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Beekeeping is frequently criticized for the potential that managed honeybees outcompete wild pollinator species. Proving or rejecting that honeybees have a detrimental effect on wild pollinator species is no easy task. One measure that is used to demonstrate negative impacts on wild species are changes in wild pollinator community composition (i.e., species turnover and loss) when honeybees are added to the area. Another measure that can be used is a disruption of plant-pollinator interaction networks (i.e., "rewiring"). The potential for honeybees to cause either wild pollinator species turnover or interaction rewiring will generally depend on levels of local resource availability and degree of wild pollinator generalization/ specialization.

We present results from a study in the Hallingdal valley of Southern Norway where honeybees are normally absent. No beehives are placed within 20 km of the Norwegian Beekeeping Association's facility in Nesbyen as a measure to protect the genetic lineage of the queens reared there. This area thus provides a unique opportunity for a manipulative experiment to test hypotheses for how variation in the honeybee density can affect native bee species assemblies along gradients of both floral resources and nesting site availability.

We used both netting and pan traps at 40 sites within the valley to measure the area's pollinator abundance and diversity, and document plant-pollinator species interactions. Data from 2022 describe baseline conditions, data from 2023 describe effects of introducing beehives at varying density within the study area, and data from 2024 describe effects that may have persisted after the hives were removed.

We present results of analyses exploring how spatial and temporal species turnover and plant-pollinator interaction rewiring reflect the conditions under which competition from honeybees has the greatest potential to disrupt pollination wild pollinator communities. We will also describe how findings are used within a model for prescribing appropriate honeybee colony stocking densities, accounting for local floral resource availability and nesting sites, to avoid negative effects from competition with local wild pollinators. This model will be invaluable to beekeepers by giving guidance in stocking densities that do not cause negative effects on local wild pollinators.