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Review of the water abstraction charges scheme

Summary of responses to the consultation

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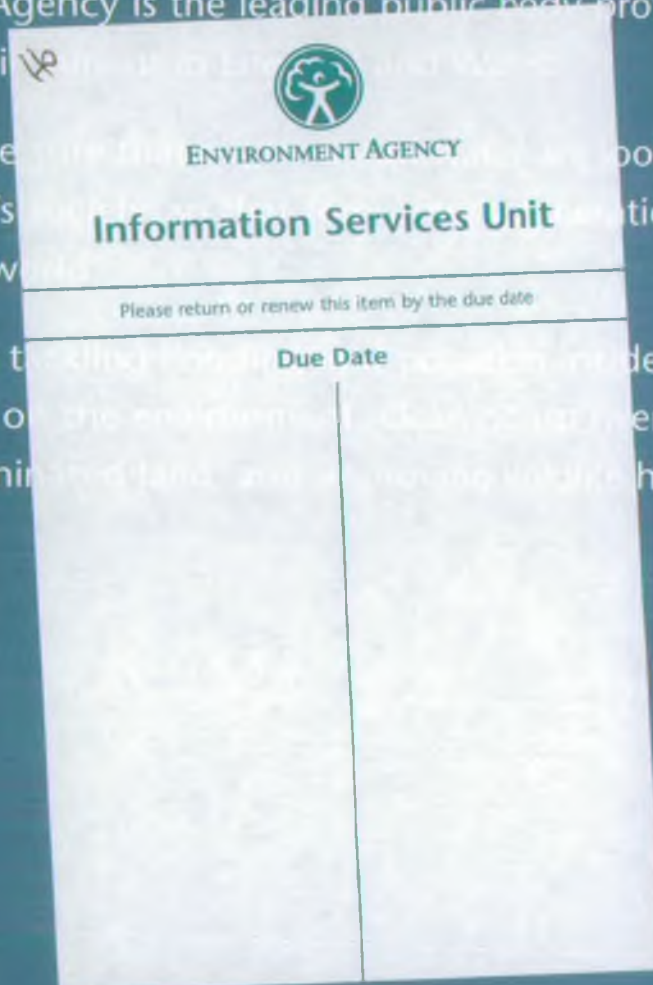
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Our work includes tackling pollution, preventing incidents, reducing industry's impacts on the environment, cleaning up rivers, coastal waters and contaminated land, and restoring wildlife habitats.



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Introduction

1.1. Background

Between January and April 2004 the Environment Agency consulted around 6000 people, including key stakeholders and abstraction licence holders, on our proposals for a revised water abstraction Charges Scheme. The review of the scheme was initiated in response to Government's directions set out in *'Taking Water Responsibly'* and *'Tuning Water Taking'*. We received 180 responses to the first consultation.

1.2. Aim of this document

This document contains the responses that we received to the first round of consultation and aims purely to summarise the responses we received. We have not sought to answer or respond to questions or issues raised in responses at this stage, therefore this document does not aim to give the final position on the revised Charges Scheme. Our final proposed Scheme will be published in our second consultation on the final proposed Charges Scheme.

1.3. Next steps

We would like to thank all respondents for taking the time to comment on our first consultation. We are very grateful for the comprehensive comments we received, which have helped us to understand the breadth of views available on the complex issues we raised in our first consultation. We will take all of these into consideration as far as possible when developing our final proposed Charges Scheme, which will be outlined in the second stage of the consultation process. This is planned to take place in Spring 2005.

Following the second consultation, the revised Scheme will be submitted for approval by the Secretary of State for the Environment, Food and Rural affairs, in consultation with the National Assembly for Wales and with the consent of the Treasury. We will then prepare to implement the Scheme with effect from 1 April 2006.

1.4. Structure of this document

Section 1 introduces this document.

Section 2 gives a breakdown of all the consultees who responded to the first consultation document by sector, Environment Agency region and by organisation.

Section 3 summarises the responses we received to each of the 21 questions asked in the first consultation document. We also received a number of general comments that were not related to the specific questions we asked; a summary of these is provided at the end of this section.

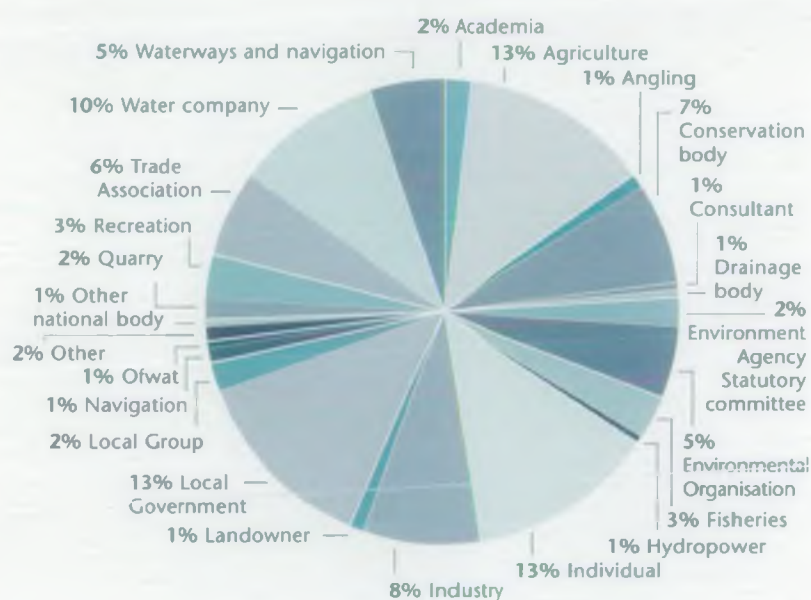
The table in **section 4** provides a brief summary of all the responses we received to each question.

If you would like further information or to discuss the consultation process, please contact Amanda Turner on 01925 542390 or Joanne Hickman on 0121 241 2009.

Breakdown of Respondents

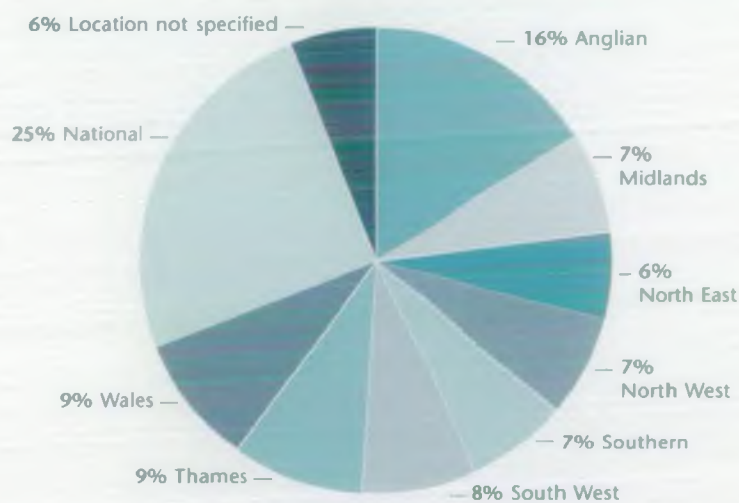
2.1. By Sector

Sector	No.
Academia	4
Agriculture	21
Angling	2
Conservation body	12
Consultant	1
Drainage body	1
Environment Agency	4
Statutory committee	4
Environmental Organisation	8
Fisheries	5
Hydropower	1
Individual	21
Industry	13
Landowner	2
Local Government	21
Local group	4
Navigation	2
Ofwat	1
Other	2
Other national body	1
Quarry	3
Recreation	5
Trade Association	11
Water company	17
Waterways and navigation	8
Total	170



2.2. By Environment Agency Region

Sector	No.
Anglian	28
Midlands	12
North East	11
North West	12
Southern	12
South West	13
Thames	16
Wales	15
National	41
Location not specified	10
Total	170



2.3. Organisation

Action for the River Kennet	Cherwell District Council	Glaxo Wellcome
Anglian REPAC	Chiltern Society Rivers and Wetlands Conservation Group	Government Office for the North East
Anglian Water Services Ltd	Chippenham Angling Club	Hambleton District Council
Association of Building Engineers	Clay Brow Farm	Hampshire County Council
Association of Drainage Authorities	Claycotts	Hankley Common Golf Club
Association of Electricity Producers	Confederation of Paper Industries	Hertfordshire County Council
AW Mortimer (farms) Ltd	Country Land and Business Association	Highways Agency
Aylesbury Vale District Council	Countryside Agency	Horticultural Trades Association
Barnet District Council	Countryside Council for Wales	House Builders Federation
BCL Tarmac Southern Ltd	CPRE Norfolk	Hydro
Berkshire Trout Farm Ltd	Cranfield University at Silsoe	Inland Waterways Association
Bicester Friends of the Earth	Darrington Quarries Ltd	Jeffrey Miller & Co Ltd
Books-worldwide	Dee Valley Water	Lark Angling & Preservation Society
Brecon Beacons	Denbighshire County Council	Leominster Golf Club
Bristol & West Branch of Salmon & Trout Association	Department of Health	Lincolnshire Wildlife Trust
British Cement Association	Devon County Council	Liverpool Hope University College
British Hydropower Association	Dwr Cymru	Long Sutton Golf Club
British Potato Council	Easingwold Golf Club	Low Farm
British Soft Drinks Association	East Suffolk Water Abstractors Group	Mapledurham Estate
British Sugar	Elveden Farms Ltd	Mersey Docks and Harbour Company
British Waterways	English Heritage	National Farmers Union
Broadland Agricultural Water Abstractors Group	English Nature	National Farmers Union Cymru
Broads Authority	EPAC Wales	National Trust
Broads Society	EWAN Associates Ltd	Neath Canal Navigation
Broadwell Manor	Fairfield Control Systems Limited	Network Rail
Burthorpe Green Farm	Farleigh School	Newbiggin Hall Farm
Caldicot and Wentlooge Levels IDB	Farmers Union of Wales	Norfolk Rivers Group
Campaign to protect rural England	Fishguard Goodwick & Lower Town Civic Society	Norman Caley Ltd
Central Association of Agricultural Valuers	Folkestone & Dover Water Services Ltd	North Cove Hall
Chartered Institute of Water and Environmental Management	Friends of the Lake District	North Sea Action Group
	Gateshead Council	North West Central Area AEG
		North West Regional Assembly

North West Regional Environment Protection Advisory Committee	Sapiston Area Irrigators Group	Todmorden Angling Society
Northumbrian Water Ltd	Severn Navigation Restoration Trust	Tonbridge and Malling Borough Council
Oakland	Severn Trent Water	Tower Hamlets
Ofwat	South East Water	UK Coal Mining Ltd
Oxfordshire County Council	South Staffordshire Water	UK Irrigation Association
PF Southgate Ltd	South West Water	UK Major Ports Grou
Place UK	Southern Water	United Utilities Water Plc
Port Authority of Great Yarmouth	Stretton Hall	Upper Thames Fisheries Consultative
Portsmouth Water	Surrey County Council	Upton Suffolk Farms
Quarry Products Association	Surrey Heath	Veolia Water UK
Redsell Group of Companies	Sutton Hall Farms	Water Grid
Richard Buxton Environmental & Public Law	SW SEED Ltd	Water Resources: Economics, Research and Training
River Thet Catchment Water Resources Group	Swansea City Council	Water UK
Robinsons Soft Drinks	Teneriffe Farm	Water Voice
Royal Oak Hotel	Terra Nitrogen (UK) Ltd	Webster & Horsfall Ltd
Royal Society for the Protection of Birds	Thames Water Utilities Ltd	Wilbram river protection society
Rugeley Power Ltd	The British Association for Shooting and Conservation	Wildlife Trust
RWE Innogy plc	The Taw Fishing Club	Wye and Usk Foundation
	The Wiltshire Fishery Association	Yorkshire Water
	Three Valleys Water	

Summary of Responses by Question

3.1. CSR1

Do you agree with our proposal to retain Regional SUCs or do you feel that the benefits of moving to a single England and Wales SUC outweigh the difficulties that might be involved?

