

Ecosphere – Emerging Technologies

**Snowmelt progression drives habitat selection and vegetation disturbance by an Arctic avian herbivore**

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**Appendix S3**

Table S1: Percentage of vegetation class that is free of snow at each day of the year (DOY) in study area of Adventdalen valley (Svalbard) during pink-footed goose pre-breeding season (May-June 2019, DOY 130 = 10 May and DOY 152 = 01 June).

DOY	mosstundra	dwarf shrub heath	bare ground/water
130	3.07	7.39	10.27
138	5.60	9.67	12.63
142	12.42	15.08	19.32
143	16.17	18.78	25.10
147	17.17	20.07	26.32
148	21.46	23.17	28.26
150	31.07	30.88	34.87
152	39.10	37.24	40.32

Table S2: Spearman rank correlation coefficients of pink-footed goose habitat selection (normalized from 0-1) and predicted vegetation disturbance probability (0-1) during pink-footed goose pre-breeding season (May-June 2019) in Adventdalen valley, Svalbard. Vegetation selection and signs of vegetation disturbance were measured at fine-scale (5 cm resolution), based on GPS telemetry data and predictors derived from drone images, and valley-scale (10 m resolution), based on GPS telemetry data or field observations and predictors derived from satellite images.

scale	observation	vegetation class	rho	p value
fine-scale	GPS telemetry	all	0.76	0.037
fine-scale	GPS telemetry	moss tundra	0.20	0.800
fine-scale	GPS telemetry	dwarf-shrub heath	1.00	<0.001
valley-scale	GPS telemetry	all	0.79	<0.001
valley-scale	GPS telemetry	moss tundra	0.93	0.001
valley-scale	GPS telemetry	dwarf-shrub heath	0.60	0.120
valley-scale	field observation	all	0.79	<0.001
valley-scale	field observation	moss tundra	0.86	0.007
valley-scale	field observation	dwarf-shrub heath	0.88	0.004