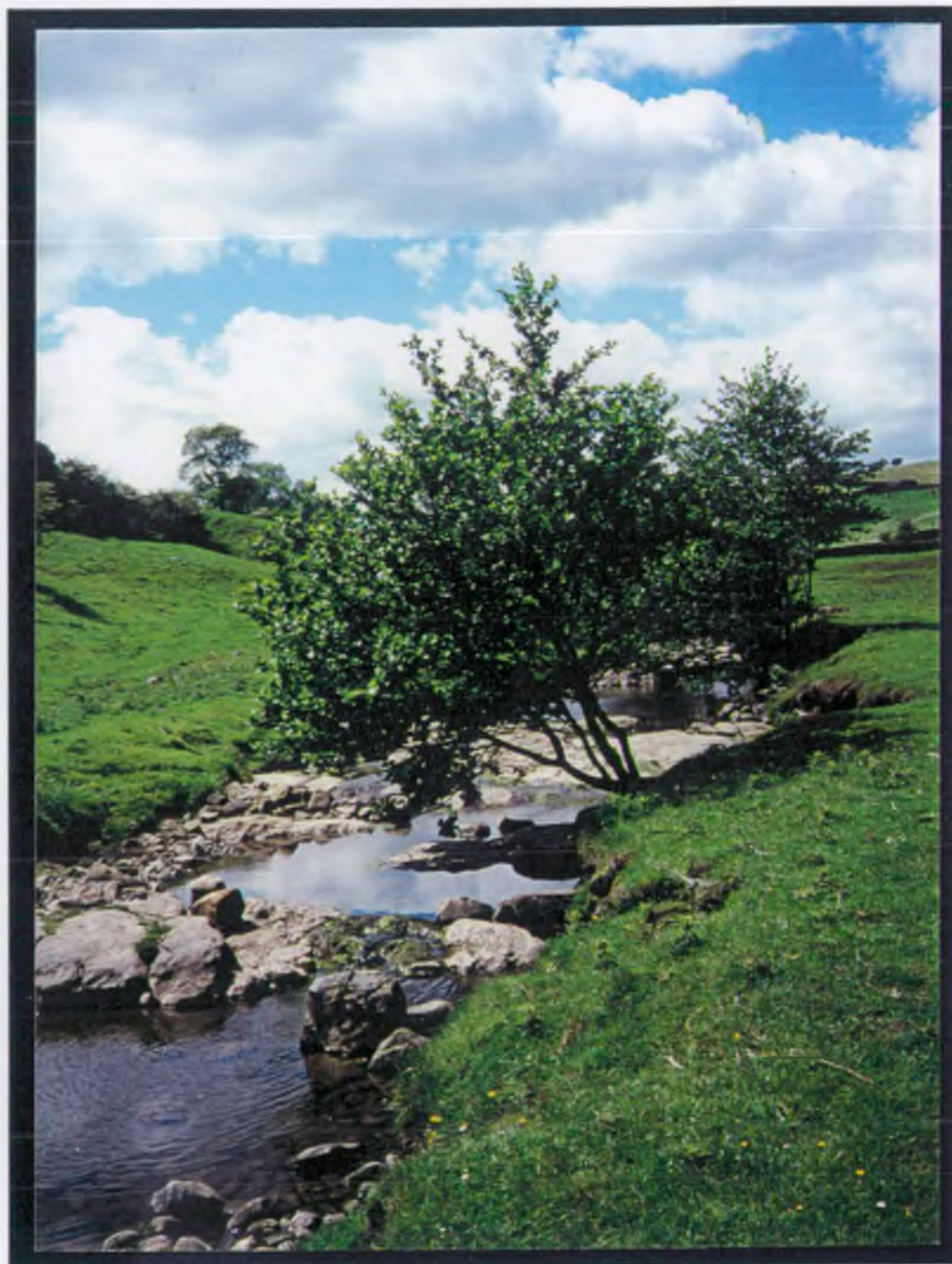


CONSERVATION ANNUAL REPORT 1995/96



*National Rivers Authority
Northumbria & Yorkshire Region*



NATIONAL RIVERS AUTHORITY

NORTHUMBRIA & YORKSHIRE REGION

CONSERVATION ANNUAL REPORT

1995/96

FRCN
Technical Department
Rivers House
Park Square
Leeds

ENVIRONMENT AGENCY



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CONSERVATION ANNUAL REPORT

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INTRODUCTION

This annual report outlines the work undertaken by conservation staff within the NRA's Northumbria & Yorkshire Region during 1995/96.

The work of the conservation section is underpinned by three main strategic objectives;

- ♦ assess and monitor the conservation interest of inland and coastal waters and associated lands.
- ♦ ensure that the NRA's regulatory, operational and advisory activities take full account of the need to sustain and further conservation.
- ♦ promote conservation to enhance the quality of the aquatic and related environment for the benefit of wildlife and people.

CONSERVATION DUTIES WITHIN THE NRA

The conservation duties of the NRA are set out in Sections 2(2) and 16 of the Water Resources Act, 1991.

Section 2(2) makes it a duty of the NRA, to such an extent as it considers desirable, **generally to promote:**

- ♦ the conservation and enhancement of the natural beauty and amenity of inland and coastal waters and of land associated with such waters;
- ♦ the conservation of flora and fauna which are dependent on an aquatic environment.

Section 16 obliges the NRA, in formulating or considering any proposals relating to any of its functions, to;

- ♦ **further the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological and physiographical (landform) features of special interest;**
- ♦ **have regard to the desirability of protecting and conserving buildings, sites and objects of archaeological, architectural or historical interest;**
- ♦ **take into account the effect which the proposals would have on the beauty or amenity of any rural or urban area or on any such flora, fauna, features, buildings, sites or objects.**

The NRA's powers under this section must be exercised in such a way as to achieve improvements in terms of conservation, while being used to fulfil the purposes (eg flood defence) for which those powers are granted.

THE ROLE OF CONSERVATION

The conservation duties of the NRA are applicable when it is formulating or considering proposals relating to any of its functions. The conservation function therefore works closely with all functions of the NRA.

Advice and Assistance

- ◆ Internal advice to all functions particularly Flood Defence on all stages of maintenance and capital schemes. This involves work with external consultants where these are used.
- ◆ Promoting best environmental practice throughout the NRA.
- ◆ On-site specialist advice to capital and maintenance schemes.
- ◆ Planting schedules for small sites, organising supply of materials and supervising the planting.
- ◆ Expert advice to interested bodies and general public on conservation matters and issues.
- ◆ Expert advice and project management for collaborative projects.
- ◆ Expert advice on changing/new legislation such as The Environment Act, 1995.

Promotion

- ◆ Promotion of conservation and the NRA through exhibitions, talks, seminars, leaflets and media work.
- ◆ External liaison promoting the NRA and collaborative projects with organisations such as The Wildlife Trusts, RSPB and National Parks.
- ◆ Promotion of conservation in protected areas and in the wider countryside where it is associated with the watercycle, such as fringe habitats, stewardship schemes, whole farm plans.
- ◆ The promotion both internally and externally of river rehabilitation and general environmental enhancements.
- ◆ The promotion of conservation and the NRA through educational work.

Appraisal

- ◆ Environmental Assessment expertise and training.
- ◆ Environmental Reports for capital and revenue schemes.
- ◆ Comments on authorisations such as planning applications, discharge consents, abstraction licences and land drainage consents.

Survey/Data Gathering

- ◆ Reactive River Corridor Surveys for revenue and capital schemes.
- ◆ Strategic River Corridor Surveys
- ◆ River Habitat Surveys for the National and Regional database.
- ◆ Landscape appraisals
- ◆ Other surveys, such as Phase I Habitat Surveys, as required.

Data Management

- ♦ Development and maintenance of databases relating to designated conservation and heritage sites.
- ♦ Development and maintenance of the River Habitat database.
- ♦ Development and maintenance of the Recreation and Conservation database.

