mod\_scr\_secr\_assump\_15: "assumption 15"

mod\_scr\_secr\_assump\_16: "assumption 16"

mod\_scr\_secr\_con\_08: "con 8"

mod\_scr\_secr\_con\_09: "con 9"

title\_i\_objective: "Objectives & Resources - State variable"

title\_i\_user\_entry: "Objectives & Resources - Entry point"

title\_i\_num\_cams: "Objectives & Resources - Number of cameras available"

title\_i\_study\_area\_mult: "Study area - Single \*vs\* multiple"

title\_i\_cam\_dens\_gradient: "Site selection constraints - Known density gradient"

title\_i\_cam\_strat\_covar: "Site selection constraints - Stratified by covariates"

title\_i\_cam\_high\_dens: "Site selection constraints - Camera density"

title\_i\_surv\_dur\_min\_max: "Survey duration - Duration (minimum & maximum)"

title\_i\_sp\_asymptote: "Survey duration - Species-accumulation asymptote"

title\_i\_study\_season\_num: "Survey timing - Season(s)"

title\_i\_obj\_targ\_sp: "Target species - Single \*vs.\* multiple"

title\_i\_sp\_info: "Target species - Ecological knowledge"

title\_i\_sp\_type: "Target species - Carnivore / ungulate"

title\_i\_sp\_dens\_low: "Target species - Low density species"

title\_i\_sp\_occ\_restr: "Target species - Occurrence restricted"

title\_i\_sp\_hr\_size: "Target species - Home range size"

title\_i\_sp\_size: "Target species - Body size"

title\_i\_sp\_rarity: "Target species - Rarity"

title\_i\_sp\_detprob\_cat: "Target species - Detection probability"

title\_i\_sp\_behav: "Target species - Behaviour (Investigative)"

title\_i\_sp\_behav\_season: "Target species - Behaviour (Seasonal)"

title\_i\_marking\_code: "Target species - Markings (Marked, unmarked, partially marked)"

title\_i\_marking\_allsub: "Target species - Markings (All or subset marked)"

title\_i\_3ormore\_cat\_ids: "Target species - Markings (Number of categorical identifiers)"

title\_i\_auxillary\_info: "Target species - Additional information obtainable"

title\_i\_aux\_count\_possible: "Target species - Counts of individuals"

title\_i\_focalarea\_calc: "Target species - Focal area measured or detections binned by distance"

title\_i\_cam\_high\_dens: "Target species - Camera density"

title\_i\_sp\_common\_pop\_lg: "Target species - Study population size"

title\_i\_sp\_size\_multi: "Target species (multiple) - Size"

title\_i\_sp\_behav\_mult: "Target species (multiple) - Behaviour"

title\_i\_sp\_rarity\_multi: "Target species (multiple) - Rarity"

title\_i\_sp\_detprob\_cat\_multi: "Target species (multiple) - Detection probability"

ref\_glossary: "/09\_glossary.md"

ref\_glossary2: "./09\_glossary.md"

ref\_glossary3: "../09\_glossary.md"

name\_mod\_name: "Model name"

term\_mod\_name: "Model name here (with ref)"

term\_def\_mod\_name: "this is a definition"

name\_mod\_behaviour: "Behaviour"

name\_mod\_cr\_cmr: "Capture-recapture (CR) / Capture-mark-recapture (CMR)"

name\_mod\_ds: "Distance sampling (DS)"

name\_mod\_is: "Instantaneous sampling (IS)"

name\_mod\_mr: "Mark-resight (MR)"

name\_mod\_nmixture: "N-mixture"

name\_mod\_occupancy: "Occupancy"

name\_mod\_rest: "Random encounter and staying time (REST)"

name\_mod\_rem: "Random encounter model (REM)"

name\_mod\_rai: "Relative abundance indices"

name\_mod\_roylenichols: "Royle-Nichols"

name\_mod\_ste: "Space-to-event (STE)"

name\_mod\_scr\_secr: "Spatial capture-recapture (SCR) / Spatially explicit capture recapture (SECR)"

name\_mod\_sc: "Spatial count (SC) model / Unmarked spatial capture-recapture"

name\_mod\_smr: "Spatial mark-resight "

name\_mod\_2flankspim: "Spatial Partial Identity Model (2-flank SPIM)"

name\_mod\_catspim: "Spatial Partial Identity Model (Categorical SPIM; catSPIM)"

name\_mod\_divers\_rich: "Species diversity & richness"

name\_mod\_inventory: "Species inventory"

name\_mod\_tifc: "Time in front of the camera (TIFC)"

name\_mod\_tte: "Time-to-event (TTE)"

b2: "(- )"

b1: "( - )"

ref\_intext\_figure1\_ref\_id: "In-text ref here"

ref\_intext\_figure2\_ref\_id: "In-text ref here"

ref\_intext\_figure3\_ref\_id: "In-text ref here"

ref\_intext\_figure4\_ref\_id: "In-text ref here"

ref\_intext\_figure5\_ref\_id: "In-text ref here"

ref\_intext\_figure6\_ref\_id: "In-text ref here"

ref\_intext\_figure7\_ref\_id: "In-text ref here"

ref\_intext\_vid1\_ref\_id: "In-text ref here"

ref\_intext\_vid2\_ref\_id: "In-text ref here"

ref\_intext\_vid3\_ref\_id: "In-text ref here"

ref\_intext\_vid4\_ref\_id: "In-text ref here"

ref\_intext\_vid5\_ref\_id: "In-text ref here"

ref\_intext\_vid6\_ref\_id: "In-text ref here"

ref\_intext\_vid7\_ref\_id: "In-text ref here"

ref\_bib\_resource1\_ref\_id: "Full ref here"

ref\_bib\_resource2\_ref\_id: "Full ref here"

ref\_bib\_resource3\_ref\_id: "Full ref here"

ref\_bib\_resource4\_ref\_id: "Full ref here"

ref\_bib\_resource5\_ref\_id: "Full ref here"

ref\_bib\_resource6\_ref\_id: "Full ref here"

ref\_bib\_resource7\_ref\_id: "Full ref here"

ref\_bib\_resource8\_ref\_id: "Full ref here"

ref\_bib\_resource9\_ref\_id: "Full ref here"

ref\_bib\_resource10\_ref\_id: "Full ref here"

ref\_bib\_resource11\_ref\_id: "Full ref here"

ref\_bib\_resource12\_ref\_id: "Full ref here"

ref\_bib\_resource13\_ref\_id: "Full ref here"

name\_obj\_abundance: "Absolute abundance"

name\_obj\_behaviour: "Behaviour"

name\_obj\_density: "Density"

name\_obj\_occupancy: "Occupancy"

name\_obj\_pop\_size: "Population size"

name\_obj\_rel\_abund: "Relative abundance"

name\_obj\_divers\_rich: "Species diversity & richness"

name\_obj\_inventory: "Species inventory"

name\_obj\_vital\_rate: "Vital rates"

field\_access\_method: "\*\*\*Access Method\*\*"

field\_option\_age\_class\_adult: "\*\*Adult\*\*"

field\_age\_class: "\*\*Age Class\*\*"

field\_analyst: "\*\*Analyst\*\*"

field\_animal\_id: "\*\*\*Animal ID\*\*"

term\_baitlure\_audible\_lure: "Audible lure"

term\_baitlure\_bait: "Bait"

field\_baitlure\_bait\_lure\_type: "\*\*Bait\*/Lure Type\*\*"

field\_batteries\_replaced: "\*\*\*Batteries Replaced\*\*"

field\_behaviour: "\*\*\*Behaviour\*\*"

field\_camera\_active\_on\_arrival: "\*\*\*Camera Active On Arrival\*\*"

field\_camera\_active\_on\_departure: "\*\*\*Camera Active On Departure\*\*"

term\_camera\_angle: "Camera angle"

field\_camera\_attachment: "\*\*\*Camera Attachment\*\*"

field\_camera\_damaged: "\*\*\*Camera Damaged\*\*"

term\_camera\_days\_per\_camera\_location: "Camera days per camera location"

field\_camera\_direction: "\*\*\*Camera Direction (degrees)\*\*"

field\_camera\_height: "\*\*Camera Height (m) \*\*"

field\_camera\_id: "\*\*Camera ID\*\*"

term\_camera\_location: "Camera location"

field\_camera\_location\_characteristics: "\*\*\*Camera Location Characteristic(s)\*\*"

field\_camera\_location\_comments: "\*\*\*Camera Location Comments\*\*"

field\_camera\_location\_name: "\*\*Camera Location Name\*\* "

field\_camera\_make: "\*\*Camera Make\*\*"

field\_camera\_model: "\*\*Camera Model\*\*"

field\_camera\_serial\_number: "\*\*Camera Serial Number\*\*"

term\_camera\_spacing: "Camera spacing"

term\_mod\_cr\_cmr: "Capture-recapture (CR) model \*/ Capture-mark-recapture (CMR) model (Karanth, 1995; Karanth & Nichols, 1998)"

term\_mod\_catspim: "Categorical partial identity model (catSPIM) (Augustine et al., 2019; Sun et al., 2022)"

term\_sampledesign\_clustered: "Clustered design"

term\_sampledesign\_convenience: "Convenience design"

term\_crew: "Crew"

term\_cumulative\_det\_probability: "Cumulative detection probability"

term\_density: "Density"

term\_deployment: "Deployment"

field\_deployment\_area\_photo\_numbers: "\*\*\*Deployment Area Photo Numbers\*\*"

term\_deployment\_area\_photos: "Deployment area photos"

field\_deployment\_area\_photos\_taken: "\*\*\*Deployment Area Photos Taken\*\*"

field\_deployment\_comments: "\*\*\*Deployment Comments\*\*"

field\_deployment\_crew: "\*\*Deployment Crew\*\*"

field\_deployment\_end\_date\_time: "\*\*Deployment End Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

field\_deployment\_image\_count: "\*\*\*Deployment Image Count\*\*"

term\_deployment\_metadata: "Deployment metadata"

field\_deployment\_name: "\*\*Deployment Name\*\*"

field\_deployment\_start\_date\_time: "\*\*Deployment Start Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_deployment\_visit: "Deployment visit"

term\_detection\_event: "Detection 'event'"

term\_detection\_distance: "Detection distance"

term\_detection\_probability: "Detection probability (aka detectability)"

term\_detection\_rate: "Detection rate"

term\_detection\_zone: "Detection zone"

term\_mod\_distance\_sampling: "Distance sampling (DS) model (Howe et al., 2017)"

field\_easting\_camera\_location: "\*\*Easting Camera Location\*\*"

term\_effective\_detection\_distance: "Effective detection distance"

field\_event\_type: "\*\*Event Type\*\*"

term\_false\_trigger: "False trigger"

term\_field\_of\_view: "Field of View (FOV)"

term\_settings\_flash\_output: "Flash output"

field\_fov\_target: "\*\*FOV Target Feature\*\*"

field\_fov\_target\_distance: "\*\*\*FOV Target Feature Distance (m)\*\*"

field\_gps\_unit\_accuracy: "\*\*GPS Unit Accuracy (m) \*\*"

field\_human\_transport\_mode\_activity: "\*\*\*Human Transport Mode\*/Activity\*\*"

term\_mod\_hurdle: "Hurdle model (Mullahy, 1986; Heilbron 1994)"

term\_image: "Image"

term\_image\_classification: "Image classification"

term\_image\_classification\_confidence: "Image classification confidence "

field\_image\_flash\_output: "\*\*\*Image Flash Output\*\*"

field\_image\_infrared\_illuminator: "\*\*\*Image Infrared Illuminator"

field\_image\_name: "\*\*Image Name\*\*"

term\_image\_processing: "Image processing"

term\_image\_sequence: "Image Sequence"

field\_image\_set\_end\_date\_time: "\*\*Image Set End Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

field\_image\_set\_start\_date\_time: "\*\*Image Set Start Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_image\_tagging: "Image tagging"

field\_image\_trigger\_mode: "\*\*\*Image Trigger Mode"

field\_image\_sequence\_comments: "\*\*\*Image\*/Sequence Comments"

field\_image\_sequence\_date\_time: "\*\*Image\*/Sequence Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_imperfect\_detection: "Imperfect detection"

term\_independent\_detections: "Independent detections"

field\_individual\_count: "\*\*Individual Count\*\*"

term\_settings\_infrared\_illum: "Infrared illuminator"

term\_mod\_instantaneous\_sampling: "Instantaneous sampling (IS) (Moeller et al., 2018)"

term\_intensity\_of\_use: "Intensity of use (Keim et al., 2019)"

term\_inter\_detection\_interval: "Inter-detection interval"

term\_mod\_inventory: "Inventory"

field\_option\_age\_class\_juvenile: "\*\*Juvenile\*\*"

term\_kernel\_density\_estimator: "Kernel density estimator"

field\_key\_id: "\*\*\*Key ID"

field\_latitude\_camera\_location: "\*\*Latitude Camera Location\*\*"

field\_longitude\_camera\_location: "\*\*Longitude Camera Location\*\*"

term\_baitlure\_lure: "Lure"

term\_typeid\_marked: "Marked individuals \*/ populations \*/ species "

term\_mod\_mr: "Mark-resight (MR) model (Arnason et al., 1991; McClintock et al., 2009)"

term\_metadata: "Metadata"

term\_mod\_modelling\_assumption: "Model assumption"

term\_mod\_modelling\_approach: "Modelling approach"

field\_settings\_motion\_image\_interval: "\*\*Motion Image Interval (seconds)\*\*"

term\_mod\_negative\_binomial: "Negative binomial (NB) regression (Mullahy, 1986)"

field\_cam\_id\_new: "\*\*New Camera ID\*\*"

field\_camera\_make\_new: "\*\*New Camera Make\*\*"

field\_camera\_model\_new: "\*\*New Camera Model\*\*"

field\_camera\_serial\_number\_new: "\*\*New Camera Serial Number\*\*"

field\_sd\_id\_new: "\*\*\*New SD Card ID"

term\_mod\_n\_mixture: "N-mixture models"

