

ROBERT A. GARROTT

Professor Emeritus – Department of Ecology
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Education

Ph.D., Wildlife Conservation, University of Minnesota, 1990.
M.S., Wildlife Management, Pennsylvania State University, 1980.
B.S., Wildlife Biology, University of Montana, 1976.

Position Description

Professor Emeritus, Ecology Dept., Montana State University, Bozeman, Montana 59717, 2021

Previous Work Experience

Professor, Ecology Dept., Montana State University, Bozeman, Montana 59717, 1999 - 2020 and
Director of Fish and Wildlife Ecology and Management Program, 2002-2020
Associate Professor, Department of Biology, Montana State University, Bozeman, Montana
59717, 1995 - 1999.
Assistant Professor, Department of Wildlife Ecology, University of Wisconsin, Madison,
Wisconsin 53706. 1991-1995.
Post-doctoral Associate, Department of Ecology, Evolution, and Behavior, University of
Minnesota, Saint Paul, Minnesota 55108. 1990-1991.
Research Assistant, Department of Fisheries and Wildlife, University of Minnesota, Saint Paul,
Minnesota 55108. 1986-1990.
Research Associate, Natural Resources and Ecology Laboratory, Colorado State University, Fort
Collins, Colorado 80523. 1984-1986.
Staff Scientist, Environmental Science Group, Los Alamos National Laboratory, Los Alamos,
New Mexico 87545. 1980-1984.

Teaching Experience

Fish and Wildlife Topics, Ecology Department, Montana State University, Bozeman, Montana.
Undergraduate capstone class for Fish and Wildlife Management majors for 50-60
students/semester. Spring semester 2012-present.
Principles of Fish and Wildlife Management, Ecology Department, Montana State University,
Bozeman, Montana. Undergraduate level lecture for 80-110 students/semester. Spring
semester 1996-present.
Scientific Writing, Ecology Department, Montana State University, Bozeman, Montana.
Graduate level lecture/lab course capped at 6 students/semester. Spring semester 2000-
2006.
Biology of Organisms, Ecology Department, Montana State University, Bozeman, Montana.
Undergraduate level lecture for 220-350 students/semester. Fall semester (team taught ½
semester), two sections, 1996-2006.
Wildlife Management Techniques, Ecology Department, Montana State University, Bozeman,
Montana. Undergraduate level lecture/lab for 15 students/semester. Spring semester

2009-2011.

Wildlife Habitat Relationships, Ecology Department, Montana State University, Bozeman, Montana. Graduate level lecture/lab course for 10-15 students/semester. Spring semester 1997-1999.

Wildlife Population Dynamics, Wildlife Ecology Department, University of Wisconsin, Madison, Wisconsin. Undergraduate level lecture for 30-45 students/semester. Fall semester 1992-95.

Wildlife Techniques, Wildlife Ecology Department, University of Wisconsin, Madison, Wisconsin. Undergraduate level lecture for 30-45 students/semester. Spring semester 1992-95.

Topics in Wildlife Ecology, Wildlife Ecology Department, University of Wisconsin, Madison, Wisconsin. Graduate level seminar for 8-14 students/semester. Spring semester 1992-95.

Research Focus

The focus of my research is understanding the abiotic and biotic ecological processes that influence mammalian populations and communities. I work in both terrestrial and marine ecosystems and contribute both to basic science as well as applied wildlife management and conservation through collaborations with state and federal natural resource agencies.

