To protect the rights of the author(s) and publisher we inform you that this PDF is an uncorrected proof for internal business use only by the author(s), editor(s), reviewer(s), Elsevier and typesetter SPS. It is not allowed to publish this proof online or in print. This proof copy is the copyright property of the publisher and is confidential until formal publication.

B978-0-12-405939-9.00029-3

10029

#### **AUTHOR QUERY FORM**



Book: Spatial Capture-Recapture Chapter: Bibliography Please e-mail your responses and any corrections to:

E-mail:

a.kittusamyramasamy@elsevier.com

Dear Author,

Any queries or remarks that have arisen during the processing of your manuscript are listed below and are highlighted by flags in the proof. (AU indicates author queries; ED indicates editor queries; and TS/TY indicates typesetter queries.) Please check your proof carefully and answer all AU queries. Mark all corrections and query answers at the appropriate place in the proof (e.g., by using on-screen annotation in the PDF file <a href="http://www.elsevier.com/framework\_authors/tutorials/ePDF\_voice\_skin.swf">http://www.elsevier.com/framework\_authors/tutorials/ePDF\_voice\_skin.swf</a>) or compile them in a separate list, and tick off below to indicate that you have answered the query.

Please return your input as instructed by the project manager.

**Uncited references:** References that occur in the reference list but are not cited in the text. Please position each reference in the text or delete it from the reference list.

**Missing references:** References listed below were noted in the text but are missing from the reference list. Please make the reference list complete or remove the references from the text.

Location in Chapter	Query / remark
AU:1, page 549	Please provide the volume number for References "Burnham et al. (1980), Csardi and Nepusz (2006), Sillett et al. (2012), Ivan et al. (2013a), Ivan et al. (2013b), Kays et al. (2008), Russell et al. (2012), Kiefer (1959), Lele et al. (2012), MacKay et al. (2008), Matechou et al. (2013), Mitchell (1974), and Sollmann et al. (2013a)".
AU:2, page 551	Please provide complete details for References "Chandler and Royle (2013), Dixon (2002), Venables et al. (2012), Hobbs (2011), Royle et al. (2012a), Royle et al. (2013), Kucera (2011), Reich et al. (2012), Mollet et al. (in review), Tobler et al. (2012), and Efford and Dawson (2010)".
AU:3, page 551	Please check the givename for the Reference "Efford (2011a)".
AU:4, page 551	Please provide publisher details for References "Efford et al. (2009a), Nychka et al. (1997), and Schwarz and Arnason (2005)".
AU:5, page 552	Please check the authors name for Reference "Farnsworth et al. (2002)".

To protect the rights of the author(s) and publisher we inform you that this PDF is an uncorrected proof for internal business use only by the author(s), editor(s), reviewer(s), Elsevier and typesetter SPS. It is not allowed to publish this proof online or in print. This proof copy is the copyright property of the publisher and is confidential until formal publication.

B978-0-12-405939-9.00029-3

10029

AU:6, page 554	Please update References Hanks and Hooten (in press), McClin-
	tock et al. (in press) and Sun (in press).
AU:7, page 557	Please provide more details for the Reference "Kucera (2011)".
AU:8, page 557	Please check the journal title for the References "Kuo and
	Mallick (1998)".
AU:9, page 561	Please check the authornames in References "Molinari-Jobin
	et al. (2013)" and provide volume number and page range.

B978-0-12-405939-9.00029-3

10029

#### **CHAPTER**

- Adriaensen, F., Chardon, J.P., De Blust, G., Swinnen, E., Villalba, S., Gulinck, H., Matthysen, E., 2003. The application of least-cost modelling as a functional land-scape model. Landscape and Urban Planning 64, 233–247.
- Agresti, A., 2002. Categorical Data Analysis, vol. 359. John Wiley and Sons.
- Aitkin, M., 1991. Posterior bayes factors. Journal of the Royal Statistical Society, Series B (Methodological) 53, 111–142.
- Alho, J.M., 1990. Logistic regression in capture-recapture models. Biometrics 46, 623–635.
- Alpízar-Jara, R., Pollock, K.H., 1996. A combination line transect and capture-recapture sampling model for multiple observers in aerial surveys. Environmental and Ecological Statistics 3, 311–327.
- Amstrup, S.C., McDonald, T.L., Manly, B.F.J., 2005. Handbook of Capture-Recapture Analysis. Princeton University Press.
- Anderson, D.R., Burnham, K.P., White, G.C., Otis, D.L., 1983. Density estimation of small-mammal populations using a trapping web and distance sampling methods. Ecology 64, 674–680.
- Arnason, N.A., 1972. Parameter estimates from mark-recapture experiments on two populations subject to migration and death. Researches on Population Ecology 13, 97–113.
- Arnason, N.A., 1973. The estimation of population size, migration rates and survival in a stratified population. Researches on Population Ecology 15, 1–8.
- Arnason, A., Schwarz, C., Gerrard, J., 1991. Estimating closed population size and number of marked animals from sighting data. Journal of Wildlife Management 55, 716–730.
- Baddeley, A., Turner, R., 2005. Spatstat: an R package for analyzing spatial point patterns. Journal of Statistical Software 12, 1–42. ISSN: 1548–7660.
- Bales, S., Hellgren, E., Leslie Jr., D., Hemphill Jr., J., 2005. Dynamics of a recolonizing population of black bears in the Ouachita Mountains of Oklahoma. Wildlife Society Bulletin 33, 1342–1351.
- Balme, G.A., Slotow, R., Hunter, L.T.B., 2010. Edge effects and the impact of non-protected areas in carnivore conservation: leopards in the Phinda-Mkhuze complex, South Africa. Animal Conservation 13, 315–323.

- Bartmann, R.M., White, G.C., Carpenter, L.H., Garrott, R.A., 1987. Aerial mark-recapture estimates of confined mule deer in Pinyon-Juniper woodland. The Journal of Wildlife Management 51, 41–46.
- Bayne, E., Hobson, K., 2002. Annual survival of adult American Redstarts and Ovenbirds in the southern boreal forest. The Wilson Bulletin 114, 358–367.
- Beier, P., Majka, D.R., Spencer, W.D., 2008. Forks in the road: choices in procedures for designing wildland linkages. Conservation Biology 22, 836–851.
- Belant, J., Van Stappen, J., Paetkau, D., 2005. American black bear population size and genetic diversity at Apostle Islands National Lakeshore. Ursus 16, 85–92.
- Berger, J., Liseo, B., Wolpert, R., 1999. Integrated likelihood methods for eliminating nuisance parameters. Statistical Science 14, 1–28.
- Besag, J., Kooperberg, C., 1995. On conditional and intrinsic autoregressions. Biometrika 82, 733–746.
- Best, N.G., Ickstadt, K., Wolpert, R.L., 2000. Spatial poisson regression for health and exposure data measured at disparate resolutions. Journal of the American Statistical Association 95, 1076.
- Bibby, C.J., Buckland, S.T., 1987. Bias of bird census results due to detectability varying with habitat. Acta Ecologica 8, 103–112.
- Bibby, C.J., Burgess, N.D., Hill, D.A., 1992. Bird Census Techniques. Academic Press, London, UK, p. 257.
- Bivand, R., Rundel, C. 2011. Rgeos: interface to geometry engine—open source (GEOS). R package version 0.1-8.
- Blair, W., 1940. A study of prairie deer-mouse populations in southern Michigan. American Midland Naturalist 24, 273–305.
- Bolker, B., 2008. Ecological Models and Data in R. Princeton University Press.
- Bondrup-Nielsen, S., 1983. Density estimation as a function of live-trapping grid and home range size. Canadian Journal of Zoology 61, 2361–2365.
- Borchers, D.L., 2012. A non-technical overview of spatially explicit capture-recapture models. Journal of Ornithology 152, 1–10.
- Borchers, D.L., Buckland, S.T., Zucchini, W., 2002. Estimating Animal Abundance: Closed Populations, vol. 13. Springer Verlag.
- Borchers, D.L., Efford, M.G., 2008. Spatially explicit maximum likelihood methods for capture-recapture studies. Biometrics 64, 377–385.
- Borchers, D.L., Zucchini, W., Fewster, R.M., 1998. Mark-recapture models for line transect surveys. Biometrics 54, 1207–1220.
- Boulanger, J., McLellan, B., 2001. Closure violation in DNA-based mark-recapture estimation of grizzly bear populations. Canadian Journal of Zoology 79, 642–651.
- Bowden, D.C. 1993. A simple technique for estimating population size. Technical Report 93/12, Department of Statistics, Colorado State University, Fort Collins, Colorado, USA.
- Box, G.E.P., Draper, N.R., 1959. A basis for the selection of a response surface design. Journal of the American Statistical Association 54, 622–654.
- Box, G.E.P., Draper, N.R., 1987. Empirical Model-Building with Response Surfaces. Wiley, New York.

