

Downs Farm Report

Introduction-

Downs Farm is a family run business and was passed down to Martin and his brother when their father passed away due to, differences in opinion Martin and his brother split the farm into two equally. The farm was previously used for cereal production but, Martin realised as it was split in half this use was becoming less viable economically. Martin then decided to use his farm to help the conservation of Chalk grassland habitats following conservation schemes set out by the government such as the five-year set a side scheme, Habitat improvement scheme, countryside stewardship and currently the higher-level countryside stewardship which is ending next year (2018). Martin also, operates his farm as an Archaeological site (unofficially) where there have been several digs presenting items from as far back as the Neolithic period; he has worked with bodies such as, Southampton University in this venture.

Martin has used a few different conservation techniques since taking over the farm but, the most effective one found to help protect chalk grassland habitat is very heavily sheep grazing the field once a year. What this does is helps to control dominant plant species within the area meaning it allows smaller less competitive species that are associated with chalk grassland to sprout up. In theory, this should lead to a greater biodiversity in the area as the less competitive plants do not have to compete with the dominant species. In this short report from the data we collected at our time at Downs Farm looks to prove this.

Methods-

Two fields were visited at the farm, at the first field one site (site 1) was visited at which individually 8 people counted the number of forb species and number of grass species within a 1m x 1m quadrat, in the second field another site (site 2) which similarly to the first field was visited and the number of forbs and grass species were counted again in a 1m x 1m quadrat.

On the second field visited another two sites (3 and 4) were visited where there was a fenced off part protected from grazing and at these sites the number of species of forbs and grasses inside and outside the fencing were counted individually by 8 people in 1m x1m quadrats.

Results-

Table 1-

| Site | Forbs species | Grass species |
|------|---------------|---------------|
| 1 | 6 | 8 |
| 2 | 2 | 3 |

In Table 1 it shows the number of different Forb and Grass species counted overall; site one has more species than site two in both Forbs and Grasses.

Table 2-

| Site | Fenced area | | Unfenced area | |
|------|--------------|---------------|---------------|---------------|
| | Forb species | Grass species | Forb species | Grass species |
| 3 | 1 | 3 | 5 | 9 |
| 4 | 1 | 2 | 7 | 7 |

In Table 2 it shows the number of Forbs and Grass species counted overall in both fenced and unfenced areas. At both sites, the unfenced areas have more Forb and Grass species and they're both even in the total number of species found.

Discussion-

Looking at site 1 and site 2 these were on two different fields; site 1 looks to have more species than site two, on site 1 there had been grazing done whereas site 2 had no grazing. This grazing on site 1 would mean that there would have been lower nutrient levels compared to site 2. These lower nutrient levels on site 1 would lead to an increase in the number of species there because, it means that the less competitive species are able to sprout and grow however, if there were higher nutrients like in site 2 this means that more dominant species take over as they take up all the nutrients. These dominant species do not grow in lower nutrient areas because, they need these higher levels of nutrients to grow in the environment so taking these away will increase the number of different species as the less competitive do not get choked out.

Looking at sites 3 and 4 these had fenced and unfenced the fences corner off from grazing whereas, the unfenced are open to grazing which shows the difference between these two. In these areas, overall the unfenced areas have more Forb and Grass species situated in them compared to the fenced areas. This shows that the effects of grazing can help to improve the diversity of wildlife in the areas. If heavily grazed this means dominant species like broad leaved grasses are cut right down and nutrients are also lost; this then allows for the less competitive species to grow in the area as they do not have to compete and get choked out by these dominant species. This shows why that in the fenced areas there are less species because, they are not being grazed meaning that the less competitive species are not able to grow there.

When site 3 was inside of the fenced area it seemed that there was mainly only cooch grass but, when looking closer there was also false oat grass however, it had collapsed and created a thick blanket over the floor. This again shows the effects that no grazing can have for chalk grassland as it wasn't grazed this meant that it overgrew and due to the roots being a small bulb for false oat it fell over this meant that only something with strong roots like cooch grass where they branch out could sprout through the blanket of false oat grass. This means that the less competitive species that you find in chalk grasslands habitats would be able to grow as they would not be able to grow through this blanket of false oat grass.