	Number
Total number of responses received	111
Respondents in favour of regional SUC	88
Respondents in favour of England & Wales SUC	1
Respondents with alternative comments	7
Respondents based in EA Wales	5

A number of those who supported regional SUCs felt that this system should be retained as it reflects the principles of the Water Framework Directive which will eventually require charging on a catchment basis, while others felt that regional SUCs maintain the link between local abstractors and the Agency's operational costs in each region, thereby avoiding subsidy of costs between regions. Some consultees felt that regional SUCs would be more in line with moves towards greater devolution of power to regional assemblies such as has already happened with the National Assembly for Wales.

A number of respondents simply felt that the current charging structure has worked effectively until now and that there is no justification to move from this system at the current time.

Of those who favoured a move towards a national SUC, most felt that this would be a better approach to charging as it would bring water resources charging in line with other Agency Charges Schemes and that a more standardised approach would be beneficial. Others argued that an equal charge for all abstractors across England and Wales would

simply be more equitable and would ensure that no business has higher charges because of its location. One abstractor argued that the Agency is a national organisation with national overheads and as such should apply a single national SUC. It was recognised by some that if a national SUC is implemented, this would cause high increases in charges for some regions so it was suggested that the increased charges should be phased in over a number of years.

6% of respondents did not offer a preferred approach to the basis for calculating the SUC. Of these, most simply acknowledged that the regional approach to charging worked sufficiently well but, because of their location, they would be better off financially under a single SUC for the whole of England and Wales.

7% responded simply to say that they would prefer increased transparency in the way the Agency calculates SUCs. 24% of respondents stated that regional charge levels should be reviewed to ensure that they accurately reflect environmental sensitivity and water scarcity as well as regional operating costs.

3.2. CSR2

Is it reasonable for water companies to contribute towards the costs of compensation in other sectors if changes to water company licences are funded through AMP4 or should these costs be met by abstractors in other sectors?

	Number
Total number of responses received	65
Respondents in favour	28
Respondents against	34
Responses against from water companies	19

Of those who felt that this suggestion would be unreasonable, 56% of the respondents were water companies who argued strongly that this would place an undue burden on water customers and would distort the market. Under this situation, there would be scope for the water supply sector to subsidise the costs of other sectors which was felt to be inequitable. It was argued that all sectors using water should pay realistically for their abstractions and should not be subsidised by the water companies. Some respondents were against this suggestion on the principle that it could be seen as a surrogate for general taxation: an option which the Government has already ruled out as a means for funding compensation. One respondent argued that allowing water companies to contribute to the cost of compensation in other sectors would also bring unnecessary complexity to compensation recovery.

Of those respondents who felt that this suggestion would be reasonable, the majority argued that because water companies can pass the costs of compensation on to water supply customers, that this would be the fairest way because it allows compensation to be recovered from as wide a front as possible (i.e. similar to general taxation). Many felt that this would have the lowest impact because water companies can pass these costs on to customers whereas in highly competitive markets such as agriculture, the cost increases cannot be absorbed by increasing the price of produce. One respondent argued that as a result of this, it would be unfair to allow non-water company abstractors to cover all the associated compensation costs.

The remaining 5% of respondents suggested alternatives for splitting the compensation costs between water companies and non-water companies. One respondent suggested that the most effective option would be to create a combined approach that would use resources from the AMP4 as well as contributions from other sectors to balance the costs between all abstractors and ensure that every abstractor contributes a proportional amount towards compensation payments. Another respondent felt that it would be most effective to split the costs on a 50-50 basis between water companies and non-water companies.

3.3. CSR3

We would welcome any views that consultees may have on the potential use of reverse auctions for recovering unsustainable abstraction licences.

	Number
Total number of responses received	69
Respondents in favour	36
Respondents against	24
Respondents suggesting more research	9

Of those who responded in favour of using the reverse auctioning process, many felt that this is an innovative idea with considerable potential to reduce the compensation bill. Many were of the view that they have the potential to ensure that water with the lowest value relative to the rest of the catchment would be recovered first, and would be achieved on a voluntary basis. Some acknowledged that it may be a useful tool, however, they were of the view that due to the complexities involved in applying this process to compensation recovery, the scope for use is likely to be limited in practice. A number of respondents supported the process in principle, but stated that the process would need careful planning in order to obtain a response and were in favour of trialling the process first before this option is pursued. One respondent explained that they had seen a similar process used successfully before and supported the use of the process in the context of recovery of unsustainable abstraction licences.

Those who were against the use of reverse auctions felt that this would be an over-complicated and unfair concept for determining the value of compensation, and that the administrative cost of carrying out the process would outweigh any potential benefit. Many were against the use of this process on the grounds that the success is likely to be limited in this context due to the lack of a competitive market. One respondent was against the proposal stating that our work should be focussed on providing alternative water sources and promoting grants for winter storage rather than devising complex approaches to facilitate licence removal. One respondent argued that it is difficult to see why any abstractor would accept a compensation payment, which is lower than that to which they are legally entitled and as such felt that the reverse auction process would not work.

Those who didn't express an opinion either in favour of or against the use of reverse auctions stated that further research into the process and pilot testing should be completed before any decision about the use of the process is made.

3.4. CSR4

Do you think the proposed mechanism for calculating the Environmental Improvement Unit Charge (excluding supported source charge but including the tidal factor) is the most effective way of recovering compensation? We would welcome the suggestion of alternative mechanisms.

	Number
Total number of responses received	59
Respondents in favour	50
Respondents against	7
Respondents with alternative comments	2

Of those who supported the use of the Environmental Improvement Unit Charge (EIUC), most felt that it would be reasonable on the grounds that it would ensure that the recovery of compensation is generally proportionate to the impact of the abstraction, and that it would be both fair and effective. Two respondents felt that this mechanism would provide the clearest and most transparent method for recovering the costs of compensation. A number of consultees were in favour and agreed that the EIUC in the Scheme should be a temporary measure and should only be used until compensation recovery has been completed. Three respondents argued that the season factor should also be omitted from the EIUC part of the charge to avoid summer abstractors contributing ten times more to compensation recovery than winter abstractors. One respondent argued that no element of the source factor should be applied to the EIUC calculation. In this way, the compensation element of the charge would be more proportional to the impact of the abstraction, which a number of respondents argued should be the case. One respondent supporting the use of the EIUC felt that the title is misleading and that the factor should be re-named to explain that the charge is to recover the costs of compensation.

Of those who disagreed, most felt that this would be an overcomplicated way to recover the costs of

compensation. Two respondents argued against the method we proposed for calculating the EIUC, stating that it would be fairer for those abstracting from supported sources to pay their compensation charges at supported source rate.

Some respondents suggested alternatives to the EIUC. A number of respondents suggested that it might be simpler to increase every SUC by an equal percentage high enough to recover the cost of compensation. Other respondents were in favour of adding an extra amount on to each bill to recover compensation. One respondent offered the suggestion of an 'Environmental Sensitivity Charge' which would be levied on all abstractors until compensation recovery has been completed, and then continued to be levied on abstractors in sensitive catchments as an incentive to encourage water efficiency.

A number of abstractors commented that there would be no efficiency incentive created by the EIUC and increases of this magnitude would be unlikely to create any significant price elasticity.

3.5. CSR5

Would it be better to recover compensation for England and Wales jointly or separately? If we recover compensation separately should this be based on the Welsh political boundary or the boundary of the English Regions and Environment Agency Wales?

	Number
Total number of responses received	64
Respondents in favour of joint recovery	24
Respondents in favour of separate recovery	34
Respondents in favour of hydrological boundary	26
Respondents in favour of political boundary	6
Respondents based in Environment Agency Wales	7

Of those in favour of separate compensation recovery for Wales, many felt that this was reasonable on the basis that it would be compatible with the Water Framework Directive and CAMS. It was argued that the benefits arising from Environmental Improvements are felt locally and as such, compensation costs should be funded from that area. One respondent argued that this would be

more equitable for Wales due to the amount of rainfall they receive, their low irrigation usage and the relatively small number of sites designated under the Habitats Directive. One respondent felt that it would be more equitable for licence holders in EA Wales to only fund environmental improvements in their administrative area. A number of respondents also argued that there would be unacceptable increases in charges for customers in EA Wales if a joint recovery system for the whole of England and Wales were to be implemented, and that it is unfair to expect Welsh abstractors to subsidise English compensation costs. One respondent was in agreement on the basis that separate recovery would avoid abstractors in Wales subsidising compensation in England and would not result in significant increases in charges for abstractors in England.

Those who would prefer compensation to be recovered from England and Wales jointly, argued that this should be the case because the environmental improvements will provide a national benefit by improving sites which are of national and international importance and which should therefore be funded across as wide a front as possible. Others argued that the costs of compensation, particularly in the Anglian region, should be funded across as wide a front as possible so that the economic impact of compensation recovery is minimised. One respondent argued that the Water Resources Act applies to both England and Wales so there is no logical reason to treat them separately. Others felt that recovering compensation costs from Wales separately would make the Scheme too administratively complex. One respondent argued that a large percentage of the water abstracted in Wales for public water supply is destined for use in England and on this basis, it would be sensible to recover compensation jointly.