- Boyce, M.S., McDonald, L.L., 1999. Relating populations to habitats using resource selection functions. Trends in Ecology and Evolution 14, 268–272.
- Brooks, S.P., Catchpole, E.A., Morgan, B.J.T., 2000. Bayesian animal survival estimation. Statistical Science 15, 357–376.
- Brownie, C., Hines, J.E., Nichols, J.D., Pollock, K.H., Hestbeck, J.B., 1993. Capture-recapture studies for multiple strata including non-Markovian transitions. Biometrics 49, 1173–1187.
- Buckland, S.T., 2004. Advanced distance sampling. Oxford University Press, USA.
- Buckland, S., Anderison, D., Burnham, K., Laake, J., Borcher, D., L, T., 2001. Introduction to distance sampling: estimating abundance of biological populations. Oxford University Press, Oxford, UK.
- Burnham, K.P., 1997. Distributional results for special cases of the Jolly-Seber model. Communications in Statistics 26, 1395–1409.
- Burnham, K.P., Anderson, D.R., 2002. Model Selection and Multimodel Inference: A Practical Information-Theoretic Approach. Springer Verlag.
- Burnham, K., Anderson, D., Laake, J. 1980. Estimation of density from line transect sampling of biological populations. Wildlife Monographs, pp. 3–202.
- Burnham, K., Anderson, D., White, G., Brownie, C., Pollock, K., 1987. Design and Analysis Methods for Fish Survival Experiments Based on Release-Recapture. American Fisheries Society Monograph, vol. 5. American Fisheries Society, Bethesda Maryland, p. 737.
- Burnham, K.P., Overton, W.S., 1978. Estimation of the size of a closed population when capture probabilities vary among animals. Biometrika 65, 625.
- Burt, W., 1943. Territoriality and home range concepts as applied to mammals. Journal of Mammalogy 24, 346–352.
- Casella, G., Berger, R.L., 2002. Statistical Inference. Duxbury Press.
- Casella, G., George, E.I., 1992. Explaining the Gibbs sampler. American Statistician 46, 167–174.
- Caswell, H., 1989. Matrix Population Models. Sinauer Association, Sunderland.
- Caswell, H., Werner, P.A., 1978. Transient behavior and life history analysis of teasel (*Dipsacus sylvestris* Huds.). Ecology 59, 53–66.
- Chandler, R.B., Royle, J.A. 2013. Spatially-explicit models for inference about density in unmarked or partially marked populations. Annals of Applied Statistics,
- Chandler, R.B., Royle, J.A., King, D., 2011. Inference about density and temporary emigration in unmarked populations. Ecology 92, 1429–1435.
- Clavel, J., Robert, A., Devictor, V., Julliard, R., 2008. Abundance estimation with a transient model under the robust design. Journal of Wildlife Management 72, 1203–1210
- Clobert, J., Danchin, E., Dhondt, A., Nichols, J., 2001. Dispersal. Oxford.
- Cochran, W., 2007. Sampling Techniques. John Wiley & Sons, USA.
- Compton, B.W., McGarigal, K., Cushman, S.A., Gamble, L.R., 2007. A resistant-kernel model of connectivity for amphibians that breed in vernal pools. Conservation Biology 21, 788–799.

- Conde, D., Colchero, F., Zarza, H., Christensen, N., Sexton, J., Manterola, C., Chávez, C., Rivera, A., Azuara, D., Ceballos, G., 2010. Sex matters: modeling male and female habitat differences for jaguar conservation. Biological Conservation 143, 1980–1988.
- Conn, P.B., Cooch, E.G., 2009. Multistate capture-recapture analysis under imperfect state observation: an application to disease models. Journal of Applied Ecology 46, 486–492.
- Conroy, M.J., Carroll, J.P., 2009. Quantitative Conservation of Vertebrates. Wiley-Blackwell.
- Conroy, M.J., Runge, J.P., Barker, R.J., Schofield, M.R., Fonnesbeck, C.J., 2008. Efficient estimation of abundance for patchily distributed populations via two-phase, adaptive sampling. Ecology 89, 3362–3370.
- Converse, S.J., Royle, J.A., 2012. Dealing with incomplete and variable detectability in multi-year, multi-site monitoring of ecological populations. In: Gitzen, R.R., Millspaugh, J.J., Cooper, A.B., Licht, D.S. (Eds.), Design and Analysis of Longterm Ecological Monitoring Studies. Cambridge University Press, pp. 426–442.
- Converse, S., White, G., Block, W., 2006a. Small mammal responses to thinning and wildfire in ponderosa pine-dominated forests of the southwestern United States. Journal of Wildlife Management 70, 1711–1722.
- Converse, S., White, G., Farris, K., Zack, S., 2006b. Small mammals and forest fuel reduction: national-scale responses to fire and fire surrogates. Ecological Applications 16, 1717–1729.
- Cooch, E., White, G., 2006, Program MARK: A Gentle Introduction. Available online with the MARK programme, p. 7.
- Cormack, R.M., 1964. Estimates of survival from the sighting of marked animals. Biometrika 51, 429–438.
- Coull, B.A., Agresti, A., 1999. The use of mixed logit models to reflect heterogeneity in capture-recapture studies. Biometrics 55, 294–301.
- Cox, D., 1955. Some statistical methods connected with series of events. Journal of the Royal Statistical Society, Series B (Methodological) 17, 129–164.
- Cressie, N., 1991. Statistics for Spatial Data. Wiley Series in Probability and Mathematical Statistics.
- Csardi, G., Nepusz, T., 2006. The igraph software package for complex network research. International Journal of Complex Systems, 1695.
- Cushman, S.A., Compton, B.W., McGarigal, K., 2010. Habitat fragmentation effects depend on complex interactions between population size and dispersal ability: modeling influences of roads, agriculture and residential development across a range of life-history characteristics. In: Cushman, S.A., Huettmann, F. (Eds.), Spatial Complexity, Informatics, and Wildlife Conservation, Springer, New York, pp. 369–385 (Chapter 20).
- Cushman, S.A., McKelvey, K.S., Hayden, J., Schwartz, M.K., 2006. Gene flow in complex landscapes: testing multiple hypotheses with causal modeling. The American Naturalist 168, 486–499.
- Dawson, D.K., Efford, M.G., 2009. Bird population density estimated from acoustic signals. Journal of Applied Ecology 46, 1201–1209.

- DeGraaf, R.M., Yamasaki, M., 2001. New England Wildlife: Habitat, Natural History, and Distribution. University Press of New England.
- DeSante, D.F., Burton, K.M., Saracco, J.F., Walker, B.L., 1995. Productivity indices and survival rate estimates from MAPS, a continent-wide programme of constant-effort mist-netting in North America. Journal of Applied Statistics 22, 935–948.
- Dice, L.R., 1938. Some census methods for mammals. Journal of Wildlife Management 2, 119–130.
- Dice, L.R., 1941. Methods for estimating populations of mammals. Journal of Wildlife Management 5, 398–407.
- Diggle, P.J. 2003. Statistical Analysis of Spatial Point Processes, second ed. Arnold, London
- Dijkstra, E.W., 1959. A note on two problems in connexion with graphs. Numerische Mathematik 1, 269–271.
- Dillon, A., Kelly, M., 2007. Ocelot Leopardus pardalis in Belize: the impact of trap spacing and distance moved on density estimates. Oryx 41, 469–477.
- Dixon, P., 2002. Bootstrap resampling. Encyclopedia of Environmetrics.
- Dorazio, R.M., 2007. On the choice of statistical models for estimating occurrence and extinction from animal surveys. Ecology 88, 2773–2782.
- Dorazio, R.M., Royle, J.A., 2003. Mixture models for estimating the size of a closed population when capture rates vary among individuals. Biometrics 59, 351–364.
- Dormann, C.F., McPherson, J.M., Araújo, M., Bivand, R., Bolliger, J., Carl, G., Davies, G., R., Hirzel, A., Jetz, W., Daniel Kissling, W., et al., 2007. Methods to account for spatial autocorrelation in the analysis of species distributional data: a review. Ecography 30, 609–628.
- Durban, J., Elston, D., 2005. Mark-recapture with occasion and individual effects: abundance estimation through Bayesian model selection in a fixed dimensional parameter space. Journal of Agricultural, Biological, and Environmental Statistics 10, 291–305.
- Eddelbuettel, D., François, R., 2011. Rcpp seamless R and C++ integration. Journal of Statistical Software 40, 1–18.
- Efford, M.G., 2011a. Secr: spatially explicit capture-recapture models. R package version 2.3-1.
- Efford, M.G., 2004. Density estimation in live-trapping studies. Oikos 106, 598–610.
- Efford, M.G., 2011b. Estimation of population density by spatially explicit capture-recapture analysis of data from area searches. Ecology 92, 2202–2207.
- Efford, M.G., 2012. Spatially explicit capture-recapture for bear researchers and managers, Western Black Bear Workshop. Coeur dAlene, ID.
- Efford, M.G., Dawson, D.K., 2009. Effect of distance-related heterogeneity on population size estimates from point counts. The Auk 126, 100–111.
- Efford, M.G., Dawson, D.K. 2010. SECR for acoustic data.
- Efford, M.G., Borchers, D.L., Byrom, A.E. 2009a. Density estimation by spatially explicit capture-recapture: likelihood-based methods. Modeling Demographic Processes in Marked Populations, pp. 255–269.
- Efford, M.G., Dawson, D.K., Borchers, D.L., 2009b. Population density estimated from locations of individuals on a passive detector array. Ecology 90, 2676–2682.

