www.defra.gov.uk

The Water Act 2003: withdrawal of compensation on the grounds of Serious Damage.

A consultation on the principles to be used in determining whether a water abstraction may cause serious damage.

February 2012

Llywodraeth Cymru
Welsh Government

defra
Department for Environment
Food and Rural Affairs

This document/publication is also available on our website at:

http://www.defra.gov.uk/consult/2012/02/09/water-act-1202/

Any enquiries regarding this document/publication should be sent to us at:

Email: waterresources.consultations@defra.gsi.gov.uk

Defra
Water Resources Policy
Area 2C
Ergon House
Horseferry Road
London SW1P 2AL

Tel: 020 7238 5093

Contents

1. Introduction

Who this consultation is aimed at

1.1. This consultation has been sent to a wide range of stakeholders – the list can be found at http://www.defra.gov.uk/consult/2012/02/09/water-act-1202/ but responses are welcome from anyone with an interest in the abstraction of water and its impact on the environment.

Purpose of this consultation

1.2. This consultation seeks your views on the principles to be used in determining whether the revocation or variation of an abstraction licence is necessary to protect waters, underground strata or flora and fauna from serious damage, for the purposes of section 27 of the Water Act 2003[1] (section 27). We would like your views on the principles we have developed including whether you think that they are relevant and appropriate, whether there are other principles that should be considered and whether you believe that these principles provide visibility to abstractors of the circumstances in which the Secretary of State or Welsh Ministers may withdraw the right to compensation in accordance with the provisions of section 27.

1.3. An Impact Assessment was prepared for the Water Act 2003, and which covered the provisions of section 27. A new Impact Assessment has not been prepared in support of this consultation.

How to respond

1.4. You are welcome to comment on all aspects of our proposals but there are some specific issues on which we would particularly value your input. These are presented as specific questions throughout the document.

1.5. The closing date for written responses to this consultation is 3 May 2012. Responses should be sent to the following email address:

waterresources.consultations@defra.gsi.gov.uk

or by post to:

Adrian Brookes
Water Resources Policy
Defra
Area 2C, Ergon House,
Horseferry Road
London, SW1P 2AL

1.6. Respondents who operate wholly or partly in Wales should also copy their response to:

[1] http://www.legislation.gov.uk/ukpga/2003/37/contents

Michelle Russ
Water Policy Branch
Climate Change and Water Division
Welsh Government
Cathays Park
Cardiff, CF10 3NQ

or by email to: water@wales.gsi.gov.uk

1.7. In your response, please:

- Include your name and address;
- Explain who you are and, where relevant, whom you represent;
- Order your comments under the relevant question; and
- Include a summary of your comments if they are more than three pages long.

Confidentiality

1.8. In line with Defra's and the Welsh Government's policy of openness, copies of the responses we receive will be made publicly available, at the end of the consultation period, through the Defra Information Resource Centre, Lower Ground Floor, Ergon House, 17 Smith Square, London SW1P 3JR and the Welsh Government Publications Centre, Room 3.022, Crown Buildings, Cathays Park, Cardiff, CF10 3NQ. If you do not consent to this, you must clearly request that your response be treated confidentially. Any confidentiality disclaimer generated by your IT system in email responses will not be treated as such a request. You should also be aware that there may be circumstances in which Defra or the Welsh Government will be required to communicate information to third parties on request, in order to comply with its obligations under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004.

Next steps

1.9. All the responses received by the deadline will be analysed, and a summary will be placed on both the Defra and Welsh Government web sites.

1.10. This consultation paper has been produced in accordance with the Better Regulation Executive guidance on written consultations, as set out at http://www.bis.gov.uk/files/file47158.pdf

2. Consultation questions

Q1 What additional criteria or alternative approaches could we use for Principle 1 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Q2 What additional criteria or alternative approaches could we use for Principle 2 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Q3 What additional criteria or alternative approaches could we use for Principle 3 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Q4 What additional criteria, or alternative approaches could we use to inform the assessment of a risk of future serious damage than the same three principles we propose to apply to existing serious damage?

Q5 If serious damage arises because of multiple abstractions, how should section 27 be applied to individual licences? What other approaches should be used than the proportional approach described?

Q6 Do you agree with the conclusions from these examples? How can we make the decision process clearer and more transparent?

3. Background

Legislative Framework

3.1. One of the Environment Agency's key tools to manage water resources in England and Wales is the abstraction and impounding licensing system, which has its legislative basis in the Water Resources Act 1991[2] (WRA 91). An abstraction licensing system has been in place since the Water Resources Act 1963.

3.2. The WRA 91 includes specific provision that, where a licence is modified or revoked following a direction from the Secretary of State or the Welsh Ministers, compensation may be payable. Compensation funds are raised as an additional charge to those who pay abstraction charges[3].

3.3. At the end of 2000, the Water Framework Directive[4] (WFD) was adopted and this included a requirement that Member States introduce measures to control the abstraction and impoundment of water including the prior authorisation of those abstractions and impoundments. Member States could exempt from that control, abstractions and impoundments where there is no significant impact on water status including water resource standards[5].

3.4. The Water Act 2003 introduced a number of changes to further the compliance with the WFD by amending the WRA 91. Around 25,000 small licences were deregulated as they posed little risk to the environment. Other provisions, expected to be commenced in 2012, will end most of the remaining exemptions from licensing control that currently exist.

Section 27 of the Water Act 2003

3.5. In 1998, the then Government consulted on abstraction licensing reform[6]. The Government considered the wider environmental significance of water abstraction, taken with the prospect of climate change and set against the benefits already accrued by holders of 'licences of right' and other licences granted until revoked. The Government suggested that it was both appropriate and necessary to change the circumstances in which compensation for licence revocation or variation was provided. The consultation sought views on ending compensation for losses arising from the revocation or variation of an abstraction licence which had been granted until revoked where the proposed variation or revocation was necessary in order to protect the associated water environment from damage.