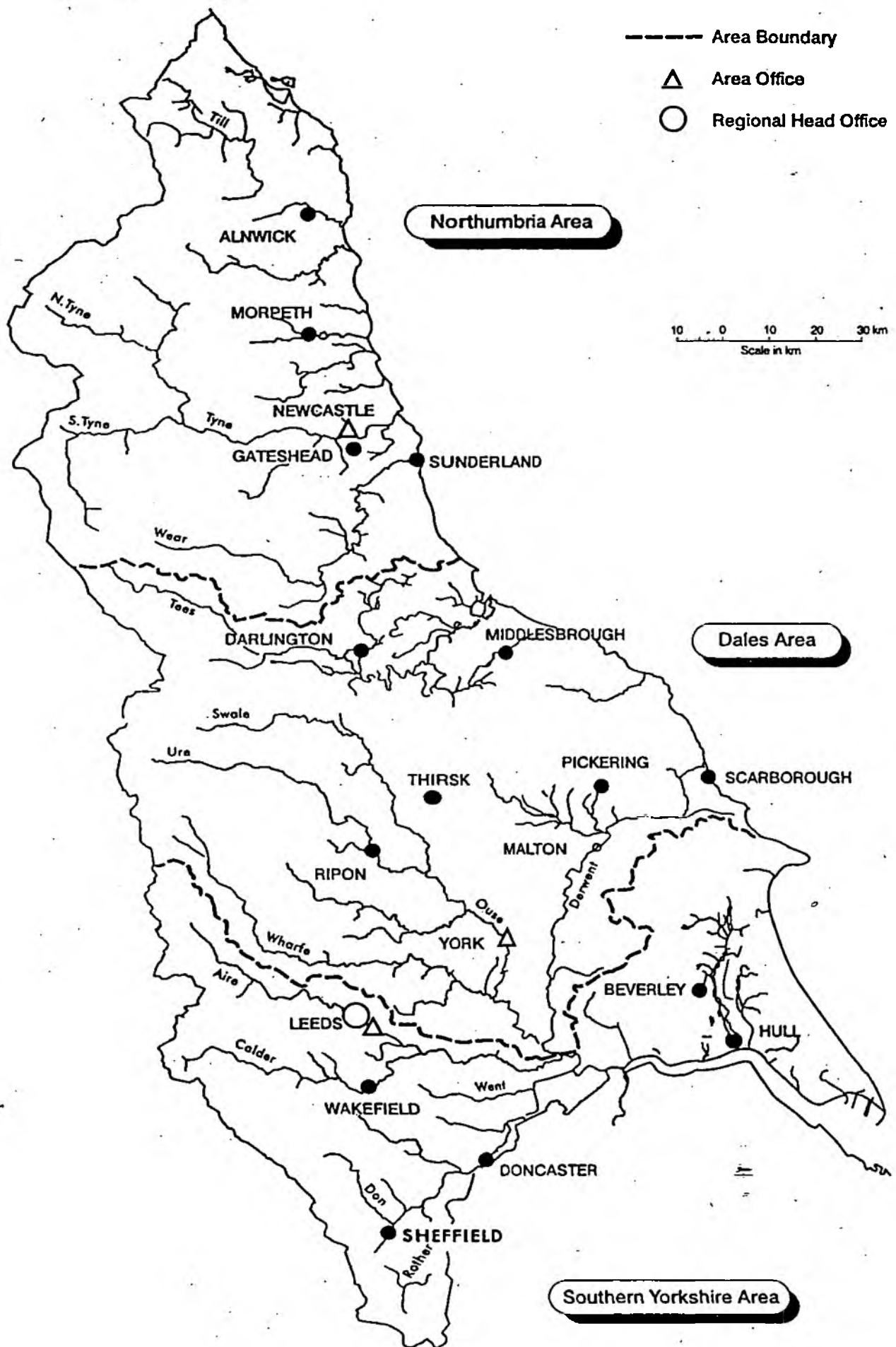
Site Management

- ♦ Developing site management plans for NRA owned sites in conjunction with other interested parties.

Research and Development

- ♦ Management of national R&D projects and regional operational investigations, for example into ponds, river rehabilitation and cormorants.

Northumbria & Yorkshire Region



SECTION 1 FLOOD DEFENCE WORK

1.1 NORTHUMBRIA AREA

1.1a FLOOD DEFENCE CAPITAL WORKS

Ponteland Flood Alleviation Scheme

The capital flood defence works were substantially completed and incorporated the excavation of an oxbow lake adjacent to the River Pont. The Conservation Section have provided advice during the development of the scheme.

Chester Burn Flood Defence and Landscape Improvement Scheme

The Conservation Section has provided advice to consultants working on the project during the design stages. The aim of the project is to break the river out of a concrete channel, and create a more natural river environment including riffles, damp margins and fringing deciduous trees. The scheme will also go a long way to improve the amenity value of the area.

Wooler Flood Alleviation Scheme

An environmental report was produced following consultation with the Tweed Foundation on the potential impact of any works on the Wooler Water. Following the consultants' final report the scheme was removed from the capital programme.

1.1b FLOOD DEFENCE MAINTENANCE WORK

River Browney at Croxdale

Flood Defence, with the encouragement of the Conservation Section used willow spiling in two locations on the River Browney to repair erosions. The materials were all obtained from a local source. This is the first occasion when this technique has been tried in the Northumbria Area. The site will therefore be closely monitored to measure the success or otherwise of the scheme. When repairing the flood bank, spoil was won from the river bank creating a large low-level berm, which has been seeded with a wetland mix.

River Aln at Alnmouth

The Conservation Section was involved in detailed discussions with landowners and English Nature over the potential impacts of sea defence repairs on the Aln Estuary SSSI.

River Coquet at Thropton

The Conservation Section have drawn up tree planting plans for the Flood Defence Department to experiment with using tree planting to slow erosion processes. As a consequence of this, a number of adjacent landowners have excluded stock from the riverbanks, and these areas will be planted up by the Conservation Section to improve the habitat and fisheries potential of the area.

Howden Dene

In association with the Northumberland FWAG plans have been drawn up for pond improvements adjacent to the River Tyne near Corbridge. Works were undertaken by the Operations Department whilst flood defence works were carried out in the area.

1.2 DALES AREA

1.2a FLOOD DEFENCE CAPITAL WORK

River Swale

On the River Swale just upstream from Great Langton, serious bank erosion was worsening on a bend with a floodbank behind. The February 1995 flood doubled the area which had already been washed away in previous years.

The area has very gravelly substrate and thin soils. There was little tree or shrub cover at this section so there was very little holding the bank together.

A scheme was designed by Flood Defence and Conservation using a combination of hard and soft engineering. The hard engineered work involved using gabion mattresses and filling these with the gravel and cobbles available from the other side of the river. The mattresses were tied together around the curve of the riverbank and anchored to the bank and bed using very long willow stakes. The stakes reached the water table level even during the low flows of this last summer and started to sprout almost immediately. The idea is that with flood water going over the mattresses, the flow will be slowed and silt will be deposited, thereby helping to form a more solid structure that the willow can root into and solidify the whole structure. Some grass seed was sown on the surface, but the amount of top soil available was minimal.

The structure is yet to be tested in a major flood, but it is the first time the Area has used the gabion mattress and willow stake combination.

River Wharfe

Collingham Flood Defence scheme will be completed in Spring 1996. The construction work started in early August to build 2 embankments and a flood wall to protect Collingham village from flooding from the River Wharfe. During the feasibility stage it was identified that thistle broomrape (a protected species) had been present on the site in 1992. As a result an annual monitoring programme was agreed as part of a three year maintenance programme to be carried out by Phil Abbot (Botanical Society of the British Isles). When the access tracks to the site, which lie adjacent to the new flood bank, are removed in the spring the ground will be randomly divided into sections. Some of these sections will be seeded and others left bare. These will then be managed in different ways and monitored to see whether thistle broomrape colonises any of the areas and to what extent.