AU:2

AU:3

- Efford, M.G., Dawson, D.K., Robbins, C.S., 2004. DENSITY: software for analysing capture-recapture data from passive detector arrays. Animal Biodiversity and Conservation 27, 217–228.
- Efford, M.G., Fewster, R.M., 2012. Estimating population size by spatially explicit capture-recapture. Oikos.
- Efford, M.G., Warburton, B., Coleman, M.C., Barker, R.J., 2005. A field test of two methods for density estimation. Wildlife Society Bulletin 33, 731–738.
- Epps, C.W., PalsbØll, P.J., Wehausen, J.D., Roderick, G.K., Ramey, R.R. I.I., McCullough, D.R., 2005. Highways block gene flow and cause a rapid decline in genetic diversity of desert bighorn sheep. Ecology Letters 8, 1029–1038.
- Epps, C.W., Wehausen, J.D., Bleich, V.C., Torres, S.G., Brashares, J.S., 2007. Optimizing dispersal and corridor models using landscape genetics. Journal of Applied Ecology 44, 714–724.
- Farnsworth, G.L., Pollock, K.H., Nichols, J.D., Simons, T.R., Hines, J.E., Sauer, J.R., 2002. A removal model for estimating detection probabilities from point-count surveys. Auk 119, 414–425.
- Fedorov, V.V., 1972. Theroy of Optimal Experiments. Academic Press, New York
- Fedorov, V.V., Hackl, P. 1997. Model-Oriented Design of Experiments. Springer.
- Fienberg, S.E., Johnson, M.S., Junker, B.W., 1999. Classical multilevel and Bayesian approaches to population size estimation using multiple lists. Journal of the Royal Statistical Society of London A 163, 383–405.
- Fiske, I.J., Chandler, R.B., 2011. Unmarked: an R package for fitting hierarchical models of wildlife occurrence and abundance. Journal of Statistical Software 43, 1–23.
- Forester, J.D., Im, H.K., Rathouz, P.J., 2009. Accounting for animal movement in estimation of resource selection functions: sampling and data analysis. Ecology 90, 3554–3565.
- Forester, J.D., Ives, A.R., Turner, M.G., Anderson, D.P., Fortin, D., Beyer, H.L., Smith, D.W., Boyce, M.S., 2007. State-space models link elk movement patterns to landscape characteristics in Yellowstone National Park. Ecological Monographs 77, 285–299.
- Fortin, D., Beyer, H.L., Boyce, M.S., Smith, D.W., Duchesne, T., Mao, J.S., 2005. Wolves influence elk movements: behavior shapes a trophic cascade in Yellowstone National Park. Ecology 86, 1320–1330.
- Foster, R.J., Harmsen, B.J., 2012. A critique of density estimation from camera-trap data. Journal of Wildlife Management 76, 224–236.
- Fowler, C., 1981. Density dependence as related to life history strategy. Ecology 62, 602–610.
- François, R., Eddelbuettel, D., Bates, D., 2011. RcppArmadillo: Rcpp integration for Armadillo templated linear algebra library. R package version 0.2-25.
- Frary, V., Duchamp, J., Maehr, D., Larkin, J., 2011. Density and distribution of a colonizing front of the American black bear Ursus americanus. Wildlife Biology 17, 404–416.

- Fujiwara, M., Anderson, K., Neubert, M., Caswell, H., 2006. On the estimation of dispersal kernels from individual mark-recapture data. Environmental and Ecological Statistics 13, 183–197.
- García-Alaníz, N., Naranjo, E.J., Mallory, F.F., 2010. Hair-snares: a non-invasive method for monitoring felid populations in the Selva Lacandona. Mexico, Tropical Conservation Science 3, 403–411.
- Gardner, B., Reppucci, J., Lucherini, M., Royle, J., 2010a. Spatially explicit inference for open populations: estimating demographic parameters from camera-trap studies. Ecology 91, 3376–3383.
- Gardner, B., Royle, J.A., Wegan, M.T., 2009. Hierarchical models for estimating density from DNA mark-recapture studies. Ecology 90, 1106–1115.
- Gardner, B., Royle, J.A., Wegan, M.T., Rainbolt, R.E., Curtis, P.D., 2010b. Estimating black bear density using DNA data from hair snares. Journal of Wildlife Management 74, 318–325.
- Garshelis, D.L., Hristienko, H., 2006. State and provincial estimates of American black bear numbers versus assessments of population trend. Ursus 17, 1–7.
- Gelfand, A., Smith, A., 1990. Sampling-based approaches to calculating marginal densities. Journal of the American Statistical Association 85, 398–409.
- Gelman, A., 2006. Prior distributions for variance parameters in hierarchical models. Bayesian Analysis 1, 515–533.
- Gelman, A., Carlin, J.B., Stern, H.S., Rubin, D.B., 2004. Bayesian Data Analysis, second ed. CRC/Chapman & Hall, Bocan Raton, Florida, USA.
- Gelman, A., Meng, X.L., Stern, H., 1996. Posterior predictive assessment of model fitness via realized discrepancies. Statistica Sinica 6, 733–759.
- Geman, S., Geman, D., 1984. Stochastic relaxation, Gibbs distributions, and the Bayesian restoration of images. IEEE Transactions on Pattern Analysis and Machine Intelligence PAMI-6, 721–741.
- Genz, A.S., Meyer, M.R., Lumley, T., Maechler, M., 2007. The adapt package. R package version 1.0-4.
- Gerlach, G., Musolf, K., 2000. Fragmentation of landscape as a cause for genetic subdivision in bank voles. Conservation Biology 14, 1066–1074.
- Gilks, W., Wild, P., 1992. Adaptive rejection sampling for Gibbs sampling. Applied Statistics 41, 337–348.
- Gilks, W.R., Thomas, A., Spiegelhalter, D.J., 1994. A Language and Program for Complex Bayesian Modelling. Journal of the Royal Statistical Society. Series D (The Statistician) 43, 169–177 (ArticleType: primary\_article/ Issue Title: Special Issue: Conference on Practical Bayesian Statistics, 1992 (3)/ Full publication date: 1994/ Copyright 1994 Royal Statistical Society).
- Gilroy, J., Virzi, T., Boulton, R.L., Lockwood, J., 2012. A new approach to the apparent survival problem: estimating true survival rates from mark-recapture studies. Ecology 93, 1509–1516.
- Gimenez, O., Rossi, V., Choquet, R., Dehais, C., Doris, B., Varella, H., Vila, J.P., Pradel, R., 2007. State-space modelling of data on marked individuals. Ecological Modelling 206, 431–438.

- Gopalaswamy, A.M., 2012. Capture-recapture models, spatially explicit. In: El-Shaarawi, A.H., Piegorsch, W. (Eds.), Encyclopedia of Environmentrics, second ed. John Wiley & Sons Ltd, Chichester, UK.
- Gopalaswamy, A.M., Royle, A.J., Hines, J., Singh, P., Jathanna, D., Kumar, N.S., Karanth, K.U., 2012a. Program SPACECAP: software for estimating animal density using spatially explicit capture recapture models. Methods in Ecology and Evolution. Online early, R package version 1.0-4.
- Gopalaswamy, A.M., Royle, J.A., Delampady, M., Nichols, J.D., Karanth, K.U., Macdonald, D.W., 2012b. Density estimation in tiger populations: combining information for strong inference. Ecology 93, 1741–1751.
- Grant, E.H.C., Nichols, J.D., Lowe, W.H., Fagan, W.F., 2010. Use of multiple dispersal pathways facilitates amphibian persistence in stream networks. Proceedings of the National Academy of Sciences 107, 6936–6940.
- Green, P., Richardson, S., 2002. Hidden Markov models and disease mapping. Journal of the American Statistical Association 97, 1055–1070.
- Greig-Smith, P., 1964. Quantitative, Plant Ecology. Butterworths (Washington).
- Grimm, V., Revilla, E., Berger, U., Jeltsch, F., Mooij, W., Railsback, S., Thulke, H.-H., Weiner, J., Wiegand, T., DeAngelis, D., 2005. Pattern-oriented modeling of agent-based complex systems: lessons from ecology. Science 310, 987–991.
- Hahn, T., Bouvier, A., Kiêu, K., 2010. R2Cuba: multidimensional numerical integration. R package version 1.0-6.
- Hall, R.J., Henry, P.F.P., Bunck, C.M., 1999. Fifty-year trends in a box turtle population in Maryland. Biological Conservation 88, 165–172.
- Hanks, E.M., Hooten, M.B., in press. Circuit theory and model-based inference for landscape connectivity. Journal of the American Statistical Association.
- Hanski, I.A., 1999. Metapopulation Ecology. Oxford University Press.
- Hardin, R.H., Sloane, N.J.A., 1993. A new approach to the construction of optimal designs. Journal of Statistical Planning and Inference 37, 339–369.
- Hastings, W., 1970. Monte Carlo sampling methods using Markov chains and their applications. Biometrika 57, 97–109.
- Hawkins, C.E., Racey, P.A., 2005. Low population density of a tropical forest carnivore, cryptoprocta ferox: implications for protected area management, Oryx 39, 35–43.
- Hayes, R.J., Buckland, S.T., 1983. Radial distance models for the line transect method. Biometrics 39, 29–42.
- Hayne, D., 1950. Apparent home range of Microtus in relation to distance between traps. Journal of Mammalogy 31, 26–39.
- Hayne, D.W., 1949. An examination of the strip census method for estimating animal populations. Journal of Wildlife Management 13, 145–157.
- Hedley, S.L., Buckland, S.T., Borchers, D.L., 1999. Spatial modelling from line transect data. Journal of Cetacean Research and Management 1, 255–264.
- Hendriks, I., Tenan, S., Tavecchia, G., Marbá, N., Jordá, G., Deudero, S., Álvarez, E., Duarte, C.M., 2013. Boat anchoring impacts coastal populations of the pen shell, the largest bivalve in the Mediterranean. Biological Conservation 160, 105–113.

