



d) What Holkham's new farming policy means for game

This project was born out of a desire to look at the harvest on Holkham in a more holistic way, in a bid to get the best out of the land for the farm department, the game department and wildlife in general.

Holkham is fortunate to have a population of grey partridge, and the birds have always been a very important feature of the Estate, both as shooting quarry, but also as an indicator species; in that monitoring this bird helps us to monitor the quality of the ecosystem as a whole. What is good or bad reflects on the majority of wildlife within this arable environment.

Most farmland flora and fauna originally benefited from agriculture, but with the passage of time, intensification of the industry has led to a decline of wildlife. Thanks to our innovative farming policy, we have the opportunity to resolve many of the problems that have caused this general decline. The overriding problem for the majority of bird species, including the grey partridge, is the lack of valuable chick food at the right time. Abundant chick food encourages good production in the shape of big broods or multiple broods. Adult food is also important to over-winter birds so that they are in good condition to breed successfully.

Predation

Predation is also a big factor in nature. In simple terms, if predation is greater than production, the species will decline. We operate a rigorous predator control programme within the law, but with growing numbers of birds of prey, such as sparrow hawks and marsh harriers, we have to look at planting different plants to give cover for chicks and adults to hide in.

Flower Power

As well as 40 hectares of various crops and 15 hectares of wild bird mix under the stewardship scheme, part of our commitment to conservation is to plant flowers. We have done this by buying seed and planting in the traditional way. Trefoils, vetches and clover are good for insects and are also pretty.

When these plants have flowered and the seeds set, we cut them and spread the cuttings on headlands where appropriate. We cultivate three metre strips to allow germination of arable flowers once thought of as weeds. Flowers attract adult insects; plants feed the larvae and the insect larvae over-winter in the ground or tussocky grass and decaying vegetation. This is the basis of the food chain. Alongside the beetle banks, which provide nesting cover and refuge for insects, different crops such as winter beans, cereal and lucerne are planted as brood rearing crops to produce insects and larvae. Peaweevil, sawfly larvae and aphids are important parts of a chick's diet.

First year re-generation has proved one of the best habitats for producing insects in general, because of the amount of wild flowers that are present; such as chickweed, meadow grass, scarlet pimpernel, fumitory and volunteer cereals, which are all food and also play host to their own specific insects. Fallow land also provides ideal habitat for lapwings and skylarks to nest.

Sanctuary crops

Sunflower and chicory, which are open and dry at the bottom, can help to protect chicks and adults from avian predation. Providing tall cover is necessary as harriers hunt regularly in standing corn.

Winter feeding

We use hundreds of feed hoppers to distribute about 200 tonnes of corn a year around the Estate. These also attract and maintain good populations of finches, sparrows and yellow hammers, as well as small mammals. The hoppers complement the use of seed-bearing crops such as triticale and second-year brassica.

Science

To ensure that this project is a success, we must monitor and record species populations by conducting regular surveys, starting with an inventory of all species present. We work closely with the Game Conservancy Trust and other conservation groups to ensure that our efforts are recorded in a scientific way, and will continue to encourage and support vital research work. Studies that have been carried out at Holkham include:

- The Diet and Disease Susceptibility of Grey Partridges on Arable Farmland in East Anglia, by Dr Stephen Browne
- The Effects of Raptor Predation on Grey Partridges, by Dr Mark Watson
- Habitat Utilisation by the Grey Partridge on Arable Farmland in North Norfolk, by Simon Pickett