HYMANS ROBERTSON

Environment Agency Closed Fund

ACTUARIAL VALUATION 2010

Valuation Report as at 31 March 2010

PUBLIC SECTOR

Contents

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1 Executive summary

This paper sets out the results of the 2010 actuarial valuation for the Environment Agency Closed Fund ('the Fund') as at 31 March 2010.

Whilst we have carried out a conventional actuarial valuation, the calculations are of greatest use as a platform for providing expenditure forecasts to Defra (the Department for Environment, Food and Rural Affairs), and for Defra to place a value on liabilities in its annual accounts (which use slightly different prescribed valuation assumptions outlined by Treasury Guidance in their Public Expenditure System note). The expenditure forecasts are shown in Appendix M.

In June 2010, the new Government announced its intention to change the inflation link for pension increases from RPI to CPI. We expect this to reduce the level of future pension increases that the Fund will award from April 2011, thereby improving the past service funding position.

Funding position

The table below summarises the financial position of the Fund at 31 March 2010 in respect of benefits earned by members up to this date.

Past Service Position	(£m)
Past Service Liabilities	906
Market Value of Assets	125
Surplus / (Deficit)	(781)
Funding Level	**14%**

Due to a combination of good experience and revised assumptions, Defra's expenditure forecasts for the next 3 years have reduced by an average of around £1.5m a year (compared to the latest estimates based on the 2007 valuation data).

Experience has been good

The experience of the last three years has been favourable, with the funding level improving from 9% at 2007 to 14% at 2010. The key reasons behind this improvement are:

- The 2007-2010 mortality experience has been higher than the assumptions used for the 2007 valuation, resulting in the Fund paying out £1m a year less in pension than anticipated at 2007.
- Pension increases applied in April 2008, 2009 and 2010 have been below (averaging out at 2.9% p.a.) the assumption made in 2007 (3.2% p.a.).
- The market value of the Fund's holdings in two index-linked gilts have appreciated, as the capital markets have become more concerned about the outlook for future inflation.

How have assumptions changed?

The liabilities of the Closed Fund are driven by two key assumptions; pension increases and longevity. These have been adjusted at this valuation as follows:

- pension increases continue to be based on 'breakeven' inflation implied by the bond markets (3.8% a year at 2010), but adjusted downwards to 3.0% to allow for the Government's recent announcement to link future pension increases to CPI and an assumed risk premium implicit in the pricing of index-linked gilts;

- given the relatively poor fit of the current longevity assumptions, more accurate longevity assumptions tailored to the particular characteristics of the membership of the Closed Fund using Club Vita research have been adopted; and
- future longevity improvements are now by reference to 'year of birth' projections for insurance companies.

The future

Looking ahead, the outlook is

- that benefit payments are expected to reduce rapidly over time (but there will be a long tail of payments);
- the duration of the Fund's liabilities will continue to reduce as members age and due to natural mortality;
- particular attention should continue to be paid to the Fund's mortality experience with regular monitoring; and
- work will continue on discharging the Pre 74 Pension Increase Recharge liabilities back to other LGPS funds (further detail of this is contained in Appendix J and K).

Douglas Anderson

Fellow of the Institute and Faculty of Actuaries

Richard Warden

Fellow of the Institute and Faculty of Actuaries

For and on behalf of Hymans Robertson LLP

14 March 2011

2 Introduction

We have carried out an actuarial valuation of the Environment Agency Closed Fund as at 31 March 2010. This is our report to the Environment Agency ('the Administering Authority') on the results of the valuation. A separate report relates to the Active Fund.

Purpose

The main purposes of this valuation are:

- to monitor the actual experience of the Fund compared to the assumptions made at the last valuation;
- to provide a fresh platform for the future expenditure projections;
- to quantify the sum that would be required if assets were to be set aside to meet the liabilities in full;
- to enable completion of all relevant certificates and statements in connection with all relevant regulations; and
- to comment on the main risks to the Fund that may result in future volatility in the funding position or future expenditure.

Scope

This report is provided solely for the purpose of the Administering Authority and Defra to consider the management of the Fund and, in particular, to fulfil their and our statutory obligations. It should not be used for any other purpose (e.g. for accounting purposes under FRS17 / IAS19). It should not be released or otherwise disclosed to any third party other than Defra, CLG and NAO except as required by law or with our prior written consent, in which case it should be released in its entirety.

Hymans Robertson LLP accepts no liability to any other party unless we have expressly accepted such liability.

Reliances and limitations

This valuation report complies with all of the relevant regulations and professional standards, as set out in Appendix A.

The figures in this report are based on our understanding of the benefit structure of the LGPS as at 31 March 2010. Details of this are provided in Appendix E.

The results of the valuation are dependent on the quality of the data provided to us by the Administering Authority and their Third Party Administrators (Capita Hartshead) for the specific purpose of this valuation. We are satisfied that the data provided was fit for the purposes of this valuation. This data is summarised in Appendix F.

3 About the Fund

The Fund is part of the Local Government Pension Scheme (LGPS) and is a multi-employer defined benefit pension scheme. It is contracted out of the State Second Pension.

The Fund was created in 1989 at the time of the privatisation of the water industry. Prior to 1989 the members of the Fund were actively employed, but after privatisation most did not have a role in the new water companies and were therefore redundant. For those aged 50 or over, this led to their pensions being brought into payment early. Those made redundant under age 50 were awarded a deferred pension. Hence the Fund has no active members and no new accrual of benefits.

The financing of the Fund's liabilities is unique in the family of local government pension funds. The benefits are met via Grant-in-Aid (GiA) funding by the Department for Environment, Food and Rural Affairs (Defra) under section 173 of the Water Act 1989, the terms of the Memorandum of Understanding between Defra and the Environment Agency's Pension Committee and letters exchanged between the Environment Agency and Defra's Accounting Officers (see Appendix B).

Since April 2006 a GiA funding mechanism has been in place which involves Defra paying capital contributions based on the expected benefit expenditure over the following six months. The initial liability projections used to derive these payments were based on the data and assumptions collected for the 2004 valuation and then updated at the 2007 valuation and again at 31 March 2009.

Funding Strategy Statement

The Administering Authority prepares a Funding Strategy Statement (FSS) in respect of the Fund, in collaboration with me (the Fund's actuary) and after consultation with the Fund's employers and investment adviser. The FSS has been reviewed as part of the 2010 triennial valuation exercise and we have taken account of this as part of our valuation of the Fund. This is included in Appendix C along with the Statement of Investment Principles for the Fund in Appendix D.

Funding objectives

The overriding funding principles for the Fund upon which our valuation is based are to ensure that sufficient funds are available to meet all liabilities as they fall due for payment.

What is the cost of members' benefits?

The cost of members' benefits depend on the profile of the membership, the benefits promised to members, the amount of benefits payable and when and for how long the benefits will be paid.

Changes in the profile of the membership are discussed in Section 6 and described in more detail in Appendix F.

The Fund provides pensions and other benefits to members and their beneficiaries. The benefits in force on the valuation date are set out in the following pieces of legislation:

- The Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 (the "Benefits Regulations") as amended.
- The Local Government Pension Scheme (Administration) Regulations 2008 (the "Administration Regulations") as amended.

- The Local Government Pension Scheme (Transitional Provisions) Regulations 2008 (the "Transitional Regulations") as amended.
- Local Government Pension Scheme (Miscellaneous) Regulations 2009.

The timing of benefit payments depend on future experience, such as levels of future inflation and how long pensioners will live in retirement. In assessing the expected cost of members' benefits, we need to use actuarial assumptions about such factors. We explain the actuarial assumptions later in this report.

What are the Fund's assets?

The Fund's assets are invested by the Administering Authority. The market value of assets at 31 March 2010 (excluding money purchase AVC funds) was £125m, as shown in the audited accounts for the Fund for the period ending on 31 March 2010 that have been provided to me by the Administering Authority. No part of the Fund was comprised of insurance policies at 31 March 2010.

4 Funding method and assumptions

We have used a funding method and set of assumptions for this valuation that are consistent with the Administering Authority's funding objectives set out in its Funding Strategy Statement.

Methodology

The method of valuation, as per the previous valuation, is based on the projected accrued benefit method. A description of this method is set out in Appendix G.

The level of contribution payable to the Fund is not directly determined from the past service funding position. Instead, a cash flow approach is used where contributions are paid by Defra on a six monthly basis, depending on expected benefits and expenses payable from the Fund for the following six months.

Actuarial assumptions

In the actuarial valuation, we must use assumptions about the factors affecting the Fund's finances in the future. Broadly speaking, our assumptions fall into two categories – financial and demographic.

Demographic assumptions typically try to forecast **when** exactly benefits will come into payment and what form these will take. For example, when members will retire (e.g. at their normal retirement age or earlier), how long they will then survive and whether they will exchange some of their pension for tax-free cash.

Financial assumptions typically try to predict the **size** of these benefits. For example, how members' pensions will increase over time. In addition, the financial assumptions also help us to estimate how much all these benefits will cost the Fund in today's money.

Details of our recommended assumptions for this valuation are set out below.

Financial assumptions

A summary of the main financial assumptions adopted for the valuation of members' benefits are shown below.

		31 March 2010	
Assumption	**Description**	**Nominal**	**Real**
Pension Increases	Market expectation of long term future 'break even' retail price inflation as measured by the difference between yields on fixed and index-linked Government bonds at the valuation date, less 0.8% p.a.	3.0%	-
"Gilt-based" discount rate	Yield on fixed interest (nominal) and index-linked (real) Government bonds	4.5%	1.5%

Discount rate

The funding valuation is effectively a budgeting exercise, to assess the funds needed to meet the benefits as they fall due. In order to place a current value on the future benefit payments from the Fund, we need to 'discount' these future cashflows back to the valuation date at a suitable rate.

Different valuations can be categorised by the approach taken to setting the discount rate. For example, under the accounting standard IAS19, the discount rate is determined as the yield on AA-rated corporate bonds. By comparison, for this valuation, we have assumed that the discount rate is equal to the yield on the types of assets held by the Fund if it were fully funded i.e. the return on Government bonds ('gilts').

Price inflation / pension increases

At this valuation we have had to consider the following areas when setting the pension increase assumption:

- the Chancellor of the Exchequer announced in his Emergency Budget on 22 June 2010 that the Consumer Price Index (CPI) rather than the Retail Prices Index (RPI) will be the basis for future increases to public sector pensions in payment and in deferment. We have allowed for this in our valuation calculations as at 31 March 2010.