field\_northing\_camera\_location: "\*\*Northing Camera Location\*\*"

field\_number\_of\_images: "\*\*\*# Of Images\*\*"

term\_occupancy: "Occupancy"

term\_mod\_occupancy: "Occupancy model (MacKenzie et al., 2002)"

term\_mod\_overdispersion: "Overdispersion"

term\_sampledesign\_paired: "Paired design"

term\_typeid\_partially\_marked: "Partially marked individuals \*/ populations \*/ species "

field\_settings\_photos\_per\_trigger: "\*\*Photos Per Trigger\*\*"

term\_mod\_poisson: "Poisson regression"

term\_project: "Project"

field\_project\_coordinator: "\*\*Project Coordinator\*\*"

field\_project\_coordinator\_email: "\*\*Project Coordinator Email\*\*"

field\_project\_description: "\*\*Project Description\*\*"

field\_project\_name: "\*\*Project Name\*\*"

term\_pseudoreplication: "Pseudoreplication"

field\_purpose\_of\_visit: "\*\*Purpose of Visit\*\*"

field\_settings\_quiet\_period: "\*\*Quiet Period (seconds)\*\*"

term\_sampledesign\_random: "Random (or 'simple random') design"

term\_mod\_rest: "Random encounter and staying time (REST) model (Nakashima et al., 2018)"

term\_mod\_rem: "Random encounter model (REM) (Rowcliffe et al., 2008, 2013)"

term\_recovery\_time: "Recovery time"

term\_fov\_registration\_area: "Registration area"

term\_mod\_relative\_abundance: "Relative abundance indices"

field\_remaining\_battery\_percent: "\*\*\*Remaining Battery (%)"

term\_mod\_royle\_nichols: "Royle-Nichols model (Royle & Nichols, 2003; MacKenzie et al., 2006)"

term\_sample\_station: "Sample station"

field\_sample\_station\_name: "\*\*Sample Station Name\*\*"

term\_baitlure\_scent\_lure: "Scent lure"

field\_sd\_card\_id: "\*\*\*SD Card ID"

field\_sd\_card\_replaced: "\*\*\*SD Card Replaced"

field\_sd\_card\_status: "\*\*\*SD Card Status (% Full)"

field\_security: "\*\*\*Security"

term\_sequence: "Sequence"

field\_sequence\_name: "\*\*Sequence Name\*\*"

term\_service\_retrieval: "Service\*/Retrieval"

field\_service\_retrieval\_comments: "\*\*\*Service\*/Retrieval Comments"

field\_service\_retrieval\_crew: "\*\*Service\*/Retrieval Crew\*\*"

term\_service\_retrieval\_metadata: "Service\*/Retrieval metadata"

term\_service\_retrieval\_visit: "Service\*/Retrieval visit"

field\_sex\_class: "\*\*Sex Class\*\*"

term\_mod\_ste: "Space-to-event (STE) model (Moeller et al., 2018)"

term\_spatial\_autocorrelation: "Spatial autocorrelation"

term\_mod\_sc: "Spatial count (SC) model / Unmarked spatial capture-recapture (Chandler & Royle, 2013)"

term\_mod\_smr: "Spatial mark-resight (SMR) (Chandler & Royle, 2013; Sollmann et al., 2013a, 2013b)"

term\_mod\_2flankspim: "Spatial partial identity model (2-flank SPIM) (Augustine et al., 2018)"

term\_mod\_scr\_secr: "Spatially explicit capture-recapture (SECR) \*/ Spatial capture-recapture (SCR) (Borchers & Efford, 2008; Efford, 2004; Royle & Young, 2008; Royle et al., 2009)"

field\_species: "\*\*Species\*\*"

field\_stake\_distance: "\*\*\*Stake Distance (m)"

term\_state\_variable: "State variable"

term\_sampledesign\_stratified: "Stratified design"

term\_sampledesign\_stratified\_random: "Stratified random design "

term\_study\_area: "Study area"

field\_study\_area\_description: "\*\*Study Area Description\*\*"

field\_study\_area\_name: "\*\*Study Area Name\*\*"

field\_option\_age\_class\_subadult: "\*\*Subadult\*\*"

field\_option\_age\_class\_subadult\_yearling: "\*\*Subadult - Yearling\*\*"

field\_option\_age\_class\_subadult\_youngofyear: "\*\*Subadult - Young of Year\*\*"

term\_survey: "Survey"

field\_survey\_design: "\*\*Survey Design\*\*"

field\_survey\_design\_description: "\*\*\*Survey Design Description"

field\_survey\_name: "\*\*Survey Name\*\*"

field\_survey\_objectives: "\*\*Survey Objectives\*\*"

term\_sampledesign\_systematic: "Systematic design"

term\_sampledesign\_systematic\_random: "Systematic random design"

field\_tag: "\*\*Tag\*\*"

field\_target\_species: "\*\*Target Species\*\*"

term\_sampledesign\_targeted: "Targeted design"

term\_test\_image: "Test image"

field\_test\_image\_taken: "\*\*\*Test Image Taken"

term\_mod\_tifc: "Time in front of the camera (TIFC) (Huggard, 2018; Warbington & Boyce, 2020; tested in Becker et al., 2022)"

term\_timelapse\_image: "Time-lapse image"

term\_mod\_tte: "Time-to-event (TTE) model (Moeller et al., 2018)"

term\_total\_number\_of\_camera\_days: "Total number of camera days"

term\_trigger\_event: "Trigger 'event'"

field\_settings\_trigger\_modes: "\*\*Trigger Mode(s) \*\* (camera settings)"

field\_settings\_trigger\_sensitivity: "\*\*Trigger Sensitivity\*\*"

term\_trigger\_speed: "Trigger speed"

term\_typeid\_unmarked: "Unmarked individuals \*/ populations \*/ species "

term\_settings\_userlabel: "User label"

field\_utm\_zone\_camera\_location: "\*\*UTM Zone Camera Location\*\*"

field\_settings\_video\_length: "\*\*\*Video Length (seconds)"

term\_fov\_viewshed: "Viewshed"

term\_fov\_viewshed\_density\_estimators: "Viewshed density estimators"

term\_visit: "Visit"

field\_visit\_comments: "\*\*\*Visit Comments"

term\_visit\_metadata: "Visit metadata"

term\_baitlure\_visual\_lure: "Visual lure"

term\_walktest: "Walktest"

field\_walktest\_complete: "\*\*\*Walktest Complete"

field\_walktest\_distance: "\*\*\*Walktest Distance (m) \*\*"

field\_walktest\_height: "\*\*\*Walktest Height (m)\*\*"

term\_mod\_zinb: "Zero-inflated negative binomial (ZINB) regression (McCullagh & Nelder, 1989)"

term\_mod\_zip: "Zero-inflated Poisson (ZIP) regression (Lambert, 1992)"

term\_mod\_zero\_inflation: "Zero-inflation"

field\_access\_method: "\*\*\*Access Method\*\*"

field\_option\_age\_class\_adult: "\*\*Adult\*\*"

field\_age\_class: "\*\*Age Class\*\*"

field\_analyst: "\*\*Analyst\*\*"

field\_animal\_id: "\*\*\*Animal ID\*\*"

term\_baitlure\_audible\_lure: "Audible lure"

term\_baitlure\_bait: "Bait"

field\_baitlure\_bait\_lure\_type: "\*\*Bait\*/Lure Type\*\*"

field\_batteries\_replaced: "\*\*\*Batteries Replaced\*\*"

field\_behaviour: "\*\*\*Behaviour\*\*"

field\_camera\_active\_on\_arrival: "\*\*\*Camera Active On Arrival\*\*"

field\_camera\_active\_on\_departure: "\*\*\*Camera Active On Departure\*\*"

term\_camera\_angle: "Camera angle"

field\_camera\_attachment: "\*\*\*Camera Attachment\*\*"

field\_camera\_damaged: "\*\*\*Camera Damaged\*\*"

term\_camera\_days\_per\_camera\_location: "Camera days per camera location"

field\_camera\_direction: "\*\*\*Camera Direction (degrees)\*\*"

field\_camera\_height: "\*\*Camera Height (m) \*\*"

field\_camera\_id: "\*\*Camera ID\*\*"

term\_camera\_location: "Camera location"

field\_camera\_location\_characteristics: "\*\*\*Camera Location Characteristic(s)\*\*"

field\_camera\_location\_comments: "\*\*\*Camera Location Comments\*\*"

field\_camera\_location\_name: "\*\*Camera Location Name\*\* "

field\_camera\_make: "\*\*Camera Make\*\*"

field\_camera\_model: "\*\*Camera Model\*\*"

field\_camera\_serial\_number: "\*\*Camera Serial Number\*\*"

term\_camera\_spacing: "Camera spacing"

term\_mod\_cr\_cmr: "Capture-recapture (CR) model \*/ Capture-mark-recapture (CMR) model (Karanth, 1995; Karanth & Nichols, 1998)"

term\_mod\_catspim: "Categorical partial identity model (catSPIM) (Augustine et al., 2019; Sun et al., 2022)"

term\_sampledesign\_clustered: "Clustered design"

term\_sampledesign\_convenience: "Convenience design"

term\_crew: "Crew"

term\_cumulative\_det\_probability: "Cumulative detection probability"

term\_density: "Density"

term\_deployment: "Deployment"

field\_deployment\_area\_photo\_numbers: "\*\*\*Deployment Area Photo Numbers\*\*"

term\_deployment\_area\_photos: "Deployment area photos"

field\_deployment\_area\_photos\_taken: "\*\*\*Deployment Area Photos Taken\*\*"

field\_deployment\_comments: "\*\*\*Deployment Comments\*\*"

field\_deployment\_crew: "\*\*Deployment Crew\*\*"

field\_deployment\_end\_date\_time: "\*\*Deployment End Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

field\_deployment\_image\_count: "\*\*\*Deployment Image Count\*\*"

term\_deployment\_metadata: "Deployment metadata"

field\_deployment\_name: "\*\*Deployment Name\*\*"

field\_deployment\_start\_date\_time: "\*\*Deployment Start Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_deployment\_visit: "Deployment visit"

term\_detection\_event: "Detection 'event'"

term\_detection\_distance: "Detection distance"

term\_detection\_probability: "Detection probability (aka detectability)"

term\_detection\_rate: "Detection rate"

term\_detection\_zone: "Detection zone"

term\_mod\_distance\_sampling: "Distance sampling (DS) model (Howe et al., 2017)"

field\_easting\_camera\_location: "\*\*Easting Camera Location\*\*"

term\_effective\_detection\_distance: "Effective detection distance"

field\_event\_type: "\*\*Event Type\*\*"

term\_false\_trigger: "False trigger"

term\_field\_of\_view: "Field of View (FOV)"

term\_settings\_flash\_output: "Flash output"

field\_fov\_target: "\*\*FOV Target Feature\*\*"

field\_fov\_target\_distance: "\*\*\*FOV Target Feature Distance (m)\*\*"

field\_gps\_unit\_accuracy: "\*\*GPS Unit Accuracy (m) \*\*"

field\_human\_transport\_mode\_activity: "\*\*\*Human Transport Mode\*/Activity\*\*"

term\_mod\_hurdle: "Hurdle model (Mullahy, 1986; Heilbron 1994)"

term\_image: "Image"

term\_image\_classification: "Image classification"

term\_image\_classification\_confidence: "Image classification confidence "

field\_image\_flash\_output: "\*\*\*Image Flash Output\*\*"

field\_image\_infrared\_illuminator: "\*\*\*Image Infrared Illuminator"

field\_image\_name: "\*\*Image Name\*\*"

term\_image\_processing: "Image processing"

term\_image\_sequence: "Image Sequence"

field\_image\_set\_end\_date\_time: "\*\*Image Set End Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

field\_image\_set\_start\_date\_time: "\*\*Image Set Start Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_image\_tagging: "Image tagging"

field\_image\_trigger\_mode: "\*\*\*Image Trigger Mode"

field\_image\_sequence\_comments: "\*\*\*Image\*/Sequence Comments"

field\_image\_sequence\_date\_time: "\*\*Image\*/Sequence Date Time (DD-MMM-YYYY HH:MM:SS)\*\*"

term\_imperfect\_detection: "Imperfect detection"

term\_independent\_detections: "Independent detections"

field\_individual\_count: "\*\*Individual Count\*\*"

term\_settings\_infrared\_illum: "Infrared illuminator"

term\_mod\_instantaneous\_sampling: "Instantaneous sampling (IS) (Moeller et al., 2018)"

term\_intensity\_of\_use: "Intensity of use (Keim et al., 2019)"

term\_inter\_detection\_interval: "Inter-detection interval"

term\_mod\_inventory: "Inventory"

field\_option\_age\_class\_juvenile: "\*\*Juvenile\*\*"

term\_kernel\_density\_estimator: "Kernel density estimator"

field\_key\_id: "\*\*\*Key ID"

field\_latitude\_camera\_location: "\*\*Latitude Camera Location\*\*"

field\_longitude\_camera\_location: "\*\*Longitude Camera Location\*\*"

term\_baitlure\_lure: "Lure"

term\_typeid\_marked: "Marked individuals \*/ populations \*/ species "

term\_mod\_mr: "Mark-resight (MR) model (Arnason et al., 1991; McClintock et al., 2009)"

term\_metadata: "Metadata"

term\_mod\_modelling\_assumption: "Model assumption"

term\_mod\_modelling\_approach: "Modelling approach"

field\_settings\_motion\_image\_interval: "\*\*Motion Image Interval (seconds)\*\*"

term\_mod\_negative\_binomial: "Negative binomial (NB) regression (Mullahy, 1986)"

field\_cam\_id\_new: "\*\*New Camera ID\*\*"

field\_camera\_make\_new: "\*\*New Camera Make\*\*"

field\_camera\_model\_new: "\*\*New Camera Model\*\*"

field\_camera\_serial\_number\_new: "\*\*New Camera Serial Number\*\*"

field\_sd\_id\_new: "\*\*\*New SD Card ID"

term\_mod\_n\_mixture: "N-mixture models"

