Establishing New Internal Drainage Board - South Cumbria

Initial Feasibility Report
Foreword

This report, prepared by the Association of Drainage Authorities, the Environment Agency and the South Cumbria Water Level Management Group looks at the feasibility of forming a new Internal Drainage Board (IDB) in river catchments in South Cumbria. It uses the methodology described in the document *Establishing New Internal Drainage Boards – Guidance*.

The Introduction briefly describes the purpose of this report, what an IDB is, and a summary of the national guidance document. Chapter 2 describes the catchments in South Cumbria and a brief description of its recent water level management.

Chapter 3 discusses setting up an IDB in South Cumbria. Describing:

- the steps so far taken to form an IDB;
- the potential boundaries for an IDB;
- the potential beneficiaries of an IDB;
- the habitats and biodiversity sites an IDB may contain;
- the potential watercourses and structures that an IDB would be responsible for;
- an initial assessment of an IDB’s feasibility based on estimated costs, drainage rates and special levies.

This report does not constitute a formal proposal to create an IDB in the South Cumbria catchments. It is just an initial investigation that can be used in public consultation to gauge public opinion and confirm the assumptions and decisions made in the report.

The information in this document has been obtained by consulting with people and groups within the South Cumbria catchments, Environment Agency officers who currently work within these catchments, and also those who are either currently involved in the running and management of an IDB, or who are likely to have an interest in one.

Toby Willison
Regional Director
Environment Agency

Jean Venables
Chief Executive
Association of Drainage Authorities

Jim Bland
Chairman
South Cumbria Water Level Management Group
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1 Introduction

1.1 Document aims

The aim of this report is to facilitate discussion about the potential formation of an Internal Drainage Board in river catchments in South Cumbria, and test the process outlined in the document *Establishing New Internal Drainage Boards Guidance*. Setting up an IDB is only one option that is available for the South Cumbria catchment. There are other options which should be considered by communities, including informal partnerships for continuing the pumping regime or adapting farming practices to a changing landscape. This report has been prepared by the Association of Drainage Authorities, the Environment Agency and the South Cumbria Water Level Management Group. It only covers the IDB option, investigating the feasibility and benefits of setting up a board. It is not a comparative exercise to determine whether setting up an IDB is the best option.

This report is intended to reflect the new national guidance for setting up new IDBs. It is a technical articulation and does not advocate for or against the creation of an IDB or whether one is financially viable or advisable.

The aim is to assess the technical and economic feasibility of an IDB in South Cumbria by:

- confirming what information is currently available,
- providing a high level estimate of the size of drainage rates (i.e. pence in the pound per hectare), and special levies,
- indicating what further steps would be required to complete the set-up process for an IDB in South Cumbria.

It is intended that this report will also be used to consult with stakeholders to assess whether the creation of an IDB in South Cumbria could be viable and has public support. Therefore, confirming whether continuation of the setup process is advisable. As such, this report is the first step in determining the feasibility of creating an IDB in South Cumbria.

1.2 Who this document is aimed at

This document is aimed at those who would like to consider the feasibility of setting up an IDB in South Cumbria. The Environment Agency intends to cease permissive maintenance from the management of land drainage pumping stations in the Lyth Valley catchments as they need to prioritise where the highest risks of flooding to people and residential property are, and concentrate efforts and funding in those areas. Because of this, members of the local community would like to explore the possibility of managing water levels under a new IDB.

1.3 What is an Internal Drainage Board?

An Internal Drainage Board (IDB) is a public body that has been established under statute in areas of special drainage need in England and Wales. It holds permissive powers to undertake work to deal with matters affecting water levels, land drainage and flood risk within a defined boundary. Much of their work involves the maintenance of rivers, drainage channels, outfalls and pumping stations, facilitating
drainage of new developments and advising on planning applications. They also have statutory duties with regard to the environment and recreation when exercising their permissive powers. IDBs are expected to make a significant contribution to the sustainable use of areas of special drainage need and provide water level management on a daily basis to the catchments they serve. It is important to note that the boundaries of IDBs are not determined by local authority or political boundaries, but by consideration of the hydrological catchment within a given area.

Statutory bodies dealing with drainage matters date back to 1252, but most IDBs today were established by the government following the passing of the Land Drainage Act 1930. The activities and responsibilities of the Internal Drainage Boards are currently controlled by the Land Drainage Act 1931 (LDA 1931) as amended by subsequent Acts, and other legislation. The boundaries of an IDB should reflect this legislation regarding areas which benefit, or areas which avoid danger, as a result of drainage activities.

A number of places in the North West region previously had internal drainage boards in place. In the 1970’s, a number of IDBs petitioned the former Regional Land Drainage Committee of North West Water to be abolished and integrated into the main river network managed by the Committee. The Regional Land Drainage Committee agreed with this and over the subsequent years, all IDBs were absorbed. The last two in existence were the Crossens and Burgh by Sands IDBs in the early/mid 1980’s.

The South Cumbria Water Level Management Group considers the potential benefits of an IDB cohesively managing a drainage system may include:

- “Community benefit of preserving the nature of the lowland valleys;
- Creating a cohesive working partnership with all groups operating within the area e.g. RSPB, Wildlife Trusts, Natural England, National Parks and National Trust;
- Protecting local economies through agricultural output, food production and tourism;
- Biodiversity benefits;
- Flood alleviation for residential and business properties and reducing the impact of climate change;
- Protection of service infrastructure through water level management e.g. electric, gas, telecommunications, roads and railway.”

1.4 National guidance document

There have been no IDBs created in England for over 30 years, so Defra asked the Environment Agency to work with the Association for Drainage Authorities (ADA) to develop national guidance: Establishing New Internal Drainage Boards - Guidance. The aim of the guidance is to enable communities to explore the feasibility of setting up an IDB where there is a perceived need and local interest. This feasibility report is based on that guidance.

The guidance sets out the processes for setting up an IDB. This report concentrates on identifying the potential boundaries, beneficiaries, watercourses, fluvial assets (including pumping stations), operating costs, special levy, and drainage rates for a potential IDB in South Cumbria. The headings within Chapter 3 aim to align with the sub-headings for set-up in Chapter 4 of the guidance.
The following diagram shows the overall steps required for setting up an IDB assuming positive outcomes at each stage. This is based on Chapter 4 of the National Guidance Document and a more detailed flow diagram can be seen in Appendix 7.2.

Flow Diagram of Setup Process (assuming positive outcome at each stage)

1. Community Group investigates options for creating a new IDB (including looking at boundaries and beneficiaries)
2. Community Group consults local community and interested parties
3. Community Group responds to consultation
4. Community Group prepares a justification statement
5. Community Group consults local community and interested parties on justification statement
6. Community Group responds to consultation and revises proposal
7. Community Group submits detailed justification statement to the Environment Agency
8. Community Group submits to Minister and Defra for sealed order
2 South Cumbria Catchments

This report focuses on the catchments flanking the north of Morecambe Bay in South Cumbria. The Rivers Bela, Crake, Leven, Kent, and Winster drain into Morecambe Bay and are generally characterised by steeply sloping watercourses, rising on the Lake District high fells and flowing into gently sloping valleys in the middle of the catchments, with agriculture becoming increasingly more intensive in the downstream reaches. The area being considered for a new IDB also includes an agricultural area on the western side of the Duddon Estuary. The proposed area is predominantly rural, with scattered small towns and settlements. The landscape of the lowland areas has been modified and managed by man for many years. Historic management for farming and forestry has resulted in the landscape pattern characteristic of the area today, with heather moorland on the fells and improved fields in the valley bottoms.

Today, land within the area is managed for a variety of purposes. Much of it is still farmed for livestock, and this may include improved grassland and heath.

2.1 Water level management

The Lyth Valley has the most intensively managed drainage system in the proposed IDB area, consisting of a complex pumped drainage and flood defence system that consists of embanked carrier watercourses referred to as the “high level system” and a network of drainage channels referred to as “the low level system”. This system reduces flooding of pasture in late autumn, winter and early spring, so it is dry enough to support grazing. If pumping were to cease in this valley, there would be a significant change in soil wetness and subsequently agricultural productivity.

Areas of the Winster, Bela, Lyth Valley, Duddon, Newland Moss and Windermoor catchments were, until the late 1970’s, within Internal Drainage Districts. In 1975 the River Kent Estuary IDB, River Winster IDB and the Beetham and Arnside IDB were amalgamated to form a new River Kent Estuary Internal Drainage district.

These IDBs were progressively abolished throughout the late 1970s, ending in 1979 with the River Kent Estuary IDB drainage district. Maintenance of all assets and ‘scheduled watercourses’ previously maintained by the IDBs was taken over by the North West Water Authority (later the National Rivers Authority and then the Environment Agency).
3 Setting up a South Cumbria IDB

In this chapter the report sets out the information provided by the Environment Agency to enable communities to explore the feasibility of setting up an IDB, including:

- the previous work conducted by and for the Environment Agency for assessing the options for managing water levels in the South Cumbria catchments;
- the potential boundaries, beneficiaries, watercourses, and fluvial assets (including pumping stations) of a potential IDB in the South Cumbria catchments;
- the estimated operating costs, special levy, and drainage rates for a potential IDB in the South Cumbria catchments.

The chapter therefore broadly covers stages 1 to 14 of the Establishing New Internal Drainage Boards - Guidance, however the report has not developed a justification statement for a new IDB. This may be the next step for the South Cumbria Water Level Management Group towards forming a new IDB.

3.1 Options for managing water levels

Under the current drainage system, the South Cumbria catchments maintain work, leisure and tourism as well as a balance of wetland and farmland.

The level of employment in South Cumbria can be demonstrated to be dependent on agriculture (£20 million per annum). The employment profiles of the South Cumbria area illustrate the relative importance of the agriculture sector which provides a substantially higher proportion of jobs than the average for England. Most of the other sectors are close to the English average, apart from a higher level of hotel and restaurant employment in the Lyth Valley and the relative under representation of other services in all the catchments.

Since 2005, the Environment Agency has been reducing the extent of channel maintenance in many rural areas of Cumbria, and in 2009 the Catchment Flood Management Plans for the Kent and Leven catchments concluded that the amount of public money the Environment Agency spends in the Lyth Valley is disproportionate to the flood risk to people and property.

In March 2010, consulting engineers Halcrow undertook a study in the Lyth Valley to develop a sustainable maintenance programme for the Environment Agency to follow for each of the three catchments. The study investigated reducing flood risk management activity and its focus was on agricultural and environmental impacts. The economic appraisal followed Treasury guidance and was based on whole-life-cost techniques in accordance with industry asset management practice. Economic appraisal compares the costs of doing work against the benefits in economic terms of doing that work. If the costs are higher than the benefits, then the work is not viable. If the benefits are greater, it is viable but funding is not guaranteed, unless it is affordable.
The preferred maintenance scenario, which would likely be viable for the Environment Agency in the long-term for all three catchment areas was “Wetter Farming”. This would involve ceasing maintenance on all non-arterial channels and decommissioning all pumping stations except Levens Catchwater pumping station (Lyth Valley), which is necessary to prevent increased flood risk to property. Some low-level channels were included in the maintenance because they serve a highways drainage function or drain lengths of the tidal embankments. However, in the future, there is still uncertainty as to the affordability of the Environment Agency continuing to maintain even the arterial channels in these rural areas.