Previous Graduate Students

Name	Degree	Year	Post-graduation Position
Elizabeth Flesch	Ph.D.	2020	Post-doc Montana State University, MT
Ethan Lula	M.S.	2019	Montana Fish Wildlife and Parks, Eureka, MT
Blake Lowrey	Ph.D.	2018	Post-doc, Montana State University, MT
Brent Cascaddan	M.S.	2018	Seeking employment
Michael Ebinger	M.S.	2016	Montana Fish Wildlife and Parks, Thompson Falls, MT
Carson Butler	M.S.	2016	National Park Service, Jackson, WY
Dustin Ranglack	Postdoc	2016	University Nebraska-Kearney, NE
Jessie DeVoe	M.S.	2015	Montana Fish Wildlife and Parks, Bozeman, MT
Megan O'Reilly	M.S.	2013	Montana Fish Wildlife and Parks, Billings, MT
Braden Burkholder	M.S.	2012	Montana Heritage Program, Helena, MT
Shana Dunkley	M.S.	2011	Greater Yellowstone Coalition, Bozeman, MT
Jennifer Mannas	M.S.	2011	PAWS, Seattle, WA
Claire Gower	Ph.D.	2009	Montana Fish Wildlife and Parks, Bozeman, MT
Mathew Becker	Ph.D.	2008	Zambia Carnivore Project, Zambia, Africa
Kelly Proffitt	Ph.D.	2008	Montana Fish Wildlife and Parks, Bozeman, MT
Jamin Grigg	M.S.	2007	Colorado Division of Wildlife, Craig, CO
Julie Fuller/Cunningham	M.S.	2006	Montana Fish Wildlife and Parks, Bozeman, MT
Kelvin Johnson	M.S.	2006	Montana Fish Wildlife and Parks, Glasglow, MT
Jason Bruggeman	Ph.D.	2006	University of Minnesota, Saint Paul, MN
Justin Gude	M.S.	2004	Montana Fish Wildlife and Parks, Helena, MT
Darren Ireland	M.S.	2004	LGL Consulting, Anchorage, AK
Eric Bergman	M.S.	2003	Colorado Division of Wildlife, Montrose, CO
Matthew Messer	M.S.	2003	Montana Fish Wildlife and Parks, Helena, MT

Steven Hess	Ph.D.	2002	U.S. Geological Survey, Hawaii
Vanna Boccadori	M.S.	2002	Montana Fish Wildlife and Parks, Butte, MT
Amanda Hardy	M.S.	2001	National Park Service, Fort Collins, CO
Rosemary Jaffe	M.S.	2001	Montana Fish Wildlife and Parks, Bozeman, MT
Daniel Bjornlie	M.S.	2000	Wyoming Fish and Game, Lander, WY
Matthew Ferrari	M.S.	1999	Penn. State University, University Park, PA
Andrew Pils	M.S.	1998	U.S. Forest Service, Cody, WY
Glenn Sergeant	Ph.D.	1998	U.S. Geological Survey, Jamestown, ND
Eric Cox	M.S.	1996	deceased
Patrick White	Ph.D.	1996	National Park Service, Yellowstone NP, WY
Jennifer Graetz	M.S.	1995	Prairie Restoration, Sauk Prairie, WI

Manuscripts currently submitted to peer-reviewed journals

- O'Shea-Stone, G., R. Lambert, B. Tripet, J. Berardinelli, J. Thomson, V. Copié, and **R. Garrott**. In review. ¹H NMR based metabolic profiling distinguishes the differential impact of capture techniques on wild bighorn sheep. *PLoS One*.
- Petch, S.M., J.J. Rotella, W.A. Link, J.T. Paterson, and **R.A. Garrott**. In review. Investigating diverse sources of variation in the amount of time Weddell seal (*Leptonychotes weddellii*) pups spend in the water during the lactation period. *Marine Mammal Science*.
- Forzley, M., J. Rotella, K. Proffitt, **R. Garrott**, B. Jimenez, D. Eacker, and M. Hebblewhite. In review. Effects of increasing mountain lion harvest on annual elk calf survival. *Journal of Wildlife Management*.
- Flesch, E.P., T.A. Graves, J. Thomson, K.M. Proffitt, and **R.A. Garrott**. In revision. Genetic diversity of bighorn sheep populations is associated with dispersal, augmentation, and bottlenecks. *Ecosphere*
- Paterson, J. T., K.M. Proffitt, J.J. Rotella, D.E. McWhirter, and **R.A. Garrott**. In revision. Drivers of variation in the population dynamics of bighorn sheep. *Ecosphere*
- Bursa, J.L., J.J. Rotella, and **R.A. Garrott**. In revision. Influence of age and individual identity in the use of breeding colony habitat by male Weddell seals in Erebus Bay, Antarctica. *Marine Mammal Science*.
- Lowrey, B., J.D. DeVoe, K.M. Proffitt and **R.A. Garrott**. In revision. Behavior-specific habitat models as a tool to inform ungulate restoration. *Ecosphere*.