- Hestbeck, J.B., Malecki, R.A., 1989. Mark-resight estimate of Canada Goose midwinter numbers. Journal of Wildlife Management 53, 749–752.
- Hijmans, R.J., van Etten, J., 2012. Raster: geographic analysis and modeling with raster data. R package version 1.9-67.
- Hines, J.E., Kendall, W.L., Nichols, J.D., 2003. On the use of the robust design with transient capture-recapture models. Auk 120, 1151–1158.
- Hobbs, N.T., 2011. An Ecological Modeler's Primer on JAGS.
- Holdenried, R., 1940. A population study of the long-eared chipmunk (Eutamias quadrimaculatus) in the central Sierra Nevada. Journal of Mammalogy 21, 405–411.
- Hooten, M., Johnson, D., Hanks, E., Lowry, J., 2010. Agent-based inference for animal movement and selection. Journal of Agricultural, Biological, and Environmental Statistics 15, 523–538.
- Hooten, M., Wikle, C., 2010. Statistical agent-based models for discrete spatio-temporal systems. Journal of the American Statistical Association 105, 236–248. Hornik, K., 2011. The R FAQ. ISBN 3-900051-08-9.
- Huggins, R.M., 1989. On the statistical analysis of capture experiments. Biometrika 76, 133.
- Hurlbert, S.H., 1984. Pseudoreplication and the design of ecological field experiments. Ecological monographs 54, 187–211.
- Illian, J., Penttinen, A., Stoyan, H., Stoyan, D., 2008. Statistical Analysis and Modelling of Spatial Point Patterns. Wiley.
- Ivan, J., 2012. Density, demography, and seasonal movements of snowshoe hares in central Colorado, PhD Thesis. Colorado State University.
- Ivan, J., White, G., Shenk, T., 2013a. Using auxiliary telemetry information to estimate animal density from capture-recapture data, Ecology.
- Ivan, J., White, G., Shenk, T., 2013b. Using simulation to compare methods for estimating density from capture-recapture data, Ecology.
- Jackson, R., Roe, J., Wangchuk, R., Hunter, D., 2006. Estimating snow leopard population abundance using photography and capture-recapture techniques. Wildlife Society Bulletin 34, 772–781.
- Jennelle, C.S., Runge, M.C., MacKenzie, D.I., 2002. The use of photographic rates to estimate densities of tigers and other cryptic mammals: a comment on misleading conclusions. Animal Conservation 5, 119–120.
- Jett, D.A., Nichols, J.D., 1987. A field comparison of nested grid and trapping web density estimators. Journal of Mammalogy 68, 888–892.
- Jhala, Y.V., Qureshi, Q., Gopal, R., Sinha, P.R., 2011. Status of tigers, co-predators and prey in India. Technical Report. National Tiger Conservation Authority, Government of India, New Delhi and Wildlife Institute of India, Dehradun.
- Johnson, 2010. A model-based approach for making ecological inference from distance sampling data. Biometrics 66, 310–318.
- Johnson, D., 1980. The comparison of usage and availability measurements for evaluating resource preference. Ecology 61, 65–71.
- Johnson, D.H., 1999. The insignificance of statistical significance testing. Journal of Wildlife Management 63, 763–772.

- Johnson, D.S., London, J.M., Lea, M.A., Durban, J., 2008a. Continuous-time correlated random walk model for animal telemetry data. Ecology 89, 1208–1215.
- Johnson, D.S., Thomas, D.L., Ver Hoef, J.M., Christ, A., 2008b. A general framework for the analysis of animal resource selection from telemetry data. Biometrics 64, 968–976.
- Jolly, G.M., 1965. Explicit estimates from capture-recapture data with both death and dilution-stochastic model. Biometrika 52, 225–247.
- Jonsen, I.D., Flemming, J.M., Myers, R.A., 2005. Robust state-space modeling of animal movement data. Ecology 86, 2874–2880.
- Kadane, J.B., Lazar, N.A., 2004. Methods and criteria for model selection. Journal of the American Statistical Association 99, 279–290.
- Karanth, K.U., 1995. Estimating tiger Panthera tigris populations from camera-trap data using capture-recapture models. Biological Conservation 71, 333–338.
- Karanth, K.U., Nichols, J.D., 1998. Estimation of tiger densities in India using photographic captures and recaptures. Ecology 79, 2852–2862.
- Karanth, K.U., Nichols, J.D., 2000. Ecological status and conservation of tigers in India, WCS, US Fish and Wildlife Service. Centre for Wildlife Studies, Bangalore, India, p. 123.
- Karanth, K.U., Nichols, J.D., 2002. Monitoring tigers and their prey: a manual for researchers, managers and conservationists in {T}ropical {A}sia. Centre for Wildlife Studies, Bangalore, India.
- Kass, R., Wasserman, L., 1996. The selection of prior distributions by formal rules. Journal of the American Statistical Association 91, 1343–1370.
- Kays, R.W., Slauson, K.M., Long, R.A., MacKay, P., Zielinski, W.J., Ray, J.C., 2008. Remote cameras. Noninvasive survey methods for carnivores, 110–140.
- Kelly, M., Noss, A., Di Bitetti, M., Maffei, L., Arispe, R., Paviolo, A., De Angelo, C., Di Blanco, Y., 2008. Estimating puma densities from camera trapping across three study sites: Bolivia. Argentina, and Belize. Journal of Mammalogy 89, 408–418.
- Kendall, K.C., Stetz, J.B., Boulanger, J., Macleod, A.C., Paetkau, D., White, G.C., 2009. Demography and genetic structure of a recovering grizzly bear population. Journal of Wildlife Management 73, 3–16.
- Kendall, W.L., 1999. Robustness of closed capture-recapture methods to violations of the closure assumption. Ecology 80, 2517–2525.
- Kendall, W.L., Nichols, J.D., Hines, J.E., 1997. Estimating temporary emigration using capture-recapture data with Pollock's Robust design. Ecology 78, 563–578.
- Kéry, M., 2008. Estimating abundance from bird counts: binomial mixture models uncover complex covariate relationships. Auk 125, 336–345.
- Kéry, M., 2010. Introduction to WinBUGS for Ecologists: Bayesian Approach to Regression, Mixed Models and Related Analyses. Academic Press, ANOVA.
- Kéry, M., 2011. Towards the modelling of true species distributions. Journal of Biogeography 38, 617–618.
- Kéry, M., Gardner, B., Monnerat, C., 2010. Predicting species distributions from checklist data using site-occupancy models. Journal of Biogeography 37, 1851–1862.

- Bibliography
- Kéry, M., Gardner, B., Stoeckle, T., Weber, D., Royle, J.A., 2011. Use of spatial capture-recapture modeling and DNA data to estimate densities of elusive animals. Conservation Biology 25, 356–364.
- Kéry, M., Royle, J.A., Schmid, H., 2005. Modeling avian abundance from replicated counts using binomial mixture models. Ecological Applications 15, 1450–1461.
- Kéry, M., Schaub, M., 2012. Bayesian Population Analysis Using WinBugs. Academic Press.
- Kiefer, J., 1959. Optimal experimental designs (with discussion). Journal of the Royal Statistical Society, Series B, 272–319.
- King, R., Brooks, S., 2001. On the Bayesian analysis of population size. Biometrika 88, 317–336.
- King, R., Brooks, S., Coulson, T., 2008. Analyzing complex capture-recapture data in the presence of individual and temporal covariates and model uncertainty. Biometrics 64, 1187–1195.
- Knape, Jonas, de Valpine, P., 2012. Are patterns of density dependence in the Global Population Dynamics Database driven by uncertainty about population abundance? Ecology Letters 15, 17–23.
- Knaus, J., 2010. Snowfall: easier cluster computing (based on snow). R package version 1.8-4.
- Koehler, G.M., Pierce, D.J., 2003. Black bear home-range sizes in Washington: climatic, vegetative, and social influences. Journal of Mammalogy 84, 81–91 (ArticleType: research-article/ Full publication date: Feb., 2003/ Copyright 2003 American Society of Mammalogists).
- Kohn, M., York, E., Kamradt, D., Haught, G., Sauvajot, R., Wayne, R., 1999. Estimating population size by genotyping faeces. Proceedings of the Royal Society of London. Series B: Biological Sciences 266, 657–663.
- Krebs, C.J., 1999. Ecological Methodology. Benjamin/Cummings, Menlo Park, CA. Kucera, B., 2011.
- Kuo, L., Mallick, B., 1998. Variable selection for regression models, Sankhy: The Indian Journal of Statistics, Series B 60, 65–81.
- Laird, N.M., Ware, J.H., 1982. Random-effects models for longitudinal data. Biometrics 38, 963–974.
- Langtimm, C.A., Dorazio, R.M., Stith, B.M., Doyle, T.J., 2011. New aerial survey and hierarchical model to estimate manatee abundance. Journal of Wildlife Management 75, 399–412.
- Le Cam, L., 1990. Maximum likelihood: an introduction. International Statistical Review/Revue Internationale de Statistique 58, 153–171.
- Lebreton, J.D., Burnham, K.P., Clobert, J., Anderson, D.R., 1992. Modeling survival and testing biological hypotheses using marked animals: a unified approach with case studies. Ecological Monographs 62, 67–118.
- Leggett, W.C., Carscadden, J.E., 1978. Latitudinal variation in reproductive characteristics of American shad (Alosa sapidissima): evidence for population specific life history strategies in fish. Journal of the Fisheries Research Board of Canada 35, 1469–1477.

