

Appendix 1.

SAS code for best approximating ground nester's model. All other guilds follow the same approach but can vary by retained predictor variables in their best approximating model.

```
proc glimmix ic=pq method = mspl;
  class segment Ys_cat Landscape_Ag;
  model sqrt_v_tip_ground = PERC_WETL PERC_CONI PERC_MIXE PERC_SHRU
  PERC_CROP PDI Ys Ys*Ys Ys*SEIS_DEN Ys*WELL Ys*ROAD_DEN
  Ys*PIPE_DEN Ys*Ys*SEIS_DEN Ys*Ys*WELL Ys*Ys*ROAD_DEN
  Ys*Ys*PIPE_DEN Landscape_Ag*Ys*SEIS_DEN Landscape_Ag*Ys*WELL
  Landscape_Ag*Ys*PIPE_DEN Landscape_Ag*Ys*Ys*SEIS_DEN
  Landscape_Ag*Ys*Ys*WELL Landscape_Ag*Ys*Ys*PIPE_DEN / dist = normal link =
  identity ddfm = kenwardroger;
  random Ys_cat / type = ar(1) residual subject=segment;
  random int Ys / subject=segment;

run;
```