3.2 Decision to investigate the feasibility of an IDB

The Environment Agency is ceasing to maintain assets for water level management in South Cumbria in line with those studies and strategies outlined in Section 3.1.

The Environment Agency has stated that it will no longer operate John Scales, Pool Bridge, and Sampool Pumping Stations in the Lyth Valley from 31 January 2013. Ulpha Pumping Station will cease to operate from 31 January 2014.

In the Lyth Valley, the Environment Agency’s broad-scale modelling has shown that there would not be a significant increase of flooding to property as a result of withdrawing from the pumping stations - however there would be an increase in flood risk to commercial property if the drainage system was not maintained. Whilst the Environment Agency would continue to manage the main watercourses, it is felt by some members of the local community, that ceasing maintenance of the subsidiary dykes could mean that agriculture may not be maintained at a viable level and food production would be considerably reduced. There could also be an impact on highways consequent on flooding to commercial property affecting communities in the valley. Some dwellings could also be at risk of flooding.

A number of landowners within South Cumbria wish current farming practices to be maintained. Land and property has been identified that requires continuing water level management. The South Cumbria Water Level Management Group anticipates that a locally-run and managed Internal Drainage Board focusing on water level management through the maintenance and improvement of the watercourses and control structures in the area, will best serve this purpose.

3.3 Stakeholder group – South Cumbria Water Level Management Group

The Lyth and Winster Land Drainage Group was formally established on 10 March 2010 at a public meeting at Witherslack Parish Hall, and since then has evolved into the South Cumbria Water Level Management Group. The Group is set up to work with the Environment Agency to improve and increase maintenance, and react to proposals affecting farmland and residential properties in the area.

The Group has called for the creation of an Internal Drainage Board for South Cumbria and has formed a steering group for this purpose which has been in consultation with Environment Agency staff and with the Association of Drainage Authorities (ADA). The Group has suggested that the name for a new Internal Drainage Board in South Cumbria would be the South Cumbria Water Level Management Board.
Drainage Board in the South of Cumbria should be the South Cumbria Water Level Management Board (WLMB), to reflect the proposed role a new IDB would undertake. 'Water level management board' is used in the name of several recently amalgamated IDBs, to better reflect the modern day function of an IDB. It does not affect the legal status of the body, which remains recognised in law as an Internal Drainage Board. The abbreviated name South Cumbria WLMB or WLMB is used as a working title for a proposed IDB in the following text, diagrams and tables.

The *Establishing New Internal Drainage Boards – Guidance* suggests that a group proposing to form a new IDB should develop a short statement affirming the reasons for creating an IDB and the broad aims for any future IDB. The South Cumbria Water Level Management Group has developed a vision statement broadly setting out what a new South Cumbria WLMB would do.

### 3.4 Vision statement – A vision for South Cumbria Water Level Management Board

From the South Cumbria Water Level Management Group (SCWLMG), formerly the Lyth and Winster Land Drainage Group, the aims are as follows:

“*The SCWLMG wish to:*

1) re-establish the once active IDBs within the south and south west Cumbria areas as they were at the time that their responsibilities were devolved; and

2) reinstate the maintenance programme of the Environment Agency as was in 2005.

**Aims and objectives**

To manage water levels and fairly provide conditions within the designated areas to sympathetically maintain wildlife habitats and land use in accordance with European and central government policy and legislation. Giving full and proper consideration to the wishes of the landowners, the communities, government agencies, non-government agencies, and other interested constituted groups.

To co-ordinate the management of changing water levels upon adjoining land areas within the district;

To manage and maintain assets and infrastructure in order to provide appropriate conditions for maintaining the economic output of resident established agro businesses.

**Achieving feasibility**

In order for the economic feasibility to be realised, the land and property owners and tenants in the area of direct benefit shall contribute annually to the Board.

As many of the Morecambe Bay lowlands are high-sided the land and properties adding to the high land run off shall contribute to the maintenance programme by precept on the council tax – i.e. those within the catchment (refer to Environment Agency maps of potential IDB areas).

To manage expenditure by initial and continued assessment and operating cost effective work practices both in labour activities and machinery operation including asset pumping systems and the drainage network.”
3.5 Identifying boundaries

The *Establishing New Internal Drainage Boards Guidance* states that once a decision has been made to investigate forming an IDB, a group proposing to form an IDB should begin defining what area a new Internal Drainage Board would manage and raise drainage rates and special levy from.

Two potential boundary options have been identified in South Cumbria for a WLMB. Both options are shown on Figure 01.

Option one is for a South Cumbria WLMB with a boundary based on the interpretation of the ‘Medway Letter’ provided in the guidance. Option two is for a South Cumbria WLMB covering the full extent of the hydrological catchments in the South Lakes area. Both boundary options have been considered in each of the subsequent sections for the South Lakes catchments.

These options have been compared with the ‘drainage benefit area’ (DBA) in the South Lakes catchments, provided by the Environment Agency. The DBA dataset gives a best estimate of the areas which receive a land drainage benefit from watercourse maintenance, checked and agreed with the Environment Agency’s local teams. Following the consultation, if the SCWLMG receive better local knowledge as to the DBA, this area can be amended for future studies.

If either option is chosen, further work should be undertaken to refine these boundaries.
3.5.1 Option 1: ‘Medway Letter’ boundary

IDBs are permitted by Section 1 of the Land Drainage Act 1991 to serve ‘internal drainage districts’, defined as areas of land which "will derive benefit, or avoid danger, as a result of drainage operations".

The Medway Letter of 1933 was written as a statement, from the former Minister of State for Agriculture and Fisheries to the Clerk of the River Medway Catchment Board, in order to clarify the meaning of such areas. The terminology used in the Letter is no longer used, however Ministers have relied on it in the past for decisions relating to boundaries.

The Establishing New Internal Drainage Boards - Guidance suggests using Environment Agency Flood Zone 2 maps as a proxy for setting an IDB’s boundary as per the Medway Letter. This is because Flood Zone 2 maps give the best correlation with existing internal drainage districts in England and Wales, of the readily available contemporary flood risk data information. Therefore the guidance states that the Medway Letter could be interpreted to mean (for the purposes of setting up new IDBs), an area of land within Flood Zone 2 (on the EA flood risk map). This is an area assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1% chance in any one year) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% – 0.1% chance in any one year).

The guidance then states that areas that are encircled or partially encircled by Flood Zone 2, or could potentially derive benefit from the activities of an IDB, should be added to the Flood Zone 2 risk area to form the prospective Internal Drainage District for a proposed IDB. A similar process is described in Observation 5 of the Medway Letter.

The pink areas marked on Figure 01, are for a proposed South Cumbria WLMB based on the interpretation of the Medway Letter provided in the guidance. The area of a South Cumbria WLMB under Option 1: ‘Medway Letter’ is 8,756 hectares, covering predominantly low-lying areas within the catchments and broadly matching the drainage benefit areas identified by the Environment Agency.

If the ‘Medway Letter’ boundary is selected to be developed further, following consultation, those areas surrounding or encircled by the Flood Zone 2 boundary, should be considered in more detail by the SCWLMG with support from the Environment Agency. This is to check that IDB management of these areas would be beneficial. Similarly, any areas excluded or included in the ‘Medway Letter’ boundary that members of the community highlight during consultation could be included or excluded should also be considered in more detail.

3.5.2 Option 2: ‘Catchment’ boundary

Due to the nature of the catchments in South Cumbria (steeply sloping watercourses, narrow, gently sloping valley bottoms), it is felt by the South Cumbria Water Level Management Group that the Medway letter precedent can not be applied for a modern IDB in these areas. Water level management in the valley bottoms is dependent upon run-off from the watercourses in the upper catchment. These upper catchment areas should therefore contribute via drainage rates and special levies. Bringing in parts of the upper catchment would also allow water level management and flood risk management works to be undertaken by the WLMB in these areas.
Option 2 is for a WLMB covering the full watershed of those catchments being considered for the formation of a South Cumbria WLMB. The catchment boundary for Option 2 was created using Water Framework Directive catchment boundaries and a GIS tool which analysed the land terrain to estimate hydrological catchment boundaries.

Creating an IDB with a boundary extending to the full extent of the hydrological catchment, including upland areas, as per Option 2, would be exceptional and may be considered inconsistent with the Land Drainage Act 1991 and therefore subject to legal challenge.

The blue areas marked on Figure 01, are for a proposed South Cumbria WLMB based on a full catchment approach. The area of a South Cumbria WLMB under Option 2: ‘Catchment’ is 29,737 hectares, covering both upland and lowland areas within the catchments.

**Option 2B: ‘Catchment with differential rates’**

Option 2B is derived from Option 2 and enables a South Cumbria WLMB with a ‘catchment’ boundary to be created but with those areas which potentially benefit most from the activity of the WLMB paying more. This is achieved by splitting the catchment into two sub-districts based on the drainage benefit area (DBA) identified, and the remainder of the catchment (non-DBA). Each sub-district would then pay drainage rates and special levy based on the proportion of an WLMB’s expenditure spent in each sub-district. Option 2B is discussed further in section 3.10.
3.6 Identifying beneficiaries

The pilot study has undertaken an initial review of key data, held by the Environment Agency, which can be used to identify the potential beneficiaries of, and areas influenced by the actions of a South Cumbria WLMB. It is important to note that this report does not presume that all the assets, land, and property identified in section 3.6 would be at risk of flooding without an IDB being created. However, assets, land, and property identified in this report may benefit from water level management activity conducted by an IDB, either in terms of reduced flood risk, by virtue of drier ground (or subsurface) conditions, or by control of water within the catchment.

Individual land and property boundaries, landowners and occupiers have not been identified in this pilot study - this would be an important next step for the South Cumbria Water Level Management Group following the first consultation if a WLMB is pursued.

3.6.1 Land types

The pilot study has undertaken an initial review of land types within both of the proposed options for South Cumbria WLMB boundaries and also within the South Cumbria drainage benefit area. The land types were identified using an agricultural land classification dataset provided by Defra which can be viewed at [http://www.magic.gov.uk](http://www.magic.gov.uk). These classifications are shown in Figure 02 and summarised in Table 1.
Table 1: Land classification data for the South Cumbria catchments

<table>
<thead>
<tr>
<th>Drainage Benefit Area (DBA)</th>
<th>WLMB Option 1: ‘Medway Letter’</th>
<th>WLMB Option 2: ‘Catchment’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6091</td>
<td>8756</td>
</tr>
<tr>
<td>Total Area (ha)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Land Grade 1 (ha)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agricultural Land Grade 2 (ha)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agricultural Land Grade 3 (ha)</td>
<td>4789.66</td>
<td>6080.00</td>
</tr>
<tr>
<td>Agricultural Land Grade 4 (ha)</td>
<td>1132.76</td>
<td>1672.00</td>
</tr>
<tr>
<td>Agricultural Land Grade 5 (ha)</td>
<td>105.46</td>
<td>505.11</td>
</tr>
<tr>
<td>Non-Agricultural Rural Land (ha)</td>
<td>33.35</td>
<td>33.35</td>
</tr>
<tr>
<td>Urban (ha)</td>
<td>0.02</td>
<td>10.62</td>
</tr>
</tbody>
</table>

3.6.2 Residential and commercial property

The pilot study has identified the number of properties within the South Cumbria WLMB boundaries and also within the drainage benefit area. This data is presented in Table 2.

