

CURRICULUM VITAE

Andrew R. Whiteley

Assistant Professor

Department of Environmental Conservation
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EDUCATION

B.A.	Biology and Economics	Northwestern University	1997
Ph.D.	Organismal Biology and Ecology	University of Montana	2005

POSITIONS HELD

2009-present	Assistant Professor, University of Massachusetts Amherst
2008-2009	National Science Foundation (NSF) International Postdoctoral Fellow, Université Laval, Québec, Canada
2006-2008	International Polar Year Postdoctoral Fellow, University of Alaska, Juneau, Alaska
2005-2006	Postdoctoral Research Associate, Université Laval, Québec, Canada

RESEARCH & TEACHING INTERESTS

Conservation Genetics/Genomics
Fish Biology and Ecology
Conservation Biology
Molecular Ecology

RESEARCH

FUNDING HISTORY

- National Fish and Wildlife Federation: Development of cost-effective accurate metrics for monitoring freshwater production and reproductive success using genetic and conventional techniques; \$174,304 (2014-2016)
- Massachusetts Division of Marine Fisheries: Investigating alewife productivity, parent-progeny-relationships, and densities across the landscape; \$151,625 (2013-2016)
- National Science Foundation: Evolution of integrated behavior (US-India collaboration); \$54,794 subcontract to full proposal at Indiana University
- Massachusetts Division of Marine Fisheries: Mixed-stock analysis of striped bass in Massachusetts; \$44,100 (2012-13)
- US Geological Survey: Genetic analysis of brook trout genetic structure following Hurricane Irene; \$180,000 (2013-2014)
- US Forest Service: Genetic Rescue of Appalachian Mountain brook trout; \$55,000 (2012-2014)
- US Forest Service: Effectiveness monitoring of aquatic organism passage in southeastern US; \$30,000 (2012-13)
- US Forest Service: Genetic evaluation of sculpin fish passage in Michigan; \$18,000 (2012-13)
- US Forest Service: Genetic monitoring of brook trout in northeastern US; \$50,000 (2012-13)
- US Forest Service: Environmental DNA analysis of stream fishes (awarded to USFS Rocky Mountain Research Lab); \$57,000 (2011-2013)
- US Forest Service: Effectiveness monitoring of aquatic organism passage in northeastern US; \$353,480 (2010-2012)
- US Forest Service: Effectiveness monitoring of aquatic organism passage in southeastern US; \$52,856 (2010-2013)
- Other grants: \$358,851

PUBLICATIONS – RESEARCH

* *Undergraduate student*

In Review

Uusi-Heikkilä, S., A. R. Whiteley, A. Kuparinen, S. Matsumura, P. A. Venturelli, C. Wolter, J. Slate, C. R. Primmer, T. Meinelt, S. S. Killen, D. Bierbach, G. Polverino, A. Ludwig, and R. Arlinghaus (*in review*) The evolutionary legacy of size-selective harvest extends from genes to populations. *Evolutionary Applications*.

Bassar, R., B. H. Letcher, K. H. Nislow, and A. R. Whiteley (*in review*) Changes in seasonal climate outpaces compensatory density-dependence in eastern brook trout. *Journal of Animal Ecology*.

Snook, E.L., B. H. Letcher, T. Dubreuil, J. Zydlewski, **A.R. Whiteley**, S. Hurley, A.J. Danylchuk (*in review*) Movement patterns of brook trout in a restored coastal stream system in southern Massachusetts. *Ecology of Freshwater Fish*.

In Print

Whiteley, A. R., W. C. Funk, S. Fitzpatrick, and D. A. Tallmon (*in press*) Genetic rescue to the rescue. *Trends in Ecology and Evolution*.

Letcher, B. H., P. Schueller, R. Bassar, K. H. Nislow, J. A. Coombs, K. Sakrejda, M. Morrissey, D. Sigourney, **A. R. Whiteley**, M. O'Donnell, and T. Dubreuil (*in press*) Robust estimates of seasonal environmental effects on population vital rates: an integrated capture-recapture model of brook trout growth, survival and movement in a stream network. *Journal of Animal Ecology*.

