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### Data S1

### Code to Run Cluster Spatial Capture-Recapture Vignette

### Author(s) [of the material provided in DataS1.zip]

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### File list (files found within DataS1.zip)

Please list all files contained in this supplement.

Please use courier font for filenames and file extensions.

mcmc.Pack.known.R

sim.Pack.R

vignette.R

SCR0.txt

SCR0\_group.txt

SPIM\_0.1.tar.gz

**Description**

-mcmc.Pack.known.R: contains a function to run the MCMC algorithm for the cluster spatial capture-recapture (SCR) model.

Must be sourced before running vignette.R.

-sim.Pack.R: contains a function to simulate data from the cluster SCR model.

Must be sourced before running vignette.R.

-vignette.R: contains code to simulate data under cluster SCR model assumptions and fit the cluster SCR model to it.

-SCR0.txt: Text file containing JAGS code for the individual-level SCR model applied to the wild dogs.

-SCR0\_group.txt: Text file containing JAGS code for the group-level SCR model applied to the wild dogs.

-SPIM\_0.1.tar.gz: use this to install the version of the R package "SPIM" used in this paper. This version of SPIM should contain a function called "siteup3D". If the version you use does not contain this function, the MCMC algorithm will not work.