CIBIO-InBIO Advanced Course APPLIED WILDLIFE POPULATION ECOLOGY

with L. Scott Mills, North Carolina State University

May 25-27, 2015 @ Vairão Campus

REQUIRED TEXT

Mills, L. S. 2013. Conservation of Wildlife Populations: Genetics, Demography and Management. 2nd ed. Blackwell/Wiley Publishing, Oxford UK.

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Each lecture will draw, in part, from the readings assigned for that lecture, and **the participants will be responsible for the concepts and principles presented in the readings.** Other readings, required and optional, will be assigned during the course.

List of Additional Readings FOR DISCUSSION (To be led by the participants)

Altwegg, R., M. Schaub, and A. Roulin. 2007. Age-specific fitness components and their temporal variation in the barn owl. American Naturalist 169, 47-61.

Bouzat et al. 2009. Beyond the beneficial effects of translocations as an effective tool for the genetic restoration of isolated populations. Conservation Genetics 10:191-201.

Bro, E., Clobert, J., Reitz, F., and Sarrazin, F. (2000) Demography and the decline of the grey partridge Perdix perdix in France. Journal of Applied Ecology 37, 432-448.

Coulson et al. 2003. Estimating selection on neonatal traits in red deer using elasticity path analysis. Evolution 57:2879-2892.

Doak, D.F., Morris, W.F., Pfister, C., Kendall, B.E., and Bruna, E.M. (2005) Correctly estimating how environmental stochasticity influences fitness and population growth. The American Naturalist 166, E14-E21.

Eberhardt, L. L. 2002. A paradigm for population analysis of long-lived vertebrates. Ecology 83, 2841-2854.

Ezard, THG et al. 2010. Matrix models for a changeable world: the importance of transient dynamics in population management. Journal of Applied Ecology 47, 515-523.

Gaillard, J.-M. and Yoccoz, N.G. (2003) Temporal variation in survival of mammals: a case of environmental canalization? Ecology 84, 3294-3306.

Griffin, P. C., and L. S. Mills. 2009. Sinks without borders: snowshoe hare dynamics in a complex landscape. Oikos 118, 1487-1498.

Johnson, H. E., Mills, L. S., Stephenson, T. R. et al. (2010) Population-specific vital rate contributions influence management of an endangered ungulate. Ecological Applications 20, 1753-1765.

Johnson, H. E., Mills, L. S., Wehausen, J. D. et al. (2011) Translating Effects of Inbreeding Depression on Component Vital Rates to Overall Population Growth in Endangered Bighorn Sheep. Conservation Biology 25, 1240-1249.

Johnson, W. E. et al. 2010. Genetic restoration of the Florida panther. Science 329, 1641-1645.

Koons, D.N., Holmes, R.R., and Grand, J.B. (2007) Population inertia and its sensitivity to changes in vital rates and population structure. Ecology 88, 2857-2867.

Kramer et al 2009. The evidence for Allee effects. Population Ecology 51, 341-354.

Morris, W. F., Altmann, J., Brockman, D. K. et al. (2011) Low Demographic Variability in Wild Primate Populations: Fitness Impacts of Variation, Covariation, and Serial Correlation in Vital Rates. American Naturalist 177, 14-28.

Morris et al. 2008. Longevity can buffer plant and animal populations against changing climatic variability. Ecology 89, 19-25.

Newby, J. R., L. S. Mills, T. K. Ruth, D. H. Pletscher, M. S. Mitchell, H. B. Quigly, K. M. Murphy, and R. DeSimone. 2013. Human-caused mortality influences spatial population dynamics: pumas in landscapes with varying mortality risks. Biological Conservation. 159, 230-239.

Raithel, J.D., Kauffman, M.J., and Pletscher, D.H. (2006) Impact of spatial and temporal variation in calf elk survival on population growth rate. Journal of Wildlife Management 71, 795-803.

Tuljapurkar et al. 2009. From stochastic environments to life histories and back. Philosophical Transactions of the Royal Society B. 364, 1499-1509.