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A lover's triangle

Scientists assess the quality of habitat that raptors use. In theory, raptors settle good habitat before they settle poor habitat. When birds first settle an area, they settle in a sequence – good habitat first, moderate habitat next, poor habitat last. This is known as *sequential habitat occupancy*. For example, when birds first arrive back on their breeding grounds from wintering, or birds are introduced into an area for conservation purposes, the first wave of settlers takes up the best habitat and the last settlers take up poorest habitat. However, this assumes static habitat quality, that is, habitats do not change over time. It also assumes that individual pairs cannot change or improve the territory they settle on. Site fidelity, the tendency for owls to remain or return to one territory instead of moving from one territory to another, means that an owl can start breeding on good habitat and end up on poor habitat if this habitat changes or neighbours take away pieces of it. Below we look at a single example to illustrate what can happen when two pairs have settled on good habitat, and a new pair moves into adjoining poor habitat.

In 1993 males Red and White had been breeding successfully on adjacent territories when a third male, Green, moved to habitat adjacent to Red and White and bred. White and Red defended their western borders with territorial Boobook calling and attempted to push Green back, but Green stayed and continued to push east into Red and White's territories. For six years the three males battled over land.

Using bouts of calling on their common borders Green Duelled with his two neighbours. Apparently he sought the taller trees and better shrub cover that held food, call trees and nest sites on his neighbours' patches. Each year Green took a little more land from his neighbours. Then, at the end of December 1997 (see Figures 23.1 and 23.2), one of the losing males, Red, disappeared. Much of the vocal