AU:7

- Lele, S.R., Keim, J.L., 2006. Weighted distributions and estimation of resource selection probability functions. Ecology 87, 3021–3028.
- Lele, S.R., Moreno, M., Bayne, E., 2012. Dealing with detection error in site occupancy surveys: what can we do with a single survey? Journal of Plant Ecology.
- Lele, S.R., Nadeem, K., Schmuland, B., 2010. Estimability and likelihood inference for generalized linear mixed models using data cloning. Journal of the American Statistical Association 105, 1617–1625.
- Leonard, J.B.K., McCormick, S.D., 1999. Effects of migration distance on whole-body and tissue-specific energy use in American shad (Alosa sapidissima). Canadian Journal of Fisheries and Aquatic Sciences 56, 1159–1171.
- Lewin-Koh, N.J., Bivand, R., contributions by Edzer J. Pebesma, Archer, E., Baddeley,
  A., Bibiko, H.-J., Dray, S., Forrest, D., Friendly, M., Giraudoux, P., Golicher, D.,
  Rubio, V.G., Hausmann, P., Hufthammer, K.O., Jagger, T., Luque, S.P., MacQueen,
  D., Niccolai, A., Short, T., Stabler, B., Turner, R., 2011. Maptools: Tools for reading and handling spatial objects. R package version 0.8-10.
- Lichstein, J.W., Simons, T.R., Shriner, S.A., Franzreb, K.E., 2002. Spatial autocorrelation and autoregressive models in ecology. Ecological Monographs 72, 445–463.
- Link, W., 2003. Nonidentifiability of population size from capture-recapture data with heterogeneous detection probabilities. Biometrics 59, 1123–1130.
- Link, W.A., in review. A cautionary note on the discrete uniform prior for the binomial *N*.
- Link, W.A., Barker, R.J., 1994. Density estimation using the trapping web design: a geometric analysis. Biometrics 50, 733–745.
- Link, W.A., Barker, R.J., 2005. Modeling association among demographic parameters in analysis of open population capture-recapture data. Biometrics 61, 46–54.
- Link, W.A., Barker, R.J., 2006. Model weights and the foundations of multimodel inference. Ecology 87, 2626–2635.
- Link, W.A., Barker, R.J., 2010. Bayesian Inference: With Ecological Applications. Academic Press, London, UK.
- Link, W.A., Eaton, M.J., 2011. On thinning of chains in MCMC. Methods in Ecology and Evolution 3, 112–115.
- Link, W.A., Yoshizaki, J., Bailey, L.L., Pollock, K.H., 2010. Uncovering a latent multinomial: analysis of markrecapture data with misidentification. Biometrics 66, 178–185.
- Liu, Wu, 1999. Parameter expansion for data augmentation. Journal of American Statistical Association 94, 1264–1274.
- Lukacs, P.M., Burnham, K.P., 2005. Estimating population size from DNA-based closed capture-recapture data incorporating genotyping error. Journal of Wildlife Management 69, 396–403.
- Lunn, D., Spiegelhalter, D., Thomas, A., Best, N., 2009. The BUGS project: evolution, critique, and future directions. Statistics in Medicine 28, 3049–3067.
- Lunn, D.J., Thomas, A., Best, N., Spiegelhalter, D., 2000. WinBUGS-a Bayesian modelling framework: concepts, structure, and extensibility. Statistics and Computing 10, 325–337.

- Mace, R., Minta, S., Manley, T., Aune, K., 1994. Estimating grizzly bear population size using camera sightings. Wildlife Society Bulletin 22, 74–83.
- MacEachern, S.N., Berliner, L.M., 1994. Subsampling the Gibbs sampler. American Statistician 48, 188–190.
- MacKay, P., Smith, D.A., Long, R.A., Parker, M., Long, R.A., MacKay, P., Zielinski, W.J., Ray, J.C., 2008. Scat detection dogs. Noninvasive survey methods for carnivores, 183–222.
- MacKenzie, D.I., Nichols, J.D., Lachman, G.B., Droege, S., Royle, J.A., Langtimm, C.A., 2002. Estimating site occupancy rates when detection probabilities are less than one. Ecology 83, 2248–2255.
- MacKenzie, D.I., Nichols, J.D., Royle, J.A., Pollock, K.H., Bailey, L.L., Hines, J.E., 2006. Occupancy Estimation and Modeling: Inferring Patterns and Dynamics of Species Occurrence. Academic Press.
- Maffei, L., Noss, A.J., 2008. How small is too small? Camera trap survey areas and density estimates for ocelots in the Bolivian Chaco. Biotropica 40, 71–75.
- Magoun, A.J., Long, C.D., Schwartz, M.K., Pilgrim, K.L., Lowell, R.E., Valkenburg, P., 2011. Integrating motion-detection cameras and hair snags for wolverine identification. Journal of Wildlife Management 75, 731–739.
- Manel, S., Schwartz, M.K., Luikart, G., Taberlet, P., 2003. Landscape genetics: combining landscape ecology and population genetics. Trends in Ecology and Evolution 18, 189–197.
- Manly, B., McDonald, L., Thomas, D., McDonald, T., Erickson, W., 2002. Resource Selection by Animals: Statistical Design and Analysis for Field Studies, second ed. Springer.
- Marques, T., Buckland, S., Borchers, D., Tosh, D., McDonald, R., 2010. Point transect sampling along linear features. Biometrics 66, 1247–1255.
- Marques, T., Thomas, L., Ward, J., DiMarzio, N., Tyack, P., 2009. Estimating cetacean population density using fixed passive acoustic sensors: an example with Blainville's beaked whales. Journal of the Acoustical Society of America 125, 1982.
- Marques, T.A., Thomas, L., Royle, J.A., 2011. A hierarchical model for spatial capture-recapture data: comment. Ecology 92, 526–528.
- Matechou, E., Morgan, B.J.T., Pledger, S., Collazo, J.A., Lyons, J.E., 2013. Integrated analysis of capture-recapture-resighting data and counts of unmarked birds at stop-over sites. Journal of Agricultural, Biological, and Environmental Statistics.
- Matthysen, E., 2005. Density-dependent dispersal in birds and mammals. Ecography 28, 403–416.
- McCarthy, M.A., 2007. Bayesian Methods for Ecology. Cambridge University Press, Cambridge.
- McClintock, B., Hoeting, J., 2010. Bayesian analysis of abundance for binomial sighting data with unknown number of marked individuals. Environmental and Ecological Statistics 17, 317–332.
- McClintock, B., King, Thomas, Matthiopoulos, McConnell, Morales, 2012. A general discrete-time modeling framework for animal movement using multi-state random walks. Ecological Monographs 82, 335–349.

- McClintock, B., White, G., 2012. From NOREMARK to MARK: software for estimating demographic parameters using mark-resight methodology. Journal of Ornithology 152, 641–650.
- McClintock, B., White, G., Antolin, M., Tripp, D., 2009a. Estimating abundance using mark-resight when sampling is with replacement or the number of marked individuals is unknown. Biometrics 65, 237–246.
- McClintock, B., White, G., Burnham, K., 2006. A robust design mark-resight abundance estimator allowing heterogeneity in resighting probabilities. Journal of Agricultural, Biological, and Environmental Statistics 11, 231–248.
- McClintock, B.T., Conn, P., Alonso, R., Crooks, K.R. in press. Integrated modeling of bilateral photo-identification data in mark-recapture analyses. Ecology. http://dx.doi.org/10.1890/12-1613.1.
- McClintock, B.T., White, G.C., 2009. A less field-intensive robust design for estimating demographic parameters with markresight data. Ecology 90, 313–320.
- McClintock, B.T., White, G.C., Burnham, K.P., Pryde, M.A., 2009b. A generalized mixed effects model of abundance for mark-resight data when sampling is without replacement. In: Thomson, D. (Ed.), Modeling Demographic Processes in Marked Populations. Springer, New York, pp. 271–289.
- McCullagh, P., Nelder, J.A., 1989. Generalized Linear Models. Chapman & Hall/CRC.
- McRae, B.H., Beier, P., 2007. Circuit theory predicts gene flow in plant and animal populations. Proceedings of the National Academy of Sciences 104, 19885–19890.
- McRae, B.H., Dickson, B.G., Keitt, T.H., Shah, V.B., 2008. Using circuit theory to model connectivity in ecology, evolution, and conservation. Ecology 89, 2712–2724.
- Metropolis, N., Rosenbluth, A., Rosenbluth, M., Teller, A., Teller, E., et al., 1953. Equation of state calculations by fast computing machines. Journal of Chemical Physics 21, 1087–1092.
- Metropolis, N., Ulam, S., 1949. The Monte Carlo method. Journal of the American Statistical Association 44, 335–341.
- Meyer, R.K., Nachtsheim, C.J., 1995. The coordinate-exchange algorithm for construction exact optimal experiemental designs. Technometrics 37 (1), 60–69.
- Millar, R.B., 2009. Comparison of hierarchical Bayesian models for overdispersed count data using DIC and Bayes' factors. Biometrics 65, 962–969.
- Mills, L.S., Citta, J.J., Lair, K.P., Schwartz, M.K., Tallmon, D.A., 2000. Estimating animal abundance using noninvasive DNA sampling: promise and pitfalls. Ecological Applications 10, 283–294.
- Minta, S., Mangel, M., 1989. A simple population estimate based on simulation for capture-recapture and capture-resight data. Ecology 70, 1738–1751.
- Mitchell, T.J., 1974. An algorithm for the construction of D-optimal experimental designs. Techometrics, 203–210.
- Mohr, C., 1947. Table of equivalent populations of North American small mammals. American Midland Naturalist 37, 223–249.