---

[2] http://www.legislation.gov.uk/ukpga/1991/57/contents

[3] http://www.environment-agency.gov.uk/business/regulation/38809.aspx

[4] Council Directive 2000/60/EC - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF

[5] Environmental standards and conditions are needed to underpin the implementation of the Directive. These have been developed in stages by the UK Technical Advisory Group - http://www.wfduk.org/UK_Environmental_Standards/

[6] http://webarchive.nationalarchives.gov.uk/20040722012352/http://www.defra.gov.uk/environment/consult/waterab/index.htm

3.6. The Government responded to the 1998 consultation with its publication of 'Taking Water Responsibly'[7] in 1999. This signalled that Government would bring forward legislation to withdraw the right to compensation where a licence variation or revocation was needed to protect the associated water environment from serious damage and that the implementation date would be 15 July 2012.

3.7. Section 27 of the Water Act 2003 gives effect to that policy. The provision in section 27 says that:

Withdrawal of compensation for certain revocations and variations

(1)This section applies where—

(a) a licence to abstract water is revoked or varied on or after 15th July 2012 in pursuance of a direction under section 54 or 56 of the WRA (which provide for the Secretary of State[8] to direct the Environment Agency to revoke or vary a licence in certain circumstances);

(b) the licence was granted before the coming into force of section 19 of this Act;

(c) the licence is one which is expressed to remain in force until revoked; and

(d) the ground for revoking or varying the licence is that the Secretary of State is satisfied that the revocation or variation is necessary in order to protect from serious damage—

(i) any inland waters,

(ii) any water contained in underground strata,

(iii) any underground strata themselves,

or any flora or fauna dependent on any of them.

(2) Where this section applies, no compensation is payable under section 61 of the WRA in respect of the revocation or variation of the licence.

(3) Expressions used in sub-paragraphs (i), (ii) and (iii) of subsection (1)(d) are to be construed in accordance with section 221 of the WRA; and "waters", in relation to a lake, pond, river or watercourse which is for the time being dry, includes its bottom, channel or bed.

3.8. During the passage of the Water Act 2003 through Parliament, the then Government undertook to consult on guidance on the interpretation of serious damage to the environment[9].

---

[7] http://webarchive.nationalarchives.gov.uk/20040722012352/http://www.defra.gov.uk/environment/water/resources/abstreview/index.htm

[8] Functions of the Secretary of State under sections 54 and 56 Water Resources Act 1991, so far as exercisable in relation to Wales, are transferred to the National Assembly for Wales by virtue of Article 2 of, and Schedule 1 to, the National Assembly for Wales (Transfer of Functions) Order 1999. Those functions are now exercisable by the Welsh Ministers by virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006.

[9] House of Commons Standing Committee D on the Water Bill [*Lords*] Bill, 3rd sitting 18 September 2003 (morning), Column 70: http://www.publications.parliament.uk/pa/cm200203/cmstand/d/st030916/pm/30916s08.htm

Transitional Regulations for the ending of exempt abstractions

3.9. In 2009, the Government consulted on 'Transitional Regulations'[10] that would commence the provisions of the Water Act 2003 and which set out the process for bringing these activities within licensing control (referred to as 'New Authorisations'). The provisions of the Water Act 2003 to which the transitional regulations will apply are:

- Section 5 Rights of navigation, harbour and conservancy authorities;
- Section 7 Rights to abstract for drainage purposes;
- Section 10 Removal of exempt area status under section 33 WRA 91;
- Section 32 Visiting forces; and
- Section 73 Border rivers

3.10. Whilst under the provisions of the WRA 91 there is no right to compensation where a licence is sought but refused by the Environment Agency, the Transitional Regulations make provision for compensation to be payable where these exemptions are being ended.

3.11. In keeping with the principle of section 27, the Transitional Regulations include a provision to withdraw the right to compensation for those cases where the Secretary of State or the Welsh Ministers are of the opinion that the abstraction causes 'serious damage'.

Changes to abstraction licences and compensation – the current position.

3.12. The Environment Agency's Restoring Sustainable Abstraction (RSA) programme investigates, and where necessary resolves, environmental issues caused by unsustainable, licensed abstraction.

3.13. When an abstraction is found to be causing, or have the potential to cause damage, all options to resolve the issue are considered. These may include, but are not limited to, varying or revoking the abstraction licence.

3.14. An abstraction licence can be changed in two principal ways:

- Voluntary licence change – The licence holder may volunteer to change their licence by applying to vary or revoke it under section 51 of the WRA 91. The licence holder would not be entitled to compensation for any loss resulting from the licence change.
- Compulsory licence change - If the Environment Agency cannot reach voluntary agreement with a licence holder over proposed changes, the Environment Agency may use its statutory powers under section 52 of the WRA 91 to formulate proposals to vary or revoke the licence.

3.15. Where a licence holder objects to the Environment Agency's proposal under section 52 of the WRA 91, the case must be referred to the Secretary of State or Welsh Ministers for a decision.

[10] http://webarchive.nationalarchives.gov.uk/20091210053957/http://www.defra.gov.uk/corporate/consult/water-act/index.htm

3.16. In cases where the Secretary of State or Welsh Ministers direct variation or revocation of licences, this may lead to a claim for compensation in accordance with the provisions of section 61 of the WRA 91. Any dispute on the level of compensation would be referred to the Upper Tribunal (Lands Chamber)[11] for a final decision. A flowchart describing this process is at Annex C.

Licence change and compensation – the position from 15 July 2012

3.17. Section 27 removes the right to compensation in certain circumstances. The investigations undertaken for the licence change and compensation process will gather the evidence needed to inform a view of the environmental impact of an abstraction. The principles within this consultation will be used to guide the assessment as to whether the impact amounts to serious damage for the purpose of section 27 or the Transitional Regulations (see paragraph 3.9). Through this process, there will be consideration of any cost-effective alternatives to changing the licence which resolve damage, or potential damage, and meet environmental outcomes. The Environment Agency will assess each licence against a set of principles before recommending to the Secretary of State or the Welsh Ministers whether the modification is needed to protect the environment from serious damage.