field\_northing\_camera\_location: "\*\*Northing Camera Location\*\*"

field\_number\_of\_images: "\*\*\*# Of Images\*\*"

term\_occupancy: "Occupancy"

term\_mod\_occupancy: "Occupancy model (MacKenzie et al., 2002)"

term\_mod\_overdispersion: "Overdispersion"

term\_sampledesign\_paired: "Paired design"

term\_typeid\_partially\_marked: "Partially marked individuals \*/ populations \*/ species "

field\_settings\_photos\_per\_trigger: "\*\*Photos Per Trigger\*\*"

term\_mod\_poisson: "Poisson regression"

term\_project: "Project"

field\_project\_coordinator: "\*\*Project Coordinator\*\*"

field\_project\_coordinator\_email: "\*\*Project Coordinator Email\*\*"

field\_project\_description: "\*\*Project Description\*\*"

field\_project\_name: "\*\*Project Name\*\*"

term\_pseudoreplication: "Pseudoreplication"

field\_purpose\_of\_visit: "\*\*Purpose of Visit\*\*"

field\_settings\_quiet\_period: "\*\*Quiet Period (seconds)\*\*"

term\_sampledesign\_random: "Random (or 'simple random') design"

term\_mod\_rest: "Random encounter and staying time (REST) model (Nakashima et al., 2018)"

term\_mod\_rem: "Random encounter model (REM) (Rowcliffe et al., 2008, 2013)"

term\_recovery\_time: "Recovery time"

term\_fov\_registration\_area: "Registration area"

term\_mod\_relative\_abundance: "Relative abundance indices"

field\_remaining\_battery\_percent: "\*\*\*Remaining Battery (%)"

term\_mod\_royle\_nichols: "Royle-Nichols model (Royle & Nichols, 2003; MacKenzie et al., 2006)"

term\_sample\_station: "Sample station"

field\_sample\_station\_name: "\*\*Sample Station Name\*\*"

term\_baitlure\_scent\_lure: "Scent lure"

field\_sd\_card\_id: "\*\*\*SD Card ID"

field\_sd\_card\_replaced: "\*\*\*SD Card Replaced"

field\_sd\_card\_status: "\*\*\*SD Card Status (% Full)"

field\_security: "\*\*\*Security"

term\_sequence: "Sequence"

field\_sequence\_name: "\*\*Sequence Name\*\*"

term\_service\_retrieval: "Service\*/Retrieval"

field\_service\_retrieval\_comments: "\*\*\*Service\*/Retrieval Comments"

field\_service\_retrieval\_crew: "\*\*Service\*/Retrieval Crew\*\*"

term\_service\_retrieval\_metadata: "Service\*/Retrieval metadata"

term\_service\_retrieval\_visit: "Service\*/Retrieval visit"

field\_sex\_class: "\*\*Sex Class\*\*"

term\_mod\_ste: "Space-to-event (STE) model (Moeller et al., 2018)"

term\_spatial\_autocorrelation: "Spatial autocorrelation"

term\_mod\_sc: "Spatial count (SC) model / Unmarked spatial capture-recapture (Chandler & Royle, 2013)"

term\_mod\_smr: "Spatial mark-resight (SMR) (Chandler & Royle, 2013; Sollmann et al., 2013a, 2013b)"

term\_mod\_2flankspim: "Spatial partial identity model (2-flank SPIM) (Augustine et al., 2018)"

term\_mod\_scr\_secr: "Spatially explicit capture-recapture (SECR) \*/ Spatial capture-recapture (SCR) (Borchers & Efford, 2008; Efford, 2004; Royle & Young, 2008; Royle et al., 2009)"

field\_species: "\*\*Species\*\*"

field\_stake\_distance: "\*\*\*Stake Distance (m)"

term\_state\_variable: "State variable"

term\_sampledesign\_stratified: "Stratified design"

term\_sampledesign\_stratified\_random: "Stratified random design "

term\_study\_area: "Study area"

field\_study\_area\_description: "\*\*Study Area Description\*\*"

field\_study\_area\_name: "\*\*Study Area Name\*\*"

field\_option\_age\_class\_subadult: "\*\*Subadult\*\*"

field\_option\_age\_class\_subadult\_yearling: "\*\*Subadult - Yearling\*\*"

field\_option\_age\_class\_subadult\_youngofyear: "\*\*Subadult - Young of Year\*\*"

term\_survey: "Survey"

field\_survey\_design: "\*\*Survey Design\*\*"

field\_survey\_design\_description: "\*\*\*Survey Design Description"

field\_survey\_name: "\*\*Survey Name\*\*"

field\_survey\_objectives: "\*\*Survey Objectives\*\*"

term\_sampledesign\_systematic: "Systematic design"

term\_sampledesign\_systematic\_random: "Systematic random design"

field\_tag: "\*\*Tag\*\*"

field\_target\_species: "\*\*Target Species\*\*"

term\_sampledesign\_targeted: "Targeted design"

term\_test\_image: "Test image"

field\_test\_image\_taken: "\*\*\*Test Image Taken"

term\_mod\_tifc: "Time in front of the camera (TIFC) (Huggard, 2018; Warbington & Boyce, 2020; tested in Becker et al., 2022)"

term\_timelapse\_image: "Time-lapse image"

term\_mod\_tte: "Time-to-event (TTE) model (Moeller et al., 2018)"

term\_total\_number\_of\_camera\_days: "Total number of camera days"

term\_trigger\_event: "Trigger 'event'"

field\_settings\_trigger\_modes: "\*\*Trigger Mode(s) \*\* (camera settings)"

field\_settings\_trigger\_sensitivity: "\*\*Trigger Sensitivity\*\*"

term\_trigger\_speed: "Trigger speed"

term\_typeid\_unmarked: "Unmarked individuals \*/ populations \*/ species "

term\_settings\_userlabel: "User label"

field\_utm\_zone\_camera\_location: "\*\*UTM Zone Camera Location\*\*"

field\_settings\_video\_length: "\*\*\*Video Length (seconds)"

term\_fov\_viewshed: "Viewshed"

term\_fov\_viewshed\_density\_estimators: "Viewshed density estimators"

term\_visit: "Visit"

field\_visit\_comments: "\*\*\*Visit Comments"

term\_visit\_metadata: "Visit metadata"

term\_baitlure\_visual\_lure: "Visual lure"

term\_walktest: "Walktest"

field\_walktest\_complete: "\*\*\*Walktest Complete"

field\_walktest\_distance: "\*\*\*Walktest Distance (m) \*\*"

field\_walktest\_height: "\*\*\*Walktest Height (m)\*\*"

term\_mod\_zinb: "Zero-inflated negative binomial (ZINB) regression (McCullagh & Nelder, 1989)"

term\_mod\_zip: "Zero-inflated Poisson (ZIP) regression (Lambert, 1992)"

term\_mod\_zero\_inflation: "Zero-inflation"

field\_def\_access\_method: "The method used to reach the camera location (e.g., on 'Foot,' 'ATV,' 'Helicopter,' etc.)."

field\_option\_def\_age\_class\_adult: "Animals that are old enough to breed; reproductively mature."

field\_def\_age\_class: "The age classification of individual(s) being categorized (e.g., 'Adult,' 'Juvenile,' 'Subadult,' 'Subadult - Young of Year,' 'Subadult - Yearling,' or 'Unknown'). "

field\_def\_analyst: "The first and last names of the individual who provided the observation data point (species identification and associated information). If there are multiple analysts for an observation, enter the primary analyst."

field\_def\_animal\_id: "A unique ID for an animal that can be uniquely identified (e.g., marked in some way). If multiple unique individuals are identified, enter an Animal ID for each as a unique row. Leave blank if not applicable."

term\_def\_baitlure\_audible\_lure: "Sounds imitating noises of prey or conspecifics that draw animals closer by eliciting curiosity (Schlexer, 2008)."

term\_def\_baitlure\_bait: "A food item (or other substance) that is placed to attract animals via the sense of taste and olfactory cues (Schlexer, 2008)."

field\_def\_baitlure\_bait\_lure\_type: "The type of bait or lure used at a camera location. Record 'None' if a Bait\*/Lure Type was not used and 'Unknown' if not known. If 'Other,' describe in the Deployment Comments."

field\_def\_batteries\_replaced: "Whether the camera's batteries were replaced."

field\_def\_behaviour: "The behaviour of the individual(s) being categorized (e.g., 'Standing,' 'Drinking,' 'Vigilant,' etc.)."

field\_def\_camera\_active\_on\_arrival: "Whether a camera was functional upon arrival."

field\_def\_camera\_active\_on\_departure: "Whether a camera was functional upon departure."

term\_def\_camera\_angle: "The degree at which the camera is pointed toward the FOV Target Feature relative to the horizontal ground surface (with respect to slope, if applicable)."

field\_def\_camera\_attachment: "The method\*/tools used to attach the camera (e.g., attached to a tree with a bungee cord; reported as codes such as 'Tree + Bungee\*/Strap'). If 'Other,' describe in the Camera Location Comments."

field\_def\_camera\_damaged: "Whether the camera was damaged or malfunctioning; if there is any damage to the device (physical or mechanical), the crew should describe the damage in the Service\*/Retrieval Comments."

term\_def\_camera\_days\_per\_camera\_location: "The number of days each camera was active and functioning during the period it was deployed (e.g., 24-hour periods or the difference in days between the Deployment Start Date Time and the Deployment End Date Time if there were no interruptions)."

field\_def\_camera\_direction: "The cardinal direction that a camera faces. Ideally, cameras should face north (N; i.e. '0' degrees), or south (S; i.e. '180' degrees) if north is not possible. The Camera Direction should be chosen to ensure the field of view (FOV) is of the original FOV target feature."

field\_def\_camera\_height: "The height from the ground (below snow) to the bottom of the lens (metres; to the nearest 0.05 m)."

field\_def\_camera\_id: "A unique alphanumeric ID for the camera that distinguishes it from other cameras of the same make or model."

term\_def\_camera\_location: "The location where a single camera was placed (recorded as 'Camera Location Name')."

field\_def\_camera\_location\_characteristics: "Any significant features around the camera at the time of the visit. This may include for example, manmade or natural linear features (e.g., trails), habitat types (e.g., wetlands), wildlife structure (e.g., beaver dam). If 'Other,' describe in the Camera Location Comments. <br> <br> Camera Location Characteristics differ from FOV Target Features in that Camera Location Characteristics could include those not in the camera's Field of View. If 'Other,' describe in the Camera Location Comments."

field\_def\_camera\_location\_comments: "Comments describing additional details about a camera location."

field\_def\_camera\_location\_name: "A unique alphanumeric identifier for the location where a single camera was placed (e.g., 'bh1,' 'bh2')."

field\_def\_camera\_make: "The make of a particular camera (i.e., the manufacturer, e.g., 'Reconyx' or 'Bushnell')."

field\_def\_camera\_model: "The model number or name of a particular camera (e.g., 'PC900' or 'Trophy Cam HD')."

field\_def\_camera\_serial\_number: "The serial number of a particular camera, which is usually found inside the camera cover (e.g., 'P900FF04152022')."

term\_def\_camera\_spacing: "The distance between cameras (i.e., also referred to as 'inter-trap distance'). This will be influenced by the chosen sampling design, the Survey Objectives, the Target Species and data analysis."

term\_def\_mod\_cr\_cmr: "A method of estimating the abundance or density of marked populations using the number of animals detected and the likelihood animals will be detected (detection probability). CR (Karanth, 1995; Karanth & Nichols, 1998) can be used to estimate vital rates where all newly detected unmarked animals become marked and are distinguishable in future (Efford, 2022). Spatially explicit capture-recapture (SECR; Borchers & Efford, 2008; Efford, 2004; Royle & Young, 2008) models have largely replaced CR and CMR models and provide more accurate density estimates (Blanc et al., 2013, Obbard et al., 2010, Sollmann et al., 2011)."

term\_def\_mod\_catspim: "A method used to estimate the density of partially marked populations in which the 'spatial locations of where partial identity samples are captured to probabilistically resolve their complete identities' (Augustine et al., 2018, 2019). catSPIM models use partial identity traits (e.g., sex class, antler points) to help infer individual identities (Augustine et al., 2019; Sun et al., 2022). catSPIM is an extension of the SC model (Chandler & Royle, 2013)."

term\_def\_sampledesign\_clustered: "Multiple cameras are deployed at a sample station (Figure 3d). A clustered design can be used within a systematic or stratified approach (i.e., systematic clustered design or as a clustered random design [Wearn & Glover-Kapfer, 2017])."

term\_def\_sampledesign\_convenience: "Camera locations or sample stations are chosen based on logistic considerations (e.g., remoteness, access constraints, and\*/or costs)."

term\_def\_crew: "The first and last names of all the individuals who collected data during the deployment visit ('Deployment Crew') and Service\*/Retrieval visit ('Service\*/Retrieval Crew')."

term\_def\_cumulative\_det\_probability: "The probability of detecting a species at least once during the entire survey (Steenweg et al., 2019)."

term\_def\_density: "The number of individuals per unit area."

term\_def\_deployment: "A unique placement of a camera in space and time (recorded as 'Deployment Name'). There may be multiple deployments for one camera location. Deployments are often considered as the time between visits (i.e., deployment to service, service to service, and service to retrieval). Any change to camera location, sampling period, camera equipment (e.g., Trigger Sensitivity setting, becomes non-functioning), and\*/or conditions (e.g., not baited then baited later; camera SD card replaced) should be documented as a unique deployment."

field\_def\_deployment\_area\_photo\_numbers: "The image numbers for the deployment area photos (if collected, e.g., 'DSC  100'). These are optionally documented on a Camera Deployment Field Datasheet for each set of camera deployment area photos. Leave blank if not applicable."

term\_def\_deployment\_area\_photos: "Photos of the area around the camera location, collected as a permanent, visual record of the FOV Target Features, Camera Location Characteristics, environmental conditions (e.g., vegetation, ecosite, weather) or other variables of interest. The recommendation includes collecting four photos taken from the centre of the target detection zone (Figure 5), facing each of the four cardinal directions. The documentation of the collection of these photos is recorded as 'Deployment Area Photos Taken' (Y\*/N)."

