Data from: Causes and consequences of avian within-season dispersal decisions in a dynamic grassland environment, Animal Behavior

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Note: File folders and files are organized by how they are described in the *Analyses* section of the manuscript.

**Folder name: Step1Analysis\_Allnests**

Contains: data used for analysis – Step1\_Allnests\_rawdata.csv; data used for R - R code for analysis - “AllGRSPNests.R”

These files were used to evaluate temporal patterns and consequences of habitat variability on nest survival using all nests found in both years.

Notes: Nesting dates were categorized according to White & Burnham 1999

Explanation of variables and categories used:

NestID: unique identifier given to each nests

DispersalStatus: the movement status assigned to an individual nest parent if known. Disperser = a bird that dispersed; site-faithful = a bird that stayed on territory; ND = not determined; not used in subsequent dispersal analyses

FirstFound: the date the nest was found converted to the ordinal date of the breeding season (corrected according to days of the monitoring season, with 1 indicating the date the first nest was found)

LastPresent: the date the nest was last known as active

LastChecked: the date the nest was last checked by an observer to confirm fate

Fate: the fate of the nest; 0 = successful; 1 = failed

Fate2: the fate of the nest; either failed or successful

MaxNGRSP: the maximum number of Grasshopper Sparrow (‘GRSP’) eggs seen in a nest

MaxNBHCO: the maximum number of Brown-headed Cowbird (‘BHCO’) eggs seen in a nest

Parasitized: ‘yes’ if the nest was parasitized; ‘no’ if the nest was not parasitized

GrazingTrt: the type of grazing treatment a particular watershed in which the nest was found had been given; cattle = grazing by cattle; bison = grazing by bison; Ungrazed = not grazed

BurnedThisYear: whether a particular watershed in which the nest was found had been burned (‘Yes’) or not (‘No’)

Year: the year in which the nest was found; 2014 and 2015

Watershed: the ID of the watershed in which the nest was found; 1D, 2A, 2D, 4A, BFE, C1A, C3A, C3B, C3C, C3SA, C3SB, C3SC, COA, COB, N1A, N1B, N20A, N20A, N2A, N2B, NCOB, NCOB, NT

Attempt: the nesting attempt of the individual nest parent; first and second

**Folder name: Step2Analysis**

**Subfolder: FirstNests**

Contains: data used in .csv file – DispersalAnalysis\_FirstNests.csv; R code for analysis - “DispersalAnalysis\_Firstnests.R”

These files were used to determine whether dispersal behavior improved model fit, including the spatiotemporal factors in the top model identified by Step 1 above.

Explanation of variables and categories used: explanation applies to same variables used in Step 1 Analysis

**Folder name: Step2Analysis**

**Subfolder: FirstNests**

Contains: data used in .csv file – LogRegression\_data\_firstnests\_nestingcyclelosses.csv; JMP file used for analysis - “LogRegression\_JMPfile\_firstnests\_nestingcyclelosses.jmp”

These files were used to determine whether the timing of nest predation affected dispersal decisions by modeling the likelihood of dispersal as a function of nest age at time of nest failure, using logistic regression.

Explanation of variables and categories used:

NestID: unique identifier given to each nests

DispersalStatus: the movement status assigned to an individual nest parent if known. Disperser = a bird that dispersed; site-faithful = a bird that stayed on territory

DayinNestCycle: the ordinal date when the nest failed or fledged

NestFate: the fate of the nest; fail = failed; fledge = successful

**Folder name: Step2Analysis**

**Subfolder: FirstNests**

Contains: data used in .csv file – FirstNests\_Parasitism.csv; R file used for analysis - “ParasitismAnalysis\_FirstNests.R”

These files were used to determine whether intensity of parasitism affects dispersal by modelling the number of cowbird eggs in first nests as a function of subsequent dispersal behaviour using a GLM

with a Poisson distribution and a log link function.

Explanation of variables and categories used:

NestID: unique identifier given to each nests

NestOrder: the nesting attempt of the individual nest parent; first and second

DispersalStatus: the movement status assigned to an individual nest parent if known. Disperser = a bird that dispersed; site-faithful = a bird that stayed on territory

Parasitized: ‘yes’ if the nest was parasitized; ‘no’ if the nest was not parasitized

NCowbirdEggs: the maximum number of Brown-headed Cowbird eggs seen in a nest

**Folder name: Step2Analysis**

**Subfolder: FirstandSecondNests**

Contains: data used in .csv file – Dispersals\_allnests.csv; R file used for analysis - “DispersalAnalysis\_FirstSecondNests.R”

These files were used to determine whether dispersal functions to increase nest success, by constructing nest survival models in RMark, accounting for the spatiotemporal variables identified in step 1, and evaluating the explanatory power of an interaction between dispersal status and nest number.

Explanation of variables and categories used: explanation applies to same variables used in Step 1 and 2 Analyses

**Folder name: Step2Analysis**

**Subfolder: FirstandSecondNests**

Contains: data used in .csv file – First and Second Nests\_Parasitism.csv; R file used for analysis - “ParasitismAnalysis\_FirstSecondNests.R”

These files were used to determine whether dispersal functions to reduce parasitism risk, by modelling parasitism as a binary response in a GLM using a logit link and testing for an interaction between dispersal status and nest number. Similarly, we modelled the number of parasitic eggs in response to the same predictor variables in a GLM using the log link function.

Explanation of variables and categories used: explanation applies to same variables used in Step 1 and 2 Analyses

**Folder name: Step2Analysis**

**Subfolder: FirstandSecondNests**

Contains: data used in .csv file – IndividualLevel\_DNSEstimates.csv; R file used for analysis - “IndividualLevelAnalysis.R”

These files were used to determine the individual consequences of dispersal, by constructing a GLMM including individual as a random effect and evaluating the explanatory power of the dispersalstatus\*nest number interaction.

Explanation of variables and categories used:

NestID: unique identifier given to each nests

Individual: the unique color-band combination of the individual bird

DispersalStatus: the movement status assigned to an individual nest parent if known. Disperser = a bird that dispersed; site-faithful = a bird that stayed on territory

NestOrder: the nesting attempt of the individual nest parent; first and second

DNSEstimate: the daily nest survival estimate for a particular nest