



Waithe Beck



River Rase

Chalk Streams Of Lincolnshire

Lincolnshire Chalk Streams Project

Project Area - This map shows the project area of the Lincolnshire Chalk Streams Project. It highlights the locations of Lincolnshire's chalk streams and where work has been delivered to help restore the river habitat. To date the project has helped to restore over 19.5km on 15 different chalk streams. The map also locates where there are blow well habitats.



Discharge from land drainage pipe



Signal Crayfish

Volunteers

Volunteers play a major role in supporting the work that the LCSP delivers:

Surveying – Keen volunteers have been professionally trained to regularly survey the chalk streams' riverflies, indicators of water quality and sedimentation.

Volunteer Group – Work by the group on conservation days helps to maintain past restoration projects and improve chalk stream habitat.

Graduate volunteers – graduate volunteers of all ages have helped the project with surveying, organising events, report writing and more.

Community Projects

The LCSP engage with local communities to improve their chalk streams and raise awareness. Work includes practical days, advice and family events.

Practical days – LCSP community days engage the local community in looking after 'their' chalk streams. Advice and practical support is offered to help maintain the delicate chalk stream habitat for wildlife and people.

Family events are all about fun! Encouraging local people to learn and love the ecology of their chalk streams. From theatre work to stream dipping there's something for every age.



Case Study River Bain, Donington Mill

This was a new type of project for the LCSP to embark on. The opportunity the landowner presented was not to be missed. We have lengthened the chalk stream habitat and provided new and improved spawning ground for trout.

Completed project

- Specialist help was sought to design a new river channel.
- A new meandering channel was dug.
- Gravel riffle - pool sequences were installed.

Benefits

- Opened up the length of river for brown trout and eel to migrate.
- Improved habitat for brown trout and aquatic invertebrates.
- Improved habitat to encourage water voles.
- Raised awareness via radio interview.



Threats to Lincolnshire's Chalk Streams

- Mink
- Drought
- Himalayan balsam
- Signal Crayfish
- Siltation – silt enters river from;
 - Arable fields,
 - Run off from roads, farm yards and construction work
 - Livestock poaching

The project delivers restoration with landowners, farmers and communities to help our streams become more resilient to threat of current and future pressure from drought situations, to reduce sediment entering the channel and to help with natural flood risk management.

Invasive species such as signal crayfish, American mink and Himalayan balsam have drastic effects on native flora and fauna. The project works with their partners, local communities and landowners to help control these species.

Lincolnshire Blow Wells

A blow well is a type of groundwater spring, which is seldom (if at all) found across the British Isles except for the coastal margins of Lincolnshire. In this area the chalk is covered with clay and the groundwater here is under pressure (artesian). Where there is an opening in the clay from the chalk to the surface and there is enough pressure the groundwater finds its way to the surface forming a blow well.



A rare Crystal Moss Animal (*Lyphopus crystallinus*) found in the Lincolnshire blow wells

Future Projects

The LCSP is always planning work to improve the chalk streams. Potential projects may include work on the River Bain, Waithe Beck, Lacey Beck and River Lymn. The LCSP are also exploring potential ark sites for the native white-clawed crayfish. The LCSP will continue to work with communities, farmers and landowners to improve their local streams – if you think we can help, please get in touch.



Working together to improve chalk streams of the Lincolnshire Wolds and surrounding area

Chalk Streams

What is a chalk stream?

Chalk streams are very special rivers unique to the south and east of England and Normandy in France. Fed by groundwater from a chalk geology they naturally have,

- Stable flows and temperature
- Low hydraulic energy
- Clear water with little sediment
- Low levels of nutrients (nitrate, phosphate and ammonia).

A chalk stream has characteristic wildlife communities including,

- Abundant alkaline-loving plants like water-crowfoot, water-dropwort, starwort and watercress
- Aquatic invertebrates such as freshwater shrimps, mayflies, caddis and snails and the nationally threatened, native, white-clawed crayfish
- Water vole, otter and water shrew
- Kingfisher, heron and many other birds
- Fish such as trout, bullhead, eels and brook lamprey.

Why are they important?

