



Improving Europe's river corridors

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Introducing The SPARC Project Magazine

Welcome to the SPARC Project magazine, which highlights the achievements of an international programme of river management. Founded on partnership working and bridging five North European countries, the SPARC approach will continue to benefit the water-related environment long after SPARC itself is completed.

Strategic Partnerships in River Corridors (SPARC) is about sustaining and improving the river environment, using an approach built on three fundamental principles:

- (i) the need to be strategic, in order to link to other plans and strategies affecting the river corridor;
- (ii) the need to work in partnership with others to achieve wide ranging results;
- (iii) the need to demonstrate all of that through practical application.

These three principles have been acknowledged throughout the SPARC programme by all involved. In a remarkable initiative, the bringing together of organisations and individuals with their diverse skills is a triumph of cross-border partnerships uniting in a common cause - the regeneration of river corridors and wetlands and the benefits this provides.

SPARC-driven river management programmes in the five participating countries have encouraged biodiversity, addressed the problem of flooding, preserved heritage and seized the opportunity to establish local economic development as an asset to conservation.



You will read not only of the creation of wetlands, river meanders and green spaces but also of the great importance of preserving the past; how archaeology is an important part of the river environment.

You will also learn how some river corridor projects have contributed to the local economy by the job opportunities they have generated.

Using European funding, SPARC has helped finance work to transform selected river corridors in the United Kingdom, Denmark, the Netherlands, Germany and Sweden, with each country achieving their objectives by working strategically, in partnership. Importantly, this ensures best practice techniques are picked up and adopted through a wealth of exchangeable knowledge on an international scale.

Eight projects throughout Northern Europe are examined here and it is hoped that SPARC Magazine will act as a useful introduction to the concept of partnership working within river corridors and will lead the reader to investigate the web-based "good practice guide".

The SPARC project has been led by the Environment Agency of England and Wales.



Preface



SPARC was, in part, developed from an earlier programme of river management in the UK, called the East Midlands

Strategic River Corridors Project, which identified environmental issues in the region and then compared them with similar areas around Europe. There were telling differences!

At that time, we were hard pressed to think of any other region that had lost so much of its biodiversity, but also had so much of its region subject to flood risk - and so an integrated approach to the rehabilitation of river corridors seemed a very sensible thing to do. We had all come to the conclusion that river corridor management was far too important to be left to just one set of professionals!

The creation of SPARC, in 2004, offered the opportunity to integrate with other North European countries and work strategically with them, in harmony with natural flood plain management, to reduce flood risk areas while creating a richer bio-diversity. Other related issues were to follow - community involvement in the planning and care

of river corridor and wetland habitats, educational programmes, landscape preservation and the protection of local heritage sites.

The work of archaeologists - specialists in geo and bio archaeology - is an essential part of SPARC and a fundamental element of the partnership strategy. The history of mankind is inextricably linked to river corridors - the sites of some of the earliest known settlements.

Some SPARC-related projects have attracted new investment, others a steady income from visitors, which has led to the creation of employment and a financially secure and stable future for the continuing conservation of the water-dependent environment.

SPARC gives us all the opportunity to learn from each other and appreciate the variety of ideas and different approaches to safe-guarding river corridors within the five participating countries.

SPARC magazine, I hope, will bring you something of the flavour of those achievements and of the vision, commitment and sheer hard work involved in the integrated management of our river corridors.

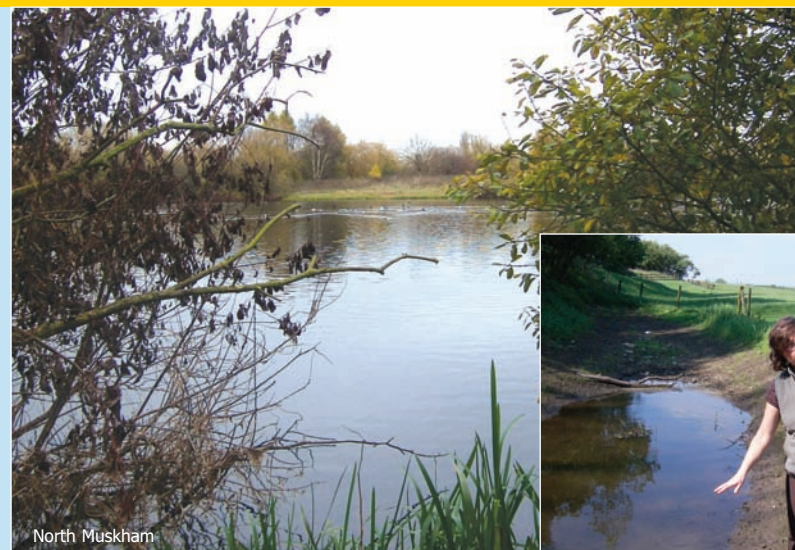
Peter Williams
UK East Midlands Strategic River Corridors Group Chair



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The OnTrent Initiative - United Kingdom



Creating and Enhancing - OnTrent Style

SPARC-supported projects will enhance parts of the River Trent Valley for the benefit of fish, insects, birds, wildlife and flora - and not forgetting you, the visitor!

- **North Muskham** - the creation of a bird and wildlife sanctuary and the enhancement of a heritage site.
- **Kneeton** - the creation of a fish refuge and spawning ground in what was formerly a silted-up side channel of the River Trent.
- **Wet Woodland feasibility** - a survey of potential sites along the river Trent for the creation of wet woodland.



Andy Wickham is Chairman of the OnTrent initiative; Ruth Needham and Jeff Sim, the managers. Here, they collectively paint a picture of one of England's most valuable assets - the River Trent Valley.

The task is a testing one; the area involved, enormous

The challenge OnTrent has set itself is to both enhance and protect a Trent Valley rich in wildlife habitats - some designed to retain floodwater - set in a landscape enjoyed by all and with a local heritage that is both recognised and preserved.

Ranging across the English Midlands from Stoke on Trent, northwards to the Humber Estuary and taking in five counties and three regions, the Trent Valley is a huge geographical area of contrasts. Mineral extraction and electricity generation are the predominant heavy industries, while expanses of arable and grazing land reflect a thriving farming community. The northern section of the Trent Valley is tidal and heavily defended against flooding.

The OnTrent initiative looks to secure a sustainable balance between the natural and historic heritage, as well as agriculture, commercial activity and development along the River Trent. A steering group, totalling more than 20 partners, is made up of local authorities, a variety of national and regional agencies, industry, businesses, farming and the voluntary sector. A truly strategic partnership! Lead players include the Environment Agency (which is a statutory authority with a responsibility for water-related matters), Natural England (a UK Government advisory body on conservation management), English Heritage, (protecting and promoting England's historic environment), British Waterways (responsible for the upkeep of 3,540 kilometres of inland waterway throughout the UK) the Forestry Commission, local wildlife trusts, and various county councils.

Conserving and creating

OnTrent promotes an integrated approach on a number of key issues essential for the conservation of wildlife, water habitats and the creation of nature reserves while identifying and conserving archaeological assets. Encouraging sustainable farming practices and the development of habitats by land-owners, sits high on the agenda, along with the recognition of the Trent Valley's ancient heritage. Provision for sustainable public access is also a key objective.



A standard of care which benefits river corridors and wildlife habitats is an important part of European legislation. The European Water Framework Directive and the Habitats Directive are associated with the type of project encouraged by the OnTrent initiative - improving wetland at North Muskham for the benefit of birdlife, is a typical example. There are also issues and goals in caring for the Trent River Valley which are common to other European countries conducting SPARC-related operations - improved flood plain and flood risk management, higher standards of water quality and the welfare and enhancement of a far-reaching bio-diversity through best practice.

Major projects

A major initiative, funded by SPARC, is a feasibility study to identify potential wet woodland sites near the River Trent in order to help regenerate this valuable and once-common habitat, now very scarce. Four possible sites are being studied - Hoveringham, Gunthorpe, Fiskerton and Caythorpe; now talks are under way with land owners to investigate the possibility of introducing wet woodland here. The project will continue into its delivery phase when SPARC ends and the feasibility work is complete, with OnTrent helping to secure new funding.

OnTrent is also a partner engaged in planning the regeneration of an old dock site at West Bridgford, with the backing of SPARC. (see Green Economy, page 22-23).