Table 2: Property data summary for the South Cumbria catchments

<table>
<thead>
<tr>
<th>Drainage Benefit Area</th>
<th>WLMB Option 1: ‘Medway Letter’</th>
<th>WLMB Option 2: ‘Catchment’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Properties (no.)</td>
<td>216</td>
<td>676</td>
</tr>
<tr>
<td>Commercial Properties (no.)</td>
<td>14</td>
<td>42</td>
</tr>
</tbody>
</table>
3.7 Biodiversity audit

The *Establishing New Internal Drainage Boards – Guidance* states that a biodiversity audit should be undertaken to establish what environmental/biodiversity issues may need to be considered during the setting up of an IDB. This report has conducted a review of the designated nature and environmental sites which occurs within the proposed South Cumbria WLMB. The key environmental designations are shown on Figure 03. If created, the WLMB would become responsible for the maintenance and delivery of the Water Level Management Plans (WLMPs) for the statutory sites within its area.

![Figure 03: South Cumbria Water Level Management Board - Key Environmental Designations](image)

### 3.7.1 Biodiversity Action Plan (BAP) habitat

There are over 5,000 hectares of freshwater BAP habitat within the South Cumbria catchments and a further 950 hectares of saltmarsh. Coastal and floodplain grazing marsh is the predominant freshwater BAP habitat within the South Cumbria catchments, with significant areas of lowland raised bog and fen habitat. There are some patches of wet woodland and to the west of the catchments in the Duddon catchment, areas of lowland dry acid grassland and lowland heathland.

Existing IDBs have produced Biodiversity Action Plans assessing the BAP habitats and species in their area and addressing measures they will take to maintain and enhance these.
3.7.2 Lake District National Park

Substantial parts (29,737 hectares) of the South Cumbria catchments (Option 2), fall within the current boundaries of the Lake District National Park. These areas are shown on Figure 04 and summarised in Table 4. The report has not accounted for the probable extension of the National Park boundary in the Lyth Valley and Sizergh Fell areas. For further information about the expansion of the National Park visit http://www.lakedistrict.gov.uk.

Table 4: Lake District National Park in South Cumbria catchments

<table>
<thead>
<tr>
<th>Drainage Benefit Area</th>
<th>WLMB Option 1: 'Medway Letter'</th>
<th>WLMB Option 2: 'Catchment'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake District National Park (ha)</td>
<td>2515.00</td>
<td>3487.00</td>
</tr>
</tbody>
</table>

3.7.3 Area of Outstanding Natural Beauty (AONB)

Arnside and Silverdale AONB covers 622.86 hectares of the Flood Zone 2 area within a potential South Cumbria WLMB. Designated in 1972, Arnside and Silverdale AONB straddles the boundary of Cumbria and Lancashire. The limestone geology and coastal aspect of the area sustains a complex mosaic of habitats. There are many semi-natural ancient woodlands, wildflower-rich limestone grasslands, protected limestone pavements, coastal salt-marshes, rare butterflies and many other diverse habitats.
3.7.4 Nature designations

There are 1774.4 hectares of designated sites in the Flood Zone 2 risk area within a potential South Cumbria WLMB. The designated sites are those recognised as either Special Area of Conservation (SAC), Special Protected Area (SPA), Site of Special Scientific Interest (SSSI), or those in the Ramsar List of Wetlands of International Importance (Ramsar).

The larger designated sites within the South Cumbria catchments include:

**Duddon Estuary**
*Ramsar, SAC, SPA, SSSI*

The Duddon Estuary is the sandy, gritty estuary of the River Duddon that lies between Morecambe Bay and the west Cumbrian coast. The estuary is a significant area for birds. It holds an internationally important breeding population of Sandwich terns and migratory bird populations of international importance, including Pintail, Red Knot and Common Redshank and, regularly, over 20,000 wintering waterfowl. The Duddon Estuary supports one fifth of the national population of Natterjack toads. The estuary is botanically-rich with salt marsh, sand dune and shingle plant life, including some nationally rare shingle vegetation plant life.

**Duddon Mosses** - SAC, SSSI

The Duddon Mosses are an extensive system of raised mires situated at the head of the Duddon Estuary. There are eight discrete areas of mossland, two of these (Arnaby and Shaw Mosses) lie on the western side of the Duddon Estuary within the proposed South Cumbria WLMB area. The Duddon Mosses are the second most important group of lowland raised mires in Great Britain, in terms of their size and the diversity of habitats represented.

**Foulshaw Moss** - SAC, SSSI

A large estuarine raised mire underlain by estuarine silts and clays situated at the head of the Kent estuary, at the lower end of the Lyth Valley and immediately to the south of the limestone hill of Whitbarrow. It is the largest single peat body in South Cumbria with characteristic bog flora. The majority of the SSSI is owned and maintained by Cumbria Wildlife Trust.

**Farleton Knott** - SAC, SSSI

Farleton Knott is a low carboniferous limestone hill situated approximately 6 km west of Kirkby Lonsdale and 1 km east of the M6 motorway at Holme. The site is both of geological and biological interest, exhibiting a range of limestone habitats including open pavement, scrub and wood-covered pavement, calcareous grassland and natural limestone scree slopes. These habitats support a rich flora, amongst them a number of nationally rare or local species, sometimes in abundance.

**Hutton Roof Crags** - NNR, SAC, SSSI

As for Farleton Knott, Hutton Roof Crags is a low carboniferous limestone hill, situated approximately 5 km west of Kirkby Lonsdale and 2 km east of the M6 motorway at Burton.

**Meathop Moss** - SAC, SSSI

A raised peat bog which lies approximately three miles north-east of Grange-over-Sands and two miles north-west of Arnside. It is one of the two best examples of raised bog in South Cumbria. Amongst the last remaining examples of the once
extensive estuarine raised bogs at the head of Morecambe Bay. The moss is one–
two metres higher than the surrounding agricultural land and comprises a large area
of open peat bog surrounded by woodland. The associated flora is characteristic of
bog vegetation and the moss is well known for its invertebrate fauna. The majority of
the SSSI, is owned and maintained by Cumbria Wildlife Trust.

**Meathop Woods and Quarry - SSSI**
The site is located on a carboniferous limestone hill approximately two kilometres
north-east of Grange-over-Sands. Native broad-leaved woodland covers most of the
site and limestone cliffs, grassland, scrub and a disused quarry are also included.
The woodland is on limestone and is a diverse and relatively undisturbed example of
this habitat which is scarce in Britain. The site has a history of use for fundamental
research into woodland ecology and has been included in long-term studies under
the International Biological Programme. The site also supports a good collection of
plants and invertebrates.

**Morecambe Bay - Ramsar, SAC, SPA, SSSI**
Morecambe Bay lies between the coasts of South Cumbria and North Lancashire,
forming the second largest areas of intertidal estuarine flats in Britain. The whole
estuarine complex is of international significance for wintering wading birds and of
national significance for wintering wildfowl. As such, Morecambe Bay provides a link
in the chain of west coast estuaries used by migrating birds. The surrounding
saltmarshes are particularly important for their vegetation which is diverse,
supporting a number of rare and uncommon plants, as well as a variety of nationally
scarce invertebrate species.

**Nichols Moss - SAC, SSSI**
A raised peat bog, similar to Meathop Moss.

**Whitbarrow - SAC, SSSI**
Lying between the Lyth and Winster Valleys, Whitbarrow consists of two north-south
ridges of carboniferous limestone. The west facing scars rise steeply from the winster
valley and level out to form two undulating plateau with Yewbarrow reaching a height
of 125m and Whitbarrow 215m. The gentler dip slope of Whitbarrow extends
eastwards towards the Lyth Valley. The site comprises a diverse and complex
association of limestone and acidic grasslands, heath, scree, cliff, pavement and
woodland. It represents the most extensive and varied series of semi-natural habitats
within South Cumbria. The area also supports significant populations of nationally
rare and uncommon plants and has a notable invertebrate fauna with 23 butterfly
species and over 200 moth species being recorded on the site.

### 3.7.5 Nature reserves

There are four National Nature Reserves (NNR) in the South Cumbria catchments -
Clawthorpe Fen, Gait Barrows, Hutton Roof, and Whitbarrow.

There are 13 nature reserves managed by Cumbria Wildlife Trust which occur within
the South Cumbria catchments. These are listed below:

**Barkbooth Lot**
A small enclosure of rough fell land, an area of oak woodland, a meadow, and a
small area of larch plantation situated near the head of the Winster valley.

**Brown Robin**
The southern end of a low limestone hill above Grange-over-Sands, made up of roughly equal areas of woodland and grassland.

**Foulshaw Moss**  
See SSSI listing below for more information.

**Grubbins Wood**  
Small mixed woodland including stands of yew oak, birch, ash, small leaved lime and wild service tree.

**Hale Moss**  
The water-logged marl at this site provides an unusual habitat in which the dominant species is black bog rush.

**Humphrey Head**  
A limestone promontory which is important both for its flora and fauna and for its geological exposures.

**Hutton Roof Crags**  
See SSSI listing for more information.

**Latterbarrow**  
A mosaic of limestone, grassland, woodland, and scrub.

**Meathop Moss**  
See SSSI listing for more information.

**Next Ness**  
A narrow strip of wet woodland beneath Hoad Hill and adjacent to the railway line on the edge of Ulverston.

**Nichols Moss**  
See SSSI listing for more information.

**Whitbarrow - Hervey Memorial Reserve**  
See SSSI listing for more information.

**Whitbarrow - Howe Ridding Wood**  
See SSSI listing for more information.

### 3.8 Schedule of watercourses and fluvial assets

This report has compiled a comprehensive schedule of watercourses and fluvial assets from the Environment Agency’s National Flood and Coastal Defence Database (NFCDD) for the South Cumbria WLMB boundaries (‘Medway Letter’ and ‘Catchment’) and the ‘drainage benefit area’. Figure 05 shows those watercourses currently maintained by the Environment Agency, some primarily for land drainage, some for flood risk management and others for both. It also shows the watercourses the Environment Agency maintained in 2005. The headline watercourse and fluvial asset statistics are provided in Table 5.
The Environment Agency currently maintains all the high level embankments and channels, some of the low level channels, the culverts, the flapped outfalls and the pumping stations under its permissive powers. Channel and embankment maintenance activities include grass cutting, vermin control, weed-cutting and bank trimming.