- the volatility present in the bond markets due to supply and demand issues, including the premium that investors are prepared to pay for inflation protection. We have estimated that this has caused inflation expectations to be 0.3% p.a. higher than would otherwise be the case; and

- the allowance that should be made for the duration of the liabilities (9.5 years) bearing in mind that the shape of the Bank of England inflation curve has changed since 2007 and is clearly sloping upwards at longer durations. At the 2007 valuation the method of deriving inflation relied on gilts that are due to be redeemed in 15 or more years.

At the previous valuation, the assumption for RPI was derived from market data as the difference between the yield on long-dated fixed interest and index-linked government bonds[1]. At this valuation, we have considered all the above aspects and concluded that setting a pension increase assumption at 3.0% p.a. is a prudent assumption. This is equivalent to adjusting the market derived RPI rate downwards by 0.8% p.a.

Longevity

The main demographic assumption to which the valuation results are most sensitive is that relating to the longevity of the Fund's members. For this valuation, we have adopted assumptions which give the following average future life expectancies for members:

Assumed life expectancy at age 65	Deferred Pensioners	Current Pensioners
2007 valuation longevity	22.8	21.1
2010 valuation - baseline only	19.3	19.5
2010 valuation - with improvements	21.1	20.5

The figures in the above table are weighted averages for the membership of the Fund. Further details of the mortality assumptions adopted for this valuation can be found in Appendix H.

Assets

We have taken the assets of the Fund into account at their market value as indicated in the audited accounts for the period ended 31 March 2010.

In our opinion, the basis for placing a value on members' benefits is compatible with that for valuing the assets - both are related to market conditions at the valuation date.

[1] For this purpose, I compared the yields on the FTSE Actuaries UK Gilt Over 15 Years Index and the FTSE Actuaries Index-Linked Gilts (3% Inflation) Over 15 Years Index.

5 Funding position at 31 March 2010

The Administering Authority has prepared a Funding Strategy Statement which sets out its funding objectives for the Fund. This involves Defra meeting expected future expenditure as it emerges, whilst retaining a ‘fluctuation reserve’, which is intended to be broadly equivalent to one year’s expenditure.

The liability valuation figures provided represent the sum that would be required if it were intended to purchase gilts to meet the future liabilities. The ‘fluctuation reserve’ is not intended to be used until sufficient liabilities are discharged to raise the funding level to 100%.

The table below shows the funding position (ratio of the value of assets to the assessed cost of members’ past service benefits) at 31 March 2010:

Valuation Date	31 March 2010
Past Service Position	**(£m)**
Past Service Liabilities	
Deferred Pensioners	133
Pensioners	762
Pre 1974 Pension Increase Recharges	10
Total Liabilities	906
Market Value of Assets	125
Surplus / (Deficit)	**(781)**
Funding Level	**14%**

At 31 March 2010 the funding level was 14%.

A comparison of the results of this valuation and the previous one at 31 March 2007 is provided in Appendix I.

6 Funding position: changes since the previous valuation

The previous formal actuarial valuation of the Fund was carried out with an effective date of 31 March 2007. Since then, there have been changes to the Fund and its membership and to the economic environment in which the Fund operates. Many of these changes have affected the valuation results and these are summarised below.

Changes to the Fund's benefit structure

Major changes to the benefit structure of the LGPS took effect from 1 April 2008. However, the introduction of the new benefit structure has not affected the liabilities payable by the Fund. They are not responsible for the change in the funding position between 31 March 2007 and 31 March 2010.

Changes to the Fund's membership

The Fund membership has changed since the previous valuation, as members have left the Fund, retired and died. Whilst membership changes were anticipated at the previous valuation, the actual changes have inevitably not exactly matched the assumptions made at the previous valuation.

The table below compares the average ages of the Fund membership at 31 March 2007 and 31 March 2010.

Maturity Profile	2010	2007
Average age weighted by liability:		
Deferred Pensioners	55	54
Pensioners	76	75

The Fund has matured since the previous valuation as would be expected with a fund closed to new members. Deferred members are, on average, closer to retirement and the portion of the total assessed value of accrued benefits attributable to pensioner members has increased.

Further details of the Fund membership and its changes since the previous valuation are given in Appendix F.

Changes to the Fund's assets

Actual investment returns over the intervaluation period (7.5% p.a. on average) exceeded those assumed at the 2007 valuation (4.5% p.a.). The value of the Fund's assets has risen since 31 March 2007 (from £100m to £125m).

Changes to the estimated cost of the Fund's liabilities

Economic factors

The underlying bond yields that form the foundation of our discount rate assumption were the same at 31 March 2010 as they were at the previous valuation. The discount rate we have used to estimate the cost of future benefit payments is therefore unchanged.

Benefit payments themselves are linked to inflation – via pension increases and also salary increases. Market expectations of inflation, as measured by the Retail Prices Index (RPI), have risen since the previous valuation. However, this has been offset by the Government's policy to link future pension increases to the Consumer Prices Index (CPI) and other analysis we have carried out as explained earlier.

The overall effect of economic factors on the value of the Fund's liabilities at this valuation has been to decrease the value.

Demographic factors

The value placed on the Fund's liabilities is also affected by when future benefits are expected to come into payment and how long they are expected to be paid for. A key factor in this is the life expectancy of members.

The table below provides an analysis of the demographic experience and change in membership profile of the Fund over the three years to 31 March 2010.

2007 - 2010 Pensioner Mortality Relative to 2007 Assumptions	Numbers of Deaths			Amounts of Pension Ceasing (£000s)		
	Actual	Expected	% Diff	Actual	Expected	% Diff
Ill Health Pensioners	376	410	-8%	1,615	1,919	-16%
Age Pensioners Former Officers	943	774	22%	7,319	6,684	10%
Age Pensioners Former Manuals	708	663	7%	2,400	2,330	3%
Dependants	1,456	1,132	29%	4,099	3,551	15%
Total	3,483	2,979	17%	15,432	14,484	7%

The anticipated members above are based on the assumptions adopted at the 2007 formal valuation.

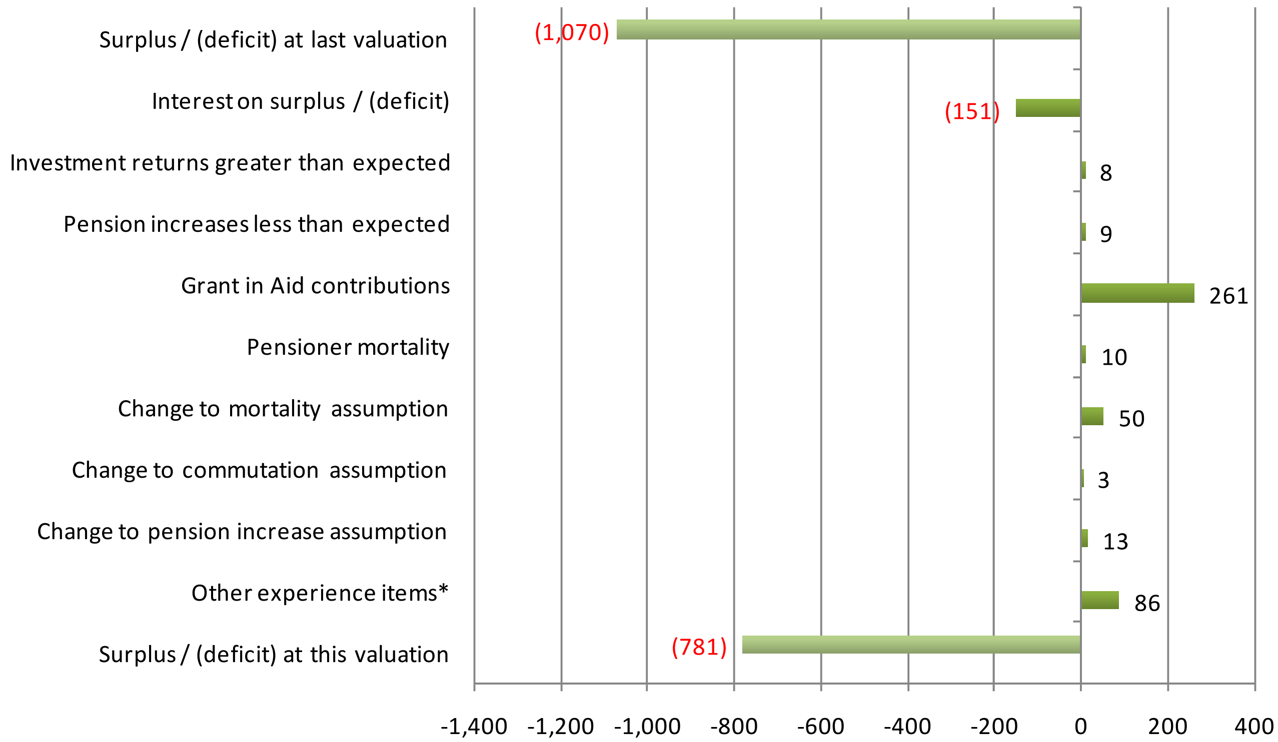
Pensioner mortality over the 3 year period has actually been higher than anticipated in the 2007 assumptions. This is surprising given evidence of increased longevity we have seen elsewhere but not to be completely unexpected due to the nature of the job former employees carried out. The same trend was seen at 2007. The actual experience over the last 3 years will not necessarily be repeated in the future.

The assumptions relating to the longevity of current and future pensioners have changed since the previous valuation, to reflect the recent experience of the Fund and other evidence published by the Actuarial Profession.

The overall effect of changes in demographic factors has been to increase the value of the Fund's liabilities.

Summary of changes to the funding position

The chart below illustrates the factors that caused the funding position to improve between 31 March 2007 and 31 March 2010:



* The 'Other experience items' gain of £86m is higher than might normally be expected for a fund with no active membership. This is due to members' Guaranteed Minimum Pension (GMP) entitlements. The administrator has confirmed that a 'GMP Cleansing' exercise was undertaken in late 2008/early 2009 following information received from the Department of Work and Pensions (DWP). This resulted in some revisions to GMP data due to the historical nature of the data. In addition, due to the nature of the data submission, the 2007 valuation of liabilities relied on initial rather than revalued GMP for certain members. Work was done on a detailed data specification for this valuation that should eradicate any future issues in this area. The overall effect of these changes to GMP is to reduce the Fund's liabilities at this valuation.

7 Expenditure Projections

Defra continue to make payments to the Fund every six months that are calculated to meet projected benefit expenditure over the following six months. The payments for 2009/10 were £87.1m for the year.

