

Ecography

**ECOG-02233**

Stephens, R. B., Hocking, D. J., Yamasaki, M. and Rowe, R. J. 2016. Synchrony in small mammal community dynamics across a forested landscape. – Ecography doi: [10.1111/ecog.02233](https://doi.org/10.1111/ecog.02233)

**Supplementary material**

## Appendix 1

Table A1. Results of Freidman tests separately comparing community metrics (abundance, richness, diversity, and evenness) across years within a forest type for small mammals in the White Mountain National Forest. Box-and-whisker diagrams of the four community metrics are reported in Figure 4.

Community metric and forest type	$\chi^2$	<i>df</i>	<i>P</i>
Abundance			
Hardwood	76.05	2	<0.0001
Mixed	78.05	2	<0.0001
Softwood	54.28	2	<0.0001
Richness			
Hardwood	65.41	2	<0.0001
Mixed	58.16	2	<0.0001
Softwood	49.00	2	<0.0001
Diversity			
Hardwood	54.00	2	<0.0001
Mixed	51.35	2	<0.0001
Softwood	38.55	2	<0.0001
Evenness			
Hardwood	2.92	2	0.2319
Mixed	12.51	2	0.0019
Softwood	2.55	2	0.2792

Table A2. Results of Kruskal-Wallis tests separately comparing community metrics (abundance, richness, diversity, and evenness) across forest types within a year for small mammals in the White Mountain National Forest. Box-and-whisker diagrams of the four community metrics are reported in Figure 4.

Community metric and year	$\chi^2$	<i>df</i>	<i>P</i>
Abundance			
1995	1.17	2	0.5559
1996	19.38	2	<0.0001
1997	2.87	2	0.2377
Richness			
1995	1.31	2	0.5192
1996	5.33	2	0.0697
1997	4.38	2	0.1119
Diversity			
1995	1.97	2	0.3743
1996	4.22	2	0.1215
1997	0.14	2	0.9339
Evenness			
1995	2.95	2	0.2286
1996	0.10	2	0.9532
1997	2.53	2	0.2823

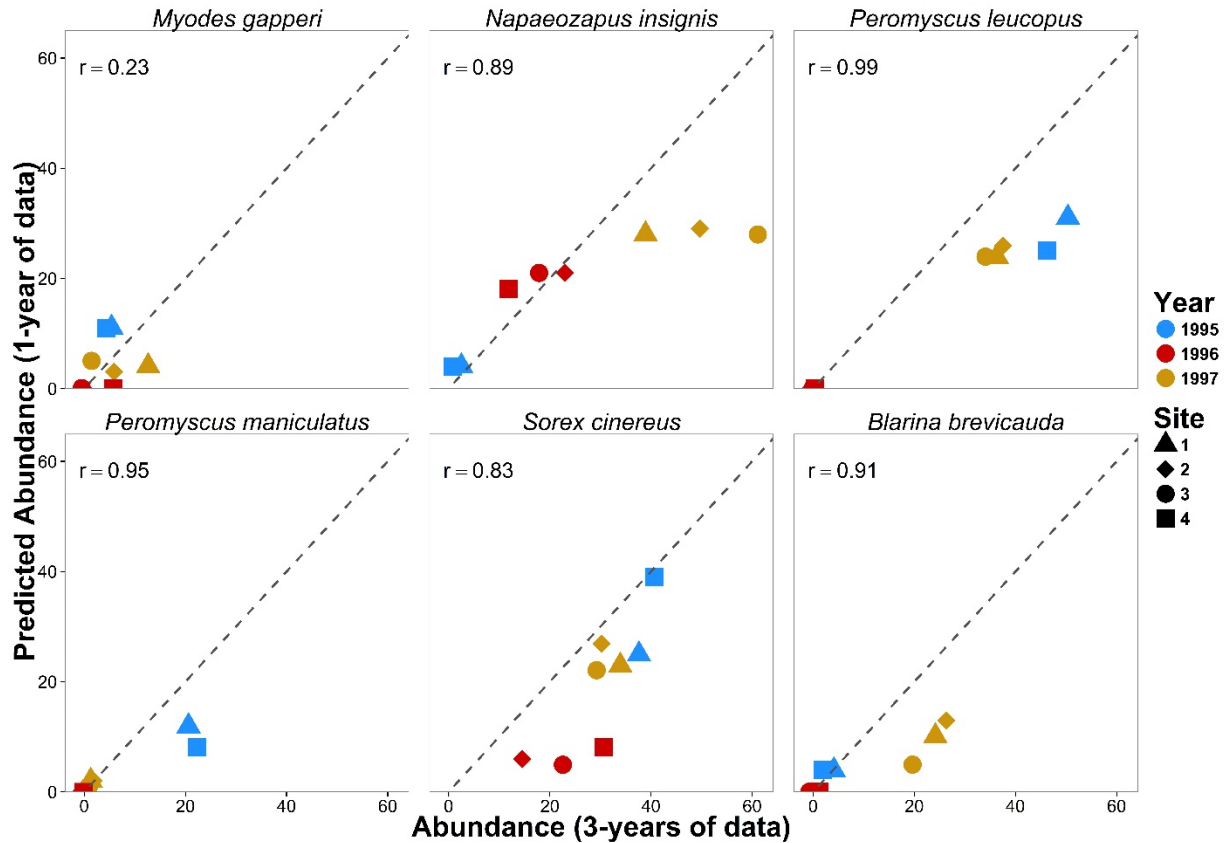


Figure A1. Comparison of abundance and predicted abundance for the six most common small mammal species at four sites in Bartlett Experimental Forest during three years of trapping. Abundance data were derived using count data collected during trapping and were adjusted for imperfect detection using a hierarchical open population model within a Bayesian framework. In a separate model, abundance data from 1-year (randomly drawn) were used to estimate abundance for two years (comparison for the third year not shown). Count data for modeling predicted abundance came from 1995 (sites 3 and 2), 1996 (site 1), and 1997 (site 4). Both models used landscape variables, detection variables, and the three years of data from White Mountain National Forest small mammal trapping to derive abundance values. Year trapped is indicated by color (1995 = blue, 1996 = red, and 1997 = yellow). Sites are denoted by various shapes. Dashed line represents line of equality.

