

Ecography

E7737

Thornton, D. G., Wirsing, A. J., Roth, J. D. and Murray, D. L. 2012. Habitat quality and population density drive occupancy dynamics of snowshoe hare in variegated landscapes. – *Ecography* 35: xxx–xxx.

**Supplementary material**

Appendix 1

Table A1: Relative influence of structural measures of area and isolation vs. habitat quality and population density on occupancy dynamics of hares at 365 sites in Northern Idaho over 4 consecutive years. B= Base model including only UTM coordinates of site, HV= local habitat quality (vegetation indices), HS=local habitat quality (spatial variables), PD= local and neighborhood population density, AI=patch area and structural isolation

<b>Extinction 2000</b>				<b>Colonization 2000</b>			
Model	AICc	$\Delta$ AICc	weight	Model	AICc	$\Delta$ AICc	weight
HV+PD	266.64	0	0.88	HV	125.30	0	0.29
B+PD	271.35	4.71	0.08	HV+PD	125.42	0.12	0.27
PD	274.73	8.09	0.02	B+HV	126.77	1.47	0.14
<i>PD+AI</i>	<i>275.51</i>	<i>8.87</i>	<i>0.01</i>	HS+HV	127.15	1.85	0.11
HS+PD	276.18	9.54	0.01	<i>HV+AI</i>	<i>128.95</i>	<i>3.65</i>	<i>0.05</i>
B+HV	282.62	15.98	0.00	PD	129.08	3.78	0.04
HV	293.81	27.17	0.00	HS	129.69	4.39	0.03
HV+AI	294.43	27.79	0.00	B	131.05	5.75	0.02
HS+HV	295.76	29.12	0.00	AI	131.33	6.03	0.01
B+AI	296.41	29.77	0.00	HS+PD	131.40	6.1	0.01
B	298.08	31.44	0.00	PD+AI	132.25	6.95	0.01
B+HS	301.78	35.14	0.00	B+PD	132.61	7.31	0.01
HS+AI	307.13	40.49	0.00	HS+AI	132.68	7.38	0.01

AI	307.38	40.74	0.00	B+HS	133.45	8.15	0.00
HS	308.50	41.86	0.00	B+AI	133.87	8.57	0.00

**Extinction 2001**

**Colonization 2001**

Model	AICc	$\Delta$ AICc	weight	Model	AICc	$\Delta$ AICc	weight
PD	212.61	0	0.33	HV+PD	141.00	0	0.54
<i>PD+AI</i>	<i>213.42</i>	<i>0.81</i>	<i>0.22</i>	B+HV	142.31	1.31	0.28
HS+AI	213.87	1.26	0.18	HS+HV	144.31	3.31	0.10
B+PD	214.32	1.71	0.14	HV	145.44	4.44	0.06
HV+PD	214.45	1.84	0.13	<i>HV+AI</i>	<i>147.17</i>	<i>6.17</i>	<i>0.02</i>
HS+PD	223.20	10.59	0.00	B+PD	155.62	14.62	0.00
B+HV	235.13	22.52	0.00	B+HS	157.23	16.23	0.00
B	235.44	22.83	0.00	B	157.40	16.4	0.00
B+HS	236.01	23.4	0.00	PD	158.18	17.18	0.00
HS+HV	236.17	23.56	0.00	HS+PD	159.77	18.77	0.00
HS	237.38	24.77	0.00	B+AI	161.00	20	0.00
B+AI	238.87	26.26	0.00	PD+AI	162.15	21.15	0.00
HV	241.01	28.4	0.00	HS	162.44	21.44	0.00
AI	242.87	30.26	0.00	HS+AI	166.40	25.4	0.00
HV+AI	243.35	30.74	0.00	AI	166.43	25.43	0.00

**Extinction 2002**

**Colonization 2002**

Model	AICc	$\Delta$ AICc	weight	Model	AICc	$\Delta$ AICc	weight
HS+HV	124.67	0	0.43	HV	162.33	0	0.28
<i>HV+AI</i>	<i>124.74</i>	<i>0.07</i>	<i>0.41</i>	HS+HV	162.60	0.27	0.25

HV	128.62	3.95	0.06	B+HV	162.61	0.28	0.25
HV+PD	128.92	4.25	0.05	HV+PD	163.59	1.26	0.15
B+HV	130.24	5.57	0.03	<i>HV+AI</i>	<i>165.17</i>	<i>2.84</i>	<i>0.07</i>
HS+AI	131.92	7.25	0.01	HS	188.69	26.36	0.00
AI	133.77	9.1	0.00	HS+AI	189.22	26.89	0.00
HS	135.09	10.42	0.00	PD	189.37	27.04	0.00
B+HS	135.71	11.04	0.00	HS+PD	189.50	27.17	0.00
PD+AI	135.90	11.23	0.00	AI	190.48	28.15	0.00
B+AI	137.51	12.84	0.00	PD+AI	191.98	29.65	0.00
HS+PD	137.67	13	0.00	B+HS	192.19	29.86	0.00
PD	138.75	14.08	0.00	B	192.73	30.4	0.00
B	140.35	15.68	0.00	B+AI	192.73	30.4	0.00
B+PD	141.59	16.92	0.00	B+PD	192.97	30.64	0.00

### Extinction 2003

### Colonization 2003

Model	AICc	$\Delta$ AICc	weight	Model	AICc	$\Delta$ AICc	weight
B+PD	179.73	0	0.52	B+HV	90.64	0.00	0.85
B+HV	180.46	0.73	0.36	HV	95.83	5.18	0.06
PD+AI	184.32	4.59	0.05	HV+PD	96.40	5.75	0.05
PD	185.98	6.25	0.02	HS+HV	97.99	7.35	0.02
HV+PD	186.04	6.31	0.02	HV+AI	99.27	8.62	0.01
HS+PD	187.84	8.11	0.01	B	106.61	15.96	0.00
B	190.78	11.05	0.00	B+PD	108.61	17.96	0.00
B+AI	192.28	12.55	0.00	HS	108.99	18.34	0.00

HV+AI	193.79	14.06	0.00	PD	109.49	18.84	0.00
HV	193.94	14.21	0.00	B+AI	109.49	18.84	0.00
B+HS	194.03	14.3	0.00	B+HS	109.75	19.10	0.00
HS+HV	194.99	15.26	0.00	HS+PD	110.98	20.33	0.00
AI	197.32	17.59	0.00	AI	112.11	21.46	0.00
HS+AI	198.97	19.24	0.00	HS+AI	112.95	22.30	0.00
HS	200.64	20.91	0.00	PD+AI	113.41	22.76	0.00

---