The village of North Muskham is at the site of an iron-age settlement, near to an ancient river crossing - and it is there that a SPARC-supported project will improve management of a local nature reserve; also an important habitat for birdlife. The river at North Muskham, historically divides two communities which at one time were closely associated, but became separated after the crossing linking the two fell into disuse. A prime objective of another OnTrent programme (the Trent Vale Landscape Partnership) is an attempt to rebuild those connections, not by restoring the crossing as such, but through a common interest in local heritage and a care for nature.

Archaeologically important

The Trent Valley is one of the most archaeologically-important areas of England as well as an extremely important resource for biodiversity - a potentially difficult mix, where one project could compromise another. Archaeologists are on hand to ensure best practice and to advise on the correct methodology for the protection and enhancement of local heritage sites. SPARC related projects in the UK and the other European partner countries demand teamwork when archaeology becomes a part of the picture.

SPARC partnerships bring together expertise crucial to the welfare of the Trent River Corridor and everything within it which makes it so special for local communities and visitors alike.

Other OnTrent projects co-funded

• The Trent Valley Habitat Pack

An information programme for farmers and landowners alike advising on habitat creation and management in an environmentally sensitive way.

• Trent River Park Funding

Support for a project manager to promote the role of the "Trent River Park", as an environmental asset running through the city of Nottingham, to help the city's regeneration.



The River Runde Restoration Project - Netherlands

Rebirth of a River

"To develop the River Runde, we had to enlarge our partnership. We had to find the money. If we can get the farmers to say they want to go forward...if we can get the partners...suddenly you have the momentum. SPARC made that possible."
Ben van Os Project Manager.



Ben van Os and Jaap van Roon, Project Co-ordinator, together pursued a dream - the recreation of the River Runde in its entirety. That vision has yet to be completely fulfilled, but much has already been achieved, backed by SPARC.

At first, it was just an idea - the restoration of parts of the River Runde in the Netherlands and with it, the creation of an ecological wet corridor from the Bargerveen, an area of raised bog near the German border and the source of the Runde, all the way to the North Sea.

Over the centuries the river, which begins as a high-bog stream carrying off excess water from moor-land, had been broken up into short stretches in some areas and canalised in others. Its original course had even become lost in places, making it difficult to believe there had ever been a river there!

In 1999, plans were drawn up to give it a new lease of life; a revival for a waterway which had become little more than a straight ditch as a result of peat excavation activities



Bargerveen raised bog



Reconstruction of the Runde

and the creation of canal systems. There was little or no evidence of any wildlife or flora to speak of. Since that time a number of projects culminating in SPARC have sought to restore the Runde to its former glory.

Currently a 12 kilometre stretch of the Runde, east of the town of Emmen, is being reconstructed and widened with gently sloping banks, meanders and shallows, to create a 'wet corridor' - a haven for amphibians, dragonflies and butterflies.

Ideas and expertise from Northern Europe

"But this is only the start," says Project Manager Ben van Os "Although we have three projects up and running another is still needed - to complete the restoration of the Runde in our province through to the North Sea."

Ben is enthusiastic about the projects. "We were asked if we would join in a strategic partnership scheme for river corridors. It was just what was needed! SPARC delivered us a lot of partnerships, a lot of new ideas and some funding."

From working on a project as a single organisation, Drenthe regional planners now found themselves sharing expertise and ideas with a variety of contacts, as well as two Drenthe water boards, the Emmen municipality, the State Forestry Commission, parish councils, people with views to make - and of course, their SPARC partners in Northern Europe.

Using the SPARC approach created a wide cross-section of contacts.

"SPARC changed our view about using outside organisations, so we contacted parish councils, villagers, ecology groups and farmers. We held public meetings and an open day to give details of our ideas," says Ben.

"Many people didn't know about our projects - didn't know what was going on. Suspicion and some hostility shown by local people changed to one of enthusiasm once they heard about the programme. It was the talk of the town!"



Greenhouse Industry



Theme Park

Watering the Greenhouse Industry

In previous years some major changes in the Runde River had taken place. The Bargerveen, a Natura-2000 area, was reconnected to the river system, while a newly developed greenhouse area changed the characteristics of the water discharge. The new system had been possible only by strategic planning, involving a wide range of interests - local authorities, the growers and the conservationists. It was the right time to make further, strategic choices for the future.

Restoring the Runde to something of its former, natural character was not the only challenge. European directives, administered through the water boards, were taken on board, too. A strategic management plan, funded by SPARC, was implemented to meet the European Water Framework Directive.

"Because so much water, polluted by nutrients, had found its way into the Runde in the past, it had to be improved," says Project Co-ordinator, Jaap van Roon. "Widening the river slowed the flow rate and reed beds were created to purify the water. It allowed in more oxygen, while taking care of wildlife habitats to meet the Water Framework Directive."

A land-swap scheme with local farmers allowed the Runde projects to go ahead, using the newly acquired land to continue river restoration work and the creation of river corridor habitat.

Building a river crossing by consensus

The task of building a crossing in Emmer Compascuum, for the new course of the River Runde, was a golden opportunity to involve the local community. A competition was launched inviting ideas for its design on the site of a former school building. The consultation process, including information booklets, was paid for from SPARC funding and local people felt involved. It proved a success!

As continuing development plans for the Runde progressed, two new projects were added. Substantial grants funded the building of a total of four river bridges, which not only emphasised the identity of the River Runde, but also enhanced the surrounding landscape.

An existing theme park, sited on an old piece of high moor land a short distance from the Bargerveen, is to benefit from the new course of the River Runde, while the widened river has become a major focal point for visitors. The recreational area offers opportunities to cycle and to walk - and to appreciate the new river corridor.

In the direction of the North Sea

"By creating partnerships there is a future for the Runde as an important ecological and recreational facility," says Jaap. "The river still has to find its way through the province of Groningen, but the Runde and its successor will ultimately flow into the Dollard Estuary," he says. "It is important to communicate with both the province of Groningen and with our German neighbours. We can show them the improved qualities of the Runde and what we have achieved in Drenthe."

"SPARC has delivered us funding, a lot of partnerships and a whole lot of new ideas which will benefit our future projects," says Ben. "We have also proved, through the Runde-project, that integration of several of the EU Directives can be readily achieved.

"There are now opportunities to involve even more people. We have built a corridor and we have linked various habitats. It is up to the Municipality and the water boards to maintain the ecology; we have made plans and we have given them the tools. Now, we have to go in the direction of the North Sea."

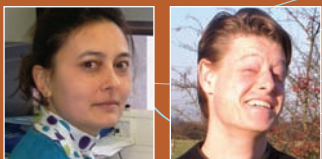


Community involvement

Archaeology and Cultural Heritage

Preserving the Past

Chances are, that under foot along a river corridor, there are time capsules - pieces of history offering tantalising glimpses of centuries long gone; of earlier ages inhabited by man but which can be readily unlocked.



Martine van den Berg is a geo-hydrologist and physical geographer, assessing SPARC project work and its likely impact on local archaeology.

Michel Vorenhout, a biologist and environmental chemist, has worked on restoration schemes in the Netherlands.

Both are from The Institute for Geo and Bio Archaeology (IGBA) at the Vrije Universiteit Amsterdam and play a much valued role.

Martine and Michel, as SPARC advisors, stress the need to protect archaeology during conservation and enhancement work. Pre-planning, they say, is critical and Martine is keen that project teams should know what to do.

"You have habitat creation on the one hand and archaeology on the other. It's a question of integration," she says.

Critical, is the 'desktop investigation' followed by basic fieldwork; creating an inventory of anything that is found.



"The creation of wetlands and the installation of river meanders for example, have the potential to disrupt ancient features through ground disturbance. Damage to the natural environment can often be rectified - damage to an archaeological site can see it lost for ever."

Core values

In river areas, organic and geological remains lie well preserved in waterlogged conditions, which exclude oxygen and prevent decomposition.

Learning from each other and assessing the views and the methods used by others is an IGBA core value - so too is planning and assessment, says Michel Vorenhout.

"It is a question of assessing the work in hand; knowing what is going on and how it is affecting archaeology.

"The SPARC programme provides an insight into local heritage," he says, "But we at the IGBA gain an insight into nature conservation - so we learn, too."



Dr. Jim Williams is Regional Archaeological Science Advisor for English Heritage in the UK and based in the Midlands.

To get a real focus of human activity over the ages, a river corridor is the place to begin.

"It's where people have been exploiting wetland resources associated with the river from the Palaeolithic onwards."

