

Pedersen, Å. Ø., Fuglei, E., Hörnell-Willebrand, M., Biuw, M. and Jepsen, J. U. 2017. Spatial distribution of Svalbard rock ptarmigan based on a predictive multi-scale habitat model. – Wildlife Biology 2017: wlb.00239

Appendix 1

Table A1. Description of the 19 habitat types from Johansen et al. (2009) used in assessment of habitat suitability presence of territorial Svalbard rock ptarmigan males. The habitat type ‘established dense *Dryas* heath’ (16) was the only predictor variable included in the final habitat model.

| Habitat type | Map unit |
|--------------|--|
| 1 | Sea, oceans, inland lakes, broad flooding rivers |
| 2 | Shadow effect areas |
| 3 | Glaciers, melting areas |
| 4 | Wet, non-vegetated to sparsely vegetated flats, beaches, slopes and river fans |
| 5 | Dry, non-vegetated to sparsely vegetated barrens, slopes and ridges |
| 6 | Glaciers |
| 7 | Wet, sparsely vegetated flats, beaches, slopes and river fans |
| 8 | Wet vegetated flats, beaches, slopes and river fans |
| 9* | Moderate snow-bed and snow-flush communities |
| 10 | Swamps, hygrophilous vegetation and wet moss tundra |
| 11 | Moss tundra |
| 12 | Rich moss tundra and bird cliff vegetation |
| 13 | Arctic meadows |
| 14 | Open, dry-grass communities |
| 15 | Open <i>Dryas</i> communities |
| 16 | Established dense <i>Dryas</i> heaths ** |
| 17 | <i>Luzula</i> spp. and sparse graminoid vegetation communities |
| 18 | Gravel barren communities |
| 19 | Polar deserts and polygon fields |

* Not present in study area.

** Termed ‘established *Dryas* tundra’ in Johansen et al. (2012).

Table A2. Summary statistics (mean \pm SD) of the predictor variable assessed in the final five top ranked habitat models for probability of presence of territorial Svalbard rock ptarmigan males in spring. Note that for the ‘heat load index’, we give the number of sites within each level of the factor variable for presence and pseudo-absence sites, respectively. Number in parentheses denotes the proportion of sites within each level for presences and pseudo-absence sites.

| Predictor | Level | Unit | Presence | Pseudo-absence |
|---|----------------------------|------------------------------|------------------|-------------------|
| Elevation | - | m | 144.2 \pm 89.6 | 196.9 \pm 180.8 |
| Habitat type (Established dense Dryas heath; 100 \times 100 m) | - | Proportion (range 0-1) | 0.09 \pm 0.19 | 0.05 \pm 0.14 |
| Slope (1000 \times 1000 m) | - | Degree | 13.3 \pm 5.7 | 10.6 \pm 8.7 |
| Heat load index (HLI) (600 \times 600 m) | valley | No. of sites (proportion) | 37 (0.26) | 169 (0.45) |
| | upper northeast hill slope | - | 28 (0.20) | 50 (0.13) |
| | lower northeast hill slope | - | 21 (0.15) | 53 (0.14) |
| | lower southwest hill slope | - | 21 (0.15) | 59 (0.16) |
| | upper southwest hill slope | - | 34 (0.24) | 44 (0.12) |