3.18. The Secretary of State or the Welsh Ministers will determine each appeal on its merits based on the evidence presented. Each case will be different. Many factors will combine to determine the impact on the environment and therefore it is not possible to provide a definitive list of impacts that constitute “serious” damage.

Development of the principles for assessing serious damage

3.19. There is little specific guidance as to the interpretation of serious damage in other related legislation that can be applied to abstraction licences.

3.20. There are however useful elements from similar terms already in use in environmental law which can be drawn upon such as “serious pollution”, “serious harm” and “serious environmental damage”. These are contained in:

- Environmental Protection Act 1990[12];
- Conservation of Habitats and Species Regulations 2010[1314] (the Habitats Regs) and the Habitats[15] and Birds[16] Directives;

---

[11] The Upper Tribunal (Lands Chamber) is the successor to the Lands Tribunal and is an independent and specialist judicial body. http://www.justice.gov.uk/guidance/courts-and-tribunals/tribunals/lands/index.htm

[12] http://www.legislation.gov.uk/ukpga/1990/43/contents

[13] http://www.legislation.gov.uk/uksi/2010/490/contents/made

[14] As amended by The Conservation of Habitats and Species (Amendment) Regulations 2011: http://www.legislation.gov.uk/uksi/2011/625/contents/made

[15] Council Directive 92/43/EEC - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1992L0043:20070101:EN:PDF

[16] Council Directive 2009/147/EC - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:020:0007:0025:EN:PDF

- Environmental Damage (Prevention and Remediation) Regulations; 2009[17] and the Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009[18];
- Environmental Permitting (England and Wales) Regulations 2010[19];
- Water Framework Directive 2000/60/EC; and
- Water Act 2003.

3.21. We have drawn upon the provisions in this legislation in developing the principles that we propose should be applied to section 27. Annex B contains a summary of the links to relevant legislation.

3.22. In addition to this, we have undertaken a number of reviews to identify current thinking and good practice; in particular, this includes reviews of:

- Literature and case law;
- Environment Agency's Restoring Sustainable Abstraction programme;
- Environment Agency's enforcement activities, incidents and Common Incident Classification System; and
- Consideration of risks to subterranean fauna.

3.23. Annex D contains the detail of work undertaken to inform the development of principles to assess serious damage. Section 4 of this consultation explains the principles we have developed and are now proposing will be applied.

[17] http://www.legislation.gov.uk/uksi/2009/153/contents/made

[18] http://www.legislation.gov.uk/wsi/2009/995/contents/made

[19] http://www.legislation.gov.uk/uksi/2010/675/contents/made

4. Principles for assessing serious damage

4.1. Our work looking at the definition of serious damage in other legislation and practical reviews of other regulatory regimes has led us to propose three key principles to identify serious damage in the context of section 27.

- **Principle 1: establish the extent and magnitude of the damage**; this describes the physical scale of the damage – it can be described as an area of water or habitat, a length of river, the reduction in numbers of individuals in a population or percentage decrease in the size of a population.
- **Principle 2: establish the qualitative nature of the damage;** this describes why what is being damaged is considered important – it can be the status of a river or the designation of a habitat or population.
- **Principle 3: establish if the damage is reversible and how long recovery may take;** this will describe whether the damage is temporary or whether more lasting effects are expected.

4.2. A table beneath each principle suggests criteria to help the assessment of the impact and guide the determination of whether the level of damage is serious or not. The final decision will be determined on a case by case basis to appraise the weight of evidence across all three principles. It may not be necessary for all three principles to be assessed individually as serious in order to conclude overall that there is serious damage.

4.3. These principles will be used to make a decision about whether an abstraction is causing serious damage only after an investigation, and options appraisal to consider if there are other measures to resolve damage, has been completed. Information needed to apply the principles will be collected during the investigation.

Principle 1: establish the extent and magnitude of the damage.

4.4. The extent of the damage is defined as a spatial scale such as the length of watercourse or area of wetland that is damaged.

4.5. The magnitude of damage is an assessment of the quantitative impact. This could be, for example, a measurement of the degree of abstraction pressure on flow or groundwater level, or numbers of individuals affected or a percentage change in a wildlife population.

4.6. It is unlikely that extent or magnitude alone would be sufficient to determine an impact as being serious damage. Other factors should be considered alongside - for example, 500m of extremely low flow on a designated chalk river may be serious damage. Conversely, 500m of low flows on a river containing no designated species may not be. Principle 2 looks at the qualitative nature of the damage.

4.7. Quantitative measures used elsewhere, for example within Water Framework Directive classifications might also be used to inform an assessment of the extent and magnitude of damage.

Examples to demonstrate how damage may be assessed to identify whether it is serious damage for Principle 1.	
damage – but not serious	**serious damage**
A measurable reduction in surface water flow below natural flows. Substantial loss of flow that has only a localised effect e.g. less than 1km of river. A small loss of habitat attributable to abstraction. Localised destruction of habitat which supports fish or other water-dependent species. Low numbers of mortality, not thought to have adverse effects on a local population	Complete loss of flow in any river caused by an abstraction. Substantial reduction in flows e.g. over 60 per cent lower than natural flows and over more than one km of river. Loss of main groundwater supply to a wetland indicated through cessations of springs and seepages. Substantial loss of habitat (e.g. more than 10 per cent of a site). Substantial change in habitat type e.g. over more than 30 per cent of a defined site. Substantial loss of individuals (e.g. 100 dead juvenile fish, 100 dead crayfish) or large adverse effects on a wildlife population (e.g. more than 10 per cent of a local population).

Table 1: Examples to demonstrate how damage may be assessed to identify whether it is serious damage for Principle 1.