Those who felt that separate recovery should be done on the basis of the hydrological boundary for Wales, argued that this would avoid adding unnecessary complexity and costs to the Scheme, which could increase costs. It would also avoid any conflict that could arise from using the political boundary for Wales. One respondent argued that hydrological units should be the basis for water resource management, so compensation should be recovered based on the hydrological boundary.

The 10% of respondents who were in favour of separate recovery for Wales being based on the political boundary for Wales felt that this would be more readily accepted by abstractors. Many felt that this would be the only politically acceptable route.

3.6. CSR6

How effective do you believe a time-limiting factor will be and what do you think will influence the effectiveness of such a factor?

	Number
Total number of responses received	82
Respondents in favour of time limiting	30
Respondents against time limiting	46
Responses in favour of time limiting factor	25
Responses against time limiting factor	40

Comments received from those who favoured the time-limiting factor included the observations that its effectiveness will be influenced by the perceived benefits or otherwise to abstractors changing to time-limited status and that this could be financially driven depending on the scale of the factor applied. It was suggested by a few respondents that for such an incentive to be successful, the factor would have to be high to encourage people to convert. However, a few commented that the factor was unlikely to provide sufficient incentive for water companies and industries based on the use of water to convert to time-limited status. One respondent highlighted the fact that the cost-recovery framework of the Charges Scheme limits the influence of any incentive and suggested that for incentives to be a success, the Agency needed to reconsider the cost-recovery framework.

Another respondent suggested that it should be targeted on catchments with water management issues to achieve environmental benefits; however two respondents highlighted that licence holders in regions where abstractions may be threatened will require a much higher incentive to convert than those situated in water abundant regions. One respondent highlighted that the Agency needs to focus on education of the need for time-limited licences into the future.

One respondent suggested further modelling of the impact on individual abstractors and evaluation of the impact that water companies hold in terms of dominating the switch to time-limited status.

Of those respondents not favouring the time-limiting factor, the majority highlighted the fact that the disadvantages of converting to time-limited status far outweighed the benefits received from a financial incentive. The costs referred to by respondents included:

- risk to long-term investments, based on short term licences
- long payback periods associated with high up-front investments in sites and equipment
- future uncertainty / security of supply
- reduced flexibility
- reduced ability to long term plan
- lack of long term stability
- risk to businesses built around future availability of water
- increase costs associated with renewal of licence
- dependence of the business on water
- reduced land or asset value
- stranded assets if licences not renewed

One respondent highlighted the fact that in regions where a single abstractor dominates, the impact will have virtually no effect as the incentive will be counterbalanced by adjustment to the SUC and therefore balance out the charges levied on that abstractor. As a result any incentive levied on a regional basis will have limited impact.

A high number of respondents raised concern over the renewal process for time-limited licences and there appeared to be a general lack of confidence in the approach. It was felt that if the Agency's policies were more clearly available, then there would be more support for time-limited licences and consequently adopting the time-limiting factor. A few respondents highlighted the fact that the risk of a licence not being renewed was a greater disincentive and therefore they would be prepared to pay a premium to ensure future security of supply.

A few respondents highlighted that a significant value was placed on permanent licences, as they are regarded as property or land assets. There were a number of issues regarding the appropriate length of a time-limited licence, with suggestions that the time limits should match project life. It was also highlighted that the ability to renew a licence would be of greatest concern and therefore likely to influence how successful a time-limiting factor would be. One respondent suggested that there should be a 4 yearly review with targets set (as with IPPC permits) which would allow time to plan for change.

Four respondents queried the need to convert all licences to time-limited status, when the Agency already has the ability to time-limit licences where necessary and address damaging licences. Where there is no environmental benefit in converting to

time-limited status, it was felt that the Agency would have to justify increasing costs of non-time-limited licences.

3.7. CSR7

The Agency would welcome the views of abstractors on whether they would respond to the incentive of a time-limiting factor and the views of all consultees on whether a 'reduction' factor should be applied to time-limited licences or a 'premium' factor applied to non-time-limited licences.

	Number
Total number of responses received	74
Respondents who would respond to the incentive	3
Respondents who would not respond to the incentive	32
Respondents in favour of premium	19
Respondents in favour of discount	18

32 respondents indicated that they would not respond to a financial incentive to convert to time-limited status, due to other factors influencing their decision. Many of those noted that the disincentive that a licence might not be renewed and that licence holders would have no security of supply would greatly override any financial incentive to convert to time-limited status. Four respondents said they would consider conversion and eight respondents said that they might consider converting to time-limited status, as long as there were assurances on the renewal process and security of supply. A few respondents said they would consider conversion to time-limited status, but felt that the incentive would have to be high and that they would have to consider the costs and benefits in more detail.

18 respondents favoured the discount factor and 19 favoured the premium factor; though a small number had no preference and three suggested that both were introduced. One respondent noted that introduction of one factor would result in the other being adopted to ensure the same income was raised through the cost recovery framework.

Respondents who favoured the discount factor considered that it was a more beneficial and positive way of influencing abstractors, rewarding abstractors for converting and providing encouragement for

others. It was further added that applying a premium to abstractors with non-time-limited licences would be seen as penalising them for abstracting lawfully, and in accordance with Agency policy, and that this was considered unacceptable. Two respondents also highlighted that the Agency would need to work closely with abstractors to ensure a good relationship, and one commented that introducing a premium may lead to a deterioration in the relationship between permanent licence holders and the Agency. One respondent suggested that the discount could offset the additional costs associated with renewal of a time-limited licence.

Respondents who favoured the premium factor felt that the incentive was more likely to have the desired effect, although it would need to be high enough to bring about any change. One respondent commented that applying a premium factor sent out the message that these licences were out of synch with society's expectations and should no longer be regarded as the norm. With increasing demand on water resources, it is regarded that there should be a mechanism to review licences and protect the resource into the future. Another commented that any premium would be funded through water company customers and they would become involved in the regulatory funding process.

A few respondents also commented that these incentives may work better if combined with other incentives, such as grants for the construction of winter storage reservoirs. Another commented that the creation of a market for trading time-limited licences, but not non-time-limited licences may act as an additional incentive.

3.8. CSR8

What do you think about the potential for introducing a stress factor and our proposal that this should be considered in the light of further research? Suggestions of alternative mechanisms or ways to overcome some of the practical issues are welcomed.

	Number
Total number of responses received	78
Respondents in favour	51
Respondents in against	16
Respondents suggesting more research	35

35 respondents felt that further work was required and it was essential to relate the incentive to the CAMS process and therefore it would be beneficial to delay implementation of the incentive until there had been more output from the CAMS process. 33 commented that the factor should be derived and implemented at catchment level. One respondent felt that introducing the factor prior to the completion of CAMS would pre-empt CAMS results, whilst another was concerned that this could make the CAMS outputs more contentious. A further respondent suggested that the factor could operate on a sliding scale to match the resource availability categories and therefore to incentivise efficient water use or land use change.

A few respondents felt that we could implement the factor now and where it was not possible to apply research-based stress factors, the Regional Water Resources strategies could be used along with the precautionary principle and the factors adjusted once knowledge is gained. A further respondent felt that the stress factor should only apply to new licences and another suggested that the stress factor should only be considered when all other methods of demand reduction have failed.

One respondent indicated that the Agency would have to be careful to ensure that stress due to abstraction was not confused with stress as a result of drought and another commented that stress could be caused by a number of factors.

Of those who did not support the factor, five respondents felt that adding a stress factor to the charge would only over complicate an already complex charge, especially in the light of all the recent and imminent changes expected to the licensing system. As a result a few respondents felt that it may deter trading which they felt that would be the appropriate mechanism for dealing with stressed catchments. Another respondent commented that the stress factor was not in keeping with the necessity for developing a free market to allow trading of water rights to take place.

A large number of respondents also highlighted the fact that the Agency should undertake further research into the scale of costs that such an incentive would provide to abstractors and what benefits would be derived. As was highlighted by one respondent the use of incentives was limited by cost recovery. However, another respondent suggested that any surplus created as a result of the factor could be re-invested in the form of assets to improve availability and sustainability and hence reduce stress. A further respondent felt that the factor was

still a valid signal and was a move towards meeting the objectives of the Water Framework Directive that requires water pricing policies to take account of environmental and resource costs. One respondent noted that, to be effective, the factor would have to be large enough to influence water company planning. One respondent raised concern that the anecdotal judgements used in CAMS did not have an appropriate scientific base on which to set charges, which left a question as to how to assess levels of stress in catchments.

One respondent felt that the stress factor should form a separate element of the charge with the factor and stress thresholds clearly set out to ensure transparency and equality, whilst another felt that it should be reflected in the SUC.

Three respondents highlighted the fact that many other factors influence choice of location and that water availability was a minor consideration. Another respondent highlighted that the majority of abstractors could not relocate their abstractions to less stressed areas, and therefore would just receive the penalty rather than it operating as an incentive to relocate abstractions. Another respondent felt that to achieve environmental benefit the factor would need to be combined with other measures, such as increased education, information and legislation.

One respondent felt that the factor was outside the Agency's remit of recovering costs for administering its activities.

One respondent suggested an alternative approach - the Environment Agency could issue a formal warning to all abstractors of the water resources situation and to ask for a voluntary reduction in their licensed abstractions. This warning would include a notice that where any abstractor takes more water than the agreed reduced level they would incur a drought stress charge. This charge could be on a sliding scale that increases in line with the volume of water taken above the reduced level. This approach would be simple, clear to all and fair and would be likely to attract wide support.

3.9. CSR9

What do you think about potential for introducing incentives to achieve the three objectives outlined in this section? Do you have suggestions on alternative incentives and possible mechanisms for achieving them?

	Number
Total number of responses received	83
Respondents in favour of a water quality incentive	27
Respondents not in favour of water quality incentive	21
Respondents in favour of incentivising winter abstraction further	25
Respondents not in favour of incentivising winter abstraction further	27
Respondents in favour of incentivising trading	17
Respondents not in favour of incentivising trading	33
Respondents with alternative comments	11

25% of respondents felt that the scale of the incentives was unlikely to generate response from abstractors. One respondent commented that the cost of abstraction is generally a small part of the total business costs and therefore would have little impact. One respondent highlighted the fact that the level of incentives is constrained by the cost recovery framework and therefore would have limited impact.

A number of respondents felt that the introduction of more incentives would make the Charges Scheme too complex, for no real benefit; although one respondent noted that the pricing signals could prove helpful, but questioned whether they were worth the costs of a more complex charges system. A few respondents also suggested that this may deter trading rather than encourage it.

