young produced after the seedfall have disappeared.

The same sequence of events followed good seedfalls in all three study areas, though less clearly in areas when there were other kinds of food available (for example, rabbits) as well as rodents. In places like Mount Cook, where rabbits are much more important prey for stoats than mice, seasons of high numbers of rabbits have the same effect on the breeding success of stoats as seasons of high numbers of mice in beech forests.

Implications for birds

This sequence of events has important implications for the conservation of birds. First, in summers when stoats are numerous more of the common bush birds than usual are eaten by stoats, not because they eat more birds per head, but because there are many more stoats out hunting, each for the usual number of birds. The high numbers of mice available at the same time do not seem to be enough to distract stoats from paying their customary considerable attention to birds. Individual stoats eat many birds every summer, whether or not mice are plentiful; it is just that after a seedfall there are many more stoats around.

Second, the chances of stoats finding the nests or young of one of the endangered mainland species that live near beech forests, such as the takahe, are greatly increased after a seedfall.

Third, rats and mice also increase after a seedfall and both are known to interfere with nesting birds.

It is important to note that we do not know what effect these events have on the breeding success or the population density of the common bush birds; we do not know if the birds we find in stoats' guts were killed or found dead, or what proportion of those killed would otherwise have survived and bred; we do not even know which are native and which introduced species.

So it does not **necessarily** follow that control of stoats after a seedfall would have any beneficial effect on the bush birds generally. (Perhaps some day the field research will be done to find out.) Neither do we have any **firm** evidence of increased preying on less common or endangered birds after a seedfall; but for them it is perhaps less important to have actual evidence than it is to know when a special effort at predator control in their nesting areas would be worth while.

Kinds of control

Very many people would like to see stoats "controlled" (that is, reduced in numbers), at least in the national parks, and one of the long-term aims of my research has always been to help work out how far control is possible and, to the extent that it is, how best to go about it.

There are two kinds of predator control. The one that most people mean when they talk about getting rid of predators is **population control**, the reduction by artificial means of the average level around which a stoat population fluctuates. To do this we have to reduce the breeding stock to some density lower than could naturally be supported in that environment.

The other kind of control is **damage prevention**, which aims merely to reduce the number of stoats present at a time or in a place where they could be a particular nuisance whether or not the breeding stock is affected.

Both are laborious and expensive. In my opinion population control of stoats over any substantial mainland area is impossible with the means we have at present; damage prevention is possible if ornithological evidence can justify the expense.

The reasons why population control of stoats is almost impossible are simple. Young female stoats are so precocious that they are sexually mature before their eyes open at about 6 weeks of age, and they are usually fertilised by an adult male before or soon after they leave the nest in midsummer. (Young males mature at 1 year old.)

Adult females are fertilised for the next season at about the same time as their female young. So females of all ages leaving the family groups in January are already carrying an average of 9 or 10 blastocysts (early embryos), which, after 9 to 10 months' dormancy, will resume their development to full-term young and be born in the following spring.

Hence, even if every male is killed over the summer, when trapping is most effective, the next generation is already assured. Moreover, as females are usually more difficult to catch than males, more females than males escape the trapping and survive to bear their young. A single female could in theory re-establish the population by herself, but in fact she is unlikely to remain alone for long.

Live-trapping work in Fiordland has shown that young males can easily disperse over distances of more than 20 km in the first few weeks of their independence in January and no doubt may travel further still in later months. So any attempt to reduce a local population of