Raising awareness

"As an archaeologist, the whole point of being involved in SPARC is to raise a greater awareness of the checks needed on restoration projects in order to properly evaluate, characterise and then mitigate any likely impacts on archaeological deposits.

"Land drainage and intensive agriculture have the potential to damage archaeological material, so if there are opportunities to raise water levels to restore wetlands, there are then opportunities to preserve history better," he says.

Understanding the importance of that as part of the SPARC ethos ultimately pays off. Not only can visitors enjoy green corridors, forest, open spaces and waterways but they then also have the chance to appreciate the culture of the surrounding landscape.



SPARC site investigation in progress



Through SPARC the IGBA is developing a "tool kit" intended as a step-by-step guide to protecting archaeological features.

- **Planning** - Spatial activity should take account of heritage sites and archaeological remains.
- **Inventory** - Archaeological remains need to be located, if they are to be safe-guarded.
- **Evaluation** - Remains or features need to be assessed.
- **Protection** - Measures that need to be taken to safeguard archaeological sites.
- **Mitigation** - Ensuring river corridor activity fits in with the archaeological site.
- **Monitoring** - Performing regular baseline studies to check for changes to archaeological material.

History in your Hands?

Unlike the other SPARC partners, the role of the Institute of Geo and Bio Archaeology, is to influence the approach taken by all towards the treatment and care of heritage sites in our river corridors.



Heading the IGBA team is Professor Henk Kars, an authority on river corridor archaeology, who is only too well aware of the serious concerns for the preservation of our heritage.

"This need for proper archaeological and cultural management is not always recognised. The very landscape itself is just as valuable as any other aspect of archaeology - and just as vulnerable!"

The merits for changing a landscape, in the interests of river ecology, have to be weighed against those for preserving the past; whatever the project. It is a delicate balancing act and if poorly judged, can cause irreparable damage to what history has left behind.

"Every tool used today to change an ancient landscape, creates a new landscape - so which is the more valuable - the old or the new. What should be allowed?" Henk poses a continuing dilemma facing those involved with both archaeology and conservation work. While legislation generally protects heritage sites, there are always exceptions.

"When people refer to archaeology, they usually think of it in terms of individual sites, one after the other, but the whole landscape is covered with a layered blanket of former occupations.

It is hardly surprising then, that the IGBA regards river corridors as a valuable archaeological asset and is anxious to increase the awareness of project workers to their true worth.

"When Roman nails or bone material are found, that tells us the soil has characteristics which are particularly good for conservation but which could be changed by its disturbance. Our big challenge is how to identify what is happening in the soil and whether work should then be allowed," says Henk.

"We all regard river corridors as a natural landscape, but you must also regard them as a cultural landscape.

"People need to take much more of an interest in archaeological sites, otherwise how can we make an evaluation if we don't even know what is there?"

Building in the cost of archaeological surveys should be a part of the planning process, he believes, but that is not always the case. Poor communication can lead to archaeology 'becoming invisible'!

But he adds: "SPARC policy has raised awareness of the importance of archaeological sites and it fits very well into the international development of care for our national heritage. There has been much more awareness and much more thought into how best to preserve archaeological remains in situ."



Historical Map of the Runder

Halkaer and Lindenberg - Denmark

A Tale of Two Rivers

This is an account of two rivers; of two separate projects and of two separate action plans, but with a common goal - to improve the quality of the largest fjord in Denmark - and for one of the rivers, the creation of a river corridor wetland habitat.

Each of them heavily polluted by nutrient run-off from arable land, the Halkaer and Lindenberg rivers in North Jutland flow into the Limfjord, drastically reducing its oxygen levels during the summer months. Added to that, are the large amounts of algae combining to have a dramatic effect on the fjord's fish population in particular and on aquatic life in general.



Algae growth



Gustav Schaarup and Roar Poulsen are Project Co-ordinators for the Halkaer and Lindenberg programmes and are closely associated with each of the schemes. They have led negotiations and created a series of working partnerships using the SPARC approach.

"Before we knew about SPARC, we weren't sure whether the Halkaer project would be all that successful," says Gustav Schaarup. "The plan was to change land use near the river from agriculture into a lake and meadow, while creating a large wetland to reduce the affects of nutrient run-off from the land. We knew we would have a lot of negotiating to do, but the SPARC approach of involving others helped us deliver."

"We had to reach agreement with 45 farmers in a co-operative and there were occasions when those meetings were not easy," Gustav recalls. "But we finally agreed on a land swap deal."

The transformation back to wetland was comparatively easy. A pumping station managed by the farmers to keep the land dry was simply switched off - but not without first gauging the effect that would have on land beyond the planned floodplain. The removal of the building and preparation of the site was SPARC funded.

There then followed the no small matter of planning the creation of a lake covering 100 hectares, with its wetland surrounds of a further 50 hectares.

"We had to make sure fish migration in the River Halkaer wouldn't be affected, so we had to strike the right balance between the amount of water flowing into the lake basin and the impact on fish of the reduced flow in the river," adds Gustav, "Only 20 per cent of the river is diverted to the lake."



Halkaer Lake and Wetland created as part of SPARC



Public meetings and "workshops" voiced local opinions, including those of the local Danish nature organisation and the anglers associations. It led to local people, including landowners, considering the scheme as their own.

In its first two years of existence, the lake was refuge to 140 different bird species, some quite rare, as well as some breeding pairs.

A former railway line is popular with cyclists and walkers alike, while an old mill is now a nature centre. There are viewing points and footpaths to the lake, while the site of a medieval fortress has been opened to the public and a camp site established.



SPARC visit to Halkaer camp site

Importantly, the SPARC Check system (see pages 16-17) of project appraisal by peer groups from other countries has produced ideas for future development.

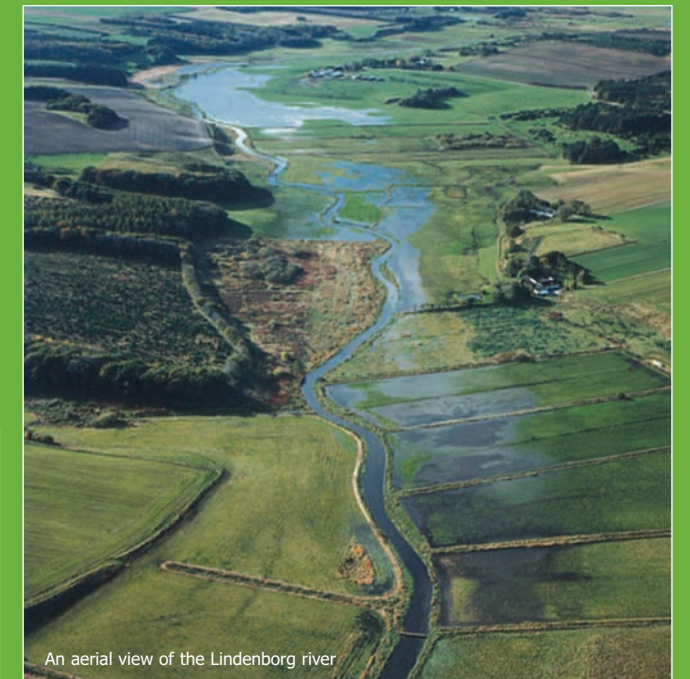
The SPARC Check

To celebrate the opening of the scheme, 500 people were there, with an attendant media.

"The scheme has been very successful...there was the goal to improve the water quality of the fjord...so you make a lake and you create wetland...that creates habitat...and you then find you have achieved the goal set by the European Directives - on water quality and habitat"...**Roar Poulsen**

The Lindenberg project differs from that for the Halkaer, but the objectives remain the same; to develop a long-term strategy for the welfare of wildlife, fish stocks and flora alike, in keeping with the requirements of the Habitats Directive.

What is now attractive and valuable grass-land could be threatened by encroaching scrub - and the matter can be only properly dealt with through partnership and co-ordination.



An aerial view of the Lindenberg river

But first, views have to be canvassed and opinion won over! Preconceived ideas that 'officials won't listen' are being countered by meetings, particularly with farmers who are most affected by the project.

"We want to show them we do listen and we want them to know we are eager to help," says Gustav.

A close partnership has been set up with the Municipalities, the State Forestry District and the Regional Environmental Centre, while contact has been kept with landowners and farmers, as well as with organisations representing angling, hunting, recreational interests and the local history museum.