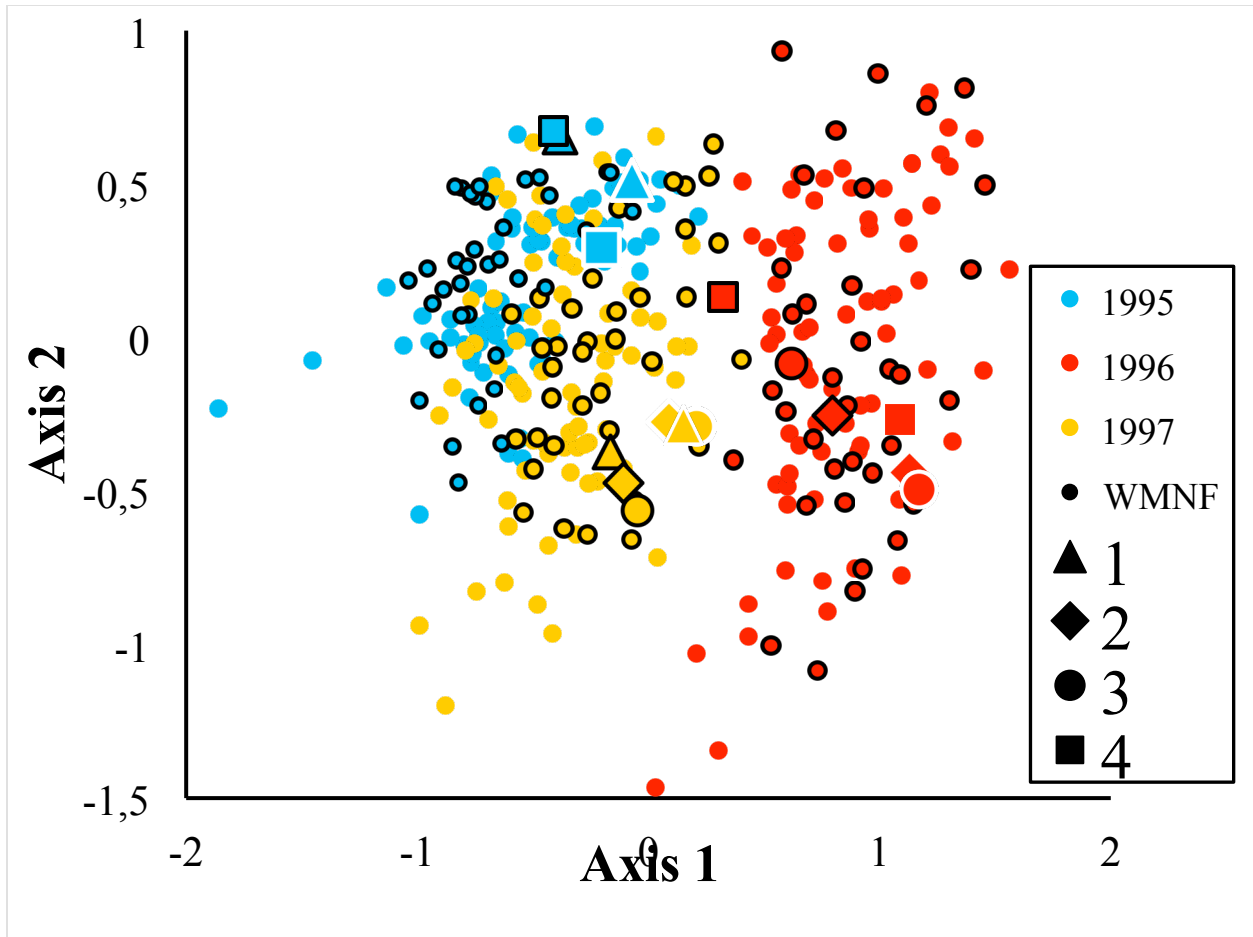


Figure A2. Nonmetric multidimensional scaling ordination of White Mountain National Forest (WMNF) and Bartlett Experimental Forest (BEF) small mammal communities in 2-dimensional space. Outlined shapes represent communities composed of abundance data from sites which were trapped in that year, whereas shapes without an outline represent communities composed of model predicted species abundance data (i.e., sites were not trapped in that year and species abundance data were predicted based on landscape variables, detection variables, count data from other sites trapped during that year, and count data from the year it was trapped). Year is indicated by color (1995 = blue, 1996 = red, and 1997 = yellow). WMNF sites used in analyses of this manuscript are denoted by small circles and BEF data (used as validation) are denoted by various large shapes. Increased pairwise distance between sites (shapes) indicates decreased similarity (Bray Curtis) of community composition. Note that this analysis is a separate ordination from the one in the main text (Fig. 5), and thus has a slightly different ordination structure.