AU:9

561

- Molinari-Jobin, A., Kéry, M., Marboutin, E., Marucco, F., Zimmermann, F., Molinari, P., Frick, H., Wölfl, S., Bled, F., Breitenmoser-Würsten, C., Fuxjäger, C., Huber, T., I., K., Kos, I., Manfred Wölfl, M., Breitenmoser, U., 2013. Mapping range dynamics from opportunistic data: spatio-temporal distribution modeling of lynx Lynx lynx L. in the Alps. Biological Conservation, xx, xxxx–xxxx.
- Mollet, P., Kéry, M., Gardner, B., Pasinelli, G., A, R.J., in review. Population size estimation for capercaille (Tetrao urogallus L.) using DNA-based individual recognition and spatial capture-recapture models.
- Morrison, M.L., Strickland, M.D., Block, W.M., Collier, B.A., Peterson, M.J., 2008. Wildlife Study Design. Springer.
- Müller, W.G., 2007. Collecting Spatial Data: Optimum Design of Experiments for Random Fields. Springer.
- Murdoch, W.W., 1994. Population redulation in theory and practice. Ecology 75, 271–287.
- Neal, A., White, G., Gill, R., Reed, D., Olterman, J., 1993. Evaluation of mark-resight model assumptions for estimating mountain sheep numbers. Journal of Wildlife Management 57, 436–450.
- Neal, A.K. 1990. Evaluation of Mark-Resight Population Estimates using Simulations and Field Data from Mountain Sheep. MS Thesis, Colorado State University, Fort Collins, Colorado, USA.
- Neal, R., 2003. Slice sampling. Annals of Statistics 31, 705–741.
- Nelder, J.A., Wedderburn, R.W.M., 1972. Generalized linear models, Journal of the Royal Statistical Society. Series A (General) 135, 370–384.
- Nichols, J., Pollock, K., 1990. Estimation of recruitment from immigration versus in situ reproduction using Pollock's robust design. Ecology, 21–26.
- Nichols, J., Thomas, L., Conn, P., 2009. Inferences about landbird abundance from count data: recent advances and future directions. Modeling Demographic Processes in Marked Populations, 201–235.
- Nichols, J.D., Hines, J.E., Lebreton, J.-D., Pradel, R., 2000a. Estimation of contributions to population growth: a reverse-time capture-recapture approach. Ecology 81 (2), 3362–3376.
- Nichols, J.D., Hines, J.E., Pollock, K.H., Hinz, R.L., Link, W.A., 1994. Estimating breeding proportions and testing hypotheses about costs of reproduction with capture-recapture data. Ecology 75, 2052–2065.
- Nichols, J.D., Hines, J.E., Sauer, J.R., Fallon, F.W., Fallon, J.E., Heglund, P.J., 2000b. A double-observer approach for estimating detection probability and abundance from point counts. Auk 117, 393–408.
- Nichols, J.D., Karanth, K.U., 2002. Statistical concepts: assessing spatial distributions. In: Karanth, K.U., Nichols, J.D., (Eds.), Monitoring tigers and their prey: a manual for researchers, managers and conservationists in Tropical Asia. Centre for Wildlife Studies, Bangalore, India, pp. 29–38.
- Niemi, A., Fernández, C., 2010. Bayesian spatial point process modeling of line transect data. Journal of Agricultural, Biological, and Environmental Statistics 15, 327–345.

- Norris, J.L., Pollock, K.H., 1996. Nonparametric MLE under two closed capture-recapture models with heterogeneity. Biometrics 52, 639–649.
- Nowak, R.M., 1999. Walker's Mammals of the World, vol 1, sixth ed. John's Hopkins University Press, first printing ed, Baltimore.
- Nychka, D., Yang, Q., Royle, J.A., 1997. Constructing spatial designs for monitoring air pollution using regression subset selection. Statistics for the Environment: Pollution Assessment and Control, vol. 3, pp. 131–154.
- O'Brien, T, 2011. Abundance, density and relative abundance: a conceptual framework. In: O'Connel, A.F.J., Nichols, J.D., Karanth, U. (Eds.), Camera Traps in Animal Ecology: Methods and Analyse. Springer Verlag, Tokyo, Japan, pp. 71–96.
- O'Connell, A.F., Nichols, J.D., Karanth, U.K., 2010. Camera Traps in Animal Ecology: Methods and Analyses. Springer,
- O'Hara, R., Sillanpää, M., 2009. A review of Bayesian variable selection methods: what, how and which. Bayesian Analysis 4, 85–118.
- Otis, D.L., Burnham, K.P., White, G.C., Anderson, D.R., 1978. Statistical inference from capture data on closed animal populations. Wildlife Monographs, 3–135.
- Ovaskainen, O., 2004. Habitat-specific movement parameters estimated using mark-recapture data and a diffusion model. Ecology 85, 242–257.
- Ovaskainen, O., Rekola, H., Meyke, E., Arjas, E., 2008. Bayesian methods for analyzing movements in heterogeneous landscapes from mark-recapture data. Ecology 89, 542–554.
- Parmenter, R.R., MacMahon, J.A., 1989. Animal density estiamtion using a trapping web design: field validation experiments. Ecology 70, 169–179.
- Parmenter, R.R., Yates, T.L., Anderson, D.R., Burnham, K.P., Dunnum, J.L., Franklin, A.B., Friggens, M.T., Lubow, B.C., Miller, M., Olson, G.S., et al., 2003. Small-mammal density estimation: a field comparison of grid-based vs. web-based density estimators. Ecological Monographs 73, 1–26.
- Patterson, T., Thomas, L., Wilcox, C., Ovaskainen, O., Matthiopoulos, J., 2008. Statespace models of individual animal movement. Trends in Ecology and Evolution 23, 87–94.
- Paviolo, A., De Angelo, C., Di Blanco, Y., Di Bitetti, M., 2008. Jaguar Panthera onca population decline in the Upper Paraná Atlantic Forest of Argentina and Brazil. Oryx 42, 554.
- Paviolo, A., Di Blanco, Y., De Angelo, C., Di Bitetti, M., 2009. Protection affects the abundance and activity patterns of pumas in the Atlantic Forest. Journal of Mammalogy 90, 926–934.
- Pebesma, E., Bivand, R., 2011. Package sp. R package version 0.9-91.
- Pledger, S., 2004. Unified maximum likelihood estimates for closed capture-recapture models using mixtures. Biometrics 56, 434–442.
- Pledger, S., Efford, M., Pollock, K., Collazo, J., Lyons, J., 2009. Stopover duration analysis with departure probability dependent on unknown time since arrival. Modeling Demographic Processes in Marked populations 3, 349–363.
- Plummer, M., 2003. JAGS: A program for analysis of Bayesian graphical models using Gibbs sampling. In: Proceedings of the 3rd International Workshop on Distributed Statistical Computing (DSC 2003). March, pp. 20–22.

- Plummer, M., 2009. rjags: Bayesian graphical models using memc. R package version 1.0.3-12.
- Plummer, M., 2011. rjags: Bayesian graphical models using mcmc. R package version
- Plummer, M., Best, N., Cowles, K., Vines, K., 2006. CODA: convergence diagnosis and output analysis for MCMC. R News 6, 7–11.
- Pollock, K.H., 1982. A capture-recapture design robust to unequal probability of capture. Journal of Wildlife Management 46, 752–757.
- Pollock, K.H., Nichols, J.D., Brownie, C., Hines, J.E. 1990. Statistical inference for capture-recapture experiments. Wildlife Monographs, 3–97.
- Porneluzi, P.A., Faaborg, J., 1999. Season long fecundity, survival, and viability of Ovenbirds in fragmented and unfrangmented landscapes. Conservation Biology 13, 1151–1161.
- Pradel, R., 1996. Utilization of capture-mark-recapture for the study of recruitment and population growth rate. Biometrics 52, 703–709.
- Pradel, R., Hines, J.E., Lebreton, J.D., Nichols, J.D., 1997. Capture-Recapture Survival Models Taking Account of Transients. Biometrics 53, 60–72.
- Raabe, J. 2012. Factors Influencing Distribution and Survival of Migratory Fishes following Multiple Low-Head Dam Removals on a North Carolina River. Ph.D dissertation. Ph.D Thesis, North Carolina State University, Raleigh, NC.
- Rathbun, S., 1996. Estimation of Poisson intensity using partially observed concomitant variables. Biometrics 52, 226–242.
- Rathbun, S., Cressie, N., 1994. A space-time survival point process for a longleaf pine forest in southern Georgia. Journal of the American Statistical Association 89, 1164–1174.
- Rathbun, S., Shiffman, S., Gwaltney, C., 2007. Modelling the effects of partially observed covariates on Poisson process intensity. Biometrika 94, 153–165.
- Reich, B.J., Gardner, B., Wilting, A., 2012. A spatial capture-recapture model for territorial species. Biometrics in review, xx, xx–xxx.
- Robert, C.P., Casella, G., 2004. Monte Carlo Statistical Methods, Springer, New York, USA.
- Robert, C.P., Casella, G., 2010. Introducing Monte Carlo Methods with R, Springer, New York, USA.
- Roberts, G.O., Rosenthal, J.S., 1998. Optimal scaling of discrete approximations to Langevin diffusions. Journal of the Royal Statistical Society: Series B (Statistical Methodology) 60, 255–268.
- Rowcliffe, J., Carbone, C., Jansen, P.A., Kays, R., Kranstauber, B., 2011. Quantifying the sensitivity of camera traps: an adapted distance sampling approach. Methods in Ecology and Evolution 2, 464–476.
- Rowcliffe, J.M., Field, J., Turvey, S.T., Carbone, C., 2008. Estimating animal density using camera traps without the need for individual recognition. Journal of Applied Ecology 45, 1228–1236.
- Royle, J., Kéry, M., Guélat, J., 2011a. Spatial capture-recapture models for search-encounter data. Methods in Ecology and Evolution 2, 602–611.