"The important thing was to establish a dialogue between us and the landowners. We wanted them involved and working with requirements voluntarily - and that is now paying off," says Roar Poulsen. "A working group of farmers, Non Governmental Organisations (NGOs) and the two municipalities has now been set up."

Enthusiasm is growing with understanding. Some farmers are preparing to fence off large areas of land for cattle grazing, to improve grassland and extend good quality habitat.

"Through SPARC we are achieving a common vision," says Roar. "We have learnt from other partners. When we visited the OnTrent project in the UK we saw how voluntary organisations are involved and the positive contribution they make to a scheme. That doesn't happen so much in Denmark where it's assumed the authorities should do everything."

The Wietze Stream Restoration

- Germany

Creating Precious Space for Man and Nature

Somewhere to breathe...to unwind...a place to savour...a much needed oasis not far from the bustling, Hanover airport. It is good then, to learn of the restoration of a stream, the creation of wetlands for wild life - and of the opportunity for recreation.



Dr Regine von der Haar, Project Manager and Christine Fruh, Landscape Architecture, describes the thinking behind the Wietze Stream restoration.

Farmland near the airport is being transformed into a nature reserve and recreation area by the City of Langenhagen planners. The SPARC project centres on the Wietze Stream and answers a pressing need for land for habitat recreation.

The chosen site, covering six hectares of managed grazing land and owned by the municipality, had historically been meadow and wetlands. Recreating the stream and its meanders restores it to its former mid 19th century natural beauty.

Its transition back to wetlands, is in answer to building development in the city which has swallowed up open 'green' spaces. Because of its ironstone properties, the region has long lost its forests and woods - given over to excavation for knife and sword making, dating back as far as 800 B.C. Later, the area became grazing land and more recently was used to grow potatoes for alcohol production.

The move to restore the stream and its meanders, creating wetland and wet meadows and improving recreational access, came from the City of Langenhagen Municipality.

"We had a stream which just ran in a straight line through agricultural land and there was nothing else," says Christine. "So we diverted part of the old river and put in meanders."

Restoring the watercourse was only a part of the plan. There was also the question of wetland to create. Excavations near the new water course to lower the surrounding land produced no less than 16,000 cubic metres of soil. This was not wasted. It has now become an integral part of an outdoor sledging course in winter and for walking, jogging and mountain biking in the summer.



Bi-lateral visit to the Runde

Local interest in the development of this small, flatland watercourse has not gone un-noticed.

"We soon had visitors wanting to know what we were doing," says Christine. "They come from various interest groups and local councils. We also had politicians visiting us and of course, people in general who are just curious about what is going on in Langenhagen."

The Wietze Stream development links in to a larger, regional programme of restoration and recreation by the Region of Hanover, to meet public need.

The SPARC philosophy of partnership-working has been an opportunity for Regine and local government colleagues from Langenhagen to look at the problem solving of the other partners.

"It was extremely useful to see how others worked on their projects. We took with us local politicians from Langenhagen and members of the Hanover Region and the Municipality of Isernhagen for a bi-lateral meeting in the Netherlands to view the restoration work on the River Runde.

"Now, our politicians know how the system works and how they can get information from other SPARC partners."

For Regine and her partners, it was a valuable experience!

The Wietze Stream restoration has seen 75 trees planted, the creation of a flood pond, footpaths and the installation of a viewing tower for bird watching, which begins in earnest this year (2008). Already, there are signs of birdlife on the wetlands!

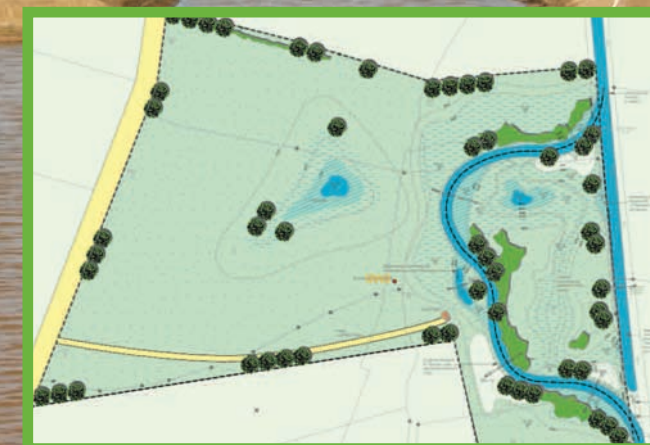
The first on-site monitoring of the wetlands has proved promising. An ornithologist from the nature conservation association, NABU, (the German Nature Protection Society) was impressed with the pilot development and has called for further, similar projects to be initiated. Rare sightings have already been recorded and spring 2008 will see more bird species revisiting an area they have been absent from for a very long time.



Ironstone



Wietze stream - work in progress



The project has involved working with conservationists, wildlife and natural history groups, landscape architects and the University of Hanover.

The newly created river corridor is multifunctional, providing habitat protection, groundwater replenishment, flood protection and recreation.

It had started with a working group developing ideas for the Wietz catchment but because of the amount of administration work involved there had been little will for the project to become a reality.

"Langenhagen, with strong support from Enercity Water Company in the northern region, was the only municipality that took the opportunity to do something about it," says Regine. We knew that we wouldn't be able to alter the whole length of the Wietze Stream to realise its natural potential, but we just wanted to show what can be done if you dare to use just even a small plot. Figuratively, it is like laying the very first stone in a mosaic - and that is just what we did; we have laid the first stone of a mosaic that will continue to be created for decades."

Regine and her team are justifiably proud of their achievement, with open space for recreation at such a premium.

"What we did was a great success. Previously, nature conservationists were sceptical - and even more so, the hydrologists. Only the ornithologist and the Hanover Region staff who were in tune with our objective gave us their support, along with Enercity."

With landscaping and river meandering work completed, came the first sign of success with sightings of a rare bird, breeding on the first small plot that had, by then, been completed.

"It was a last minute opportunity or 'five to twelve' as the Germans say, to do something to enhance the biodiversity in this area," says Regine.



Viewing tower and landscaping

Trans-national Working



Site visit, Denmark



Considering Runde restoration plan, Netherlands



SPARC Project Steering Group



All this is written up in the form of a workshop report.

Technical seminars

Throughout the SPARC programme the SPARC check has been supported by a series of technical seminars. Open to a wider audience, each SPARC Partnership took it in turns to host a seminar. Subjects included

- Improvement of water quality and public participation;
- Creation of wetlands and promotion of schemes;
- Economic activity and catchment modelling;
- Monitoring of sites for below ground sediment changes;
- Decision support systems and wetland creation;
- Creation and monitoring of bird habitats and green infrastructure.

Bi-Lateral visits

In addition a programme of bi-lateral meetings was undertaken through which partners would embark on a one to one (or occasionally a two to one) meeting to learn about specific aspects of a particular project. For example delegates from both Danish projects came to the UK to look at how European Directives were being implemented. Similarly a delegation of planners and politicians from Langenhagen travelled across the border to Drenthe to look more closely at the restoration of the River Runde.

The whole idea of trans-national working is to tackle problems and issues common to all. It is the rationale for the European programme and why people need it. It's about finding a way of working constructively together.



Trans-national Working

The abiding strengths of SPARC and the bedrock of its foundations lie in the mutual sharing of ideas and the achievement of goals through partnerships, established across national boundaries.

Tackling some of the problems and issues of river corridor management, common to the five SPARC member countries, has proved a success for the concept of working partnerships.

Trans-national working saw the United Kingdom, Germany, Sweden, The Netherlands, and Denmark, pool their combined expertise and knowledge, to bring fresh ideas and new approaches. Visits have given SPARC partners the chance not only to learn how systems work in other countries, but the opportunity to bring ideas of their own to share.



Jo Talbot, a consultant to SPARC is in no doubt about the value of trans-national working.

"We do need it and we can benefit from it. Different countries will have different experiences and different ways of doing things, therefore we can learn from each other. By working together, you achieve a solution which could also be appropriate for another member state."

Good practice

Developing ideas and a common approach has proved a valuable strategy - so too the development of comparable standards of working, giving valuable support to projects that are under way. The development of good practice has added to the success of many of the projects - how to address a particular task from a different view, or the do's and don'ts of problem solving.

"Using trans-national working you can pick up many different ideas that you wouldn't otherwise come across. For example, one of the things we do a lot of in the UK, is community consultation. We have local council meetings, public meetings and exhibitions to sound out local opinion. Other member states don't necessarily have the same approach - so for them it can be quite innovative to become involved in working with communities, helping them to determine their own destiny on certain matters," she feels.

