

Healing the invisible masses? Responses of insects to restoration

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The indigenous fauna of New Zealand is exceedingly distinctive, with high levels of endemism, expanded niches, gigantism, extended life histories, flightlessness, and ground-dwelling habits. These attributes make taxa vulnerable to human disturbance (e.g., habitat loss and degradation) and to predation by rodents and other introduced mammals that accompanied human settlement in the 13th Century. Ecological restoration aims to halt and potentially reverse these population declines and has become a major tool in conservation management in New Zealand. Recently, many new community conservation projects have set goals to restore indigenous communities, primarily focusing on birds and plants; few consider insects, which contribute considerably to biodiversity and perform key roles in many ecosystem processes. However, responses of insect taxa and communities to habitat restoration have been measured at wetland sites and biodiversity sanctuaries where mammals have been controlled or eradicated. The Ecological Integrity framework developed primarily for birds and plants may prove helpful for studying the recovery of insect communities. This framework uses indigenous dominance and species occupancy to evaluate biotic response to restoration.

