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**ENVIRONMENT
AGENCY**

**SOMERSET LEVELS AND MOORS
WATER LEVEL MANAGEMENT
STRATEGY REVIEW**

**ACTION PLAN
CONSULTATION**

February 1999



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SOMERSET LEVELS AND MOORS

WATER LEVEL MANAGEMENT

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27/01/99



The Steering Group

This Strategy and proposed Action Plan flows from a process that we, the Environment Agency's Steering Group think is necessary to move towards our shared vision for the area. It can only be achieved by project promotion and management and resource allocation by the principal parties at the highest level. The Steering Group are:-

Brian Livings (Chair)	Somerset Local Flood Defence Committee
Jonathan Comer	Somerset Local Flood Defence Committee
Richard Bradford	English Nature
David Ayers (Deputy Andy George)	Ministry of Agriculture, Fisheries and Food (MAFF)
John Rowe (Deputy Richard Andrews)	Farming & Rural Conservation Agency (FRCA)
Ray Adlam	National Farmers' Union (NFU)
Tim Walford	Country Landowners Association (CLA)
Doug Taylor	Somerset County Council
Richard Clark	Levels & Moors Partnership (LAMP)
David House	Somerset & Avon Branch of the Association of Drainage Authorities (ADA)
Mark Robins (Deputy Jane Brookhouse)	Royal Society for the Protection of Birds (RSPB)
Roger Martin	Somerset Wildlife Trust

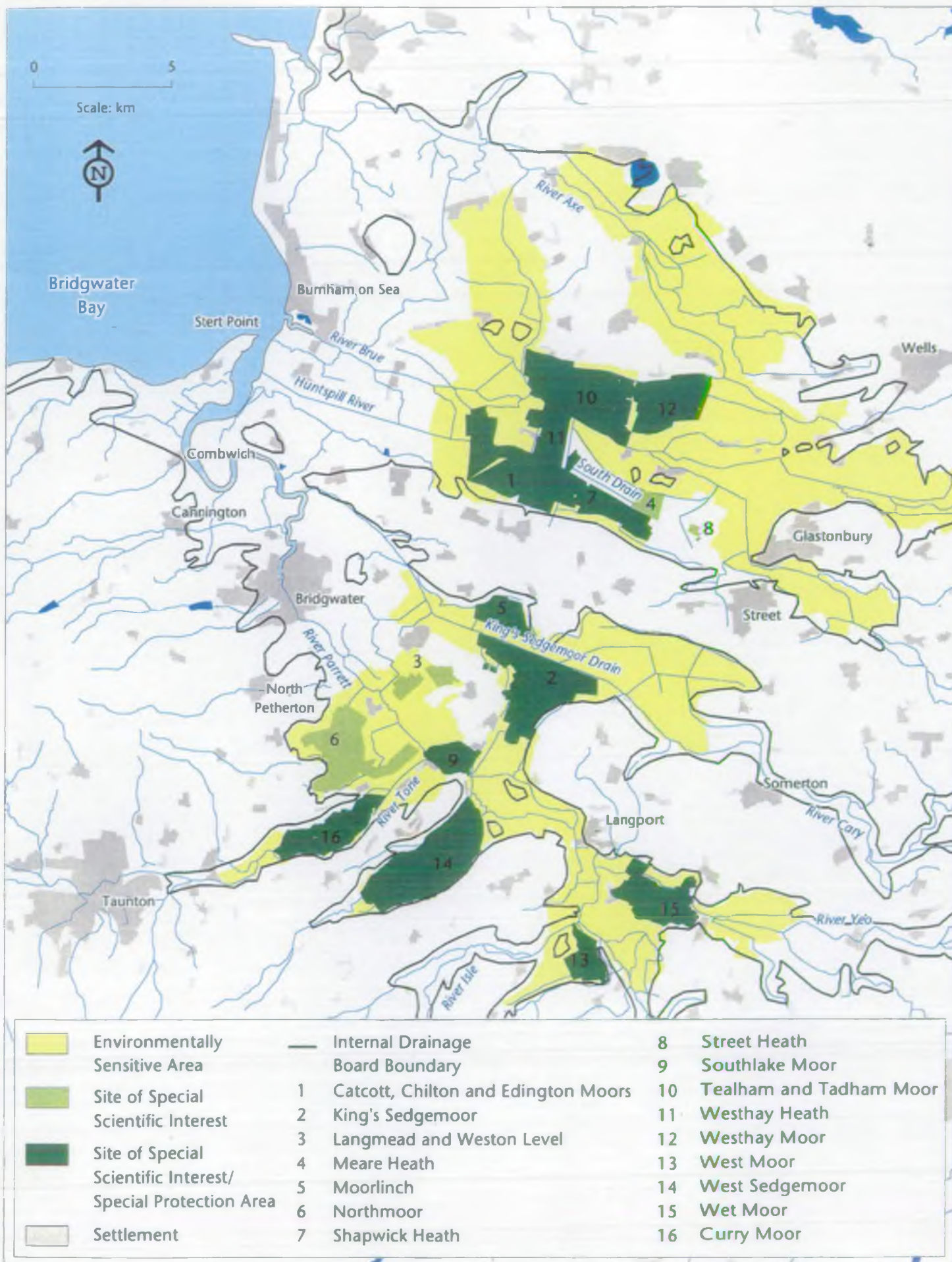
Your comments on this document will be welcomed. Please address them to Ken Tatem, Project Manager, Environment Agency, Rivers House, East Quay, Bridgwater, Somerset, TA6 4YS by 7 May 1999.

For enquiries about the Somerset Levels and Moors Partnership and its work, please contact the Levels and Moors Officer, c/o Environment and Property Department, Somerset County Council, County Hall, Taunton, TA1 4DY

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Location Plan



Somerset Levels and Moors

Water Level Management Strategy Review and Proposed Action Plan

Preface

This Strategy and proposed Action Plan has been produced by the Environment Agency (the Agency), a member of the Somerset Levels and Moors Partnership, with assistance from many partner organisations, which were represented on the Agency's Steering Group.