Manuscripts currently in press in peer-reviewed journals and books

- Deane, C.E., J.J. Rotella, J.M. Warren, **R.A. Garrott**, and D.N. Koons. In press. Assessing nasal-marker impacts on lesser scaup survival and reproductive rates. *Journal of Wildlife Management*.
- Proffitt, K., A. Courtemanch, S. Dewey, B. Lowrey, D. McWhirter, K. Monteith, J. Paterson, J. Rotella, P. White, and **R. Garrott**. In press. Regional variability in pregnancy and survival rates of Rocky Mountain bighorn sheep. *Ecosphere*.
- Garrott**, R.A., P.J. White, C. Gower, M.S. Becker, S. Drimal, K.L. Hamlin, and Fred G.R. Watson. In press. Wolf effects on elk inhabiting a high risk landscape: The Madison headwaters study, *in* *Yellowstone Wolves: Science and Discovery in the World's First*

Peer-reviewed journal publications (152)

- Flesch, E.P., T.A. Graves, J.M. Thomson, K.M. Proffitt, P.J. White, T.R. Stephenson, and **R.A. Garrott**. 2020. Evaluating wildlife restoration using genomics: a bighorn sheep case study. *Ecology and Evolution*. DOI: 10.1002/ece3.6942.
- Proffitt, K.M., **R.A. Garrott**, J.A. Jude, M. Hebblewhite, B. Jimenez, J.T. Patterson, and J.J. Rotella. 2020. Integrated carnivore-ungulate management: a case study in west-central Montana. *Wildlife Monographs* 206:1–28; 2020; DOI: 10.1002/wmon.1056
- DeVoe, J.D., B. Lowrey, K.M. Proffitt, and **R.A. Garrott**. 2020. Restoration potential of bighorn sheep in a prairie region. *Journal of Wildlife Management*. DOI: 10.1002/jwmg.21922
- Paterson, T. J., C. Butler, **R. Garrott**, and K. Proffitt. 2020. How sure are you? A web-based application to confront imperfect and uncertain detection of respiratory pathogens in bighorn sheep. *PLoS ONE* 15(9):e0237309.
- Brusa, J.L., J.J. Rotella, **R.A. Garrott**, J.T. Paterson, and W.A. Link. 2020. Variation of annual apparent survival and detection rates with age, year, and individual in male Weddell seals (*Leptonychotes weddellii*) from long-term mark-recapture data. *Population Ecology* 62:134–150.
- Paterson, J.T., K. Proffitt, J. Rotella and **R. Garrott**. 2020. An improved understanding of ungulate population dynamics using count data: insights from western Montana. *PLoS ONE* 14(12): e0226492. <https://doi.org/10.1371/journal.pone.0226492>
- Macdonald, K.R., J.J. Rotella, **R.A. Garrott**, and W.A. Link. 2020. Sources of variation in maternal allocation in a long-lived mammal. *Journal of Animal Ecology* 89:1927-1940 doi:10.1111/1365-2656.13243
- Lula, E.S., B. Lowrey, K.M. Proffitt, A.R. Litt, J.A. Cunningham, C.J. Butler, and **R.A. Garrott**. 2020. Is habitat constraining bighorn sheep restoration: a case study. *Journal of Wildlife Management* 84:588-600.
- Lowrey, B., D. E. McWhirter, K. M. Proffitt, K. L. Monteith, A. B. Courtemanch, P. J. White, J. T. Paterson, S. R. Dewey, **R. A. Garrott**. 2020. Individual variation creates behaviorally and spatially diverse migratory portfolios in native populations of a migratory ungulate. *Ecological Applications* e2016
- Lowrey, B., J. DeVoe, K.M. Proffitt, and **R.A. Garrott**. 2020. Hiding without cover? Defining elk security in a beetle-killed forest. *Journal of Wildlife Management* 84:138-149.
- Paterson, J.T., K. Proffitt, B. Jimenez, J. Rotella and **R. Garrott**. 2019. Simulation-based validation of spatial capture-recapture models: a case study using mountain lions. *PLOS ONE* 14(4): e0215458. <https://doi.org/10.1371/journal.pone.0215458>
- Lowrey, B., K. Proffitt, D. McWhirter, P.J. White, A. Courtemanch, S. Dewey, H. Miyasaki, K. Monteith, J. Mao, J. Grigg, C. Butler, E. Lula, and **R. Garrott**. 2019. Contrasting seasonal movements in native and restored populations; a case for conserving migratory portfolios. *Ecology and Evolution*. DOI: 10.1002/ece3.5435
- Butler, C.J., W.H. Edwards, J.T. Paterson, K.M. Proffitt, J. Jennings-Gaines, H.J. Killion, M.E. Wood, J.M. Ramsey, E.S. Almborg, S.R. Dewey, D.E. McWhirter, A.B. Courtemanch,

