

Essex Biodiversity Project

Airwell Group is involved in a number of environmental and conservation projects not only in Australia but internationally, one recent project which Airwell has been involved in is the Lower Raypits wildlife conservation project in Essex in the United Kingdom.

The essence of this project is to restore a dry area of costal grazing marsh which is very dry and had lost most of its wildlife interest. Although people may not think of the UK as very dry but in this area of South East England it receives an average of only 19 inches of rain a year. Therefore to re wet the site every bit of rainfall had to be retained and used.

Airwell pumps are being used to harvest winter rainfall which passes through the site in a ditch on its way to an estuary. The water is being held in a storage lagoon (designed with features to enhance it for wildlife particularly breeding wetland birds). This stored water can then be released slowly onto the site via two valves and a series of sluices to keep conditions ideal for breeding wetland birds into mid – summer when the young birds have fledged. The project uses fresh water which would otherwise have been lost to the sea and creating a wildlife habitat. The project has been funded by Natural England Environmental Stewardship, the SITA Trust and Essex Wildlife Trust and designed and installed by Roger Wardle (Featherwood Ltd).



[The Lower Raypits Conservation Wetlands](#)



[Airwell controller with inbuilt salinity sensor](#)

The site was too remote to install electricity and the wind was too variable and erratic for wind pumping and the rainfall can also be variable, the pumps needed to be available to work immediately when the rainwater is present. Furthermore the system needed to be low maintenance as there are no personnel on the site and they also needed to be cheap to run.

Airwell built 3 Airwell 8" by 1.5m bottom filling bore pumps to meet the specifications requested by the Wildlife Trust which were installed in a 30 foot deep concrete ring pump chamber which is gravity fed from the main rainwater drain. The compressed air is supplied from a nearby farm over 2km from the pumping site. Airwell also designed and supplied a salinity sensor which allows the client to control the salinity of the water that is collected as the water abstraction point is semi tidal. The pumps do not operate above an adjustable salinity threshold.



The 3 Airwell pumps installed on site

According to Mark Iley the Biodiversity Coordinator on the Essex Biodiversity Project “the compressed air driven Airwell pumps are proving to be an ideal solution.” In three months the pumps have pumped just under 5 million gallons of water for just over £600 of electricity costs.

“After our first winter pumping season I have every confidence in their operation- over the past winter when it was raining I knew the equipment was working. Already the site has been transformed, extensive areas of wet grassland are supporting hundreds of birds and we have breeding avocets and other breeding birds on the lagoon islands,” said Mark.

The Essex Wildlife Trust believes that within a few seasons the site will have naturalised and will become a key wildlife reserve. “The Essex Wildlife Trust and our funding partners are delighted with the project and it could not have been achieved without Airwell pumps,” said Mark.

To find out more about Airwell’s environmental services please visit our website www.airwellgroup.com.au or contact our Head Office on 08 9209 3355.