The Somerset Levels and Moors Partnership considers that this Strategy is a positive contribution towards the Partnership's overall Strategy and wider vision for the Somerset Levels and Moors, which is:

A thriving wetland landscape valued by its communities and others, able, through a vibrant local economy, to protect and enhance its special features through wise use

The Partnership has identified many issues that affect the Somerset Levels and Moors, including water management. The Partnership has agreed to act as a host for this Water Level Management Strategy Review and Action Plan Consultation, so that the communities within the area, and its Partners may better understand the role of the Environment Agency and this strategy.

What can this Strategy and Action Plan achieve?

This document will guide the Environment Agency's actions to achieve water tables that, protect and enhance special features of the wetlands, including wildlife and archaeology, and conserve peat soils, while at the same time the Agency strongly supports the need of farming to remain economically viable.

The Strategy and proposed Action Plan contained in this document, remains the responsibility of the Environment Agency and enquiries about its contents should be directed to the Agency. Water management issues not dealt with by the Strategy and Action Plan should be discussed in the first instance with the Agency.

The Partnership agrees that this Strategy and Action Plan is necessary to set out agreed Environment Agency actions. The Partnership also acknowledges that there are likely to be disagreements over water level management, which should continue to be discussed openly and constructively by the Agency's Steering Group. The Partnership will help the Agency to review the progress in achieving the agreed actions and will suggest solutions to problems as they arise.

On behalf of the communities of the area, the Partnership is always willing to assist in helping to resolve any matters which involve complex issues, and will seek advice from appropriate members of the Partnership.

Topics that will be addressed by the Agency with its Partners elsewhere:

- Changes in flood defence practices that are not directly relevant to water level management.
- Management of recreation and access within the area
- Changes to agricultural support mechanisms (although this document may influence them)



Executive Summary

When considering issues within the Somerset Levels and Moors, it is important to start with an understanding of the mutual dependency between landowners, farmers and the conservation interests. A vital aspect of the Agency's vision is for viable local farming and other industries playing a key role in achieving conservation targets.

The Somerset Levels and Moors covers 60,000 hectares and is the most important remaining lowland wet grassland in England, set in a rich cultural landscape, with drained marshes subdivided by many ditches and rhynes and with its communities located on higher land. Some 10% of the area is considered to be a wetland of outstanding ecological importance in a European context.

National guidance has been developed over the last five years in response to increasing concerns over the future management of our wetland heritage, and this has major implications for water level management in the Somerset Levels and Moors. MAFF's advice on Water Level Management Plans, the UK Biodiversity Action Plan and the Habitat Regulations are amongst the most important recent government initiatives to assist in the management and conservation of our wetlands.

Following public debate of the key issues and with guidance provided through a Steering Group, the Environment Agency has produced this new Water Level Management Strategy and Action Plan to replace the 1991 Strategy for Water Level Management and Nature Conservation. This new Strategy takes account of the recent guidance, new regulations and measures for site protection. It also responds to concern over ongoing declines in some important elements of this wetland's conservation interests, such as numbers of breeding waders.

This Strategy and Action Plan identifies key issues for water level management outside the flood situation and sets out a bold programme of actions, both inside and outside designated areas, to collect the required information, implement changes through consensus and partnership wherever possible and identify desirable incentives. The widespread concern about flood events is recognised by the Agency, which is carrying out a major but separate review of flood defence practices.

Reasons for change

The changes in water level management which the Agency seeks through this Strategy are primarily driven by the need for additional measures to restore and safeguard the conservation and biodiversity interests of this wetland. This need for change must be balanced against the need to safeguard the livelihoods of those who farm and manage the wetlands in difficult conditions. The Somerset Levels and Moors covers about 60,000 hectares of which 45% lies within an Environmentally Sensitive Area. With over 1000 agreement holders and nearly 60% of the ESA already being under agreement, many farmers have volunteered to help conserve this unique wetland landscape through environmentally sensitive farming practices. Voluntary ESA agreements leading to Raised Water Level Areas (RWLAs), covering over 1,200 ha, have demonstrated that carefully located higher water tables can lead to significant conservation successes.

Populations of overwintering waterfowl have increased in some areas, but significant declines in the numbers of breeding waders continue to be recorded from some moors where they were previously more abundant. The wet grasslands and fen meadows remain vulnerable to the adverse

effects of dry conditions, and populations of some farmland birds such as Whinchat have declined dramatically in the last 20 years. There is increasing concern that our peat soils are becoming more difficult to farm due to the long-term effects of drainage, drought and compaction. There is growing evidence that the plants and animals in the rhynes and ditches are vulnerable to adverse changes in water quality and in the management of the watercourses..

Strategy

The overall aim of the Agency's new Strategy is for the wise use of land and water in the Somerset Levels and Moors which achieves the conservation and enhancement of the wetland's special features through economically viable and environmentally sensitive water level and land management.

The Agency will adopt a presumption for water level management which favours nature conservation within SSSIs and archaeological conservation within Scheduled Ancient Monuments, and in the rest of the Somerset Levels and Moors where there is general agreement. The Agency will draw up a list of priority sites for action in consultation with its partners. In carrying out its statutory functions, the Agency is obliged to give special consideration to the impacts of its decisions and actions on the wetland environment and on the economic activities which maintain this environment, particularly farming which supports so many livelihoods in this area.

The Agency has set out an 18 point statement of its Strategy, to be implemented through the proposed Action Plan, summarised on the next page.

