

Ditches



Ditches provide a home to a wide variety of freshwater invertebrates and plants. Unfortunately, ditches are rapidly deteriorating in quality due to a range of issues, including: agricultural pollution, unsuitable water level management and ‘managed retreat’ schemes. One of the biggest problems is wholesale clearance of ditches, which is still common practice in many agricultural areas. To date there has been little research and therefore a lack of understanding in regard to the affect of these issues on ditches and the rare species they harbour.

Ditches snake through grazing marsh land in many parts of the British countryside, creating a network of freshwater life. Although a man-made habitat ditches support a wealth of invertebrate and plant life. Numerous wetland and water plants adorn their margins providing a refuge for a glittering array of rare water beetles including the BAP species: One-grooved diving beetle (*Bidessus unistriatus*).

Other BAP species found within this habitat include threatened invertebrates, such as: Fen raft spider (*Dolomedes plantarius*), Lesser water-measurer (*Hydrometra gacilentia*) and Shining ram’s-horn snail (*Segmentina nitida*) as well as BAP plant species, the Bird’s nest stonewort (*Tolypella nidifica*). Ditches also provide a habitat for numerous nationally rare species.

Project Aims

Buglife's 'Grazing Marsh Ditches Project' aims to broaden knowledge and understanding of ditches, and provide management advice to land owners.

Progress

- Three-year re-survey (2007 - 2009) of ditch systems in nationally important grazing marsh sites; assessing recent changes and identifying management techniques to preserve aquatic and semi-aquatic invertebrates. Survey locations included: Gwent and Somerset Levels, The Marshes: North Kent, Pevensey and Walland, Maltreath and Amberley and Norfolk, Suffolk and North Essex.
- Production of a Ditch Manual detailing standard methods for surveying the vegetation and aquatic macro-invertebrates of ditches.

- Study of a time series dataset covering 1973, 1981, 1982, 1997 and 2009 for ditches in the Upper Thurne catchment, Norfolk analysing trends in invertebrate and plant species.

Distinct trends were seen in relation to land use and management on arable and pasture farms. Arable ditches were found to be of lower ecological quality compared with ditches in pasture and arable ditches were seen to take a long time to recover after land use was converted to pasture.

- Survey work examining the diatom species present in ditches.

Diatoms are single celled microscopic algae, which can be found in both marine and freshwater habitats. They cover the surfaces of aquatic plants where they link together to form colonies. In this project they are being used to assess water quality, as many species can be used as indicators of environmental conditions. Survey data will also be used to extend knowledge of diatom communities in ditches and their relationship with plants and invertebrates.

Conclusions

The survey work and associated publications from this project are building on work previously done and are increasing knowledge and understanding of ditches.

Plans

This project is currently producing a series of management advice sheets for landowners and feeding into agri-environment schemes to help UK farmers support this rich and threatened habitat.

Key Publications and Project Reports

Drake, M. (2011) Upper Thurne Catchment grazing marsh ditches 1973 to 2009. Final Report. Buglife – The Invertebrate Conservation Trust, Peterborough.

Driscoll, R. J. (2007) A Biography of Ditch Surveys in England and Wales. Part 1: Surveys 1878 – 1999. Technical Report. Buglife – The Invertebrate Conservation Trust, Peterborough.

Palmer, M.A., Drake, C.M. & Stewart, N.F. (2010) A manual for the survey and evaluation of the aquatic plant and invertebrate assemblages of grazing marsh ditch systems. Version 4. Technical Report. Buglife – The Invertebrate Conservation Trust, Peterborough.



This project has been funded by the Esmée Fairbairn Foundation, the Environment Agency, Anglian Water, Peterborough & Norwich Building Society, the Broads Authority, Courtyard Trust, the Norfolk Biodiversity Partnership, Natural England and Countryside Council for Wales.

Buglife – The Invertebrate Conservation Trust
First Floor, 90 Bridge Street, Peterborough, PE1 1DY

Telephone: 01733201210 Email: info@buglife.org.uk

www.buglife.org.uk

Registered in England at First Floor, 90 Bridge Street,
Peterborough, PE1 1DY.
Company no. 4132695. Registered charity no. 1092293. Scottish
charity no. SC040004.

Photography: Fen Raft Spider © Roger Key; Fenland Ditch, Wood
Walton Fen; Braunton Marsh © Roger Key
© Roger Key

Acknowledgements: Sheet prepared by Suzannah Dangerfield