Another example is a piece of agricultural land in Holland, turned into river habitat, where the farmer is compensated with a piece of land elsewhere. That does not happen in the UK.

"We then ask ourselves why we don't do that. Is it because we have never thought of it, or is it because current regulations in the UK prevent us doing so?" asks Jo.

Ultimately, trans-national working is about helping member states achieve a more balanced spatial development.

It is what the European Commission describes as 'territorial cohesion' - how regions and areas work together, how to get them to be complementary to each other, use resources efficiently, overcome regional inequalities - and achieve all that through integrating different policies and planning structures. It is about pooling experiences and developing approaches, but recognising that countries have different systems. The more understanding of how other partners work, the better it gets.



Discussing the SPARC Check application, UK

The SPARC Check

At the heart of trans-national working in SPARC is the SPARC Check - a process which has proved extremely useful.

The Check itself takes the form of a questionnaire and workshop, with each partner taking it in turns to host. The questionnaire is broken down into themes based on common objectives amongst the SPARC partner projects. These include:

- Integrated management of river corridors;
- Partnership development;
- The management and monitoring of cultural and environmental resources;
- Cross border working and future investment.

For each theme a series of standard questions are answered first by the host project team and then, following a site visit, by the visiting partners 'through a workshop'.

This encourages all partners to take a careful look at each project, to understand what is happening, and to make comments based on their own understanding and expertise.

At the end of the process the host and visitors are asked to identify learning points that they feel they will be able to take away with them and try out on their own projects.

The River Nene Regional Park

- United Kingdom

The Green Corridors of the River Nene Regional Park

Developing a strategy for the provision of green infrastructure



Laura Kitson, Project Co-ordinator with the River Nene Regional Park.

Large-scale housing and industrial development, ear-marked some years ago for England's South Midlands and the River Nene Corridor, prompted a strategy for the creation of planned open spaces, linked by 'green' corridors.

That 'green infrastructure' concept has grown and evolved into what it is now, with the creation of the River Nene Regional Park (RNRP) in 2003. But the conservation and enhancement of a significant part of the English Midlands could only be achieved by a formula of strategic partnerships and funding, coupled with talent and the vision to create a living network of multi-functional, open, green spaces.

Backed by European funding, the SPARC initiative was able to part-fund a green infrastructure programme and contribute towards the upkeep of the Wildlife Trust nature reserve at Summer Leys.

The River Nene characterises all that is so much associated with the English countryside - languidly flowing, as it does, through industrial Northampton and on into open countryside; meandering past villages, dotted among acres of land and home to a huge, countless biodiversity.



Restored gravel workings

A meaningful commitment

With Northamptonshire a relatively short distance north of London and with a motorway and other major routes slicing through it, the county is regarded as an ideal base for the transport and warehousing industries, making the commitment towards a green infrastructure that much more meaningful. Since its inception, the River Nene Regional Park has achieved much, through effective strategic partnerships, to protect and enhance the river corridor - and Project Co-ordinator Laura Kitson is positive about its future.



Tree top way at Salcey Forest © RNRP

"Planned housing and industrial development provide an opportunity to have a think and to have a look at what we have got in terms of the ecology so that informed decisions are made, rather than the planners assuming nothing is there to be conserved and protected."

"We work with the regional planning authority, to make sure our green infrastructure is included in all their strategies. In return, they have been working with us to arrange a series of workshops for planners, environmentalists and planning consultants, to explain the meaning of green infrastructure in relation to planning."

The RNRP is a shining example of successful partnerships!

"We have now moved from being a very opportunistic, informal partnership to a formal, non-profit making Community Interest Company, formed in June 2007, with the approval of the Regulator, for the benefit the community," she adds. "By joining together a variety of individual projects into a single entity, very many requirements were met across a whole range of issues, which otherwise would not have been possible."

The RNRP has since been recognised as a model for the delivery of green infrastructure by the UK Government's Department of Communities and Local Government who now fund it as an exemplar of green infrastructure projects.

Site to site migration

Linking together key conservation sites by a network of green corridors, has made it easier for species to migrate from one location to another, by utilising nature itself as the link; something as simple as a hedge planting programme between established woodlands, or the use of the river itself, as a living corridor.

Since 2004, more than five million Euros have been spent on innovative "green infrastructure" projects, with a further six million earmarked, either to keep existing projects running, or to finance new ones.

The mineral industry has left its mark along the River Nene Valley - but it's a valued legacy. Old, flooded gravel pits have been transformed and restored to wetlands, combining reed beds, open water and habitat.



Restoration of Tudor Garden © RNRP

New partnership

The River Nene Regional Park has attracted inward investment into the area over the past four years - investment which otherwise would not have happened without the integrated management of a variety of interests and organisations!

Major players within the RNRP strategy include the Environment Agency for England and Wales UK, Natural England (a recently formed UK Government advisory body on the management of natural resources), English Heritage, The Wildlife Trust, The Royal Society for the Protection of Birds (RSPB) and the Forestry Commission. Working together, the partnership strategy has been able to attain environmental goals which otherwise would have been beyond the reach of individual groups.

Salcey Forest

Once a royal hunting forest, now designated ancient woodland. What is left is still spectacular, with some of the oldest, remaining oaks believed to be more than 500 years old. It is here visitors can walk the 'Tree Top Way' - winner of the Environment prize in the British Construction Industry Awards (only local timber was used) - offering a breath-taking view of the forest at truly tree top level.

At one time there were less than a 100 thousand visitors a year to Salcey Forest, but since the development of Tree Top Way - with the Forestry Commission as a strategic partner - numbers have soared to around 300 thousand annually.

Heritage

Important archaeological sites have all been identified by the RNRP, including old battlefields and historic monuments.

Wothorpe Towers - near Stamford, Lincolnshire, is a dilapidated hunting Lodge gifted to the Wothorpe Towers Preservation Trust. RNRP funded work to stabilise the building and restore the Tudor garden to be eventually opened up to the public.

Lyveden New Bield near Oundle - an ornate late Tudor garden lodge. RNRP has funded work to improve access to a further area of gardens and surrounding woodland.

Integrated management

The Nene Valley, with its rich biodiversity, has also been identified as a target area for a national stewardship scheme, which funds good land management through eco-sensitive farming. It has given an opportunity for the RNRP team to engage a land advisor, working with farmers and landowners, to provide guidance on land management and to help plan and submit applications to join the scheme.

Financial support helps replant hedgerows, restore ponds, create wetlands and provide small areas of rare habitat, while ensuring public access.



Top Lodge © RNRP

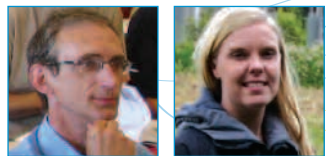
Many of the RNRP partners have an education programme, depending on the individual project. At Top Lodge, the RSPB has an education centre. The Forestry Commission also organise a series of visits, targeting schools and community groups, while the Wildlife Trust has its own educational programme. All of them, it's fair to say, are well attended the year round and are, of course, popular with young and old alike.

Larjean Gardens - Sweden

The Gardens of Larjean - Letting Nature do the Work

"SPARC can take the credit for this unique project which cleans waste water by running it through a biological circuit and at the same time introducing local people, especially school children, to a more nature friendly way of life..."

Jorgen Abrahamsson, City of Goteborg, Sweden



Jorgen Abrahamsson is Finance Officer and Johanna Jarl is Project Officer for Larjean Gardens.

At the heart of the local community are the Larjean Gardens of Gunnared, near Goteborg, Sweden, designed and created to bring the visitor close to nature. They are an important focal point for many in a part of Goteborg which has a sizeable number of newly arrived Swedes.

The ecological garden, with its bio-dynamic cultivation, grows its own vegetables and flowers for sale and runs a popular garden café. The SPARC project was to create a complete ecological cleansing circuit for all the gardens' water systems and the surrounding environment. Partnerships with several Goteborg municipal administrations, with responsibility for water management and environmental issues, backed the project.

A major feature has been the construction of a 1000 metre square, biological multiple pond system to clean waste water discharged from the nearby café and shop, following the removal of a septic tank, to make the garden truly bio-dynamic and allow nature to do the work.