Summary of the Action Plan

All actions will be taken forward by negotiation with those affected by them, and agreed actions will be implemented by a dedicated multi-functional Agency team for the Somerset Levels and Moors team. Key actions to be implemented through the Plan are:

Summary of Actions	Partners with the Agency
Shortages of Water <ul style="list-style-type: none"> Identify vulnerable sites and watercourses Identify optimum and minimum water levels Review impact of abstractions on the Special Protection Area 	EN, IDBs, SCC landowners
Achieving RWLAs & Wetland Restoration <ul style="list-style-type: none"> Prioritise extension of RWLAs and encourage further take up of Tier 3 in the ESA Support and promote other wetland restoration and creation initiatives in the ESA, such as all year penning areas, and other schemes e.g. Avalon Marshes 	MAFF, IDBs, EN, landowners
Priorities of Agency's Statutory Requirements <ul style="list-style-type: none"> Implement the reviews required by the Habitats Regulations Assess flood defence operations and expenditure 	IDBs, MAFF, EN, NFU
Land Use of Areas providing Flood Plain Storage <ul style="list-style-type: none"> Improve flood warning to affected landowners Promote appropriate land use of flood risk areas 	EN, NFU, CLA, IDBs, SWT
Water Level Management Plans <ul style="list-style-type: none"> Seek resources to implement Plans by 2004 or sooner Ensure that WLMPs address issues raised in LEAPs and this Strategy Propose grant scheme to assist IDB implementation of Plans 	all partners
Arable farming in Peatland <ul style="list-style-type: none"> Identify most vulnerable peat soils and moors Establish optimum water levels for protection of archaeology and wildlife interests Pilot remedial measures on damaged peat soils Develop incentives to encourage wise use of peat soils 	all partners
Poor Water Quality in Ditches <ul style="list-style-type: none"> Set appropriate water quality objectives and review discharge consents Target catchments with diffuse pollution prevention campaign Implement buffer strips and reedbed interception as appropriate Improve water quality where this falls below ecological standards 	IDBs, MAFF, EN, CLA, FWAG, NFU
The Withy Industry <ul style="list-style-type: none"> Assess socio-economic effects of water level management Determine requirements and constraints of the industry Encourage the development of traditional skills 	EN, RSPB, LAMP, all partners
Flooding and Flood Defence Expenditure <ul style="list-style-type: none"> Ensure local authority plans do not increase flood risk Provide clear assessments of flood flows and risk 	SCC, Districts
Biodiversity Action Plan <ul style="list-style-type: none"> Develop BAP targets for individual areas of the Levels and Moors Manage water levels to meet Species Action Plan targets Maximise the Agency's contribution to meeting BAP targets on Agency land 	EN, SWT, RSPB, SCC, NFU, CLA, IDBs, LAMP
Strategic Plans <ul style="list-style-type: none"> Refer to this Strategy and Action Plan when commenting on other Plans Publicise the Strategy and Action Plan and keep it live and relevant Undertake annual review of progress and report publicly 	all partners
Climate Change <ul style="list-style-type: none"> Review flood defence proposals in relation to climate change Assess appropriate investment required to meet changing requirements 	IDBs, all partners
Public Access <ul style="list-style-type: none"> Mitigate any effects of water level management upon public rights of way 	SCC, MAFF
North Somerset Moors <ul style="list-style-type: none"> Undertake a consultation process to produce a Strategy 	

Introduction

Vision

The Environment Agency's vision for the Somerset Levels and Moors is:

- Viable local farming and other industries playing a key role in achieving conservation targets.
- Effective conservation and enhancement of the nationally and internationally important wetland biodiversity and archaeology.
- Wise use of the wetlands supporting the local economy and thriving local communities.
- Widespread understanding of the value of the very special heritage and unique landscape of the wetland.

Background

The Somerset Levels and Moors is the largest area of lowland wet grassland remaining in England, covering some 60,000 hectares in the centre of Somerset and representing 20% of the UK resource of this habitat. It is a drained marsh, susceptible to tidal flooding from the Severn Estuary, and frequent fluvial floods from the rivers that flow through the low lying land on their way to the sea.

Lines of drainage channels form a striking landscape. These are the product of a long history of water level management and local farming systems. Houses and other properties are generally on high ground, above the flood levels on the moors.

Today, about 2000 individuals and families farm the area, with average holdings of 40 hectares. A mix of high land and low lying moor land is common. Approximately 50% of the land is dairy, 10-12% is arable, whilst the remainder is beef and sheep farming and other local industries including withy growing and peat extraction. The Somerset Levels and Moors Environmentally Sensitive Area covers some 45% of the area, including all the low lying inland moors which are subject to fluvial flooding.

The management of this wetland encourages a great variety of wildlife. It is internationally important for overwintering and migratory birds, and for the invertebrates that live in the drainage channels known as rhynes. This international importance is recognised in the designation of some 6,300 hectares of the Somerset Levels and Moors as a Special Protection Area and Ramsar wetland of international importance. The peat preserves many unique archaeological features.

The Levels and Moors are also of national importance to nature conservation for its populations of breeding waders and wetland birds, unimproved wet grasslands, fen meadows, reedbeds and remnant raised mires, and for the plants and animals in the rhynes. Some 12% of the wetland has been designated as Sites of Special Scientific Interest, and 2.5% of the area is managed as nature reserves by conservation organisations.

Water levels are controlled by the operation of pumps, sluices and other structures by the Environment Agency, and also by 18 independent Internal Drainage Boards, and individual land managers.

Influences

Everyone concerned in seeking change in this extraordinarily rich and diverse wetland must start from an understanding of the mutual dependency between landowners, farmers and the conservation interests, and the local, regional, national and international influences on its future.

Among the many influences on water levels in this wetland are: farming and other land-use economies, government policies for flood defence (water management), the ambitions of the conservation organisations, the requirements of the protected area status, the statutory duties of various public bodies, ownership patterns, social and cultural interests, all within a unique geographical situation.