Since the publication of the Catchment Flood Management Plan (CFMP) in 2005, the Environment Agency has reduced the extent of its maintenance activities in rural areas. Maintenance of the arterial drainage network (such as the Lyth and Levens main drains) continues but maintenance of many of the more minor low level channels has been ceased. The Environment Agency plans to cease maintenance of the John Scales, Pool Bridge, Sampool, and Ulpha pumping stations.

The vision by the South Cumbria Water Level Management Group is for a South Cumbria WLMB maintaining all lengths of watercourse maintained by the Environment Agency prior to 2005, and all related assets including the five pumping stations, inline with Government policy and legislation. Therefore, an approximation of the length of watercourse previously maintained by the Environment Agency in 2005, and the man hours as full time equivalent (FTE) required to conduct this work have also been provided in Table 5. This gives a guide to the length of watercourse a South Cumbria WLMB would wish to be maintained and the work required. Some of these lengths or assets the Environment Agency may choose to retain if a WLMB...
was created (e.g. Levens Catchwater Pumping Station), however the WLMB would still be liable for a proportion of the cost of maintaining these watercourses and structures.

Table 5: Summary of watercourses and flood defence structures in South Cumbria

<table>
<thead>
<tr>
<th>Drainage Benefit Area</th>
<th>WLMB Option 1: 'Medway Letter'</th>
<th>WLMB Option 2: 'Catchment'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area (ha)</td>
<td>6091</td>
<td>8756</td>
</tr>
<tr>
<td>Length of Watercourse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA Maintained 2011 (km)</td>
<td>125</td>
<td>135</td>
</tr>
<tr>
<td>Length of Watercourse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA Maintained 2005 (km)</td>
<td>180</td>
<td>199</td>
</tr>
<tr>
<td>Length of Main River</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privately Maintained (km)</td>
<td>62</td>
<td>65</td>
</tr>
<tr>
<td>EA Man Hours 2005 (days)</td>
<td>1540</td>
<td>1633</td>
</tr>
<tr>
<td>EA Pumping Stations (no.)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Length of EA maintained fluvial flood embankments (km)</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>EA maintained culverts (no.)</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>EA maintained Flood Defence Structures (no.)</td>
<td>34</td>
<td>43</td>
</tr>
<tr>
<td>Local Authority maintained Flood Defence Structures (no.)</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Privately maintained Flood Defence Structures (no.)</td>
<td>48</td>
<td>67</td>
</tr>
</tbody>
</table>

3.8.1 Pumping stations

There are five pumping stations in the potential South Cumbria WLMB; all five are located in the Lyth Valley. Figure 06 shows these pumping stations and other flood defence assets. Key data about these pumping stations is available in Table 6.

Three of the pumping stations (Pool Bridge, Johnscales and Sampool pumping stations) pump water from the low level system into the embanked high level system within the Lyth Valley. In addition to this Ulpha pumping station is located at a flapped tidal outfall at the downstream end of the low level system. At low tide, the low level system drains under gravity but at high tide, the system is tide-locked and Ulpha pumping station allows continued discharge. Levens Catchwater pumping station is located at the outfall of Levens Catchwater and is used in a similar way when the water is unable to discharge due to high levels in the River Kent.

Table 6: Pumping stations in the South Cumbria WLMB

<table>
<thead>
<tr>
<th>Pumping Station</th>
<th>Constructed</th>
<th>No. of Pumps</th>
<th>Capacity (cu/m/sec)</th>
<th>Size (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Scales</td>
<td>1984</td>
<td>2</td>
<td>0.54</td>
<td>55</td>
</tr>
<tr>
<td>Levens Catchwater</td>
<td>1987</td>
<td>2</td>
<td>0.35</td>
<td>20</td>
</tr>
<tr>
<td>Pool Bridge</td>
<td>1984</td>
<td>2</td>
<td>0.85</td>
<td>85</td>
</tr>
<tr>
<td>Sampool</td>
<td>1991</td>
<td>3</td>
<td>0.84</td>
<td>75</td>
</tr>
<tr>
<td>Ulpha</td>
<td>1989</td>
<td>2</td>
<td>0.86</td>
<td>45</td>
</tr>
</tbody>
</table>
3.9 Estimation of operating costs

This report has developed an estimation of operating costs for a South Cumbria WLMB based on maintaining all five pumping stations and all watercourses previously maintained by the Environment Agency prior to 2005, within both of the potential South Cumbria WLMB boundaries. The estimated total costs are summarised in Table 7.

Two methodologies were used to develop cost estimates for maintenance work on the watercourses, one based on a cost per kilometre maintained (‘by distance’) and another based on a cost per man days worked (‘by man days’). Both methodologies are explained in section 3.9.2. The two figures for each South Lakes IDB boundary offer the potential upper and lower bound for estimates of the cost of operating an IDB in the South Lakes catchments. Section 3.9.1 explains how an estimate was derived for the maintenance of the five pumping stations. Section 3.9.3 explains how an estimate was derived for administrative costs.

No allowance has been included for capital projects such as planned pump replacements or construction of new assets such as new pumping stations or sluices which an IDB may conduct in the long term. Such capital projects may also include wind or solar power generation projects that a South Cumbria WLMB may wish to make provision for in the future, or projects for supporting Water Framework Directive implementation measures. Capital projects are supported by part-funding from Defra Flood Defence Grant in Aid (FDGia). The proportion of a capital projects costs met by FDGia is dependant on the benefits a project provides. The development and implementation of Water Level Management Plans and improvement of health and
safety features conducted by IDBs, have historically received whole cost funding from Defra FDGiA.

The SCWLMG may wish to seek an alternative, independent valuation of costs before a detailed proposal is produced – based on a maintenance programme they would wish a South Cumbria WLMB to take forward.

**Table 7: Summary of estimated costs for a South Cumbria WLMB**

<table>
<thead>
<tr>
<th>Watercourse maintenance cost: ‘By Man Days’</th>
<th>Watercourse maintenance cost: ‘By Distance’</th>
<th>Pumping Station costs</th>
<th>Admin. costs</th>
<th>Total Cost: ‘By Man Days’</th>
<th>Total Cost: ‘By Distance’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1: ‘Medway Letter’</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>£315,108</td>
<td>£182,085</td>
<td>£116,812</td>
<td>£48,000</td>
<td>£479,920</td>
<td>£346,897</td>
</tr>
<tr>
<td><strong>Option 2: ‘Catchment’ Drainage Benefit Area (DBA)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>£323,789</td>
<td>£186,660</td>
<td>£116,812</td>
<td>£48,000</td>
<td>£488,601</td>
<td>£351,472</td>
</tr>
<tr>
<td>£297,094</td>
<td>£164,700</td>
<td>£116,812</td>
<td>£24,000</td>
<td>£437,906</td>
<td>£305,512</td>
</tr>
<tr>
<td>£26,696</td>
<td>£21,960</td>
<td>£0</td>
<td>£24,000</td>
<td>£50,696</td>
<td>£45,960</td>
</tr>
</tbody>
</table>

**3.9.1 Pumping station costs**

The estimated cost for each of the pumping stations in the South Cumbria WLMB is based on the average annual cost of Environment Agency works (maintenance and repair), between 2004 and 2010 and each pumping station’s electricity costs between 2006 and 2010. These are shown in Table 8 (detailed annual costs can be found in the appendices). In total the average annual cost of maintaining and running the five pumping stations came out at £116,812.

**Table 8: Estimated cost of pumping stations**

<table>
<thead>
<tr>
<th>Cost Type</th>
<th>John Scales</th>
<th>Sampool</th>
<th>Ulpha</th>
<th>Pool Bridge</th>
<th>Levens Catchwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Maintenance</td>
<td>£1,053</td>
<td>£1,590</td>
<td>£1,627</td>
<td>£1,289</td>
<td>£1,191</td>
</tr>
<tr>
<td>Electrical Repair</td>
<td>£5,945</td>
<td>£5,921</td>
<td>£7,923</td>
<td>£7,073</td>
<td>£2,332</td>
</tr>
<tr>
<td>Mechanical Maintenance</td>
<td>£289</td>
<td>£340</td>
<td>£2,561</td>
<td>£247</td>
<td>£278</td>
</tr>
<tr>
<td>Mechanical Repair</td>
<td>£4,201</td>
<td>£7,352</td>
<td>£6,593</td>
<td>£4,408</td>
<td>£3,940</td>
</tr>
<tr>
<td>Electricity</td>
<td>£3,629</td>
<td>£14,408</td>
<td>£16,397</td>
<td>£13,925</td>
<td>£2,242</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£15,117</strong></td>
<td><strong>£29,670</strong></td>
<td><strong>£35,100</strong></td>
<td><strong>£26,943</strong></td>
<td><strong>£9,982</strong></td>
</tr>
</tbody>
</table>

**3.9.2 Watercourse maintenance costs**

To estimate the cost of watercourse maintenance conducted in both of the potential South Cumbria WLMB boundaries, the drainage benefit area and the remainder of the South Cumbria catchments (non-DBA), two methodologies were used. The first took the distances of watercourse maintained by the Environment Agency in 2005, and multiplied these lengths by the average cost of watercourse maintenance per kilometre gathered from existing IDB data taken from profile sheets provided in the *Establishing New Internal Drainage Boards Guidance*. The average cost per kilometre was £915 based on the latest available data from a sample of 14 IDBs. This estimate is shown in Table 9 and gives an estimate of the lower bound of the cost of conducting watercourse maintenance work by a potential South Cumbria WLMB.
Table 9: Estimate of the cost of watercourse maintenance in South Cumbria, assessed by distance maintained

<table>
<thead>
<tr>
<th></th>
<th>Length of Watercourse EA Maintained 2005 (km)</th>
<th>Estimated Watercourse Maintenance Cost: 'By Distance'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: 'Medway Letter'</td>
<td>199</td>
<td>£182,085</td>
</tr>
<tr>
<td>Option 2: 'Catchment'</td>
<td>204</td>
<td>£186,660</td>
</tr>
<tr>
<td>Drainage Benefit Area (DBA)</td>
<td>180</td>
<td>£164,700</td>
</tr>
<tr>
<td>Non-DBA in catchment</td>
<td>24</td>
<td>£21,960</td>
</tr>
</tbody>
</table>

The second estimate of watercourse maintenance costs is based on the Environment Agency’s estimate of man hours for maintenance conducted in 2005 on the watercourses in South Cumbria. This data reflects an estimate made by Environment Agency staff on the hours spent carrying out the following maintenance activities on all representative watercourses the Environment Agency maintains in the area:

- Channel conveyance (weed control, obstruction removal)
- Defence maintenance (grass cutting, vermin control, defence repair)
- Structure maintenance (culvert and outfall repairs, reactive obstruction removal)
- Asset operation (asset operational inspections)

The man hours for each scenario was then multiplied by an estimate of the average hourly cost for the Environment Agency conducting watercourse maintenance such as bank mowing, dredging and channel vegetation clearance. This hourly cost includes all additional on costs associated with employing staff, mobile plant hire, fuel, fixed plant repair. The estimated cost per hour used in this report is £26.07. This estimate is shown in Table 10 and gives an estimate of the upper bound of the cost of a South Lakes WLMB conducting watercourse maintenance work.

