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Abstract	<p>A total of 49 breeding colonies of 3 petrel species was found on 44 of 56 islands surveyed in Dusky Sound, Fiordland National Park, New Zealand, in November 2016. Sooty shearwater (<i>Puffinus griseus</i>) was the most widespread abundant species, with an estimated 21,400 burrows on 35 islands. Mottled petrels (<i>Pterodroma inexpectata</i>) breeding on 12 islands (5500 burrows estimated), and broad-billed prions (<i>Pachyptila vittata</i>) on 2 islands (1000 burrows estimated). Sooty shearwaters were found breeding among mottled petrels on 4 islands, and among broad-billed prions on 1 island. This is a 5-fold increase in the number of petrel colonies in Dusky Sound since the last published accounts, and the first estimate of the number of burrows on each island. Long-term survival of many of these colonies is dependent on ongoing control of stoats (<i>Mustela erminea</i>) in Dusky Sound. However, we found that islands too small to support a resident stoat population provided partial refugia for petrels, even if the islands were within stoat swimming range, allowing petrels to persist for multiple generations. In contrast, petrels were almost rapidly extirpated from islands over 100 ha, where stoats maintained a resident population.</p>
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