1.2b FLOOD DEFENCE MAINTENANCE WORK

River Swale/ Ure & Nidd

Work has progressed over the last few years to improve the mowing regimes on flood banks. This year a special rake was purchased to help to remove the cut grass from the banks. Some flood banks within the area have been cut with a tarrup mower which is similar to a hay mower and cuts the grass once close to the ground. Previously flail mowers were used which cut and 'mashed' the grass leaving it on the bank. This is disadvantageous because the cuttings act as a fertilizer on the banks, encouraging more grass growth (therefore more mowing may be required) and other more vulnerable plant species are smothered in the process, and diversity tends to decrease.

The new method of tarrup mowing and raking off the mowings has several operational advantages. It is quicker as the tarrup mowers can cut grass much faster than the flail mowers. Although two operations are required with the tarrup and rake, the rake has a good reach and bends over the bank bringing cut grass over from the other side as well. The cut grass can also be used as an alternative to conventional hay, thus saving the NRA from either leaving it on site or burning it later on. In some areas Flood Defence consider that this method also leaves the bank in a better condition. If this type of management is adopted then it is likely that over a period of time the number of cuts a year that each bank requires will be reduced, thereby saving money. An increase in plant species diversity will lead to increased insect and bird species and be beneficial to people walking on flood banks with access.

Tarrup mowing is also being trialed on the Lower Nidd on sections within the work area of the Lower Nidd Enhancement/ Barn Owl Project. The idea being that the grass remains longer and is cut after the birds offspring are older. The method will be trailed for 2 to 3 years and checked to ensure that the integrity of the bank is maintained before being adopted more widely within the catchment.

Upper Wharfe

Flood Defence Maintenance provided 100 willow stakes to Appletreewick, Barden & Burnsall Angling Club as part of a scheme to enhance the habitat of the Upper Wharfe. The scheme involved planting trees and erecting fencing along the Wharfe from Linton stepping stones to Burnsall Bridge in Yorkshire Dales National Park. This work was undertaken as part of the Dales Erosion Project.

River Hertford (Derwent) & Fleet (Wharfe) Weed Control

The River Hertford suffers annually from dense in-stream weed growths that have proved difficult to manage by traditional control methods. The weed problem is the cause of numerous complaints from the local Internal Drainage Board (IDB) who claim that the NRA is failing to maintain its land drainage duties. Following a joint NRA/MAFF/IDB/landowners meeting in October 1994 the NRA made a commitment that it would investigate some alternative control measures including the use of herbicides and trees for shading. Similarly complaints were received by the local IDB concerning the management of the River Fleet. As a result a management plan has been drawn up by the Flood Defence Department through consultation with Conservation. A presentation is planned for March to discuss the future maintenance on the Fleet. As part of this plan the NRA are undertaking herbicide trials in conjunction with those on the River Hertford (see below) to investigate alternative methods of weed control.

The herbicide trials were carried out by Jonathan Newman (Centre for Aquatic Plant Management) on behalf of the NRA over a short length (c. 2 miles) of the river Hertford and 5 sites over a 10km stretch on the Wharfe between April and September 1995. The trials consisted of two components; a time trial experiment and a 50% weed control experiment on the Fleet and 75% on the Hertford.

Initial results indicate that the time trials have been successful in identifying the best period of year to spray for maintaining a clear channel for land drainage purposes.

The 50 and 75% control experiment results will not be known until later in 1996 when regrowth of in-channel vegetation is measured. The experiment treated only 50% or 75% of the in-stream

vegetation with the aim of creating a relatively clear central channel for land drainage purposes whilst also leaving marginal vegetated strips intact to provide cover for the river's flora and fauna. By adopting selective herbicide treatment in the future for this stretch of river it is hoped that the NRA can balance both its land drainage and conservation duties.

The general east-west alignment of the River Hertford means that it is particularly suitable for maximizing shading of the river by planting on its south bank. It is hoped that the shade cast by planted trees will help reduce the dense in-stream weed growths and ease maintenance requirements. Two suitable sites for planting trees have been identified and planting is planned for the Spring of 1996 given the consent of landowners.

River Riccal at Harome

As part of Flood Defence bank repair works the opportunity was taken to remove soil material from the steep bankside areas to create a series of low lying berms to enhance the river's wetland fringe. By removing material from the steep river banks this benefitted Flood Defence by increasing the storage capacity of the channel and by providing material for the bank repairs whilst there was also a considerable environmental benefit through creation of the berms. Between 6-8 berms were created at intervals over a river length of approximately 1km (Photo 1).

River Derwent at Low Marshes

As part of Flood Defence bank repair works the opportunity was taken to create a pond within the floodplain for wildlife. The pond was constructed with a variety of slopes and depths to maximize its wildlife potential and a near vertical earth face was incorporated into one side to provide nesting habitat for sandmartins and kingfishers which are known to frequent this section of the catchment. Some aquatic and tree planting will be undertaken in Spring 1996 to complete the project.

Pickering Beck (Ings Bridge to Barker Stakes)

Pickering Beck is a spring fed limestone stream renowned for its trout and grayling fishing. However, some sections such as that identified between Ings Bridge and Barker Stakes have suffered from heavy siltation which has limited the stream's carrying capacity, the fishing and its natural flora and fauna.

A joint project between Flood Defence, Operations, Conservation and Fisheries staff initiated a dredging programme and the removal of a non-functional weir that was causing unnatural ponding of the river for a length of about 250m. The dredging was carried out by Operations staff in a sympathetic manner to recreate the more natural river profile that included shallower riffle areas and deeper pools. The joint venture has been a success and it has alleviated the problem of low carrying capacity of the channel which posed a flooding risk whilst at the same time enhancing the conservation and recreation value of the stream.

River Tees

Much of the maintenance work this year has been the repair of flood banks damaged in the floods of Feb 1995. Conservation advice given in regard to work to be done has been routine. No major flood defence improvements have been undertaken in collaboration with conservation as only essential maintenance works were carried out due to operational staff being involved in the Skerne River Restoration Project.

1.3 SOUTHERN YORKSHIRE

1.3a FLOOD DEFENCE CAPITAL WORKS

General

Flood defence are developing standard tender documents for scheme feasibility studies. Input from ecologists has been necessary to ensure that the documents adequately cover the NRA's conservation duties, and standards of environmental assessment.

Batley Beck 4b

This is one phase of an urban flood defence scheme in Batley. The beck is very engineered, and much of it is in culvert, however in places the beck is of nature conservation interest, with mature trees, and natural flows. Ecologists have been involved in scheme design and liaison with nature conservation bodies. A landscaping scheme has been drawn up which will build on the existing habitats, mainly by adding further pockets of trees and shrubs. This will be implemented next year.

Howley Beck Flood Alleviation Scheme (FAS)

This is a small urban scheme in Batley, where the beck is currently very engineered. Ecologists have carried out a river corridor survey (0.5 km), produced an ecological report, and given advice to the engineering consultants.

River Spen FAS Phase 5

This is one phase of an ongoing scheme, on an urban water course in Cleckheaton. Ecologists input has included a river corridor survey (2 km), environmental assessment with production of a Preliminary Environmental Report, advice and input to scheme design, liaison with conservation bodies, and production of landscaping plans. Mitigation will ensure that existing river bed features are retained, and that minimum damage is done to existing trees and shrubs. Landscaping plans include proposals to replace any shrubs lost as part of the scheme.

River Spen FAS Phase 6

This is a further phase of the above scheme. Ecologists involvement so far has included carrying out a river corridor survey (2 km).

River Calder at Callis Bridge

There are flooding problems on the river Calder at Callis Bridge, the river is constrained between artificial walls, and flows adjacent to roads and property. A feasibility study is currently being carried out to investigate the problem, and suggest possible flood prevention measures. Ecologists have carried out a river corridor survey (2 km), and produced an environmental issues (scoping) report.