The current difficulties facing the farming industry have significant impact on the attitude of land owners to any proposed change in water levels. Many farms are family based and the current crisis in the livestock trade gives them concern for the future. The poorer quality of grass which can result from wetter conditions affects productivity and makes it difficult to finish beef cattle within the 30 month time period specified by MAFF in response to the BSE crisis. This has also resulted in lower stocking numbers. Silage production is also more difficult under wetter conditions. The use of farm machinery which would damage wetter fields is restricted and the grazing season shortened. The smaller landholdings have less flexibility to adjust. However, traditionally managed permanent pasture and hay meadows are more tolerant of wet conditions than short term leys, being made up of less demanding plants of lower agricultural productivity.

Farming on the peat soils has been made difficult by long term damage to the soils thought to be caused by a combination of drainage, drought and heavy farm machinery together causing changes in the soil structure, some of which may be irreversible. In some areas the fields have become so bumpy that they are no longer mown, and elsewhere fields become rapidly waterlogged after rainfall due to the formation of a hard layer in the soil through which water does not drain very freely.

Farmers are particularly influenced by support payments, and although there are payments for environmentally sensitive farming (under MAFF's ESA scheme), the overall balance of fiscal incentives for farmers only partly delivers the desired habitat, biodiversity gain and archaeological conservation favoured by conservation organisations. The availability of payments under agri-environment schemes is a driving influence on water level management, although there is some concern about the base of these payments. Concern for the future has caused a drift away from the area by those likely to continue the indigenous skills necessary to make a living on this land, leading to a loss of such skills.

After declines in the late 1970s and 1980s, considerable progress has been made in safeguarding the nature conservation interests of the Somerset Levels and Moors in the last five years. This progress is a direct result of the Agency working in partnership with the ESA scheme, landowners and farmers, Drainage Boards and the conservation organisations. The most notable successes have been:

- the decline in breeding wader populations has slowed in wetter years and in areas which remain wetter in spring. Wader populations have started to increase in a few areas in the last two years
- populations of overwintering waterfowl have stabilised, and increased in some areas
- over 1,200 hectares of ESA are under management agreement in raised water level areas

- increased financial support for environmentally sensitive farming practices and for the reclamation of the worked out peat zones to sustainable wetland after use
- better understanding of wet grassland management and the needs of farmers and land owners when managing these wetlands

Despite these successes, conservation organisations remain concerned about some aspects of the biodiversity interests of the Somerset Levels and Moors, most notably:

- the much reduced and now small populations of breeding waders
- the small number of areas regularly used by large populations of overwintering waterfowl
- declining breeding populations of farmland birds, for example the Yellow Wagtail and Whinchat
- the impacts of poor water quality, intensive maintenance of watercourses, and low winter water levels on aquatic plants and animals
- wet grassland and fen meadows remaining vulnerable to drought conditions
- damage to peat soil through over drainage and arable cultivation
- the protection of the remnant raised mires

Large amounts of public funds are directed towards the environmental protection of the Somerset Levels and Moors. It is essential that these funds succeed in achieving the maintenance and enhancement of the biodiversity and conservation resources of the designated and non-designated areas alike

Government regulations and policies have a profound influence on the Agency's Action Plan. The availability of public funds for flood defence including water level management, the priorities put on such funding, and the requirements related to the government's adoption of European conservation designations for twelve SSSIs in the Levels and Moors, will be major influences in determining and achieving the changes needed. Likewise, the Government's adoption of the UK Biodiversity Action Plan, and the need to safeguard buried archaeological features, will need to be taken into account when determining the day-to-day management of water levels.

Fundamental to change are how the duties and powers of the various statutory bodies with an interest in the area are used. Learning from the past has been a significant influence on formulating the Action Plan.

Other major influences include: tourism and recreation; flood risk; climate change; public expectation; water resources; and the potential for disturbance from public access, wildfowling and elver fishing.

Background History

The decline in breeding waders on the Somerset Levels and Moors SSSIs since 1977, and the loss of botanical interest in areas such as Tealham and Tadham were important indicators that conservation interest was declining in the area.

In 1990, the Somerset Local Flood Defence Committee, set up a sub committee which through wide consultation produced a Strategy which was approved by the National NRA Board in December 1991.

The implementation of the Strategy coincided with the Ministry of Agriculture, Fisheries and Food's (MAFF's) introduction of raised water level payments within a large area of the Somerset Levels and Moors designated an Environmentally Sensitive Area. This has enabled the Agency to assist in the promotion of a number of Raised Water Level Areas (RWLA). Existing RWLA's total 1295 ha, of which 1064 ha are on 7 of the 8 priority sites identified under the Strategy.

A Steering Group consisting of representatives of the main interested bodies (see Page 26 for members) first met in October 1997 to consider the consultation process, and the context of the Consultation Report. The Group decided that the Report should include a list of issues and management options.

A three month consultation period began when the Report was launched on 2 February 1998. Copies were sent to many interested parties. The Agency set up Public Meetings and Exhibitions and attended many other meetings at the request of various bodies.

The consultation resulted in 107 responses varying from a 24 page letter to a single sentence at a public meeting, and they have all been taken into account in the redrafting of the Strategy and the preparation of an Action Plan.

The process of considering the responses and producing the Action Plan is documented in a separate complementary Consultation Response report available from the Agency on request.

The Environment Agency's Strategy

The Environment Agency recognises the outstanding nature conservation interest of the Somerset Levels and Moors and that some of these interests continue to decline.

The Environment Act 1995 made the principal aim of the Environment Agency to protect or enhance the environment, taken as a whole, so as to contribute towards attaining the objective of achieving sustainable development. The Act also made it the Agency's duty in exercising its Water Management functions to further the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interest.

