



The RGCG exists to protect and enhance the River Glaven, its tributaries and its flood plain

We aim to work in friendly collaboration with landowners and farmers, conservation organisations and relevant public bodies.

Notice a difference?

Our financial reserves are now around £1,400, a level where we could at least now and again print the Newsletter in colour. We would welcome feedback from members on whether they would like to see us do this at intervals, as and when the content would particularly benefit. While the cost is relatively modest, there other potential calls for expenditure which supports our aims, such as a contribution to practical conservation work. To date our baseline expenditure has been on black and white printing of the Newsletter, postage for this, and rental for our web site.

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Newsletter

RGCG Newsletter April 2007

RGCG Annual General Meeting Saturday 21st April

We are holding our AGM at Letheringsett Mill this year, by kind permission of the miller Mike Thurlow.

Mike will take us on a tour of the mill from bottom to top and show us the machinery and explain how it works; and give us a working demonstration of the mill in operation. We begin this tour at **2.30pm**. There should be room to park in the mill car park.



Many of you will know Mike and something about the mill. The commitment to local foods recently won Mike a national Local Food Hero Award. Letheringsett is the only working water mill remaining in Norfolk, and has repeatedly been voted the accolade of top tourist destination in North Norfolk.

After the demonstration we will have tea and biscuits at the upper floor of the mill. We also have the opportunity then to see some information and photographs on our native white clawed crayfish. Martin Pugh, an ecologist and specialist on crayfish, will be on hand to answer any questions.

There is an option after tea to come for a guided walk by the river, upstream of the ford. This is an opportunity for those who would either like to revisit, or see for the first time, the restoration measures carried out last September-October, and see how they are settling down. Martin will be with us to say something more on crayfish as part of the walk.



Robin Combe, Chairman

Action on Pollution Reports

The Environment Agency receives reports of numerous pollution incidents each month, and very occasionally these are in the River Glaven area. We are pleased to say that only that only three local reports have been received over recent months. These are summarised below.

We received a report of chalky rainwater running from a site near Edgefield towards the River Glaven in October 2006. We worked with the site operators to resolve the problem and new drainage systems have now been installed following our investigation.

Early in January there was a spillage of oil in Blakeney caused by a lorry which had leaked hydraulic oil onto a car park. Highways officers attended promptly and spread a large amount of granules, which appeared to have effectively absorbed the majority of the oil. Our officer attended and found that a maximum of ten gallons had been lost and at least five-bucket loads of this had been mopped up straight away. The lorry had not left the car park until it was repaired.

In March 2007, we received a call about discoloration in the River Glaven. Our officer followed the discoloration up to a site where the field was running off into the river. We will now be liaising with both the farmer and the Catchment Sensitive Farming Officer, Rosanna Dollman, to reduce this runoff through improved soil management.

If you see a pollution that is affecting the river, please call our 24hr hotline on 0800 807060.

Lisa Turner; Environment Agency and RGCG committee member

Catchment Sensitive Farming

The October Newsletter set out the aims of the Catchment Sensitive Farming (CSF) initiative. Since then we list the following activities:-

- The Catchment Appraisal has been completed for the North Norfolk Rivers, and using all available data about diffuse pollutants. The rivers Stiffkey and Glaven have been identified as at risk from soil erosion, due to the physical and land use characteristics.
- At present advice delivery is therefore being targeted at farmers in this area, and the CSF project have contracted two companies: ADAS and Momenta to carry out this work.
- Workshops and 1:1 advice is being given on how to complete a Cross Compliance Soil Protection Review, and an Entry Level Soil Management Plan.
- 3 Workshops have taken place so far at Binham Village Hall and Stody Estate.
- 9 farmers have attended these workshops, representing 8 farm businesses (there are 143 farm businesses in the target area).
- 30 1:1 advice visits have taken place so far.
- During the spring and summer 1:1 advice will continue and workshops will be targeted at agronomists and land agents.
- A Capital Grants Scheme will be available to farmers within the North Norfolk Rivers Priority Area, offering grants towards capital works to reduce diffuse pollution. Application forms will be available on the DEFRA website after the 2nd April 2007.

There has been lots of positive feedback from farmers who have been recording existing good practice and taking steps to reduce soil erosion and runoff.

If you are a farmer or land manager in this area and would like a free 1:1 advice visit, please contact me on the number below.