Whiteley, A. R., M. Hudy, Z. L. Robinson, J. A. Coombs, and K. H. Nislow (2014c) Patch-based metrics: A cost effective method for short- and long-term monitoring of EBTJV wild Brook Trout populations? *in* R. F. Carline and C. LoSapio, *eds.* Wild Trout XI: Looking back and moving forward. Wild Trout Symposium, West Yellowstone, Montana.

Whiteley, A. R., J. A. Coombs, B. H. Letcher, and K. H. Nislow (2014b) Simulation and empirical analysis of novel sibship-based genetic determination of fish passage. *Canadian Journal of Fisheries and Aquatic Sciences* 71:1667-1679. DOI: 10.1139/cjfas-2014-0137.

Jane, S. P., T. M. Wilcox, K. S. McKelvey, M. K. Young, M. K. Schwartz, W. H. Lowe, B. H. Letcher, and **A. R. Whiteley** (2014) Distance, flow and PCR inhibition: eDNA dynamics in two headwater streams. *Molecular Ecology Resources*. DOI: 10.1111/1755-0998.12285.

Whiteley, A. R., M. Schwartz and K. McGarigal (2014a) Pronounced differences in genetic structure despite overall ecological similarity for two *Ambystoma* salamanders in the same landscape. *Conservation Genetics* 15:573-591.

Kanno, Y., B. H. Letcher, J. A. Coombs, K. H. Nislow, and **A. R. Whiteley** (2014) Linking movement and reproductive history of brook trout to assess habitat connectivity in a heterogeneous stream network. *Freshwater Biology* 59:142-154.

Jane, S. F., K. H. Nislow, and **A. R. Whiteley** (2014) The use (and misuse) of archaeological salmon data to infer historical abundance in North America with a focus on New England. *Reviews in Fish Biology and Fisheries* 24, 943-954. DOI 10.1007/s11160-013-9337-3.

Shimomura, K., V. Kumar, N. Koike, T.-K. Kim, J. Chong, E. D. Buhr, **A. R. Whiteley**, S. S. Low, C. Omura, D. Fenner, J. R. Owens, M. Richards, S.-H. Yoo, H.-K. Hong, M. H. Vitaterna, J. Bass, M. T. Pletcher, T. Wiltshire, J. B. Hogenesch, H. Kadotani, A. Hida, K. Mishima, P. L. Lowrey, and J. S. Takahashi (2013) *Usp1*, a suppressor of the circadian clock mutant, reveals the nature of the DNA-binding of the CLOCK:BMAL1 complex. *eLife* 2013:2:e00426.

Whiteley A. R., J. A. Coombs, M. Hudy, Z. Robinson, A. R. Colton, K. H. Nislow, and B. H. Letcher (2013) Fragmentation and patch size shape genetic structure of brook trout populations. *Canadian Journal of Fisheries and Aquatic Sciences* 70:678-688. DOI: 10.1139/cjfas-2012-0493.

Wilcox, T. M., K. S. McKelvey, M. K. Young, S. F. Jane, W. H. Lowe, **A. R. Whiteley**, and M. K. Schwartz (2013) Robust detection of rare species using environmental DNA. *PLoS ONE* 8:e59520. DOI: 10.1371/journal.pone.0059520.

Bergstrom, C. A., **A. R. Whiteley**, and D. A. Tallmon (2012) The heritable basis and cost of color plasticity in coastrange sculpins. *Journal of Evolutionary Biology* 25:2526-2536.

Annett, B., G. Gerlach, T. L. King, and **A. R. Whiteley** (2012) Conservation genetics of remnant coastal brook trout populations at the southern limit of their distribution: population structure and effects of stocking. *Transactions of the American Fisheries Society* 141:1399-1410. DOI: 10.1080/00028487.2012.694831.

Zeller, K. A., K. McGarigal, and **A. R. Whiteley** (2012) Estimating landscape resistance to movement: a review. *Landscape Ecology* 27:777-797. DOI: 10.1007/s10980-012-9737-0.

Whiteley A. R., J. A. Coombs, M. Hudy, Z. Robinson*, K. H. Nislow, and B. H. Letcher (2012) Sampling strategies for estimating brook trout effective population size. *Conservation Genetics* 13:625-637. DOI: 10.1007/s10592-011-0313-y.