Projected benefit expenditure includes the following items:

- pension and lump sum benefits payable to pensioners;
- outgoing transfer values for deferred members;
- pre 1974 pension increase recharges; and
- administration expenses.

Details of the expected projected benefit expenditure are shown in Appendix M. Contributions payable by Defra over the next 3 years are expected to be £82.7m for 2010/11, £79.7m for 2011/12 and £78.2m for 2012/13.

8 Risk assessment

The valuation results and expenditure projections depend critically on the actuarial assumptions that are made about the future of the Fund. If all of the assumptions made at this valuation were exactly borne out in practice then the results presented in this document would represent the true cost of the Fund as it currently stands at 31 March 2010.

However, no one can predict the future with certainty and it is unlikely that future experience will exactly match all of our assumptions. The future therefore presents a variety of risks to the Fund and these should be considered as part of the valuation process.

In particular:

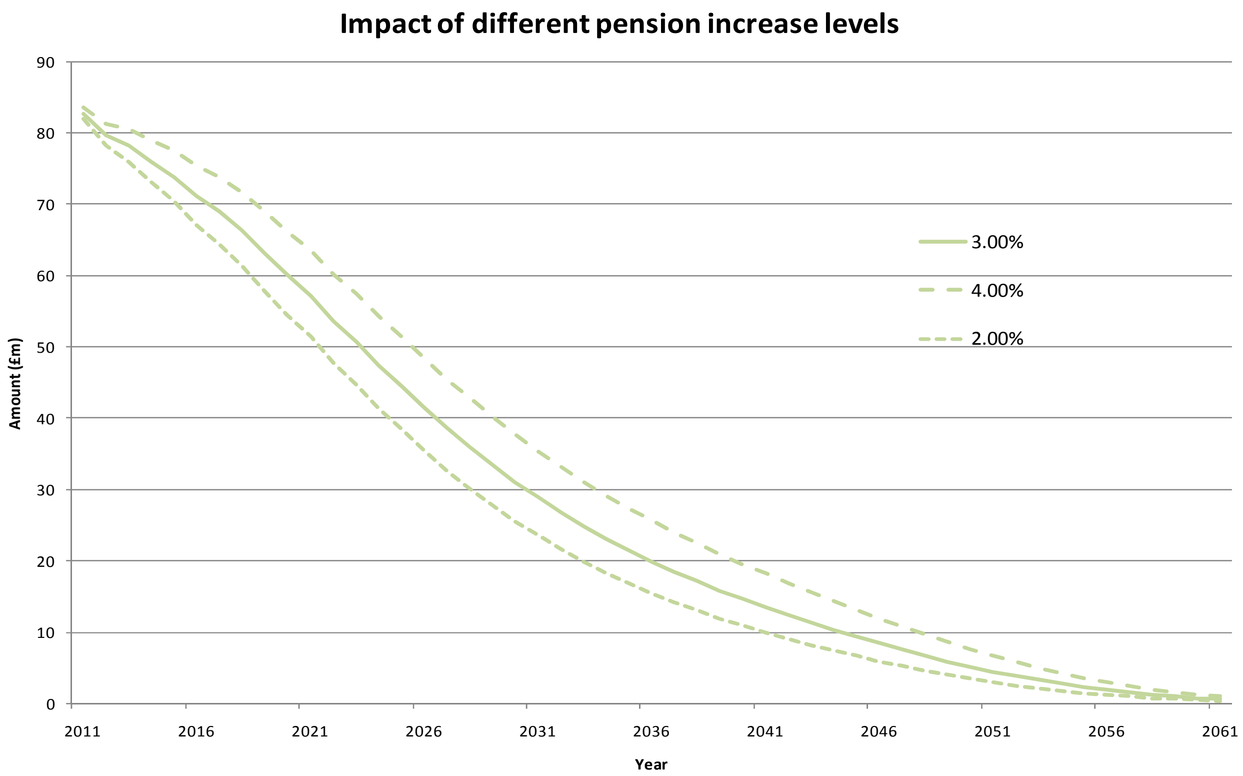
- The main risks to the financial health of the Fund should be **identified**.
- Where possible, the financial significance of these risks should be **quantified**.
- Consideration should be given as to how these risks can then be **managed**.
- These risks should then be **monitored** to assess whether any risk management strategy is actually working.

This section investigates the potential implications of the actuarial assumptions not being borne out in practice.

Set out below is an assessment of the two main risks to the Fund – inflation risk and longevity risk - and their effect on the expenditure projections.

Inflation risk

Pension increases are linked to price inflation. If pension increases are higher than assumed, the expected cashflow expenditure will increase and the funding position will deteriorate. The following chart illustrates the sensitivity of the expected cashflows to either an increase (to 4.0% p.a.) or decrease (to 2.0% p.a.) in the inflation assumption.



The table below shows how the valuation results at 31 March 2010 are affected if pension increases are assumed to be higher or lower than expected.

	Impact	
Pension increase assumption	Funding level	Deficit (£m)
2.0% p.a.	15%	(726)
3.0% p.a. (2010 valuation)	14%	(781)
4.0% p.a.	13%	(842)

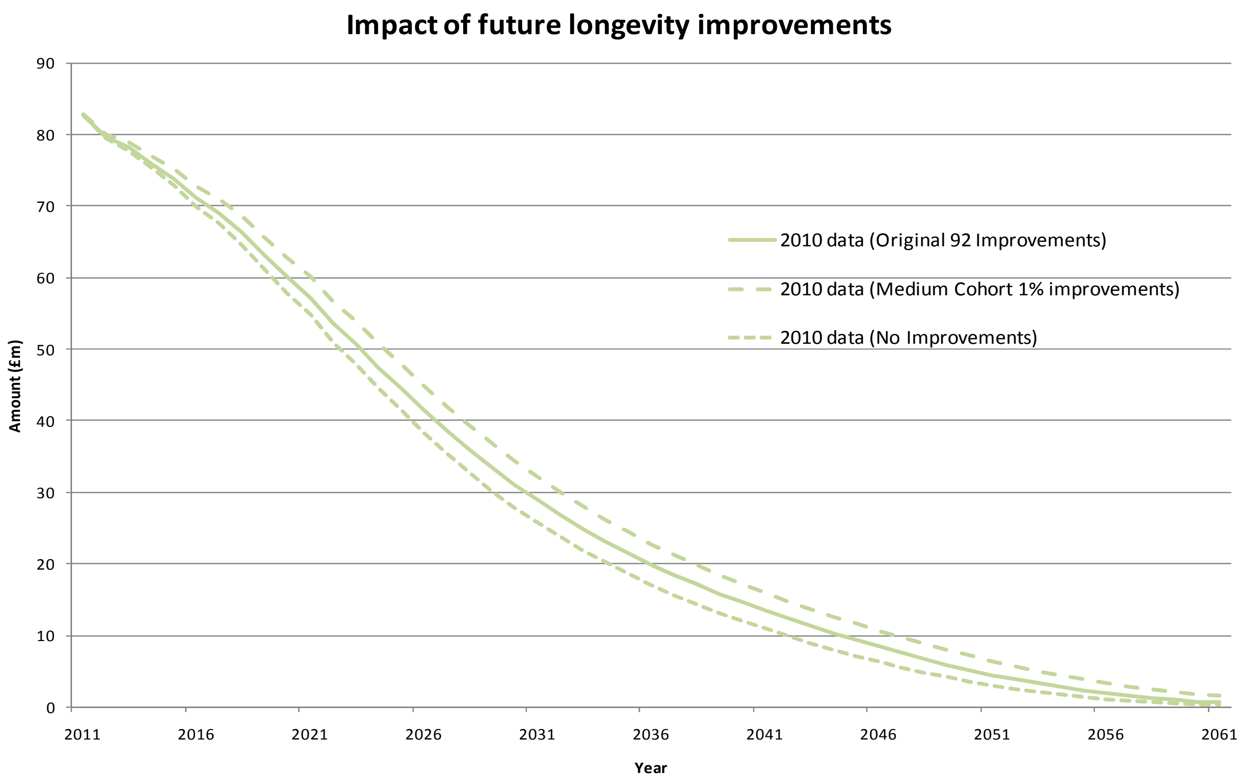
Longevity risk

The expenditure projections are also very sensitive to unexpected changes in future longevity. All else being equal, if longevity improves in the future at a faster pace than allowed for in the valuation assumptions, the expected future funding contributions will increase.

Recent medical advances, changes in lifestyle and a greater awareness of health-related matters have resulted in life expectancy amongst pension fund members improving in recent years at a faster pace than was originally foreseen. It is unknown whether and to what extent such improvements will continue in the future.

For the purposes of this valuation, we have selected assumptions that we believe make an appropriate allowance for future improvements in longevity, based on the actual experience of the Fund since the previous valuation.

The graph below illustrates the sensitivity of future expected cashflows to longevity by comparing expected cashflows using the 2010 valuation assumptions (solid line) versus those assuming there are no future improvements in longevity (dotted line) and those assuming future improvements are greater than expected (dashed line).



The table below shows how the valuation results at 31 March 2010 are affected by adopting different longevity assumptions.

	Impact	
Longevity assumption	**Funding level**	**Deficit (£m)**
2010 valuation (baseline)	15%	(732)
2010 valuation (with improvements)	14%	(781)
2010 valuation (further improvements)	13%	(825)

The shaded box contains the results for this valuation. The "further improvements" results allow for a "cohort effect". The cohort effect allows for a generation of people born between the two world wars whose life expectancy seems to continue to increase i.e. that generation continues to survive in large numbers each year. A key question would be how much longer we will continue to see this. Current evidence suggests people are living 2 years longer every decade and this phenomenon presently shows no signs of slowing. These mortality assumptions allow for people living around 0.75 years longer per decade. We have not allowed for the potential full improvements in life expectancy at this valuation and have effectively adopted a "wait and see" approach.

The range of assumptions shown here is by no means exhaustive and should not be considered as the limits of how extreme future longevity experience could be.

Other risks to consider

The other main assumption to which the valuation results are sensitive is commutation i.e. if members convert less pension to cash at retirement than assumed, the funding position will deteriorate.

Managing the risks

Whilst there are certain things, such as the level of future pension increases or the life expectancy of members, that are not directly within the control of the pension fund, that does not mean that nothing can be done to understand the risks further and to mitigate their effect. Although these risks are difficult (or impossible) to eliminate, steps can be taken to manage them.