Action Plan

Issue Nos

1. The Agency will adopt a presumption for water level management which favours nature conservation within SSSIs, and in the rest of the Somerset Levels and Moors where there is general agreement. Priority will be given to the core areas of SSSIs. 2
2. The Agency will adopt a presumption for water level management which favours archaeological conservation for Scheduled Ancient Monuments (as designated by English Heritage) preserved in the peat 7
3. The Agency seeks with others to restore, conserve and through the achievements of Bio-diversity Action Plan Targets enhance the biodiversity and landscape of this important wetland, consistent with its given duties, and to conserve the archaeological interest. 11, 2
4. The Agency will carry out its water management functions, including the control of water abstraction, discharges, water quality and drainage (all of which interact with water level management) in order to meet its statutory obligations. 4, 8
5. The Agency will give special consideration to the environmental impact of its consents and activities which affect the Levels and Moors, and especially within the Special Protection Area as required by the Habitat Regulations. 1, 4
6. The Agency will review its flood defence practices and take into account the requirements for nature conservation, to ensure sympathetic management especially within the Environmentally Sensitive Area (ESA). Formal management plans will be agreed with English Nature (EN) over the Agency's activities which affect Sites of Special Scientific Interest (SSSIs). English Heritage will be consulted over matters that affect Scheduled Ancient Monuments (SAMs). 12, 10
7. Where raised water level areas affect agricultural productivity the Agency will support the provision of water level premiums on payments from appropriate agri-environment schemes.

8. The Agency will liaise with relevant organisations to draw up a list of priority sites where enhanced water levels are required to maintain and restore the nature conservation interest, and to safeguard the archaeological interest. 2, 7
9. The Agency will take action after consultation with the Ministry of Agriculture, Fisheries and Food, English Nature, Internal Drainage Boards and land managers in order to achieve the conservation objectives. 2, 5, 11
10. In implementing its strategy the Agency will seek to accommodate the special requirements of the withy growing industry and any other interests which affect the economic and social well being of the communities in this rural area. 9
11. In implementing the strategy the Agency will take special account of the statutory, practical and financial position of Internal Drainage Boards.
12. Any changes proposed in this strategy must ensure that there is no increase in flood risk to human life and habitation. 10, 14
13. The Agency recognises Water Level Management Plans as a key element in achieving locally agreed levels for individual moors, and will encourage their completion. 6
14. The Agency undertakes to consult and inform widely to improve awareness of the special considerations of the Somerset Levels and Moors, and to encourage constructive feedback. 2, 9, 10
15. The Agency recognises the impact of the current poor water quality within ditches on the moors and seeks to identify and remedy its causes. 7
16. The Agency will take special account of the importance of water level management in the conservation of peat soils. 8
17. The Agency recognises the link between the traditional farming skills of the indigenous land managers and the special habitat requirements of the Levels and Moors. The Agency will encourage the retention of these skills within the Levels and Moors. 9
18. The Agency will advise and assist the IDBs to help fulfil their duties with due recognition of English Nature's conservation objectives. 11

The success of the proposed strategy will depend on co-ordinated actions by many different individuals and organisations in partnership led by the Environment Agency. The Agency believes that this can be achieved through agreed actions by relevant bodies covering the issues raised.

The Proposed Action Plan

This proposed Action Plan concentrates on the current issues facing the Environment Agency involved in striking the right balance in water level management for farming and other local industries, while seeking to reverse the earlier declines in wetland wildlife and archaeological interests.

This Action Plan :

- identifies the key issues involved in water level management outside the flood situation
- sets out a strategy for the day-to-day water level management in the wider Somerset Levels and Moors
- highlights the current problems relating to water level management and:
 - farming and other local industries
 - reversing declines in wetland biodiversity and archaeological interests
- seeks changes in water level management through consensus and partnership wherever possible
- sets out actions for joint working/partnerships which seek common ground and takes opportunities for water level management which integrates sustainable wetland farming systems, conservation management and conservation goals
- sets out programmes of implementation by individual agencies and through partnerships, with appropriate monitoring, reporting, feedback and review

The Action Plan does not set out explicit policies or actions to resolve problems relating to:

- the management of floodwater, particularly that which leads to deep and prolonged flooding
- the maintenance, improvement or replacement of flood defence assets
- flood defence expenditure

In the following tables, costs shown are estimates, including staff costs. The expenditure is not committed, but identifies an estimate of the funding necessary to complete an Action.

The Way Forward

There have been many achievements in this ever changing farmed wetland, but there is still much more to be done. In seeking a wetland where farmers and landowners, nature conservationists and the local communities can all jointly benefit from a farmland rich in wildlife, the Environment Agency sets out in this Action Plan its contribution (in terms of water level management) towards this vision. It is firmly based on an understanding that a partnership approach is the surest way to future progress.

The Steering Group will continue to meet twice a year in the first instance to review the progress of the Action Plan. A concise Annual Review will be produced by the Agency in April each year to report on the progress in the last twelve months to a wide public audience.

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR				
				99	00	01	02	03
<u>ISSUE 1</u> <u>Shortage of Water</u> Dry summers and low winter penning levels in dry winters have resulted in some ditches drying out.	1.1 Identify areas most vulnerable to damage from shortage of water.	Agency EN IDBs	1 1.5 0.5	3				
	1.2 Identify optimum and minimum levels for different interests and utilising these, and with SSSIs as a priority, select a pilot area in which to study the impact of raising main river level on drainage and flood evacuation with improved management of response. To include consideration of managing intermediate levels between current summer and winter. 1.3 Required by the Habitats Directive, review abstractions with regard to their impact on the Special Protection Area.	Agency IDBs SCC	40 4 1	5	20	10	2	2
		Agency EN	50 (this does not cover any compensation payable if changes to abstractions implemented)			15	35	

Opportunities to maximise storage will be taken when they arise, eg within the peat production zone, within raised water level areas and increased main river capacity during dredging operations.