Whiteley A. R., A. Bhat, E. P. Martins, R. Mayden, M. Arunachalam, S. Uusi-Heikkilä, and L. Bernatchez (2011b) Population genomics of wild and laboratory zebrafish (*Danio rerio*). *Molecular Ecology* 20:4259-4276. DOI: 10.1111/j.1365-294X.2011.05272.x.

Whiteley A. R., C. A. Bergstrom, T. Linderoth*, and D. A. Tallmon (2011a) The specter of past spectral conditions: color plasticity, crypsis, and predation risk in newly deglaciated streams. *Ecology of Freshwater Fish* 20:80-91. DOI: 10.1111/j.1600-0633.2010.00461.x.

Kelly, B. P., **A. R. Whiteley**, and D. A. Tallmon (2010) The Arctic melting pot. *Nature* 468:891.

Whiteley A. R., K. Hastings, J. K. Wenburg, C. A. Frissell, J. C. Martin, and F. W. Allendorf (2010) Genetic variation and effective population size in isolated populations of coastal cutthroat trout. *Conservation Genetics* 11:1929-1943.

Fuller, T.K., S. M. Matthews, S. S. Stevens, N. D. Rayl, C. J. Zieminski, **A. R. Whiteley**, P. R. Sievert, J. F. Organ, and M. W. Gabriel (2010) Noninvasive survey methods for carnivores. *Journal of Wildlife Diseases* 46:1055-1058.

Bernatchez L., S. Renaut, **A. R. Whiteley**, D. Campbell, N. Derôme, J. Jeukens, L. Landry, G. Lu, A. W. Nolte, K. Østbye, S. M. Rogers, J. St-Cyr (2010) On the origin of species: insights from the ecological genomics of whitefish. *Philosophical Transactions of the Royal Society of London* 365:1783-1800.

Whiteley, A. R., S. M. Gende, A. J. Gharrett, and D. A. Tallmon (2009) Background matching and color change plasticity in colonizing freshwater sculpin populations following rapid deglaciation. *Evolution* 63:1519-1529.

Whiteley, A. R., K. N. Persaud, N. Derome, R. Montgomerie, and L. Bernatchez (2009) Reduced sperm performance in backcross hybrids between species-pairs of whitefish (*Coregonus clupeaformis*). *Canadian Journal of Zoology* 87: 566-572.

Whiteley, A. R., N. Derome, S. M. Rogers, J. St-Cyr, J. Laroche, A. Labbe, A. Nolte, S. Renaut, J. Jeukens and L. Bernatchez (2008) The phenomics and expression quantitative trait locus mapping of brain transcriptomes regulating adaptive divergence in lake whitefish species pairs (*Coregonus* sp.). *Genetics* 180: 147-164.

Schlei, O. L., A. Crête-Lafrenière, **A. R. Whiteley**, R. J. Brown, J. B. Olsen, L. Bernatchez, J. K. Wenburg (2008) DNA barcoding of eight North American coregonine species. *Molecular Ecology Resources* 8: 1212-1218.

Derome, N., B. Bougas, S. M. Rogers, **A. R. Whiteley**, A. Labbe, J. Laroche, and L. Bernatchez (2008) Pervasive sex-linked effects on transcription regulation as revealed by expression quantitative trait loci mapping in lake whitefish species pairs (*Coregonus* sp., Salmonidae). *Genetics* 179: 1903-191.

Whiteley, A. R. (2007) Morphological, dietary, and genetic analysis of a potential trophic polymorphism in a riverine fish species. *Biological Journal of the Linnean Society* 92: 253-267.

Whiteley, A. R., P. Spruell, and F. W. Allendorf (2006) Can common species provide valuable information for conservation? *Molecular Ecology* 15: 2767-2786.

Whiteley, A. R., P. Spruell, B. E. Rieman, and F. W. Allendorf (2006) Fine-scale genetic structure of bull trout at the southern limit of their distribution. *Transactions of the American Fisheries Society* 135: 1238-1253.

Whiteley, A. R., P. Spruell, and F. W. Allendorf (2004) Ecology and life history characteristics predict the population genetic divergence of two salmonids in the same landscape. *Molecular Ecology* 13: 3675-3688.