Eleven respondents felt that further work was required to some or all of the incentives prior to their introduction. One respondent suggested that we need to be innovative at a local level to develop incentives to aid catchment management.

27 respondents were in favour of the water quality incentive and 21 were against. Of those in favour, one respondent suggested that it should be a future requirement of all abstraction licences to return

water of quality at least equivalent to the quality at which it was abstracted. Another suggested that there should be an incentive for the use of poor quality groundwater for industrial purposes (e.g. the aquifers under London and Birmingham). A few respondents suggested that we consider the use of s.126 agreements in order to encourage the use of poor quality water. A further respondent noted that if this incentive worked it would reduce the pressure on good quality water courses. However, another noted that abstractors may not be able to have access to poor quality waters and therefore even if the will was there, the incentive would not help the situation.

One respondent suggested expanding the source factor to include good, medium and poor water quality classifications.

Of those not in favour of the incentive, one respondent raised concern that this could lead to reduced dilution in water courses and consequently further reduce water quality, whilst another raised the point that water quality and water quantity are intrinsically linked and therefore need to be addressed as such. Another respondent suggested that the Agency should target improving water quality through the appropriate function rather than introduce incentives. One respondent noted that that water companies were spending considerable sums of money to improve water quality and therefore were uneasy at the prospect of the new incentive as the ultimate goal should be to encourage investment to improve water quality. A number of respondents raised the point that the costs of additional treatment of poor quality water, along with the increased costs of maintaining equipment (as a result of rusting, scaling etc) would prohibit the uptake of this incentive.

In relation to the Hands Off Flow (HOF) incentive, 25 respondents recognised the opportunities that this incentive would create, however, 27 respondents disagreed with the introduction of this incentive.

A few respondents who favoured the introduction of incentives for accepting hands-off flows (HOFs), commented that this must be on the provision that this does not increase costs for those rejecting the conditions and that it was acceptable as long as the abstractors accepted the risk when accepting the incentive.

Of those not favouring the incentive one respondent suggested that this would increase stress amongst abstractors who would be constrained from using water when they most required it and two respondents suggested that this would result in

business disruption and would therefore be unacceptable. One respondent noted that increased HOFs would reduce the flexibility of a licence and therefore its value as a business tool.

One respondent notes that HOFs have been applied for environmental reasons and that the Agency should not be attempting to apply HOFs retrospectively. Three respondents believe that if there are resource issues, these should be dealt with through the CAMS process prior to applying additional incentives.

One respondent noted that there is already scepticism surrounding the scientific basis for HOFs and the ability to monitor them, and therefore questioned the ability to set charges based on HOFs.

In relation to the water right trading incentive, 17 respondents favoured the trading of water rights and the use of incentives to promote them, but 33 disagreed with the whole concept of trading and consequently the introduction of any incentive.

Of those in favour of the incentive a few recognised that the Agency must establish the process and ascertain that there are markets. Until a market is established and it is clear how it operates, there is little to gain by providing additional incentives. A few abstractors commented that trading is complex and that there will be practical limits to the application of any incentives.

A few respondents questioned the appropriateness of water rights trading, especially in stressed areas and therefore do not support the introduction of this incentive. One respondent comments that due to CAMS and the review of consents there is unlikely to be much opportunity to trade and therefore do not see the benefit of the incentive, whilst another notes that the perceived bureaucracy will limit involvement in trading irrespective of any incentives.

One respondent suggests that higher charges in stressed catchments will neither encourage nor promote trading; whilst another comments that the introduction of the stress-sustainability factor would have complex interactions with this incentive and the value and tradability of licences.

A few respondents suggested alternative incentives, which included the following:

- Incentive for collecting/storage of rainwater; i.e. rain-butts for domestic purposes
- Point of discharge incentive to encourage abstractors to return water as close to abstraction point as possible subject to quality constraints (three responses)

- Incentive for Water companies to split their supply to potable and non-potable water
- Incentive to use of nitrate rich water (three responses)
- Incentive to encourage increased local level management (farming groups to share resource and aid trading)
- Time of day incentive to encourage night time irrigation (two responses)
- Incentive to encourage 3rd party use of poor quality de-watered water
- Incentivising river water over groundwater
- Incentive for those working with the Agency to improve water and habitat
- Incentive to encourage the use of rising groundwater where water quality is poor

3.10. CSR10

Suggestions of alternative charging mechanisms to encourage abstraction to take place in winter rather than summer are invited.

	Number
Total number of responses received	76
Respondents in favour	36
Respondents against	28
Respondents in favour of retaining current factors	10

Those who believed that the current season factors should be maintained felt that this should be the case because it is considered that the incentive is already large enough, and that there would be little benefit in extending the factors and anything more complex would be difficult to manage. The remaining respondents felt that more consideration of the options was required.

Those in favour noted that incentives would have to take into account the costs incurred by the abstractors to allow a switch in abstraction patterns and be great enough to encourage abstractors to change management regimes. It was also recognised that the success of any further incentives would be limited by the Agency's cost recovery framework.

A few respondents favoured an increase in the 1:10 ratio between winter and summer abstractions, suggesting that it would give the right signal about the impact of summer abstraction. Another respondent suggested a higher premium for July-Sept; whilst another suggested splitting 'all year' licences to allow differential charging where the majority is abstracted during the winter months. Three respondents suggested a move towards an incentive for abstraction at high flows, rather than a purely seasonal factor. However, a number of respondents highlighted the importance of winter flows.

Those not in favour commented that it would penalise summer abstractors further, when there is no alternative option available and summer abstraction is a necessity. It was highlighted that no matter how large the incentive it would have no impact on behaviour, due to other overriding factors, such as availability of land for storage reservoirs, source of water to fill them and construction costs. One respondent raised the concern that to implement high incentives to assist conversion to winter only abstraction would be against the principles of sustainability which promotes environmental, social and economic growth.

Two respondents believe it would be very wrong to abolish the winter factor, as many have invested in infrastructure to enable winter only abstraction. One respondent suggests that differential charging is not the best approach and that creation of a more conducive business environment would assist meeting the objective. Three respondents suggested that abstractors would require guarantee of longer term winter abstraction licences to support a development over its expected life, i.e. prior to investing in winter storage reservoirs, due to the risks associated with renewal of time-limited licences.

Two respondents commented that it was not feasible to expect all abstractors to be able to invest in winter storage reservoirs. 24 respondents suggested that the incentive needs to take the form of grants to assist the investment in winter storage reservoirs. A few, however, added that the bureaucratic and planning difficulties associated with winter storage reservoirs would deter abstractors from switching to winter abstractions. One respondent suggests that water stored in winter reservoirs and released downstream to be abstracted at the tidal limit should qualify for a discount relative to the cost of construction of the reservoir. A 2-tiered discount was also suggested to differentiate between direct abstraction from winter fill reservoirs and those used to augment flows downstream.

One respondent suggested a scheme to promote abstractors to participate in headwater capture to control predicted increase in winter flooding. One respondent believes HOFs provide sufficient control of summer abstractions.

A few respondents note that this is of no benefit to abstractors from groundwater, where increased winter abstraction would lead to reduce availability during the summer months unless expensive and complex aquifer recharge systems were introduced.

3.11. CSR11

Comments are invited on whether existing loss factors accurately reflect the net environmental effect of abstractions and, if appropriate, how this might be improved.

	Number
Total number of responses received	67
Respondents satisfied with current factors	29
Respondents dissatisfied with current factors	18
Respondents with alternative comments	19

Of those in favour of retaining the current loss factors three respondents felt that currently the factors were simple to understand and transparent and seven agreed that it would be difficult to change the loss factors and that it was unlikely to produce the incentive to change behaviour. One respondent commented that the incentive would have to be large enough to influence water company planning and investment to make any real difference.

Of those not in favour of current loss factors ten respondents felt that spray irrigation should not be categorised as a 'high loss' as it did not, in their opinion, accurately reflect the impact of spray irrigation. The majority suggested that the loss category should be reduced and that there should be more scientific justification for these loss categories. Other changes to loss factors included

- Lower loss factor for water which runs-off from stockpiles and returns to the system over a short timescale
- Factor no greater than 1.0 for dust suppression which has a direct environmental benefit

- 'Very low' loss factor for navigation
- Loss factors to differentiate between water company abstractions that discharge to sea and those that discharge to inland waters
- 'High' loss factor for bottling and uses that require water in the product.

Of those suggesting improvements to the current loss factors, 14 respondents felt they should take regard to the point of return, to encourage return to watercourses as close to the point of abstraction as possible and 6 suggested that they should also take regard of the quality of water returned. On the other hand, seven respondents highlighted the fact that the changes required to infrastructures to allow uptake of this incentive could be cost-prohibitive and therefore unlikely to change behaviour. It was also considered too complex to determine where public water supply abstractions were returned by wastewater treatment works, however one respondent suggested that an overall loss category could be calculated for each water company rather than for each abstraction. One respondent suggested that this would help in preventing water companies pumping water over huge distances. One respondent commented on the benefits received by headwaters as a result of high quality effluent from sewage treatment works.

Two respondents felt that the loss factor should also take account of the beneficial impact on receiving catchments as well as the loss from the source catchment. However two respondents suggested continued research into loss factors, especially in terms of loss from one catchment and gain for another. Another respondent suggested transparent consultation on loss factors.

Five respondents suggested site specific charging mechanisms, although they appreciated that this would result in a very complex and bureaucratic charging mechanism and therefore not practical.

One respondent felt that categorising impact as positive / negative or neutral was too simplistic, whilst another respondent felt that the loss factor should be extended to include these categories, suggesting that there should be an incentive to move from negative to positive based on the demonstration of best practice.

3.12. CSR12

Comments are invited as to how different approaches to actual volume charging could be taken in different geographical areas.

	Number
Total number of responses received	85
Respondents in favour of current system	39
Respondents in favour of actual volume charging	46

The majority of respondents answered this question in conjunction with CSR13. All general comments regarding the adoption of actual volume charging are covered under this question.

General comments

39 respondents were in favour of retaining the current system, with charging based on licensed volume. Eleven favoured maintaining the current two-part tariff charges applicable to spray irrigators. 46 respondents were in favour of moving towards a charging system based on actual volumes, with seven suggesting this could be on the basis of an extended two-part tariff system.