The Agency will insist on on-site storage to balance abstraction for any new licences on the Levels and Moors.

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
<p><u>ISSUE 2 & 3</u> <u>Achieving RWLAs & Wetland Restoration</u></p> <p>The original Strategy aimed to achieve core areas of raised water levels. Priority was give to the 8 Wet Grassland SSSIs with the greatest need. It is now clear that the issue of low water levels is wider than wet grassland SSSIs alone and is equally applicable to other water level dependant habitats such as remnant raised mires, channels with exceptionally low winter water levels and areas undergoing change such as the Avalon Marshes area. It is therefore considered desirable to take advantage of existing opportunities such as the ESA Raised Water Level and all year penning options, and encourage new initiatives and variations to existing schemes, to benefit nature conservation through water level management.</p>	<p>2.1 Draw up a list of sites requiring most urgent attention and assign priority.</p> <p>2.2 Continue the promotion of Wet Grassland Raised Water Level Areas in SSSIs, including ESA Tier 3, all year penning, and other opportunities. Seek to consolidate and extend existing RWLA and investigate further options to meet targets. Implement changes where consistent with the Agency's functions and duties.</p>	Agency, IDB, EN, Landowners /Managers	Combined with 2.3 below.	Combined with 2.3 below.
	<p>2.3 Work in partnership with other organisations to continue the promotion of Raised Water Level Schemes in the ESA and other appropriate areas. Implement changes where there is general agreement. Encourage the uptake of Agri-Environment Schemes where appropriate.</p>	<p>Agency</p> <p>MAFF EN</p>	<p>150 per year (2.2 & 2.3 combined)</p> <p>150 per year 50</p>	350 350 350 350 350

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
	2.4 Where it is consistent with the Agency's functions and duties, to support and promote other wetland restoration and creation initiatives such as those within the Avalon Marshes area.	Agency		
	2.5 Investigate the opportunities to overcome the problems which occur where notably low winter water levels are maintained in lowland drainage channels. Greatest priority to be given to channels affecting SSSIs. Implement changes where consistent with the Agency's functions and duties and through agreement with affected parties through the WLMP process.	Agency IDB EN Agency IDB EN	Investigate 50 10 Implement 100 15 5	30 30 30 60 30
	2.6 Identify the opportunities and constraints on water level management and Raised Water Level Schemes within SSSIs and develop options, eg land purchase and land swap, to overcome these constraints.	Agency EN SWT NFU CLA IDBs RSPB SCC	10 2 1 5 5 1 1 5	30 30
	2.7 Promote an open independent scientific review of existing monitoring data and publish results in both scientific and user friendly forms to advise on the current environmental resource and recent changes. Review to include work on influences other than water levels, eg effect of predators.	Agency MAFF SWT RSPB EN	10 6 2 2 15	35
	2.8 Review existing management prescriptions and area targets for Raised Water Levels in response to the review in 2.7 above and targets of other relevant initiatives such as Biodiversity Action Plans (issue 12), ESA Scheme and Natural Areas. Disseminate information and advise other initiatives such as ESA review accordingly.	Agency MAFF EN IDBs SWT RSPB NFU CLA SCC LAMP	5 5 5 1 1.5 1.5 1.5 1.5 1.5 1.5	5 10 10

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
	2.9 Input to reviews of Agri-environment schemes and other sources of funding encouraging development of incentives towards adoption of farming systems to manage wetter conditions.	Relevant Steering Group Bodies		
ISSUE 4 <u>Priorities of the Agency's Statutory Requirements</u> The relevant priorities of the Agency's statutory powers and duties in respect of water level management on the Somerset Levels and Moors are not fully understood.	4.1 The Agency will seek further advice, especially with respect to expectations on the Birds Directive, and will discuss the conclusion with IDBs and EN and disseminate them in user friendly form. Current practice is to seek water level changes by negotiation through existing initiatives, without recourse to using powers to impose changes.	Agency	50	35 15
	4.2 The Agency is currently reviewing its Flood Defence Practices as stated in the 1991 Strategy and explained further in the report. This includes assessment of its maintenance and operations for Flood Defence, including water level management. This will be extended to produce a comprehensive assessment for all bodies' relevant public expenditure on the Area's water level management.	Agency IDBs MAFF EN NFU	80	20 40 20
ISSUE 5 <u>Land Use of Areas Providing Flood Plain Storage</u> Flood events in the 90s have significantly impacted on the agricultural and environmental interests of the land inundated. Climate change suggests the occurrence of more frequent extremes, questioning the viability of some current land uses.	5.1 Introduce improved flood warning to regularly affected landowners.	Agency	5 plus 1 per year	6 1 1 1 1

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
	5.2 Identify the opportunities and constraints on appropriate land use within flood risk areas and develop options, eg land purchase and land swap, to overcome constraints.	Agency EN NFU CLA IDBs SWT	15 5 5 3 1 1	30
<p>ISSUE 6 Water Level Management Plans</p> <p>The majority of the Water Level Management Plans identified as priorities by English Nature will be complete to First Stage only by December 1998. These will identify a number of issues which will require manpower and financial resources to resolve.</p>	<p>6.1 Identify and seek to obtain manpower and funding necessary for completion and implementation of Plans.</p> <p>6.2 Seek to resolve issues and implement Plans by Year 2004 or sooner.</p> <p>6.3 Ensure this Water Level Management Strategy and LEAPs are covered in WLMPs.</p>	<p>Relevant Steering Group Bodies</p> <p>Agency IDBs EN MAFF</p> <p>Agency</p>	<p>120 per year 30 per year 20 per year 10 per year</p>	<p>180 180 180 180 180</p>
<p>ISSUE 7 Arable Farming in Peatland</p> <p>Arable farming practices requiring good drainage and low winter water levels are leading to shrinking soil. The damp peat has proved remarkable in preserving archaeological remains, eg The Sweet Track. Drying out of the peat soils leads to damage of such interests, and the continuing loss of these soils lowers land levels and makes the land more vulnerable to flooding. A more sustainable use of peat soils is sought.</p>	<p>7.1 Identify peatland areas most at risk from drying out.</p> <p>7.2 Establish a research project to further investigate the effect of water level management on archaeological remains, including adjacent areas, and through this establish optimum water levels and freeboard in peat moors, and seek their implementation through Water Level Management Plans.</p> <p>7.3 Promote research and trials for remedial measures on damaged peat soils.</p> <p>7.4 Continue ongoing monitoring of peat shrinkage under grass.</p>	<p>Agency EN SCC English Heritage</p> <p>Agency SCC English Heritage</p> <p>EN SCC</p> <p>Agency EN</p>	<p>5 5 5 5</p> <p>5 25 30</p> <p>80 40</p> <p>10 10</p>	<p>20</p> <p>30 30</p> <p>60 60</p> <p>5 5 5 5</p>