Table 10: Estimate of the cost of watercourse maintenance in South Cumbria. As assessed by man days required for maintenance activity

<table>
<thead>
<tr>
<th></th>
<th>Man days EA maintenance 2005</th>
<th>Estimated Watercourse Maintenance Cost: 'By Man Days'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: 'Medway Letter'</td>
<td>1633</td>
<td>£315,108</td>
</tr>
<tr>
<td>Option 2: 'Catchment'</td>
<td>1678</td>
<td>£323,789</td>
</tr>
<tr>
<td>Drainage Benefit Area (DBA)</td>
<td>1540</td>
<td>£297094</td>
</tr>
<tr>
<td>Non-DBA in catchment</td>
<td>138</td>
<td>£26,696</td>
</tr>
</tbody>
</table>

3.9.3 Administration costs

These costs are difficult to estimate as they vary depending on the management type chosen by an IDB, for instance whether the IDB is part of a consortium. Dun Drainage Commissioners in Yorkshire is of a similar size in terms of catchment and length of watercourse to a potential South Cumbria WLMB. Therefore Dun Drainage Commissioners’ administration costs are considered typical for this size of IDB for the purposes of this report.

Dun Drainage Commissioners estimated administrative costs were £48,000 for 2010/11. However, Dun Drainage Commissioners is part of a wider consortia and if
the South Cumbria WLMB was not part of a consortia, the administration costs are likely to be higher to cover staffing and associated costs.

The report does not look at the additional administrative costs of starting up a new IDB that may cost the IDB. It is envisaged that these costs would be paid for out of a public works loan taken out by a South Cumbria WLMB and repaid over subsequent years. This is an area of cost analysis that will require further work by the South Cumbria Water Level Management Group and the Environment Agency.

The creation of an IDB is likely to result in a transfer of assets between public bodies. This report has not yet assessed a valuation associated with these assets.

3.10 Estimation of drainage rates and special levy

**Estimating the percentage contribution from drainage rates versus special levy**

All properties within an Internal Drainage District are deemed to derive benefit from the activities of an IDB. Every property is therefore subject to a Drainage Rate paid annually to the IDB.

For the purposes of rating, properties are divided into a) Agricultural Land and Buildings and b) Other Land (such as domestic houses, factories, shops etc). Occupiers of all "Other Land" pay Council Tax or Non-Domestic Rates to the Local Council (District or Unitary) who then are charged by the IDB. This charge is called the "Special Levy". The IDB, therefore, only demands Drainage Rates direct on Agricultural Land and Buildings and not for Occupiers of "Other Land" (i.e. residences, offices etc.).

The basis of this is that each property has been allotted an "Annual Value" which were last revised in the 1991. The Annual value is an amount equal to the yearly rent, or the rent that might be reasonably expected if let on a tenancy from year to year commencing 1 April 1988. This is the same basis on which Council Tax bands are currently set.

The Annual Value for a property remains the same from year to year. The proportion paid by Agricultural Land Drainage Rates versus Special Levy is the Annual Value of all the Agricultural Land and Buildings in the Internal Drainage District versus the Annual Value of all the "Other Land" within the Internal Drainage District. This can vary as properties are built or demolished. Each year the IDB lays a rate "in the £" to meet its estimated expenditure. This is multiplied by the Annual Value to produce the amount of Drainage Rate due on each Assessment. A breakdown of the rate in the £ is shown on the reverse of the Demand Note sent by an IDB to an Occupier to show how money is spent.

When Agricultural Land or Buildings upon which a rate is levied is changed to other uses, the occupier must notify the IDB as this may change the land use to “Other Land” and therefore move the land across to the Special Levy and out of Agricultural Land Drainage Rates.

The Special Levy is met by the Local Authority and is treated as general expenditure met by all households rather than targeted on to the occupiers of “Other Land” within
the Internal Drainage District, nor is the charge a separate part of their Council Tax Bill such as the Police Precept. However up to 86% of the Special Levy has historically been met by Formula Grant allocations from HM Treasury. Funding of Special Levy by Formula Grant is not ring-fenced to be spent only on Special Levy. The Formula Grant support for Special Levy used to be set year on year based on the previous year’s Special Levy demand, however Formula Grant is now set for whole Spending Review Period by the Government and as such is inflexible to changes in Special Levy changes in Period.

This report has estimated these annual values for agricultural and non-agricultural areas based on the land area in hectares of rural and urban land in the South Cumbria catchments, multiplied by a scaling factor. The scaling factor used to derive the agricultural annual value is £100 and for non-agricultural annual value £2,000. This is based on comparable data from IDBs with similar geographical and agricultural features to a South Cumbria WLMB.

The resulting division of costs of a South Cumbria WLMB between drainage rates and special levy are shown in Table 11 for both of the potential South Cumbria WLMB boundaries (‘Medway Letter’ and ‘Catchment’, the drainage benefit area and the remainder of the South Cumbria catchments (non-DBA).

Table 11: Estimated annual values and percentage contribution from drainage rates and special levy for a South Cumbria WLMB

<table>
<thead>
<tr>
<th>Rural Area (ha)</th>
<th>Urban Area (ha)</th>
<th>Agricultural Annual Value</th>
<th>Non-Agricultural Annual Value</th>
<th>Drainage Rates</th>
<th>Special Levy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: 'Medway Letter'</td>
<td>8290.46</td>
<td>10.62</td>
<td>£829,046.00</td>
<td>£21,240.00</td>
<td>97.50%</td>
</tr>
<tr>
<td>Option 2: 'Catchment'</td>
<td>28993.39</td>
<td>245.92</td>
<td>£2,899,339.00</td>
<td>£491,840.00</td>
<td>85.50%</td>
</tr>
<tr>
<td>Drainage Benefit Area (DBA)</td>
<td>6061.23</td>
<td>0.02</td>
<td>£606,123.00</td>
<td>£40.00</td>
<td>99.99%</td>
</tr>
<tr>
<td>Non-DBA in catchment</td>
<td>22932.16</td>
<td>245.90</td>
<td>£2,293,216.00</td>
<td>£491,800.00</td>
<td>82.34%</td>
</tr>
</tbody>
</table>

Estimating drainage rates and total special levy

The percentage split between drainage rates and special levy can then be applied to the estimates of operating costs for a South Cumbria WLMB. These are shown in Table 12 for the upper bound of estimated costs and Table 13 for the lower bound of estimated costs. The drainage benefit area and non-drainage benefit area data has been used to create another option (Option 2B) where a South Cumbria WLMB with a ‘catchment’ boundary is subdivided into two sub-districts paying differential rates in proportion to the estimated expenditure in each sub-district in order to differentiate between those who benefit the most from the function of a South Cumbria WLMB.
Table 12: Estimated drainage rates and special levy based on estimated operational costs of a South Cumbria WLMB ‘by man days’

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>£479,920</td>
<td>£488,601</td>
<td>£437,906</td>
<td>£50,696</td>
<td>£488,601</td>
</tr>
<tr>
<td>£467,931</td>
<td>£417,737</td>
<td>£437,876</td>
<td>£41,743</td>
<td>£479,620</td>
</tr>
<tr>
<td>£11,988</td>
<td>£70,864</td>
<td>£29</td>
<td>£8,952</td>
<td>£8,981</td>
</tr>
<tr>
<td>8290.46</td>
<td>28993.9</td>
<td>60,61.23</td>
<td>22,932.16</td>
<td>28,993.39</td>
</tr>
<tr>
<td>£56.44</td>
<td>£14.41</td>
<td>£72.24</td>
<td>£1.82</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 13: Estimated drainage rates and special levy based on estimated operational costs of a South Cumbria WLMB ‘by distance’

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>£346,897</td>
<td>£351,472</td>
<td>£305,512</td>
<td>£45,960</td>
<td>£351,472</td>
</tr>
<tr>
<td>£338,231</td>
<td>£300,496</td>
<td>£305,491</td>
<td>£37,844</td>
<td>£343,335</td>
</tr>
<tr>
<td>£8,665</td>
<td>£50,975</td>
<td>£20</td>
<td>£8,115</td>
<td>£8,136</td>
</tr>
<tr>
<td>8290.46</td>
<td>28993.9</td>
<td>60,61.23</td>
<td>22,932.16</td>
<td>28,993.39</td>
</tr>
<tr>
<td>£40.80</td>
<td>£10.36</td>
<td>£50.40</td>
<td>£1.65</td>
<td>N/A</td>
</tr>
</tbody>
</table>

From the estimates developed, it appears a South Cumbria WLMB is most financially viable if applied across the whole catchment (Option 2). Whilst a whole catchment...
South Cumbria WLMB with differential rates (Option 2B) looks less financially viable, this could still be used as the basis for a locally derived mechanism for balancing the costs of a South Cumbria WLMB more fairly across the catchment on a ‘beneficiaries pays’ principle. The South Cumbria Water Level Management Group should use these initial estimates as a starting point for discussions with those potentially paying drainage rates and special levy within a South Cumbria WLMB.

**Estimating the special levy contribution from each District Council**

The special levy for a South Cumbria WLMB would be split proportionately by annual value of non-agricultural land between Barrow Borough Council, Copeland Borough Council, Lancaster City Council, and South Lakeland District Council. For the purpose of this report, the estimated special levy to be paid by each local authority has been estimated on the percentage of the total WLMB boundary that occurs inside the boundary of each local authority. These areas are shown on Figure 07 and in Table 14. The estimated special levy to be paid by each local authority is shown in Table 15. It should be noted that where existing IDBs occur, a high percentage of the total special levy has historically been reimbursed to the local authority by central government. This funding is not ring fenced specifically for special levy, but continues to be provided to local authorities.