Ways in which some of these risks can be managed could be:

- Set aside a specific reserve to act as a cushion against adverse future experience (possibly by selecting a set of actuarial assumptions at future valuations that are purposely more prudent).
- Take steps internally to monitor the decisions taken by members (e.g. relating to commutation) in a bid to curtail any adverse impact on the Fund.
- Carrying out a bespoke analysis of the longevity of Fund members and monitor how this changes over time, so that the longevity assumptions at the valuation match as closely as possible the experience of the Fund. The Fund has adopted bespoke baseline longevity assumptions at this valuation for each member based on age, gender, salary and postcode information. This will allow changes to the observed longevity of the Fund's members to be tracked over time.

Adopting one or more of these measures can assist with the management of risk within the pension fund.

Further recommendations

Valuation frequency

Under the provisions of the LGPS regulations, the next formal valuation of the Fund is due to be carried out as at 31 March 2013. In light of the uncertainty of future financial conditions, we recommend that the financial position of the Fund and expenditure projections are monitored by means of interim funding and projection reviews in the period up to this next formal valuation. This will give early warning of divergences between actual and expected expenditure.

9 Summary

We have carried out an actuarial valuation of the Environment Agency Closed Fund (‘the Fund’) as at 31 March 2010. The results are presented in this report and are briefly summarised below.

Funding position

The table below summarises the financial position of the Fund at 31 March 2010 in respect of benefits earned by members up to this date.

Past Service Position	(£m)
Past Service Liabilities	906
Market Value of Assets	125
Surplus / (Deficit)	(781)
Funding Level	**14%**

Defra’s contributions

Defra will pay contributions on a six monthly basis, based on the expected expenditure for the following six months as detailed in Appendix M.

Douglas Anderson

Fellow of the Institute and Faculty of Actuaries

Richard Warden

Fellow of the Institute and Faculty of Actuaries

14 March 2011

Appendix A: Regulations and professional standards

LGPS regulations

This valuation is carried out in accordance with regulation 36 of the 2008 Local Government Pension Scheme Administration Regulations, which specifies that the Administering Authority must obtain:

- an actuarial valuation of the assets and liabilities of the Fund as at 31 March 2010 and in every third year thereafter;
- a report by an actuary in respect of the valuation; and
- a Rates and Adjustments Certificate prepared by an actuary.

Under the provisions of the Regulations, we are required to have regard to:

- the existing and prospective liabilities of the Fund arising from circumstances common to all those bodies participating in the Fund,
- the desirability of maintaining as nearly constant a common rate as possible, and
- the current version of the Administering Authority's funding strategy statement.

Professional standards

Guidance Note 9 (GN9)

This report has been prepared in accordance with version 8.1 of the guidelines ‘GN9: Funding Defined Benefits - Presentation of Actuarial Advice’ published by the Board for Actuarial Standards. However the following aspects of GN9 are not relevant to the LGPS and its funds in the current circumstances and we have therefore not reported on them:

- Paragraph 3.4.16 of GN9 requires the actuary to include the certification of technical provision in relation to a valuation under Part 3 of the Pensions Act 2004. As Part 3 of the Pensions Act 2004 does not apply to the LGPS, this report does not comply with paragraph 3.4.16 of GN9; and
- Part 3.5 of GN9 requires the actuary to report on the value of the liabilities that would arise had the Fund wound up on the valuation date (based on the cost of buying out the accrued benefits with insurance policies). As the LGPS is a statutory scheme, there is no regulatory provision for scheme wind up and the scheme members have a statutory right to their accrued benefits. Therefore the concept of solvency on a buy-out basis does not apply to the Fund. Accordingly, this report does not comply with part 3.5 of GN9.

The previous formal actuarial valuation was carried out as at 31 March 2007 by Hymans Robertson and the results were set out in our report dated March 2008.

Technical Actuarial Standards

Technical Actuarial Standards (TASs) are issued by the Board for Actuarial Standards and they set the standard for certain items of actuarial work, in terms of the type of information provided and the way it is communicated. As your actuaries, we must comply with these standards when presenting the results of the triennial valuation.

This valuation report complies with the Technical Actuarial Standards on Reporting (TAS R) and Data (TAS D) for the purpose of recording the results of the actuarial valuation at 31 March 2010.

In order to further ensure that the requirements of TAS R are met and in the interests of clarity, we have issued a separate letter summarising the various pieces of advice that we have issued during this valuation process which have allowed you to make the necessary decisions on funding strategy and contribution rates.

Appendix B: Government funding agreement

Extract from a letter sent on 15 April 2004 by Paul Boateng (Chief Secretary to the Treasury) to the Rt Hon Margaret Beckett (Secretary of State for the Environment)

Environment Agency Closed Pension Fund

"Thank you for your letter of 18 March requesting a change in the arrangement agreed in the 2002 spending review for funding the liabilities of the Environment Agency Closed Pension Fund. I am prepared to agree to the revised arrangements you suggest for the 2004 spending review baseline year. The funding of the Environment Agency Closed Pension Fund will remain ring-fenced and will reduce over time in line with the un-winding of the liability".

Paul Boateng

Extract from a letter sent on 15 July 2004 by the Rt Hon Margaret Beckett (Secretary of State for the Environment) to Mr John Edmonds (Chairman of the Environment Agency Pensions Committee)

Environment Agency Closed Pension Fund

The Environment Agency Closed Pension Fund is in actuarial deficit. Current valuations indicate that the assets available will not meet its future liabilities and the Fund will be exhausted by autumn 2006. Section 173 of the Water Act 1989 gave me the function of providing funding to enable the liabilities of the Fund – a public service, final salary, funded pension scheme – to be met. I propose to exercise this function through stabilisation of the Fund and annual top-up payments from April 2006.

The assets of the Fund should be allowed to run down (rather than be liquidated) and then stabilised through annual top-up payments using section 173 provisions of the Water Act 1989, thus meeting on-going liabilities on a pay-as-you-go basis. The Chief Secretary to the Treasury has agreed to this and that we should retain financial cover sufficient to fund annual costs from 2006/07.

Actuarial valuations indicate that the Fund will fall below the £100m mark – the equivalent of a little over annual outgoings in the latter half of 2005/06. I therefore propose to top-up the Fund in April/May 2006 and again in September/October 2006 by a total amount equivalent to its annual outgoings as determined by actuarial forecasts. This will be repeated in subsequent years, with the amount proportionate to the actual Fund liabilities.

I confirm that the implementation of these proposals will not either dilute or remove my statutory funding function under section 173 of the Water Act 1989. The Fund pensioners will not see any change in how their individual pensions are paid, and they can be certain that their entitlement will be met. I would therefore commend these arrangements to you, to the Agency's Pensions Committee and to the Fund's members.

Margaret Beckett

Memorandum of understanding

Between:

The Secretary of State for Environment, Food and Rural Affairs of Nobel House, 17 Smith Square, London SW1P 3JR ("the Secretary of State"); and

The Environment Agency – Pensions Committee of Rio House, Waterside Drive, Almondsbury, Bristol, BS32 4UD ("the Agency")

Background

1. The Environment Agency Closed Fund ("the Closed Fund") is vested in, and required to be maintained by, the Environment Agency by regulation 2(1) of the Local Government Pension Scheme (Environment Agency) Regulations 1996.

2. Before 1989, the Water Authorities Superannuation Fund ("WASF") served the former Regional Water Authorities in England and Wales. Under the Water Act 1989 their water supply and sewerage functions were transferred to newly created water companies, together with the relevant employees. The pension liabilities and assets in respect of such employees were transferred from the WASF to the new water company pension schemes. The pension liabilities and assets in respect of the remaining employees, and also of the former employees and pensioners, were transferred with the WASF to the National Rivers Authority ("the NRA"), which set up a pension fund for its own employees ("the Active Fund") into which were transferred the pension liabilities and assets in respect of the said remaining employees.

3. Following the transfer of active employed members to both the water company pension schemes and the Active Fund, the only remaining members of the WASF were deferred and pensioner members. No further members were admitted to it, so that it became a closed scheme ("the Closed Fund"). The Secretary of State and the NRA accepted the possibility that, in due course, the Closed Fund could have insufficient resources to meet its pension liabilities. With effect from 1 April 1996 the Agency assumed the functions of the NRA and the Closed Fund is now known as the Environment Agency Closed Fund.

4. The Closed Fund is maintained for the purposes of Section 7 of the Superannuation Act 1972, and accordingly the Secretary of State has the function conferred by Section 173 of the Act to make such payments into the Closed Fund as may be considered appropriate in respect of the actual and prospective liabilities falling from time to time to be met out of the Closed Fund for the benefit of its members ("the Closed Fund members").

5. As at 31 March 2004, the Closed Fund's FRS 17 valuation indicated that it had a net deficit for accounting purposes of £826,600,000 and its actuarial valuation indicated that it had a funding level of 21% which corresponded to a net past service reserve deficit of £880,000,000. The value of the liability under both valuations is sensitive to future mortality rates, inflation rates, and the discount rate used.

6. This Memorandum of Understanding sets out the mechanism whereby the Secretary of State will exercise the function under section 173 of the 1989 Water Act with a view to addressing the deficit in the Closed Fund.

7. This Memorandum has been agreed between the Secretary of State and the Environment Agency and the arrangements for funding the Closed Fund have been approved by Her Majesty's Treasury pursuant to that

section, as indicated in the letter of 15 April 2004 from the Chief Secretary to the Secretary of State, subject to the conditions referred to in that letter.

Payments into the Fund

8. The Closed Fund's funding level continues to deteriorate, and on actuarial advice it is assumed that the value of the assets will reduce to a level of between £50 million and £60 million by about April 2006. With effect from that date the Secretary of State will ensure that cash payments are made into the Fund each year totalling an amount equivalent to its total annual outgoings (defined as total anticipated payments to pensioners, transfers out of the Closed Fund, investment management or other agents' fees, administration costs, and all other liabilities or expenses whatsoever, less interest earned on such cash payments made to the Agency for the Closed Fund during the year) to be calculated and properly certified by the Agency in accordance with actuarial advice received.

9. Such payments will be solely to finance the Closed Fund's annual outgoings and will be treated separately from the Agency's mainstream finances. They will be made every six months, with the sums to be paid equalling the amount of the Fund's outgoings for the previous six months. The first payment into the Fund will be made in April 2006. These payments will continue until the liabilities of the Closed Fund have been met in full. Latest actuarial projections indicate that this will occur in 2062.

