Supplementary Material

Individual variation in temporal dynamics of post-release habitat selection

Simona Picardi $^{1,2},$ Nathan Ranc
³, Brian J. Smith $^{1,4},$ Peter S. Coates
5, Steven R. Mathews 5, David K. Dahlgren
1 1

¹Department of Wildland Resources, Utah State University, Logan, UT, USA

²Jack H. Berryman Institute, Utah State University, Logan, UT, USA

³Center for Integrated Spatial Research, Environmental Studies Department, University of California Santa Cruz, Santa Cruz, CA, USA

⁴Ecology Center, Utah State University, Logan, UT, USA

⁵U. S. Geological Survey, Western Ecological Research Center, Dixon Field Station, Dixon, CA, USA

Model selection tables

We used integrates step-selection analysis (iSSA) to quantify temporal dynamics of post-release habitat selection in 26 female greater sage-grouse (*Centrocercus urophasianus*) translocated from Wyoming to North Dakota, USA. We report here model selection tables for each individual sage-grouse. The model set includes two models:

• Model T0 (null model): no time-dependence

• Model T1: time-dependent selection for herbaceous cover

Britt

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| Γ1H | -719.99 | 1456.87 | 0.00 | 0.83 |
| ΓО | -722.70 | 1460.09 | 3.21 | 0.17 |

Syd

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -725.22 | 1465.14 | 0.00 | 0.66 |
| T1H | -724.80 | 1466.49 | 1.35 | 0.34 |

Kris

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -709.14 | 1432.98 | 0.00 | 0.7 |
| T1H | -708.87 | 1434.63 | 1.66 | 0.3 |

Darlene

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|--------------------------|----------------|---------|------------|--------|
| $\overline{\mathrm{T0}}$ | -732.16 | 1479.00 | 0.00 | 0.6 |
| T1H | -731.45 | 1479.78 | 0.78 | 0.4 |

Ruby

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-----------|--------------------|----------------------|---|----------------|
| T0 T1H | -619.35 -619.35 | $1253.51 \\ 1255.75$ | $\begin{array}{c} 0.00\\ 2.24\end{array}$ | $0.75 \\ 0.25$ |

Suzi

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -561.46 | 1137.78 | 0.00 | 0.75 |
| T1H | -561.44 | 1140.00 | 2.22 | 0.25 |

Cailey

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -640.09 | 1294.92 | 0.00 | 0.58 |
| T1H | -639.29 | 1295.54 | 0.62 | 0.42 |

Kelsy

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -621.38 | 1257.55 | 0.00 | 0.66 |
| T1H | -620.91 | 1258.85 | 1.31 | 0.34 |

Jessie

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -685.61 | 1385.97 | 0.00 | 0.74 |
| T1H | -685.53 | 1388.04 | 2.07 | 0.26 |

Audri

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T1H | -563.39 | 1143.90 | 0.00 | 0.55 |
| T0 | -564.70 | 1144.27 | 0.36 | 0.45 |

Tracy

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T1H | -679.96 | 1376.81 | 0.00 | 0.89 |
| 10 | -085.14 | 1380.97 | 4.15 | 0.11 |

Liz

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -590.22 | 1195.36 | 0.00 | 0.76 |
| T1H | -590.22 | 1197.63 | 2.27 | 0.24 |

Alisa

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -600.93 | 1216.68 | 0 | 0.62 |
| T1H | -600.32 | 1217.68 | 1 | 0.38 |

Sugar

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| T0 | -477.66 | 970.34 | 0.00 | 0.71 |
| T1H | -477.40 | 972.10 | 1.76 | 0.29 |

Reese

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-----------|--------------------|---|----------------|----------------|
| T0 T1H | -511.56 -511.44 | $\begin{array}{c} 1038.14 \\ 1040.22 \end{array}$ | $0.00 \\ 2.08$ | $0.74 \\ 0.26$ |

Misty

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|--------------------------|----------------|--------|------------|--------|
| $\overline{\mathrm{T0}}$ | -481.13 | 977.32 | 0.00 | 0.75 |
| T1H | -481.06 | 979.50 | 2.18 | 0.25 |

Anelyse

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T1H | -705.24 | 1427.39 | 0.00 | 0.68 |
| T0 | -707.10 | 1428.89 | 1.51 | 0.32 |

Isabel

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| T1H | -381.92 | 781.38 | 0.00 | 0.92 |
| T0 | -385.50 | 786.19 | 4.81 | 0.08 |

Mariah

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| T0 | -461.01 | 937.14 | 0.00 | 0.76 |
| T1H | -461.00 | 939.45 | 2.31 | 0.24 |

Hailey

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T1H | -580.43 | 1177.96 | 0.00 | 0.74 |
| T0 | -582.61 | 1180.07 | 2.12 | 0.26 |

Sage

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| T1H | -397.39 | 812.33 | 0.00 | 0.78 |
| T0 | -399.81 | 814.82 | 2.49 | 0.22 |

Artemisa

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -574.67 | 1164.21 | 0.00 | 0.68 |
| T1H | -574.29 | 1165.71 | 1.49 | 0.32 |

Phoebe

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -591.37 | 1197.61 | 0.00 | 0.5 |
| T1H | -590.25 | 1197.62 | 0.01 | 0.5 |

Taylor

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| T0 | -448.28 | 911.72 | 0.00 | 0.55 |
| T1H | -447.32 | 912.15 | 0.43 | 0.45 |

Нарру

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|--------|------------|--------|
| Т0 | -410.24 | 835.74 | 0.00 | 0.51 |
| T1H | -409.08 | 835.80 | 0.06 | 0.49 |

 Jen

| Model | Log-likelihood | AICc | Delta AICc | Weight |
|-------|----------------|---------|------------|--------|
| T0 | -509.85 | 1034.67 | 0.00 | 0.62 |
| T1H | -509.19 | 1035.65 | 0.98 | 0.38 |

Correlation between predictors



Distribution of locations in geographical space

Mean distance between sage-grouse release locations (km):

[1] 23.41

The map below shows the distribution of sage-grouse locations in geographical space. The points depict GPS locations and the red polygons are 95% MCP constructed at the individual level.

Mean percent overlap between MCPs:

[1] 0.19

