Diverse migratory portfolios drive inter-annual switching behavior of elk across the Greater Yellowstone Ecosystem

Gabriel R. Zuckerman, Kristin J. Barker, Laura C. Gigliotti, Eric K. Cole, Justin A. Gude, Mark A. Hurley, Matthew J. Kauffman, Daryl Lutz, Daniel R. MacNulty, Eric J. Maichak, Doug McWhirter, Tony W. Mong, Kelly Proffitt, Brandon M. Scurlock, Daniel R. Stahler, Ben Wise, and Arthur D. Middleton

Ecosphere

**Appendix S3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Int.** | **Win. range prop. dev : herd-lvl. mig. div.** | **herd-lvl. mig. div.** | **Win. range prop. dev** | **Spr. mig. range prop. dev** | **F.g. access** | **Mean days-from-peak green-up** | **k** | **logLik** | **AICc** | **Delta** | **AICc Weight** | **MCC** |
| ***Top-ranked*** | **-0.55** | **3.13\***  **(-5.723,**  **-1.302)** | **-0.56\***  **(-1.0023, -0.142)** | **-3.31\* (1.171, 5.451)** | **—** | **—** | **—** | **4** | **-68.42** | **145.23** | **0** | **0.15** | **0.21** |
| ***Null*** | **-0.49** | **—** | **—** | **—** | **—** | **—** | **—** | **1** | **-71.70** | **145.44** | **0.21** | **—** | **0** |
| ***Model2*** | **-0.50** | **—** | **—** | **-0.17** | **—** | **—** | **—** | **2** | **-71.37** | **146.85** | **1.62** | **0.07** | **0** |
| ***Model5*** | **-0.49** | **—** | **—** | **—** | **—** | **—** | **-0.16** | **2** | **-71.38** | **146.88** | **1.65** | **0.07** | **0** |
| ***Model 3*** | **-0.49** | **—** | **—** | **—** | **0.15** | **—** | **—** | **2** | **-71.43** | **146.97** | **1.74** | **0.06** | **0.12** |
| ***Model 4*** | **-0.49** | **—** | **—** | **—** | **—** | **-0.12** | **—** | **2** | **-71.53** | **147.18** | **1.95** | **0.06** | **0** |

Table S1. Model selection table of the six competitive models for switching from an elevational migrant tactic. \* indicates informative covariates with 85% confidence intervals that do not overlap 0 (Arnold, 2010).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Int.** | **Spr. mig. range prop. dev. : herd-lvl. mig. div.** | **Herd-lvl. mig. div.** | **Spr. mig. range prop. dev.** | **k** | **logLik** | **AICc** | **Delta** | **AICc Weight** | **MCC** |
| ***Top-ranked*** | **-3.31** | **-3.48** | **0.88\***  **(0.534, 1.253)** | **-0.73** | **4** | **-92.45** | **193.06** | **0** | **0.97** | **0.25** |

Table S2. Model selection table of the one competitive model for switching from a short distance migrant tactic. \* indicates informative covariates with 85% confidence intervals that do not overlap 0 (Arnold, 2010).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Int.** | **Max. snow : herd-lvl. mig. div.** | **Herd-lvl. mig. div.** | **Max. snow on win. range** | **Spr. mig. range prop. dev.** | **Mean days-from-peak green-up** | **k** | **logLik** | **AICc** | **Delta** | **AICc Weight** | **MCC** |
| ***Top-ranked*** | **-1.69** | **-3.63\***  **(-5.737,**  **-1.717)** | **2.37\* (1.11, 3.725)** | **3.30\* (1.482,5.224)** | **—** | **—** | **4** | **-39.62** | **87.70** | **0** | **0.17** | **0.31** |
| ***Model 21*** | **-1.56** | **—** | **—** | **-0.50\* (-1.029, -0.029)** | **0.59\* (0.203, 1.075)** | **—** | **3** | **-41.21** | **88.70** | **1.00** | **0.10** | **0.12** |
| ***Model 3*** | **-1.50** | **—** | **—** | **—** | **0.39\* (0.06, 0.79)** | **—** | **2** | **-42.39** | **88.91** | **1.21** | **0.09** | **0.12** |
| ***Model 20*** | **-1.54** | **—** | **—** | **—** | **0.42\* (0.083, 0.828)** | **0.32** | **3** | **-41.46** | **89.20** | **1.50** | **0.08** | **0.31** |
| ***Null*** | **-1.47** | **—** | **—** | **—** | **—** | **—** | **1** | **-43.82** | **89.69** | **1.99** | **—** | **0** |

Table S3. Model selection table of the five competitive models for switching from a long distance migrant tactic. \* indicates informative covariates with 85% confidence intervals that do not overlap 0 (Arnold, 2010).