Waste water and sewage is piped through to a series of shallow ponds, filtering through plankton, which increasingly takes out impurities by stages, pond by pond. In the final one is clear, clean water used to water the lawns.

The function of the somewhat unconventional waste water system is not only the focus of local research, but is generating general interest in a method relying only on the cleansing qualities of nature herself.

The water purification ponds, built and now monitored through SPARC, are home to organisms designed to deal with waste in water.



Such has been the interest, that nearby college students are actively involved during summer months monitoring the process and gaining practical experience for later use as part of their general studies.

"Students working during the summer months reflect the importance of the water purification system which everyone should know about," says Jorgen Abrahamsson.

The garden and its ponds give access to the nearby river valley - designated a Natura 2000 site, with its unique character and rolling landscape.

"The ponds are an important part of general education at all levels, from pre-school children who are encouraged to tour the gardens and visit the ponds to find out how they work, to unique research opportunities for university students", he adds.

And of the future? "We would like to see the SPARC funded project as complementary to a new, commercial sports centre under construction near by. The gardens and its water system are there to learn from - showing ways of living more with nature than against it", says Jorgen.

But it is not all about purifying water. The ponds, in keeping with their natural surroundings, help promote biological diversity and are good for insects and a source of food for birds. Then there are their therapeutic qualities.

"The ponds and the gardens are really positive and are a focal point for people who could benefit from working with the environment. Those types of jobs can be therapeutic."

The area is also right for tourism, where the gardens enhance breathtaking surroundings - and tourism is also good news for local shops and businesses!



The 'SPARC-check' development tool (pages 16-17) has greatly contributed to the Larjean project, says Jorgen.

"It has proved a valuable exercise; pointing out the importance of the area and suggesting ways forward. The centre is at the entrance to a beautiful valley and we have had ideas from other European partners on how to make full use of that. Perhaps by publicizing the gardens more and making clear what is going on there."

One opportunity, says Jorgern, is to convert a former barn into a complete day conference centre, with all that goes with it, including kitchen facilities.

"This would also fit in perfectly as an exhibition centre explaining the various aspects of sustainability.

"The café has a good reputation and is in beautiful surroundings - and we should take full advantage. Perhaps by organising guided tours, taking in the gardens and the river valley," suggests Jorgen.



The project is seen as a contribution towards a better environment by using eco-friendly alternatives, demonstrated by the filtration ponds. Importantly, it is also regarded as a positive encouragement for everyone to use ecological alternatives in their daily lives - as a matter of course.

"From the view which suggests we could have less and less fresh water in the world, maybe by spreading the experience learned from the Larjean Gardens project will focus us all on the importance of water conservation," says Jorgen.



Green Economy

The Green Economy

Restoring rivers, creating wetlands and giving nature a helping hand in general, is not only welcomed by conservationists, it is more often than not good news as well for the local economy.

Working partnerships which enhance existing river corridors, preserve and promote local archaeology and biodiversity, and which care for the over-all good of the local environment for all to enjoy, not only attract tourism, but also increase the desire to invest in the area generally.



The café at Salcey Forest © RNRP



Revenue from cafés, exhibition centres, craft shops and admission fees, including car parks, creates local employment and secures the future welfare of the region by re-investing in it.

While some projects will always need financing (open access can rule out charging admission into nature reserves) others are up and running as successful business ventures. SPARC experience shows this.

In the Netherlands, the River Runde Project (pages 8-9) demonstrates how economic growth can go hand in hand with the river's ecological enhancement.

A commercial greenhouse-growing area has developed around the Runde since the 1960's. Thanks to the Runde project, there is now greater capacity to retain and store water, which will allow the industry to expand into an additional 180 hectares.

There are also plans to build about 70 new holiday-cottages within the next two years, after seeing plans for the river restoration work and the development of a nearby recreational fairway.

Following the achievements of the SPARC-backed Runde restoration programme, a Dutch government-related organisation has funded more than a million Euros to build four bridges over the river and to continue further work along other reaches of the Runde.

Discussions have started with economists - including bankers and chambers of commerce - who are enthusiastic about future plans for the Runde and who want to participate, bringing with them their own ideas for creating new opportunities, particularly for recreation.

In the UK, the River Nene Regional Park (pages 18-19) provides a further example of partnerships and flourishing enterprises.



Stanwick Lakes - a restored gravel pit © RNRP

Salcey Forest is magnificent ancient woodland with some excellent walking opportunities and the chance to watch an amazing range of wildlife from a unique vantage point - up on high from the popular tree-top way. Ten per cent of all takings from the café go directly to the Forestry Commission for continuing conservation work.

Stanwick Lakes - a restored gravel pit is an area of restored gravel pits in a 650 acre countryside attraction for walkers, cyclists and horse-riders. A 'mix-use' site including a visitors centre, café, bike hire and horse-riding venture - all generating self funding and securing local employment.

Top Lodge is an innovative eco-centre, run by local partnerships and launched by the Forestry Commission, in June 2007. This development project has restored 18th Century buildings, with the use of local materials, into a modern recreation and information complex. The centre, with its café and shop, an RSPB shop and the local craft exhibition centre, have all generated local employment, while ploughing back funds for future conservation work.

Still in the UK the Trent River Park scheme, (page 7) backed by SPARC, aims to transform a run-down, commercial section of the Trent at the old dock site at West Bridgford. Nottinghamshire Wildlife Trust, the Environment Agency, British Waterways and the local authorities are all working in partnership with several regeneration agencies. The plan is to develop an improved river environment with up-market shops and offices. With that sort of development will come jobs and incomes, bringing back community spirit and a brighter future for that part of the River Trent.

In Denmark, river restoration work on the Ganner has been boosted by a well-established golf course, together with footpaths and a cycle and walkway.

Caring for a river environment pays dividends - it can generate future, further investment in river corridor work - not least from tourism in general and fishing in particular. River reaches generate revenue not only from fishing permits and their like, but can also attract the enterprises that go with the sport to create a healthy, local economy. Tackle shops live off fishing and there are other enterprises which benefit - bed and breakfast accommodation, cafés and tea-shops.

Whatever their nature, big or small, enterprises are capable of helping to sustain a river environment by generating interest and income and above all, by presenting an opportunity for a community to develop in keeping with the life and identity of a river corridor.



Runde Greenhouse Industry



Meanders, Nature, Hearts and Minds

The restoration of Denmark's Ganer and Omme river basins to their natural glory is now under way in Ringkjøbing County - thanks to a SPARC-backed project which is now creating river meanders, together with large areas of wetland. Just as importantly, the programme is a major step forward towards reducing pollution run off into the Ringkjøbing Fjord; a problem it shares in common with other fjords in Denmark. There has also been the challenge of winning over the hearts and minds of those closely linked to the areas, to do something about it.



Project Manager, Ivan Thesbjerg, from the Skjern Municipality.

For years, a combination of agricultural run-off, fish-farm pollution and sewage has affected the ecological balance of the Ringkjøbing Fjord, on the west coast of Denmark, clouding the water and coating the bottom with sediment, seriously damaging invertebrates, fish, plants, and bird life.



A four stage action plan is now tackling the problem, but from the beginning there has been an acknowledged need to broaden that plan to include local people and to explore the potential for developing recreational and cultural spin-offs. There was, though, no recognised method of making all that a reality, before the involvement of SPARC.

Shared knowledge, gained by the SPARC-check strategy of inviting observations from other member countries, is an important element of a four-year programme to reduce pollution by the creation of wetlands and river meanders, which then become a haven for a diversity of wildlife. Birds and amphibians are already putting in an appearance at the first wetland site, completed only last year (2007).

The River Ganer flows through an area of heath, forest, agriculture and urban development, making it a multi-functional catchment area.



Ivan feels it important that the project should have the backing of landowners and farmers alike - not only to convert arable land to wetlands, but to adopt eco-friendly farming and forestry methods - a complete reversal of earlier practices which had turned natural habitats into agricultural land.

"The farmers have agreed compensation for the loss of their land to wetland, but they still own the property. It allows them to continue grazing their cattle on it during the drier, summer months," says Ivan.

The enthusiastic involvement of local people has been paramount, following a series of public meetings, where ideas came thick and fast - another SPARC value.

"We considered how best we could use the land to remove nutrients from the river - not just agricultural run off, but other types of pollution, such as that from fish farming.

"We want to encourage people to go out and enjoy themselves, so it is very important that we create access to the wetland for them, while protecting the birdlife and fauna that will be there," says Ivan.

