



## Oare Marshes – A complex set of issues?

### An article from Kent Wildlife Trust

**KWT writes:** “There has been much comment on water level management at Oare Marshes, especially over the last two years, during which we’ve experienced different climatic conditions. KWT hopes this article will give KOS members an insight into the water management that is currently possible at Oare, and Kent Wildlife Trust’s future plans for the reserve.

#### Introduction

Our vision for the marsh is simple. Water is impounded during the wetter winter months and then allowed to draw down during the spring and summer. This ideally should provide shallower conditions, exposing marginal mud for feeding as well as islands for safe high tide roosting.

We have struggled with turning this vision into reality on the reserve, both in managing the water levels, and in the changing ground conditions across the east flood in particular.

#### Water, Water!

The water regime at Oare is quite simple. The East Flood is fed from three main sources:-

1. land drainage water from the west carried by the main Inland Drainage Board (IDB) channel;
2. water from the artesian well;
3. water from rain.

The water from the flood then drains out into Faversham Creek through the Environment Agency’s sea sluice.

There are two points where we can control the outflow of water. The first is at a dam on the IDB channel: four large pipes, set at differing heights, allow the water to pass through and by bunging and unbunging the pipes we can hold back or release water. The other control is a sluice structure in the base of the main sea sluice that holds two wooden boards which can be removed to release water to drop to levels lower than can be achieved with the pipes.

With this arrangement the Trust can only control the rate at which water **leaves** the East Flood. We have no capacity for adding additional water if levels start to fall too low and evaporation exceeds the natural inward flow. This approach always relies on an element of chance, as it is difficult to predict how wet the summer and autumn will be.

In 2020 for example, a prolonged dry spring and summer meant not enough water was retained in the flood to prevent it drying out. In contrast, last year, following the extensive criticism we received in 2020, we kept the levels higher by one pipe depth for an extra few weeks in the summer before lowering the outfall levels to those of 2020, with dramatically different results.

Before 2013 the Environment Agency's sea sluice let in a proportion of sea water at high tide. This additional input significantly reduced the risk of the flood drying out completely in late summer, and added an element of salination to the marsh. When the Environment Agency repaired the sluice following the flooding event in December 2013, the tide flap ceased to leak, removing this buffering effect and making the balancing act of maintaining the correct summer levels more difficult.

The repair of the sea sluice also had two other significant impacts on the reserve.

Firstly, to improve public safety, the Environment Agency fitted additional steel barriers around the landward sides of the sluice. This meant the wooden sluice boards were now inaccessible and therefore inoperable to our staff from the land.

Secondly, the salinity of the flood has reduced significantly without the regular influx of sea water. This has benefitted common reed that prefers fresh water and which has spread widely since the sluice repair, growing around much of the margins. This has reduced the available draw down zone, so even when the water levels are lower, the exposed edges are now occupied by reed. It also interferes with the views available to visitors from the East Hide.





### **Mud and drain issues**

It is now over twenty years since work was carried out on the East Flood to create the current scrape. Over time natural erosion has had a significant effect on the height of many of the banks and small islands that birds use for roosting. Natural sedimentation has led to a shallowing of the scrape. A combination of the reduced height of the island features and a shallower flood, means that achieving the correct balance between a water level shallow enough to expose roosting spots, but deep enough to withstand drying out during prolonged dry spells, is increasingly difficult.

A further complication is that it appears there may be problems with the culvert under the road from west to east. The road is showing signs of subsidence which could indicate a partial collapse and an underwater camera inspection was unable to locate the entrance to the culvert.

### **KWT Solutions?**

Some of the above issues are relatively straightforward to solve.

Machines can scrape back the margins of the flood to remove the reed and re-create exposed mud.

Islands and banks can be built back up again from excavated material and ditches can be dredged to expose culverts.

However, we need a more sophisticated method for controlling water levels.

We need the ability to add water to the East Flood if levels drop below a certain point. This would allow staff to manipulate levels and deal with climate vagaries which are increasingly unpredictable - without the risk of the flood drying it out.

The most straightforward solution would be to pump water from the Pheasant Farm field's drainage channel, which normally has a higher level than the eastern section, and top up the flood when required. To make this feasible it requires the installation of a fixed, solar-powered pumping system. A costed

plan of works has been produced and we are actively seeking funding to start this. While we work towards better infrastructure to manage water levels we will be using our experience of how levels responded in 2020 and 2021 to get closer to the desired state this year.

We want to assure KOS members that the Trust **are** investigating options to try and achieve a more refined control of the water levels this spring, and habitat management work to expose bank edges later this year.”

**The Kent Wildlife Trust**