River Calder at Mytholmroyd

A feasibility study is currently being carried out by Flood Defence to determine the causes and possible solutions to flooding in Mytholmroyd. The Calder at Mytholmroyd is very urbanised, with walled banks, but has a mostly natural river bed, and supports populations of trout. Ecologists input has included a river corridor survey (3.0 km), and production of an environmental issues (scoping) report.

Walsden Water FAS

This scheme is at feasibility study stage, the area around Walsden Water has suffered from flooding in the past. The water courses in the area vary from more or less natural upland streams, to heavily engineered concrete channels and culverts downstream. A river corridor survey (7 km) has been carried out, and an environmental issues (scoping) report has been produced.

River Calder at Lower Todmorden

Similarly, this scheme is at feasibility study stage, ecologists input has included carrying out a river corridor survey (2 km), and production of an environmental issues (scoping) report.

River Calder near Thornes Lane, Wakefield

The River Calder in this area has a varied character, with mixed artificial walls and earth banks with a natural bed. Adjacent landuses include built residential and industrial areas, as well as open agricultural and semi-natural countryside. This scheme is at feasibility study stage, ecologists have carried out a river corridor survey (7 km), and produced an environmental issues (scoping) report.

Rivers Calder and Aire at Castleford

Again, this scheme is at feasibility study stage, and covers the area around the confluence of the Rivers Aire and Calder. Both rivers are large and fairly slow flowing in this area, existing flood defences vary from earth banks, to walled sections within Castleford. A river corridor survey (4 km) has been carried out so far.

Kellington FAS

A small scheme to protect the village of Kellington which lies in the River Aire washlands. Mining subsidence has led to a flooding problem in the village. A new flood bank has been built around the village. Ecologists input has included a site survey (0.1 km RCS), production of a preliminary Environmental Report, liaison with nature conservation bodies, and input to ensure mitigation and enhancement work. Landscape plans have been drawn up to include planting a new hedgerow for the length of the scheme (planting will be implemented next year).

River Don at Stainforth FAS

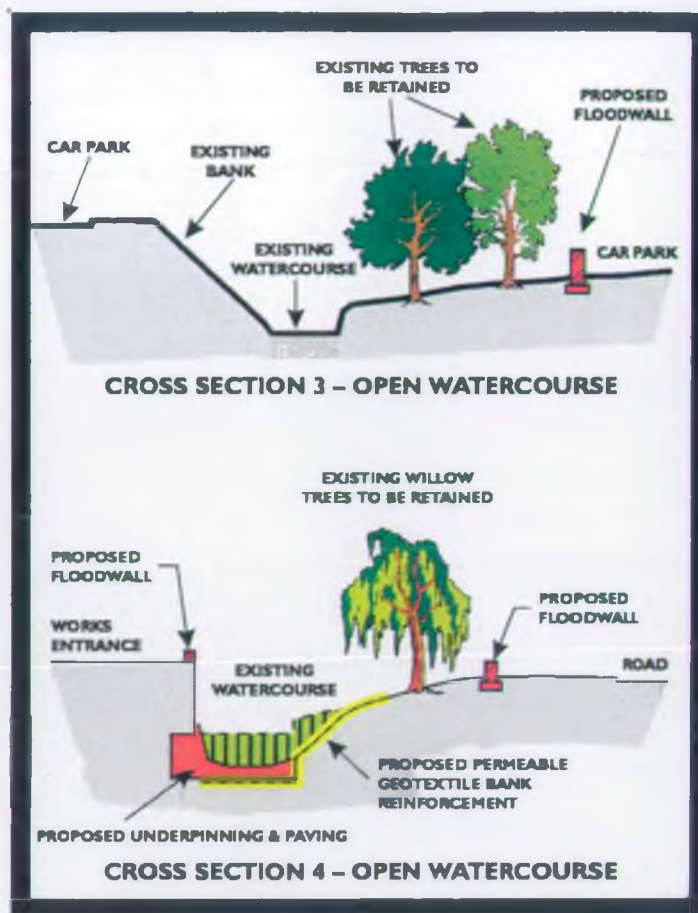
The town of Stainforth is currently protected from flooding by flood walls and embankments, some of which are thought to be in need of repair. The scheme is at feasibility study stage, ecologists input has included carrying out a river corridor survey (1.5 km), and production of an environmental issues (scoping) report.

River Don at Arksey

The River Don at Arksey is contained within flood banks which are suffering from erosion and undercutting. A scheme is proposed to remedy the situation, and so far a river corridor survey (1.5 km) has been carried out for the affected stretch.

Kirk Bramwith

This scheme involved replacing an existing floodwall around a pumping station which was in a state of disrepair. Landscaping plans were drawn up, and planting will be carried out in March. Proposals include some 600 mainly shrubby species which will provide valuable cover in an otherwise very open area.



Batley Beck FAS Phase 4B. Typical cross - section



Flood bank restoration using willow and gabian mattress

Ea Beck Phase 2c

Previous seeding on this flood bank failed to take properly due to a number of factors including poor ground conditions. Advice has been given on reseeding the bank both to establish better cover and to encourage diversity of species.

Ea Beck Phase 2a

This phase included rebuilding a length of flood bank, the landscaping plans for which were drawn up some time ago. These landscaping plans have now been revised and implemented on the ground. Planting includes a 750m length of hedgerow, planting of shrub blocks on the landward face of the floodbank, and planting of creeping species to disguise a gabion wall.

Ea Beck Phase 3

This phase of the Ea Beck scheme is still at design stage, but will probably involve a partial rebuild of the floodbanks which are currently in a poor state of repair. Ecologists have been involved in liaison with local conservation groups (the site is adjacent to a Yorkshire Wildlife Trust reserve) and statutory bodies. This ecologically sensitive area has required considerable input to the scheme design and recommendations to the consulting Landscape Architect.

Ea Beck Phase 4

An additional phase of the Ea Beck scheme, which is currently at an early stage. A river corridor survey has been carried out (2.5 km).

Tilts Bridge Reconstruction, Ea Beck

Tilts Bridge has been replaced with a new structure, as the old bridge was becoming structurally unsound. Landscaping plans have been drawn up and implemented - they include replacing lost hedgerows, and additional shrub planting.

Sheaf

This is a mainly urban scheme on the river Sheaf in Sheffield. Ecologists have ongoing input into current phases.

River Drone FAS

The scheme is centred on the small town of Dronfield in Derbyshire, and will probably include repairs to and construction of walls and floodbanks, with additional balancing areas. Ecologists input has included a river corridor survey (1.5 km), and advice to the consulting engineers who are carrying out the Environmental Assessment on our behalf.

Meadowgate and Nethermoor Washlands, River Rother

Remedial work to the flood banks was necessary to ensure the correct functioning of the washlands. Ecologists input has included carrying out a river corridor survey (2 km), production of a preliminary environmental report, and liaison with conservation bodies. Plans for ecological enhancements are currently being considered.

Stoning

Stoning work is carried out annually on the tidal stretches of the rivers Aire and Ouse where erosion of the foreshore is taking place. A total of 30 sites have been surveyed, and ecological assessment reports produced.

Saltend

Work on this £7.3 million flood defence scheme commenced in September. Conservation have been actively involved in site supervision, liaison with consultees and checking and responding to bird monitoring reports. To date no significant disturbance effects on the bird usage of the site have been identified. Bird monitoring is carried out by IECS every fortnight and summary reports produced every 2 months.

Other Schemes on the Humber

a. Hull Frontage

Conservation staff have been heavily involved in the Environmental Statement which has been produced by external consultants for this scheme

b. Goole

Whitgift defences - this is still in the feasibility stage. Consultants have been appointed and Conservation are to attend Progress meetings to advise and monitor progress.

c. Market Weighton Lock

The Flood Defence work on the lock was finished this year. As part of this scheme a small wetland area has been created, the landscaping works for this area have been drawn up by Conservation.

River Hull

Croda phase 1 and 2 - Environmental Reports have been produced in house to look at the impact of these schemes. Substantial improvements including the creation of a pond/wetland area are planned as part of the scheme.