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
	7.5 Highlight requirement of incentives to encourage appropriate sustainable use of peat soils.	Relevant Steering Group Bodies		
ISSUE 8 Poor Water Quality in Ditches Poor water quality in ditches damages biodiversity and fisheries interest. Causes may vary with location.	8.1 Identify appropriate objectives and promote research to improve knowledge of water chemistry on the moors covering extent cause, and areas at risk due to the poor quality.	Agency	40	20 20
	8.2 Required by the Habitats Directive, review consents to discharge standards, and abstraction and their effects on ditches.	Agency, EN	See 1.2 for cost and Financial Years	
	8.3 Target the Levels and Moors catchments with a diffuse pollution prevention campaign.	Agency	35	35
	8.4 Encourage the introduction of buffer strips adjacent to ditches.	Agency IDBs NFU MAFF EN CLA FWAG	6 5 1 1 5 1 1	5 5 5 5
	8.5 Examine the advantages of introducing reed beds where appropriate.	Agency IDBs NFU MAFF EN CLA FWAG	6 5 1 1 5 1 1	5 5 5 5
	8.6 Where causes of poor quality are identified, and risks justified, implement remedial action.	Agency		

Any proposed changes in the water level management of the Somerset Levels and Moors should consider the effect on water quality, eg, raised water level areas should not just produce larger ponds of stagnant water.

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
ISSUE 9 <u>The Withy Industry</u> The Agency recognises the importance of the economic and social well being of the rural community in relation to water level management eg the withy industry.	9.1 In considering water level management, account must be taken of the effect on the socio-economic well being of the rural economy. 9.2 Liaise with withy industry to better understand requirements and constraints. 9.3 Seek to find ways to encourage the development of the traditional skills needed for local industry and agriculture within the Levels and Moors.	Agency, RSPB, EN Agency LAMP Relevant Steering Group Bodies	20 10	15 15
ISSUE 10 <u>Flooding and Flood Defence Expenditure</u> The increased frequency of flood events in the 1990s has led those affected to concentrate on many factors perceived to impact on flood risk, and this has influenced many people's attitudes to water level management. Factors include the impact of runoff from development, maintenance and operation of the infrastructure and the level of funding for Flood Defence.	10.1 Work in partnership with local authorities to ensure that local Strategic Plans do not increase flood risk. 10.2 Consult widely on the ongoing Review of Flood Defence Practices and the implementation of its recommendations. 10.3 Present in an accessible format data on recent and past flood events and studies on development impact on flood flows reaching the Levels and Moors. 10.4 Present and disseminate the results of the Review of Flood Defence Practices as detailed further in the accompanying Report. 10.5 Present in an accessible format Flood Defence funding and priorities as they affect the Levels and Moors. 10.6 Present evidence on flood damages to the local rural economy and conservation not fully covered by Treasury rules. 10.7 Present in an accessible format the impact of raised water levels on flood risk. 10.8 Use every opportunity to highlight the funding priorities and the appropriate level of funding necessary for flood defence including water level management in the area.	Agency, SCC, Local Authorities, IDBs Agency Agency Agency Agency Agency Relevant Steering Group Bodies	75 10 45 10 10 20	30 35 15 5 5 5 40 8 2 5 5 16 4

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
ISSUE 11 Biodiversity Action Plan To meet the commitments of the national, regional and local Biodiversity Action Plans through the development of a 'wise use' concept in the wider wetland landscape of the Levels and Moors and instigate specific management actions to meet BAP targets.	11.1 To identify and agree key species and habitats for the Moors and Levels and develop Biodiversity Action Plan targets for individual Levels and Moors. Examples of proposed BAP species targets are shown in the table below. 11.2 To identify and selectively manage key sites to meet Species Action Plan targets and monitor success of management activities. 11.3 Maximise the Agency's contribution to meeting Biodiversity Action Plan targets in the management of the Agency's own land. 11.4 Promote Biodiversity Action Plan targets for the Levels and Moors by informing and involving those who live and work in the locality.	Agency, IDBs, EN, SWT, RSPB, SCC, NFU, CLA, LAMP Agency CLA EN RSPB SWT IDBs NFU Agency Relevant Steering Group members	2 per year 1 per year 2 per year 1 per year 1 per year 2 per year 1 per year 20	10 10 10 10 10 5 5 5 5

Species/Habitats	Target Population by 2005	Target Distribution	Comments
Bewick's Swan	>300	3 Moors regularly hold >100 birds, 2 Moors holding >20 birds	wintering population
Lapwing	>36000	1 Moor holding >10,000 birds, 1 Moor holding >5,000 birds and 4 Moors holding >2,000 birds	wintering population
Golden Plover	>3100	1 Moor holding >1,000 birds, 3 Moors holding >400 birds	wintering population
Teal	>7400	1 Moor holding >5,000 birds, 1 Moor holding >1000 and 6 Moors holding >100 birds	wintering population
Gadwall	>90	1 Moor holding >50 birds and 4 Moors holding >10 birds	wintering population