**Table 14: Area of a South Cumbria WLMB by local authority**

<table>
<thead>
<tr>
<th>South Cumbria Local Authority</th>
<th>Option 1: ‘Medway Letter’</th>
<th>Option 2: ‘Catchment’</th>
<th>Drainage Benefit Area</th>
<th>Catchment Non-DBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copeland BC</td>
<td>935</td>
<td>2305</td>
<td>446</td>
<td>1859</td>
</tr>
<tr>
<td>South Lakeland DC</td>
<td>7522</td>
<td>25728</td>
<td>5379</td>
<td>20349</td>
</tr>
<tr>
<td>Barrow BC</td>
<td>96</td>
<td>1048</td>
<td>58</td>
<td>990</td>
</tr>
</tbody>
</table>
Table 15: Estimated special levy by local authority (based on total cost: ‘by man days’)

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Special Levy Option 1: 'Medway Letter'</th>
<th>Special Levy Option 2: 'Catchment'</th>
<th>Special Levy Option 2B: 'Catchment with Differential Rates'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drainage Benefit Area</td>
<td>Non-DBA</td>
<td></td>
</tr>
<tr>
<td>Copeland BC</td>
<td>£1280.16</td>
<td>£5,492</td>
<td>£703.45</td>
</tr>
<tr>
<td>South Lakeland DC</td>
<td>£10,298</td>
<td>£61,306</td>
<td>£7,700.11</td>
</tr>
<tr>
<td>Barrow BC</td>
<td>£0.00</td>
<td>£2,497</td>
<td>£374.62</td>
</tr>
<tr>
<td>Lancaster CC</td>
<td>£277.94</td>
<td>£1567</td>
<td>£174.07</td>
</tr>
<tr>
<td>Total</td>
<td>£8,756</td>
<td>£70,864</td>
<td>£8,115.98</td>
</tr>
</tbody>
</table>

If central government did not make a contribution, it appears the only local authority likely to be significantly affected is South Lakeland District Council. It is recommended that the South Cumbria Water Level Management Group and Environment Agency work with South Lakeland District Council to develop a better estimate of what the division between drainage rates and special levy would be. They should also develop a better estimate of South Lakeland District Council’s special levy and what this would mean in terms of council tax and business rates to residents and businesses in the district council's area.

If ordinary watercourses are ‘transferred’ from the local authority to the IDB, the local authority would no longer need to spend the money received from Government for their own maintenance, and the sums could be redirected to special levy.
4 Conclusion and next steps

This report has set out the information available to support an initial consultation to assess whether an IDB in South Cumbria would be viable and have public support. Setting up IDBs is only one option that is available to landowners, farmers, householders and businesses in the Lyth Valley and this report only investigates this one option. Alternative options for the Lyth Valley that could be investigated include maintaining the pumping stations through informal partnerships, or creating areas of wetland and adapting farming practices to a changing landscape.

Two potential options for boundaries for a WLMB and the area of drainage benefit in South Cumbria have been identified: the Medway Letter boundary and the Catchment boundary. For either option, further work is likely to be required to confirm the validity of the boundaries, identify individual land and property boundaries, landowners and occupiers, and the annual value of property and land.

This report has given an indication of the watercourses and structures a future WLMB might maintain, an appraisal of areas of biodiversity importance within South Cumbria, and a high level assessment of the benefits and likely funding requirements of an IDB.

A consultation exercise was undertaken between November and December 2011 and consultees were asked to consider the questions outlined in Chapter 5. Analysis of responses received in this consultation are summarised in Chapter 6.

The next step for the SCWLMG is to decide if they wish to develop a more detailed proposal for the creation of a new IDB. This would need to include further details on the maintenance activities, impact on biodiversity, detailed funding requirements and drainage rates that landowners and occupiers would be expected to pay. This proposal would help form a justification statement which will be subject of a formal public consultation.
5 Consultation Questions

The consultation included general questions regarding the report, and then specific questions on the IDB as follows:

**Question 1:** Do you agree with the success criteria outlined in the Vision for the South Cumbria IDB?

**Question 2:** Would you like to see any additional success criteria?

**Question 3:** Are any of the success criteria wrong?

**Question 4:** Which do you think is the best boundary for a new IDB in the South Cumbria?

**Question 5:** What organisations, groups, grants and loans could be sought to assist with funding the start-up process for a new IDB in South Cumbria?

**Question 6:** Would you be prepared to pay the estimated drainage rates annually to receive the benefits described?

**Question 7:** Are you prepared to pay for the benefits outlined in the IDB success criteria, per annum, through council tax? If yes, what specific work/outcomes would you like to see the South Cumbria IDB delivering?
6 Consultation Analysis

Executive Summary

The Environment Agency have been supporting two community groups in North and South Cumbria who have been looking at the feasibility of forming new Internal Drainage Boards to manage water levels and land drainage in their areas of Cumbria. The groups would like to take over the management of land drainage pumping stations in the Waver and Wampool and Lyth Valley areas, currently owned and maintained by the Environment Agency. The Environment Agency and Defra have worked with the Association of Drainage Authorities (ADA) to produce national guidance to explain what procedures the community groups should follow to form new IDBs. To test this guidance, and to assist the community groups in developing their proposals, we produced local feasibility reports based on details provided by each of the community groups. These reports set out the location, proposals etc and they are available from https://consult.environment-agency.gov.uk/portal/ho/flood/new/idbs

The Environment Agency recently hosted a consultation to gauge public support for these proposals to form new IDBs. 523 people responded to the consultation in relation to the South Cumbria IDB proposals. There was generally a willingness to pay for the benefits of an IDB from landowners in the catchments, with less support demonstrated by residents. Just under half of the respondents supported a hydrological catchment boundary for a new IDB.

The following report details the responses to the key questions asked in the consultation in relation to the South Cumbria IDB proposals. Consultation responses for the North Cumbria IDB proposals are available in a separate report.

1.0 Introduction and Background

1.1 From 2009 to 2010, the Environment Agency undertook an economic appraisal of the river and asset maintenance work carried out in the Lyth Valley, and Waver and Wampool catchments. It concluded that it was not economically viable to continue maintaining and operating minor drainage channels and a number of land drainage pumping stations in these areas. The Environment Agency then notified landowners in January 2011 that it will cease operating a number of pumping stations in the catchments from January 2013 onwards.

1.2 As a result of this decision, landowners and members of the community set up the Lyth & Winster Land Drainage Group and the Waver Wampool and Wiza Waterways Group to discuss reverting to the original water level management regime by way of internal drainage boards.

1.3 One of the options that the community groups wished to investigate further was the possibility of setting up two new IDBs across these catchments to continue the operation and maintenance of these pumping stations.

1.4 As an internal drainage board has not been created in at least 30 years in England, Defra agreed to fund a project to research the creation of Internal Drainage Boards, as outlined in the Land Drainage Act of 1991. The Environment Agency has worked with the Association of Drainage Authorities (ADA) and community groups to produce national guidance and to pilot
the application of this guidance in South Cumbria and the Waver, Wampool and Wiza Catchments.

1.5 A consultation exercise was undertaken between 7th November and 19th December 2011 as an initial investigation to gauge public opinion to help the community groups determine whether an IDB in these locations is feasible. This consultation was hosted on the Environment Agency website and was promoted through the media. This report analyses the responses received as part of this consultation, but reaches no conclusions.

2.0 Size and Scale of Responses

2.1 A total of 581 responses were received across both proposed IDB Areas (Error! Reference source not found.). 523 people responded to South Cumbria IDB questions and the following analysis focuses on these responses.

Table 1 Distribution of responses received through consultation

<table>
<thead>
<tr>
<th>IDB of Interest</th>
<th>Email response directly to EA staff</th>
<th>Hardcopy Questionnaire - either posted directly to the EA or delivered in bulk via NFU / SCWLMG rep</th>
<th>Letter posted to the EA</th>
<th>Response to Liberal Democrat consultation - posted in bulk to the EA from Tim Farron’s Office</th>
<th>Online Consultation response</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both IDB Areas</td>
<td>50</td>
<td>226</td>
<td>17</td>
<td>76</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>South Cumbria IDB</td>
<td>50</td>
<td>226</td>
<td>17</td>
<td>76</td>
<td>144</td>
<td>513</td>
</tr>
<tr>
<td>North Cumbria</td>
<td>7</td>
<td>31</td>
<td></td>
<td>76</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>Grand Total</td>
<td>57</td>
<td>257</td>
<td>17</td>
<td>76</td>
<td>174</td>
<td>581</td>
</tr>
</tbody>
</table>

3.0 Distribution of responses – South Cumbria

3.1 This analysis has compared the number of residential addresses within the catchment boundary of the proposed IDB with the number of responses received to the consultation, to estimate response rates. Approximately 4% of the population living in the overall proposed IDB area has responded to the consultation. Locally, awareness of the proposals appears highest in the Lyth Valley area, with approximately 20-50% of the population responding to the consultation. In the other discrete IDB units, such as the Winster, the Bela, Ulverston, Barrow and Broughton-in-Furness, a small minority of the population have responded to the consultation.

3.2 Of the 523 responses received, just under half came from the Lyth Valley area, a fifth came from the Bela and Arnside areas, a fifth from the Winster and Grange areas and a small minority from the Barrow, Ulverston and Broughton areas combined. The rest were from outside of the proposed boundary, or did not identify an address.
4.0 Preferred Boundary – South Cumbria

4.1 Almost half of respondents favoured a Hydrological Catchment boundary for a new IDB. Just under a quarter favoured the Medway Letter boundary, a sixth did not agree with either boundary and a sixth stated that they did not want an IDB to form at all (Table 2).

4.2 Geographically, all respondents from the Ulverston area stated that they did not want an IDB. Respondents from the Duddon Estuary area generally favoured an alternative boundary or no IDB. Respondents from the Barrow, Grange, Lyth Valley and Arnside areas generally favoured a hydrological catchment - except in the upper catchments where the Medway letter or no IDB was favoured.

4.3 Three quarters of landowners who are willing to pay for an IDB would prefer a hydrological catchment. For those that answered as a resident this percentage reduces to a third, but is still the most favoured option (Table 2).

Table 2 Summary of responses to Question – Which do you think is the best boundary for South Cumbria? Figures in brackets equal the number of responses within this category

<table>
<thead>
<tr>
<th>Question: What is your preferred boundary?</th>
<th>Another Boundary</th>
<th>Hydrological Catchment</th>
<th>Medway Letter</th>
<th>No IDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined responses</td>
<td>16% (81)</td>
<td>49% (244)</td>
<td>23% (113)</td>
<td>12% (61)</td>
</tr>
<tr>
<td>Landowner</td>
<td>8% (17)</td>
<td>75% (167)</td>
<td>12% (26)</td>
<td>6% (13)</td>
</tr>
<tr>
<td>Resident (non-landowner)</td>
<td>22% (59)</td>
<td>32% (87)</td>
<td>28% (74)</td>
<td>18% (48)</td>
</tr>
</tbody>
</table>

5.0 Willingness to Pay – South Cumbria

5.1 In South Cumbria, looking at all those who answered the question as a resident, two-thirds were unwilling to pay for the benefits of an IDB compared to just over a quarter who were. In terms of landowners, two-thirds said they would be willing to pay for an IDB, compared to just under a quarter who were not (Table 3).

5.2 Geographically, the majority of residents and landowners who responded to the consultation from the Broughton and Ulverston areas were unwilling to pay for the benefits of an IDB. In the Barrow, Allithwaite and Winster areas, both residents and landowners were generally willing to pay for the benefits of an IDB.

5.3 Results were more mixed in the Lyth Valley and Bela areas. Generally both residents and landowners in the lower parts of the catchments were willing to pay for the benefits of an IDB, whilst residents and landowners in the upper catchment were generally not willing to pay.

