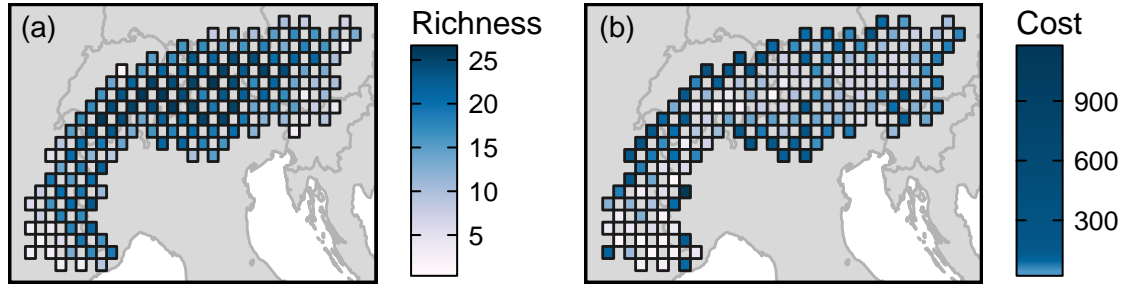
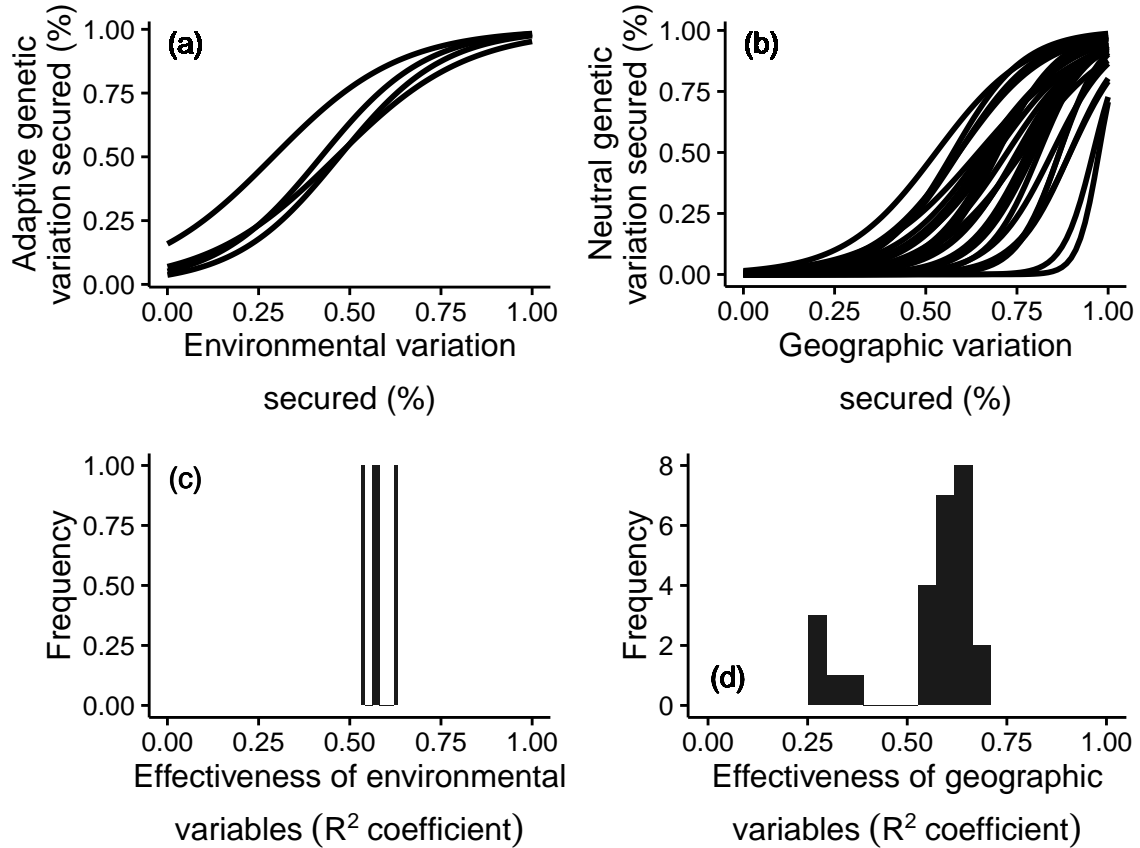