10. These payments will be in the form of ring-fenced grant-in-aid from the Secretary of State and will be paid twice each year in April and October through the normal grant-in-aid procedures to the Agency.

11. The Agency will provide the Secretary of State with a copy of actuarial advice received and such information as is reasonably required to illustrate how the payments certified as payable have been calculated. Any assets held in the Closed Fund in excess of the payments will be retained to protect against minor variations in outgoings until a certificate of the actuary to the Closed Fund confirms that their retention is unnecessary. A copy of any such certificate shall be provided by the Agency to the Secretary of State.

12. Payments made by the Secretary of State into the Closed Fund will be reported in Defra's annual accounts together with the Closed Fund's liability in accordance with FRS 17 (or any replacement accounting standard).

Payments to pensioners

13. Nothing in this Memorandum will affect the Agency's role in the making of payments from the Closed Fund which are to be made in accordance with the Local Government Pension Scheme Regulations 1997 ("LGPS Regulations").

Control, monitoring and review

14. The Agency will manage the residual assets of the Closed Fund according to the high standards of financial integrity expected of those responsible for the management of public assets. The Agency will invest any surplus funds, as required by the Local Government Pension Scheme (Management and Investment of Funds) Regulations 1998 and in accordance with the Closed Fund's Statement of investment principles and Funding strategy statement. The Agency's procedures and the accounts of the Fund will continue to be the subject of an annual external audit, and nothing in this Memorandum affects the need for an actuarial valuation of the Closed Fund as required by the LGPS Regulations.

15. For monitoring purposes, the Agency will inform the Secretary of State of the Closed Fund's liabilities at the end of each financial year in accordance with FRS 17 (or any replacement accounting standard).

16. This information will be used to update provisions in the annual accounts of Defra. Significant variations from profiled grant-in-aid payments will be fully justified by the Agency.

17. This Memorandum shall only be amended by the agreement in writing of both the Secretary of State and the Agency.

Brian Bender,
Accounting Officer, Defra
On behalf of the Secretary of State for
Environment, Food and Rural Affairs

Barbara Young,
Accounting Officer,
Environment Agency
On behalf of the Environment Agency

Date of signature: 17 May 2005

Appendix C: Funding Strategy Statement

1.0 Introduction

In accordance with Regulation 35 of the Local Government Pension Scheme (Administration) Regulations 2008 and the guidance paper issued in March 2004 by the Chartered Institute of Public Finance and Accountancy (CIPFA) Pensions Panel this document constitutes the Funding Strategy Statement (FSS) of the Environment Agency Closed Pension Fund ("the Fund"), which is administered by the Environment Agency ("the Administering Authority"). This statement has been reviewed as part of the 2010 actuarial valuation process.

Members' accrued benefits are guaranteed by statute. Members' contributions are fixed in the regulations. Employers pay the balance of the cost of delivering the benefits to members. The FSS focuses on the pace at which these liabilities are funded.

1.1 Fund history

The Fund has been closed to new entrants and accruals of future service since 1989. The Fund's liabilities are statutorily guaranteed by the Department for the Environment, Food and Rural Affairs ("the Guarantor") under section 173 of the Water Act 1989 and it is unique in this respect in the family of Local Government pension funds. The Memorandum of Understanding between the Secretary of State for Environment, Food and Rural Affairs and the Environment Agency (17 May 2005) – Pensions Committee sets out the mechanism whereby the Guarantor makes payments to the Fund.

1.2 Profile of Liabilities

As at 31 March 2010, the Fund contained some 16,900 pensioners and around 4,300 deferred pension members (including unpaid refunds) whose benefits have yet to come into payment. The average age of members in receipt of pensions in payment was around 76 years, and almost 55 years for the deferred pensioners.

Around 50% of the liabilities are expected to be discharged over the next 10 years, but the remaining liabilities could take a further 40-50 years to come close to being extinguished. The final payment from the Fund may not be paid until the end of the 21st century.

The discounted mean term of the liabilities – a measurement of duration of the liabilities which can be useful in matching liabilities to bond durations - is currently around 9.5 years, and will only fall very gradually.

As at 31 March 2010, the fund assets were £125m (£100m at 31 March 2007) and the value placed on the liabilities (discounted in line with the minimum risk return available on Government bonds) were £906m (£1,170m) resulting in a funding level of 14% (9%) and a funding deficit of £781m (£1,070m). Benefit expenditure flowing out of the Fund is running at around £87m a year. This excludes the additional 'unfunded' pension payments of around £12m a year which are paid to Closed Fund members for added years awarded on retirement. The Administering Authority receives grant-in-aid from DEFRA for these payments.

1.3 Regulatory Framework

The FSS forms part of a framework which includes:

the Local Government Pension Scheme Regulations 1997 (regulation 144 is particularly relevant);

the Local Government Pension Scheme (Administration) Regulations 2008 (as amended)(regulations 35 and 36); and

the Statement of Investment Principles.

The FSS has been prepared by the Administering Authority in collaboration with the Fund's actuary, Douglas Anderson of Hymans Robertson, after consultation with the Guarantor, and its investment consultant, Paul Potter of Hymans Robertson.

1.4 Reviews of FSS

This FSS applies with effect from 31 March 2011 for lump sum contributions payable in the Fund's financial year 20011/12 and thereafter. The principles documented herein have been used for the actuarial valuation as at 31 March 2010.

The FSS is reviewed in detail at least every three years alongside the triennial valuations being carried out, with the 31st March 2013 valuation due to be completed by 31 March 2014. The FSS is a summary of the Fund's approach to funding liabilities. It is not an exhaustive statement of policy on all issues.

2. Purpose

2.1 Purpose of FSS

The Communities and Local Government (CLG) has stated that the purpose of the FSS is:

"to establish a clear and transparent fund-specific strategy which will identify how employers' pension liabilities are best met going forward;

to support the regulatory framework to maintain as nearly constant employer contribution rates as possible; and

to take a prudent longer-term view of funding those liabilities."

These objectives are desirable individually, but not necessarily deliverable together.

In developing the approach described in Section 3, the Administering Authority has focused on balancing the desirability of affordability of contributions, transparency of processes, stability of employers' contributions, and prudence in the funding basis.

2.2 Purpose of the Fund

The Fund is the vehicle used to pay the pensions and related benefits of certain former employees in the water industry in England and Wales prior to its privatisation. The Fund was created by the Water Act 1989 and the benefit payments are guaranteed by DEFRA. In addition to paying the pensions of its own scheme members, the Fund is also liable for the pension increase costs of pensioners in certain Local Authority funds who retired before 1974. The costs are billed to the Fund by the Local Authorities – they amount to around £1.6m a year.

The Fund provides a convenient and efficient vehicle to deliver scheme benefits, in particular by:

receiving contributions, transfer payments and investment income;

paying scheme benefits, transfer values and administration costs.

2.3 Aim of the Funding Policy

The Fund's approach to funding the Guarantors' pension liabilities is focused on ensuring that sufficient funds are available to meet all liabilities as they fall due for payment.

3. Solvency issues and target funding levels

3.1 Reviews of funding position

The Fund's actuary is required by the regulations to report the funding position (or "solvency") of accrued benefits relative to the Fund's solvency target at least every three years. Unlike standard LGPS funds there is no requirement to certify an employer contribution rate.

Between formal valuations the Administering Authority works with the actuary to review the cash flow position of the scheme and the estimated expenditure for the following six months, which will fall to the Guarantor.

3.2 Solvency

The Fund defines 'solvency' to be the ability to continue to meet ongoing benefit expenditure. As at 31 March 2010, the liabilities of the Fund were only 14% (2007 9%) covered by its assets. Without additional Government funding, the Fund would have been exhausted in 2007.

The accrued liabilities are the future payments of pensions and lump sums, allowing for annual CPI increases on pensions in payment (following the Government's announcement in June 2010 that it would link future pension increases in public service schemes such as the LGPS to the Consumer Prices Index (CPI) rather than to the Retail Prices Index (RPI)). The valuation allows for future investment returns when placing a value on these liabilities. This reduces the value placed on the liabilities.

The ongoing basis does not anticipate future returns from equity investments in excess of Government bond investments.

3.3 Ongoing Funding Basis

The Fund actuary agrees the financial and demographic assumptions to be used for each triennial valuation with the administering authority.

The demographic assumptions are intended to be best estimates of future experience in the Fund. They vary by type of member.

The key financial assumption is the rate of CPI inflation applied to pension increases, which has been taken to be 3.0% a year in the 2010 valuation.

For the 2010 valuation, it is assumed that the Fund's investments will deliver a long-term real return (i.e. in excess of retail price increases) in line with index-linked government bonds at the time of the valuation. As at 31 March 2010, the real return on index-linked gilts was 0.7% a year more than RPI increases. However, after allowing for CPI-linked rather than RPI-linked pension increases (which are assumed to be 0.5% a year lower) and for an assumed inflation risk premium of 0.3% a year (the premium that investors are prepared to pay for inflation protection in current bond markets), the real return on index-linked gilts was 1.5% a year more than assumed pension increases.

The Guarantor agreed to commence making twice a year lump sum contributions to the Fund from April 2006. Payments are made every six months, and are calculated to meet projected benefit expenditure over the following six months. These payments are currently around £43m every six months (£86m a year). This mechanism is detailed in the Memorandum of Understanding between the Secretary of State for Environment, Food and Rural Affairs and the Environment Agency – Pensions Committee.

4. Links to investment strategy

Funding and investment strategy are inextricably linked. However, going forward the Fund's assets are expected to be modest (approximately £125m) compared to the value of the prospective liabilities (some £906m as at 31 March 2010). The performance of the assets will only have a limited effect on the Fund's finances.

4.1 Investment strategy

Investment strategy is set by the Administering Authority, after consultation with the employer and after taking investment advice.

The investment strategy currently being pursued is described in the Fund's Statement of Investment Principles.

The Fund has a low risk investment strategy, being invested in a portfolio of index-linked government bonds.

4.2 Consistency with funding basis

The funding policy anticipates returns of 1.5% a year in excess of assumed pension increases, in line with the return on index-linked government bonds as at 31 March 2010. The valuation of liabilities makes an allowance for expected future investment expenses.

4.3 Balance between risk and reward

Prior to implementing its current investment strategy, the Administering Authority considered the balance between risk and reward from altering the level of investment in potentially higher yielding, but more volatile, asset classes like equities.

The principal remaining uncertainties for the funding and investment policies are:

Longer term – Greater longevity improvement than anticipated. Higher CPI than assumed increasing liabilities. Inability to re-invest investment income in future to achieve a return of 1.5% a year in excess of pension increases.

