Weegman, M. D., R. T. Alisauskas, D. K. Kellett, Q. Zhao, S. Wilson, T. Telenský. Local population collapse of Ross's and lesser snow geese driven by failing recruitment and diminished philopatry. *Oikos*.

Model code and associated data files for Ross's and snow goose integrated population model.

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File list

```
Model code for Ross's and snow goose IPMs.txt
marr_ross.RData
marr_snow.RData
pop size age ratio.csv
```

Description

`Model code for Ross's and snow goose IPMs.txt` – Includes all code to read in data files and run integrated population models (IPMs) to quantify demography of Ross's and snow geese at Karrak Lake, 1997-2017. We annotated the code for practitioners to understand each step.

`marr_ross.RData` – Banding, recapture and recovery data summarized annually for Ross's geese, 1997-2017. There are separate m-arrays for recaptures (marr$A and marr$J) and recoveries (marr$A.dead, marr$J.dead). The m-arrays are stitched together and used in a joint encounter survival model, as part of an IPM, see annotated code for details.

`marr_snow.RData` – Banding, recapture and recovery data for snow geese, 1997-2017. There are separate m-arrays for recaptures (marr$A and marr$J) and recoveries (marr$A.dead, marr$J.dead). The m-arrays are stitched together and used in a joint encounter survival model, as part of an IPM, see annotated code for details.

`pop size age ratio.csv` – Annual breeding population size and age ratio data for Ross's and snow geese, 1991-2018. TOTROSS is total number of Ross's geese surveyed each year, TOTROSSCL is the confidence limit for the TOTROSS estimates. TOTSNOW is total number of snow geese surveyed each year, TOTSNOWCL is the confidence limit for the TOTSNOW estimates. ROSSFLEDGEHY and ROSSFLEDGEAHY are the number of juvenile and adult Ross's geese, respectively, captured annually. SNOWFLEDGEHY and SNOWFLEDGEAHY are the number of juvenile and adult snow geese, respectively, captured annually.