Shimomura, K., S. S. Low-Zeddies, D. P. King, T. D. Steeves, **A. R. Whiteley**, Kushla, P. D. Zemenides, A. Lin, M. H. Vitaterna, G. A. Churchill, and J. S. Takahashi (2001) Genome-wide epistatic interaction analysis reveals complex genetic determinants of circadian behavior in mice. *Genome Research* 11: 959-980.

Zhu, H., S. LaRue, **A. R. Whiteley**, T. D. Steeves, J. S. Takahashi, and C. B. Green (2000) The *Xenopus* clock gene is constitutively expressed in retinal photoreceptors. *Molecular Brain Research* 75: 303-308.

Sangoram, A. M., L. Saez, M. P. Antoch, N. Gekakis, D. Staknis, **A. R. Whiteley**, E. M. Fruechte, M. H. Vitaterna, K. Shimomura, D. P. King, M. W. Young, C. J. Weitz, and J. S. Takahashi (1998) Mammalian circadian autoregulatory loop: a timeless ortholog and mper1 interact and negatively regulate clock-bmal1-induced transcription. *Neuron* 21: 1101-1113.

Valentinuzzi, V. S., D. E. Kolker, M. H. Vitaterna, K. Shimomura, **A. R. Whiteley**, S. Low-Zeddies, F. W. Turek, E. A. M. Ferrari, R. Paylor, and J. S. Takahashi (1998) Automated measurement of mouse freezing behavior and its use for quantitative trait locus analysis of contextual fear conditioning of (BALB/cJ x C57BL/6J)F₂ mice. *Learning & Memory* 5: 391-403.

In print, not peer-reviewed

Whiteley, A. R. and C. Van Thof (2012) Patterns of diversification in mountain whitefish (*Prosopium williamsoni*) in western North America based on sequence variation at the mitochondrial *cytb* and *ND2* genes. Technical Report to Colorado Parks and Wildlife.

Whiteley, A. R., J. Coombs, K. H. Nislow, B. H. Letcher (2012) Genetic sibship reconstruction confirms in-stream brook trout movement following culvert replacement. Technical Report to the US Forest Service, Huron-Manistee National Forest.

Whiteley, A. R. and P. A. Trillo (2005) Genetics and fisheries: strategic synergy. Pesca Responsable, *International Magazine of the Peruvian National Fisheries Society*, published in Spanish. Available at: <http://www.oannes.org.pe/impogenetics.htm>.

Whiteley, A. R., and B. L. Gamett (2003) Genetic analysis to infer the origin of mountain whitefish *Prosopium williamsoni* in the Big Lost River. In: Van Kirk, R. W., J. M. Capurso, and B. L. Gamett (eds.). *The Sinks Symposium: exploring the origin and management of fishes in the Sinks Drainages of southeastern Idaho*. Idaho Chapter of the American Fisheries Society, Boise, ID.

Trotter, P., B. McMillan, N. Gayeski, P. Spruell, and **A. Whiteley** (2001) Genetic and phenotype catalog of native resident trout of the Interior Columbia River Basin. Project No. 1998-02600. *BPA Report DOE/BP-00004575-1*.

PRESENTATIONS – RESEARCH

* *Undergraduate student*

Whiteley, A. R., Z. L. Robinson, J. A. Coombs, M. Hudy, K. H. Nislow, and B. H. Letcher (2014) Patch-based metrics: a cost effective method for short- and long-term monitoring of EBTJV wild brook trout populations? Wild Trout XI, West Yellowstone, Montana.

Whiteley, A. R., B. Gahagan, P. A. Jordaan, A. Roy, and J. Rosset (2014) Reproductive success following an experimental alewife translocation to a Massachusetts pond. Annual Conference of the American Fisheries Society, Quebec City, Quebec (Presented in the symposium River Herring: Towards a Holistic Understanding).

Whiteley, A. R., J. A. Coombs, K. H. Nislow, and B. H. Letcher (2014) Simulation and empirical analysis of novel sibship-based genetic determination of fish passage. Annual Conference of the American Fisheries Society, Quebec City, Quebec (Presented in the symposium Roads and Rivers: Reconciling Access to Land and Integrity of Riverine Ecosystems).