Q1 What additional criteria or alternative approaches could we use for Principle 1 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Principle 2 establish the qualitative nature of the damage

4.8. To determine what is considered serious damage, a qualitative assessment is required. This describes why what is damaged is considered important – it can be the status of a river or the designation of a habitat or population. It may also be influenced by the consequences relating to that damage which may be, for example, non-compliance with other legislation such as deterioration in Water Framework Directive groundwater body status.

4.9. For example if a groundwater abstraction resulted in the drying of a field of improved grassland, although there may be strong evidence of damage over a large area it would not be considered serious because fields of improved grass are common and therefore the individual

loss is of less importance. A similar type and scale of damage to a designated wetland though, is more likely to be considered serious reflecting the rarity and special worth of the habitat affected.

4.10. The requirements of other legislation also inform what may be considered serious. Whilst section 27 makes no distinction between protected sites and species and those that are not protected, abstraction damage to the habitats and species and/or sites that are designated for their conservation interest under either national or international legislation[20] would be a consideration in reaching a decision.

4.11. The Water Framework Directive and the measurements of good ecological status or potential/good status may also inform what is serious damage, particularly if abstraction causes deterioration of status. Failure of Water Framework Directive objectives, for example good ecological status, is not identified as specific criteria but would be captured in the assessment and considered across all three principles.

Examples to demonstrate how damage may be assessed to identify whether it is serious damage for Principle 2.

damage – but not serious	serious damage
Deterioration in flow as a supporting element of WFD status, but no measurable change in overall WFD classified status.	Deterioration in WFD water body classified status which is caused by an abstraction pressure.
WFD Groundwater body status remains above poor and drawdown effects are localised.	Deterioration in WFD groundwater body status overall to poor.
Damage to flora and fauna notified under section 28 the Wildlife and Countryside Act 1981 or protected by the Habitats Regs; but that is considered localised and does not affect the integrity of the protected flora/fauna and site[21].	Damage to flora and fauna notified under section 28 the Wildlife and Countryside Act 1981 or protected by the Habitats Regs where the level of damage has an adverse effect on the integrity of the protected flora/fauna and/or site[22].
Damage to modified (agriculturally improved) or degraded land.	Destruction or major damage to part of a statutory protected site.
Localised damage to native flora and fauna	Extinction of a protected species or habitat

[20] SACs, candidate SACs, Sites of Community Importance or SPAs as designated under the Habitats or Birds Directives and implemented in the UK through the Conservation of Habitats and Species Regulations 2010, as amended. Ramsar sites and potential SPAs are afforded similar protection as a matter of Government policy.

Also SSSI notified under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

Further information about protected sites and designation can be found on Joint Nature Conservation Committee's website: http://jncc.defra.gov.uk/page-1527

[21] See footnote 20

[22] See footnote 20

not thought to affect viability of the species at that site.	from a specific area. Extensive damage to habitat, or death of native flora or fauna typical to the habitat. Extensive damage to Biodiversity Action Plan (BAP) species (on any stage of the life cycle) or habitat.

Table 2: Examples to demonstrate how damage may be assessed to identify whether it is serious damage for Principle 2.

Q2 What additional criteria or alternative approaches could we use for Principle 2 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Principle 3: establish whether the damage is reversible and how long recovery may take.

4.12. When assessing if damage is serious, there needs to be consideration of whether it has a short-term impact or whether the effects are more lasting, potentially causing a permanent change if there is no intervention.

4.13. The duration of the event may not be proportionate to its impact. It is the nature of the consequential impact that is assessed rather than the timescale of the event. For example:

- A long duration event such as continued low groundwater levels on a wetland where it causes a change in habitat type may be considered serious.
- A short-term event such as abstraction causing low flows during fish migrations may have longer-term consequences to the viability of a population due to reduced spawning success or density-dependent mortality and so may also be considered serious.

Examples to illustrate how damage may be assessed to identify whether it is serious damage for Principle 3.

damage – but not serious	serious damage
Substantial loss of flow seen only during drought conditions. Substantial, but temporary, loss of flow where any effects are reversed after a short period of time. Short-term loss of habitat but outside of key life stages of fauna dependant on that habitat.	Substantial loss of flow which is visible outside of drought periods. Reduction of flow outside of drought periods which restricts fish movement during key life stages – for example upstream / downstream migration or loss of juvenile holding areas. Permanent loss of native species or habitat. Short-term loss of habitat during key life stages not caused by drought. For example

	drying out of pools during or after amphibian spawning or lowering of water levels and drying of marginal river habitat during or after fish spawning. Reduced long term distribution and abundance of populations. Reduced capacity for natural regeneration.

Table 3: Examples to illustrate how damage may be assessed to identify whether it is serious damage for Principle 3.

Q3 What additional criteria or alternative approaches could we use for Principle 3 to inform the assessment and demonstrate serious damage? Which, if any, of the criteria we have suggested do you disagree with and why?

Risk of serious damage

4.14. The Secretary of State or the Welsh Ministers may apply the provisions of section 27 to licences that are varied or revoked in order to protect the water environment from future serious damage.

4.15. This includes scenarios where current impacts may not be considered serious but the cumulative impact of an ongoing abstraction would be considered serious. For example, an expanding drawdown zone from a groundwater abstraction may not be serious at present but current abstraction rates would be likely to cause serious damage.

4.16. In determining the impact of abstraction licences on the environment, the Environment Agency will also consider the need to protect the waters, flora and fauna from future damage which may arise where abstraction increases within the constraints of the full licensed entitlement. The same three principles would be applied in evaluating whether potential impact would constitute serious damage under the Water Act 2003 and inform the Environment Agency's recommendation to the Secretary of State or the Welsh Ministers.

Q4 What additional criteria, or alternative approaches could we use to inform the assessment of a risk of future serious damage than the same three principles we propose to apply to existing serious damage?

Dealing with serious damage caused by the impacts of more than one abstraction.