Of those in favour of retaining the current system, seven considered that the current two-part tariff provides sufficient incentive to use water efficiently and provides stability of income for the Agency. Two respondents highlighted that actual volume charging would not provide the correct signal in respect of licence volumes, which are reserved, with twelve respondents highlighting that actual volume charging would provide no incentive for abstractors to surrender unused quantities. One respondent suggested that if licensed volumes were considered carefully when the licence was issued there would be little need to provide any financial incentive to reduce abstraction. 16 respondents suggested that actual volume charging would not provide an incentive to reduce abstraction, especially in the water industry and in continuous process industries. One respondent commented that those who are committed to further expense of treatment would only abstract as much as they need to minimise costs, and that is a greater incentive than the actual volume charging.

One respondent suggested that in the short to medium term stricter control on licensed volumes was required and charging should remain on that

basis, however, in the longer term actual volume charging, along with other measures, could assist in reducing impact on the environment. Another respondent who supported the principle of charging on licensed volume felt that this approach should not apply to the transfer licence system in view of the large quantities involved, but not used.

Eight respondents suggested that further work was required before the Agency adopted any change to the current basis for charging and eight felt that changing to actual volume charging would result in a complex charges system.

Of those in favour of actual volume charging, nine respondents commented that actual volume charging would provide the correct signal about the value of water with 19 believing that it will encourage efficient use of water. One respondent, however, suggested that this would only encourage efficient use in wet years and therefore provide minimal benefit during droughts. One respondent commented that actual volume charging would encourage abstractors to surrender water they do not need and hence promote water rights trading, whilst another highlighted that abstractors may use higher quantities to ensure that licences aren't perceived as not being used and therefore available for trading.

Two respondents suggested alteration to the existing two-part tariff to 25% fixed and 75% variable dependent on use and another suggested altering the ratio to 20% fixed and 80% variable.

27 respondents recognised that the costs both to the Agency, in terms of additional administration and policing and to the abstractor, in terms of investing and maintaining meters, may outweigh the benefits. One respondent highlighted that basing charges on metered volumes would require more sophisticated metering, however one respondent suggested that the issue of metering was over-emphasised in the document, whilst another respondent suggested that the installation of meters for existing licences should be borne by the Agency. Five respondents highlighted that water companies have invested a lot in metering supplies and therefore disagreed with the suggestion that the costs of moving to an actual volume based charge would be expensive. Twelve respondents also raised the fact it should be an expectation that more abstractors should be subject to metering controls to enable actual volume charging to be implemented. It was also suggested that all new licences, variations of licences and those converting to time-limited status should have a meter installed to facilitate actual volume charging.

A few respondents highlighted the fact that the move from fixed to actual charging would reduce revenue, whilst two raised the concern that the Agency is still required to recover a given income each year and this could result in the unit charge increasing, thus provide minimal benefit. One respondent suggested that the Agency should be able to review previous years usage to estimate income from actual volume charging.

Two respondents suggested a staggered introduction of actual volume charging targeting highly consumptive abstractions in stressed catchment as defined by Agency's Water Resources Strategy and then refining it through the application of CAMS.

Another respondent suggested that actual volume charging would reflect the need for water companies to have headroom within their licences for future demand and drought contingency.

Three respondents commented that the change to actual volume charging could have a disproportionate impact on smaller abstractors and two of these suggested that actual volume charging was applied to large abstractors over a given threshold to encourage lower water consumption.

One respondent suggested that there should be a fixed standard rate charged for the normal maximum licensed quantity and then a premium rate for an agreed excess to allow for emergencies.

In response to CSR 12, of those favouring charging based on actual volume, twelve suggested that this should be focussed at a CAMS level and eight suggested a regional level approach, to ensure that it targeted areas of water scarcity. A further eight respondents felt that geographical location should not play a part. One respondent questioned whether the Agency should have already acted in stressed catchments to remove abstractions causing environmental harm and therefore how much of an incentive would this provide. Five respondents suggested that this was a move towards achieving the objectives of the Water Framework Directive.

3.13. CSR13

Views are invited on the potential for moving from charging on the basis of licensed volume to actual volume charging and our proposal that this should be considered in the light of progress in the time-limiting process. Suggestions of alternative mechanisms or ways to overcome some of the practical issues are welcomed.

	Number
Total number of responses received	85

Many respondents answered this question in conjunction with CSR12. All general comments in response to CSR13 have been included in the general comments section under CSR12.

Very few respondents answered CSR13 directly. Five respondents agreed with the linkage between time-limiting and actual volume charging, but one believes that delays resulting from implementation of time-limiting should not hinder adoption of actual volume charging, whilst another believes that water efficiency is the ultimate goal even if there is a slight delay. Five respondents could not see the need for a link between actual volume charging and time-limiting.

One respondent believes that if actual volume charging were linked to time-limiting it would meet objection, and time-limiting would just add an unnecessary distraction and a disincentive to adopting the approach of actual volume charging. One respondent highlighted that the increased scrutiny of licences as part of the renewal of time-limited licences is likely to deter abstractors from accepting time-limited status and also limit how favourably they view actual volume charging. Another felt that actual volume charging would be more effective in reducing abstraction than a time-limiting factor.

One respondent suggested the introduction of buffer capacity relative to regional carrying capacity to allow headroom for future growth and allow actual volume charging.

One respondent provided the Agency with an example of volume based charging that had been introduced in the 1980's, highlighting that to cover revenue variations high reserves were required and to ensure that the use of the reserves was limited,

charges were based on forecasted demand and not prior usage with reconciliation the following year. They also commented that the scheme was not a success and led to disputes and litigation.

3.14. CSR14

Comments are invited on the charging proposals for temporary and transfer licences.

	Number
Total number of responses received	57
Respondents in favour of all proposals	47
Respondents in favour of all except transfers	6
Respondents against	4

Of those in favour of the proposals, four respondents noted that temporary licences would provide more flexibility in operations and assist maintaining supply during pollution events. A few respondents note that the application charge reflects the fact that these licences will still have to be determined on a case by case basis. One respondent stated that the availability of temporary licences must be effective in order to encourage abstractors who only abstract once a year to move from full licences to temporary ones. However another notes that temporary licences should be for genuine one-off abstractions and repeated temporary abstractions should be licensed.

Of those who had concerns with the charging proposals for transfer licences, one respondent commented that the £110 application fee was too high for transfer licences, as this was perceived to be merely a recording of a transfer arrangement. Another respondent suggested that transfer of water within a quarry void to facilitate dry working should attract only a nominal fee, as it does not involve the same detailed determination as a full licence.

One respondent considered that the charge for a transfer licence should relate to the amount of water being transferred and therefore all the charge variables should apply. One respondent raised concern that transfer licences used for inter-basin transfer would have an environmental impact, and only supported the idea if charges for the end abstractor were calculated on the basis of the costs of the donor catchment. Another respondent also raised concern that this may lead to increased abstraction during low flows due to the lack of a flexible annual charge.

One respondent suggested that full licences for the purpose of transfer where no intervening use is made should be charged at the 'very low' loss factor. Another highlighted that at some collieries poorer quality de-watered water is used for dust suppression, the provision of fire fighting facilities, and cooling purposes. If these full licence charges are levied, then, depending on cost differentials, it is possible that the use of this poorer quality water will stop and collieries will rely on groundwater from their permitted boreholes. This clearly would be counter productive to the aims of the Act and there should be some positive encouragement for the coal industry to maximise the use of poorer quality coal measures water in preference to groundwater abstraction.

Two respondents considered that filling a winter storage reservoir should be classed as a full licence and not a transfer, if this operation was seen as a transfer they consider that this would reduce the incentive to use winter storage reservoirs.

One respondent argued for special exemption for water required to temporarily sustain a navigation, as licensing is unnecessary regulation and interference with historic practice. They also raise the question whether a licence is required for each navigation or for each point of abstraction and how dewatering of canal reaches and locks are dealt with.

One respondent states that section 13 of the Act provides for a single application to be treated as a number of applications for licences of any type and feels that the situation needs to be clarified in the regulations/guidance. They consider that it will be very important for the dewatering (transfer licence) to be kept entirely separate from the use of water (full licence) as a process and more importantly for charging purposes. Whilst they agree that it is important that an abstractor has the right to apply for a full licence rather than a transfer licence, they feel it is essential that the Agency does not impose a requirement to apply for a full licence in such circumstances. Another respondent suggests that there should be an option for a proportion of a transfer licence to be a full licence if it supports a full abstraction licence downstream to avoid double charging.

One respondent raised concern that paragraph 6.1 could set a precedent for reviewing abstractions under 20m³/day for agricultural purposes and requests further information on previously exempt abstractions will be affected.

3.15. CSR15

Do you agree that no annual charge should be applied to transfer licences but that full licences for the purposes of transfer should be charged?

	Number
Total number of responses received	54
Respondents in favour	46
Respondents against	8

Of those favouring the proposals, four commented that protection from derogation is an asset and therefore should attract a charge and one respondent believes that all licences which don't enjoy protection from derogation should have benefit of a 10% reduction in their charge. Although in favour of the majority of the proposals, three respondents suggested that transfers from river to reservoir for the purpose of refill should remain exempt from charges as at present. One suggested that this should be only on the basis that the water is returned to an environmentally acceptable point and a further abstractor suggested that the application charges should reflect the volume to be abstracted rather than a flat fee.

Of those disagreeing with the proposals, two respondents comment that the charges should reflect environmental impact of some transfers, e.g. groundwater to surface water transfers and reaches between the abstraction and discharge points.

Two respondents suggest that full licences for the purpose of transfer should only be charged once and that a further full abstraction charge should not be levied on that water. Two respondents comment that if an abstractor requires protected rights and opts for a full licence he should not be required to make a double payment, believing that if there is no intervening use there should be no charge. Applying a 'very low' loss factor would achieve this result.

One respondent noted that Internal Drainage Boards (IDBs) are essential to facilitate abstraction by the licensed end uses, and in many situations the primary objective is to sustain environmental interests and it would be entirely reasonable for the costs involved in obtaining consents to be borne by the Agency. For such licences to have no protection in effect removes the protection of the licensed abstractors and fails to recognise the legal obligation to the protection of designated sites. To ensure that

the protection to other interests is in place IDB licences should have such protection, even if to achieve this they are considered as 'full licences' without the annual charge. If special provisions can be made under Drought Orders and Permits could not the same 'special' treatment be applied to IDB arrangements, as they are under the control of a statutory public body, with water management and environmental duties and a responsibility to Defra. With IDB arrangements there are no losses with the water being transferred into an adjacent water body. Protection from derogation is essential not so much for the transfer as for the knock-on effect and serious consideration should be given to the issue of full (no loss) licences, attracting no annual charge.

3.16. CSR16

What do you think of the loss factors proposed for these currently unlicensed purposes?