- P.J. White, J.J. Rotella, and **R.A. Garrott**. 2018. Detection error and demographic variability amid pervasive pneumonia pathogens in bighorn sheep. *PLoS ONE* 13(11): e0207780. <https://doi.org/10.1371/journal.pone.0207780>
- Lowrey, B.J., C.J. Butler, W.H. Edwards, M.E. Wood, S.R. Dewey, G.L. Fralick, J. Jennings-Gaines, H. Killion, D.E. McWhirter, H. Miyasaki, S.T. Stewart, K.S. White, P.J. White, and **R.A. Garrott**. 2018. A survey of bacterial respiratory pathogens in native and introduced mountain goats. *Journal of Wildlife Diseases* 54:852-858.
- Paterson, J., J. Rotella, W. Link, and **R. Garrott**. 2018. Variation in the vital rates of an Antarctic marine predator: the role of individual heterogeneity. *Ecology* <https://doi.org/10.1002/ecy.2481>
- Lowrey B., **R.A. Garrott**, D.E. McWhirter, P.J. White, N.J. DeCesare, and S.T. Stewart 2018. Niche similarities among introduced and native mountain ungulates. *Ecological Applications* 28:1131-1142.
- Flesch, E., J. Rotella, J. Thompson, T. Graves, and **R. Garrott**. 2018. Evaluating sample size to estimate relatedness in the genomics era. *Molecular Ecology Resources*, DOI: 10.1111/1755-0998.12898.
- Garrott, R.A.** 2018. Wild horse demography: Implications for sustainable management within economic constraints. *Human-Wildlife Relationships* 12:46-57.
- Burkholder, B.O., N.J. DeCesare, **R.A. Garrott**, and S.J. Boccadori. 2017. Heterogeneity and power to detect trends in moose browsing of willow communities. *Alces* 53:23-39.
- Butler, C.J., W.H. Edwards, J. Jennings-Gaines, H. Killion, D.E. McWhirter, M. Wood, J.T. Paterson, K.M. Proffitt, E.S. Almberg, J.M. Ramsey, P.J. White, J.J. Rotella, and **R.A. Garrott**. 2017. Assessing respiratory pathogen communities in bighorn sheep populations: sampling realities, challenges, and improvements. *PLoS ONE*. <https://doi.org/10.1371/journal.pone.0180689>
- Ranglack, D.H., K.M. Proffitt, J.E. Canfield, J.A. Gude, J. Rotella, and **R.A. Garrott**. 2017. Security areas for maintaining elk on publicly accessible lands during archery and rifle hunting seasons in western Montana. *Journal of Wildlife Management* DOI: 10.1002/jwmg.21258.
- Lowrey, B., **R.A. Garrott**, H. Miyasaki, G. Fralick, and S. Dewey. 2017. Seasonal resource selection in mountain goats in the southwest Greater Yellowstone Area. *Ecosphere* 8(4):e01769. 10.1002/ecs2.1769.
- Paterson, J.T., J.J. Rotella, J.M. Mannas, and **R.A. Garrott**. 2016. Patterns of age-related change in reproductive effort differ in the prenatal and postnatal periods in a long-lived mammal. *Journal of Animal Ecology* 85:1540-1551.
- Rotella, J.J., J.T. Paterson, and **R.A. Garrott**. 2016. Birth dates vary with fixed and dynamic maternal features, offspring sex, and year in a high latitude mammal. *Ecology and Evolution* 6:1930-1941.
- Flesch, E.P., **R.A. Garrott**, P.J. White, D. Brimeyer, A.B. Courtemanch, J.A. Cunningham, S.R. Dewey, G.L. Fralick, K. Loveless, D.E. McWhirter, H. Miyasaki, A. Pils, M.A. Sawaya, and S.T. Stewart. 2016. Range expansion of non-native mountain goats in the greater Yellowstone area: Challenges for management. *Wildlife Society Bulletin*. DOI: 10.1002/wsb.636.
- DeVoe, J.D., **R.A. Garrott**, J.J. Rotella, S.R. Challender, P.J. White, M. O'Reilly, and C.J.

