

Floral Selection and Value to Bumble Bees in Montana and the Dakotas (Poster)

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As conservation efforts to create and manage pollinator habitat escalate to address widespread pollinator declines, identifying regionally appropriate plants that adequately support imperiled pollinators is important to ensure effective conservation action. Anecdotal evidence and traditional pollinator visitation counts do not necessarily reflect floral value; thus, more objective measures of valuable floral resources are needed. We conducted bumble bee and flowering plant surveys in Montana, North Dakota, and South Dakota. We implement an objective, repeatable approach to quantify the relative value of floral resources to bumble bees across the study area, which we call flower value scores. Flower value scores reflect a flower's relative contribution to bee nutrition by integrating bumble bee use, selection, and richness, as well as bloom duration. We evaluated overall selection and also considered ecoregion, sex, and season to support the regional needs of land managers. Selections for plant species were consistent across subset datasets, suggesting overall bumble bee preferences were consistent across this multi-state study area. Floral use varied by bumble bee species, however, implying that diverse plantings are needed to support the forage needs of diverse pollinators. Selection did not correlate with traditional visitation counts. We identify *Chamerion angustifolium*, *Geranium viscosissimum*, and *Penstemon confertus* as important species for bumble bees in early- and mid-season, *Monarda fistulosa* in mid-season, and *Lupinus sp.* and *Campanula rotundifolia* in early-, mid-, and late-season. Nonnative *Centaurea stoebe* and *Melilotus officinalis* also had high flower value scores, suggesting pollinator support requires pairing nonnative plant removal with native plant revegetation.