- They are unique habitats
- They host a variety of rare and unusual wildlife
- Streams and their aquifers provide drinking water and water for industry and agriculture
- They are an integral part of the landscape
- The riverside provides attractive walking routes.



Water vole



Starwort



THE LINCOLNSHIRE WOLDS

The Lincolnshire Wolds is a nationally important and cherished landscape. Most of it was designated an Area of Outstanding Natural Beauty (AONB) in 1973. Covering an area of 558 square kilometres or 216 square miles, the AONB contains the highest ground in eastern England between Yorkshire and Kent, rising to over 150m along its western edge. Rolling chalk hills and areas of sandstone and clay underlie this attractive landscape.

The Lincolnshire Wolds have been inhabited since prehistoric times and the appearance of the countryside today has been greatly influenced by past and present agricultural practices.

A Countryside Service helps to protect and enhance the landscape through partnership projects with local landowners, farmers, parish councils, businesses and residents of the Wolds.



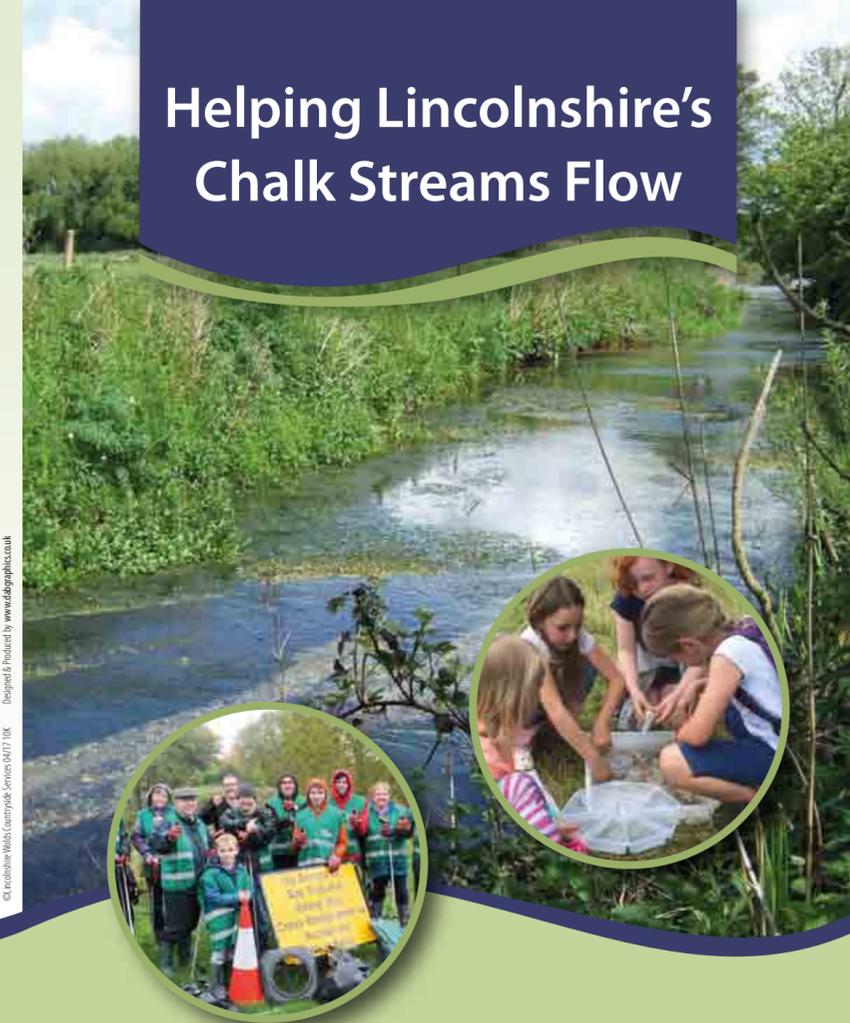
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If you would like this leaflet in an alternative format please contact us.

Helping Lincolnshire's Chalk Streams Flow



Working together to improve chalk streams of the Lincolnshire Wolds and surrounding area

Lincolnshire Chalk Streams Project

Chalk Streams are internationally rare habitats which support some of our most threatened plants and animals.