field\_def\_deployment\_area\_photos\_taken: "Whether deployment area photos were taken (yes\*/no; optional). The recommendation includes collecting four photos taken from the centre of the target detection zone (Figure 5), facing each of the four cardinal directions."

field\_def\_deployment\_comments: "Comments describing additional details about the deployment."

field\_def\_deployment\_crew: "The first and last names of the individuals who collected data during the deployment visit."

field\_def\_deployment\_end\_date\_time: "The date and time that the data was retrieved for a specific deployment (e.g., 27-Jan-2019 23:00:00). The Deployment End Date Time may not coincide with when the last image or video was collected (i.e., the Image Set End Date Time). Recording this field allows users to account for deployments where no images were captured and to confirm the last date and time that the camera was active."

field\_def\_deployment\_image\_count: "The total number of images collected during the deployment, including false triggers (i.e., empty images with no wildlife or human present species) and those triggered by a time-lapse setting (if applicable)."

term\_def\_deployment\_metadata: "Metadata that is collected each time a camera is deployed. Each deployment event should have its own Camera Deployment Field Datasheet. The relevant metadata fields that should be collected differ when a camera is deployed vs. serviced or retrieved.<br><br>Refer to Appendix A - Table A5 and Camera Deployment Field Datasheet."

field\_def\_deployment\_name: "A unique alphanumeric identifier for a unique camera deployed during a specific survey period (ideally recorded as: 'Camera Location Name'\_'Deployment Start Date' (or …\_'Deployment End Date') (e.g., 'bh1\_17-Jul-2018' or 'bh1\_17-Jul-2018\_21-Jan-2019'). <br> <br> Alternative naming conventions may be used, but the goal should be to minimize duplicate Image Names."

field\_def\_deployment\_start\_date\_time: "The date and time that a camera was placed for a specific deployment (e.g., 17-Jan-2018 10:34:22). <br><br>The Deployment Start Date Time may not coincide with when the first image or video was collected (i.e., the Image Set Start Date Time). Recording this field allows users to account for deployments where no images were captured and to confirm the first date and time a camera was active."

term\_def\_deployment\_visit: "When a crew has gone to a location to deploy a remote camera."

term\_def\_detection\_event: "A group of images or video clips that are considered independent from other images or video clips based on a certain time threshold (or 'inter-detection interval'). For example, 30 minutes (O’Brien et al., 2003; Gerber et al., 2010; Kitamura et al., 2010; Samejima et al., 2012) or 1 hour (e.g., Tobler et al., 2008; Rovero & Marshall, 2009)."

term\_def\_detection\_distance: "The maximum distance that a sensor can detect a target' (Wearn and Glover-Kapfer, 2017)."

term\_def\_detection\_probability: "The probability (likelihood) that an individual of the population of interest is included in the count at time or location \*i\*."

term\_def\_detection\_rate: "The frequency of independent detections within a specified time period."

term\_def\_detection\_zone: "The area (conical in shape) in which a remote camera can detect the heat signature and motion of an object (Rovero & Zimmermann, 2016) (Figure 5)."

term\_def\_mod\_distance\_sampling: "A method to estimate abundance by using distances at which animals are detected (from survey lines or points) to model abundance as a function of decreasing detection probability with animal distance from the camera (using a decay function) (Cappelle et al., 2021; Howe et al., 2017)."

field\_def\_easting\_camera\_location: "The easting UTM coordinate of the camera location (e.g., '337875'). Record using the NAD83 datum. Leave blank if recording the Longitude instead."

term\_def\_effective\_detection\_distance: "The distance from a camera that would give the same number of detections if all animals up to that distance are perfectly detected, and no animals that are farther away are detected; Buckland, 1987, Becker et al., 2022)."

field\_def\_event\_type: "Whether detections were reported as an individual image captured by the camera ('Image'), a 'Sequence,' or 'Tag.'"

term\_def\_false\_trigger: "Blank images (no wildlife or human present). These images commonly occur when a camera is triggered by vegetation blowing in the wind."

term\_def\_field\_of\_view: "The extent of a scene that is visible in an image (Figure 5); a large FOV is obtained by 'zooming out' from a scene, whilst 'zooming in' will result in a smaller FOV (Wearn & Glover-Kapfer, 2017)."

term\_def\_settings\_flash\_output: "The camera setting that provides the level of intensity of the flash (if enabled)."

field\_def\_fov\_target: "A specific man-made or natural feature at which the camera is aimed to maximize the detection of wildlife species or to measure the use of that feature. Record 'None' if a FOV Target Feature was not used and 'Unknown' if not known. If 'Other,' describe in the Camera Location Comments."

field\_def\_fov\_target\_distance: "The distance from the camera to the FOV Target Feature (in metres; to the nearest 0.5 m). Leave blank if not applicable."

field\_def\_gps\_unit\_accuracy: "The margin of error of the GPS unit used to record spatial information (e.g., '5' [m]), such as the coordinates of the camera location. On most GPS units (e.g., 'Garmin') this information is provided on the unit’s satellite information page. "

field\_def\_human\_transport\_mode\_activity: "The activity performed or mode of transportation used by a human observed (e.g., hiker, skier, off-highway vehicle, etc.). This categorical field should be populated when data on humans (in addition to wildlife) are collected. Leave blank if not applicable and record 'Unknown' if not known."

term\_def\_mod\_hurdle: "A regression model used in the setting of excess zeros (zero-inflation) and overdispersion (Mullahy, 1986). Hurdle models (aka 'zero-altered' models) differ from zero-inflation models in that they are two-part models, and the zero and non-zero counts are modelling separately (thus, they are only adequate when the counting process cannot generate a zero value) (Blasco-Moreno et al., 2019). [relative abundance indices]"

term\_def\_image: "An individual image captured by a camera, which may be part of a multi-image sequence (recorded as 'Image Name')."

term\_def\_image\_classification: "The process of assigning class labels to an image according to the wildlife species, other entities (e.g., human, vehicle), or conditions within the image. Image classification can be performed manually or automatically by an artificial intelligence (AI) algorithm. Image classification is sometimes used interchangeably with 'image tagging.'"

term\_def\_image\_classification\_confidence: "The likelihood of an image containing an object of a certain class (Fennell et al., 2022)."

field\_def\_image\_flash\_output: "The Image Flash Output is an image metadata field indicating the level of intensity of the flash [if enabled\*/applicable]). Record as reported in the image Exif data (e.g., 'Flash Did Not Fire,' 'Auto'). This field is in text format; record 'Unknown' if not known; leave blank if not applicable."

field\_def\_image\_infrared\_illuminator: "The Image Infrared Illuminator is an image metadata field indicating whether the infrared illuminator setting was enabled (if applicable; to obtain greater visibility at night by producing infrared light). Record as reported in the image Exif data (e.g., 'On' or 'Off'). This field is categorical; leave blank if not applicable and record 'Unknown' if not known."

field\_def\_image\_name: "A unique alphanumeric identifier for the image. It is important to include (at a minimum) the camera location, date, time, and image number when generating an Image Name to avoid duplicate file names (e.g., 'bh1\_17-Jul-2018\_P900FF04152022\_22-Jul-2018 10:34:22\_img\_100' or 'bh1\_17-Jul-2018\_22-Jul-2018\_10:34:22\_img\_100')."

term\_def\_image\_processing: "The series of operations that are taken to extract information from images. In the case of remote camera data, it can include loading the images into a processing platform, extracting information from the image metadata (e.g., the date and time the image was taken), running an artificial intelligence (AI) algorithm to identify empty images, classifying animals or other entities within the image."

term\_def\_image\_sequence: "The order of the image in a rapid-fire sequence as reported in the image Exif data (text; e.g., '1 of 1' or '1 of 3'). Leave blank if not applicable."

field\_def\_image\_set\_end\_date\_time: "The date and time of the last image or video collected during a specific deployment (e.g., '17-Jan-2018 22:10:05'). <br> <br> The Image Set End Date Time may not coincide with the deployment end date time. Recording this field allows users to account for deployments that were conducted but for which no data was found and to confirm the last date and time a camera was active (if functioning) if no images or videos were captured prior to Service\*/Retrieval (especially valuable if users did not collect Time-lapse images or if the camera malfunctioned)."

field\_def\_image\_set\_start\_date\_time: "The date and time of the first image or video collected during a specific deployment (e.g., '17-Jan-2018 12:00:02'). <br><br> The Image Set Start Date Time may not coincide with the Deployment Start Date Time. Recording this field allows users to confirm the first date and time a camera was active (reliable if Time-lapse images were collected; especially valuable if the user scheduled a start delay)."

term\_def\_image\_tagging: "The process of classifying an image according to the wildlife species, other entities (e.g., human, vehicle), or conditions within the image. Image tagging may follow image classification to further classify characteristics of the individuals (e.g., age class, sex class, or behaviour) or entities within the image."

field\_def\_image\_trigger\_mode: "The type of trigger mode used to capture the image as reported in the image Exif data (e.g., 'Time Lapse,' 'Motion Detection,' 'CodeLoc Not Entered,' 'External Sensor'). Record 'Unknown' if not known."

field\_def\_image\_sequence\_comments: "Comments describing additional details about the image\*/sequence."

field\_def\_image\_sequence\_date\_time: "The date and time of an image, or the image chosen to represent the sequence, recorded as 'DD-MMM-YYYY HH:MM:SS' (e.g., 22-Jul-2018 11:02:02). <br> <br> Sequence date\*/time information may be reported for a 'representative image' of a sequence (i.e., the image with the most information). For example, if three images were included in a sequence, but the Sex Class could only be discerned in the second image [all else remaining equal], the second image would be the best representative image of the sequence. <br> <br> The Image\*/Sequence Date Time differs from the Image Set Start Date Time which refers to the first image or video collected during a deployment. "

term\_def\_imperfect\_detection: "Species are often detected 'imperfectly,' meaning that they are not always detected when they are present (e.g., due to cover of vegetation, cryptic nature or small size) (MacKenzie et al., 2004)."

term\_def\_independent\_detections: "Detections that are deemed to be independent based on a user-defined threshold (e.g., 30 minutes)."

field\_def\_individual\_count: "The number of unique individuals being categorized. Depending on the Event Type, this may be recorded as the total number of individuals, or according to Age Class and\*/or Sex Class."

term\_def\_settings\_infrared\_illum: "The camera setting that can be enabled (if applicable to the camera make and camera model) to obtain greater visibility at night by producing infrared light. This field is categorical; leave blank if not applicable and record 'Unknown' if not known."

term\_def\_mod\_instantaneous\_sampling: "A method used to estimate abundance or density from time-lapse images from randomly deployed cameras; the number of unique individuals (the count) is needed (Moeller et al., 2018)."

term\_def\_intensity\_of\_use: "The expected number of use events of a specific resource unit during a unit of time… [which characterizes] how frequently a particular resource unit is used' (Keim et al., 2019). The intensity of use differs from the probability of use (which characterizes 'the probability of at least one use event of that resource unit during a unit of time'; Keim et al., 2019)."

term\_def\_inter\_detection\_interval: "A user-defined threshold used to define a single 'detection event' (i.e., independent 'events') for group of images or video clips (e.g., 30 minutes or 1 hour). The threshold should be recorded in the Survey Design Description."

term\_def\_mod\_inventory: "Rapid assessment surveys to determine what species are present in a given area at a given point in time; there is no attempt made to quantify aspects of communities or populations (Wearn & Glover-Kapfer, 2017)."

field\_option\_def\_age\_class\_juvenile: "Animals in their first summer, with clearly juvenile features (e.g., spots); mammals older than neonates but that still require parental care."

term\_def\_kernel\_density\_estimator: "The probability of 'utilization' (Jennrich & Turner, 1969); describes the relative probability of use (Powell & Mitchell, 2012)."

field\_def\_key\_id: "The unique ID for the specific key or set of keys used to lock\*/secure the camera to the post, tree, etc."

field\_def\_latitude\_camera\_location: "The latitude of the camera location in decimal degrees to five decimal places (e.g., '53.78136'). Leave blank if recording Northing instead."

field\_def\_longitude\_camera\_location: "The longitude of the camera location in decimal degrees to five decimal places (e.g., '-113.46067'). Leave blank if recording Easting instead."

term\_def\_baitlure\_lure: "Any substance that draws animals closer; lures include scent (olfactory) lure, visual lure and audible lure (Schlexer, 2008)."

term\_def\_typeid\_marked: "Individuals, populations, or species (varies with modelling approach and context) that can be identified using natural or artificial markings (e.g., coat patterns, scars, tags, collars)."

term\_def\_mod\_mr: "A method used to estimate the abundance of partially marked populations using the number of marked individuals, the number of unmarked individuals, and the detection probability from marked animals (Wearn & Glover-Kapfer, 2017). MR is similar to capture-recapture (CR; Karanth, 1995; Karanth & Nichols, 1998) models, except only a portion of animals are individually identified."

term\_def\_metadata: "Data that provides information about other data (e.g., the number of images on an SD card)."

term\_def\_mod\_modelling\_assumption: "Explicitly stated (or implicitly premised) conventions, choices and other specifications (e.g., about the data, wildlife ecology\*/behaviour, the relationships between variables, etc.) on which a particular modelling approach is based that allows the model to provide valid inference."

term\_def\_mod\_modelling\_approach: "The method used to analyze the camera data, which should depend on the state variable, e.g., occupancy models [MacKenzie et al., 2002], spatially explicit capture recapture (SECR) for density estimation [Chandler and Royle, 2013], etc. and the Target Species."

field\_def\_settings\_motion\_image\_interval: "The time (in seconds) between images within a multi-image sequence that occur due to motion, heat, or activation of external detector devices. The Motion Image Interval is pre-set in the camera’s settings by the user, but the time at which the camera collects images because of this setting is influenced by the presence of movement or heat. For example, if the camera was set to take 3 images per event at a Motion Image Interval of 3 seconds when the camera detects motion or heat, the first image will be collected (e.g., at 09:00:00), the second image will be collected 3 seconds later (09:00:03), and the third will be collected 3 seconds after that (09:00:06). <br> <br> This setting differs from the Quiet Period in that the delay occurs between images contained within a multi-image sequence, rather than between multi-image sequences (as in Quiet Period). If a Motion Image Interval was not set, enter '0' seconds (i.e., instantaneous)."