Wilcox T.M., K. S. McKelvey, K. Y. Young, S. F. Jane, W. H. Lowe, **A. R. Whiteley**, and M.

K. Schwartz (2014) Finding an eDNA needle in a haystack of congeners and PCR inhibitors. Annual Conference of the American Fisheries Society, Quebec City, Quebec (Presented in the symposium Environmental DNA: A New Tool for Aquatic Conservation and Fisheries Management).

Whiteley, A. R., Z. L. Robinson, J. A. Coombs, K. H. Nislow, and B. H. Letcher (2014) Effective population size *vs.* effective number of breeders as metrics for genetic monitoring. North American Congress for Conservation Biology, Missoula, Montana. (Presented in the symposium Recent Advances in Conservation Genomics)

Robinson, Z. L., **A. R. Whiteley**, J. A. Coombs, M. Hudy, K. H. Nislow, and B. H. Letcher (2014) Genetic rescue in fragmented populations of brook trout. North American Congress for Conservation Biology, Missoula, Montana. (Presented in the symposium Recent Advances in Understanding the Effectiveness of Genetic Rescue)

Wilcox T.M., K. S. McKelvey, K. Y. Young, S. F. Jane, W. H. Lowe, **A. R. Whiteley**, and M. K. Schwartz (2014) Environmental DNA for conservation biology. North American Congress for Conservation Biology in Missoula, Montana. (Presented in the symposium Viruses to Vertebrates: Environmental DNA for Conservation Biology).

Buckley, K.*, **A. R. Whiteley**, and Z. L. Robinson (2014) Characterizing life-history variation following a genetic rescue motivated translocation. 20th Annual Massachusetts Statewide Undergraduate Research Conference. Amherst, Massachusetts.

Whiteley, A. R., Z. L. Robinson, J. A. Coombs, M. Hudy, K. H. Nislow, and B. H. Letcher (2014) Patch-based metrics: a cost effective method for short- and long-term monitoring of EBTJV wild brook trout populations? Annual Northeast Fish and Wildlife Conference, Portland, Maine.

Whiteley, A. R. (2013) Application of new conservation genetic approaches to eastern brook trout: environmental DNA, genetic monitoring, and genetic rescue. Invited Seminar at the University of Maine, School of Biology and Ecology

Whiteley, A. R. (2013) Application of new conservation genetic approaches to eastern brook trout: environmental DNA, genetic monitoring, and genetic rescue. Invited Seminar at the University of Connecticut, Department of Natural Resources and the Environment

Whiteley, A. R., Z. L. Robinson, J. A. Coombs, M. Hudy, A. Colton, K. H. Nislow, and B. H. Letcher (2013) Genetic Monitoring and an Experimental Test of Genetic Rescue in Fragmented Populations of Brook Trout. Annual Conference of the American Fisheries Society, Little Rock, Arkansas (invited presentation in genetics symposium).

Jane, S. F., **A. R. Whiteley**, B. Letcher, T. Wilcox, K. McKelvey, M. Young, M. Schwartz, and W. Lowe (2013) Effects of distance and stream flow on eDNA signal strength. Annual Conference of the American Fisheries Society, Little Rock, Arkansas (Presented in symposium eDNA Analysis – a New Genetic Tool for Monitoring, Managing, and Conserving Fisheries

Resources and Aquatic Habitat.

Robinson, Z. L., **A. R. Whiteley**, J. A. Coombs, M. Hudy, A. Colton, K. H. Nislow, and B. H. Letcher (2013) Genetic monitoring and the potential for genetic rescue in fragmented populations of brook trout. Annual Conference of the Virginia Chapter of the American Fisheries, Lexington, Virginia.

Whiteley, A. R. (2013) Evolutionary principles behind *Silent Spring*. Invited open-public presentation to the Western Massachusetts Master Gardner Association, Northampton, Massachusetts.

Uusi-Heikkilä, S., A. Kuparinen, C. Wolter, J. Slate, **A. R. Whiteley**, R. Arlinghaus (2013) Phenotypic and genetic changes in size-selectively exploited zebrafish (*Danio rerio*) population. Annual Conference, European Society for Evolutionary Biology, Lisbon, Portugal.