Rosanna Dollman CSF Officer North Norfolk Rivers and River Nar

Tel: 01603 663895 / 07785513119 email:rosanna.dollman@naturalengland.org.uk

Cley tidal sluice and mill



See article on page 7



Irrigated Water Meadows

The meadow marked number 216 in the 1886 1st Edition OS map is that from which we removed 700-1,000t of spoil that had been deposited on the east bank of the river some decades ago. It may be that it has an interesting history.

The configuration of the side channel running parallel to the main river is essentially unchanged from what we see today. The side channel is fed by springs; the upper reach of which is somewhat meandering before entering a sharp right turn and left turn – the dog leg – and then in a long straight cut until it joins the river about 200 yards above Letheringsett ford.

To the left of the dog leg is a “T” on the map, marking the field boundary. Here we see a relatively wide cut which runs from river to the first sharp bend of the dog leg. This is still clearly visible on the ground today. Another feature of meadow 216 is a pattern of 5 or 6 cuts which look to have linked side channel and river, at right angles to both. It seems unlikely that they served as drainage ditches, which generally carry water downstream some distance before entering the river. Our speculation is that we are looking at the remains of a “low cost” DIY irrigated water meadow system.

Another Norfolk chalk stream, the River Nar at Castle Acre, has a site which has been researched by Dr Tom Williamson of UEA, and shown to be a sophisticated irrigated meadow system. The practice originated in the West Country at the end of the 16th century. It was valuable to be able to keep livestock over the winter, and this required that either food be stored or some other way found of shortening the effects of winter.

The principle of the system was to cover the ground with moving water in the winter, which keeps it warmer and encourages an earlier growth of grass. The meadow could be grazed from March to May, and the cattle removed to get a second flush of grass.

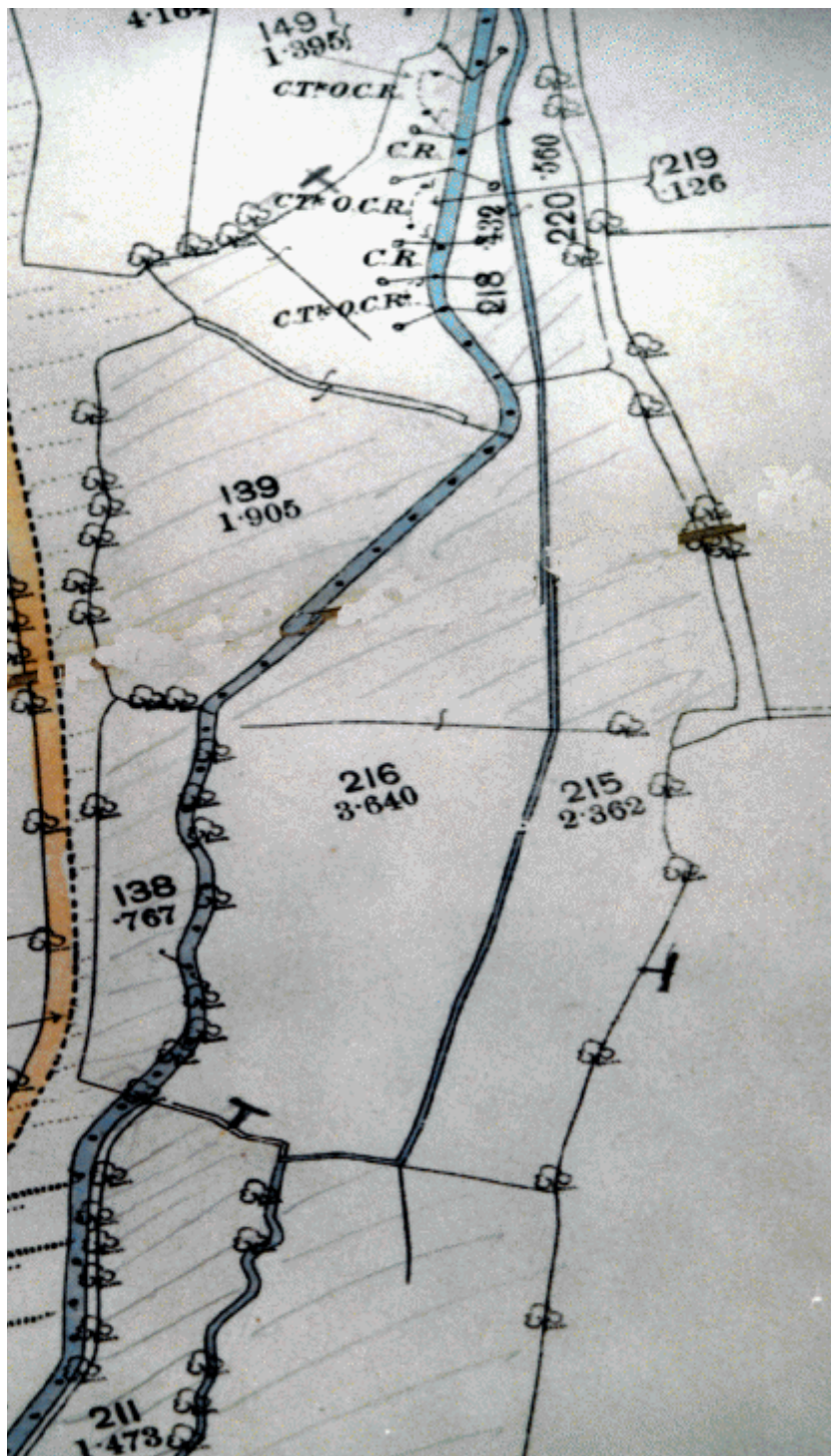
At Castle Acre, water was drawn off at Newton (close to the Saxon church) and brought to the meadows on a