Shorter term - Statistical variations between demographic assumptions and actual experience e.g. numbers of transfer payments. Unexpected surge of pension increase recharges from other local authority schemes.

4.4 Intervaluation monitoring of funding position

The Administering Authority monitors the benefit expenditure and cashflow position of the fund on a regular basis to ensure that there are always sufficient assets to meet the benefit expenditure.

5. Future benefit strategy

5.1 Pre 74 pension increase and Water Company recharges

New LGPS regulations have given the Fund the opportunity to streamline the funding, management and administration of its inherited historical 'unfunded' liabilities. The plan is to pay bulk transfer amounts from the Fund to around 50 or so local authorities in order to discharge the liability to meet pre-1974 pension increase recharges. In addition, capital payments will also be made to around 8 Water Company schemes relating to pension recharges dating back to the 1989 water privatisation. The total amount of assets and liabilities released from the Fund in relation to historical recharges is likely to be in the region of £15 -£20m. The payments are expected to take place during 2011-12 and are likely to reduce the Guarantor's annual contributions by around £2m per annum that otherwise would have been paid for around 20 years.

5.2 Arm's length bodies review

The Government's review of Environment Agency Wales may affect the membership of the Fund and funding as Defra annual funding of c.£7m GIA for former employees in Wales. However it is not yet clear to what extent any changes will affect the funding and investment strategy. The Administering Authority will monitor this closely over the review period and ensure that any change to the Fund's membership does not adversely affect the finances of the Fund.

6. Key Risks & Controls

6.1 Types of risk

The Administering Authority's has an active risk management programme in place. The measures that the Administering Authority has in place to control key risks are summarised below under the following headings:

- financial;
- demographic; and
- regulatory.

6.2 Financial Risks

The main financial risks are those relating to the level of future inflation and the ability to reinvest income. The development over time of these factors will be monitored regularly, alongside the cashflow monitoring.

A further risk relates to the pension increase recharges to local authorities, over which the Administering Authority has no direct control as it does not pay the individual pensions and is reliant on other funds to recharge the amounts. The PC has spent considerable resources over recent years to clean up and agree the underlying data with local authorities and hence minimise variations between the projected costs and actual expenditure. In addition, the plan to reduce these recharges by discharging the liabilities back to local authorities (see section 5.1) will further control this risk.

6.3 Demographic Risks

The main demographic risk is that improvements in longevity might be greater than allowed for. At the triennial valuations the Administering Authority and the actuary will make appropriate mortality assumptions. The appropriateness of these assumptions will be reviewed at the triennial valuations. In order to control this risk further the Fund now uses bespoke 'baseline' longevity assumptions, based on the pooled mortality experience of almost 100 large occupational pension schemes, to allow for the individual characteristics of each individual member in the Fund.

In the short term, there may be other areas where the demographic experience differs from that assumed (e.g. transfer payments). Such variations should be highlighted by the regular cash flow monitoring.

6.4 Regulatory

There is a risk that new legislation could impact on the Fund. The Administering Authority considers all consultation papers issued by the CLG and comments where appropriate.

Approved by the Pensions Committee on 14 December 2010 and this statement will be reviewed following the 2013 triennial valuation.

Appendix D: Statement of Investment Principles

Introduction

This is the Statement of Investment Principles adopted by the Environment Agency as Administering Authority of the Closed Pension Fund ("the Fund") on 14 December 2010, as required by the Local Government Pension Scheme (Management and Investment of Funds) Regulations 2009 It is subject to periodic review, and in the event of any material change in policy regarding any matter referenced in this statement, by the Pensions Committee ("the Committee"), which acts on the delegated authority of the Environment Agency's Board. In preparing this statement, the Pensions Committee has sought and taken written advice from the Investment Practice of Hymans Robertson LLP.

Funding objective

This Statement is consistent with the Fund's funding strategy, which is set out in the Funding Strategy Statement adopted on 14 December 2010. The Fund's solvency is guaranteed by the Government, in the form of the Secretary of State for Environment, Food and Rural Affairs ("the Guarantor"). The level of the Guarantor's contributions is reviewed every six months. The Fund's invested assets are small relative to the value of its prospective liabilities. The Fund's assets are invested in long dated index linked gilts on the basis that the Guarantor will meet pension payments until the value of the remaining liabilities is equivalent to the Fund's remaining assets.

Investment strategy

The Pensions Committee has translated its objectives into a suitable investment strategy for the Fund. The investment strategy takes due account of the specific liability profile of the Fund, together with the planned funding arrangements agreed with the Fund's Guarantor.

The strategy is consistent with the Committee's views on residual asset management on the appropriate balance between maximising the long-term return on investments and minimising volatility and risk. The Committee is adopting a low-risk approach by investing in index-linked government bonds.

It is intended that the investment strategy will be reviewed at least every three years following actuarial valuations of the Fund.

The assets comprise a portfolio of index-linked government bonds invested with Sarasin & Partners LLP and a small portfolio of unquoted equities which is managed internally and is currently being run down.

In order to achieve its investment objectives, the Pensions Committee has agreed the following in respect of the Sarasin & Partners LLP portfolio:-

Choosing Investments: The Committee will appoint an investment manager (currently Sarasin & Partners LLP) authorised under the Financial Services and Markets Act 2000 to undertake investment business. The Committee, after seeking appropriate investment advice, has given the manager specific directions as to the securities to be held. The assets are held on a non-discretionary basis by Sarasin & Partners LLP.

Kinds of investment to be held: The Fund will invest in index linked government bonds and cash only. The Committee considers these classes of investment to be suitable in the circumstances of the Fund.

Balance between different kinds of investments: The Committee believes that the investments held represent an appropriate balance of investments relative to the Fund's liabilities.

Risk: The Committee provides a practical constraint on the Fund's investments deviating from the intended approach by specifying the particular bonds to be held.

The Fund is exposed to a number of other risks which pose a threat to the Fund meeting its objectives, such as changing demographics and custody and counterparty risk.

The Trustees keep mortality and other demographic assumptions, which could influence the cost of benefits, under review.

They also have a process of regular scrutiny and audit of providers to the Fund.

Expected return on investments: Over the long term, the overall level of investment return is expected to be consistent with the rate of return assumed by the actuary in the Actuarial Valuation of the Fund.

Realisation of investments: The bonds held within the Fund may be realised quickly if required.

Exercise of Voting Rights: There are no voting rights attached to index-linked government bonds.

Social, Environmental and Ethical Considerations: The Committee does not feel there are any such considerations by investing in index-linked government bonds.

Stock lending: The Fund does not engage in any stock lending.

Statement of compliance with the Myners Principles

In 2000 the UK Government commissioned a review of institutional investment in the UK. The review, undertaken by Lord Myners, set out ten principles codifying a model of best practice in pension fund governance, investment decision making and disclosure. In 2008 the Government published a revised set of six principles against which we have compared ourselves and provided a summary below. Further details and evidence is contained with the documents referenced in our Annual Report and Accounts and on our internet sites:
www.environment-agency.co.uk/pensions and www.eapf.org.uk .

Myners Principle	Evidence of compliance and justifications for non-compliance
Principle 1: Effective decision making	
Administering authorities should ensure that; • Decisions are taken by persons or organisations with the skills, knowledge, advice and resources necessary to make them effective and monitor their implementation and • Those persons or organisations have sufficient expertise to be able to evaluate and challenge the advice they receive, and manage conflicts of interest.	**Our Fund fully follows this principle** • Our Financial Memorandum, the Pensions Committee Terms of Reference, Standing orders and Scheme of Delegation, clearly set out the governance structure and levels of responsibility. Our statutory Governance Compliance Statement in our Annual Report and Accounts also provides further detail. • All the above documents and other supporting material are contained in a Pensions Committee handbook that is regularly updated. • The Pensions Committee retains overall responsibilities for Fund and investment strategy. • The Pension Committee appoints a number of professional external advisers for investment, legal advice, administration and actuarial services. These are detailed in our Annual Report and Accounts. A report on their performance is presented to the Pensions Committee and the Board annually. • The Pensions Committee has a training strategy which is reviewed annually. Conflicts of interest are identified and records maintained and form part of an annual audit. A record of meeting attendance and training is published in our Annual Report and Accounts • Managers are appointed to invest funds following a comprehensive due diligence process and with input from independent investment advisers.

Myners Principle	Evidence of compliance and justifications for non-compliance
Principle 2: Clear Objectives	
An overall investment objective(s) should be set for the Fund taking account of the scheme's liabilities, the potential impact on local tax payer, the strength of the covenant for non-local authority employer, and the attitude to risk of both the administering authority and scheme employers, and these should be clearly communicated to advisers and investment managers.	**Our Fund fully follows this principle** • In setting the investment objective(s), the Pensions Committee, as the Administering Authority, addresses the balance between risk and reward taking into account the funding arrangements for the Fund.. This process is informed by actuarial and investment advice and the use of liability data from the actuarial valuation..
Principle 3: Risk and liabilities	
• In setting and reviewing their investment strategy, administering authorities should take account of the form and structure of liabilities. • These include the implications for local tax payers, the strength of the covenant for participating employers, the risk of their default and longevity risk.	**Our Fund fully follows this principle** • In setting the investment strategy, the Pensions Committee, as the Administering Authority, is informed by actuarial and investment advice The Statement of the Consulting Actuary summarises the assumptions used and the risks are detailed in the Fund Strategy Statement, both of which are included in our Annual Report and Accounts.
Principle 4: Performance assessment	
• Arrangements should be in place for the formal measurement of performance of the investments, investment managers and advisers. • Administering authorities should also periodically make a formal assessment of their own effectiveness as a decision-making body and report on this to scheme members.	**Our Fund fully follows this principle** • The Environment Agency has delegated responsibility and accountability for overseeing the Fund to the Pensions Committee. • The Pensions Committee meets 4 times a year and has set up an Investment Sub Group which also meets at least 4 times a year to monitor investment performance and developments. • The Administering Authority monitors investment performance relative to benchmarks and the change in the value of liabilities by means of periodic monitoring reports. • The Pension Committee reviews its effectiveness at each meeting and periodically and the outcomes reported to the Board of the Environment Agency.
Principle 5: Responsible ownership	
Administering authorities should: • Adopt, or ensure their investment manager adopt, the Institutional Shareholders' Committee Statement of Principles on the responsibilities of shareholders and agents • Include a statement of their policy on responsible ownership in the statement of investment principle.	**Partially compliant** • Our Closed Fund assets are two long dated gilts. We undertake responsible investment to the extent practical given the nature of the assets. Responsible ownership polices and practices are reviewed as part of periodic investment strategy reviews.