As part of the Ganer and Omme 'make-over' a water weed planting programme is under way on the newly created meanders, while summer schools are planned, with rangers introducing youngsters to local flora and wildlife - not forgetting ancient, local history - a mound marks the site of an Iron Age fort. The local museum is therefore keen to support the regeneration of the river corridor as well.

Other attractions boast a well-established golf course, footpaths and a cycle and walking path along the route of a former railway.

"In this first phase we involved other SPARC partners and their greatest help has been their feedback. In turn, we were able to comment on their projects; a cross fertilization of ideas" says Ivan.

The improvement to water quality and the creation of wetlands is an example of how European legislation - in this case, the requirements of the European Water Framework Directive and the Habitats Directive - translates into effective action.



Skjern Nature Reserve



Bittern

The Omme River flows through a hilly, rural area where agriculture is predominant, then on into the Skjern River nature reserve; a Europe Designated Habitat. The river, however, has a high nutrient content, while river installations prevent the natural spread of wildlife. Working groups, involving 'stakeholders', have formed to develop project ideas to improve river water quality and habitat, including a call for the closure of two large fish farms to reduce pollution and improve access.

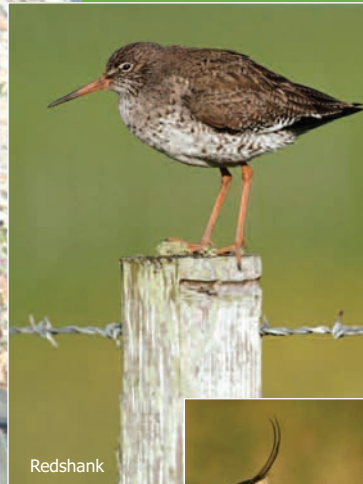
So what of the Ganer and Omme River Basins? The River Omme flows through the Skjern River delta, a nature reserve which more than justifies its status as a Europe Designated Habitat. Following 30 years of intense agricultural use, it has been returned to nature. Lower lying land has been transformed into lakes and water meadow, complete with bird hides.

All year round there are impressive numbers of mute swans, coots, cormorants, grey herons, greylag geese and many duck species. One of the most exciting breeding birds is the spoonbill, while the often heard but rarely seen bittern haunts the valley. Marsh harrier, flying low over the meadows, hunts for prey - mice and other birds. Water is home to the waders - the lapwing, avocet and oystercatcher.

The Natura 2000 site is protected by European Directives including a Ramsar designation - a wetland of international importance.

Some of the extremely rare floating water-plantain can be found in Skjern river valley watercourses - inhabited also, by the otter and the Skjern river salmon. Both the otter and salmon faced extinction at one time through a combination of land drainage and poor quality water. Creating river meanders, spawning grounds and wetlands have played their part in the revival of both species. Something SPARC partnerships are rather good at.

Beckingham Marshes - United Kingdom



Redshank



Lapwing

Beckingham Marshes - Birdlife, History and All

A partnership between the Royal Society for the Protection of Birds (RSPB) and The Environment Agency is expected to transform farmland on Beckingham Marshes, in north Nottinghamshire, into an important habitat for wading birds.

Beckingham Marshes cover 850 hectares of farmland on the edge of the River Trent and become wash land, protecting the north Lincolnshire town of Gainsborough during heavy floods.



RSPB Project Manager, Neil Lambert.

It is planned to restore more than 94 hectares to wetland, to attract redshank, lapwing, snipe and curlew to breed.

At present, there are just 10 pairs of lapwing and a pair of redshank nesting on the site, but they could form the nucleus of a much larger population. Other wildlife species, including water voles, otters, frogs and newts would also benefit.

Stopping the decline

Beckingham Marshes had traditionally been the breeding ground for waders and other birds but progressive land drainage, to allow more intensive farming, saw their numbers decline over the years. The RSPB is expecting to redress the balance, now that the Environment Agency has bought out the farming tenancy and given them management of the land.

So far the RSPB has returned the arable land to grassland grazed by cattle; has coppiced hedges to attract ground nesting birds and erected fencing and gates. The next stage is to create a series of ditches and ponds and to install a series of dams and pumps to manage water levels on the site.

It's good to talk

Throughout the planning stage, the RSPB has worked closely with the Environment Agency as lead partner and liaised with the parish council, local interest groups and industry, while "surgeries" have been held in Beckingham to explain the project in detail. As a result, there has been a lot of local interest.

Water levels on Beckingham Marshes are managed by the Internal Drainage Board, a statutory body allowing the land to be artificially drained for farming. For their part, the RSPB need wetland conditions on the project area and plan to isolate the land from the rest of the water system by damming off drains and raising ditch water levels. The scheme is being designed so that it will not affect the drainage system on the remainder of Beckingham Marshes.

Inside the Willow works



Outside the Willow works

Shallow feeding pools

Neil Lambert, RSPB Project Manager, says the critical breeding time for redshank, lapwing, snipe and curlew is mid March to mid June, when land on the site needs to be wet, the time when water levels are kept at their lowest on the rest of the surrounding land.

"The dams will help to maintain target water levels on the site. The wading birds feed by probing in soft soil, picking insects from the surface of bare ground or sifting through shallow water. On a silt site like Beckingham, the soil is hard and difficult for the waders to probe so they need shallow water with soft, muddy edges."

Nearly 90 shallow pools, from 15 to 40 metres across and up to 60 centimetres deep, have been planned along with four water pumps to raise the water and move it around. An oil company runs an extraction site on the marshes and oil pipelines crossing the wildlife site will need to be protected from the raised water levels by a series of ditches running alongside them to maintain low levels.

Learning from SPARC

An earlier planning application for the project was refused due to concerns as to whether the scheme would increase the risk of local flooding. A new, modified plan has been drawn up, partly founded on lessons learned from the SPARC experience.

Plans have also been modified to protect the site's archaeology. In particular, there will be further archaeological evaluation before three deep ditches are dug, as part of the wetland scheme, and other trenching work will be monitored to identify and record any other archaeological material discovered.

The proposed scrapes, or shallow pools, will be less than 60 cm deep to avoid damaging archaeological remains. Core samples from palaeochannels on the site have found well-preserved peat - some in virtual leaf form.

Immediate plans include the production of a flood risk assessment to demonstrate the work will not affect flood defences.

The RSPB project is funded by the RSPB, Natural England, the Environment Agency and SPARC.

Wetlands are one of the most important natural resources on earth. They provide sustainable livelihoods for people, support a stunning variety of wildlife, and form part of a healthy and functional landscape. Wetland habitats can provide us with many benefits because they help to recharge underground water supplies, filter out pollution and buffer the extremes associated with climate change.

However, the past three centuries have seen devastating losses in England: fens have been drained, grazing marshes ploughed, reedbeds polluted, rivers straightened, and lowland bogs have been extensively mined for their peat. As a direct result, wetland wildlife faces an uncertain future

A 50-year project to restore and repair England's most damaged wetlands will assist the return of rare and threatened species, help to reduce flooding and secure a future for wetlands in an increasingly dry climate. English Heritage, Natural England, the Environment Agency, the RSPB and the Wildlife Trusts have formed a partnership to develop a vision for wetlands and the wildlife they support.

History preserved with community help

The historic Willow Works building on the edge of Beckingham Marshes is regarded a unique example of agricultural and industrial heritage and the only one of its kind in the region. The building, owned by the Environment Agency, is all that survives of the traditional cottage industry of willow basket and furniture making.

Willow working played an important part in the community, keeping local folk employed since the 1800's - and it would have been at the heart of village life. The Second World War saw the closure of the works and it eventually fell into disrepair.

To restore this local treasure to its former glory, the Environment Agency gained much needed support and funding from Nottinghamshire County Council, the Department for Environment Food and Rural Affairs (DEFRA), Gainsborough Local Alchemy, the History Group, the Local Heritage Initiative - and the backing of local trades people and volunteers.

It is planned to use part of the building as a museum, recalling an era of traditional trade and skills before the advent of modern technology and mass production. Renovation work has included a new roof and supporting timbers. Although at one time dilapidated, the old Willow Works has been 'home' to owls and bats - and now they have purpose-built nesting boxes and bat roosts.

Delivering European Directives

The delivery of a number of European Directives can only be achieved effectively through the adoption of a strategic partnership approach.