Cembrola, M., **A. R. Whiteley**, M. O'Donnell, B. Connery, B. H. Letcher, J. Zydlewski, D. Sigourney, T. Dubreuil, and T. Lens (2012) Conservation genetics of brook trout (*Salvelinus fontinalis*) in Stanley Brook, Acadia National Park. Annual Acadia Science Symposium at the Schoodic Education and Research Center, Bar Harbor, Maine.

Whiteley, A. R., S. Jane, K. H. Nislow, B. H. Letcher, W. Lowe, M. Schwartz, and K. McKelvey (2012) Tracking organisms in water samples based on DNA presence in streams. Invited seminar at New England headquarters of the Environmental Protection Agency, Boston, Massachusetts.

Whiteley, A. R., J. A. Coombs, C. Riley, K. H. Nislow, and B. H. Letcher (2012) Genetic sibship reconstruction confirms in-stream brook trout movement following culvert replacement. Annual Conference of the American Fisheries Society, St. Paul, Minnesota; presented during Great Lakes Genetics Symposium.

Snook, E.L., A. J. Danylchuk, B. H. Letcher, **A. R. Whiteley**, T. Dubreuil, and S. Hurley (2012) Movement patterns of anadromous brook trout in a restored coastal stream system in southern Massachusetts. Annual Conference of the American Fisheries Society, St. Paul, Minnesota; presented during Connectivity in Coastal and Estuarine Ecosystems Symposium.

Uusi-Heikkilä, S., A. Kuparinen, C. Wolter, J. Slate, **A. R. Whiteley**, R. Arlinghaus (2012) Phenotypic and genetic changes in size-selectively exploited zebrafish (*Danio rerio*) population. Annual Conference, The Society for the Study of Evolution, Ottawa, Canada.

Burak, M., J. Coombs, C. Roghair, A. R. Whiteley, K. H. Nislow, A. Dolloff, and B. H. Letcher (2012) Evaluation of mark-recapture, PIT tag monitoring, and genetic sibship reconstruction methods to assess fish passage across culverts. Annual Conference, The Northeast Natural History Conference, Albany, New York.

Terkanian, K., S. Martinez, **A. R. Whiteley**, and F. Juanes (2012) Population genetic analysis of Atlantic horseshoe crabs (*Limulus polyphemus*) in coastal Massachusetts. Conferences of the

Southern New England Chapter of the American Fisheries Society, Narragansett, Rhode Island.

Letcher, B., P. Schueller, M. Morrissey, D. Sigourney, K. Sakrejda, M. O'Donnell, T. Dubreuil, J. Coombs, K. H. Nislow, and **A. R. Whiteley** (2011) The differential importance of stream units and their connectivity for population persistence. Annual Conference of the American Fisheries Society, Seattle, Washington.

Whiteley, A. R., J. Coombs, M. Hudy, Z. Robinson, B. Letcher, K. Nislow (2011) Sampling strategies for estimating brook trout effective population size. Annual Conference of the American Fisheries Society, Seattle, Washington.

Stengle, A., **A. R. Whiteley**, T. Tynning, A. Richmond, and P. Sievert (2011) Connectivity of timber rattlesnake (*Crotalus horridus*) populations near their northeastern range boundary. Biology of Rattlesnakes Symposium, Tucson, Arizona.

Uusi-Heikkilä, S., A. Kuparinen, C. Wolter, J. Slate, **A. R. Whiteley**, R. Arlinghaus (2011) Phenotypic and genetic changes in size-selectively exploited zebrafish (*Danio rerio*) population. Annual Conference, European Society of Evolutionary Biology, Tübingen, Germany.

Bergstrom, C, **A. R. Whiteley**, and D. A. Tallmon (2011) The heritable basis and cost of color plasticity in coastrange sculpins. Annual Conference, Canadian Society for Ecology and Evolution, Banff, British Columbia, Canada.

Whiteley, A. R., K. Hastings, J. Wenburg, and F. Allendorf (2010) Genetic variation and effective population size in historically isolated populations of coastal cutthroat trout. International Symposium on the Advances in the Population Ecology of Stream Salmonids, Luarca, Spain.

Whiteley, A. R. (2010) The role of plasticity in fish colonization and adaptation to streams. Organismic and Evolutionary Biology Seminar Series, UMass Amherst, MA.