---

1 Some people did not provide an answer for all of the questions, and blank responses (or those that were not applicable) have been removed from this analysis. Therefore the total number of responses for each question and category may not match with the total number who responded to the consultation.
Table 3 Summary of responses to Question – Are you willing to pay for an IDB in South Cumbria? Figures in brackets equal the number of responses within this category.

<table>
<thead>
<tr>
<th>Question: Are you willing to pay for a new IDB?</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landowner</td>
<td>67% (157)</td>
<td>24% (55)</td>
<td>9% (21)</td>
</tr>
<tr>
<td>Resident (non-landowner)</td>
<td>28% (82)</td>
<td>65% (189)</td>
<td>7% (19)</td>
</tr>
</tbody>
</table>

6.0 Common responses from both the North and South Cumbria consultation

6.1 The consultation provided an opportunity for people to expand upon the answers they provided above, and those comments that were frequently expressed have been listed below.

6.2 Success Criteria

- The public should be consulted on more than one option - there are alternatives to an IDB for water management and these need to be articulated, costed and compared to the IDB option. Also, different funding models for an IDB need to be compared, e.g. pumped drainage versus gravity drainage etc - the IDB should be obliged to seek the most cost effective solution to managing water levels to suit all needs.
- The success criteria / objectives as they stand are not SMART (specific, measurable, achievable, realistic and time-based). There is no reference to how they will be measured or assessed for achievement.
- No cost / benefit justification for an IDB has been presented. An IDB should only go ahead if it can be demonstrated that the economic benefits of the works outweigh the costs of maintaining the system.
- Unjustified focus on protection of infrastructure that does not relate to the level of Environment Agency withdrawal. The current document lists figures on numbers of housing/infrastructure in the area at flood risk. This could give the impression that this will all be protected by the activities of an IDB, which is not necessarily true.
- Reasons for returning to 2005 levels of maintenance not articulated - and could even conflict with stated aims of enhancing biodiversity.
- Place more relevance on the importance of food production, with an aim to improve the land for quality food production.
- Outline and justify what the benefits of an IDB are for the whole catchment, outside of the Drainage Benefit Area (DBA) and make clear exactly what work would be carried out by an IDB across the catchment.

6.3 Funding

- Key costs have been omitted. Whole life capital costs of the pumping stations need to be included in the IDB costs; the cost of complying with the Water Framework Directive; and the cost of achieving favourable conservation status for the various designated sites.
• Are the costs for the first year of an IDB likely to be higher due to the dilapidations which it will inherit from the Environment Agency not having worked on maintenance since 2005?
• Drainage within many areas of the proposed IDBs is by gravity. There is no mention within the proposals that a differential charge would be levied to recognise the different cost basis. This needs to be calculated and articulated.

6.4 Boundary

• Is a hydrological catchment legal?
• Only those who benefit from drainage should be included in a boundary and should restrict the IDB area to those properties (domestic residences and businesses) which would be at serious risk of flooding without it.
• The boundary with the most support from the community should be adopted
• A boundary should be drawn around those areas of the flood plain where there is to be a managed groundwater drawdown, excluding those areas where wetting up is proposed for environmental or other objectives

6.5 Willingness to Pay

• Only those directly benefiting from drainage should pay
• Charities, or those in agri-environment schemes for wetting up land, should not have to pay
• Farmers should pay for the maintenance of their own land
• Only willing to pay if the expenditure is more transparent and can be justified. Need to be clearer on how differential ratings would work to acknowledge that some benefit from pumps, some benefit from only gravity drainage and others receive no benefit at all - the list of beneficiaries needs further work.
• Save my taxes and use it somewhere more beneficial
• It is undemocratic to ask those who are not to benefit to pay for the very few who seek to gain. Current proposals appear to be a way for the wider community to subsidise land drainage and maintain the status quo which would only directly benefit landowners
• Would be prepared to pay if the objectives were broadened and clarified to include protection of specified areas of wetland, carbon retention and tourism

6.6 Other Comments

• There has not been enough public awareness raising - very few people outside of the immediate farming communities have been made aware of the proposals. In South Cumbria very few people outside of the Lyth Valley have been made aware of the proposals - every council tax payer should be notified
• The public should be asked the direct question, 'Do you support an IDB?'
• How will the make up of the Board be decided democratically? Membership of the current SCWLM Group needs to be provided
• There needs to be greater emphasis on the importance of agriculture; be clearer on what would happen to agriculture and dairy producers in these areas if an IDB were not to form; emphasise the importance of drainage to agriculture in these areas. Would farms be able to operate profitably and support their own drainage?
• Concerns over how an IDB would manage the conflicts of interests in these catchment between commercial/farming interests and that of the environment and its biodiversity
• Be clear what responsibilities would remain with the Environment Agency should an IDB be formed (i.e. which watercourses would remain main river etc).
• In South Cumbria several non contiguous catchments are brought together without any clear explanation of the costs associated with the drainage of each one. Makes no sense under any rationale other than spreading the costs to subsidise the Lyth Valley. A case should be made for inclusion of each of the separate proposed areas in the South Cumbria IDB
7.0 Local Authority and Groups Responses

7.1 Table 4 lists the organisations and groups who responded to this consultation. Twenty organisations responded only to the South Cumbria IDB proposals. Nine organisations to both the North and South Cumbria IDB proposals.

Table 4 List of Local Authorities & Groups who responded to the consultation

<table>
<thead>
<tr>
<th>IDB</th>
<th>Responded to South Cumbria Questions Only</th>
<th>Responded to Both South and North Cumbria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allithwaite Upper PC</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Arnside Residents and Shop keepers</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Beetham Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Broughton East Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Burton-in-Kendal Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Country Land and Business Association (CLA)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Copeland Borough Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>County Council Member</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Crosthwaite and Lyth Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cumbria County Council</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Cumbria Wildlife Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalton Hall Business Centre</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Federation of Small Businesses</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Friends of the Lake District</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grange Town Council</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Heversham Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Holme Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Lake District National Park Authority</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Levens Hall Estate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matson Ground Estate Co Ltd</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Milnthorpe Parish Council</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>National Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural England</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Farmers Union (NFU)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Land Agent on behalf of The Landowners of Croshwaite and Lyth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Society for the Protection of Birds (RSPB)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>South Lakeland District Council - Environmental Protection Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spokesperson for Whitbarrow Grove Residents Association - 5 houses &amp; 8 residents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urswick Parish Council</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| TOTAL | 20 | 9 |

7.2 Table 5 summarises the responses of key stakeholders who answered questions relating to the South Cumbria IDB proposals. Please note these responses are from officers within these organisations and authorities and may not necessarily represent the views of the organisation or elected members.
Table 5 Table summarising the responses from key stakeholder organisations in relation to the South Cumbria IDB proposals

