

## **Wildflower meadow management and hay cutting in Bristol Parks** **(further information)**

Across the UK 97% of species-rich grassland was lost between 1930-1984 with further losses since then. Bristol is fortunate enough to have green spaces which still include over 200 hectares (that's almost 500 acres) of these grasslands. These species-rich grassland habitats formed as a result of being traditionally managed as hay meadows or grazed pasture. We have very few opportunities to graze our grasslands, therefore the majority of them are managed as hay meadows.

These meadows support mainly early summer flowering perennials and also annuals, and in most years the majority will have started to drop their seed prior to the hay cut. These meadows have developed as a result of traditional management where the hay cuts take place between the middle of July and the end of August. We have 23 meadows that we manage in this way, and they are all designated as Sites of Nature Conservation Interest, at least in part because of the botanical species-richness of the grasslands.

This species-richness depends on low levels of fertility in the soil. These conditions are created and maintained by the annual removal of biomass (e.g. the cut material). The earlier that material is removed, the greater the amount of nutrients removed. If we regularly left our meadows uncut until September or later they would gradually be colonised by coarser grasses and the species-richness of would decline.

Hay making is weather dependent, and requires 3 consecutive dry days before the hay can be bailed and removed. By the end of July, the weather often becomes more unsettled making it more difficult to get all the meadows cut. If we have a lot of rain during August (such as in 2017) we are then not able to complete the hay cuts as the ground conditions are often too wet to allow the machinery access during the autumn, without the risk of significant damage to the ground.

We do not have the resources to carry out these hay cuts with our in-house grounds maintenance teams, and therefore have to use a contractor in order to manage these grasslands appropriately as hay meadows. If the hay can be used as an animal feed then it has more value and the cost of the hay cut can be kept from becoming prohibitively expensive. The later the hay is cut, the less nutritional value it has to cattle and therefore the less in demand it is. Therefore later hay cuts can result in it needing to be disposed of as green waste which is more costly. Cutting parts of the same site at different times of year also adds significantly to the cost due to the extra fuel and transport times to get the machinery to the site twice.

Some earlier cut sites will allow a second flush of flowering from later flowering species. The Downs is a good example of this as we have autumn ladies tresses – if it is cut later in August or September there is a risk of cutting it just as it starts flowering.

Where possible we try to vary the order in which sites are cut each year, so that the same ones don't always get cut during the earlier part of this cutting window, however this isn't possible for all sites.

At Ashton Court, Blaise Castle Estate and Stoke Park, we have environmental and countryside stewardship agreements with Natural England, for the restoration of those grasslands. These agreements are linked to grants that we receive which help fund the management of these grasslands. Under these agreements we are required to undertake a hay cut, and are permitted to do so from the 15<sup>th</sup> of July. The need to use parts of Ashton Court for the Balloon Fiesta does mean that the meadows there are cut as soon as the weather permits after this date to ensure that it is all done prior to things being set up for the event.

Many people are concerned about the impact on insects of cutting meadows at this time, but the insect species that are present have survived alongside this management regime for many years. Many of them benefit from the species-richness and the associated abundance of pollen and nectar. The management described above maintains this benefit for years to come.

However we are looking at what else we can do to provide other habitat for pollinators and other insects. We are starting to look at parks and open spaces where we can introduce areas of grass that are only cut once every few years, to provide over-wintering habitat.