raised leat (or carrier, or carriage) and across the river on a small viaduct, before running parallel with the river again. The water from the leat was run off along a series of “beds” to flow towards the river and flood across the meadow. We have at meadow 216 it appears the same concept of a parallel flow of water, in this case from the side channel, running across a meadow and into the river.

The Castle Acre system was installed in 1804 by William Smith, a geologist turned water meadow engineer. Similar systems were built at East and West Lexham. These were abandoned by 1840, but that at Castle Acre was in use to the end of the century.

The cost of the Castle Acre system was £2,000 which at the time would have bought a large farm. However the technology did not travel well from the West Country. The Norfolk frosts early in the year killed off both the grass and the

prospects of the wider use at this level of investment in the county. The evidence of the engineering works remains on the ground at Castle Acre meadows, the testament to an agricultural innovation that did not, at least in this sophisticated version, fulfil its promise.



CINDERELLA CHALK RIVERS PROJECT

River Restoration Work in Action.

Our last Newsletter was produced just as we were embarking on our first major practical conservation work, at Thornage Common meadows. The preliminary work was carried out in September, the main concentration of activity in the first half of October, and minor works tailed off through November.

The objectives of the work were to improve the in-river habitat over 1km length; to re-connect the river and floodplain at one meadow; and to develop an experience base which would serve the RGCG well on other projects.

The main river works consisted of the introduction of 6 flint and gravel riffle areas (total length 65m), two of which served a dual function for cattle crossing and drink areas; two lengths of river narrowing, 10m and 13m; the creation of three small mid-stream islands; and nine lengths of tree trunk inserted as large woody debris flow deflectors at a spread of points.

The work was a judicious mix of hand "basket weaving" techniques, and the use of tracked diggers and dumper trucks for the "heavy" work. All this was carried out with the very necessary knowledge of an expert consultant on the five "heavy" working days.

The combinations of measures has made the river more lively, and created greater variation in flow patterns and river depth, which will benefit a range of wildlife. The riffle areas will add to the habitat available for invertebrates and spawning for trout.

Six sycamore trees felled on the site, taken from an area where they were not wanted, provided



Spoil bank before re-profiling work.



Positioning bank protection



Work in progress



Profiling work finished



Positioning of Large Woody Debris and examples of finished work

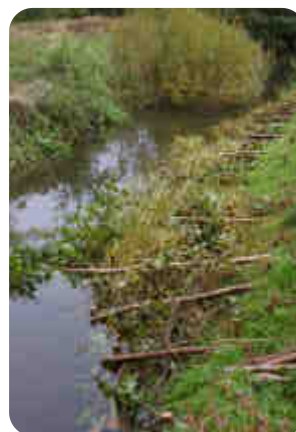




Construction of mid stream islands, completed islands and riffle constructed around them



Construction of cattle crossing and riffle



Preparation for river narrowing and finished work showing new profile of river.

the large woody debris requirements. The posts, faggots, batons and brash used for river narrowing, island construction and bank protection work were produced by coppicing hazel trees on site or nearby. The stone came from local sources, both less than three miles from the site, as did the gravel. Some more stone was recovered by hand from the spoil.

The Environment Agency removed some 700-1,000 tonnes of spoil bank from a 130m length of river bank on one meadow. The river bank was restored to a natural profile, and by doing so re-connected the river with the meadow, which can act as a flood plain in a one in 3-4 year severe rain event. The spoil was a decent soil, and was taken to a nearby arable field where it was later spread and ploughed in.