term\_def\_mod\_negative\_binomial: "A regression model used for count data with overdispersion but without zero-inflation. [relative abundance indices]"

field\_def\_cam\_id\_new: "-"

field\_def\_camera\_make\_new: "-"

field\_def\_camera\_model\_new: "-"

field\_def\_camera\_serial\_number\_new: "-"

field\_def\_sd\_id\_new: "-"

term\_def\_mod\_n\_mixture: "A class of models for estimating absolute abundance using replicated counts of animals from several different sites; site-specific counts are treated as independent random variables to estimate the number of animals available for capture at each site; detection is imperfect (Royle 2004). N-mixture models are a type of site-structured model (i.e., that 'treat each camera as though it samples... [a] distinct population within a larger meta-population' [Clarke et al., 2023])."

field\_def\_northing\_camera\_location: "The northing UTM coordinate of the camera location (e.g., '5962006'). Record using the NAD83 datum. Leave blank if recording the Latitude instead."

field\_def\_number\_of\_images: "The number of images on an SD card."

term\_def\_occupancy: "The probability a site is occupied by the species."

term\_def\_mod\_occupancy: "A modelling approach used to account for imperfect detection by first evaluating the detection probability of a species via detection histories (i.e., present or absent) to determine the probability of the true presence or absence of a species at a site (MacKenzie et al., 2002)."

term\_def\_mod\_overdispersion: "A variance significantly larger than the mean (Bliss & Fisher, 1953); greater variability in a set of data than predicted by the error structure of the model (Harrison et al., 2018); excess variability can be caused by zero inflation, non-independence of counts, or both (Zuur et al., 2009)."

term\_def\_sampledesign\_paired: "A form of 'clustered design' where two cameras that are placed closely together to increase detection probability ('paired cameras'), to evaluate certain conditions ('paired sites,' e.g., on- or off trails), etc. Paired placements can help to account for other variability that might occur (i.e., variation in habitat quality). For some objectives, pairs of cameras might be considered subsamples within another sampling design (e.g., simple random, stratified random, systematic)."

term\_def\_typeid\_partially\_marked: "Individuals, populations, or species (varies with modelling approach and context) that have a suite of partially identifying traits (e.g., antler points, sex class, age class). For populations\*/species, those in which a proportion of individuals carry marks or in which individuals themselves are partially marked."

field\_def\_settings\_photos\_per\_trigger: "The camera setting that describes the number of photos taken each time the camera is triggered."

term\_def\_mod\_poisson: "A regression model for count data used when data are not overdispersed or zero-inflated (Lambert, 1992). [relative abundance indices]"

term\_def\_project: "A scientific study, inventory or monitoring program that has a certain objective, defined methods, and a defined boundary in space and time (recorded as 'Project Name')."

field\_def\_project\_coordinator: "The first and last name of the primary contact for the project."

field\_def\_project\_coordinator\_email: "The email address of the Project Coordinator."

field\_def\_project\_description: "A description of the project objective(s) and general methods."

field\_def\_project\_name: "A unique alphanumeric identifier for each project. Ideally, the Project Name should include an abbreviation for the organization, a brief project name, and the year the project began (e.g., 'uofa\_oilsands\_2018')."

term\_def\_pseudoreplication: "When observations are not statistically independent (spatially or temporally) but are treated as if they are independent."

field\_def\_purpose\_of\_visit: "The reason for visiting the camera location (i.e. to deploy the camera ['Deployment'], retrieve the camera ['Retrieve'] or to change batteries\*/SD card or replace the camera ['Service'])."

field\_def\_settings\_quiet\_period: "The user-defined camera setting which provides the time (in seconds) between shutter 'triggers' if the camera was programmed to pause between firing initially and firing a second time. If a Quiet Period was not set, enter '0.' <br> <br> Also known as 'time lag' (depending on the Camera Make and Camera Model; Palmer et al., 2018). The Quiet Period differs from the Motion Image Interval in that the delay occurs between multi-image sequences rather than between the images contained within multi-image sequences (as in the Motion Image Interval)."

term\_def\_sampledesign\_random: "Cameras occur at randomized camera locations (or sample stations) across the area of interest, sometimes with a predetermined minimum distance between camera locations (or sample stations)."

term\_def\_mod\_rest: "A recent modification of the REM (Nakashima et al., 2018) that substitutes staying time (i.e., the cumulative time in the cameras' detection zone) for movement speed (staying time and movement speed are inversely proportional) (Cappelle et al., 2021)."

term\_def\_mod\_rem: "A method used to estimate the density of unmarked populations; uses the rate of independent captures, an estimate of movement rate, average group size, and the area sampled by the remote camera."

term\_def\_recovery\_time: "The time necessary for the camera to prepare to capture the next photo after the previous one has been recorded (Trolliet et al., 2014)."

term\_def\_fov\_registration\_area: "The area in which an animal entering has at least some probability of being captured on the image."

term\_def\_mod\_relative\_abundance: "An index of relative abundance. When observational data is converted to a detection rate (i.e., the frequency [count] of independent detections of a species within a distinct time period). An index can be a count of animals or any sign that is expected to vary with population size (Caughley, 1977; O'Brien, 2011)."

field\_def\_remaining\_battery\_percent: "The remaining battery power (%) of batteries within a camera."

term\_def\_mod\_royle\_nichols: "A method used to estimate population abundance or density, which assumes that individuals are counted only once per sampling occasion (Royle, 2004), but that does not require all individuals to be marked. Royle-Nichols models are a type of site-structured model (i.e., that 'treat each camera as though it samples... [a] distinct population within a larger meta-population' [Clarke et al., 2023])."

term\_def\_sample\_station: "A grouping of two or more non-independent camera locations, such as when cameras are clustered or paired (recorded as 'Sample Station Name')."

field\_def\_sample\_station\_name: "A sequential alphanumeric identifier for each grouping of two more non-independent camera locations (when cameras are deployed in clusters, pairs, or arrays; e.g., 'ss1' in 'ss1\_bh1,' 'ss1\_bh2,' 'ss1\_bh3' etc.). Leave blank if not applicable."

term\_def\_baitlure\_scent\_lure: "Any material that draws animals closer via their sense of smell (Schlexer, 2008)."

field\_def\_sd\_card\_id: "The ID label on an SD card (e.g., 'cmu\_100')."

field\_def\_sd\_card\_replaced: "Whether the SD card was replaced."

field\_def\_sd\_card\_status: "The remaining storage capacity on an SD card; collected during a camera service or retrieval."

field\_def\_security: "The equipment used to secure the camera (e.g., 'Security box,' 'Bracket,' 'Bracket + Screws,' or 'None')."

term\_def\_sequence: "A user-defined group of images or video clips considered as a single 'detection event' (recorded as 'Sequence Name'); often users choose a certain time threshold (or 'inter-detection interval') to define independent 'events'; e.g., 30 minutes or 1 hour. The threshold should be recorded in the Survey Design Description)."

field\_def\_sequence\_name: "A unique alphanumeric identifier for a multi-image sequence. The Sequence Name should ideally consist of the Deployment Name and the names of the first and last images and videos in the sequence (separated by '\_') (i.e., 'Deployment Name'\_'img\_#[name of first image in sequence]'\_'img\_#[name of last image in sequence] (e.g., 'bh1\_22-Jul-2018\_img\_001-img\_005'). Leave blank if not applicable. "

term\_def\_service\_retrieval: "When a crew has gone to a location to service or retrieve a remote camera."

field\_def\_service\_retrieval\_comments: "Comments describing additional details about the Service\*/Retrieval."

field\_def\_service\_retrieval\_crew: "The first and last names of the individuals who collected data during the Service\*/Retrieval visit."

term\_def\_service\_retrieval\_metadata: "Metadata that should be collected each time a camera location is visited to Service\*/Retrieval Field Datasheet."

term\_def\_service\_retrieval\_visit: "When a crew has gone to a location to service or retrieve a remote camera."

field\_def\_sex\_class: "The sex classification of individual(s) being categorized (e.g., 'Male,' 'Female,' or 'Unknown')."

term\_def\_mod\_ste: "A method used to estimate abundance or density that accounts for variable detection probability through the use of time-lapse images and is unaffected by animal movement rates (collapses sampling intervals to an instant in time, and thus estimates are unaffected by animal movement rates) (Moeller et al., 2018)."

term\_def\_spatial\_autocorrelation: "The tendency for locations that are closer together to be more similar."

term\_def\_mod\_sc: "A method used to estimate the density of unmarked populations; similar to SECR (Borchers & Efford, 2008; Efford, 2004; Royle & Young, 2008; Royle et al., 2009); however, SC models account for individuals' unknown identities using the spatial pattern of detections (Chandler & Royle, 2013; Sun et al., 2022). SC uses trap-specific counts to estimate the location and number of activity centres to estimate density."

term\_def\_mod\_smr: "A method used to estimate the density of 'partially marked populations by combining... [detection] histories of marked [individuals] and counts of unmarked [individuals]' (Doran-Myers, 2018) over several occasions (Sollman et al., 2013a; Rich et al., 2014; Whittington et al., 2018). SMR models can be implemented using different statistical frameworks, including Bayesian estimation (Royle and Young, 2008; Morin et al., 2022)."

term\_def\_mod\_2flankspim: "A method used to estimate the density of partially marked populations in which the 'spatial locations of where partial identity samples are captured to probabilistically resolve their complete identities' (Augustine et al., 2018). Paired sampling design is commonly used to capture both the right and left flanks of an animal to resolve individual identities (Augustine et al., 2018). 2-flank SPIM is an extension of the SCR model (Borchers & Efford, 2008; Efford, 2004; Royle & Young, 2008; Royle et al., 2009)."

term\_def\_mod\_scr\_secr: "The SECR (or SCR) method is used to estimate the density of marked populations; an extension of traditional capture-recapture (CR; Karanth, 1995; Karanth & Nichols, 1998) models (Karanth, 1995; Karanth & Nichols, 1998) that explicitly accounts for camera location and animal movement (Burgar et al., 2018). SECR models use spatially referenced individual capture histories to infer where animals' home range centres are, assuming that detection probability decreases with increasing distance between cameras and home range centres (Clarke et al., 2023). SECR models can be implemented using different statistical frameworks, including Bayesian estimation (Royle and Young, 2008; Morin et al., 2022)."

field\_def\_species: "The capitalized common name of the species being categorized ('tagged')."

field\_def\_stake\_distance: "The distance from the camera to a stake (in metres to the nearest 0.05 m). Leave blank if not applicable."

term\_def\_state\_variable: "A formal measure that summarizes the state of a community or population at a particular time (Wearn & Glover-Kapfer, 2017), e.g., species richness or population abundance."

term\_def\_sampledesign\_stratified: "The area of interest is divided into smaller strata (e.g., habitat type, disturbance levels), and cameras are placed within each stratum (e.g., 15%, 35% and 50% of sites within high, medium, and low disturbance strata)."

term\_def\_sampledesign\_stratified\_random: "The area of interest is divided into smaller strata (e.g., habitat type, disturbance levels), and then a proportional random sample of sites is selected within each stratum (e.g., 15%, 35% and 50% of sites within high, medium and low disturbance strata)."

term\_def\_study\_area: "A unique research, inventory or monitoring area (spatial boundary) within a project (there may be multiple study areas within a single project) (recorded as 'Study Area Name')."

field\_def\_study\_area\_description: "A description for each unique research or monitoring area including its location, the habitat type(s), land use(s) and habitat disturbances (where applicable)."

field\_def\_study\_area\_name: "A unique alphanumeric identifier for each study area (e.g.,'oilsands\_ref1'). If only one area was surveyed, the Project Name and Study Area Name should be the same."

field\_option\_def\_age\_class\_subadult: "Animals older than a 'Juvenile' but not yet an 'Adult'; a 'Subadult' may be further classified into 'Young of the Year' or 'Yearling.'"

field\_option\_def\_age\_class\_subadult\_yearling: "Animals approximately one year old; has lived through one winter season; between 'Young of Year' and 'Adult.'"

field\_option\_def\_age\_class\_subadult\_youngofyear: "Animals less than one year old; born in the previous year's spring, but has not yet lived through a winter season; between 'Juvenile' and 'Yearling.'"

term\_def\_survey: "A unique deployment period (temporal extent) within a project (recorded as 'Survey Name')."

field\_def\_survey\_design: "The spatial arrangement of remote cameras within the study area for an individual survey. If 'Hierarchical (multiple)\*/\*,' include additional details in the Survey Design Description. <br> <br> Note that we refer to different configurations of cameras more generally as study design and sampling design; however, the term 'Survey Design' refers to study design as it applies to an individual survey. There may be multiple Survey Designs for surveys within a project; if this occurs, the Survey Design should be reported separately for each survey."

field\_def\_survey\_design\_description: "A description of any additional details about the Survey Design."

field\_def\_survey\_name: "A unique alphanumeric identifier for each survey period (e.g., 'fortmc\_001')."

field\_def\_survey\_objectives: "The specific objectives of each survey within a project, including the Target Species, the state variables (e.g., occupancy, density) , and proposed modelling approach(es). Survey Objectives should be specific, measurable, achievable, relevant, and time-bound (i.e., SMART)."

term\_def\_sampledesign\_systematic: "Camera locations occur in a regular pattern (e.g., a grid pattern) across the study area."

term\_def\_sampledesign\_systematic\_random: "Camera locations are selected using a two-stage approach. Firstly, girds are selected systematically (to occur within a regular pattern) across the study area. The location of the camera within each grid is then selected randomly."