- Royle, J.A., 2004a. Generalized estimators of avian abundance from count survey data. Animal Biodiversity and Conservation 27, 375–386.
- Royle, J.A., 2004b. N-mixture models for estimating population size from spatially replicated counts. Biometrics 60, 108–115.
- Royle, J.A., 2006. Site occupancy models with heterogeneous detection probabilities. Biometrics 62, 97–102.
- Royle, J.A., 2008. Modeling individual effects in the Cormack-Jolly-Seber model: a state-space formulation. Biometrics 64, 364–370.
- Royle, J.A., 2009a. Analysis of capture-recapture models with individual covariates using data augmentation. Biometrics 65, 267–274.
- Royle, J.A., 2009b. Analysis of capture-recapture models with individual covariates using data augmentation. Biometrics 65, 267–274.
- Royle, J.A., Chandler, R.B., 2012. Integrating Resource Selection Information with Spatial Capture-Recapture. arXiv, preprint arXiv:1207.3288.
- Royle, J.A., Chandler, R.B., Gazenski, K.D., Graves, T.A. 2013. Spatial capture-recapture for jointly estimating population density and landscape connectivity. Ecology,
- Royle, J.A., Chandler, R.B., Sun, C., Fuller, A. 2012a, Integrating Resource Selection Information with Spatial Capture-Recapture. needs updated MEE.
- Royle, J.A., Chandler, R.B., Yackulic, C., Nichols, J.D., 2012b. Likelihood analysis of species occurrence probability from presence-only data for modelling species distributions. Methods in Ecology and Evolution 3, 545–554.
- Royle, J.A., Converse, S.J. in review. Hierarchical spatial capture-recapture models: Modeling population density from replicated capture-recapture experiments. Ecology.
- Royle, J.A., Converse, S.J., Link, W.A., 2012c. Data Augmentation for Hierarchical Capture-recapture Models. arXiv, preprint arXiv:1211.5706.
- Royle, J.A., Dawson, D.K., Bates, S., 2004. Modeling abundance effects in distance sampling. Ecology 85, 1591–1597.
- Royle, J.A., Dorazio, R.M., 2006. Hierarchical models of animal abundance and occurrence. Journal of Agricultural, Biological, and Environmental Statistics 11, 249–263.
- Royle, J.A., Dorazio, R.M., 2008. Hierarchical Modeling and Inference in Ecology: the Analysis of Data from Populations, Metapopulations and Communities. Academic Press.
- Royle, J.A., Dorazio, R.M., 2012. Parameter-expanded data augmentation for Bayesian analysis of capture-recapture models. Journal of Ornithology 152, \$521-\$537
- Royle, J.A., Dorazio, R.M., Link, W.A., 2007. Analysis of multinomial models with unknown index using data augmentation. Journal of Computational and Graphical Statistics 16, 67–85.
- Royle, J.A., Dubovsky, J.A., 2001. Modeling spatial variation in waterfowl band-recovery data. Journal of Wildlife Management 65, 726–737.

- Bibliography
- Royle, J.A., Gardner, B. 2011. Hierarchical models for estimating density from trapping arrays. In: O'Connel, A.F.J., Nichols, J.D., Karanth, U., (Eds.), Camera Traps in Animal Ecology: Methods and Analyses. Springer Verlag, Tokyo, Japan, pp. 163–190.
- Royle, J.A., Karanth, K.U., Gopalaswamy, A.M., Kumar, N.S., 2009a. Bayesian inference in camera trapping studies for a class of spatial capture-recapture models. Ecology 90, 3233–3244.
- Royle, J.A., Kéry, M., 2007. A Bayesian state-space formulation of dynamic occupancy models. Ecology 88, 1813–1823.
- Royle, J.A., Link, W.A., 2006. Generalized site occupancy models allowing for false positive and false negative errors. Ecology 87, 835–841.
- Royle, J.A., Magoun, A.J., Gardner, B., Valkenburg, P., Lowell, R.E., 2011b. Density estimation in a wolverine population using spatial capture-recapture models. Journal of Wildlife Management 75, 604–611.
- Royle, J.A., Nichols, J.D., 2003. Estimating abundance from repeated presence-absence data or point counts. Ecology 84, 777–790.
- Royle, J.A., Nichols, J.D., Karanth, K.U., Gopalaswamy, A.M., 2009b. A hierarchical model for estimating density in camera-trap studies. Journal of Applied Ecology 46, 118–127.
- Royle, J.A., Nychka, D., 1998. An algorithm for the construction of spatial coverage designs with implementation in SPLUS. Computers and Geosciences 24, 479–488.
- Royle, J.A., Young, K.V., 2008. A hierarchical model for spatial capture-recapture data. Ecology 89, 2281–2289.
- Russell, R.E., Royle, J.A., Desimone, R., Schwartz, M.K., Edwards, V.L., Pilgrim, K.P., McKelvey, K.S., 2012. Estimating abundance of mountain lions from unstructured spatial samples. Journal of Wildlife Management.
- Rutledge, M., 2013. Impacts of resident Canada geese in a suburban environment, PhD Thesis. North Carolina State University.
- Sacks, J., Welch, W.J., Mitchell, T.P., Wynn, H., 1989. Design and analysis of computer experiments. Statistical Science 4, 409–435.
- Sæther, B.-E., Bakke, 2000. Avian life history variation and contribution of demographic traits to the population growth rate. Ecology 81, 642–653.
- Sæther, B.E., Engen, S., Matthysen, E., 2002. Demographic characteristics and population dynamical patterns of solitary birds. Science 295, 2070–2073.
- Saïd, S., Servanty, S., 2005. The influence of landscape structure on female roe deer home-range size. Landscape Ecology 20, 1003–1012.
- Salom-Pérez, R., Carrillo, E., Sáenz, J., Mora, J., 2007. Critical condition of the jaguar Panthera onca population in Corcovado National Park. Costa Rica, Oryx 41, 51.
- Sanathanan, L., 1972. Estimating the size of a multinomial population. Annals of Mathematical Statistics 43, 142–152.
- Sauer, J.R., Link, W.A., 2002. Hierarchical modeling of population stability and species group attributes from survey data. Ecology 83, 1743–1751.

- Schofield, M., Barker, R., 2008. A unified capture-recapture framework. Journal of Agricultural, Biological, and Environmental Statistics 13, 458–477.
- Schwartz, M.K., Copeland, J.P., Anderson, N.J., Squires, J.R., Inman, R.M., McKelvey, K.S., Pilgrim, K.L., Waits, L.P., Cushman, S.A., 2009. Wolverine gene flow across a narrow climatic niche. Ecology 90, 3222–3232.
- Schwartz, M.K., Monfort, S.L., 2008. Genetic and Endocrine Tools for Carnivore Surveys. Island Press Washington, DC, USA.
- Schwarz, C.J., Arnason, A.N., 1996. A general methodology for the analysis of Capture-recapture experiments in open populations. Biometrics 52, 860–873.
- Schwarz, C.J., Arnason, A.N., 2005. Jolly-Seber models in MARK. In: Cooch, E.G., White, G. (Eds.), Program MARK: A Gentle Introduction, fifth ed.
- Schwarz, C.J., Bailey, R.E., Irvine, J.R., Dalziel, F.C., 1993. Estimating salmon spawning escapement using capture-recapture methods. Canadian Journal of Fisheries and Aquatic Sciences 50, 1181–1191.
- Seber, G.A.F., 1965. A note on the multiple-recapture census. Biometrika 52, 249–259.
- Seber, G.A.F., 1982. The Estimation of Animal Abundance and Related Parameters. Macmillan Publishing Company.
- Sepúlveda, M.A., Bartheld, J.L., Monsalve, R., Gómez, V., Medina-Vogel, G., 2007. Habitat use and spatial behaviour of the endangered Southern river otter (Lontra provocax) in riparian habitats of Chile: conservation implications. Biological Conservation 140, 329–338.
- Shirk, A.J., Wallin, D.O., Cushman, S.A., Rice, C.G., Warheit, K.I., 2010. Inferring landscape effects on gene flow: a new model selection framework. Molecular Ecology 19, 3603–3619.
- Sillett, S., Chandler, R.B., Royle, J.A., Kéry, M., Morrison, S., 2012. Hierarchical distance sampling models to estimate population size and habitat-specific abundance of an island endemic. Ecological Applications.
- Sillett, T., Rodenhouse, N., Holmes, R., 2004. Experimentally reducing neighbor density affects reproduction and behavior of a migratory songbird. Ecology 85, 2467–2477.
- Skalski, J.R., Millspaugh, J.J., Spencer, R.D., 2005. Population estimation and biases in paintball, mark-resight surveys of elk. Journal of Wildlife Management 69, 1043–1052.
- Skaug, H.J., Schweder, T., 1999. Hazard models for line transect surveys with independent observers. Biometrics 55, 29–36.
- Sklyar, O., Murdoch, D., Smith, M., Eddelbuettel, D., François, R., 2010. Inline C, C++. Fortran function calls from R. R package version 0.3.8.
- Smith, D., Smith, M.S., 2006. Estimation of binary Markov random Fields using Markov chain Monte Carlo. Journal of Computational and Graphical Statistics 15, 1–21.
- Smith, M.H., Blessing, R., Chelton, J.G., Gentry, J.B., Golley, F.B., McGinnis, J.T., 1971. Determining density for small mammal populations using a grid and assessment lines. Acta Theriologica 16, 105–125.