4.17. It is possible that the impacts of more than one abstraction licence may combine to cause serious damage. For example:

- The cumulative effects of two groundwater abstractions lower water levels at a wetland site causing serious damage through a change in wetland habitat; or
- Access to fish spawning grounds may be prevented due to two separate surface water abstractions acting in-combination with each other to cause flows to drop during migration periods.

4.18. Where more than one abstraction licence causes serious damage when their impacts are considered together, this would be addressed through an appraisal of the contribution each licence made to the damage. Resulting proposals to modify abstraction licences under section 52 of the WRA 91, would be in proportion to the impact of each abstraction licence. In such circumstances and where the Secretary of State or the Welsh Ministers have directed the Environment Agency to modify the licences, no compensation would be payable because of section 27.

Q5 If serious damage arises because of multiple abstractions, how should section 27 be applied to individual licences? What other approaches should be used than the proportional approach described?

Application of the principles to licence changes.

4.19. A decision to vary or revoke a licence is only taken following investigations into the impact of an abstraction on the environment. Typically that will involve an options appraisal to identify the most cost effective solution to achieve the environmental outcome and remediate the damage.

4.20. Alternative solutions to licence changes are also considered, for example flow augmentation, and in some cases it may be able to offset or mitigate damage that cannot be remediated, by creating, for example, replacement habitat elsewhere.

4.21. If, following these investigations, the options appraisal concludes that a licence change is necessary, then the Environment Agency will apply the principles set out in this consultation and then recommend to the Secretary of State or the Welsh Ministers if s27 should be applied.

5. Application of serious damage

5.1. The Environment Agency has a duty to exercise its functions to protect and enhance the natural environment and will take action where it is needed to tackle unsustainable abstractions. In the worst cases the Environment Agency expects to recommend to Secretary of State or the Welsh Ministers that serious damage has been caused and, if the Secretary of State or the Welsh Ministers accept that recommendation, no compensation will be payable on those grounds.

5.2. The following examples have been developed to illustrate circumstances in which the Environment Agency may conclude that damage is serious. For each example we have given a brief description of how the principles would be used to determine serious damage. It is important to note though that even if we conclude here that serious damage is not occurring this does not remove the need for a potential licence change without invoking section 27.

Example A: Golf course

5.3. **Background:** A golf course is licensed to abstract from a borehole. On its western edge the golf course borders a dune system that is designated a Special Area for Conservation (SAC). One of the key species on the site is Natterjack toad that breeds in a series of temporary ponds.

5.4. Over the past ten years, the freshwater ponds in the dune slacks have gradually dried up and now are all permanently dry except during heavy rain periods. This has occurred from the eastern edge of the site, with ponds nearest to the abstraction drying up first.

5.5. Impacts:

- The groundwater abstraction has reduced water levels in the dune slacks and they are usually dry during spring.
- The Natterjack toads failed to breed successfully, and the isolated population became extinct at that site.

Principle	Principle 1	Principle 2	Principle 3
Triggered?	Y	Y	Y
Reason	Groundwater levels are reduced below surface level meaning there is no water in the dune slacks. The effect is seen in all the dune slacks across the site.	Natterjack toads are a protected species under the Habitats Directive.	The continuing pressure on the groundwater and the subsequent loss of the dune slacks has meant there are no available breeding areas for the toads. They have become extinct from the site and remediation will only be possible if the water levels rise to fill the dune slacks.

5.6. **Conclusion**: The extinction of the toad population is considered serious damage.

Example B: River

5.7. **Background**: An intake for water supply sits across the full width of a river and collects most of the flow. There is a substantial loss of flow in the river for about 200m. A number of

tributaries enter the river about 200m downstream of the intake and flow is restored, but still depleted. The river is not designated. It contains a declining salmon population, which has spawned in other tributaries. Upstream of the intake there is estimated to be as much suitable spawning habitat as that currently available.

5.8. Impacts:

- Substantial loss of flow over 200m, with the flow depleted for approx five km further downstream
- Substantially depleted reach and intake structure act as a barrier to salmon migration into a key spawning area.

Principle	Principle 1	Principle 2	Principle 3
Triggered?	N	Y	Y
Reason	Substantial loss of flow over 200m of river.	There has been damage to a European protected species in that the capacity of the species for propagation is restricted.	There is a loss of river life within the 200m section of river. The salmon population will continue to decline if access to spawning areas is limited.

5.9. **Conclusion**: The damage is considered serious. The direct impact from the intake structure on the viability of the salmon population by restricting access to a substantial spawning area is considered serious. However the loss of river life from the 200m of substantially depleted river reach would be considered a localised effect and not, in itself, serious.

Example C: Industrial process

5.10. **Background**: An industrial process has been in place for 20 years. It diverts some of the river flow down a bypass channel alongside the river. The amount left in the main river is not controlled by a hands-off-flow restriction. There is usually some flow in the main channel but there is substantial loss during some short periods of peak activity. The abstracted water is returned about 750m downstream. No migratory fish are present in the depleted reach due to a section of river gorge which would naturally prevent fish movement, The river is designated a SAC but none of the interest features are found within the depleted reach during any stage of their lifecycle.

5.11. Impacts:

- Depleted flow over a distance of 750m with short periods of severe depletion.
- Periodic damage has been caused during ‘normal’ flow periods and has been ongoing for 20 years. The ecology of the depleted reach is shown to include invertebrate species that are tolerant of low flows and not normally expected within a river gorge environment.
- The damage is within a designated site, but is not affecting specific designated habitats and species.

- The change to flow has been caused by the industrial scheme and is established as a cause of the damage.

Principle	Principle 1	Principle 2	Principle 3
Triggered?	N	N	Y
Reason	A substantial loss of flow over 750m of river.	Although the site is designated the integrity of the site and the designated interest features are not affected.	Limited damage is visible outside drought periods and has been ongoing for 20 years. It has permanently affected the river ecology in the depleted reach.