field\_def\_tag: "When individuals, or groups of individuals, are categorized within an image, regardless of whether the information applies to all of the individuals in the image. A single tag is applied to categorize one or more individuals with the same combination of characteristics (e.g., Adult Males displaying the same Behaviour). Conversely, multiple tags are applied when individuals in an image differ in their characteristics (e.g., an Adult and a Juvenile, all else remaining equal, are tagged separately). This could also occur for Age Class, Behaviour, Human Transport Mode\*/Activity, etc. Since multiple tags can occur for a single image, there may be multiple data rows for the same image (if the Event Type is at the 'Tag' level)."

field\_def\_target\_species: "The common name(s) of the species that the survey was designed to detect."

term\_def\_sampledesign\_targeted: "Camera locations or sample stations are placed in areas that are known or suspected to have higher activity levels (e.g., game trails, mineral licks)."

term\_def\_test\_image: "An image taken from a camera after it has been set up to provide a permanent record of the visit metadata (e.g., Sample Station Name, Camera Location Name, Deployment Name, Crew, and Deployment Start Date Time [DD-MMM-YYYY HH:MM:SS]). <br><br>Taking a test image can be useful to compare the information from the image to that of which was collected on the Camera Service\*/Retrieval Field Datasheet after retrieval and can help in reducing recording errors."

field\_def\_test\_image\_taken: "Whether a test image (i.e., an image taken from a camera after it has been set up to provide a permanent record of the visit metadata) was taken. Arm the camera, from ~5 m in front, walk towards the camera while holding the Test Image Sheet."

term\_def\_mod\_tifc: "A method used to estimate density that treats camera image data as quadrat samples (Becker et al., 2022)."

term\_def\_timelapse\_image: "Images that are taken at regular intervals (e.g., hourly or daily, on the hour). It is critical to take a minimum of one time-lapse image per day at a consistent time (e.g., 12:00 pm [noon]) to create a record of camera functionality and local environmental conditions (e.g., snow cover, plant growth, etc.). Time-lapse images may always be useful for modelling approaches that require estimation of the 'viewshed' ('viewshed density estimators' such as REM or time-to-event (TTE) models; see Moeller et al., [2018] for advantages and disadvantages)."

term\_def\_mod\_tte: "A method used to estimate abundance or density from the detection rate while accounting for animal movement rates (Moeller et al., 2018). The TTE model assumes perfect detection (though there is a model extension to account for imperfect detection that requires further testing)."

term\_def\_total\_number\_of\_camera\_days: "The number of days that all cameras were active during the survey."

term\_def\_trigger\_event: "An activation of the camera detector(s) that initiates the capture of a single or multiple images, or the recording of video."

field\_def\_settings\_trigger\_modes: "The camera setting(s) that determine how the camera will trigger: by motion ('Motion Image'), at set intervals ('Time-lapse image'), and\*/or by video ('Video'; possible with newer camera models, such as Reconyx HP2X)."

field\_def\_settings\_trigger\_sensitivity: "The camera setting responsible for how sensitive a camera is to activation (to 'triggering') via the infrared and\*/or heat detectors (if applicable, e.g., Reconyx HyperFire cameras have a choice between 'Low,' 'Low\*/Med,' 'Med,' 'Med\*/High,' 'High,' 'Very high' and 'Unknown'). "

term\_def\_trigger\_speed: "The time delay necessary for the camera to shoot a photo once an animal has interrupted the infrared beam within the camera's detection zone (Trolliet et al., 2014). Trigger speed differs from Motion Image Interval (a camera setting specified by the user) in that the trigger speed is inherent to the Camera Make and Camera Model (e.g., two different cameras, models both with a Motion Image Interval set to 'no delay,' may not be able to capture images at the same speed)."

term\_def\_typeid\_unmarked: "Individuals, populations, or species (varies with modelling approach and context) that cannot be identified using natural or artificial markings (e.g., coat patterns, scars, tags, collars). Unmarked population models rely on supplementary data (e.g., animal movement speed) and\*/or assumptions as a surrogate for individual identification; that is, to distinguish between multiple detections of the same individual from detections of multiple individuals when individuals do not have unique features (Gilbert et al., 2020; Morin et al., 2022)."

term\_def\_settings\_userlabel: "A label (up to 16 characters) that can be programmed in the camera’s settings, and that will be visible in the data band of all photos and videos taken by the camera (Reconyx, 2018). It is recommended that users program the Sample Station Name\*/Camera Location Name as the user label, which serves as a means to confirm which Sample Station Name\*/Camera Location Name is associated with the images\*/videos."

field\_def\_utm\_zone\_camera\_location: "The number corresponding to the Universal Transverse Mercator (UTM) grid zone where the camera was placed (e.g., '12'). UTM is a coordinate system that divides the earth into grid zones that are identified with a number (representing a width of latitude) and letter (representing the hemisphere). <br> <br>In Alberta the UTM zones are either 11, 12, or TTM. Enter all other UTM zones in the Camera Location Comments field (e.g., zones 7-10 for British Columbia), or use Latitude and Longitude instead of UTM coordinates. <br> <br>"

field\_def\_settings\_video\_length: "If applicable, describes the camera setting that specifies the minimum video duration (in seconds) that the camera will record when triggered. Leave blank if not applicable."

term\_def\_fov\_viewshed: "The area visible to the camera as determined by its lens angle (in degrees) and trigger distance (Moeller et al., 2023)."

term\_def\_fov\_viewshed\_density\_estimators: "Methods used to estimate the abundance of unmarked populations from observations of animals that relate animal observations to the space directly sampled by each camera’s viewshed (Moeller et al., 2023); they result in viewshed density estimates that can be extrapolated to abundance within broader sampling frames (Gilbert et al., 2020; Moeller et al., 2023)."

term\_def\_visit: "When a crew has gone to a location to deploy, service, or retrieve a remote camera."

field\_def\_visit\_comments: "Comments describing additional details about the deployment and\*/or Service\*/Retrieval visits."

term\_def\_visit\_metadata: "Metadata that should be collected each time a camera location is visited to deploy, Service\*/Retrieval Field Datasheet."

term\_def\_baitlure\_visual\_lure: "Any material that draws animals closer via their sense of sight (Schlexer, 2008)."

term\_def\_walktest: "A test performed to ensure the camera height, tilt, etc., adequately captures the desired detection zone. The user will 1) activate the walktest mode, 2) attach the camera at the desired height \*\*/ angle, 3) walk in front of the camera to a specified distance (i.e., the 'Walktest Distance,' e.g., 5 m), and 4) wave their hand in front of the camera (usually at ground level and a chosen height [i.e., the 'Walktest Height,' e.g., 0.8 m]) to determine if the camera is activating (a light on the camera will flash)."

field\_def\_walktest\_complete: "Whether a walktest was performed to ensure the camera height, tilt, etc., adequately captures the desired detection zone. The user will 1) activate the walktest mode, 2) attach the camera at the desired height \*\*/ angle, 3) walk in front of the camera to a specified distance (i.e., the 'Walktest Distance,' e.g., 5 m), and 4) wave their hand in front of the camera (usually at ground level and a chosen height [i.e., the 'Walktest Height,' e.g., 0.8 m]) to determine if the camera is activating (a light on the camera will flash)."

field\_def\_walktest\_distance: "The horizontal distance from the camera at which the crew performs the walktest (metres; to the nearest 0.05 m). Leave blank if not applicable."

field\_def\_walktest\_height: "The vertical distance from the camera at which the crew performs the walktest (metres; to the nearest 0.05 m). Leave blank if not applicable."

term\_def\_mod\_zinb: "A regression model used in the setting of excess zeros (zero-inflation) and overdispersion. This approach is a two-part model, where the zero-inflation is modelled separately from the counts and assumes that the count (abundance) is 'conditional' on the zero-inflation model (occurrence) model. [relative abundance indices]"

term\_def\_mod\_zip: "A regression model for count data that both follows the Poisson distribution and contains excess zeros (Lambert, 1992). ZIP models are only appropriate for data for which the overdispersion is not solely due to zero-inflation. [relative abundance indices]"

term\_def\_mod\_zero\_inflation: "An excess of zeros that is 'so large that those expected in standard distributions (e.g., normal, Poisson, binomial, negative binomial and beta)' (Heilbron, 1994) violate the assumptions of such distributions (Martin et al., 2005). Excess zeroes can be a result of ecological effects ('true' zeros) or due to sampling or observer error ('false zeros') (Martin et al., 2005). Excess zeroes contribute to overdispersion, but they don't necessarily account for all excess variability (Blasco-Moreno et al., 2019)."

mod\_divers\_rich\_beta\_assump\_01: "[Camera locations](/09\_glossary.md#camera\_location) are [randomly placed](/09\_glossary.md#sampledesign\_random) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_assump\_01: "[Camera locations](/09\_glossary.md#camera\_location) are [randomly placed](/09\_glossary.md#sampledesign\_random) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_alpha\_assump\_01: "[Camera locations](/09\_glossary.md#camera\_location) are [randomly placed]({{ ref\_glossary }}#sampledesign\_random) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_occupancy\_assump\_02: "[Camera locations](/09\_glossary.md#camera\_location) are independent ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_divers\_rich\_alpha\_assump\_02: "[Camera locations](/09\_glossary.md#camera\_location) are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_assump\_02: "[Camera locations](/09\_glossary.md#camera\_location) are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_13: "[Camera locations](/09\_glossary.md#camera\_location) are randomly placed with respect to the distribution and orientation of home ranges ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_assump\_03: "[Detection probability](/09\_glossary.md#detection\_probability) of different species remains the same ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_alpha\_assump\_03: "[Detection probability](/09\_glossary.md#detection\_probability) of different species remains the same ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) ('true' species richness estimation involves attempting to correct for '[imperfect detection](/09\_glossary.md#imperfect\_detection)' ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_occupancy\_con\_01: "[Occupancy](/09\_glossary.md#occupancy) ({{ ref\_intext\_mackenzie\_et\_al\_2002 }}) only measures distribution; it may be a misleading indicator of changes in abundance ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_occupancy\_assump\_01: "[Occupancy](/09\_glossary.md#occupancy) is constant ({{ ref\_intext\_mackenzie\_et\_al\_2002 }}) (abundance is constant) ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_rai\_poisson\_pro\_02: "[Relative abundance indices](/09\_glossary.md#mods\_relative\_abundance) often do correlate with abundance ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_con\_07: "½ MMDM (Mean Maximum Distance Moved) will usually lead to an underestimation of home range size and thus overestimation of density ({{ ref\_intext\_parmenter\_et\_al\_2003 }}; {{ ref\_intext\_noss\_et\_al\_2012 }}; {{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tifc\_con\_02: "A high level of measurement error ({{ ref\_intext\_becker\_et\_al\_2022 }})"

mod\_ds\_pro\_01: "A shortcut to controlling for variation in detection distances by only counting individuals within a short distance with an unobstructed view, and well sampled across cameras and species ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_assump\_05: "Accurate counts of independent 'contacts' camera locations ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}; {{ ref\_intext\_rowcliffe\_et\_al\_2008 }})"

mod\_tte\_assump\_07: "Accurate estimate of movement speed ({{ ref\_intext\_loonam\_et\_al\_2021 }})"

mod\_catspim\_assump\_06: "Activity centres are randomly dispersed ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_assump\_05: "Activity centres are randomly dispersed ({{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_catspim\_assump\_07: "Activity centres are stationary ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_assump\_06: "Activity centres are stationary ({{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_assump\_03: "All individuals have at least some probability of being detected ({{ ref\_intext\_rovero\_et\_al\_2013 }})"

mod\_smr\_con\_02: "All individuals must be identifiable ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_catspim\_assump\_09: "All possible values of categorical identifiers occur in the population with probabilities that can be estimated ({{ ref\_intext\_augustine\_et\_al\_2019 }}; {{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_divers\_rich\_alpha\_con\_02: "All species have equal weight in calculations, and community evenness is disregarded ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_pro\_03: "Allows community-wide density estimation ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_con\_03: "Allows for density estimation for a unmarked population, but the precision of the density estimates are likely to be very low value ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_pro\_04: "Allows researcher to mark a subset of the population (note - precision is dependent on number of marked individuals in a population) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_pro\_03: "Allows researcher to take advantage of natural markings ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_pro\_02: "Allows researchers to mark a subset of the population / to take advantage of natural markings ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rest\_con\_02: "and could affect the time within the detection zone and subsequently affect estimates of density ({{ ref\_intext\_doran\_myers\_2018 }})"

mod\_rest\_assump\_05: "Animal movement and behaviour are not affected by cameras ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_ds\_assump\_05: "Animal movement and behaviour are unaffected by the cameras ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_tte\_assump\_03: "Animal movement and behaviour are unaffected by the cameras ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_rem\_assump\_04: "Animal movement is unaffected by the cameras ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}; {{ ref\_intext\_rowcliffe\_et\_al\_2008 }})"

mod\_ds\_assump\_06: "Animals are detected at initial locations (e.g., they do not change course in response to the camera prior to detection) ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_smr\_con\_01: "Animals may have to be physically captured and marked if natural marks do not exist on enough individuals ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_assump\_09: "Animals moving quickly past a camera are not missed ({{ ref\_intext\_rowcliffe\_et\_al\_2016 }})"

mod\_sc\_assump\_05: "Animals’ activity centres are randomly dispersed ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_17: "Animals’ activity centres are randomly dispersed ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_sc\_assump\_06: "Animals’ activity centres are stationary ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_con\_10: "Assumes a specific relationship between abundance and detection ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ste\_con\_01: "Assumes that detection probability is 1 ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_tte\_con\_02: "Assumes that detection probability is 1 (or apply extension to account for imperfect detection) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_is\_con\_02: "Assumes that perfect (detection probability '\*p\*' = 1) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_behaviour\_assump\_01: "Assumptions vary depending on the behavioural metric ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rest\_con\_01: "Attraction or aversion to cameras is exhibited in some species ({{ ref\_intext\_meek\_et\_al\_2016 }})"

mod\_scr\_secr\_pro\_08: "Avoid ad-hoc definitions of study area and edge effects ({{ ref\_intext\_doran\_myers\_2018 }})"

mod\_scr\_secr\_assump\_05: "Behaviour is unaffected by cameras and marking ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_11: "Behaviour is unaffected by cameras and marking ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_behaviour\_con\_01: "Behavioural metrics may not reflect the behavioural state (inferred) ({{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_ds\_con\_03: "Best suited to larger animals; the smaller the focal species, the lower remote cameras must be set, which reduces the depth of the viewshed, and thus sampling size and the flexibility of the model' ({{ ref\_intext\_howe\_et\_al\_2017 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})."