At the fore front of these Directives are the Habitats and Birds Directives which set out to protect a wide variety of species and habitats by establishing a series of sites of European conservation importance, known collectively as Natura 2000. Within the sites are Special Protection Areas (SPAs), set up to protect bird species and Special Areas of Conservation (SACs) which protect other animals, plants and habitats. Sites throughout Europe continue to be identified and designated.



SAC designated under the Habitats Directive

A third major piece of European legislation comes in the form of the Water Framework Directive. This is about sustainable water quality and setting standards. Previously, water had always been managed on the basis of chemical quality - if you get the chemical quality right, the ecology will follow - but what the Directive now does is to set standards of care, specifically to include the ecological qualities. That includes setting standards for fish, plants, bio-diversity and the habitats that support them.

A whole range of standards is being developed across Europe - for example, how much phosphorous or nitrogen should be allowed in water. There is a complete list of requirements defining what is meant by good status and within that, categories defining different standards of quality.

Water Framework Directive standards are achieved through river basin planning which defines problems, assesses what needs to be done, who does it, and how it is going to be paid for.

The SPARC factor

All SPARC projects take account of the need to deliver European Directives, whether it be at a site specific level as with the Habitats and Birds Directives, or at the level of an entire river basin as with the Water Framework Directive. This can only be achieved with the help of a whole list of organisations - water companies, planning authorities, industry and environmental and Non Governmental Organisations (NGOs).

SPARC activity has become an important factor in maintaining the delicate balance of the eco-system.

In Denmark, for example, the Halkaer and Lindenberg Rivers, with their meadows and wildlife, are each designated Natura 2000 Sites.

The creation of wetland along the corridor of the River Halkaer has helped purify the water, while the construction of an off-river 'collection' lake filters out further nutrients. The project has met the requirements of both the Habitats Directive and the Water Framework Directive, providing habitat for flora and fauna, while creating cleaner water.

A project underway on the River Lindenberg, plans to meet future Habitats Directive standards by working in partnership with landowners, wildlife organisations, anglers and local groups; developing land as both habitat and grazing meadow. In addition, a partnership with university scientists has countered the river's marked drop in oxygen levels.



SPA designated under the Birds Directive



Standards of excellence

In the UK the River Nene Regional Project is keen to get involved.

"We encourage partners to work together so that they deliver not just the bare minimum required by Water Framework Directive and the Habitats Directive but to ensure others working with them also reach the required standard of excellence," says Laura.

In general, projects must demonstrate there would be no adverse impact on river water quality in order to gain support. The development of a visitor centre in the Rockingham Forest, includes a sustainable water treatment system. Rainwater run-off on the site is used for toilets, with sewage and any extra rainwater filtered through a series of reeds beds for purification.

The largest designated Site of Special Scientific Interest (SSSI) is the Upper Nene Valley with its gravel pits, also designated a Special Protection Area by Europe and lying at the heart of the River Nene Regional Park. The recognition acknowledges the biodiversity value for breeding and over-wintering birds and requires any proposed development in the area to be of the highest environmental standard before permission is given.

The Habitats Directive sets out further requirements for managing sites of European importance for biodiversity - in this instance the Nene Valley. Implementing the Directive, is the particular responsibility of Natural England, working closely with the RNRP management team.



Meeting the standards of the Water Framework Directive

Finally



Tim Pickering, SPARC Project Manager and Asad Mahmood, Finance Officer both work for the Environment Agency of England and Wales and have been involved in running the SPARC project since 2005.

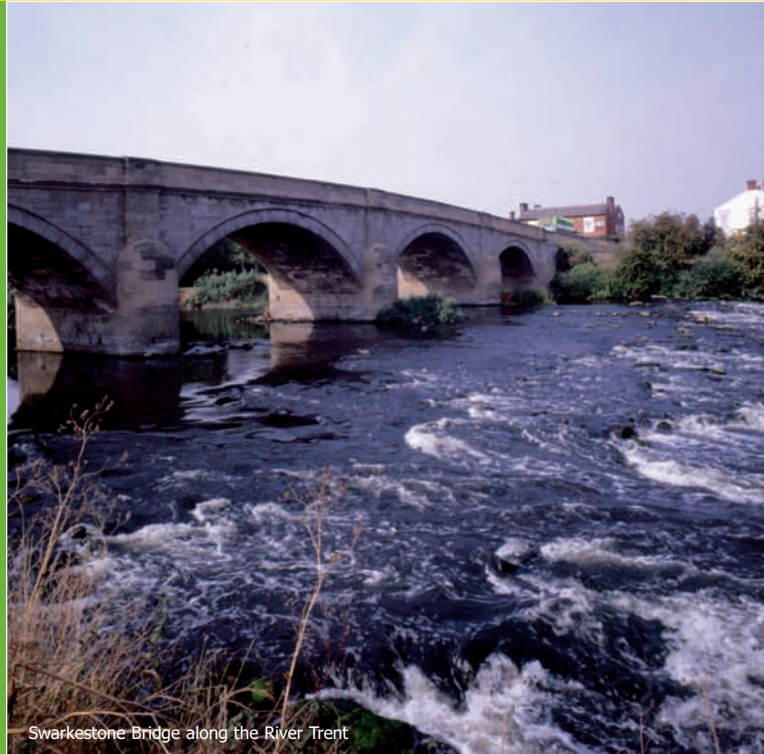
We hope this magazine has given you an insight into the thinking behind the SPARC project. It has certainly been fascinating for us to work on.

This magazine marks the end of the current SPARC programme and we hope its contents serve to illustrate not only that what has taken place, but also how those involved have worked together to generate new ways of thinking.

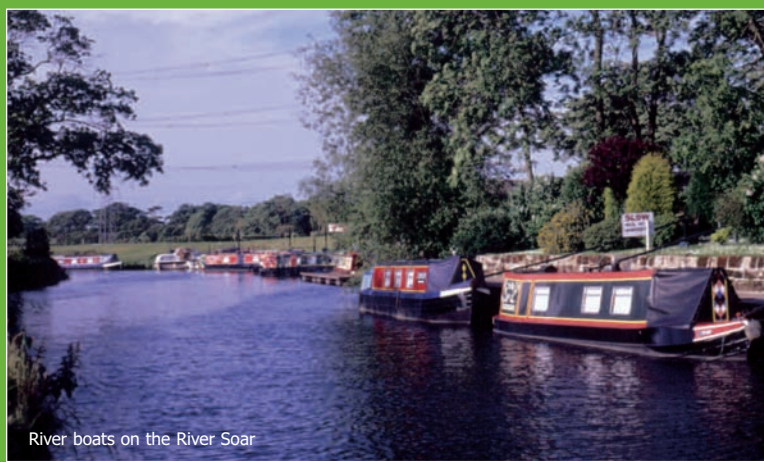
Examples of good practice developed through this project will be made available on the project web site towards the end of 2008.

SPARC was co-funded by the European Regional Development Fund through the INTERREG IIIB programme. This provided money for a broad range of demonstration projects, and also gave us the means to develop as an international partnership.

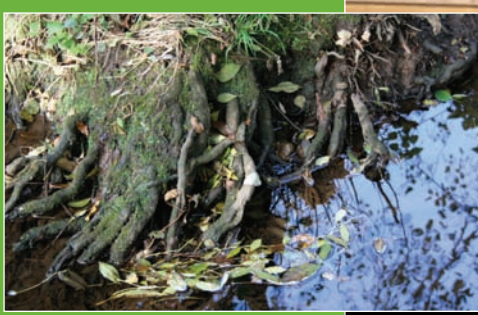
All the individual SPARC partnerships will continue with the work they are engaged in and the SPARC approach of strategic engagement, partnership working, and practical application will continue as a maxim for future projects to follow.



Swarkestone Bridge along the River Trent



River boats on the River Soar



Clifton Bridge, Nottingham



SPARC Partners

**Environment Agency**

**City of Göteborg**

**LANGENHAGEN**

**Ringkøbing-Skjern Kommune**

**OnTrent**

**vrije Universiteit amsterdam**

**MILJØMINISTERIET**

**Miljøcenter Aalborg**

**provincie Drenthe**

**RIVER NENE REGIONAL PARK
INSPIRED SPACES**

**RSPB**

**for birds
for people
for ever**



**Interreg North Sea Region**



www.sparc-project.org

The SPARC project has been co-funded by the European Regional Development Fund through the Interreg IIIB North Sea Region programme.