp. 174-175.
- Allendorf, F. W., and N. Ryman. 2002. The role of genetics in population viability analysis. In: *Population Viability Analysis*. S. R. Beissinger and D. R. McCullough, editors. University of Chicago Press, Chicago, Illinois. pp. 50-85.

- Allendorf, F.W., C.R. Miller, and L.P. Waits. 2005. Genetics and demography of grizzly bear populations. In: Principles of Conservation. Biology, Third Edition, by M.J. Groom, G K. Meffe, and C.R. Carroll. Sinauer Associates. pp. 404-407.
- Haig, S.M., and F.W. Allendorf. 2006. Hybrids and policy. In: The Endangered Species Act at Thirty: Conserving Biodiversity in Human-Dominated Landscapes, Vol. 2. J.M. Scott, D.D. Goble, and F. Davis, editors. Island Press. Washington, D.C. pp. 150-163.
- Allendorf, F.W. 2008. Conserving biodiversity within and among species. In: Conservation Biology: Evolution in Action, S.P. Carroll and C.W. Fox, editors. Oxford University Press, New York. pp. 81-83.
- Utter, F.M. M. V. McPhee, and F.W. Allendorf. 2009. Population genetics and the management of Arctic-Yukon-Kuskokwim salmon populations. In C.C. Krueger and C.E. Zimmerman, editors. Sustainability of the Arctic-Yukon-Kuskokwim Salmon Fisheries: What Do We Know About Salmon Ecology, Management, and Fisheries? American Fisheries Society Symposium, Bethesda, Maryland.
- Allendorf, F.W., and J.J. Hard. 2009. Human-induced evolution caused by unnatural selection through harvest of wild animals. In J.C. Avise and F.J. Ayala, editors. In the light of evolution, III: Two centuries of Darwin. National Academies Sciences Press. Pp. 129-147.

ONLINE PUBLICATIONS

- Allendorf, F.W. "Heterozygosity". 2014. In J. Losos, Editor. Oxford Bibliographies in Evolutionary Biology. Oxford University Press, New York. <http://www.oxfordbibliographies.com/obo/page/evolutionary-biology>

ARTICLES: (ISI h-index = 60; 15,498 total times cited, 30 December 2015)

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