mod\_ds\_con\_02: "Biased by movement speed ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_behaviour\_con\_02: "Biases associated with equipment (i.e., presence of the camera itself may change behaviour studied) ({{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_scr\_secr\_pro\_05: "Both likelihood-based and Bayesian versions of the model have been implemented in relatively easy-to-use software (DENSITY and SPACECAP, respectively, as well as associated R packages) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_con\_05: "Calculating camera-animal distances can be labour-intensive and time-consuming (However, recently developed techniques (e.g., Johanns et al., 2022) show promise for simplifying and automating the process) ({{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rai\_poisson\_pro\_03: "Calibration with independent [density](/09\_glossary.md#density) estimates is possible ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_sc\_assump\_01: "Camera locations are close enough together that animals are detected at multiple cameras ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_13: "Camera locations are close enough together that animals are detected at multiple cameras ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_is\_assump\_03: "Camera locations are randomly placed ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_assump\_03: "Camera locations are randomly placed ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_tifc\_assump\_01: "Camera locations are randomly placed or representative relative to animal movement ({{ ref\_intext\_becker\_et\_al\_2022 }})"

mod\_ds\_assump\_02: "Camera locations are randomly placed relative to animal movement ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_rem\_assump\_03: "Camera locations are randomly placed relative to animal movement ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}; {{ ref\_intext\_rowcliffe\_et\_al\_2008 }})"

mod\_smr\_assump\_12: "Camera locations are randomly placed relative to the distribution and orientation of home ranges ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rest\_assump\_04: "Camera locations are randomly placed relative to the spatial distribution of animals ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_rest\_assump\_03: "Camera locations are representative of the available habitat ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_tte\_assump\_04: "Camera locations placement is random, systematic, or systematic random ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_catspim\_assump\_02: "Camera must be close enough together that animals are detected at multiple cameras ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rem\_assump\_07: "Camera’s detection zone can be approximated well using a 2D cone shape, defined by the radius and angle parameters ({{ ref\_intext\_rowcliffe\_et\_al\_2011 }})"

mod\_scr\_secr\_con\_06: "Cameras must be close enough that animals are detected at multiple camera locations ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) (may be challenging to implement at large scales as many cameras are needed)' ({{ ref\_intext\_chandler\_royle\_2013 }})"

mod\_sc\_con\_07: "Cameras must be close enough that animals are detected at multiple camera locations (may be challenging at large scales as many cameras are needed)' ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_pro\_02: "Can be applied to a broader range of species than SECR [({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_pro\_03: "Can be applied to low-density populations ({{ ref\_intext\_howe\_et\_al\_2017 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rem\_pro\_02: "Can be applied to unmarked species ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_is\_pro\_01: "Can be efficient for estimating abundance of common species (with a lot of images) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_pro\_01: "Can be efficient for estimating abundance of common species (with a lot of images) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_tte\_pro\_01: "Can be efficient for estimating abundance of common species (with a lot of images) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_divers\_rich\_beta\_pro\_01: "Can be used to track changes in community composition ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_pro\_04: "Can be used with single-camera and hybrid sampling designs, and therefore requires fewer cameras (or sample more area) than SCR ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_behaviour\_pro\_01: "Can detect difficult to observe behaviours (i.e., boldness, or mating) ({{ ref\_intext\_bridges\_noss\_2011 }})"

mod\_behaviour\_pro\_04: "Can evaluate interactions between species ({{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_behaviour\_pro\_03: "Can monitor behaviour in response to specific locations (i.e., compost sites, which might be more difficult using GPS collars for example) ({{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_rem\_pro\_08: "Can use camera spacing without regard to population home range size ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }}; {{ ref\_intext\_doran\_myers\_2018 }})"

mod\_cr\_cmr\_pro\_03: "Can use the robust design with 'open' models to obtain recruitment and survival rate estimates ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_assump\_02: "Capture processes for left-side, right-side and both-side images are independent ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_divers\_rich\_gamma\_pro\_01: "Captures evenness and richness (although some indices only reflect evenness) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_pro\_05: "Comparable estimates to SECR [({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tifc\_pro\_03: "Comparable to estimates from SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) ({{ warbington\_boyce\_2020 }})"

mod\_divers\_rich\_gamma\_con\_02: "Comparing measures across space, time and studies can be very difficult ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_con\_01: "Computationally intensive ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rem\_assump\_01: "Demographic closure ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }}; {{ ref\_intext\_doran\_myers\_2018 }}) (i.e., no births or deaths)"

mod\_catspim\_assump\_03: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_sc\_assump\_02: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_is\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_tte\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_moeller\_et\_al\_2018 }}; {{ ref\_intext\_loonam\_et\_al\_2021 }})"

mod\_cr\_cmr\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_01: "Demographic closure (i.e., no births or deaths) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_assump\_04: "Demographic closure (i.e., no births or deaths) and geographic closure (i.e., no immigration or emigration) (animal density is constant during the survey) ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_rest\_assump\_01: "Demographic closure (i.e., no births or deaths) and geographic closure (i.e., no immigration or emigration) (animal density is constant during the survey) ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }})"

mod\_cr\_cmr\_con\_11: "Density cannot be explicitly estimated because the true area animals occupy is never measured (only approximated) ({{ ref\_intext\_chandler\_royle\_2013 }})"

mod\_smr\_con\_05: "Density estimates are likely less precise than with SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) or REM, unless a large proportion of the population have marks ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_pro\_02: "Density estimates are unbiased by animal movement 'since camera-animal distance is measured at a certain instant in time (intervals of duration \*t\* apart)' ({{ ref\_intext\_howe\_et\_al\_2017 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_scr\_secr\_pro\_04: "Density estimates obtained in a single model, fully incorporate spatial information of locations and individuals ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_alpha\_con\_01: "Dependent on the scale (as captured in the species-area relationship) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_cr\_cmr\_con\_03: "Dependent on the surveyed area, which is difficult to track and calculate ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rest\_assump\_02: "Detection is perfect ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) (detection probability '\*p\*' = 1) unless otherwise modelled ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_tte\_assump\_08: "Detection is perfect (detection probability '\*p\*' = 1) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ds\_assump\_03: "Detection is perfect (detection probability '\*p\*' = 1) at focal area \*/ distance 0 ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_is\_assump\_05: "Detection is perfect (detection probability '\*p\*' = 1) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_assump\_06: "Detection is perfect (detection probability '\*p\*' = 1) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_scr\_secr\_assump\_02: "Detection probability of different individuals is equal ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rai\_poisson\_con\_03: "Detection rates from remote cameras cannot be used as an index to compare relative abundance across species ({{ ref\_intext\_rowcliffe-carbone\_2008 }})"

mod\_occupancy\_assump\_03: "Detections are [independent](/09\_glossary.md#independent\_detections) ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_catspim\_assump\_05: "Detections are independent ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_sc\_assump\_04: "Detections are independent ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_07: "Detections are independent ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_is\_assump\_04: "Detections are independent ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_assump\_04: "Detections are independent ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_tte\_assump\_05: "Detections are independent ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_rest\_assump\_06: "Detections are independent ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_ds\_assump\_08: "Detections are independent ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_scr\_secr\_assump\_04: "Detections of different individuals are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_09: "Detections of different individuals are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_behaviour\_con\_03: "Difficult to consider individual variation ({{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_rai\_poisson\_con\_01: "Difficult to draw inferences (a large number of [assumptions](/09\_glossary.md#mods\_modelling\_assumption)); comparisons across space, time, species, and studies are difficult ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_pro\_09: "Direct estimation of [density](/09\_glossary.md#density); avoids ad-hoc definitions of study area ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }})"

mod\_ds\_assump\_07: "Distances are measured exactly (however if the data from different distances will be grouped ('binned') for analysis later, an accuracy of +\*/- 1m may suffice) ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_scr\_secr\_assump\_14: "Distribution of home range centres follows a defined distribution (Poisson, or other, e.g., negative binomial) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_16: "Distribution of home range centres follows a defined distribution (Poisson, or other, e.g., negative binomial) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_con\_04: "Does not permit inference about spatial variation in abundance (unless using hierarchical distance which can model spatial variation as a function of covariates) ({{ ref\_intext\_gilbert\_et\_al\_2021 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_ste\_pro\_02: "Does not require estimate of movement rate ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_sc\_pro\_01: "Does not require individual identification ({{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_ds\_pro\_04: "Does not require individual identification ({{ ref\_intext\_howe\_et\_al\_2017 }})"

mod\_occupancy\_pro\_01: "Does not require individual identification ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_tifc\_pro\_01: "Does not require individual identification ({{ ref\_intext\_warbington\_boyce\_2020 }})"

mod\_rem\_pro\_07: "Does not require marked animals or identification of individuals ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }}; {{ ref\_intext\_doran\_myers\_2018 }})"

mod\_catspim\_assump\_08: "Each categorical identifier (e.g., male\*/female, collared\*\*/not collared, etc) has fixed number of possibilities ({{ ref\_intext\_sun\_et\_al\_2022 }})"

mod\_cr\_cmr\_pro\_02: "Easy-to-use software exists to implement (e.g., CAPTURE){{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_pro\_03: "Estimates are fully comparable across space, time, species and studies ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_pro\_01: "Estimates are fully comparable to SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) of marked species ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_catspim\_assump\_10: "Every individual is assigned 'full categorical identity' (i.e., 'set of traits given all categorical identifiers and possibilities') ({{ ref\_intext\_augustine\_et\_al\_2019 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_05: "Failure to identify marked individuals is random ({{ ref\_intext\_whittington\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_scr\_secr\_pro\_06: "Flexibility in study design (e.g., 'holes' in the trapping grid) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_is\_pro\_02: "Flexible assumption of animals’ distribution ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_rem\_pro\_01: "Flexible study design (e.g., 'holes' in grids allowed, camera spacing less important) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_09: "For conventional models, geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_behaviour\_assump\_02: "For studies of activity patterns and temporal interactions of species: activity level is the only factor determining detection rates; animals are active when camera detection rate reaches its maximum in daily cycle ({{ ref\_intext\_royle\_et\_al\_2014 }}; {{ ref\_intext\_rovero\_zimmermann\_2016 }})"

mod\_divers\_rich\_alpha\_pro\_01: "Fundamental to ecological theory and often a key metric used in management ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_assump\_02: "Geographic closure ({{ ref\_intext\_rowcliffe\_et\_al\_2008 }}; {{ ref\_intext\_doran\_myers\_2018 }}) (i.e., no immigration or emigration) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_catspim\_assump\_04: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_sc\_assump\_03: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_02: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_is\_assump\_02: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_ste\_assump\_02: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_cr\_cmr\_assump\_02: "Geographic closure (i.e., no immigration or emigration) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tte\_assump\_02: "Geographic closure (i.e., no immigration or emigration) at the level of the sampling frame (area of interest); this assumption does not apply at the plot-level (area sampled by the camera) ({{ ref\_intext\_moeller\_et\_al\_2018 }}; {{ ref\_intext\_loonam\_et\_al\_2021 }})"

mod\_cr\_cmr\_con\_08: "Geographic closure at the plot level, which is often unrealistic ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) has also been used to estimate abundance of species that lack natural markers but that have phenotypic and\*/or environment-induced characteristics ({{ ref\_intext\_noss\_et\_al\_2003 }}; {{ ref\_intext\_kelly\_et\_al\_2008 }}; {{ ref\_intext\_rovero\_et\_al\_2013 }})"

mod\_scr\_secr\_assump\_11: "Home ranges are stable ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_15: "Home ranges are stable ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_assump\_08: "If activity and speed are to be estimated from camera data, two additional assumptions: All animals are active during the peak daily activity ({{ ref\_intext\_rowcliffe\_et\_al\_2014 }})"

mod\_sc\_con\_05: "Ill-suited to populations that exhibit group-travelling behaviour' ({{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_divers\_rich\_beta\_pro\_03: "Important for detecting changes in the fundamental processes ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_pro\_02: "Improved precision of density estimates relative to SCR ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_davis\_et\_al\_2021 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_2flankspim\_con\_02: "Increased precision is less pronounced in high-density populations ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_scr\_secr\_assump\_07: "Individuals are not misidentified ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_04: "Individuals are not misidentified ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_06: "Individuals do not lose marks ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_03: "Individuals do not lose marks ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) (for maximum precision), but SMR ({{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_sollmann\_et\_al\_2013a }}; {{ ref\_intext\_sollmann\_et\_al\_2013b }})) does allow for inclusion of marked but unidentified resighting detections ({{ ref\_intext\_sollmann\_et\_al\_2013b }}; {{ ref\_intext\_rich\_et\_al\_2014 }})"

mod\_smr\_assump\_08: "Individuals have equal detection probability at a given distance from the centre of their home range ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_catspim\_assump\_11: "Individuals' identifying traits do not change during the survey (e.g., antlers present\*/absent) ({{ ref\_intext\_augustine\_et\_al\_2019 }})"

mod\_divers\_rich\_alpha\_con\_03: "Insensitive to changes in abundance, community structure and community composition ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_con\_03: "Insensitive to changes in community composition ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}) (however, this may be conditional on study design)"

mod\_occupancy\_con\_02: "Interpretation\*/communication of results may not be straightforward (if the scale of movement is much larger than the [camera spacing](/09\_glossary.md#camera\_spacing) the results should be interpreted as 'probability of use' rather than [occupancy](/09\_glossary.md#occupancy)) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_beta\_con\_02: "Interpretation/communication not always straightforward ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_behaviour\_pro\_02: "Long-term data on behavioural changes that would be difficult to obtain otherwise (i.e., time-limited human observers, or costly GPS collars) ({{ ref\_intext\_bridges\_noss\_2011 }})"

