A s the summer fades away, many keepers, syndicates and moorland managers across the country will be forced to take notice of heather beetle damage. Beetle outbreaks are nothing new, but the vast population explosions which have taken place over the past few years have caused damage that is as extensive as it is staggering. Between 2009 and 2010, Langholm Moor in Dumfriesshire lost well over a thousand hectares of prime heather moorland. Some scientists believe that the large scale nature of these outbreaks is being linked to global warming, causing milder, wetter springs that are conducive to successful reproduction. Beetle outbreaks tend to lay their eggs in sphagnum mosses, but they can also lay in heather litter provided it is consistently moist enough. Mild springs increase the number of viable egg laying sites, so that when the adult beetles emerge from hibernation in April, they find an ideal spread of breeding habitats.

When the larvae hatch, they quickly start to feed on the heather leaves. At close quarters, it is possible to see the insects striping the plants; which chew up entire leaves, the heather beetle larvae scrape and fray the heather leaves, shredding the plant’s protective covering and causing dramatic dehlication. Within days, the leaves and stems start to look raw and threadbare. By mid-July, the once gossamer grey heather has become a conspicuous foxey red colour. Given that the bulk of this damage usually takes place in late July and early August, damaged heather is usually in the process of trying to flower. Even light damage will cause the heather plant to abandon flowering, meaning that one of the first real signs of beetle damage will be noticeable green patches in the great purple swathes of late summer time.

Once the larvae have finished feeding, they fall off the heather plants and mature into adults. These adults emerge in early autumn for another short period of feeding on what remains of the heather plants before dispersing into the surrounding moorland. Adult heather beetles are small, modest-looking creatures with shiny golden wing cases. Despite having well-developed wings, they are not great fliers, usually content to drift with the wind for a few hundred metres before landing again and descending into the leaf litter to hibernate. This can mean that beetle outbreaks appear to spread widely and rapidly. Surprisingly, the insects are not attracted to open moorland areas of moorland in an attempt to destroy breeding habitats for eggs and larvae, but the modern implications of drainage on open moorland are now more complicated than they have ever been. Besides, research in the intervening years has shown just how vital these damp areas are for generating insect life that is so important for young birds. The 1912 study, Grouse in Health and Disease, noted that black grouse had a particular taste for eating heather beetles, and that the crop of a blackcock was found to contain more than 250 beetles.

Some keepers have considered spraying infested heather with insecticide or applying for out-of-season burning permits to kill the beetle larvae, but neither will cure the problem. Applying insecticides would be disastrous for vital heathland insects, and beetle larvae have an uncanny knack of being able to drop off burning heather leaves and fall to safety as the flames pass overhead. The future will rest upon a form of management that accepts beetles as an inevitability, and learns how best to restore to health damaged plants once the dust has settled.

In the majority of cases, beetle damage can simply be burnt as part of the moor’s winter burning programme. Although it is difficult to burn naked stems in any quantity, smaller patches simply return to normality after a good fire, regenerating from seed, stem and root, so that after the initial outbreak, the damage has been totally repaired. Recent trials have found that spraying and cutting damaged heather can also be a useful means of restoring the moor, but complications arise when the beetle population is sustained for several years.

Contrarily, some beetle damage has naturally fixed itself. In Sutherland, extensive heather beetle outbreaks destroyed 700 acres of heather on a sporting estate with a minor grouse interest. During subsequent years, as grass began to dominate the area of destroyed heather, the decision was taken to abandon the grouse interest and focus instead on the staking, since the time and expense of repairing the damaged grass was seen to be too great. Grouse numbers fell dramatically and the ground was totally left to its own devices for almost six years. However, as of the summer of 2012, the keeper now notes that a strong heather crop of a blackcock was found to contain more than 300 beetles.

Many keepers treat heather beetle as a fact of life, and this is usually very sensible, but with evidence to suggest that beetle outbreaks are becoming more destructive and difficult to manage, it is clear that this problem poses an increasing threat to British moorlands.

The Heath Trust is always keen to hear about heather beetle outbreaks wherever they occur, no matter how small or insignificant they may seem. By building a store of evidence and learning about the effects of different management techniques, we improve our understanding of the problem and ultimately learn to deal with it as quickly, cheaply and efficiently as possible.