Myners Principle	**Evidence of compliance and justifications for non-compliance**
Principle 6: Transparency and reporting	
Administering authorities should: • Act in a transparency manner, communication with stakeholders on issues relating to their management of investment, its governance and risks, including performance against stated objectives • Provide regular communications to scheme members in the form they consider most appropriate.	**Our Fund fully follows this principle** • Our Annual Report and Accounts details all the material issues relating to the Fund, its investments and administration. It is publicly available in hard copy and via our websites. • Fundfare is our annual publication to members, which includes financial information about the Fund and its investments. Two editions are published - one covering the Active Fund and one for the Closed Fund. • Our Communications Policy Statement details the stakeholders we have identified. It also details the communication channels and delivery targets for member communications.

Approved by the Pensions Committee on 14 December 2010

Appendix E: Summary of the Fund's benefits

The non-discretionary Fund benefits that we have taken into account in this valuation are summarised below.

Pension at Retirement Age	1/80th of pensionable remuneration for each year of pensionable service. Pensionable remuneration is normally the average remuneration in the employee's final year.
Lump Sum at Retirement Age	3/80ths of pensionable remuneration for each year of pensionable service.
Pension Increases	All pensions in payment, deferred pensions and children's pensions other than benefits arising from the payment of additional voluntary contributions are increased annually. That part of pensions which is in excess of the GMP is increased under the Pensions (Increases) Act. That part of the pensions which is GMP increases in accordance with Section 37A of the Pensions Act.
Death after Retirement	A spouse's pension equal to one half of the member's pension (but only service from April 1988 can count for widowers' benefits).
The Scheme is contracted out of the State Second Pension (formerly the State Earnings Related Pension Scheme.	

Discretionary benefits

The Regulations give employers a number of discretionary powers, including:

- the awards of periods of augmentation under Regulation 12;
- the payment of benefits on employer's consent prior to age 60 under Regulation 30;
- the payment of benefits due to flexible retirement under Regulation 18;
- not applying the suspension of spouses' pensions on remarriage or cohabitation for members who retired before 1 April 1998.

The effect on benefits or contributions as a result the use of these provisions prior to 1 April 2010 has been allowed for in this valuation to the extent that this is reflected in the membership data provided. No allowance has been made for the future use of discretionary powers.

Appendix F: Data

This section contains a summary of the membership, investment and accounting data provided to me by the Administering Authority for the purposes of this valuation (the corresponding membership and investment data from the previous valuation is also shown for reference).

Membership data

Deferred pensioners

Deferred pensioner membership	31 March 2010		31 March 2007	
	Number	Deferred pension (£000)	Number	Deferred pension (£000)
Male officers	1,063	2,384	1,406	3,507
Female officers	1,510	2,337	1,774	2,723
Male manuals	1,035	1,779	1,270	2,159
Female manuals	7	7	9	6
Totals	**3,615**	**6,506**	**4,459**	**8,395**

The deferred pension shown includes revaluation up to and including that granted by the 2010 Pension Increase Order. The average age of deferred pensioners at 31 March 2010 was 54.8 (this figure is weighted by liability).

Current pensioners, spouses and children

Pensioner membership	31 March 2010		31 March 2007	
	Number	Pension (£000)	Number	Pension (£000)
Normal / early retirement				
Male officers	4,098	35,279	4,712	39,242
Female officers	1,448	4,073	1,435	4,056
Male manuals	2,489	7,895	3,276	10,087
Female manuals	53	48	72	65
Ill health retirement				
Male officers	360	2,394	342	2,279
Female officers	206	696	158	595
Male manuals	1,454	5,896	1,455	5,995
Female manuals	13	23	11	20
Dependants				
Widows	6,756	21,106	7,337	21,544
Widowers	12	13	7	11
Children	21	22	34	32
Totals	**16,910**	**77,445**	**18,839**	**83,926**

The average age of current pensioner members at 31 March 2010 (weighted by liability and excluding spouses', civil partners' and children's pensions in payment) was 75.9. This includes recharges relating to Pre 1974 Pension Increases (see next table).

Recharges for Pre 1974 Pension Increases

Pre 1974 Recharge membership	31 March 2010		
	Number	Basic Pension (£000)	Basic Pension inc Increases (£000)
Normal / early retirement			
Male officers	108	254	929
Female officers	29	12	99
Dependants			
Widows	278	219	1,141
Widowers	11	8	52
Totals	**426**	**493**	**2,221**

The average age of the members in the above table is around 88. Since 2007, we have continued to work with the Environment Agency and Capita Hartshead to try and reconcile the individual data for all the unfunded liabilities (including the pre 1974 Pension Increase recharges).

Accordingly, we now have available more complete data on the pre 1974 Pension Increase recharges than the previous valuation. As per the 2007 valuation all local authorities have been asked to complete a proforma containing the information we require to value these liabilities for FRS17 and funding valuation purposes. To date, we are aware that 50 out of 51 local authorities have provided this information. The accrued liabilities in the results include an allowance for these liabilities (estimated where the full information is not available).

Note that the membership numbers in the table above refer to the number of records provided to us and so will include an element of double-counting in respect of any members who are in receipt (or potentially in receipt of) more than one benefit.

The chart below summarises the membership of the Closed Fund at this valuation and at the previous one.

Assets at 31 March 2010

A summary of the Fund's assets (excluding members' money-purchase Additional Voluntary Contributions) as at 31 March 2010 is as follows:

Asset class	Market Value at 31 March 2010 (£000)	Allocation %
Index-linked gilt redeemable in 2055	84,100	67%
Index-linked gilt redeemable in 2035	36,800	29%
Cash and net current assets	4,300	3%
Total	**125,200**	**100%**

A brief comparison of the asset allocation of the Fund at this and the previous valuation is shown below:

Asset class	Asset Allocation	
	31 March 2010	31 March 2007
Index-linked gilts	97%	97%
Cash and net current assets	3%	3%
Total	**100%**	**100%**

Accounting data – revenue account for the three years to 31 March 2010

Consolidated accounts (£000)	Year to			Total
	31 March 2008	31 March 2009	31 March 2010	
Income				
Defra contributions	89,785	84,393	87,137	261,315
Employer - additional contributions	0	0	0	0
Employer - early retirement and augmentation strain contributions	0	0	0	0
Employee - normal contributions	0	0	0	0
Employee - additional contributions	0	0	0	0
Transfers In Received (including group and individual)	0	0	0	0
Other Income	0	0	0	0
Total Income	**89,785**	**84,393**	**87,137**	**261,315**
Expenditure				
Gross Retirement Pensions	84,069	83,372	82,233	249,674
Lump Sum Retirement Benefits	3,023	2,592	3,043	8,658
Death in Service Lump sum				0
Death in Deferment Lump Sum				0
Death in Retirement Lump Sum	122	154	80	356
Gross Refund of Contributions	2	1	0	3
Transfers out (including bulk and individual)	352	412	503	1,267
Fees and Expenses	922	1,056	1,069	3,047
Net Cashflow	**1,295**	**-3,194**	**209**	**-1,690**
Assets at start of year	**99,972**	**119,473**	**111,082**	
Net cashflow	1,295	-3,194	209	-1,690
Change in value	18,206	-5,197	13,931	26,940
Assets at end of year	**119,473**	**111,082**	**125,222**	
Approximate rate of return on assets	**18.1%**	**-4.4%**	**12.5%**	**27.0%**

Note that the figures above are based on the Fund accounts provided to me for the purposes of this valuation, which were fully audited at the time of our valuation calculations.

Appendix G: Funding method

Using the actuarial assumptions described earlier (and summarised in Appendix H). We have estimated the payments which will be made from the Fund throughout the future lifetimes of existing deferred pensioners, pensioners and their dependants. We have then calculated the amount of money which, if invested now, should be sufficient to meet all of these payments in future, assuming that future investment returns are in line with the discount rate. This amount is the estimated cost of members' benefits.

Past service funding position

We have compared the value of the assets with the estimated cost of members' past service benefits (i.e. the past service liabilities) at 31 March 2010. My calculation of the liabilities allows for all expected future pension increases. The ratio of the asset value to the past service liabilities is known as the 'funding level'. If the funding level is more than 100% there is a 'surplus'; if it is less than 100% there is a 'shortfall'.

The method described above is known as the Projected Accrued Benefits Method.

Appendix H: Assumptions

Financial assumptions

Financial assumptions	31 March 2007 Funding basis (%pa)	31 March 2010 Funding basis (%pa)
Discount rate	4.5%	4.5%
'Breakeven' retail price inflation	3.2%	3.8%
Pension increases:		
pension in excess of GMP	3.2%	3.0%
post-88 GMP	2.8%	2.8%
pre-88 GMP	0.0%	0.0%
Revaluation of deferred pension	3.2%	3.0%

Mortality assumptions

Longevity assumptions	31 March 2007	31 March 2010
Longevity - baseline	PMA92/PFA92	VitaCurves
Longevity - improvements	Original 92 series c2017 (pensioners) c2033 (non-pensioners)	Original 92 series in line with member's year of birth

The Fund commissioned a historic mortality investigation in May 2010 using Club Vita. The longevity assumptions that have been adopted at this valuation are a bespoke set of VitaCurves that are specifically tailored to fit the membership profile of the Fund as a result of this investigation. These curves are based on the data you have provided us with for the purposes of this valuation. Full details of these are available on request.

Other demographic valuation assumptions

Age Retirements	It is assumed that deferred pensioners will retire at age 60 or when they would satisfy the *Rule of 85* if later subject to no later than age 65.
Family details	A varying proportion of members are assumed to be married (or have an adult dependant) at retirement or on earlier death. For example, at age 60 this is assumed to be 90% for males and 85% for females. Husbands are assumed to be 3 years older than wives.
Commutation	Future pensioners are assumed to elect to exchange pension for additional tax-free cash up to 50% of HMRC limits.
Administration expenses	0.8% of benefit expenditure

The tables below show details of the assumptions actually used for specimen ages.