mod\_ds\_con\_08: "Low population density and reactivity to cameras may be major sources of bias' ({{ ref\_intext\_bessone\_et\_al\_2020 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_tifc\_pro\_02: "Makes no assumption about home range ({{ ref\_intext\_warbington\_boyce\_2020 }})"

mod\_rai\_poisson\_assump\_01: "Many [assumption](/09\_glossary.md#mods\_modelling\_assumption)s exist (since used for many approaches) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_con\_01: "Many indices exist, and it can be difficult to choose the most appropriate ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_pro\_03: "Many study designs can be used (paired sample stations, single camera locations, and hybrids of both paired- and single camera locations ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_davis\_et\_al\_2021 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_smr\_assump\_06: "Marked animals are a random sample of the population with home ranges located inside the state space ({{ ref\_intext\_sollmann\_et\_al\_2013a }}; {{ ref\_intext\_rich\_et\_al\_2014 }})"

mod\_rest\_con\_04: "Mathematically challenging ({{ ref\_intext\_cusack\_et\_al\_2015 }})"

mod\_inventory\_pro\_01: "Maximum flexibility for [study](/09\_glossary.md#survey) design (e.g., [camera days per camera location](/09\_glossary.md#camera\_days\_per\_camera\_location) or use of [lure](/09\_glossary.md#baitlure\_lure) ({{ ref\_intext\_rovero\_et\_al\_2013 }})) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_2flankspim\_pro\_05: "May be more robust to non-independence than SC ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_pro\_01: "May be used as a relative abundance index that controls for imperfect detection ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_con\_05: "May not be precise enough for long-term monitoring ({{ ref\_intext\_green\_et\_al\_2020 }})"

mod\_catspim\_con\_02: "May produce be less reliable\*/accurate estimates for high-density populations ({{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_catspim\_pro\_01: "May produce more precise and less biased density estimates than SC with less information ({{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_ds\_con\_01: "May require discarding a portion of the dataset (when the best fitting model truncates the dataset) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_alpha\_pro\_03: "Models exist to estimate asymptotic species richness, including unseen species (simple versions of these models - 'EstimateS' and the 'vegan' R-packages) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_gamma\_pro\_02: "Most indices are easy to calculate and widely implemented in software packages (e.g., 'EstimateS' and 'vegan' in R) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_12: "Movement is unaffected by cameras ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_10: "Movement is unaffected by cameras ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tifc\_assump\_02: "Movement is unaffected by the cameras ({{ ref\_intext\_becker\_et\_al\_2022 }})"

mod\_scr\_secr\_con\_04: "Multiple cameras per station may be required to identify individuals; difficult to implement at large spatial scales as it requires a high density of cameras ({{ ref\_intext\_morin\_et\_al\_2022 }})"

mod\_occupancy\_pro\_05: "Multi-species [occupancy models](/09\_glossary.md#mods\_occupancy) ({{ ref\_intext\_mackenzie\_et\_al\_2002 }}) allow the inclusion of interactions among species while controlling for [imperfect detection](/09\_glossary.md#imperfect\_detection) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_con\_03: "No dedicated, simple software ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_inventory\_assump\_01: "No formal [assumption](/09\_glossary.md#mods\_modelling\_assumption)s ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_beta\_con\_01: "No single best measure for all purposes ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_sc\_con\_04: "Not appropriate for high-density populations with evenly spaced activity centres (camera[-specific] counts will be too similar and impair activity centre inference)' ({{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_sc\_con\_03: "Not appropriate for low density or elusive species when recaptures too few to confidently infer the number and location of activity centres' ({{ ref\_intext\_clarke\_et\_al\_2023 }}; {{ ref\_intext\_burgar\_et\_al\_2018 }})"

mod\_inventory\_con\_01: "Not reliable estimates for inference ('considered as unfinished, working drafts') ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_occupancy\_pro\_02: "Only requires detection\*/non-detection data for each site ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_occupancy\_pro\_04: "Open models exist that allow for the estimation of site colonization and extinction rates ({{ ref\_intext\_mackenzie\_et\_al\_2006 }}; {{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_pro\_07: "Open SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) models exist that allow for estimation of recruitment and survival rates ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_assump\_03: "or, for SECR, individuals have equal detection probability at a given distance from the centre of their home range ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_pro\_04: "Outputs also include informative parameter estimates (i.e., animal speed and activity levels, and detection zone parameters) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_beta\_pro\_02: "Plays a critical role in effective conservation prioritization (e.g., designing reserve networks) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rem\_con\_05: "Possible sources of error include inaccurate measurement of detection zone and movement rate ({{ ref\_intext\_rowcliffe\_et\_al\_2013 }}; {{ ref\_intext\_cusack\_et\_al\_2015 }})"

mod\_sc\_con\_02: "Precision decreases with an increasing number of individuals detected at a camera' ({{ ref\_intext\_morin\_et\_al\_2022 }}) (as overlap of individuals’ home ranges increases) ({{ ref\_intext\_augustine\_et\_al\_2019 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_scr\_secr\_pro\_01: "Produces direct estimates of density or population size for explicit spatial regions ({{ ref\_intext\_chandler\_royle\_2013 }})"

mod\_sc\_con\_01: "Produces imprecise estimates even under ideal circumstances unless supplemented with auxiliary data (e.g., telemetry) ({{ ref\_intext\_doran\_myers\_2018 }}; {{ ref\_intext\_chandler\_royle\_2013 }}; {{ ref\_intext\_sollmann\_et\_al\_2013a }}; {{ ref\_intext\_sollmann\_et\_al\_2013b }})"

mod\_rest\_pro\_01: "Provides unbiased estimates of animal density, even when animal movement speed varies, and animals travel in pairs ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_ds\_assump\_01: "Random or systematic random placements (consistent with the assumption that points are placed independently of animal locations) ({{ ref\_intext\_howe\_et\_al\_2017 }})"

mod\_rem\_con\_04: "Random relative to animal movement, grid preferred, avoid multiple captures of same individual, area coverage important for abundance estimation ({{ ref\_intext\_rovero\_et\_al\_2013 }})"

mod\_divers\_rich\_beta\_assump\_02: "Randomness and independence ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_is\_con\_03: "Reduced precision ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_occupancy\_pro\_03: "Relatively easy-to-use software exists for fitting models (PRESENCE, MARK, and the 'unmarked' R package) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_cr\_cmr\_con\_07: "Relatively stringent requirements for study design (e.g., no 'holes' in the trapping grid) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tifc\_assump\_03: "Reliable detection of animals in part of the camera’s FOV (at least) ({{ ref\_intext\_becker\_et\_al\_2022 }})"

mod\_smr\_con\_04: "Remains poorly tested with camera data, although it offers promise ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_con\_06: "Requires a good understanding of the focal populations’ activity patterns; density estimates can be biased (e.g., under-estimated) when regular periods of inactivity are not accounted for (using detection times to infer periods of activity may help overcome this limitation)' ({{ ref\_intext\_howe\_et\_al\_2017 }}; {{ ref\_intext\_palencia\_et\_al\_2021 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_con\_06: "Requires a minimum number of captures and recaptures ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_is\_con\_01: "Requires accurate counts of animals ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_rest\_con\_03: "Requires accurate measurements of the area of the camera detection zone, which has been a challenge in previous studies ({{ ref\_intext\_rowcliffe\_et\_al\_2011 }}; {{ ref\_intext\_cusack\_et\_al\_2015 }}; {{ ref\_intext\_anile-devillard\_2016 }}; {{ ref\_intext\_doran\_myers\_2018 }}; {{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_tifc\_con\_01: "Requires careful calculation of the effective area of detection ({{ ref\_intext\_warbington\_boyce\_2020 }})"

mod\_rem\_con\_02: "Requires independent estimates of animal speed or measurement of animal speed within videos ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_tte\_con\_01: "Requires independent estimates of movement rate (difficult to obtain without telemetry data) ({{ ref\_intext\_moeller\_et\_al\_2018 }})"

mod\_rem\_con\_01: "Requires relatively stringent study design, particularly (e.g., random sampling and use of bait or lure) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_con\_06: "Requires sampling points to be close enough that individuals encounter multiple cameras ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rai\_poisson\_con\_02: "Requires stringent [study design](/09\_glossary.md#survey) (e.g., random sampling, standardized methods) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_con\_02: "Requires that a minimum number of individuals are trapped (each recaptured multiple times ideally) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_con\_03: "Requires that each individual is captured at a number of camera locations ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_cr\_cmr\_con\_01: "Requires that individuals are distinguishable ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}). However, CR (Sollmann, 2018; {{ ref\_intext\_rovero\_et\_al\_2013 }}; {{ ref\_intext\_karanth\_nichols\_1998 }}) has also been used to estimate abundance of species that lack natural markers but that have phenotypic and\*/or environment-induced characteristics ({{ ref\_intext\_noss\_et\_al\_2003 }}; {{ ref\_intext\_kelly\_et\_al\_2008 }}; {{ ref\_intext\_rovero\_et\_al\_2013 }})"

mod\_scr\_secr\_con\_01: "Requires that individuals are identifiable ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_catspim\_assump\_01: "Same as SC ({{ ref\_intext\_augustine\_et\_al\_2019 }}; {{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_2flankspim\_assump\_01: "Same as SCR ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_2flankspim\_pro\_01: "Same as SCR ({{ ref\_intext\_augustine\_et\_al\_2018 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_cr\_cmr\_assump\_04: "Sampled area encompasses the full extent of individuals’ movements ({{ ref\_intext\_karanth\_nichols\_1998 }}; {{ ref\_intext\_rovero\_et\_al\_2013 }})"

mod\_divers\_rich\_beta\_assump\_03: "Samples are assumed to have been taken at random from the broader population of sites ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_divers\_rich\_alpha\_assump\_04: "Sampling effort is comparable between [Camera locations](/09\_glossary.md#camera\_location) ({{ ref\_intext\_royle\_nichols\_2003 }})"

mod\_divers\_rich\_beta\_con\_03: "Scale-dependent (i.e., influenced by the size of the communities that are being included) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_scr\_secr\_pro\_09: "SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) accounts for variation in individual [detection probability](/9\_glossary#detection\_probability); can produce spatial variation in density; SECR ({{ ref\_intext\_efford\_2004 }}; {{ ref\_intext\_borchers\_efford\_2008 }}; {{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}) more sensitive to detect moderate-to-major populations changes (+/-20-80%) ({{ ref\_intext\_royle\_young\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }})"

mod\_catspim\_con\_01: "Sensitive to non-independent movement (e.g., group-travel); can cause over-dispersion and bias estimates ({{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }}); may limit application to solitary species only ({{ ref\_intext\_sun\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_divers\_rich\_alpha\_pro\_02: "Simple to analyze, interpret and communicate ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_rai\_poisson\_pro\_01: "Simple to calculate and technically possible (even with small sample sizes when robust methods might fail) ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_assump\_09: "Snapshot moments selected independently of animal locations ({{ ref\_intext\_palencia\_et\_al\_2021 }})"

mod\_tte\_assump\_06: "Spatial counts of animals (or counts in equal subsets of the landscape) are Poisson-distributed ({{ ref\_intext\_loonam\_et\_al\_2021 }})"

mod\_ste\_assump\_05: "Spatial counts of animals in a small area (or counts in equal subsets of the landscape) are Poisson-distributed ({{ ref\_intext\_loonam\_et\_al\_2021 }})"

mod\_scr\_secr\_assump\_10: "Spatially explicit models have further assumptions about animal movement ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }}; {{ ref\_intext\_rowcliffe\_et\_al\_2008 }}; {{ ref\_intext\_royle\_et\_al\_2009 }}; {{ ref\_intext\_obrien\_et\_al\_2011 }}); these include:"

mod\_occupancy\_assump\_05: "Species are not misidentified ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_sc\_con\_06: "Study design (camera arrangement) can dramatically affect the accuracy and precision of density estimates' ({{ ref\_intext\_clarke\_et\_al\_2023 }}; {{Sollmann, 2018}})"

mod\_scr\_secr\_assump\_08: "Surveys are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_smr\_assump\_14: "Surveys are independent ({{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_ds\_con\_07: "Tends to underestimate density ({{ ref\_intext\_howe\_et\_al\_2017 }}; {{ ref\_intext\_twining\_et\_al\_2022 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rest\_assump\_07: "The observed distribution of staying time in the focal area fits the distribution of movement ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_rest\_assump\_08: "The observed staying time must follow a given parametric distribution ({{ ref\_intext\_nakashima\_et\_al\_2018 }})"

mod\_occupancy\_assump\_04: "The probability of [occupancy](/09\_glossary.md#occupancy) and detection are constant across all [Camera locations](/09\_glossary.md#camera\_location) within a stratum or can be modelled using covariates ({{ ref\_intext\_mackenzie\_et\_al\_2006 }})"

mod\_catspim\_con\_03: "Too few categorical identifiers\*/ possibilities can result in mis-assignments and overestimating density ({{ ref\_intext\_augustine\_et\_al\_2019 }}; {{ ref\_intext\_parmenter\_et\_al\_2003 }}; {{ ref\_intext\_clarke\_et\_al\_2023 }})"

mod\_rem\_assump\_06: "Unbiased estimates of animal activity levels and speed ({{ ref\_intext\_rowcliffe\_et\_al\_2014 }}; {{ ref\_intext\_rowcliffe\_et\_al\_2016 }}; {{ ref\_intext\_wearn\_gloverkapfer\_2017 }})"

mod\_cr\_cmr\_con\_02: "When the sample size is large enough to reliably estimate density with CR, ({{ ref\_intext\_karanth\_1995 }}; {{ ref\_intext\_karanth\_nichols\_1998 }}) individuals are unlikely to have a unique marker ({{ ref\_intext\_noss\_et\_al\_2003 }}; {{ ref\_intext\_kelly\_et\_al\_2008 }}; {{ ref\_intext\_rovero\_et\_al\_2013 }})"

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