River Hull/West Beck Nafferton diversion

An internal Environmental Report has been produced for the scheme. Work has started and is due for completion in 1997. This site is of importance for archaeology with several sites of interest recorded in the vicinity of the works. An archaeological watching brief by consultants has been undertaken during all excavation works. Habitat enhancement works are planned as part of this scheme. These include the creation of a wet berm for wildlife and an artificial otter holt.

Hull Comprehensive

This scheme is nearing its completion. Ecologists were involved in designing the final profile for the 10c borrowpit and the drawing up a tree planting scheme which will be undertaken in the 1996/7 planting season. A tree planting scheme for land behind the banks has also been drawn up and planted this year.

As part of the mitigation works on the Hull Comprehensive Scheme a bat cave has been built near Hempholme Lock. The work was carried out by the internal workforce under the supervision of Conservation with further advice from the East Yorkshire Bat Group. The cave has been monitored

throughout the winter months for temperature, humidity and bat usage. Although there has been no evidence of bat usage found at the site the temperature and humidity are at suitable levels. It is hoped the cave will be used in the summer and next winter. A less intensive monitoring programme is planned for 1996/7.

Hull Headwaters/Water Resources Project

Two large studies of the River Hull Headwaters and Watton Beck Catchments are being planned by Flood Defence and Water Resources. These catchments are very sensitive to both high and low flows. Ecology and Recreation have been involved in the drawing up of the briefs to go out to consultants and will have considerable input to the resulting reports.

Humber Strategy

Ecologists are involved in the continuing discussion over the future of the Humber Tidal Defences, the programming and categorising of these defences is vitally important to the ecological impact upon the estuary.

1.3b FLOOD DEFENCE MAINTENANCE WORKS

General

Ongoing input into maintenance contracts, and various general advice on works such as shrub clearance, channel clearance, willow management, seeding, and grass management.

Grasscutting

A botanical survey of the floodbanks mown by the NRA in the area has been carried out, between July and September, to identify sites which would gain most benefit in terms of species diversity from being cut at an appropriate time of year. A total of 51 sites have been surveyed, and these sites have been rated into three categories:

- I - Existing species richness relatively good and should be maintained or enhanced by timing of cut (14 sites).
- II - Existing species richness average but with the potential for enhancement through colonisation by timing of the cut. (16 sites)
- III - Existing species diversity poor and little potential for colonisation making the timing of cut less important. (21 sites)

These ratings will be used to produce timings for the grass cutting programme, so that the most important sites are allowed the same period each year to flower and set seed.

River Went

Weed cutting takes place annually on the River Went, requiring river corridor surveys and advice from ecologists. This year, during weed cutting, the opportunity was taken to create a riverside bay for nature conservation while machinery was on site.

Fenay Beck

A flood defence scheme took place on Fenay Beck a number of years ago, and this scheme included a large amount of landscaping works. This landscaping now requires maintenance, and work is carried out twice yearly, including grassmowing, and tree and shrub management.

Willowing Programme

The lower stretches of many of the Areas rivers have considerable patches of shrubby willow growth at the rivers edge. In places these willows encourage erosion of the river bank, through their sprawling growth habit. To limit this problem, willow coppicing takes place, so that the shrubs never become too large. Ecologists are identifying willow sites on the lower River Aire, and it is hoped to incorporate this information into a rolling programme of willow management.

Barrier Bank Repair, West Bank, Hirst Courtney

This cross-bank within the River Aire washlands was suffering from erosion, and repairs were needed to prevent further erosion, and possible breaching of the bank. The bank is grazed and has a mature hedgerow running alongside. A site survey was completed, and an ecological assessment report produced. Advice was provided on mitigating the impact of the repairs on trees, shrubs and any other existing vegetation.

River Don Old Course

This old course of the River Don receives flow from drainage ditches in the area, this water then flowing from the old course to the main river Don. Water was found to be backing up in these drains and not released from the old course. Dredging of a clear channel was proposed, since the area is choked with reed growth. Since this proposal was potentially very damaging, a river corridor survey of the area has been carried out, and advice given on dredging the area in a sensitive manner. The dredging work has subsequently not taken place, since repairs to the outfall have partially solved the problem.

Oulton Beck

The downstream portion of Oulton Beck near Rothwell is usually cleared annually due to build up of reed growth. This year a river corridor survey was carried out prior to weed cutting, so that advice on clearance could be given, although it was decided not to carry out the work this year.

Tree Planting

Tree planting plans have been drawn up for six sites within the Area, to be completed over the next few years. It is intended to plant up three of these sites in March this year, totalling approximately 2000 trees and shrubs.

Hull & Humber

Conservation have provided input into all contract documents. Monitoring of sites is being undertaken to ensure compliance. All day works additional to work stated in the contracts are checked by Ecology and Recreation. Reports are being compiled for Foulness/Market Weighton

Additional work on the River Hull/West Beck system has been carried out under the supervision of Conservation and Fisheries. This work is to be continued in 1996/7.

The renewal of old clough doors and the widening of the Temple Drain on the Broomfleet washlands and landscaping works has been carried out under the supervision of Ecology and Recreation.

2.0 PROJECTS

2.1 NORTHUMBRIA AREA

2.1a HABITAT IMPROVEMENTS

Riparian Habitats Project

The NRA provided some funding towards the implementation of habitat improvement works along watercourses. These works arose from advice given by the Northumberland FWAG Adviser. Works included excluding stock from riverbanks, tree planting, holt building and assistance in pond creation.

Giant Hogweed Control

Experimental spraying was carried out on the Rivers Tyne and Wansbeck where there are only small patches of this weed to try to avoid them spreading to other habitats in the catchments. Checks during the late summer seem to suggest that the spraying has had a reasonable impact, however the true success will be established when the areas are resurveyed.

Newham Fen NNR

In association with English Nature the NRA has undertaken work to improve this nationally important wetland.

Hylton Dene

The Conservation Section is involved in clearing out a small colliery pond at the bottom of Hylton Dene in Sunderland. The site is managed by the Durham Wildlife Trust and has been identified as one of the most ecologically rich ponds of its size in Tyne and Wear. This project also links in with the larger Hylton Dene Restoration and Improvement Scheme. This scheme was given greater incentive when Channel 4's "Time Team" carried out an archaeological dig at nearby Hylton Castle. The Conservation Section has provided advice in the restoration of the infilled lake, just upstream of the pond.

River Till at Milfield

A length of riverbank was fenced to improve riparian habitats in association with fisheries improvements carried out by Ford and Etal Estates and pond improvements carried out by the Operations Department.

2.1b FARMING AND WILDLIFE ADVISORY GROUPS (FWAG)

Northumberland FWAG

The NRA have provided continued funding to Northumberland FWAG for the employment of a Farm Conservation Adviser to give advice to riparian landowners.

Tyne Tees FWAG

Funding has been provided to Tyne Tees FWAG to enable their adviser to provide advice to riparian landowners in the Wear catchment.

2.1c BARN OWLS

Hawk and Owl Box Project

The Conservation Section has provided information to Flood Defence to help them to target their project to install owl and raptor boxes in the Area.

2.1d OTTER PROJECTS

North Northumberland Otter Project

The NRA have continued to be involved in, and have provided funding for, this joint project with the Northumberland Wildlife Trust in the River Till catchment. Survey work is being undertaken to assess the potential for extending the project into the Aln and Coquet catchments in the future.

Tyne Otter Project

The 3-year research project on factors affecting otter distribution was completed on the River Tyne catchment. During the summer of 1995 the NRA, along with Northumbrian Water, funded programmes of electro-fishing surveys to assess the availability of prey and eel tissue analysis to assess pollutant levels.

Durham Otter Project

This new project was set up jointly with Dales Area and the Durham Wildlife Trust. The aim of the initial project is to carry out a county-wide survey of otter signs to get a clearer idea of their distribution.

