Steart Marshes realignment: 5-years on

Case Study

Level: GCSE/A level

Managed realignment and the creation of a wetland habitat

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Content:

The Wildfowl and Wetlands Trust (WWT) Steart Marshes is one of the largest managed coastal realignments in the UK (Figure 1). It is recognised as one of the best examples of design and engineering for wetland habitat creation with multiple benefits including flood defence. Research since the Steart Marshes Reserve was created in 2014 is providing not only invaluable data to inform the future design and management of newly created wetlands but also evidence of the multiple benefits to be realised from wetland restoration.

Figure 1 Steart Marshes (Sam Stafford, WWT)

Restoring Biodiversity

In the winter of 2018-19, 53 species of waterfowl were surveyed totalling 29,309 individuals, including nationally important numbers of avocet, dunlin (Figure 2), golden plover, lapwing and shelduck. This is considerably more than the 49 species and 18,900 individuals recorded in 2015-16, indicating a growth in numbers of wildfowl using the maturing habitat. The extensively grazed saltmarsh is important for breeding skylark and within an area of saline lagoons a population of 31 breeding pairs of avocet now occur.

Figure 2 Dunlin at high tide (Joe Cockram, WWT)

geography southwest

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Content (continued):

Vegetation surveys across the developing saltmarsh site show a shift from species-poor grassland towards saltmarsh and swamp communities reflecting changes in hydrology and salinity and the application of management measures. Rapid colonisation of saltmarsh plants has taken place with 17 species recorded, including sea lavender, a species rare in coastal realignment sites, and the nationally scarce sea barley. These species, closely associated with Atlantic Saltmarsh habitat-type, reflects the success of the project in the passive restoration of saltmarsh species.

The freshwater area also merits recognition as a Priority Site of National Importance for its dragonfly assemblage. A minimum of 9 bat species have been recorded regularly in the reserve, and moth surveys discovered the nationally-scarce Crescent Striped Moth. Twenty-four species of butterfly have been recorded and ditch surveys have found 33 beetle species including the near-threatened great silver water beetle.

Natural Wealth of Wetlands

Saltmarshes provide ideal feeding and breeding grounds for commercially important species of fish. Surveys at the Steart Marshes have recorded common eel, flounder and sea bass in the Reserve. Comparative topographical surveys have enabled cumulative sedimentation to be measured and converted into carbon accumulation rates. Preliminary findings have found that the amount of sediment deposited and the amount of carbon buried are substantial (publications in preparation).

The Reserve's agricultural management plan as part of a viable farm business is providing opportunities for the production of high-end food products such as saltmarsh beef and lamb. The experience of managing both farm business and biodiversity conservation are being used to model longer-term sustainable adaptation to climate change (Figure 3).

Figure 3 Traditional longhorn cattle grazing the marshes (WWT)

Numerous health and well-being benefits are being realised. A network of disability accessible paths is being used by a wide range of visitors. In addition the WWT is encouraging volunteers with physical and mental health conditions to work and benefit from the wetland environment.

The WWT strives to inspire people to value healthy wetlands through The WWT's work in conserving, restoring and creating wetlands around the world. WWT Steart Marshes offers opportunities to reach new audiences and demonstrate the services that wetlands can deliver.

The Natural Capital for the Reserve has been valued as around £43.8M/yr and with additional data collection a more accurate valuation is expected over time giving a glimpse of the potential value of investing in wetlands.

The WWT seeks to demonstrate practical and achievable solutions, engage people directly with wetland nature, encourage wider action for wetlands and use knowledge to influence national and international wetland policies. WWT Steart Marshes is a perfect example of what can be achieved through concerted action between different arms of Government to bring about real change.

References & Web Sites:

https://www.wwt.org.uk/wetland-centres/steart-marshes

https://www.wwt.org.uk/our-work/projects/steart-marshes/

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