Wigeon	>5900	1 Moor holds >4000 birds, 1 Moor >1000 and 2 Moors >100 birds	wintering population
Shoveler	>210	1 Moor >150 birds and 2 Moors >30 birds	wintering population
Lapwing	>250	3 Moors supporting >40 pairs, 4 Moors supporting >15 pairs	breeding pairs
Snipe	>145	1 Moor supporting >50 pairs, 4 Moors supporting >10 pairs	breeding pairs
Redshank	>40	1 Moor supporting >10 pairs, 6 Moors supporting >2 pairs	breeding pairs
Curlew	>34	1 Moor supporting >10 pairs, 5 Moors supporting >2 pairs	breeding pairs
Yellow Wagtail	>160	4 Moors supporting >20 pairs	breeding pairs
Whinchat	>100	5 Moors supporting >10 pairs	breeding pairs
Gadwall	>70	8 sites	breeding pairs
Bittern	>5 by 2010	4 sites	breeding pairs
Marsh Harrier	>3	3 sites	breeding pairs
Water Rail	>40	8 sites	breeding pairs
Cetti's Warbler	>50	8 sites	breeding pairs
Reed Bunting	No reduction from 1998 population	No contraction of distribution from 1998	breeding pairs
Bearded Tit	>5	2 sites	breeding pairs
Floodplain grassland	In the period 2000 to 2005 secure enhanced management over 2000 ha through appropriate water level management.		Between 1992 and 1998 1258 ha of floodplain grassland have been enhanced through inclusion in RWLAs.
Reedbed	Encourage the creation of 300 ha of new reedbed.		Between 1994 and 1998 88 ha of new reedbed has been created on the Somerset Levels and Moors.
Swamps & Mires	Encourage the creation of 200 ha of swamps and mires from intensively drained land where peat soils are severely damaged		

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
<u>ISSUE 12</u> <u>Strategic Plans</u> The need to ensure that other Strategic Plans for the area take into account this Strategy, and the actions proposed to implement it.	12.1 Steering Group members involved in producing and commenting on other Strategic Plans will refer to the Agency Strategy.	Steering Group members, led by the Agency.		
	12.2 In consulting on the Final Report, launching the Strategy, and carrying out its Annual Review, the Agency will bring the Strategy to the attention of as wide an audience as possible, and keep the Strategy live and relevant.	Agency	40	15 10 5 5 5
<u>ISSUE 14</u> <u>Climate Change</u> The Government Report on Climate Change not only gives best estimates for sea level rise which will affect tidelock conditions on the Levels and Moors, but also predicts increased storminess. This could mean not only increased frequency and severity of floods, but also greater periods of drought conditions in between, giving more problems of water supply.	14.1 In investigating any proposals affecting Flood Defence, the sensitivity to extremes predicted by the latest government accepted research will be studied, and the justification of including appropriate measures to allow for changes will be considered.	Agency, IDBs		
	14.2 Disseminate awareness of the appropriate investment necessary to meet changing requirements for the Levels and Moors.	Relevant Steering Group Bodies		

ISSUE	ACTIONS	ACTION BY	ESTIMATED COST £K (including staff cost)	FINANCIAL YEAR 99 00 01 02 03
ISSUE 15 Public Access Changes in water level management can adversely affect Public Rights of Way, and deter public access.	15.1 In considering water level management, account must be taken of the effect on Public Rights of Way, and mitigating works considered where they could be adversely affected.	Agency SCC MAFF	5 5 5	5 5 5
ISSUE 16 North Somerset Moors The Strategy covers only those moors south of the Mendips. There is a need to use the experience gained from this review in formulating a Strategy for Water Level Management on the North Somerset Moors.	16.1 Undertake a consultation process to produce a Strategy for Water Level Management on the North Somerset Moors.	Agency	75	25 25 25

Appendix

Roles of interested bodies

The Environment Agency is keen to live up to its perceived role of being the body that can bring the vision of the Somerset Levels and Moors to reality, but the Agency cannot achieve it by itself. The Agency has an overall supervisory duty in all matters of Flood Defence, which includes water level management. It also owns and operates many of the major water level controls, maintaining levels by agreement with others. The Agency also has a duty to further conservation whilst exercising its powers and duties, and is a "competent authority" under the Birds Directive. Where necessary many changes in water levels will be achieved by negotiation through Water Level Management Plans. The majority of these, in fact all except for Northmoor SSSI, are led by the relevant Internal Drainage Board who controls most water levels within the SSSIs. These independent drainage authorities have the same conservation duties as the Agency.

A major input to Water Level Management Plans comes from English Nature, the government Agency charged with protecting SSSIs. Before changes in water level management can be agreed, operating authorities need the conservation objectives, and English Nature produces these with the aid of the conservation lobby groups RSPB and Somerset Wildlife Trust. All these conservation bodies own and manage Nature Reserves within the Somerset Levels and Moors.

To date, changes in water level management have been brought about by payments through the ESA administered by MAFF. Most of the work on the ground has been carried out by MAFF's Executive Agency FRCA, who have been negotiating with land managers to identify practical areas of farmland for Raised Water Level Areas. The Agency has been designing and constructing schemes to achieve these RWLA in consultation with FRCA, EN the relevant IDB and the landowners.

The Environment Act 1995 charged the Agency with having regard to the socio-economic well being of rural areas in carrying out its work. The socio-economic well-being of this area is a particular concern to local authorities, such as Somerset County Council, who support the Levels and Moors Partnership to represent the communities' interests, looking at concerns such as flood damage to the Withy Industry. It is through this Partnership that visions for the area come, and important bodies involved in it include the National Farmers Union, Country Landowners Association and Association of Drainage Authorities.

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