Tallmon, D. A., C. Bergstrom, T. Linderoth, K. Dammerman, and **A. R. Whiteley** (2009) The role of plasticity in fish colonization and adaptation to deglaciated streams. Arctic AAAS Division Meeting, Juneau, AK.

Whiteley, A. R. and L. Bernatchez (2009) Adaptive genomic divergence in incipient lake whitefish species pairs. Annual Meeting of the Society for Molecular Biology and Evolution, Iowa City, Iowa.

Chacin, D. H.* and **A. R. Whiteley** (2009) Influence of substrate color in the predatory response of coastrange sculpin from Glacier Bay. Southeastern Ecology and Evolution Conference, Gainesville, Florida.

Howard, B.*, **A. R. Whiteley**, and D. A. Tallmon (2008) Capture-mark-recapture based estimates of the fitness consequences of color plasticity in a freshwater fish. Pacific Ecology and Evolution Conference, Bamfield, British Columbia.

Whiteley, A. R., S. Gende, A. J. Gharrett, and D. A. Tallmon (2007) Build-up of Genetic Structure During Colonization of Recently Deglaciated Habitat. Evolutionary Change in Human-altered Environments: An International Summit, Los Angeles, California.

Whiteley, A. R. (2006) Landscape Genetics and Feeding Polymorphism in a Marine-like Freshwater Fish. University of Alaska, Fairbanks, School of Fisheries Seminar Series, Juneau, Alaska.

Campbell, M., C. Cegelski, **A. R. Whiteley**, and B. Gamett (2005) Mitochondrial DNA Phylogeography of Mountain Whitefish *Prosopium williamsoni* in Idaho, Utah, and Montana: Emphasis on the Origin and Divergence of Mountain Whitefish in the Big Lost River, Idaho. American Fisheries Society, Anchorage, Alaska.

Whiteley, A. R. (2005) Genetic Structure of Mountain Whitefish (*Prosopium williamsoni*) in Montana and a Comparison to Other Salmonids. Montana Chapter of the American Fisheries Society, Missoula, Montana.

Whiteley, A. R., P. Spruell, F. W. Allendorf (2004) Ecology and Life History Characteristics Predict the Population Genetic Divergence of Two Salmonids in the Same Landscape. Society for the Study of Evolution, Fort Collins, Colorado.

Whiteley, A. R. (2004) The History of the West: Range-wide Patterns of Genetic Variation in the Mountain Whitefish (*Prosopium williamsoni*). Coastwide Salmonid Genetics Meeting, Newport, Oregon.

Whiteley, A. R., P. Spruell, F. W. Allendorf (2003) Comparison of the Genetic Structure of Mountain Whitefish and Bull Trout: Effects of Life History and Spawning Behavior. National Meeting of the American Fisheries Society. Québec City, Québec.

Whiteley, A. R. and B. Gammett (2002) Genetic Analysis to Infer the Origin of Mountain Whitefish (*Prosopium williamsoni*) in the Big Lost River. Idaho Chapter of the American Fisheries Society, Pocatello, Idaho.

PROFESSIONAL SOCIETIES

American Fisheries Society

Society for Conservation Biology

Society for the Study of Evolution

TEACHING AND OTHER EDUCATIONAL ACTIVITIES

INSTRUCTOR

NRC 390E Evolution and Conservation (University of Massachusetts Amherst)

Course I developed Spring semester 2012 at UMass. Provides natural resource conservation, environmental science, and biology majors with the ability to use evolutionary thinking to address conservation problems. Soph. & Jnrs.

NRC 597FL Conservation Genetics (University of Massachusetts Amherst)

Course I developed at UMass that provides advanced knowledge on the genetic basis for solving biological problems in conservation. Advanced undergraduate/early graduate students.

ECO 697RG Readings in Conservation Genetics (University of Massachusetts Amherst)

Developed and instructed a conservation genetics course for graduate students. Students read papers and discussed the most recent topics in the field.

Peruvian Tropical Biology – Summer Field Course (University of Montana 2005, 2007)

Co-developed and co-instructed a one-month undergraduate tropical biology field course in the Peruvian Andes and Amazon. This course represents a novel format for tropical biology courses because it includes students from Peru and the US.