- Butler. 2015. Summer range occupancy modeling of non-native mountain goats in the greater Yellowstone area. *Ecosphere* 6(11):217. <http://dx.doi.org/10.1890/ES15-00273.1>
- Paterson, J.T., J.J. Rotella, K.R. Arrigo, and **R.A. Garrott**. 2015. Tight coupling of primary production and marine mammal reproduction in the Southern Ocean. *Proceedings of the Royal Society B: Biological Sciences* 282: 20143137.
- Chambert, T.C., J.J. Rotella, and **R.A. Garrott**. 2015. Female Weddell seals on sabbatical from pup production show flexible strategies of colony attendance related to varying environmental conditions. *Ecology* 96:479-488.
- DeVoe, J., **R.A. Garrott**, J.J. Rotella, and S. Challender. 2014. Modeling summer habitat selection of sympatric bighorn sheep and mountain goats in the greater Yellowstone area. (abstract only) 19th Bienn. Symp. North. Wild Sheep and Goat Council 19:5.
- Garrott, R.A.**, C. Butler, K. Proffitt, J. Ramsey, and J.J. Rotella. 2015. Montana's new state-wide bighorn sheep research initiative. (abstract only) 19th Bienn. Symp. North. Wild Sheep and Goat Council 19:81.
- Garrott, R.A.**, H. Edwards, J. Ramsey, D. McWhirter, N. Anderson, and C. Butler. 2014. A collaborative regional initiative to correlate respiratory pathogens with demographic attributes of bighorn populations. (abstract only) 19th Bienn. Symp. North. Wild Sheep and Goat Council 19:12.
- Chambert, T.C., J.J. Rotella, and **R.A. Garrott**. 2014. An evolutionary perspective on reproductive individual heterogeneity in a marine vertebrate. *Journal of Animal Ecology* 84:1158-1168.
- DeCesare, N.J., T.D. Smucker, **R.A. Garrott**, and J.A. Gude. 2014. Moose status and management in Montana. *Alces* 50:35-51.
- Stauffer, G.E., J.J. Rotella, W. Kendall, and **R.A. Garrott**. 2014. Environmental correlates of temporary emigration for female Weddell seals and consequences for recruitment. *Ecology* 95:2526-2536.
- Proffitt, K.M., J.A. Cunningham, K.L. Hamlin, and **R.A. Garrott**. 2014. Bottom-up and top-down influences on pregnancy rates and recruitment of northern Yellowstone elk. *Journal of Wildlife Management* 78:1383-1393.
- Hand, B.K., S. Chen, N. Anderson, A. Beja-Pereira, P.C. Cross, M. Ebinger, H. Edwards, **R.A. Garrott**, M.D. Kardos, M. Kauffman, E.L. Landguth, A. Middleton, B. Scurlock, P.J. White, P. Zager, M.K. Schwartz, and G. Luikart. 2014. Sex-biased gene flow among elk in the Greater Yellowstone Ecosystem. *Journal of Fish and Wildlife Management*. *Journal of Fish and Wildlife Management* 5:124-132.
- Stauffer, G.E., J.J. Rotella, and **R.A. Garrott**. 2013. Birth-year and current-year influences on survival and recruitment rates of female Weddell seals. *Population Ecology* 55:405-415.
- Chambert, T.C., J.J. Rotella, M. Higgs, and **R.A. Garrott**. 2013. Individual heterogeneity in reproductive rates and cost of reproduction in a long-lived vertebrate. *Ecology and Evolution* 3:2047-2060.
- Garrott, R.A.**, and M.K. Oli. 2013. A critical crossroad for BLM's wild horse program. *Science* 341:847-848.
- Stauffer, G.E., J.J. Rotella, and **R.A. Garrott**. 2013. Variability in temporary emigration rates of individually marked female Weddell seals prior to first reproduction. *Oecologia*. 172:129-140.