5.12. **Conclusion**: The damage is not considered serious damage. There is a clear impact from the abstraction and severely low flows are visible during peak abstraction periods. Although the ecology within the depleted reach has been affected, it does not affect the integrity of the European site, or the habitats and species that are designated.

Example D: Quarry dewatering

5.13. **Background**: The quarry is for sand and gravel extraction, overlaying a chalk aquifer. The operation has planning permission. A water management plan has been agreed with the Planning Authority, estimating de-watering rates of 15,000 m^3/day, to allow dry working of the mineral. Quarrying began at the site around 10 years ago. When the provisions of the Water Act are commenced to end most exemptions from abstraction licensing, the operator will be required to apply for a licence under the transitional arrangements.

5.14. The water table in the chalk aquifer is high, only a metre below ground level, therefore excavations here require dewatering of a principal aquifer.

5.15. The site is close to a fenland SSSI three km away which is a groundwater level dependent site and contains protected species such as Bittern and Fen Orchid. Groundwater levels have reduced over the last 10 years. The site management records show that vegetation types have gradually changed over the last 10 years to habitats favouring dryer conditions. Permanent springs and seepages recorded on the site associated with wet flush habitats have also disappeared and are now only recorded during very wet periods.

5.16. Impacts:

- Consistently lowered groundwater levels have been measured within the site.
- Permanent springs and wet seepages have been lost and are now ephemeral, associated only with very wet periods.
- Comparison of historical vegetation community maps with current assessments show a change across half the site area to dryer communities. Vegetation communities associated with permanent wet seepages have been lost.
- The areas of Fen Orchid habitat have reduced resulting in a dramatic decline in the numbers of fen orchids with few individuals remaining in isolated pockets.
- Reedbed habitat associated with the Bittern has also degraded with reduced numbers of breeding pairs recorded at the site.

- Loss of access to wetland habitat for eel, an important food for Bittern and itself a protected species

Principle	Principle 1	Principle 2	Principle 3
Triggered?	Y	Y	Y
Reason	Over half the site is affected with large areas of changed habitat and loss of permanent springs and seepages and associated habitat. Numbers of Fen Orchids have dramatically declined. Breeding success of the Bittern is reduced.	There has been damage to protected flora and fauna.	Lowered groundwater levels have been ongoing for 10 years. Habitat management alone will not help to restore the lost wetland species and an increase in groundwater is required.

5.17. **Conclusion**: Lack of water from springs and seepages has changed the vegetation type harming the populations that are dependent on wetland habitat. This is demonstrated by the reduced orchid populations and the Bittern failing to breed. The overall effect is that the site is failing to meet its conservation objectives. This is serious damage.

Example E: Trickle Irrigation

5.18. **Background**: Around four years ago, multiple abstractions began to take water for trickle irrigation from a tributary of a SAC river. Water is pumped continually from late spring to early autumn as the crops irrigated are undercover and do not benefit from rainfall. Trickle irrigation is currently exempt from abstraction licensing but this will end when the provisions of the Water Act are commenced. The flows in the tributary are affected such that over 50 per cent of the natural flow is abstracted and abstractions continue without restriction during periods of low flow. During a drought period over four months, the flows in the watercourse were greatly reduced and the abstractions resulted in a negligible flow in the river resulting in fish mortalities.

5.19. Impacts:

- The exempt abstractions take over 50 per cent of the natural flow. During drought, the abstractions remove most of the flow in the watercourse resulting in extremely low levels with ponded sections in some areas. Around two km of the tributary is affected.
- Dead adult and juvenile Salmon and many other Trout, eel and coarse fish are found in the depleted reach during the drought. There are estimated to be about 50-100 dead fish in total.
- A number of spawning areas are dry and covered in silt and algae.

Principle	Principle 1	Principle 2	Principle 3
Triggered?	Y	N	N
Reason	The affected stretch was two km long with severely depleted flows.	There has been direct loss of numbers of a European protected species and capacity of the species for propagation is restricted during the drought. Effects are considered short term and localised and does not affect the integrity of the site	The river community within the two km section is greatly depleted. Spawning success is depleted but it has occurred during a drought and is expected to recover.

5.20. **Conclusion**: This is not considered serious damage. Although the trickle irrigators' abstractions take a large proportion of the natural flows when considered all together, impacts are only seen during drought periods. Although flows are less than ideal during normal periods, and this results in less than optimum habitat availability and spawning success of fish species, it is the drought conditions that cause the fish mortality and the restricted access to the spawning areas..

Q6 Do you agree with the conclusions from these examples? How can we make the decision process clearer and more transparent?

Annex A - Glossary & list of acronyms and abbreviations used

Bryophyte	Any of the green, seedless land plants that make up the division Bryophyta, numbering at least 18,000 species and divided into three classes: mosses, liverworts, and hornworts
CAMS	Catchment Abstraction Management Strategies
cSAC	candidate SAC
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
Environment Agency	Environment Agency, including Environment Agency Wales
Habitats Regs	The Conservation of Habitats and Species Regulations 2010, as amended[23] .
HD RoC	Habitats Directive Review of Consents
MVC	Minimum Value Condition
NAW	National Assembly for Wales
PINS	Planning Inspectorate
PSA	Public Service Agreement
pSPA	Potential Special Protection Area
RAM	Resource Assessment and Management framework (part of CAMS)
RBMP	River Basin Management Plan
RSA	Restoring Sustainable Abstraction Programme
SAC	Special Area of ConservationSCI Site of Community Importance
Section 27	section 27 of the Water Act 2003
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
Stygobite	Animals that are only found living in groundwater. Aquatic troglobites are often called stygobites
The Habitats Regs	The Conservation of Habitats and Species Regulations 2010, as amended

[23] Ramsar sites and potential SPAs are afforded are afforded similar protection as a matter of Government policy

UK BAP	UK Biodiversity Action Plan
WA03	Water Act 2003
WFD	Water Framework Directive
WRA 91	Water Resources Act 1991

Annex B - Existing legal definitions of serious damage.