2.1e OTHER PROJECTS

Estuary Management Plans

The draft final plans have been produced for the Aln and Coquet Estuaries by consultants working to a steering group on which the NRA is represented by the Conservation Section. A similar steering group has been created for the Blyth and Wansbeck Estuaries and consultants have been appointed to prepare the plans.

Water Level Management Plans

The Conservation Section have provided advice to assist Flood Defence in the preparation of Interim Statements for all the designated sites required by English Nature.

Alien Weeds Research Project

Work has started on a joint 3-year project between Durham University, the Institute of Terrestrial Ecology and the NRA to research factors controlling the distribution and colonisation of alien weeds in the Tyne, Tees and Wear catchments.



Installation of a pipe and chamber Otter holt, River Nidd

Archaeological Site at Corbridge

The NRA has supported local archaeologists on two investigations at Corbridge. The first mapped the location of the Roman Bridge, while the second mapped what is thought to be a medieval water mill. It is thought that this mill used horizontal water wheels, as opposed to vertical wheels, and if this is so it will only be the second recorded site of its kind in England. The work has shown that both sites are deteriorating. The NRA is presently involved with the archaeologists in identifying measures which may ensure the continuing survival of both features.

2.2 DALES AREA

2.2a HABITAT IMPROVEMENT.

The Middle Swale Restoration Project.

This project is a continuation from last year. The middle Swale is a twenty mile stretch of degraded river, with poor fishing, almost no bankside habitat and serious erosion problems. Work has continued to fence off sections of riverbank from stock, plant willow to help bank stabilization, and other trees such as alder further up the banks. The project has resulted in 10 to 12 miles of river bank to being improved. This years work completes that outlined in a report and survey by fisheries staff two years ago.

Dales Rivers Erosion Project.

The aim of this project is to combat erosion and is a continuation from last year. One achievement this year has been the publication of the NRA's booklet 'Understanding Riverbank Erosion - from a conservation perspective'. This booklet is now used within this region and several other regions have also adopted it.

GIA money given to the Yorkshire Dales National Park last year is still being spent this year on various projects on the Ure, Swale and Wharfe. Some further GIA was also secured for this year and this is being spent in collaboration with the National Trust in upper Wharfedale.

A full report on this project is now available.

Ouse Ings Heritage Project.

Early last year a meeting was set up involving seven different conservation organizations, including the NRA, to look at how the Ings around York can be protected. This followed the herbicide spraying of Clifton Ings in May last 1994. This year the NRA have funded a report which compiles all the historical, social and natural history information about the Ouse Ings into one document. This excellent 100 page report is now available and will go along way towards helping people understand what the Ings used to be like and how at risk they are today.

Lower Nidd Landscape Restoration Scheme

The Lower Nidd Landscape Restoration Scheme was successful in its bid for £10,000 Grant-in-Aid Money to support a collaborative project between Harrogate Borough Council, North Yorkshire County Council, NRA, FWAG and the Otters & Rivers Project. The project has been a great success on the Nidd with all land adjacent to the river between Harrogate and Nun Monkton entering the scheme or Countryside Stewardship. This year NRA funding has been spent in a variety of ways;

a further 8 barn owl boxes and 8 kestrel boxes have been erected, 10,000m grass margins adjacent to the watercourse have been established, 3000m of riverbank have been fenced off and 1000 trees planted including 20 stiles to maintain access for anglers. In conjunction with the Otters & Rivers Project 4 artificial pipe and chamber otter holts have also been installed. All these achievements will be followed up and monitored in the future.

Selby Waterfront Project

Selby DC won Single Regeneration Budget from government which has been channelled in to improving the Selby environment. One site focused on the riverbank in Selby providing the NRA with the opportunity to join with Selby DC in organising a willow weaving event. This involved children and teachers from 8 Selby primary schools, over 2 days producing a temporary willow sculpture park. This led to the creation of a larger permanent willow sculpture and mini park with a footpath across the foreshore of the Ouse suitable for disabled use, brightening up a neglected area of Selby.

Flood Defence Maintenance Plan and ideas for River Restoration - River Hertford and River Derwent (Hertford Confluence to Rye Mouth)

This report has been put together in response to a request from Flood Defence and forms the basis of a management plan for the heavily maintained rivers Hertford (c.12km length) and Derwent in the Vale of Pickering (c.17km length). The report is divided into two main sections. The first section reviews the current Flood Defence maintenance practices and makes some suggestions for environmental improvements that could be undertaken without affecting land drainage. The second section considers the potential for restoring these degraded river lengths and provides some ideas for larger scale environmental enhancements that may be possible in the longer term. The internal response to the plan has been good and it is proposed that aspects of the plan will be implemented in 1996. The report will also act as the basis for developing proposals for further restoration of the River Hertford and River Derwent.

Barmby Barrage Site Management Plan

Following the success of the work carried out at Barmby Barrage in 1994/5 to improve the recreational facilities and the conservation status of the site a site management plan has been produced. This will include details of how the site should be managed and monitored in the short term and identifies future development ideas to be investigated.

Giant Hogweed

Giant Hogweed was identified as a problem in the Tees Catchment within the Catchment Management Plan. Since the NRA own very little land on the Tees the role of the NRA, and therefore the conservation section, has been aimed at liaison between the local councils and education rather than extensive control. This has resulted in a co-ordinated effort by the NRA, Cleveland CC, North Yorkshire CC, Durham CC and FWAG. The problem was publicised through a press release and an article in Catch Magazine requesting the public to complete survey forms to enable the distribution of the plant to be mapped. Limited control measures were also carried out at appropriate locations by the NRA Flood Defence Section, the Councils on public rights of way and by individual landowners.

Teesmouth Field Centre

A contribution to the Teesmouth Field Centre was made to develop opportunities for the NRA to work more closely with the field Centre so that, through education, the NRA's key messages and work could be spread in a practical way to the many University students and school children visiting the centre.

The contribution facilitated the employment of Andy Randle in this, the Centre's Silver Jubilee Year. A Management plan was produced and improvements undertaken to The Stell, a small reed clogged watercourse adjacent to the Centre used for educational practical work.

Skerne Restoration Project

The construction phase of the project was launched in July by David Bellamy. Major physical improvement works were carried out on the river during the year, comprising the creation of meanders, backwaters, a wetland area, installation of deflectors, the modification and rationalisation of surface water outfalls and new landform of areas above the floodplain, but within the river landscape. An R&D demonstration of soft revetment techniques was incorporated into the work.

Additional funding of £250,000 was received from the Lottery Heritage Memorial Fund in November, enabling further physical works, such as the creation of another meander and wetland area, to commence.

Regular community liaison has been maintained through notice boards, newsletters and personal contact and schools have been involved in learning about and seeing the project and planting wild flower seed.

2.2b FARMING AND WILDLIFE ADVISORY GROUPS (FWAG)

Tyne Tees and Yorkshire FWAG

NRA sponsor both these groups, with the aim of promoting cooperation with farmers and landowners. This has proved very fruitful, particularly when linked with projects such as the Ainsty landscape project and Vale of Pickering -agri-habitat scheme. The partnership is also beneficial in raising awareness of conservation and promoting membership of FWAG in these catchments.

2.2c OTTER PROJECTS

Otters & Rivers Project

In 1995/6 £10k was contributed to the Yorkshire Wildlife Trust Otters & Rivers Project. The work in 1995/96 concentrated on the River Wharfe, Nidd and Tees and on increasing awareness with angling groups within the Dales Area.

Small Scale Habitat Improvements - Derwent and Esk & Coast Catchments.

Otter holts - Two stick pile holts were constructed on the banks of the River Dove upstream of Sparrow Hall. One was constructed with a local landowner and NRA Fisheries staff and the other with Operations staff.