Death in deferment

Age	Incidence per 1000 active members per annum			
	Male Officers & Post 98 Joiners	Male Manuals	Female Officers & Post 98 Joiners	Female Manuals
	Death	Death	Death	Death
20	0.25	0.32	0.14	0.18
25	0.25	0.32	0.14	0.18
30	0.30	0.38	0.21	0.26
35	0.35	0.44	0.35	0.44
40	0.60	0.76	0.56	0.70
45	1.00	1.26	0.91	1.14
50	1.60	2.02	1.33	1.67
55	2.50	3.15	1.75	2.20
60	4.50	5.67	2.24	2.82

Appendix I: Comparison of valuation results with 2007

The tables below summarise the valuation results for the Fund as a whole at this valuation and at the previous valuation.

Valuation Date	31 March 2010			31 March 2007		
Past Service Position (£m)	**Based on today's mortality**	**Allowance for future mortality improvements**	**Total**	**Based on today's mortality**	**Allowance for future mortality improvements**	**Total**
Past Service Liabilities						
Deferred Pensioners	127	6	133	180	10	190
Pensioners	730	33	762	912	48	960
Pre 1974 Pension Increase Recharges	10		10	20		20
Total Liabilities	868	39	906	1,112	58	1,170
Market Value of Assets	125		125	100		100
Surplus / (Deficit)	**(742)**		**(781)**	**(1,012)**		**(1,070)**
Funding Level	14%		14%	9%		9%

Appendix J: Post-valuation events

Arm’s Length Bodies review

These valuation results are effectively a snapshot of the Fund as at 31 March 2010. Since that date, there have been various discussions around transferring members to other public sector pension funds as a result of the Arm’s Length Bodies review.

At the time of writing there have been no definite decisions made but if member transfers were to occur we would recommend revisiting the cashflow modelling and projected benefit expenditure.

Discharge of pre 1974 Pension Increase and Water Company recharges

Regulation 16 of the Local Government Pension Scheme (Miscellaneous) Regulations 2009 which amended Regulation 38 of the Local Government Pension Scheme (Benefits, Membership and Contributions) Regulations 2007 was introduced in December 2009. This allows the Fund to discharge any future liabilities in relation to pension increase recharge payments for pensioners who were formerly employed by Water Act Companies and their dependants (known as “Pre 1974 Pension Increase Recharges”). Work is currently underway to discharge these liabilities by making capital payments to the LGPS funds concerned. This exercise should be concluded during 2011/2012. The capital payments will be made from the Fund’s assets. This would reduce the Fund’s assets and liabilities on the balance sheet by around £10m and reduce Defra’s GiA contribution commitment by around £1.5m per annum initially once all the capital payments have been made.

Regulation 16 also allows the Fund to discharge any future liabilities in relation to compensation recharge payments to 8 separate water companies for former members of the Water Companies Pension Scheme (WCPS). This exercise is also currently underway and again should be concluded during 2011/12. As above, the capital value of the liabilities would be paid out of the Fund’s assets. This would reduce the Fund’s assets and liabilities on the balance sheet by around £5m and reduce Defra’s contribution commitment by around £0.3m per annum.

Lord Hutton review of public sector pensions

The Government has set up an independent review of public sector pensions including the LGPS, chaired by Lord Hutton. This review will look at issues such as affordability, fairness, impact on mobility and plurality of current public service provision.

Ultimately, this review may or may not recommend changes to the LGPS. These are unlikely to have far-reaching effects on the Fund as all the benefits have already been accrued. However, at this point in time the possibilities are so wide-ranging that it would be inappropriate to make any allowance for this in the results of this particular valuation. If that situation changes then we will keep you informed of the likely impact of any proposals from Lord Hutton on the Fund’s financial position, as and when they arise.

Appendix K: Future strategy for funded and unfunded benefits agreed by the Environment Agency Pensions Committee

Unfunded Liability	2010/11 Payments therefore Savings if liability discharged	Estimated Capital value	Recommended strategy	From	How & When
Pre 74 recharges LGPS pensions increase recharged by 52 local authorities	£1.5m	£10m	Discharge these future recharges by making capital payments to the LGPS funds	Closed fund assets	Negotiations with Local Authority actuaries underway and liabilities due to be discharged in 2011/12.
Water Company recharges Compensation payments for WCPS recharged by 8 water companies and paid directly to the pensioners of one.	£0.3m	£5m	Paying a lump sum payment to each of the relevant Water Company Pension Schemes to remove the need for future recharges to the EA.	Closed fund assets	Negotiations with Water Company actuaries underway and liabilities due to be discharged in 2011/12.
No Action Recommended at this time as the Fund has insufficient assets to discharge these liabilties					
Closed Fund CAYs and gratuities paid by EA revenue but funded through GiA.	£11.8m	£143m	Convert these unfunded CAYs and gratuities into LGPS benefits within the Closed Fund and to fund them using the existing Defra GiA payments.		

The financial benefits of the overall strategy outlined above include:

- reduced risk to the EA and Defra by transferring pension liabilities back to their parent Local Authorities and Water Companies;
- greater benefit security for pensioners when unfunded benefits are converted to funded benefits;
- simpler funding, management, administration, accounting and auditing of these unfunded liabilities for the EA and at Capita Hartshead (and for the 50 LGPS funds and 8 Water Companies);
- avoidance of potential additional funding complexity linked to statutory cost sharing; and
- potential release of up to £1.8m “unfunded pensions” GIA for other uses and environmental work by the EA.

Appendix L: Rates and Adjustments Certificate

Chairman of the Pensions Committee, Accounting Officer and Director of Finance

Environment Agency

Dear Sirs

ENVIRONMENT AGENCY CLOSED FUND (“THE FUND”)

CERTIFICATE OF THE ACTUARY REGARDING SOLVENCY POSITION OF THE FUND

1 On your instruction we have made an actuarial valuation of the Environment Agency Closed Fund as at 31 March 2010. The value of the Fund’s assets at that date was £125m.

2 In accordance with regulation 36(1) of the Administration Regulations we have made an assessment of the solvency of the Fund. Our results show that the solvency level of the Fund was 14% at 31 March 2010.

3 We hereby certify that as at 31 March 2010 the value of the Fund’s existing assets fell short of the value of the Fund’s existing and prospective liabilities by £781m.

Yours faithfully

Signature:		
Name:	Douglas Anderson	Richard Warden
Qualification:	Fellow of the Institute and Faculty of Actuaries	Fellow of the Institute and Faculty of Actuaries
Date:	14 March 2011	
Firm:	Hymans Robertson LLP	
	20 Waterloo Street	
	Glasgow	
	G2 6DB	

Appendix M: Future projections of Defra GiA funding

	All Amounts in £000s				All Amounts in £000s												£000s
	Closed Fund 'Funded' [1]				Closed Fund 'Unfunded' [2]												
					Water Company Pension Scheme Members' Compensation												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	*(15)*	*(16)*	(17) = (4)+(16)
Year to 31st March	CF Members' LGPS Benefits	Pre 74 Pension Increase Recharge	Admin Expenses net of Interest on Cash Deposits	*'Funded' Defra Sub-Total*	CF Members' Compensation & Gratuities	Lee Conservancy CB Pension Scheme	United Utilities (aka North West)	Northumbrian	Severn Trent	Southern	Western Power (aka Welsh or Hyder)	Yorkshire (aka Kelda)	Anglian	Associated (aka WAEPS or NRA - Water Research Centre)	*Water Company Sub-Total*	*Unfunded Defra Sub-total*	TOTAL Defra GIA
2011	80,515	1,549	657	82,721	11,148	344	105	34	30	32	19	74	13	11	318	11,810	**94,531**
2012	77,644	1,435	633	79,712	10,977	351	106	34	30	32	19	75	13	11	320	11,648	**91,360**
2013	76,247	1,325	621	78,193	10,787	358	107	34	30	33	19	76	13	11	323	11,468	**89,661**
2014	74,182	1,217	603	76,002	10,550	364	108	35	31	33	20	76	13	11	327	11,241	**87,243**
2015	72,158	1,112	586	73,856	10,266	371	108	35	31	33	20	77	14	11	329	10,966	**84,822**
2016	69,509	1,009	564	71,082	9,936	376	108	35	31	33	20	77	14	11	329	10,641	**81,723**
2017	67,535	911	548	68,994	9,562	381	108	35	31	33	20	77	14	12	330	10,273	**79,267**
2018	65,018	818	527	66,363	9,145	386	107	35	31	33	20	76	14	12	328	9,859	**76,222**
2019	61,955	731	501	63,187	8,691	387	106	34	31	32	20	75	14	12	324	9,402	**72,589**
2020	58,983	649	477	60,109	8,205	387	104	34	31	31	20	74	14	12	320	8,912	**69,021**
2021	56,142	574	454	57,170	7,691	389	102	33	30	31	20	72	14	12	314	8,394	**65,564**
2022	52,608	506	425	53,539	7,157	391	99	32	30	30	20	70	14	12	307	7,855	**61,394**
2023	49,832	444	402	50,678	6,610	391	95	31	29	29	19	67	14	11	295	7,296	**57,974**
2024	46,631	388	376	47,395	6,057	390	91	30	28	27	19	64	14	11	284	6,731	**54,126**
2025	43,790	339	353	44,482	5,506	389	87	29	27	26	18	61	14	11	273	6,168	**50,650**
2026	40,850	295	329	41,474	4,964	386	82	27	26	24	18	57	14	11	259	5,609	**47,083**
2027	38,040	256	306	38,602	4,437	382	77	25	24	23	17	54	13	10	243	5,062	**43,664**
2028	35,492	222	286	36,000	3,933	377	71	23	23	21	16	50	13	10	227	4,537	**40,537**
2029	32,994	192	265	33,451	3,456	371	65	22	21	19	15	45	12	9	208	4,035	**37,486**

The figures above do not make any allowance for savings from the planned discharge of the recharge payments in respect of the Pre 1974 Pension Increases or Water Company Pension Scheme members

[1] These are funded benefits that members have accrued under LGPS regulations and are statutorily entitled to receive from the Closed Fund.

[2] These are additional unfunded benefits to those accrued under LGPS regulations which are recharged back to employers. **These benefits have not been valued or considered as part of the Closed Fund's formal 2010 valuation exercise. For the avoidance of doubt, the funding level of 14% at 31 March 2010 quoted throughout this report is based on funded benefits only.**

We estimate that, based on the assumptions used for this valuation, GiA funding from Defra will be required up to and including 2029. After this we estimate that, based on the asset value at 31 March 2010, the Fund's assets will be enough to pay for future benefits after 2029. This 'cut-off' point will need regular monitoring by

the Environment Agency to ensure the GiA funding mechanism is not stopped too early by Defra. The ‘cut off’ point will be reviewed and, if necessary, updated again as part of the 2013 triennial valuation.