The RGCG are especially pleased with the large woody debris work, and the re-connection of river and meadow. Visitors with an interest in such work have all commented on both, in particular the bank re-profiling and restoration. Opinion has changed in the management of rivers in recent years, but these measures are still not common practice.

This was a joint project undertaken primarily with the Wild Trout Trust and the Environment Agency. The Wild Trout Trust helped to initiate the project, and provided technical support. A generous £9,000 funding came from the Cinderella Chalk Rivers Project, which aims to generate partnerships to improve the conservation status of lesser known chalk rivers.

A full written and illustrated report on the project [PDF file] can be found on our web site: www.riverglaven.org.uk/cinderella-project.

Native Crayfish found on the River Glaven

A survey of crayfish carried out during October 2006 has discovered an extensive population of endangered White-clawed Crayfish on the River Glaven. The catchment-wide survey was prompted by the exciting discovery by Tony Leech of the remains of a very large crayfish left by an Otter on the banks of the River Glaven near Thornage Mill. The River Glaven has long been known to support crayfish, the first historical record dating back to 1900 when F. Balfour Browne spotted a crayfish at Glandford Mill and Thornage). However, the fragmented records and lack of recent sightings raised doubts as to whether crayfish have survived in the River.

The White-clawed Crayfish (*Austropotamobius pallipes*) is Britain's only native crayfish and is our largest freshwater crustacean, growing up to 15 cm long (tail to claw). They are secretive and nocturnal animals that spend the winter hibernating, becoming more active in the summer when the female releases her live young, which she has been carrying as eggs since the previous autumn. White-clawed Crayfish play an important role in the aquatic food webs of streams and rivers and are considered a keystone species providing a food source for a variety of animals like Brown Trout, Heron and Otters. They are found in calcareous waters in limestone/chalk catchments such as the River Glaven and are very sensitive to pollution incidents and habitat modification, making them an indicator of good water quality.

White-clawed Crayfish populations have suffered a dramatic decline over the past 30 years and have disappeared from many parts of the country, which has made them a threatened species protected by the Wildlife and Country Act (this means you need a crayfish licence to search for or handle crayfish). The plight of the White-clawed Crayfish is linked to the introduction of exotic crayfish species, in particular the North American Signal Crayfish (*Pacifastacus leniusculus*),



which was imported in the early 1980s for culinary purposes but easily escaped from fish farms into nearby rivers and streams (this species has been known to crawl 1km over land). Similar to the detrimental impact of Grey Squirrels on our native red species, Signal Crayfish have devastated many populations of White-clawed

Crayfish throughout Britain growing up to twice the size and preying and out-competing the native species, leading to the inevitable demise of White-clawed Crayfish in any mixed population. As well as directly threatening the native species, Signal Crayfish can also carry "Crayfish Plague", a deadly fungal pathogen that has wiped out entire catchments of White-clawed Crayfish.

Where they occur, the large and aggressive American species not only affect the native population but damage the general aquatic environment by preying on fish and invertebrates and by digging large burrows and eroding banks.

Norfolk has been less severely affected than other East Anglian and southern counties and contains some important White-clawed Crayfish populations, in particular the River Wensum. The 2006 Glaven survey was carried out on behalf of the Norfolk Biodiversity Partnership and set out to establish the status of native and alien crayfish across the entire catchment of the River Glaven. 39 sites were searched by lifting stones, examining refuges and any burrows and sites too deep to hand-search (Selbrigg Pond and the lakes at Bayfield, Letheringsett, Edgefield and Hempstead) were trapped using Swedish crayfish traps. White-clawed Crayfish were found at 12 sites along 8km of the central stretch of the River Glaven from Hempstead Mill to Letheringsett Ford.

An encouraging total of 90 crayfish were caught and measured ranging from tiny juveniles (less than 2cm long) to large adults, indicating a healthy and well-established population. A collection of claws and crayfish remains in a spraint on the bank near Thornage Mill paid tribute to the Otter's liking for crayfish as an easy meal. Many of the crayfish caught exhibited curious burrowing behaviour, being found in burrows in some sections of muddy bank.

White-clawed Crayfish are more usually found under cobbles in sections with a gravel/stony substrate, much like the newly RGCG-restored stretch at Thornage Common Meadows and the large numbers discovered in their burrows is an interesting and unexpected finding.