	Number
Total number of responses received	47
Respondents in favour	33
Respondents against	11

Of those disagreeing with elements of the proposals, three respondents suggested that the loss factors should be set following competent assessment of the environmental fate of the water. One suggested that this should go through a transparent consultation process and to include some form of appeals procedure. Another suggested that this should be on a case by case basis.

One respondent requested further explanation as to the differentiation between 'water transfers for re-abstraction' and 'dewatering for drainage purpose' considering that there would be re-abstraction of 'dewatered' water downstream. One respondent commented that dewatering is not the same as 'in-stream use'. Two respondents suggests that the loss factor for dewatering should be upgraded, particularly when discharged to river systems and consequently the sea, whilst another two suggest that it should attract the 'very low' loss factor in line with water transfers. One respondent comments that the justification for dewatering attracting the low loss factor is due to the impact of drawdown; however they highlight that the planning application for a development requiring drawdown often specifies monitoring and mitigation measures to limit

the drawdown effect of pumping. One respondent commented that dewatering activities from mines is appropriately managed through the Agency's discharge consents and therefore it is not necessary to have abstraction licences imposed on the front end of the operations. It was also noted that these discharges make some beneficial contribution to river systems.

Six respondents raised concern over the loss factor for transfers either between catchments or those which eventually discharge to sea, suggesting that this can represent 100% loss for the catchment. The loss factor should therefore be upgraded. Two suggested it should attract the high loss factor.

One respondent commented that the loss factors are too general, with regard to combining navigation with harbour authorities; adding that historic navigations should attract 'no charge' as the distance between the abstraction and return point is short compared to other navigations discharging to sea. Another respondent made a number of suggestions: Firstly, where a navigation relies on reservoir or river for its water and discharges further downstream, a full licence should be required for each abstraction point, but not for every internal transfer. Secondly, where the feed is from the river but is returned to source repeatedly at a short distance from the abstraction and therefore no impact on the river the first abstraction should be subject to a full licence, but accommodation of immediate water movements should be agreed. Thirdly where water is diverted down a navigation to avoid river shoals and returned a short distance below the weir, there is a case for nil abstraction and nil transfer under the terms of the Act.

One respondent suggested that flood meadows should attract a 'very low' loss factor; whilst another respondent suggests that the assumptions regarding water meadows should be checked by field measurement of inflow and outflows, due to the impact of evaporation and transpiration.

One respondent suggested that charges to conservancy authorities should be kept as low as possible.

One respondent suggested that two loss factors could be added to a single licence, the first to cover the transfer of water ('very low' loss factor) with the clause that this is not protected from derogation and a second to cover the re-abstraction ('medium' loss factor in the case of public water supply). This would enable the transferred water to be an element of the main licence.

3.17. CSR17

Views are sought on the loss factor that is proposed for trickle irrigation.

	Number
Total number of responses received	44
Respondents in favour of high loss factor	37
Respondents in against	7

84% of the responses we received to this question agreed that a high loss factor should be applied to trickle irrigation. Many responded on this basis because they felt that in light of the research indicating that trickle irrigation is no more efficient than spray irrigation, trickle and spray irrigation should have the same loss factor applied. Some respondents stated that a well managed trickle irrigation operation would result in a total loss to resources and as such should be charged at high loss rate.

The remaining respondents disagreed with the proposed high loss factor because they do not consider trickle irrigation to be a high loss activity. They believe the method to be a more efficient and sustainable method of irrigation than spray which results in a lower loss to resources and should not be assigned the same loss factor.

A number of respondents agreed that the loss factor for trickle irrigation should be the same as for spray irrigation, but felt that both should have lower loss factors applied. The majority argued that the factor should be reduced to medium while one respondent argued that the factor should be low.

3.18. CSR18

Should trickle irrigation be incentivised and, if so, how might this be achieved?

	Number
Total number of responses received	42
Respondents in favour	16
Respondents in against	22
Respondents with no clear preference	4

Of those who felt that trickle irrigation should be incentivised, most argued that this should be on the basis that trickle is a more efficient way to irrigate crops and should therefore be encouraged. Some respondents argued that trickle has a high capital cost and therefore its use should be incentivised. One respondent argued that trickle should be incentivised because it uses a lower volume of water which can be more accurately applied. This reduces consumption and lowers the demand for water, which should be encouraged.

Some respondents suggested ways in which trickle could be incentivised. Most respondents thought that this should be done through the application of the two-part tariff to trickle irrigation, but not extending the power to ban abstraction during times of drought. A number of respondents suggested that this should be achieved by applying a lower loss factor to trickle irrigation but one respondent was strongly against this suggestion arguing that loss and efficiency are not linked and should not be perceived as such. One respondent suggested that a daily exemption should be given if privately impounded water is used. Others felt that those irrigators who have chosen to irrigate using trickle on the basis of efficiency and who maintain their equipment to ensure efficiency should be offered an incentive. Some suggested that grants and advice should be available to help trickle irrigators to maintain their equipment and increase efficiency. One respondent suggested trickle should be incentivised by applying either a reduction factor or a discount to their annual charge. One respondent also argued that a reduction should be given, and that this should be done through the season or source factor.

Respondents who argued that trickle should not be incentivised felt that there is already an incentive to choose trickle irrigation over spray because trickle irrigation systems use a lower volume of water, which attracts a lower charge. It was recognised that the cost and availability of water are pushing irrigators to consider trickle irrigation so no further incentive is necessary. Some argued that there is no benefit to the environment from choosing trickle over spray so trickle irrigation should not be incentivised. One respondent argued that we should not base policy decisions on beliefs about efficiency rather than on the factual evidence so trickle should not be incentivised. One respondent stated that no method of irrigation should be incentivised over any other and that any incentives offered should be to encourage either method being operated as efficiently as possible.

Those who stated no preference expressed surprise

that current research has shown that trickle is no more efficient than spray irrigation and asked for further research to provide evidence that this is the case.

3.19. CSR19

Should two-part tariff charging be extended to trickle irrigation and, if so, should this be subject to the extension of emergency variation of licences to trickle irrigation? The Agency would welcome evidence on whether the difficulty in predicting demands also applies to trickle irrigation.

	Number
Total number of responses received	46
Respondents in favour of two-part tariff	35
Respondents against two-part tariff	5
Respondents with additional comments on 2PT	6
Respondents in favour of section 57 bans	19
Respondents against of section 57 bans	9
Respondents with additional comments on S57	18

Those who agreed that the two-part tariff arrangement should be extended to trickle felt that, because trickle irrigation is an efficient method but has a high capital cost, the two-part tariff may be an efficient way to encourage its use. A number of respondents agreed that this charging arrangement should be extended but felt that a 75:25 or 80:20 division of costs between actual and licensed volume would be more equitable, reduce overall abstracted volumes, and link farm costs to profits, making businesses more sustainable. One respondent believed the two-part tariff agreement provided an efficient, cost effective, awareness raising means of charging spray irrigators which should be applied to trickle irrigators. Three respondents argued that trickle irrigators have the same difficulties in predicting demand as spray irrigators so both methods should be treated equitably. Spray irrigators have the option of a two-part tariff to help them to deal with prediction difficulties so it would seem reasonable to give trickle irrigators the same choice.

Of those who argued against the extension of the two-part tariff arrangement to trickle irrigation, one

respondent argued that trickle should be charged 100% on actual volume abstracted. Another respondent argued that while trickle irrigators do experience some variation in demand, they do not experience the same fluctuation in demand and so are not faced with the same difficulties as spray irrigators. They saw no reason to extend the two-part tariff arrangement.

Of those who argued that section 57 bans should apply to trickle irrigation, the majority believed that this should be the case to ensure that both forms of irrigation are treated in the same way. Two respondents argued that this should be the case provided that the same exceptions that apply to spray irrigation (stated in the Spray Irrigation Definition Order) apply to trickle. One respondent stated that there should be consistency between the two methods of irrigation where drought conditions apply. Two respondents felt that section 57 bans should apply to outdoor trickle irrigation operations, but not to irrigators who use trickle operations undercover. This was on the basis that they felt that trickle irrigators are more at risk than spray irrigators during drought restrictions and because the impact on those businesses affected may be unreasonable and could cause bankruptcy.

Of the respondents that felt that section 57 bans should not apply to trickle irrigation, one respondent stated that it would be reasonable to exclude trickle irrigators from any drought order. This was on the basis that crops grown under trickle irrigation experience a reduced soil wetted volume and do not develop such an extensive root system. They therefore do not have the same resistance to drought as those grown under spray irrigation. The removal of the irrigation supply during drought would destroy the crop. Some argued that this would encourage use of this method and provide the incentive to switch to trickle irrigation where possible. One respondent felt that as trickle is being brought under regulation for the first time, most irrigators would be subject to hands-off-flow conditions so there would be no need to impose section 57 restrictions.

Most respondents argued that both section 57 bans and the two-part tariff arrangement should be applied to trickle irrigation to ensure consistency and prevent discrimination between trickle and spray. This would ensure that the charges levied upon trickle irrigators were fair and equitable.

3.20. CSR20

What do you think of the proposal not to phase in charges for newly regulated purposes, but to introduce charges from the end of the three year period for the determination of applications?

	Number
Total number of responses received	48
Respondents in favour	43
Respondents against	4

90% agreed with our proposal to introduce charges from the end of a three year period for determination on the basis that this proposal seems reasonable and will allow a period for adjustment. Many respondents stated that this proposal would be appropriate as this cannot be done as originally planned, with one respondent recognising that the organisations affected will be better off financially than under the original plans. Two respondents agreed, arguing that it would be unfair to commence charging until all the work to bring these abstractions under regulation were completed and all licences issued.

The remaining 10% of respondents disagreed with our proposals. One consultee felt that it would be fairer for charges to be levied as soon as possible after licences are granted. Another respondent felt that the period should be extended to four years to be in line with the way the Agency have implemented other charges for newly regulated activities (such as groundwater regulation disposal charges). One consultee argued that this would cause trickle abstractors to delay the submission of their applications for as long as possible and would also be unfair on spray irrigators who would have been paying charges throughout this time.

3.21. CSR21

We would welcome views on the proposed options and the impact that the agreement with BW is likely to have on the water supply market.

	Number
Total number of responses received	55
Respondents in favour of removing discount	39
Respondents in favour who favoured option a.	14
Respondents in favour who favoured option b.	25
Respondents against removing discount	1
Respondents with alternative comments	15

We identified two options for addressing the unfair advantage that the current charging arrangements for British Waterways (BW) could give them over existing water suppliers and other new entrants to the water supply industry:

- a. an agreement could be secured whereby a negligible or zero reduction is applied to all BW abstractions, or
- b. a negligible or zero reduction would be applied to abstractions which are part of the WaterGrid operation.