- Soisalo, M.K., Cavalcanti, S.M.C., 2006. Close-up space in radio-telemetry. Biological Conservation 129, 487–496.
- Sollmann, R., Furtado, M.M., Gardner, B., Hofer, H., Jacomo, A.T.A., Trres, N.M., Silveira, L., 2011. Improving density estimates for elusive carnivores: accounting for sex-specific detection and movements using spatial capture-recapture models for jaguars in central Brazil. Biological Conservation 144, 1017–1024.
- Sollmann, R., Gardner, B., Belant, J.L., 2012. How does spatial study design influence density estimates from spatial capture-recapture models? PLoS One 7, e34575.
- Sollmann, R., Gardner, B., Chandler, R.B., Shindle, D., Onorato, D.P., Royle, J.A., O'Connell, A.F., in revision. Using multiple data sources provides density estimates for endangered Florida panther. Journal of Applied Ecology.
- Sollmann, R., Gardner, B., Parsons, A., Stocking, J., McClintock, B., Simons, T., Pollock, K., O'Connell, A., 2013a. A spatial mark-resight model augmented with telemetry data. Ecology.
- Sollmann, R., Mohamed, A., Samejima, H., Wilting, A., 2013b. Risky business or simple solution-Relative abundance indices from camera-trapping. Biological Conservation 159, 405–412.
- Sólymos, P., Lele, S., Bayne, E., 2012. Conditional likelihood approach for analyzing single visit abundance survey data in the presence of zero inflation and detection error. Environmetrics 23, 197–205.
- Spiegelhalter, D., Best, N., Carlin, B., Van Der Linde, A., 2002. Bayesian measures of model complexity and fit. Journal of the Royal Statistical Society: Series B (Statistical Methodology) 64, 583–639.
- Stabler, B., 2006. Shapefiles: read and write ESRI shapefiles. R package version 0.6.
- Stanley, T., Burnham, K., 1999. A closure test for time-specific capture-recapture data. Environmental and Ecological Statistics 6, 197–209.
- Stanley, T., Richards, J., 2013. Software review: a program for testing capture-recapture data for closure. Wildlife Society Bulletin 33, 782–785.
- Stevens, Jr. D., Olsen, A., 2004. Spatially balanced sampling of natural resources. Journal of the American Statistical Association 99, 262–278.
- Stevick, P.T., Palsbøll, P.J., Smith, T.D., Bravington, M.V., Hammond, P.S., 2001. Errors in identification using natural markings: rates, sources, and effects on capture-recapture estimates of abundance. Canadian Journal of Fisheries and Aquatic Sciences 58, 1861–1870.
- Stoyan, D., Penttinen, A., 2000. Recent applications of point process methods in forestry statistics. Statistical Science 15, 61–78.
- Strauss, D., 1975. A model for clustering. Biometrika 63, 467–475.
- Sturtz, S., Ligges, U., Gelman, A., 2005. R2WinBUGS: A package for running WinBUGS from R. Journal of Statistical Software 12, 1–16.
- Su, Y.-S., Yajima, M., 2011. R2jags: A Package for running jags from R. R package version 0.02-17.
- Sun, C.C., in press. Population Estimation, Genetic Diversity, and Structure of Black bears in Southwestern New York, Master's Thesis. Cornell University.
- Taberlet, P., Bouvet, J., 1992. Bear conservation genetics. Nature 358, 197–197.

- Takemura, A., 1999. Some superpopulation models for estimating the number of population uniques. In: Proceedings of the International Conference on Statistical Data Protection SDP. Citeseer 98, 45–58.
- Tanner, M.A., Wong, W.H., 1987. The calculation of posterior distributions by data augmentation. Journal of the American Statistical Association 82, 528–540.
- Thomas, A., OHara, B., Ligges, U., Sturtz, S., 2006. Making BUGS Open. R News 6, 12–17.
- Thompson, C., Royle, J.A., Garner, J., 2012. A framework for inference about carnivore density from unstructured spatial sampling of scat using detector dogs. Journal of Wildlife Management 76, 863–871.
- Thompson, S.K., 2002. Sampling. Wiley, New York.
- Tierney, L., Rossini, A.J., Li, N., Sevcikova, H., 2011. Snow: Simple Network of Workstations. R package version 0.3.7.
- Tilman, D., Kareiva, P., 1997. Spatial Ecology: the Role of Space in Population Dynamics and Interspecific Interactions, vol. 30. Princeton University Press.
- Tischendorf, L., Fahrig, L., 2000. On the usage and measurement of landscape connectivity. Oikos 90, 7–19.
- Tischendorf, L., Grez, A., Zaviezo, T., Fahrig, L., 2005. Mechanisms affecting population density in fragmented habitat. Ecology and Society 10, 7.
- Tobler, M., Carrillo-Percastegui, S., Leite Pitman, R., Mares, R., Powell, G., 2008. An evaluation of camera traps for inventorying large-and medium-sized terrestrial rainforest mammals. Animal Conservation 11, 169–178.
- Tobler, M.W., Hibert, F., Debeir, L., Hansen, C., 2012. Density and sustainable harvest estimates for the lowland tapir in the Amazon of French Guiana using a spatial capture-recapture model.
- Tracy, J.A. 2006., Individual-based movement modeling as a tool for conserving connectivity. In: Crooks, K., Sanjayan, M., (Eds.), Connectivity Conservation. Cambridge University Press, pp. 343–368.
- Trolle, M., Kéry, M., 2003. Estimation of ocelot density in the Pantanal using capture-recapture analysis of camera-trapping data. Journal of Mammalogy 84, 607–614.
- Trolle, M., Kéry, M., 2005. Camera-trap study of ocelot and other secretive mammals in the northern Pantanal. Mammalia 69, 409–416.
- Tufto, J., Andersen, R., Linnell, J., 1996. Habitat use and ecological correlates of home range size in a small cervid: the roe deer. Journal of Animal Ecology 65, 715–724.
- Tyre, A.J., Tenhumberg, B., Field, S.A., Niejalke, D., Parris, K., Possingham, H.P., 2003. Improving precision and reducing bias in biological surveys: estimating false-negative error rates. Ecological Applications 13, 1790–1801.
- Valiere, N., Taberlet, P., 2000. Urine collected in the field as a source of DNA for species and individual identification. Molecular Ecology 9, 2150–2152.
- van Etten, J. 2011. Package gdistance. R package version 1.1-2.
- Venables, W., Ripley, B. 2002. Modern Applied Statistics with S, Springer Verlag.
- Venables, W., Smith, D., Team, R.D.C., 2012. An Introduction to R.

should we model overdispersed count data? Ecology 88, 2766–2772.

- Ver Hoef, J., Boveng, P., 2007. Quasi-poisson vs. negative binomial regression: How
- Ver Hoef, J.M., 2012. Who Invented the Delta Method? American Statistician 66, 124–127.
- Wallace, R.B., Gomez, H., Ayala, G., Espinoza, F., 2003. Camera trapping for jaguar (Panthera onca) in the Tuichi Valley, Bolivia. Journal of Neotropical Mammalogy 10, 133–139.
- Wegan, M., Curtis, P., Rainbolt, R., Gardner, B., 2012. Temporal sampling frame selection in DNA-based capture mark-recapture investigations. Ursus 23, 42–51.
- Wegan, M.T. 2008. Aversive conditioning, population estimation, and habitat preference of black bears (Ursus Americanus) on fort drum military installation in Northern New York. PhD Thesis. Cornell University, January.
- Wegge, P., Pokheral, C.P., Jnawali, S.R., 2004. Effects of trapping effort and trap shyness on estimates of tiger abundance from camera trap studies. Animal Conservation 7, 251–256.
- White, G., 1996. NOREMARK: population estimation from mark-resighting surveys. Wildlife Society Bulletin 24, 50–52.
- White, G., Bennetts, R., 1996. Analysis of frequency count data using the negative binomial distribution. Ecology 77, 2549–2557.
- White, G., Shenk, M. 2001. Population estimation with radio-marked inividuals. In: Millspaugh, J., Marzluff, J., (Eds.), Radio Tracking adn animal populations. Academic Press, San Diego, USA, pp. 329–350.
- White, G.C., Anderson, D.R., Burnham, K.P., Otis, D., 1982. Capture-Recapture and Removal Methods for Sampling Closed Populations. Los Alamos National Laboratory, Los Alamos.
- White, G.C., Garrot, R., 1990. Analysis of Wildlife Radiolocation Data, Academic Press, New York, USA.
- White, G.C., Shenk, T.M., 2000. Population Estimation with Radio-Marked Animals. Academic Press, San Diego, California.
- Whitman, J., Ballard, W., Gardner, C. 1986. Home range and habitat use by wolverines in southcentral Alaska. Journal of Wildlife Management, 460–463.
- Wickham, Hadley, 2007. Reshaping data with the reshape package. Journal of Statistical Software, 21.
- Wikle, C.K., 2010. Hierarchical Modeling with spatial data. In: Gelfand, A., Diggle, P., Fuentes, M., Guttorp, P., (Eds.), Handbook of Spatial Statistics. Chapman and Hall, pp. 89–106.
- Williams, B.K., Nichols, J.D., Conroy, M.J., 2002. Analysis and Management of Animal Populations: Modeling, Estimation, and Decision Making. Academic Press.
- Wilson, K.R., Anderson, D.R., 1985a. Evaluation of a density estimator based on a trapping web and distance sampling theory. Ecology 66, 1185–1194.
- Wilson, K.R., Anderson, D.R., 1985b. Evaluation of two density estimators of small mammal population size. Journal of Mammalogy 66, 13–21.
- With, K., Crist, T., 1995. Critical thresholds in species' responses to landscape structure. Ecology 76, 2446–2459.

- Wolpert, R.L., Ickstadt, K., 1998. Poisson/gamma random field models for spatial statistics. Biometrika 85, 251–267.
- Woods, J.G., Paetkau, D., Lewis, D., McLellan, B.N., Proctor, M., Strobeck, C., 1999. Genetic tagging of free-ranging black and brown bears. Wildlife Society Bulletin 27, 616–627.
- Wright, J., Barker, R., Schofield, M., Frantz, A., Byrom, A., Gleeson, D., 2009. Incorporating genotype uncertainty into mark-recapture-type models for estimating abundance using DNA samples. Biometrics 65, 833–840.
- Wynn, H.P., 1970. The sequential generation of D-optimum experimental designs. Annals of Mathematical Statistics 41, 1655–1664.
- Yang, H.C., Chao, A., 2005. Modeling animals' behavioral response by Markov Chain models for capture-recapture experiments. Biometrics 61, 1010–1017.
- Yoshizaki, J., Pollock, K.H., Brownie, C., Webster, R.A., 2009. Modeling misidentification errors in capture-recapture studies using photographic identification of evolving marks. Ecology 90, 3–9.
- Zeller, K., McGarigal, K., Whiteley, A., 2012. Estimating landscape resistance to movement: a review. Landscape Ecology 27, 777–797.
- Zuur, A.F., Ieno, E.N., Walker, N.J., Saveliev, A.A., Smith, G.M., 2009. Mixed Effects Models and Extensions in Ecology with R. Springer Verlag.
- Zylstra, E., Steidl, R., Swann, D., 2010. Evaluating survey methods for monitoring a rare vertebrate, the Sonoran desert tortoise. Journal of Wildlife Management 74, 1311–1318.