Otter Strategies

Following on from the National Otter Strategy, Dales Area have produced 5 Catchment Otter Action Plans. The reports were produced following catchment meetings attended by Sylvia Jay from the Yorkshire Otters & Rivers Project, Gordon Woodroffe, and Cleveland and Durham Wildlife Trusts, to collate information on the otter status, food source & existing habitat information. The aim of the action plans is to identify areas where improvements could be undertaken, and where further otter surveys are required. These recommendations will then be prioritised for the Area as a whole in line with the National and Regional strategies.

2.3 SOUTHERN YORKSHIRE

2.3a HABITAT IMPROVEMENTS

Crayfish Project

Existing populations of crayfish are very fragmented and thus a collaborative project with Leeds City Council was undertaken, targeting native populations on Meanwood Beck and Wyke Beck in Leeds. The project aims to identify suitable habitats on these watercourses, and take action to encourage the spread of native crayfish to these areas.

Few other solely conservation projects have been undertaken, although ecologists have had input into the following FRCN projects:

Brighouse Orsu

This is a project to create a lake adjacent to the River Calder, which will act as a fish haven. Prior to the scheme, an ecological site survey was carried out, to ensure that the excavation would not adversely affect any existing valuable habitats. An environmental report was produced to accompany the planning application.

Snaygill and Silsden Projects

These projects were carried out during 1994/95, however site visits have been made this year to monitor the survival of landscaping works carried out. These included tree planting and grass seeding. Tree survival is more or less as expected, although establishment of the seed mixes was difficult to determine, since the extremely dry weather conditions this summer had browned off all vegetation at the time of survey.

Spurn Heritage Coast

This project supports a warden who protects the internationally renowned Little Tern colony during the vulnerable breeding season. He is also available to provide information to the visiting public, increasing knowledge and awareness of the needs of these rare and important birds. The NRA has also been involved in a collaborative project to improve access and interpretive facilities, through the development of a footpath along NRA floodbanks.



River Skerne before the River Restoration Project
(courtesy of Northumbrian Water plc and Aerofilmes of Borehamwood)



and after (courtesy of Northumbria Water plc and AirFotos Ltd)

Volunteers

A two week task by the Prince's Trust for Volunteers on the Princess Elizabeth Playing fields river improvement scheme was carried out in November. The work carried out included the extending of existing wetland areas, tree planting and maintenance works, clearance of the channel with the removal of some 30 shopping trolleys and the creation of an additional access ramp. The site is maturing well and is proving a popular venue for fishing, sitting and picnicking. Three student volunteers have provided valuable help with projects this year.

2.3b FARMING AND WILDLIFE ADVISORY GROUPS (FWAG)

FWAG

The NRA's contribution to FWAG has been spent on farm visits and processing the resulting stewardship grant application. If all grant applications are successful this will result in £50,000 worth of grants coming into the Area in support of conservation schemes. Much of the emphasis this year has been on waterside habitats, focusing on buffer zones and adapting maintenance practices together with targeting for particular species e.g. otters, barn owls and water voles.

Countryside Stewardship

Conservation have been involved in the latest round of discussions with MAFF/ADAS on the Countryside Stewardship Scheme which they have taken over from the Countryside Commission. It is hoped that there will be increased emphasis on the riverside habitats and wet and acidic meadows in the Hull Catchment.

2.3c BARN OWLS

The barn owl boxes along the river Hull continue to be successful although 1995 was nationally a poor year due to a wet spring, and the vole population being in a cyclical low.

2.3d OTTER PROJECTS

This year has seen the first records of otters on the River Hull for 30 years. Work has begun to raise awareness and improve habitat along the river for otters. This is taking place with FWAG.

2.3e OTHER PROJECTS

Water Level Management Plans

The NRA are producing four WLMPs for SSSIs in the Don and Aire catchments, which have required input from ecologists.

Eye on the Aire

It is proposed to convert the old Rodley sewage treatment works into a nature reserve over a period of years. The NRA have contributed, in this early stage, by raising awareness of this scheme amongst the general public.

High Esk Management Plan

A consultant has produced a management plan for the High Esk Nature Reserve to ensure that it can reach its full potential.

Wakefield Groundwork

A joint project involving the NRA, Kirklees Council and Wakefield Groundwork will review the conservation value of the Calder river corridor. The objective is to assess its current status and identify opportunities to improve this status through habitat improvement schemes.

Dearne Corridor Study

A similar project to the above has been undertaken on the River Dearne. The identification of its present status and the possibilities for the future is vital in an area which can be termed a "green hot spot." This term results from the amount of money that has been, and will be invested in the area towards the millennium. The investment comes via such initiatives as the Earth Centre, local Groundwork Trusts and local council Unitary Development Plan led initiatives.

3.0 THE DROUGHT

1995/96 saw a prolonged drought in the Dales and Southern Yorkshire Areas of Northumbria and Yorkshire. With virtually every river subject to some form of drought order for increasing abstraction or reducing compensation flows.

Within the region projects connected to the drought has generally been lead by the Water Resources section, however the input from Conservation in conjunction with Fisheries, Biology and recreation has been extensive.

The additional work has involved liaison with English Nature and the Yorkshire Wildlife Trust and other conservation bodies and local naturalists, the continued protection of designated sites and species has been a major theme of these discussions as has the provision of data in order to assess the likley impact of the various operations proposed by Yorkshire Water Services (YWS)

Internal liaison with Water Resources and other NRA functions to offer advise and technical input has also been a feature of the drought work, as has attendance at public hearings and commissions of enquiry together with responding to media enquiries. Conservation have also been involved in liaison with YWS and their consultants.

Drought Orders all include an Environmental Report or Statement and conservation have reviewed and commented on over 30 such submissions. Draft guidelines for scoping and content of these reports have been drawn up for future submissions.

Programmes of surveying and monitoring have been initiated on affected rivers in conjunction with YWS.

4.0 PROMOTION OF CONSERVATION

The NRA has an important and active role to play in increasing public awareness of the significance and value of the environment, and the need to protect and enhance it. There is also an opportunity to explain how the NRA and others contribute to the protection and enhancement

of the water environment. Throughout the Region Area Ecologists have attended a number of events/shows, given talks to a wide range of audiences and were involved in interviews both for local radio and television.

Earth Balance

The NRA has supported this environmental demonstration project by providing funding towards the provision of interpretation boards to explain the importance of wetland features on the site.

Area Activities in the Media

The BBC recorded a programme for its 'Close up North' series relating moorland gripping with increased runoff and acidification, which included an input from Dales Area Ecologists. Interviews for Radio York were also given on the subjects of otters and otters holts, and blue-green algae. The installation of otter holts, in association with the Lower Nidd Otter Project, was reported in a number of newspapers, as was the tree planting scheme at Skip Bridge on the River Nidd, following a press release. A number of articles were also published in various magazines, covering topics such as riverbank erosion and management, giant hogweed and riverside walks.

Sutton-In-Craven Conservation Group

A small contribution to this group will result in an environmental workshop being held in the village. Such small events are invaluable in raising the general appreciation of the environment and enthusiasm of the local people to identify and progress opportunities to enhance their own environment.

Way-Up-Stream

This is an educational project organised by Kirklees council. NRA ecologists have been involved in visiting schools and leading pond-dipping and stream-dipping activities for children in the Kirklees area.

5.0 ENVIRONMENTAL APPRAISAL

River Tees - South Park Weir:

An informal appraisal was carried out on the proposals for a fish pass and associated upstream habitat enhancements at South Park Weir. The report was produced by the Conservation team through liaison with all other functions of the NRA and key external organisations

R. Tees - 2 Weirs at Middleton in Teesdale

Conservation were asked to advise on the environmental impact of repair to the weirs at Middleton-in-Teesdale & Harewood Dale. An Environmental Report was drawn up and included in the contract document. A similar request for the Tadcaster weir involved a site visit but no environmental problems / considerations were identified.

River Derwent - Bielby Beck (near Pocklington)

Flood Defence dredging works carried out on Bielby Beck at Four Beck Ends (a length of approximately 500m) were appraised through survey work. A biological survey was undertaken prior to and immediately following completion of the dredging works to assess its ecological impact on the stream's biological community. A repeat survey will be undertaken in September

1996 (approximately a year after the works were undertaken) to determine the extent of ecological recovery from the dredging operation.