Tropical Biology Seminar (University of Montana 2005)

Co-instructed this seminar on tropical biology and conservation. Topics included: distribution, origin, and maintenance of biodiversity; measuring biodiversity loss; community ecology; and conservation issues in the tropics.

High School Ecology, NSF funded GK-12 Program (Missoula, Montana 2004-2005)

Created and implemented ecology curricula for high school biology students. The primary goal was to increase inquiry-based ecology content for high school biology and ecology courses.

UNDERGRADUATE MENTOR

UMass Amherst:

Research mentor for four undergraduate students/semester

One student received UMass Amherst Undergraduate Research Fellowship for summer research (\$2,000)

Academic advisor for 25-30 undergraduate students per semester

University of Alaska:

Research mentor for two undergraduate NSF - Research Experience for Undergraduates (REU) students for two summers

University of Montana:

Research mentor for 10 undergraduate students

TEACHING ASSISTANT

Genetics and Evolution (University of Montana 2003, 2004)

Honors Discussion Section (University of Montana 2004)

Biology and Management of Fishes (University of Montana 2003)

Developmental Biology (University of Montana 2000)

Honors Introductory Biology (University of Montana 1999)

PUBLICATIONS - TEACHING

**High school teacher*

Whiteley, A. R., J. Woolf, K. Kennedy*, D. Oberbillig*, and C. Brewer (2007) Classroom mark-recapture with crickets. *American Biology Teacher* 69: 358-363.

PRESENTATIONS - TEACHING

** Undergraduate student*

Whiteley, A. R., P. Trillo, E. Greene (2006) A Novel Approach to Tropical Biology Education: A Mixed Nationalities Tropical Biology Course in Perú. Canadian Society for Ecology and Evolution, Montréal, Québec.

Brewer, C., P. Alaback, M. Kinnersley, R. Loehman, T. Mildenstein, D. Nichols, M. Parker, J. Piotrowski, W. Ridenour, C. Rosier, **A. R. Whiteley**, and J. Woolf (2005) Ecologists, Educators and Schools: No Child Left Indoors. Ecological Society of America, Montréal, Québec.

Greene, E, P. A. Trillo, **A. R. Whiteley**, A. Greene*, and D. Dunning* (2005) Model for a Peruvian Tropical Ecology Course. University of Montana Departmental Seminar for Organismal Biology and Ecology and Wildlife Biology Program, Missoula, Montana.

UNIVERSITY, ACADEMIC, AND PROFESSIONAL SERVICE

- Conservation genomics workshop for state fisheries managers, 2014
- Expert panelist for review of southern Rocky Mountain cutthroat trout for U.S. Fish and Wildlife Service, 2013
- Sole administrator and moderator for listserv ('Fishgendir' – fish genetics directory) for the Genetics Section of the American Fisheries Society (2012-present)
- Expert Reviewer for Department of Interior: Rio Grande Silvery Minnow Genetics Expert Review Panel (one of four experts), 2012
- Quantitative Science Group (QSG), UMass Amherst, member, 2010-present.
- Faculty Senate member, UMass Amherst, 2009-present
- Dean's Biology Curriculum Review Committee member, UMass Amherst 2010-11
- Graduate student academic advisor for 2 Post-docs, 1 PhD student and 4 MS students
- Lab Safety Coordinator for Department of Environmental Conservation, UMass Amherst, 2009-present
- UMass Amherst Personnel Committee representative for UMass School of Marine Sciences, 2011-present
- Search Committee member for Darwin Postdoctoral Fellowship, UMass Amherst, 2010
- Search Committee member for Fish Population Ecology and Conservation faculty position, Department of Environmental Conservation, UMass Amherst, 2011
- Scientific Advisory Board member of the Sea Run Brook Trout Coalition, 2010-present
- Reviewer for: *Biology Letters*, *Molecular Ecology*, *Heredity*, *Conservation Genetics*, *Transactions of the American Fisheries Society*, *Biological Conservation*, *Aquatic Biology*, *Global Change Biology*
- Included in editor's list of top reviewers for *Molecular Ecology* 2012
- *Ad-hoc* reviewer for National Science Foundation (NSF)