- Chambert, T.C., J.J. Rotella, **R.A. Garrott**. 2012. Environmental extremes versus ecological extremes: Impact of a massive iceberg on the population dynamics of a high-level Antarctic marine predator. *Proceedings of the Royal Society B: Biological Sciences* 279:4532-4541.
- Garrott, R.A.**, J.J. Rotella, D.B. Siniff, C.L. Parkinson, and G.E. Stauffer. 2012. Environmental variation and cohort effects in an Antarctic predator. *Oikos* 121:1027-1040.
- Rotella, J.J., W.A. Link, T. Chambert, G.E. Stauffer, and **R.A. Garrott**. 2012. Evaluating the demographic buffering hypothesis with vital rates estimated for Weddell seals from 30 years of mark-recapture data. *Journal of Animal Ecology* 81:162-173.
- LaRue, M.A., J.J. Rotella, D.B. Siniff, **R.A. Garrott**, G.E. Stauffer, C.C. Porter, D. Ainley, and P.J. Morin. 2011. Satellite imagery can be used assess spatial and temporal variation in abundance of Weddell seals (*Leptonychotes weddelli*) in Antarctica. *Polar Biology* 34:1727-1737.
- Proffitt, K.M, J.A. Gude, K.L. Hamlin, **R.A. Garrott**, J.A. Cunningham, and J.L. Grigg. 2011. Elk distribution and spatial overlap with livestock during the brucellosis transmission risk period. *Journal of Applied Ecology* 48:471-478.
- White, P.J., **R.A. Garrott**, K.L. Hamlin, R.C. Cook, J.G. Cook, and J.A. Cunningham. 2011. Body condition and pregnancy in northern Yellowstone elk – evidence for predation risk effects? *Ecological Applications* 21:3-8.
- Blight, L.K., D.G. Ainley, S.F. Ackley, G. Ballard, T. Ballerini, R.L. Brownell, C.H.C. Cheng, M. Chiantore, D. Costa, M.C. Coulter, P. Dayton, A.L. Devries, R. Dunbar, S. Earle, J.T. Eastman, S.D. Emslie, C.W. Evans, **R.A. Garrott**, S. Kim, G. Kooyman, A. Lescroel, M. Lizotte, M. Massaro, S. Olmastroni, P.J. Ponganis, J. Russell, D.B. Siniff, W.O. Smith, B.S. Stewart, I. Stirling, J. Willis, P. Wilson, and E.J. Woehler. 2010. Fishing for Data in the Ross Sea. *Science* 330:1316-1316.
- Proffitt, K.M, J.L. Grigg, **R.A. Garrott**, K.L. Hamlin, J. Cunningham, J.A. Gude, and Craig Jourdonnais. 2010. Changes in elk resource selection and distributions associated with a late-season elk hunt on a Greater Yellowstone Area wintering range. *Journal of Wildlife Management* 74:210-218.
- Proffitt, K.M., J.J. Rotella, and **R.A. Garrott**. 2010. Effects of pup age, maternal age, and birth date on pre-weaning survival rates of Weddell seals in Erebus Bay, Antarctica. *Oikos* 119:1255-1264.
- Proffitt, K.M., T.P. McEneaney, P.J. White, and **R.A. Garrott**. 2010. Productivity and Fledging Success of Trumpeter Swans in Yellowstone National Park, 1987-2007. *Waterbirds* 33:341-348.
- Proffitt, K.M., P.J. White, and **R.A. Garrott**. 2010. Spatio-temporal overlap between Yellowstone bison and elk -- implications of wolf restoration and other factors for brucellosis transmission risk. *Journal of Applied Ecology* 47:281–289.
- Proffitt, K.M., T.P. McEneaney, P.J. White, and **R.A. Garrott**. 2009. Trumpeter swan abundance and growth rates in Yellowstone National Park. *Journal of Wildlife Management* 73:728-736.
- Proffitt, K.M, J.L. Grigg, K.L. Hamlin, and **R.A. Garrott**. 2009. Contrasting effects of wolves and human hunters on elk behavioral responses to predation risk. *Journal of Wildlife Management* 73:345-356.
- Rotella, J.J., W.A. Link, J.D. Nichols, G.L. Hadley, **R.A. Garrott**, and K. M. Proffitt. 2009. An