A night-time search armed with a high-powered torch yielded a worrying discovery on one of the smaller streams. Signal crayfish were rumoured to be active above Letheringsett Lake and the survey confirmed these fears: a lone male Signal Crayfish was observed wandering down a shallow tributary. A follow-up survey this summer hopes to map out the distribution of these destructive alien crayfish and recommend ways to eradicate them, should any more be found. Despite the presence of non-native crayfish within the catchment, the River Glaven still provides an important local stronghold for White-clawed Crayfish. The success of the River Glaven crayfish survey in locating a healthy population reflects the likely under-recording of

White-clawed Crayfish in other rivers and the need for similar catchment surveys.

Many thanks to members of the River Glaven Conservation Group for their interest and crayfish anecdotes as well as hands-on help in searching for crayfish in the high-flows and cold waters experienced last autumn. To help conserve native crayfish on the River Glaven, it is important to minimise the risk of moving around any individuals or transmitting Crayfish Plague. Spores from the fungus can be transmitted from infected rivers by a variety of means including water, fish and fishing equipment:



if you have visited a separate catchment or are moving upstream on the Glaven then equipment and wellies should be dried thoroughly or sterilised before entering the river.

It would also help if any crayfish sightings (dead or alive!) are reported as constant monitoring of native and alien crayfish is the most important tool in helping the White-clawed Crayfish to thrive in the River Glaven for years to come.

Martin Pugh



Tidal Glaven

Whilst all the interesting activities in the upstream stretches of the Glaven have been going on there has also been activity in the salt water downstream stretch from Cley to Blakeney Pit. Most readers will by now know that the river was diverted to a new course over part of its length. This was done to move the river southwards along the length where it ran close to the shingle bank by the beach. The reason for this was the fear that a high storm might move shingle south into the river, and thereby block or restrict the flow of water. This could in turn block the river flow and cause extensive flooding. The work was completed some time ago, and many people have now seen the completed work from the re-aligned footpath; others have seen it from boats which can now navigate the new course from Cley to Blakeney. This has been a help to the members of Cley Boat Club who found some difficulty during the construction work. On one recent boat trip it was encouraging to see two sea trout along the new stretch of river.

Last autumn there was an unfortunate incident when a boat sought to run downstream as the Cley flood gates were closing. Luckily the two men aboard were not hurt and were able to scramble to the river bank.

John Woodward

Environment Agency comment:

“We conducted an investigation and computerised logs confirmed the automatic gates were working as normal. A structural inspection had been programmed for Cley Gates involving their removal prior to the incident occurring. These works were brought forward, ensuring that if any structural damage had occurred to the hinge system underwater, it was repaired ahead of the flooding season. Silt was removed using a tracked excavator from the channel adjacent to the structure to accommodate a cofferdam structure and remove naturally occurring shoals from the river within proximity. The cofferdam is made up of two reinforced steel plates that slide into groves built into the structure wing walls upstream and downstream of the gates. They provide a water tight seal enabling the workforce to enter the confined space and work on the hinge plates at bed level. A 50 tonnes tracked trawler crane was used to install the cofferdam and remove the timber floodgates, weighing approximately 4 tonnes each, from the channel for inspection and routine repair. There was no damage to the gates from the boating incident and they have operated throughout the winter period when necessary to protect the community from flooding.”



Newsletter

RGCG Newsletter April 2007

NEWS IN BRIEF

- † Vaughan Lewis has been offered Honorary Membership of the RGCG, and accepted with pleasure. Vaughan is a nationally respected consultant on river restoration work, and gave us great support on the Cinderella Project at Thornage Common meadows
- † The River Restoration Centre has a one page summary of the project on their web site. They comment "This case study is an excellent example of a successful community driven project".
- † Further river restoration work elsewhere on the river is in the planning stages. If all goes ahead, including sourcing of necessary funding as well as the voluntary work we do, then work would be carried out in 2008.
- † The RGCG have re-opened a dialogue with Anglian Water on the reduction of the nutrient level in the effluent from Baconsthorpe Sewage Treatment Works.
- † Some river meadows are sorely in need of conservation grazing, and the RGCG is seeking to facilitate this with interested parties.

LEGACIES

Legacies have the effect of reducing any inheritance tax that may be payable.

Many of you will have seen the river restoration work that we carried out at Thornage Common. For this we used our own volunteer labour where possible, but the project depended on receiving grants amounting to £10,000. There is much more work waiting to be done when funds become available.

Everyone should make (and up-date) a will, and whether or not you have done so you might like to consider leaving an amount to the RGCG, in the knowledge that every penny will be used to enhance the Glaven. Rest assured that any amount, large or small, will be put to good use - all of it.

Next committee date is to be in June

Please contact a committee member with any issues you wish to raise before then.

Web site www.riverglaven.org.uk

A colour version of this Newsletter in PDF format is available from the Visitors Page.

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