Figure 2.1. Ecological processes that affect the abundance of small mammals.
Figure 2.2. General vicinity of the study area and specific location of small mammal trapping girds in the Sacramento Mountains, New Mexico.
Figure 2.3. Envirogram depicting direct and indirect effects on deer mouse abundance developed from existing literature. Shaded boxes indicate information that was included in models.
Figure 2.4. Envirogram depicting direct and indirect effects on brush mouse abundance developed from existing literature. Shaded boxes indicate information that was included in models.
Figure 2.5. Envirogram depicting direct and indirect effects on Mexican vole abundance developed from existing literature. Shaded boxes indicate information that was included in models.
Figure 2.6. Envirogram depicting direct and indirect effects on long-tailed vole abundance developed from existing literature. Shaded boxes indicate information that was included in models.
Figure 2.7. Envirogram depicting direct and indirect effects on Mexican woodrat abundance developed from existing literature. Shaded boxes indicate information that was included in models.
Figure 2.8. Frequency of models (a) selected for estimating population sizes of five murid rodents in the Sacramento Mountains, New Mexico (1991–1996) and reliability of estimates of sampling error in abundance estimates (b) from 243 analyzed data sets. The various models (M_) assume equal and constant capture probability (\( \hat{p} \)) among individuals (o), or variation in \( \hat{p} \) caused by time (t), by behavioral response to initial capture (b), or by biological differences (e.g., sex, age) among individuals (h). Species acronyms are PEMA–deer mouse, PEBO–brush mouse, MIME–Mexican vole, MILO–long-tailed vole, and NEME–Mexican woodrat. Number of data sets for each species are shown in parentheses (a).
Figure 2.9. Distribution of summer densities of five small species (a) deer mice; (b) brush mice; (c) Mexican voles; (d) long-tailed voles; and (d) Mexican woodrats estimated using closed-population sizes divided by effective sampling area (using Program CAPTURE) or number of individuals marked divided by grid area (Naive) from the Sacramento Mountains, New Mexico (1991–1996). Zero estimates for sites where the species was not observed have been excluded.
Figure 2.10. Annual patterns in the distribution and abundance of five murid rodents occurring in the Sacramento Mountains, New Mexico during July–August (1991–1996). Error bars are SE of mean biomass among replicate sites within each habitat. Number of replicates is given in Table 2.1. Ordinate scale varies by species. Montane meadows were not sampled in 1991.
Figure 2.11. Seasonal patterns in the distribution and abundance of five murid rodents occurring in the Sacramento Mountains, New Mexico during one annual period (1993–1994). Summer (Su) was sampled during mid-July through mid-Aug; fall (Fa) during mid-October through mid-November; winter (Wn) during mid-January through mid-February; spring (Sp) during mid-April through mid-May. Error bars are SE of mean biomass among replicate sites within each habitat. Number of replicates is given in Table 2.1. Ordinate scale varies by species.
Figure 2.12. Fit of *a priori* (original) and all (original and exploratory) models predicting summer abundance of deer mice from likely biotic and abiotic factors in the Sacramento Mountains, New Mexico (1992–1994). Effect coefficients ($\hat{\beta}$) are averages across models in the indicated set. Bivariate plots between deer mouse abundance and each of the highest ranked independent regressor variables are also shown ($n = 42$ combinations of site and year).
Figure 2.13. Additional correlations between deer mouse abundance and selected weather or microhabitat variables in the Sacramento Mountains, New Mexico (1991–1996).
Figure 2.14. Fit of a priori (original) and all (original and exploratory) models predicting summer abundance of brush mice from likely biotic and abiotic factors in the Sacramento Mountains, New Mexico (1992–1994). Effect coefficients (\( \hat{\beta} \)) are averages across models in the indicated set. Bivariate plots between brush mouse abundance and each of the highest ranked independent regressor variables are also shown (\( n = 42 \) combinations of site and year).
Figure 2.15. Additional correlations between brush mouse abundance and selected weather or microhabitat variables in the Sacramento Mountains, New Mexico (1991–1996).
Figure 2.16. Fit of a priori (original) and all (original and exploratory) models predicting summer abundance of Mexican voles from likely biotic and abiotic factors in the Sacramento Mountains, New Mexico (1992–1994). Effect coefficients ($\hat{\beta}$) are averages across models in the indicated set. Bivariate plots between Mexican vole abundance and each of the highest ranked independent regressor variables are also shown ($n = 42$ combinations of site and year).
Figure 2.17. Additional correlations between Mexican vole abundance and selected microhabitat variables in the Sacramento Mountains, New Mexico (1991–1996).
Figure 2.18. Fit of a priori (original) and all (original and exploratory) models predicting summer abundance of long-tailed voles from likely biotic and abiotic factors in the Sacramento Mountains, New Mexico (1992–1994). Effect coefficients ($\hat{\beta}$) are averages across models in the indicated set. Bivariate plots between long-tailed vole abundance and each of the highest ranked independent regressor variables are also shown ($n = 42$ combinations of site and year).
Figure 2.19. Additional correlations between long-tailed vole abundance and selected weather and microhabitat variables in the Sacramento Mountains, New Mexico (1991–1996).
Figure 2.20. Fit of *a priori* (original) and all (original and exploratory) models predicting summer abundance of Mexican woodrats from likely biotic and abiotic factors in the Sacramento Mountains, New Mexico (1992–1994). Effect coefficients (\( \bar{\beta} \)) are averages across models in the indicated set. Bivariate plots between Mexican woodrat abundance and each of the highest ranked independent regressor variables are also shown (\( n = 42 \) combinations of site and year).
Figure 2.21. Additional correlations between Mexican woodrat abundance and selected microhabitat variables in the Sacramento Mountains, New Mexico (1991–1996).