The Lincolnshire Chalk Streams Project (LCSPP) is a group of organisations that have actively worked together since 2003 to conserve and enhance this Biodiversity Action Plan (BAP) priority habitat. The UK BAP is a national strategy to identify, conserve and protect existing biological diversity and to enhance it wherever possible.

Since 2006 staff and volunteers have been employed to undertake work on behalf of the partnership. The project is hosted by the Lincolnshire Wolds Countryside Service and Lincolnshire County Council.

- The Lincolnshire Chalk Streams Partnership aim to,
- Make sustainable improvements to chalk streams in Lincolnshire
 - Focus awareness of chalk streams and their importance
 - Improve our knowledge of Lincolnshire's chalk stream habitats
 - Restore and improve Lincolnshire's chalk streams for the benefit of wildlife and the community.



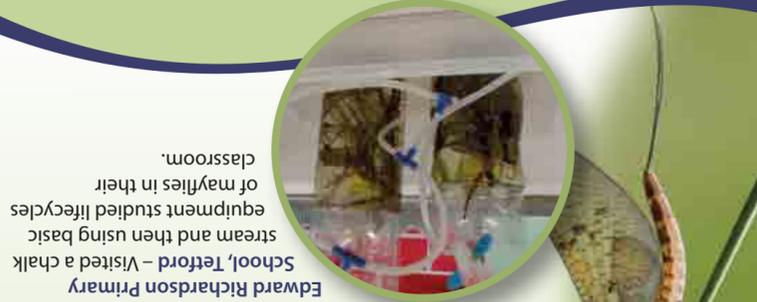
Education

The Lincolnshire Chalk Streams Project has worked with several schools to facilitate children investigating Lincolnshire's chalk streams. The work is tied into the national curriculum.



Lincoln Christ's Hospital School, Lincoln – Sixth form students collected and analysed aquatic invertebrate data.

East Ravendale Primary School – Pupils stream dipped for water bugs and then used classification keys to identify them.



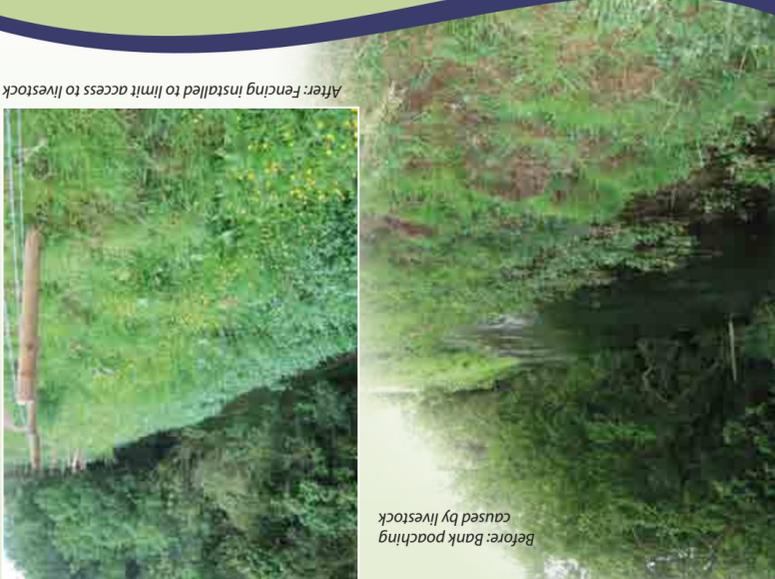
Edward Richardson Primary School, Tetford – Visited a chalk stream and then using basic equipment studied lifecycles of mayflies in their classroom.

Environmental Stewardship

Environmental stewardship is a scheme that provides funding for farmers and other land managers in England to deliver effective conservation through management.

The Lincolnshire Chalk Streams Project has in the past worked with the Farming and Wildlife Advisory Groups (FWAG) and now works more closely with Natural England and the Environment Agency to offer advice on land management practices surrounding the chalk stream habitat.

Since 2006 over 41km of land surrounding chalk streams is now under improved management, such as reduced nutrient applications and returning arable to grassland.



Before: Bank poaching caused by livestock

After: Fencing installed to limit access to livestock