Of those in favour of option a., many supported this view because it was felt that it would be fairer for BW to be treated like any other abstractor. However, a number of these respondents suggested that the benefits of section 130 of the Water Resources Act 1991 could still be applied to those licences where there is transparent and accepted conservation benefit. Two respondents commented that this option would be preferable on the basis that it would be administratively difficult to isolate BW's abstractions that would be participating in WaterGrid. One respondent suggested that, due to the significant change in the level of charge for BW this option would cause, the discount should be phased out over five years.

Those who favoured option b. were generally of the view that the discount should continue to apply for water conservation measures as it could be seen as unfair to remove the discount for other BW activities. However, where the abstraction is for an operation in the commercial sector, no discount should apply.

This would remove the threat of unfair competition in the water supply market.

Of the remaining respondents, three commented that they would welcome any Agency proposals that would open up or stimulate the public water supply market to competition.

One respondent suggested that BW be allowed a very small administration charge for the licences they hold on behalf of third party abstractors from the canal system under BW control.

Three respondents urged us to apply pressure via the Charges Scheme for BW to reduce leakage from their canal system.

One abstractor was against the abolition of any discount for BW stating that the conservation value of canals should continue to be acknowledged by the new Charges Scheme through retention of BW's discount. They acknowledged that this discount should be subject to negotiation from time to time. It was stated that any increase in abstraction charges would have an immediate financial impact on BW's water customers. They argued that the increase in charges would also add to the cost of providing alternative competitive water supplies, which could further stifle the development of a competitive water market.

3.22. General comments

We received a number of important comments on the general principles raised through the consultation which were not related to specific consultation questions. A brief summary of the views we have received is provided below.

3.22.1 Water Framework Directive

It was suggested by a number of respondents that although the document draws attention to the objectives of the Water Framework Directive, it may have been helpful to have discussed the principle that the WFD is seeking to ensure that customers pay the real price for their water as it has relevance when considering how costs should be apportioned. One respondent acknowledged that the Charges Scheme is an important tool in helping to deliver the requirements of the Water Framework Directive and offered support for charging on the basis of River Basin Districts.

3.22.2 The Restoring Sustainable Abstraction programme and compensation

One respondent commented that the RSA programme takes no account of the Ancient

Monuments and Archaeological Areas Act (1979) under which some sites have statutory protection as Scheduled Ancient Monuments and they consider that buried waterlogged archaeology should be considered when determining the environmental impact of abstractions. One respondent acknowledged that this programme is a positive step towards the sustainable regulation of water resources.

A number of respondents commented on the assumptions we made for estimating compensation. One respondent felt that the compensation should be based on the cost of the next available scheme in the appropriate region and expressed disappointment that the cost of demand management schemes has not been reflected in the price of replacement water used. They also argued that they do not see site investigation costs differently from the current Agency activities when investigating the environmental impact of abstraction. One respondent agreed with our proposal to recover the site investigation costs through SUCs.

Other respondents felt that insufficient information had been given to enable consultees to make a reasonable judgement about whether or not the costs of compensation are reasonable. One respondent argued that compensation must be quantified realistically so that owners can judge their best option. Another urged that full discussions be held with licence holders before compensation is agreed to allow time for full consideration of options. Others asked for more information on the basis that compensation will be payable.

Other respondents commented on the large compensation figure estimated for Anglian region and had doubts about the basis of the calculation of this figure. One respondent suggested that the Agency should put more consideration into identifying pragmatic solutions to potential environmental investigations rather than appearing to make judgements on licence reductions from little sound scientific evidence. A number of respondents asked for greater transparency so that the increases in charges can be better understood.

3.22.3 Cost recovery

A large number of abstractors felt strongly that compensation costs should be met from general taxation or grant in aid and not from abstractors. This was on the basis that licence reductions will potentially have benefits for the environment, which is a national asset, and should be funded nationally. Many also argued that abstractors with chargeable

licences should not have to fund compensation payments for licences which the Agency has granted which are now causing damage. Some expressed concern that the Agency is able to recover compensation costs through the Charges Scheme, leaving no incentive for the Agency to act in a reasonable or efficient manner and allowing any costly decisions to be passed on to abstractors. Some also found it inappropriate for compensation to be funded across sectors and would prefer a sectoral recovery approach. One abstractor was strongly against the regional recovery approach.

One respondent supported our approach to recovering costs over a long time period to ensure even recovery rather than fluctuating charge increases. Many also agreed that increases should be capped to avoid large increases in charges, which would be economically unacceptable for some companies. Some felt that increases should be capped at a lower rate than the 5-11% suggested, as even when inflation is low increases of this magnitude would have a large impact on businesses.

A number of respondents felt that cost recovery from abstraction licence holders is acceptable providing it is in line with the polluter pays principle. Some simply stated that the Scheme should be kept simple, avoiding unnecessary accumulation of funds and administrative costs should be transparent and encourage the sustainable use of water. One respondent suggested that fees should be recovered at a low, fixed rate for a long time period.

3.22.4 Administration

One respondent suggested that we should provide more flexible payment options. For example, abstractors with expensive bills should be given the option to pay in quarterly or monthly payments. One felt that we should offer a reduced charge to small abstractions to reflect the minimal cost of regulating these abstractions.

3.22.5 Cost reflectivity & the value of water

A number of consultees responded to say that charges should be proportionate to the environmental impact of the abstraction. Other consultees are concerned that we consider the value of water to licence holders and the value of the investments that have been made into the infrastructure for water supply.

3.22.6 Transparency

One abstractor called for an audit of our abstraction licensing process and charges to ensure that charges

are appropriate. Many felt that it is important that we are transparent about the calculation of charges particularly during this time of uncertainty caused by the requirement to recover compensation. Many also asked that we should be transparent about the costs of compensation that we need to recover, and how these were derived. Some also stated that this should apply to the calculation of Standard Unit Charges as well.

3.22.7 Competition

One abstractor understood the need for abstraction licensing in the UK, but raised the issue that most of their competitors in Europe either do not need a licence or do not pay charges for that licence which makes competing with European based countries harder.

3.22.8 Supported sources review

One abstractor acknowledged that they may be affected by the supported sources review and would welcome further information in due course.

3.22.9 Impact of charge increases

Some respondents asked that we acknowledge the impact of increasing charges on customers and the effect that placing this increased financial burden on rural companies.

Response Summary Table

Ref	Question	Response summary	No.of responses
CSR 1	Do you agree with our proposal to retain Regional SUCs or do you feel that the benefits of moving to a single England and Wales SUC outweigh the difficulties that might be involved?	Most respondents agreed that the Regional SUCs should be retained because they better reflect the principles of the Water Framework Directive and the Agency's operating costs in each region. Those who supported a move to a national SUC argued that this would bring the Abstraction Charges Scheme into line with other Agency Charges Schemes.	111
CSR 2	Is it reasonable for water companies to contribute towards the costs of compensation in other sectors if changes to water company licences are funded through AMP4 or should these costs be met by abstractors in other sectors?	Just over half of respondents felt that this proposal was unreasonable. Of those who disagreed, they did so on the basis that it would be unfair to expect water companies to subsidise non-water company compensation as well as picking up their own costs through AMP4. Those who felt this proposal was reasonable argued that this would be the fairest way to recover compensation as water companies can pass the costs on to their customers which would allow compensation to be recovered across the widest front possible (i.e. similar to general taxation)	79
CSR 3	We would welcome any views that consultees may have on the potential use of reverse auctions for recovering unsustainable abstraction licences.	The majority of respondents were in favour of using reverse auctions; many felt that it is an innovative idea with potential to reduce the compensation bill. However, some acknowledged that the scope for use was likely to be limited in practice. Those who were against argued that it would be an over-complicated and unfair way to recover damaging abstraction licences. Those who did not express a preference asked for further research and pilot testing to be carried out.	69
CSR 4	Do you think the proposed mechanism for calculating the Environmental Improvement Unit Charge (excluding supported source charge but including the tidal factor) is the most effective way of recovering compensation? We would welcome the suggestion of alternative mechanisms.	The majority felt that the EIUC would be the most effective way to recover compensation as it would ensure that compensation recovery is generally proportional to the impact of the abstraction, and that it would be both fair and effective. Of those who disagreed, most felt that this would be overcomplicated and supported the increase of each SUC by an equal percentage high enough to recover compensation.	59

Ref	Question	Response summary	No.of responses
CSR 5	Would it be better to recover compensation for England and Wales jointly or separately? If we recover compensation separately should this be based on the Welsh political boundary or the boundary of the English Regions and Environment Agency Wales?	The majority of respondents were in favour of recovering compensation from Wales separately as it would be more equitable, and most were in favour of doing so based on the hydrological boundary marked by the border between the English regions and Environment Agency Wales. Those in favour of joint recovery argued that environmental improvements will provide a national benefit and should be funded across as wide an area as possible.	64
CSR 6	What do you think the likely effectiveness of a time-limiting factor and what will influence the effectiveness of such a factor?	The majority of respondents were opposed to time-limiting (TL) and the use of an incentive. There was some support in terms of an incentive sending out the correct signal about the future expectations for TL licences. The effectiveness of such an incentive depended on its scale, the risks associated with renewal of TL licences, and the need for other incentive in combination with TL factor.	82
CSR 7	The Agency would welcome the views of abstractors on whether they would respond to the incentive of a time-limiting factor and the views of all consultees on whether a 'reduction' factor should be applied to time-limited licences or a 'premium' factor applied to non-time-limited licences	There was a marginal majority in favour of premium factor, others had either no preference or felt both should be applied. Many suggested that they would not respond to an incentive due to perceived risks associated with TL licences.	74
CSR 8	What do you think about the potential for introducing a stress factor and our proposal that this should be considered in the light of further research? Suggestions of alternative mechanisms or ways to overcome some of the practical issues are welcomed.	The Majority were in favour of introduction of a stress factor. The majority of those in favour consider that further work is required and that it was essential to link it to the CAMS process. The Agency should consider use of regional water resources strategies to allow earlier introduction of the factor. But such a factor may deter trading by making the scheme too complex.	78
CSR 9	What do you think about the potential for introducing incentives to achieve the three objectives outlined in this section? Do you have suggestions on alternative incentives and possible mechanisms for achieving them?	Concerns were raised that the scale of the incentives would be unlikely to generate any response from abstractors as changes to abstraction management regimes and infrastructure would be cost prohibitive. Further work was required prior to implementation and such incentives May make the scheme too complex for minimal benefit and may deter trading.	83
CSR 10	Suggestions of alternative charging mechanisms to encourage abstraction to take place in winter rather than summer are invited.	A third support a further? incentive to reduce summer abstraction. The majority consider grants to assist winter storage reservoirs would provide the greatest incentive, also increase 1:10 ratio, incentivise abstraction at 'high flows' rather than winter abstractions.	76