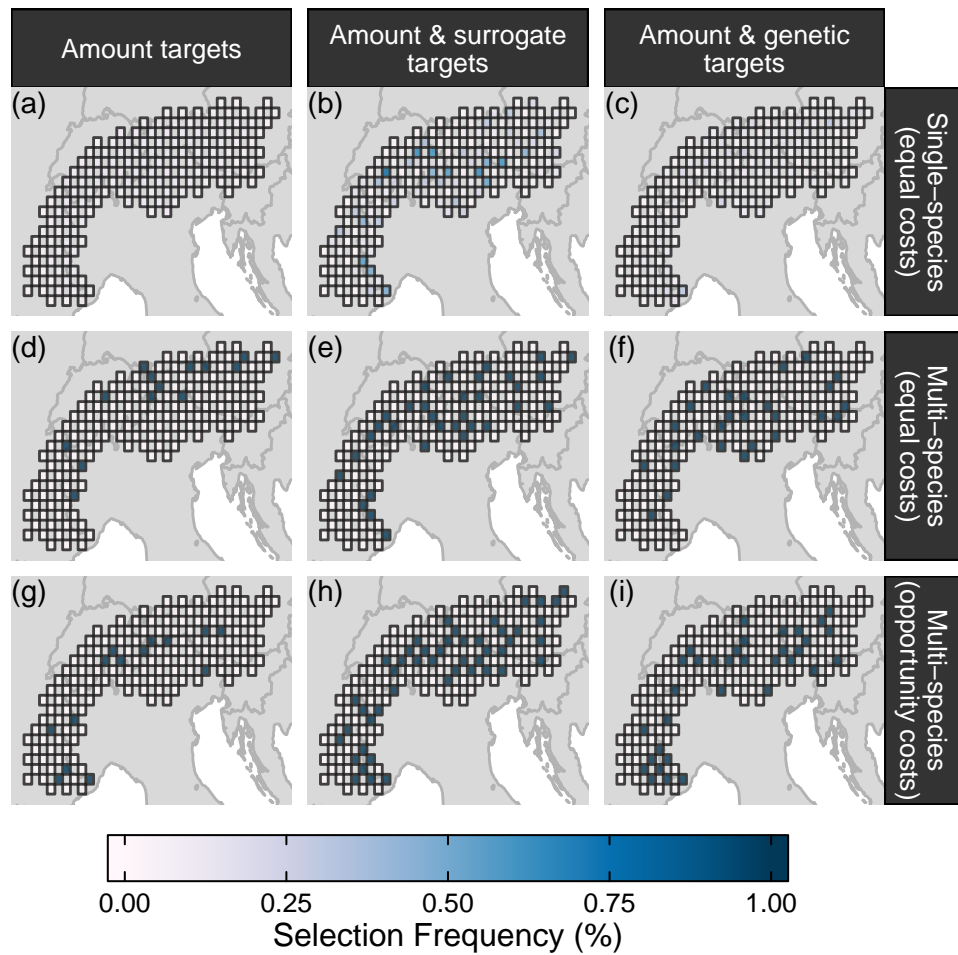
## Figures



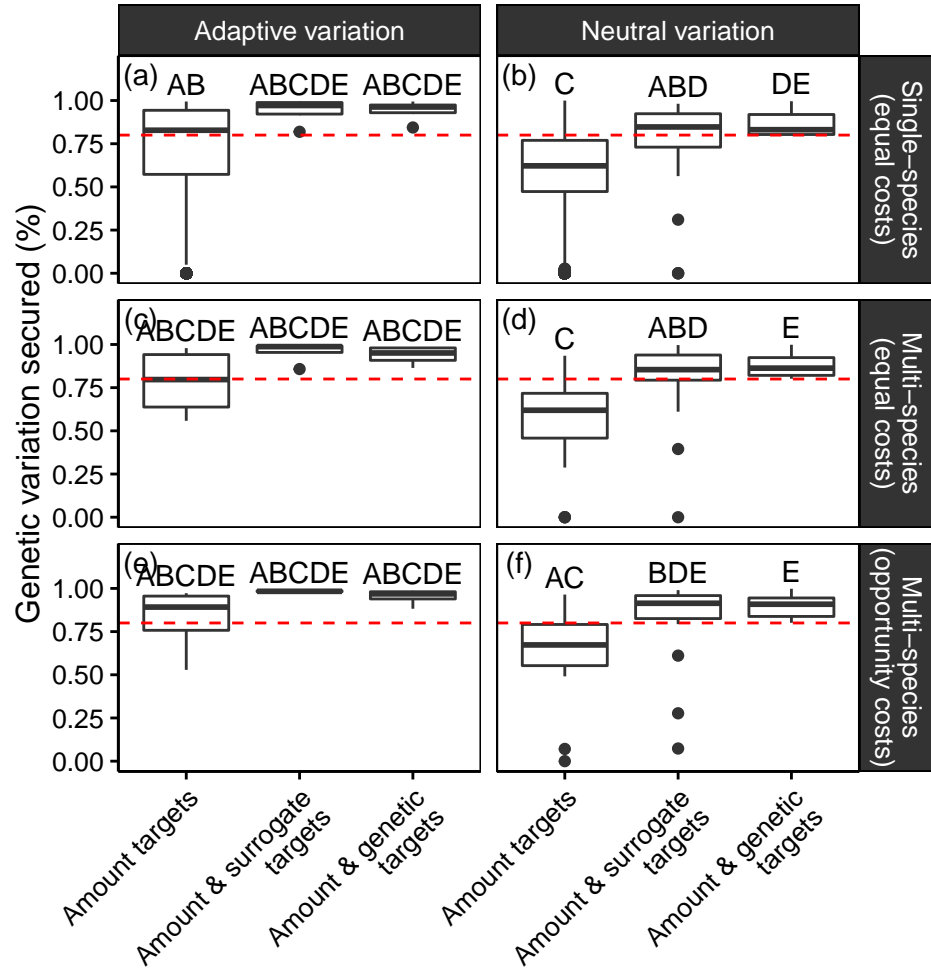
**Figure 1** Map of the study area. Squares denote planning units. Panel (a) depicts patterns of species richness. Planning units with a brighter color are inhabited by more species. Panel (b) shows the distribution of opportunity cost across the study area (computed as total population density). Note that a quantile-based color ramp is used in this panel.



**Figure 2** The relationship between surrogates and genetic variation secured in prioritizations. Panel (a) shows the relationship between the proportion of intra-specific adaptive genetic variation and environmental variation secured in a prioritization. Similarly, panel (b) shows the relationship between the proportion of intra-specific neutral variation and geographic variation secured in a prioritization. Panels (c) and (d) show the distribution of  $R^2$  values for these models.



**Figure 3** Planning unit selection frequencies. The top row of panels (a, b, c) show single-species prioritizations generated assuming equal costs. The middle row of panels (d, e, f) show multi-species prioritizations generated assuming equal costs. The bottom row of panels (g, h, i) show multi-species generated using opportunity costs. The left column of panels (a, d, g) show prioritizations generated using only amount-based targets. The middle column of panels (b, e, h) show prioritizations generated using amount- and surrogate-based targets. The right column of panels (c, f, i) show prioritizations generated using amount- and genetic-based targets.



**Figure 4** The effectiveness of prioritizations at securing genetic variation. The top row of panels (a–b) show the performance of single-species prioritizations generated assuming equal costs among planning costs. The middle row of panels (c–d) show the performance of multi-species prioritizations generated assuming equal costs among planning units. The bottom row of panels (e–f) show the performance of multi-species prioritizations generated using opportunity costs. The left column of panels (a, c, d) and the right column of panels (b, d, f) show the proportion of adaptive and neutral genetic variation secured (respectively). Box plots show the effectiveness of prioritizations generated using amount-based targets, amount-based and surrogate-based targets, and amount-based and genetic-based targets for each species. Letters denote significant differences ( $P < 0.05$ ).