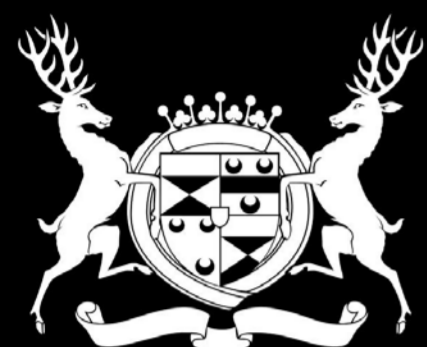
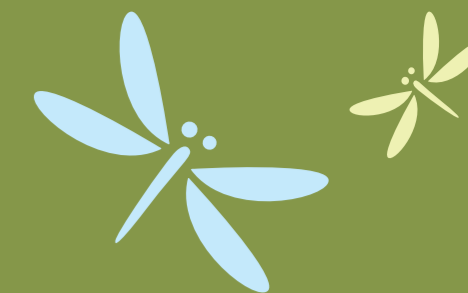




Improving the Water Environment



ELVEDEN

Elveden Estate, East Anglian Brecks

Size: Over 9,000 hectares (farmland extends to over 4,900 hectares)

Location: Breckland, Norfolk-Suffolk border

Main crops: Onions, potatoes, carrots, parsnips, cereals (rye, wheat and barley)

Topography: Some gentle slopes

Soil type: Sandy soils, free-draining and low moisture holding capacity

The Cam and Ely Ouse Catchment

Agricultural diffuse pollution and water availability are key pressures on the Cam and Ely Ouse (CamEO) Catchment. Agricultural pollutants can be transported via groundwater leaching or during surface run-off, in which the water transports soil particles containing nutrients and pesticides. As well as causing siltation, these pollutants can alter the chemistry of watercourses. The Catchment contains 30 chalk streams, which require protection for the rare flora and fauna that they contain (Figure 1).

Water Sensitive Farming

The way that land is managed can significantly affect how vulnerable it is to environmental damage and erosion. For example, compacted soil is less able to absorb water, so run-off into nearby watercourses is increased.

To address these pressures, a water sensitive farming initiative has been established in the CamEO, co-ordinated by the CamEO Catchment Partnership. The initiative's aim is to keep soil, nutrients and water in the field and out of watercourses, thus enhancing farm productivity and water quality and quantity.



Figure 1. The Lark, a chalk river in the CamEO Catchment



Figure 2. Pollinator headland containing radish and phacelia



Figure 3. Wildflowers for pollinators

Water Stewardship at the Elveden Estate

Located on Breckland's sandy soils, the Elveden Estate is very aware of the water resource pressures in the region: any small reduction in irrigation needs and run-off can bring considerable benefits to the environment when multiplied across the Estate's farmland. The Estate has introduced various water sensitive farming initiatives:

- Two 400,000 cubic metre reservoirs have been constructed on site. These are winter-filled;
- Moisture probes are used to assess soil moisture levels, and an on-farm weather station predicts rainfall and plant transpiration rates. Consequently, irrigation levels can be adjusted and water wastage avoided;
- Assessments of headland and edge management best practice have taken place e.g. buffer strips have been introduced for better soil health (Figure 2 & 3);
- Green cover crops are sown in the Autumn to reduce nitrate losses from the soil and reduce soil erosion;
- Run-off trials have been carried out to monitor the benefits of various tramline disruption machines and to test different water irrigation regimes for reducing run-off (Figure 4).

CamEO Catchment Partnership and Water Stewardship Business Board

The CamEO Catchment Partnership (co-hosted by Anglian Water and The Rivers Trust), aims to improve the water environment and provide wider benefits for people and nature by taking a collaborative approach to protecting waterbodies. The Water Stewardship Business Board is an additional group within the Partnership, which has been established to reflect the needs of water users and to encourage collaboration.



Figure 4. Run-off trial on potato field

The following organisations have been involved