Ref	Question	Response summary	No.of responses
CSR 11	Comments are invited on whether existing loss factors accurately reflect the net environmental effect of abstractions and, if appropriate, how this might be improved.	A Minority were in total support of existing loss factors, but it was accepted by others that would be difficult to change. There were a number of suggestions of alternative loss factors for existing activities (i.e. high response suggesting that spray irrigation should not be 'high' loss). There was support to extend factors to include 'point of return' factor and take regard of quality.	67
CSR 12	Comments are invited as to how different approaches to actual volume charging could be taken in different geographical areas.	A majority in favour of actual volume charging and there was some support for extending existing two part tariff arrangement. Concerns were raised over additional costs of implementation for the Agency and abstractors. There was Support for implementation at a catchment (CAMS) level.	85
CSR 13	Views are invited on the potential for moving from charging on the basis of licensed volume to actual volume charging and our proposal that this should be considered in the light of progress in the time-limiting process. Suggestions of alternative mechanisms or ways to over-come some of the practical issues are welcomed.	There was minimal support for linking this to time-limiting due to lack of overall support for concept of time-limiting. It was considered that TL would act as a distraction and disincentive to adopted actual volume charging.	85
CSR 14	Comments are invited on the charging proposals for temporary and transfer licences.	The majority were in favour of these proposals. Some concern was expressed over environmental impact of transfer licences and the necessity of a full licence for intervening use in the case of collieries utilising poor quality water when dewatering.	
CSR 15	Do you agree that no annual charge should be applied to transfer licences but that full licences for the purposes of transfer should be charged?	The majority were in favour of charging for full licence for the purpose of transfer recognising protection from derogation as an asset. Some were concerned over charging IDBs for full licences to support abstractions.	54
CSR 16	What do you think of the loss factors proposed for these currently unlicensed purposes?	The majority were in favour of the proposed loss factors, but there were some concerns over transfers to sea or other catchments and dewatering representing a loss to the local water environment which was not reflected in the loss factor.	47
CSR 17	Views are sought on the loss factor that is proposed for trickle irrigation.	The majority agreed that the loss factor for trickle irrigation should be high on the basis that this would be equitable with spray irrigation and that a well managed trickle irrigation should result in a total loss to resources.	44
CSR 18	Should trickle irrigation be incentivised and, if so, how might this be achieved?	The majority saw no reason to incentivise trickle irrigation because trickle uses a lower volume of water, which attracts a lower charge. Those who felt that trickle is more efficient than spray were in favour of incentivising this method.	42

Ref	Question	Response summary	No.of responses
CSR 19	Should two-part tariff charging be extended to trickle irrigation and, if so, should this be subject to the extension of emergency variation of licences to trickle irrigation? The Agency would welcome evidence on whether the difficulty in predicting demands also applies to trickle irrigation.	Most were in favour of extending the two-part tariff charging agreement to trickle irrigation as it is an efficient method. Many respondents also felt that it would be more equitable to apply section 57 bans to trickle irrigators. However some argued that trickle irrigated crops are more at risk during droughts so section 57 bans should not be applied.	46
CSR 20	What do you think of the proposal not to phase in charges for newly regulated purposes, but to introduce charges from the end of the three year period for the determination of applications?	Almost all agreed with our proposals on the basis that this seems reasonable and will allow for a period of adjustment. Those against this proposal felt that it would be fairer for charges to be levied as soon as licences are granted.	48
CSR 21	We would welcome views on the proposed options and the impact that the agreement with British Waterways (BW) is likely to have on the water supply market.	The majority of respondents were in favour of ensuring that BW are treated equitably when operating within the commercial sector. Of the options put forward to achieve this, some were in favour of applying a zero or negligible discount to all BW abstractions, however most favoured the application of a zero or negligible reduction only to the abstractions which are part of the WaterGrid operation. 1 abstractor was against the abolition of any discount for BW stating that the value of canals should continue to be acknowledged by the new Charges Scheme.	55



Appendix 1:

Glossary

Abstraction

In relation to water contained in any source of supply, means the doing of anything whereby any of that water is removed from that source of supply, whether temporarily or permanently, including anything whereby the water is so removed for the purpose of being transferred to another source of supply; and 'abstract' shall be construed accordingly.

Section 221(1) Water Resources Act 1991.

Abstraction Charges Scheme

Scheme of charges payable to the Environment Agency under the terms of an abstraction licence.

Abstraction licence

The authorisation granted by the Environment Agency to allow the removal of water from a source.

Adjusted Source Factor

A new factor which we propose to add to the compensation element of the charge, which removes the effect of the premium charge for abstractors from supported sources but retains the reduction for tidal abstractors.

Agriculture

Includes horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds and the use of land for woodlands where that use is ancillary to the farming of land for other agricultural purposes.

Section 109(3) Agriculture Act 1947.

BAP

Biodiversity Action Plan setting aims and objectives for the management of species and habitats threatened by inappropriate water management.

Catchment

The area from which precipitation and groundwater will collect and contribute to the flow of a specific river.

Derogate

In relation to a protected right, shall be construed in accordance with section 39(4) of the Water Resources Act 1991.

Dewatering

Abstraction for the purpose of controlling groundwater

Discharge consent

Means a discharge of effluent under a consent or the discharge or disposal of any substance under an authorisation.

Drought Order

A means whereby water companies and/or the Environment Agency can apply to the Secretary of State for the imposition of restrictions in the uses of water, or which allows for the abstraction of water outside of existing licence conditions, in times of exceptional shortage of rainfall.

Drought Permit

The mechanism by which the Environment Agency (with the consent of the local navigation authority, if applicable) permits a water company to abstract water outside of the normal terms of an abstraction licence, in times of exceptional shortage of rainfall.

Environmental Improvement Unit Charge

The proposed separate charge element that would allow compensation costs to be recovered with the supported source factor excluded.

Full licence

Means a licence to abstract or impound water in accordance with Part II of Chapter II of the Water Resources Act 1991.

Groundwater

Refers to all subsurface water, as distinct from surface water. Generally, groundwater is considered to be that water which is below the zone of saturation and contained within porous soil or rock stratum (aquifer).

Habitats and Birds Directives

The Directives place stringent requirements to ensure that any authorised activity, including water abstraction, does not adversely effect the integrity of sites designated as being of European importance for particular species and habitats.

Loss factor

Relates the purpose for which the water authorised on the licence will be used. The net loss to water resources is generally related to the purpose of abstraction and this factor makes allowance for this in charging.

Over-abstracted

Existing abstraction is causing unacceptable environmental impact at low flows. Water may still be available at high flows with appropriate restrictions.

Over-licensed

Current actual abstraction is resulting in no water available at low flows. If existing licences were used to their full allocation, they would have the potential to cause unacceptable environmental impact at low flow. Water may be available at high flows with appropriate restrictions.

Protected right

Existing rights which must not be derogated by the granting of a new licence, except with the consent of the holder of these rights. They include all existing licensed abstractions and certain exempt abstractions for domestic and agricultural purposes (excluding spray irrigation) not exceeding 20m³d as defined within section 39(3) of the Water Resources Act 1991.

Register of protected rights

Proposed method to ensure protection from derogation when small abstractions become exempt from licence control under the Water Act.

River Basin

Sometimes known as a catchment, a 'river basin' is an area of land from which all surface run-off flows through a sequence of streams, rivers and possibly freshwater lakes into the sea at a single river mouth, estuary or delta.

River Basin District (RBD)

A river basin, or several smaller river basins combined with larger river basins or joined with neighbouring small basins together with stretches of coastal waters.

River Basin Management Plan (RBMP)

For each River Basin District, the Water Framework Directive requires a River Basin Management Plan to be published. The plan must set out the environmental objectives for water bodies and provide a summary of the measures that will be used to achieve them.

SAC

A Special Area of Conservation classified under the EU Habitats Directive and agreed with the EU to contribute to biodiversity by maintaining and restoring habitats and species.

Season factor

Reflects the greater impact of abstractions on resources during the summer months when water is at its most scarce.

Source factor

Differentiates between the three different types of sources to ensure charges represent the cost of providing the source of supply.

Spray irrigation

The irrigation of land or plants (including seeds) by means of water or other liquid emerging (in whatever form) from apparatus designed or adapted to eject liquid into the air in the form of jets or spray.

Section 72(1) Water Resources Act 1991.

SPA

A Special Protection Area classified under the EU Birds Directive and agreed with the EU to contribute to biodiversity by maintaining and restoring habitats and species.

Supported Source

Sources where the flow is augmented by schemes owned, operated or otherwise financed by the Agency.

Temporary Licence

One of the new types of licence proposed for implementation under the Water Act. Would be required for any one-off abstraction lasting up to 28 days.

Tidal factor

Imposes a lower charge for tidal abstractions (from rivers below the tidal limit) reflecting their lower impact on water resources.

Transfer licence

One of the new types of licence proposed for implementation under the Water Act. Would be available for abstraction of water for 28 days or more from one source of supply and transfer to another without intervening use.

Trickle irrigation

Form of irrigation where water is applied directly to plants through pipes or other apparatus without being ejected into the air in the form of a jet or spray.

Two-part tariff

Special arrangement for spray irrigators whereby the annual charge is calculated as follows:

- a. a basic charge of 50% of the sum payable calculated by the scheme where the volume is taken to be the annual quantity authorised by the licence to be used solely for the purpose of spray irrigation, plus,
- b. a supplementary charge of 50% of the sum payable calculated by the scheme where the volume is taken to be the total quantity actually abstracted during the year for the purpose of spray irrigation.

Section 127(2) Water Resources Act 1991.

Table A1 | Acronyms used in this consultation

Acronym	In full
AMP	Asset Management Plans
BW	British Waterways
CAMS	Catchment Abstraction Management Strategy (or Strategies)
EIUC	Environmental Improvement Unit Charges
HD	Habitats and Birds Directives
PSA	Public Service Agreement
RSA	Restoring Sustainable Abstraction (programme)
SSSI	Site of Special Scientific Interest
SUC	Standard Unit Charge
WFD	Water Framework Directive

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