A review of legislation and case law concerning serious damage or harm to the environment was undertaken. There are some analogous terms, specifically in:

- the Conservation of Habitats and Species Regulations 2010, as amended, and the Habitats Directive[24];
- The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000);
- The Water Framework Directive[25]; and
- The Environmental Damage (Prevention and Remediation) Regulations 2009 and the Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009, which implement the Environmental Liability Directive[26].

There is little specific guidance as to the interpretation of serious damage in case law or in other related legislation that can be applied to abstraction licences. We can draw useful elements from similar terms already in use in environmental law such as "serious pollution[27]", "significant harm[28]", and "serious environmental damage[29]".

- The Conservation of Habitats and Species Regulations 2010, as amended and Habitats & Birds Directives.

The Conservation of Habitats and Species Regulations 2010, as amended (the "Habitats Regs") transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the "Habitats Directive") and Council Directives 79/409/EEC codified in 2009/147/EC on the conservation of wild birds (the "Birds Directive") into the law of England and Wales.

The relevant screening test for a competent authority (e.g. the Environment Agency) when assessing proposed plans and projects is whether they are likely to have a "significant effect" on a European site (i.e. a site designated under the Habitats Directive or the Birds Directive, otherwise known as a "Natura 2000" site). If so, and if that plan or project is not directly connected with or necessary to the management of that site, an "appropriate assessment" must be undertaken in accordance with Part 6 of the Conservation Regulations.

The EU guidance on interpretation of "significant" is as follows:

"While there is a need for objectivity in interpreting the scope of the term 'significant', clearly such objectivity cannot be divorced from the specific features and environmental conditions of the protected site concerned by the plan or project. In this regard, the conservation objectives of

---

[24] Council Directive 92/43/EEC

[25] Council Directive 2000/60/EC

[26] Council Directive 2004/35/EC

[27] Environmental Permitting (England and Wales)Regulations 2010

[28] Environmental Protection Act 1990 Part IIA

[29] Civil Contingencies Act 2004

a site as well as prior or baseline information about it can be very important in more precisely identifying conservation sensitivities. Some of this information will be present in the data that accompanies the site selection process under Article 4 of Directive 92/43/EEC. Member States may also have available detailed site conservation management plans which describe variations in sensitivity within a site.

Against this background, it is clear that what may be significant in relation to one site may not be in relation to another."[30]

If an appropriate assessment is conducted, the competent authority must refuse the plan or project if the assessment cannot show that it would not "adversely affect the integrity of the European site" (regulation 61) unless the competent authority is satisfied that there are no alternative solutions, that the plan or project is required for imperative reasons of overriding public interest and compensatory measures are taken to ensure the overall coherence of the Natura network[31] is protected. Further guidance on damage to protected species, natural habitats and sites of special scientific interest was included within Schedule 1[32] of the Environmental Damage Regulations (see section 3).

- The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

The Wildlife and Countryside Act 1981(as amended) refers to operations likely to damage (OLD) species or habitats notified under section 28. Statutory undertakers carrying out or authorising operations on or near a Site of Special Scientific Interest (SSSI), are required to notify the conservation agency if that activity is considered 'likely to damage any of the flora, fauna or geological or physiographical features' for which the site is designated. The OLD list provides a mechanism for screening activities and determining on a site-specific basis if the level of damage or risk from that activity is unacceptable.

A SSSI is considered to be in 'favourable condition' if all of the designated features on the site achieve the targets that are set in the Conservation Objectives.

Damage to designated habitats and species and to the integrity of SSSI is captured under the provision of the Environmental Liability Directive (see section 3)

- The Water Framework Directive

The Water Framework Directive (WFD) utilises River Basin Management plans to help protect and improve the water environment. There is no direct definition of environmental damage within the WFD.

For surface waters, the WFD requires that the impact of pressures be measured against natural flow conditions. Natural flow is the flow that would occur if all artificial influences (abstractions, discharges, flow regulation) were not taking place. Surface waters are assessed to be of High, Good, Moderate, Poor or Bad Ecological Status.

The classification process and the different status tests may provide an appropriate mechanism to guide the specific assessment of serious damage from abstraction. Specific examples

[30] Managing Natura 2000 Sites, European Commission 2000

[31] SPAs, together with SACs, form the Natura 2000 network.

[32] http://www.legislation.gov.uk/uksi/2009/153/schedule/1/made

relating to groundwater classification are discussed below. The main general relationship with serious damage is through deterioration in status from an abstraction pressure. This is analogous to 'Water Damage' for the EDR (covered in section 3).

It should be noted that groundwater for the purposes of Water Framework Directive does not include all 'water contained in underground strata'.

The WFD has a specific objective for groundwater classification such that pressures on the groundwater (including abstractions) should not cause significant damage to groundwater dependent terrestrial ecosystems. The definition of significant damage in this context has been agreed by the UK and Ireland environment agencies and conservation agencies and is a function of the:

- Strength of groundwater dependency
- Degree of damage occurring to a GWDTE (caused by groundwater pressure) – more than 50% of the abstraction pressure must come from groundwater sources.
- The 'significance' of the ecosystem itself as a nature conservation resource.
- Size of the ecosystem in proportion to the land over the GW body.

Significant damage in the context of WFD GWTDE means groundwater abstraction is causing a significant proportion of the impact on designated wetland communities sufficient that the site does not achieve favourable condition. The assessment principles of this test may be used to inform an assessment of serious damage from abstraction on 'flora and fauna dependant on water in underground strata'.

The WFD 'test' for saline or other intrusions to groundwater may be used to inform an assessment of 'serious damage to water in underground strata'.

The UK environment agencies agreed approach[33] to defining poor status for the intrusions test is assessed at monitoring points identified as representative of potential intrusions. This test asks two questions:

(i) Is the mean of the last 6 years greater than the natural background and is there evidence of pressure (from the quantitative assessment)?