- evaluation of density-dependent and –independent influences on population growth rates in Weddell seals. *Ecology* 90:975-984.
- Berardinelli, J., J. Olsen, S. Tauck, J. R. Wilkinson, and **R. Garrott**. 2008. Seasonal and pregnancy-associated changes in energy-related metabolites and hormones in Elk. *Proc. West. Sect. Amer. Soc. Anim. Sci.* 59:265-268.
- Boccardi, S.J., P.J. White, **R.A. Garrott**, J.J. Borkowski, T.L. Davis. 2008. Yellowstone pronghorn alter resource selection after sagebrush decline. *Journal of Mammalogy* 89:1031-1040.
- Proffitt, K.M., **R.A. Garrott**, and J.J. Rotella. 2008. Long-term evaluation of body mass at weaning and post-weaning survival rates of Weddell seals in Erebus Bay, Antarctica. *Marine Mammal Science* 24:677-689.
- Hadley, G.L., J.J. Rotella, J., and **R.A. Garrott**. 2008. Spatial variation in age-specific probabilities of first reproduction for Weddell seals. *Oikos* 117:1165-1174.
- Proffitt, K.M., **R.A. Garrott**, and J.J. Rotella. 2008. Variation in offspring sex ratio among individual Weddell seal females of different quality. *Behavioral Ecology and Sociobiology* 62:1679-1687.
- Siniff, D.B., **R.A. Garrott**, J.J. Rotella, W.R. Fraser, and D.G. Ainley. 2008. Projecting the effects of environmental change on Antarctic seals. *Antarctic Science* 20:1-11.
- Watson, F.G.R., R. Lockwood, W. Newman, T. Anderson, and **R.A. Garrott**. 2008. Development and comparison of Landsat radiometric and snowpack model inversion techniques for estimating geothermal heat flux. *Remote Sensing of the Environment* 112:471-481.
- Proffitt, K.M., **R.A. Garrott**, J.J. Rotella, and S. Lele. 2008. Using form analysis techniques to improve photogrammetric mass-estimation methods. *Marine Mammal Science* 24:147-158.
- Fuller, J.A., **R.A. Garrott**, P.J. White, K.E. Aune, T.J. Roffe, and J.C. Rhyan. 2007. Reproduction and survival of Yellowstone bison. *Journal of Wildlife Management* 71:2365-2372.
- Hadley, G.L., J.J. Rotella, and **R.A. Garrott**. 2007. Influence of maternal characteristics on survival and recruitment probabilities of Weddell seals. *Oikos* 116:601-613.
- Proffitt, K.M., **R.A. Garrott**, J.J. Rotella, and K.E. Wheatley. 2007. Environmental and senescent related variations in Weddell seal body mass and implications for age-specific reproductive performance. *Oikos* 116:1683-1690.
- White, P.J., J.E. Bruggeman, and **R.A. Garrott**. 2007. Irruptive population dynamics of Yellowstone pronghorn. *Ecological Applications* 17:1598-1606.
- Garrott**, R.A., J.E. Bruggeman, M.S. Becker, and S.T. Kalinowski. 2007. Evaluating prey switching in wolf-ungulate systems. *Ecological Applications* 17:1588-1597.
- Bruggeman, J.E., **R.A. Garrott**, P.J. White, F.G.R. Watson, and R. Wallen. 2007. Spatial variability in Yellowstone bison use of a road and travel network. *Ecological Applications* 17:1411-1423.
- Fuller, J.A., **R.A. Garrott**, and P.J. White. 2007. Emigration and density dependence in Yellowstone bison. *Journal of Wildlife Management* 71:1924-1933.
- Cameron, M.F., D.B. Siniff, and **R.A. Garrott**. 2007. Site-fidelity of Weddell seals: the effects of sex and age. *Antarctic Science* 19:149-155.

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