In addition a river corridor survey of this stretch was carried out prior to the works and a repeat survey will be undertaken in September 1996 to determine the impact of the works on the stream's macrophyte community. A full report will be completed in Autumn 1996.

Other Flood Defence Works - Numerous Flood Defence maintenance works were appraised to check that work had been completed to the agreed specification. These appraisals generally took the form of site visits.

6.0 SURVEYING

6.1 River Corridor Surveys

River Corridor Survey - West Ayton

A RCS report was produced for the River Derwent between Forge valley and the confluence with the River Hertford (c.11.5 km stretch of river). The report was produced following a request from the Water Resources Department who are currently investigating possible solutions to problems caused by natural swallow holes in the river bed at East Ayton.

6.2 River Habitat Survey

Eighty sites were surveyed throughout the Region as part of the commitment to the national R&D project.

6.3 Other Surveys

Urban Waste Water Treatment Directive

Conservation staff have been involved in carrying out aquatic macrophyte surveys for the UWWT directive. Work has been done at a site on the River Aire, which has involved recording and mapping all macrophytes in two 100m stretches either side of a sewage works outfall. This survey was completed twice during the period June to September. A UWWT survey of macrophytes was also undertaken on the Driffeld Canal.

Phase I Habitat Survey of the Lower Derwent (East bank)

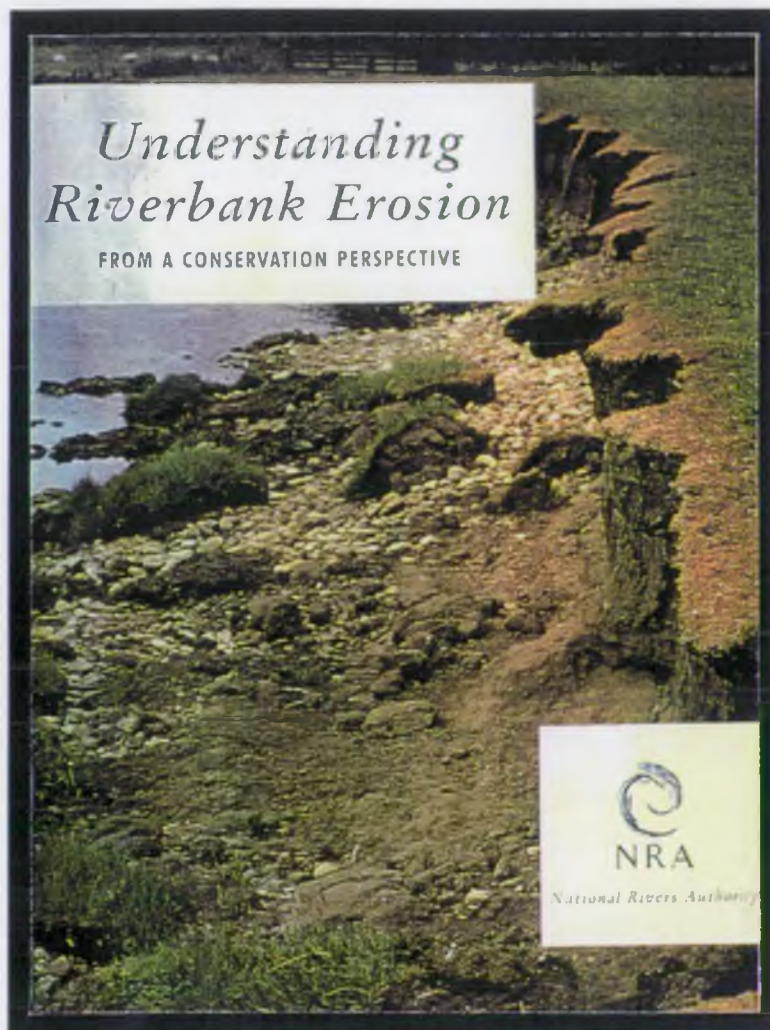
Andrew Weston was employed over the summer for 4-6 weeks on an Agency contract to carry out a Phase I Survey of the East Bank of the Lower Derwent as required in the Derwent Catchment Management Plan. A copy of the survey report has been sent to Humberside CC, Boothferry BC, East Yorkshire BC, RJB Mining, English Nature and the Yorkshire Wildlife Trust.

Throxenby Mere Vegetation Survey

Andrew Weston mapped the vegetation of Throxenby Mere to provide baseline information that will be combined with fisheries and biological data to produce a management plan for the lake. This is currently being drawn up by the NRA Fisheries department.



Cliffe House pond dip - Kirkburton Conservation Fair (Way-Up-Stream Project)



Raising awareness through NRA publications

Barmby Barrage Site Survey (Phase I) - Andrew Weston carried out a Phase I survey of the site to provide baseline vegetation data that will be used in the site management plan.

River Tees - Impoundment Monitoring

To monitor changes in the fauna and flora of the 22km impounded stretch of the River Tees upstream of the barrage and respond to reports of erosion and tree damage, a fixed point photographic survey is being carried out. Representative sites have been selected and photographed on the impounded stretch illustrating representative winter levels. These sites will be photographed again at the same time every year. This fixed point photograph will be continued over a 5 year period. A river corridor survey is also planned for 1996 and will be repeated at intervals to assess environmental changes.

Tidal Ouse - Stoning Sites

Site surveys were carried out prior to stoning on the Tidal Ouse. Enhancement proposals were included in the survey report. It was proposed that common reed is planted in the stoned areas after some silt has built up. Willow stakes will also be planted in between the stones.

7.0 TRAINING

Ecological staff have attended a number of training sessions, those most relevant to conservation are listed below:

Identification of sedges, rushes and grasses, Field Studies Council, duration 7 days.

UWWT COURSE - to introduce survey methodology and ensure surveyors' ability to identify macrophytes, duration 3 days.

RIVER HABITAT SURVEY - internal course on survey methodology, duration 1/2 day.

Macrophytes as used in River Classification and Conservation Assessment, duration 2 days.

8.0 NATIONAL INITIATIVES

River Habitat Surveys

River Habitat Surveys were carried out at 230 sites throughout the Region during May, June and July 1995. Surveys were undertaken by IFE and Area Ecologists. These will contribute to the national database which is due for completion in 1996.

Environmental Appraisal

The Environmental Assessment Co-ordinator completed the initial training of staff within the region, to raise awareness of environmental appraisal and promote best practice. Follow-up training is planned for next year.

An input was made to the national EA documents, Scoping Guidance for the EA of Projects and Further Guidance for the EA of Projects. Nationally, there was also some involvement with Flood Defence regarding a National Flow chart for EA. Within the Region, an EA guidance document was developed for the Water Resources section relating to drought issues.

Recreation and Conservation Database

To meet the requirements of the Code of Practice on Conservation, Access and Recreation, the NRA reports annually on its activities to the Department of the Environment. The Regional database has been reorganised and updated.

APPENDIX

Staff

Northumbria

Godfrey Williams - Ecology and Recreation Manager

Colin Blundell - Senior Ecologist

Alastair Laverty - Ecologist

Dales

Client

Elizabeth Chalk - Ecology and Recreation Principal

Martin Fuller - Senior Conservation Officer

Olivia Clymer - Project Officer

Internal Business Unit

Amanda Rogers - Principal for the IBU

Roger Martin - Ecologist (Conservation)

Anne Sansom - Ecologist (Conservation)

Eleanor Robinson - Ecologist (Conservation)

Katy Dickson - Ecologist (Conservation)

Southern Yorkshire

John Pygott - Ecology and Recreation Manager

Brian Hemsley - Flint - Senior Ecologist

Simon Keys - Senior Ecologist

Amanda Best - Ecologist

Caroline Essery - Ecologist

Region

Steve Bailey - FRCN Co-ordinator

Andrea Shaftoe - Conservation Officer