<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumbria County Council</td>
<td>Both</td>
<td>No</td>
<td>No</td>
<td>Another boundary</td>
<td>• Any of the boundary options could be acceptable provided it is demonstrated that it is reasonable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• If the hydrological catchment option is preferred by the community groups then it should be demonstrated that there is some 'benefit' to those outside the drainage benefit area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• The Medway Letter option appears the fairest.</td>
</tr>
<tr>
<td>South Lakeland District Council</td>
<td>South Cumbria</td>
<td>Yes</td>
<td>Yes</td>
<td>Medway Letter</td>
<td>• Any establishment of IDB would impact on areas of work SLDC Environmental Protection Team currently carry out and in some cases may overlap depending on which option is considered for future progression.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• South Lakeland District Council (EPT) would require formal consultation on issues surrounding IDB finance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• South Lakeland District Council (EPT) would wish to be formally consulted in detail on both potential IDB boundaries and board membership.</td>
</tr>
<tr>
<td>Copeland Borough Council</td>
<td>South Cumbria</td>
<td>No</td>
<td>No</td>
<td>Hydrological catchment</td>
<td>• Unclear how the levy will be applied.</td>
</tr>
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<td></td>
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<td>• Cost of taking on current EA duties in the report only focuses on pumping stations</td>
</tr>
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<td></td>
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<td></td>
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<td></td>
<td>• Success criteria are not clearly stated.</td>
</tr>
<tr>
<td>Lake District National Park Authority</td>
<td>Both</td>
<td>No</td>
<td>No</td>
<td>Another boundary</td>
<td>• In principle, supports the creation of fully inclusive and representative water level management groups.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>• Would support an IDB boundary that: commands the support of all the community; complies with the UK and European legislation and; in which the beneficiaries pay.</td>
</tr>
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<td>• The Medway Letter most closely aligns to these principles, however it does still not take into account that wetland habitats (some of them SSSI, Higher Level Stewardship Schemes and peat soils) will not benefit from an IDB that seeks to re-instate drainage to 2005 levels, and which may be degraded by such management.</td>
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<tr>
<td></td>
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<td>• Would actively support water levels management groups (WLMG) with wider, more representative membership and vision.</td>
</tr>
<tr>
<td>Organisation</td>
<td>IDB</td>
<td>Funding sources clear</td>
<td>Agree with success criteria</td>
<td>Preferred boundary</td>
<td>Summary of comments</td>
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</tbody>
</table>
| Natural England | Both | No                     | No                         | Another boundary  | • Considers that the establishment of an IDB could help ensure sustainable management of water at a landscape scale.  
  • Not clear how the IDB would be judged to be providing a value for money service for those paying for its running and how it would be accountable.  
  • The consultation assumes that all land owners derive similar levels of benefit from the system, which is incorrect.  
  • The document fails to distinguish between different land management approaches.  
  • Not clear how the prospective IDB would seek to optimise its biodiversity duties alongside providing a service to landowners.  
  • A boundary drawn around ‘drainage benefit areas’ may be more appropriate than Medway Letter areas.  
  • Natural England owns over 1000ha of land in the proposed IDB area (as defined by Medway letter). Much of this is managed to hold water on site for the benefit of peat land wildlife, as such NE would receive little in direct benefit from the IDB. |
| RSPB | Both | No                     | No                         | Another boundary  | • The Vision Statements are vague and contradictory  
  • Unclear who would be charged special levy, and how differential levy could work.  
  • Reinstating the 2005 drainage regime will see ongoing damage to the habitats and species of the drained areas.  
  • Important that only areas which ‘derive benefit or avoid harm’ are included in the boundary and required to pay.  
  • See no benefit from the proposed IDB to RSPB landholdings, and do not believe it should fall within the boundary. |
<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
</tr>
</thead>
</table>
| Cumbria Wildlife Trust| Both      | No                    | No                         | Another boundary   | • There are implications within the documents that without IDBs homes, transport infrastructure, schools etc will be affected by flooding. \  
|                       |           |                       |                            |                    | • Not opposed in principle to the continued drainage of the area on the "beneficiary pays" principle. \  
|                       |           |                       |                            |                    | • Key elements of the expenditure costs are left out, such as the costs of pump replacement, the cost of complying with the Water Framework Directive, the cost of achieving favourable conservation status for the various designated sites. \  
|                       |           |                       |                            |                    | • Neither boundary constitutes a good boundary for an IDB. CWT would support an IDB boundary that is the genuine will of the whole community, that conforms to UK and EU legislation and in which the beneficiary pays. \  
|                       |           |                       |                            |                    | • Medway Letter most nearly aligns to these principles, but it does not take into account the large area of designated wetland, the HLS scheme areas, or areas of peat soils that will not derive benefits from an IDB. |
| National Trust        | South Cumbria | No                  | No                         | Another boundary   | • The DBA and Non-DBA terms are not well-explained \  
|                       |           |                       |                            |                    | • The success criteria and benefits include in the report are very generic and vague \  
|                       |           |                       |                            |                    | • Do not currently believe that either of the boundaries constitutes a good boundary for a future IDB. \  
|                       |           |                       |                            |                    | • Would support an IDB boundary that is the genuine will of the whole community, that conforms to UK and EU legislation and in which the beneficiary pays. \  
<p>|                       |           |                       |                            |                    | • Medway Letter most nearly aligns to these principles, but it does not take into account the large area of designated wetland, the HLS scheme areas, or areas of peat soils that will not derive benefits from an IDB. |</p>
<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
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</thead>
</table>
| CLA          | Both| Yes                    | South - yes, North - no     | Hydrological catchment | • Should be clearer that an IDB is not just about drainage for a few farmers in the immediate vicinity of the pumps, but provides drainage for the whole catchment and must and will work with conservation bodies to ensure conservation needs are met whilst carrying out any works in the areas  
• Would like to see costs for running the pumps and doing works reduced, and renewable energy options for running the pumps.  
• North Cumbria’s vision statement has no mention of working with others, conservation needs, managing expenditure/infrastructure. |
| NFU          | Both| No                     | Yes                         | Another boundary    | • Feel that some of the initial costs for setting up an IDB should come from the Environment Agency  
• Important that the board has representation of all levy payers and that it is fair and balanced between all groups.  
• Would like to see more relevance to the importance of Food production  
• The boundary should be set following full consultation with all that are concerned.  
• Would like to see greater flexibility which would allow a boundary to be adapted for specific areas that would provide the ideal solution for that particular IDB |
<p>| Milnthorpe Parish Council | South Cumbria | No Response | No Response | No IDB | • Milnthorpe Parish Council understands the Environment Agency’s decision to close the Lyth Valley pumping facilities but finds the proposal to widen the taxation base to pay for an internal drainage board totally unacceptable. |</p>
<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
</tr>
</thead>
</table>
| Holme Parish Council  | South Cumbria| No                    | No                         | Another Boundary   | • The boundary is too large and not clearly defined. - The Parish of Holme is unlikely to benefit, being on the very edge of the indistinct area shown. Recent history does not indicate a major flood risk.  
• To sum up we do not feel that the proposed additional funding is justified for the parish of Holme |
| Urswick Parish Council| South Cumbria| Yes                   | Yes                        | Medway Letter      | • The Council considers that the proposed internal drainage board would be of benefit only to certain landowners. The majority of council tax payers would therefore be contributing to something which has little advantage for them. |
| Grange Town Council   | South Cumbria| No Response           | No Response                | Another Boundary   | • The Town Council considers that the drainage currently carried out by the Environment Agency is solely for the benefit of agriculture.  
• Allowing the land to revert to wetland would benefit wildlife and could offer opportunities for diversification into tourism-related activity  
• Grange does not benefit from the Lyth Valley pumps, and Grange residents should not be expected to pay for drainage which would benefit only a few businesses and would not benefit the town or its residents in any way.  
• The proposals have not been widely publicised and many residents remain unaware of the proposal, which if implemented would directly impact their Council Tax charge. |
<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
</tr>
</thead>
</table>
| Crosthwaite and Lyth Parish Council     | South Cumbria | No Response          | No Response                | Another Boundary  | • The main reason for the inclusion of the South Lakes area into this IDB is to generate enough income to continue with the pumping of water from farm land in the Lyth Valley, which does not benefit residents living outside the valley.  
• The Parish Council will not support any IDB requiring the use of public funds’, i.e. funds raised through Council Tax precept and/or Agricultural Rates. |
| Allithwaite Upper PC                    | South Cumbria | Don’t know            | Don’t Know                  | Medway Letter     | • We have concerns regarding the proposed extent of the catchment area/proposed boundaries resulting in residents who do not have any direct benefit from the scheme bearing the cost. |
| Beetham Parish Council                  | South Cumbria | Yes                   | No                          | Medway Letter     | • IDB proposes to re-establish pre-devolution arrangements & the 2005 EA maintenance programme, but makes no attempt to justify this.  
• The proposed IDB seems to have no cost-effectiveness criteria  
• SCWLMB claims that upper catchment areas have a (financial) responsibility for control of their water run-off, even if they don’t benefit. This would be exceptional, and inconsistent with the Land Drainage Act 1991 and subject to legal challenge (EA Initial Feasibility Report sec 3.5.2)  
• IDB membership must be fully representative of those willing (or obliged) to fund it. |
<table>
<thead>
<tr>
<th>Organisation</th>
<th>IDB</th>
<th>Funding sources clear</th>
<th>Agree with success criteria</th>
<th>Preferred boundary</th>
<th>Summary of comments</th>
</tr>
</thead>
</table>
| Burton-in-Kendal Parish Council   | South Cumbria | No                     | No                         | Another Boundary  | • More needs to be said about the democratic selection and control of the proposed new public authority members.  
    • The Environment Agency should ensure that funding is made available to set up the new organisation  
    • Burton-in-Kendal Parish Council is unable to agree with the proposal that residents and businesses who receive no service or benefit and have no control over the IDB should be taxed to pay for it. |
| Heversham Parish Council          | South Cumbria | No Response            | Don’t know                 | Another Boundary  | • Heversham Parish Council recognises that an entity is needed to oversee drainage and an IDB is one option.  
    • We would have preferred to see the criteria that that led to the selection of an IDB as the suggested mechanism set out for comment. We want to see the options for governance, funding, range of costing scenarios (and how they will be affected by the various boundary options) and the benefits each will provide. |
| Broughton East Parish Council      | South Cumbria | Yes                    | Yes                        | Medway Letter     | • It seems inappropriate to charge any cost other than to those immediately benefiting from the proposals. The wider catchment area includes part of the Parish of Broughton East which is far away from any possible benefit and our belief is that a layman’s view of the situation would be that the matter is not relevant to our Parish at all. That view is shared by this Parish Council and should be noted accordingly. |
7 Appendices

7.1 Detailed Maps
7.2 Detailed flow diagram of steps required for the creation of an IDB (reproduced from Chapter 4 of the National Guidance Document)

1. Consider need and then options for managing water levels

2. Community group or local partnerships decides to investigate forming IDB

3. Identify support for potentially creating an IDB e.g. local authorities, communities and landowners

4. Form a stakeholder steering group
   - develop 'success criteria'
   - initiate risk register

5. Evidence and information gathering (This continues throughout the setup process)

6. Identify proposed boundaries

7. Identify beneficiaries

8. Consult local community and interested parties on success criteria, proposed boundaries and beneficiaries

- Revise proposed boundaries
- Revise beneficiaries

9. Complete ‘Schedule of Assets’

10. Estimate operating costs

11. Biodiversity audit and environmental impacts assessed

12. Estimate drainage rates and special levy

13. Select name for the proposed new IDB

14. Prepare justification statement for forming new IDB.

15. Public consultation on justification statement, viability, affordability and public willingness for IDB, and revise proposal in light of consultation
16 Identify potential appointed elected members

17.1 Submit proposal, including all relevant evidence and consultation responses to Environment Agency

EA considers merit to proposal

EA accepts proposal

EA returns proposal to group proposing

Group consider comments from EA and if they wish submit proposal to Minister

Minister and Defra consider proposal

Minister accepts proposal and directs EA to prepare scheme

Minister rejects proposal and informs group of decision

17.2 EA prepares scheme for submission to Minister

Draft scheme to steering group

EA sends draft scheme to Defra for checking

17.3 EA advertises scheme as required by the Land Drainage Act 1991 - with a 1 month objection period

18.1 Defra draft order confirming scheme

- Advertised for 1 month

18.2 If objections the Minister may call a public local inquiry

No objections

18.3 Sealed order prepared by Defra

- 30 day advertising period

18.4 Confirmed order

18.5 Instrument of appointment includes the names of the first elected members appointed by the Minister.
### 7.3 Detailed pumping station maintenance costs (EA)

<table>
<thead>
<tr>
<th>Year</th>
<th>Electrical Maintenance Costs</th>
<th>Electrical Repair Costs</th>
<th>Mechanical Maintenance Costs</th>
<th>Mechanical Repair Costs</th>
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</thead>
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<tr>
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<td>2005/06</td>
<td>2006/07</td>
<td>2007/08</td>
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<tr>
<td>Levens Catchwater</td>
<td>£1,778.27</td>
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<tr>
<td>Poolbridge</td>
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<tr>
<td>Ulpha</td>
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<tr>
<td>Johncales</td>
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### 7.4 Detailed pumping station running costs (EA)

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<tr>
<td></td>
<td>KWH</td>
<td>Cost</td>
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<td>Cost</td>
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<td>Cost</td>
<td>KWH</td>
<td>Cost</td>
<td>KWH</td>
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</tr>
<tr>
<td>John Scales</td>
<td>78,407</td>
<td>£3,709.79</td>
<td>60,797</td>
<td>£3,269.07</td>
<td>19,897</td>
<td>£3,201.99</td>
<td>37,848</td>
<td>£4,336.70</td>
<td>17,152</td>
<td>£1,601.05</td>
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<tr>
<td>Levens Catchwater</td>
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<td>£2,383.02</td>
<td>13,593</td>
<td>£2,244.43</td>
<td>15,344</td>
<td>£2,182.75</td>
<td>13,422</td>
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<td>£19,709.83</td>
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</tbody>
</table>

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7.5 References

Association of Drainage Authorities. A Vision for Internal Drainage Boards in England and Wales
Black Sluice IDB Business Plan 2010 - 2011
Black Sluice IDB http://www.blacksluiceidb.gov.uk/
Caldicot and Wentlooge Levels IDB http://www.caldandwentidb.gov.uk/
DEFRA Flood and Water Management Act 2010 Factsheet: What does the Flood and Water Management Act mean for internal drainage boards (IDBs)?
DEFRA Flood and Water Management Act 2010 Factsheet: What does the Flood and Water Management Act mean for Local Authorities?
DEFRA, Taking forward the draft Flood and Water Management Bill. November 2009
ENVIRONMENT AGENCY, Derwent Catchment Flood Management Plan, 2008
ENVIRONMENT AGENCY, Kent and Leven Catchment Flood Management Plan, 2008
HALCROW, Environment Agency Lyth, Wampool and Waver Maintenance strategic study, March 2010
Lindsey Marsh Drainage Board http://www.lmdb.co.uk/lincsdbs.html
Shire Group of IDBs, viewed 10 March 2010, http://www.shiregroup-idsbs.gov.uk
Water Level Management Alliance http://www.wlma.org.uk/