(i) Is there a trend, or is there an existing significant impact on a point of abstraction?

If the answer is 'yes' to both questions, the groundwater body is poor status. It is therefore proposed that those at poor status, with high confidence should meet the criteria for serious damage as this considers the abstraction causing the intrusion, the groundwater quality and other abstractions.

- Environmental Damage (Prevention and Remediation) Regulations 2009 and the Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009.

These Regulations apply to three defined types of 'environmental damage': water, biodiversity and land.

[33] WFD UK TAG SR1 - 2007 Groundwater Technical Reports

Biodiversity damage.

This is split into two kinds:

(i) Damage to EU protected species and natural habitats;

(ii) Damage to SSSI.

Damage to EU protected species and natural habitats:

There will be environmental damage if the damage has a 'significant adverse effect on reaching or maintaining the favourable conservation status of a protected species or habitat.

Damage to protected species and natural habitats

1.—(1) In the case of protected species or natural habitat (other than damage on a site of special scientific interest to which paragraph 4 applies) the damage must be such that it has a significant adverse effect on reaching or maintaining the favourable conservation status of the protected species or natural habitat taking into account—

a) the conservation status at the time of the damage;

b)the services provided by the amenities they produce;

c) their capacity for natural regeneration;

d) the number of individuals, their density or the area covered;

e) the role of the particular individuals or of the damaged area in relation to the species or to the habitat conservation and the rarity of the species or habitat assessed at the relevant

f) level whether local, regional or Community-wide;

g) the capacity of the species for propagation, its viability or the capacity of the habitat for natural regeneration; and

h) the capacity of the species or habitat to recover within a short time of the damage being caused to a condition that leads to its state at the time of the damage or better without any intervention other than increased protection measures.

Conservation status of natural habitats

2.—(1) A natural habitat's conservation status is the sum of the influences acting on that habitat and its typical species that may affect its long term natural distribution, structure and functions as well as the long term survival of its typical species.

(2) Its conservation status is favourable if—

a) the natural range and areas covered within that natural range are stable or increasing;

b) the specific structure and functions which are necessary for the long term maintenance of the natural habitat exist and are likely to continue to exist for the foreseeable future; and

c) the conservation status of its typical species is favourable.

Conservation status of species

3.—(1) A species' conservation status is the sum of the influences acting on the species concerned that may affect the long term distribution and abundance of its populations.

(2) The conservation status is favourable if—

a) the population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitat;

b) the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and

c) there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Sites of special scientific interest

4.—(1) In the case of a site of special scientific interest, the damage must be to—

a) the species or habitats notified under section 28 of the Wildlife and Countryside Act 1981(23); or

b) protected species or natural habitats.

(2) The damage must have an adverse effect on the integrity of the site (that is, the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats or the levels of populations of the species affected).

Water Damage

The Environmental Damage (Prevention and Remediation) Regulations 2009 and the Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009, state that:

"Environmental damage to surface water means damage to a surface water body classified as such pursuant to Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy[34] such that—

a) a biological quality element listed in Annex V to that Directive,

b) the level of a chemical listed in the legislation in Annex IX or a chemical listed in Annex X to that Directive, or

c) a physicochemical quality element listed in Annex V to that Directive,

[34] OJ No L 327, 22.12.2000, p. 1 as last amended by Directive 2008/105/EC of the European Parliament and of the Council (OJ No L 348, 24.12.2008, p. 84).

changes sufficiently to lower the status of the water body in accordance with Directive 2000/60/EC of the European Parliament and of the Council (whether or not the water body is in fact reclassified as being of lower status).

Environmental damage to groundwater means any damage to a body of groundwater such that its conductivity, level or concentration of pollutants changes sufficiently to lower its status pursuant to Directive 2000/60/EC of the European Parliament and of the Council (and for pollutants Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration(35) (whether or not the body of groundwater is in fact reclassified as being of lower status)."

Adverse effects that are short-term or limited in their geographical extent are unlikely to cause environmental damage.

There are significant similarities between definitions and guidance for EDR and s27 WA'03 in that they both apply to surface and groundwater and apply to damage to the environment.

The EDR protects only a subset of 'flora and fauna'; those within protected sites, or which are protected themselves. The wider or non-designated protection of flora and fauna would need to relate to deterioration in water body status.

For groundwater, specifically there is parity between water damage in EDR and serious damage to water in underground strata for s27 WA'03. This is also covered in section 3.

Water Act 2003 sections 7 and 30

In addition to Section 27, two other sections of the Water Act 2003 refer specifically to environmental damage:

Section 7(3)[36] allows a licensable abstraction to be carried out without a licence in an emergency when certain criteria are met, one of which is to prevent an immediate risk of serious damage to the environment.

Section 30[37] enables the Environment Agency to serve an enforcement notice if it appears that there has been a breach of the restriction on abstraction or impounding e.g. failure to comply with a licence or the conditions on the abstraction or impounding licence, and that this breach or failure is causing or is likely to cause significant damage to the environment.

The Environment Agency undertook a consultation in 2005[38] to gather views on principles developed to assess whether damage is being, or is likely to be caused by abstractions and/or impoundments.

---

[35] OJ No L 372, 27.12/2006, p. 19.

[36] inserted into Water Resources Act (WRA) 1991 as sections 29(2) - 29(2C

[37] inserted into WRA 1991 as sections 25A-C

[38] Consultation Document: Serious and Significant Damage as Provided for in the Water Act 2003, Environment Agency 2005.

Three principles were developed to test if serious or significant damage has or could occur. These are:

Principle 1 The emergency or activity will result or will have resulted in deterioration in the functioning of the ecosystem.

Principle 2 Damage may be identified by a reduction in ecological quality. Where existing ecological standards can be applied these will be used to make an assessment of damage.

Principle 3 The damage arising will be longer term than that arising under natural conditions.

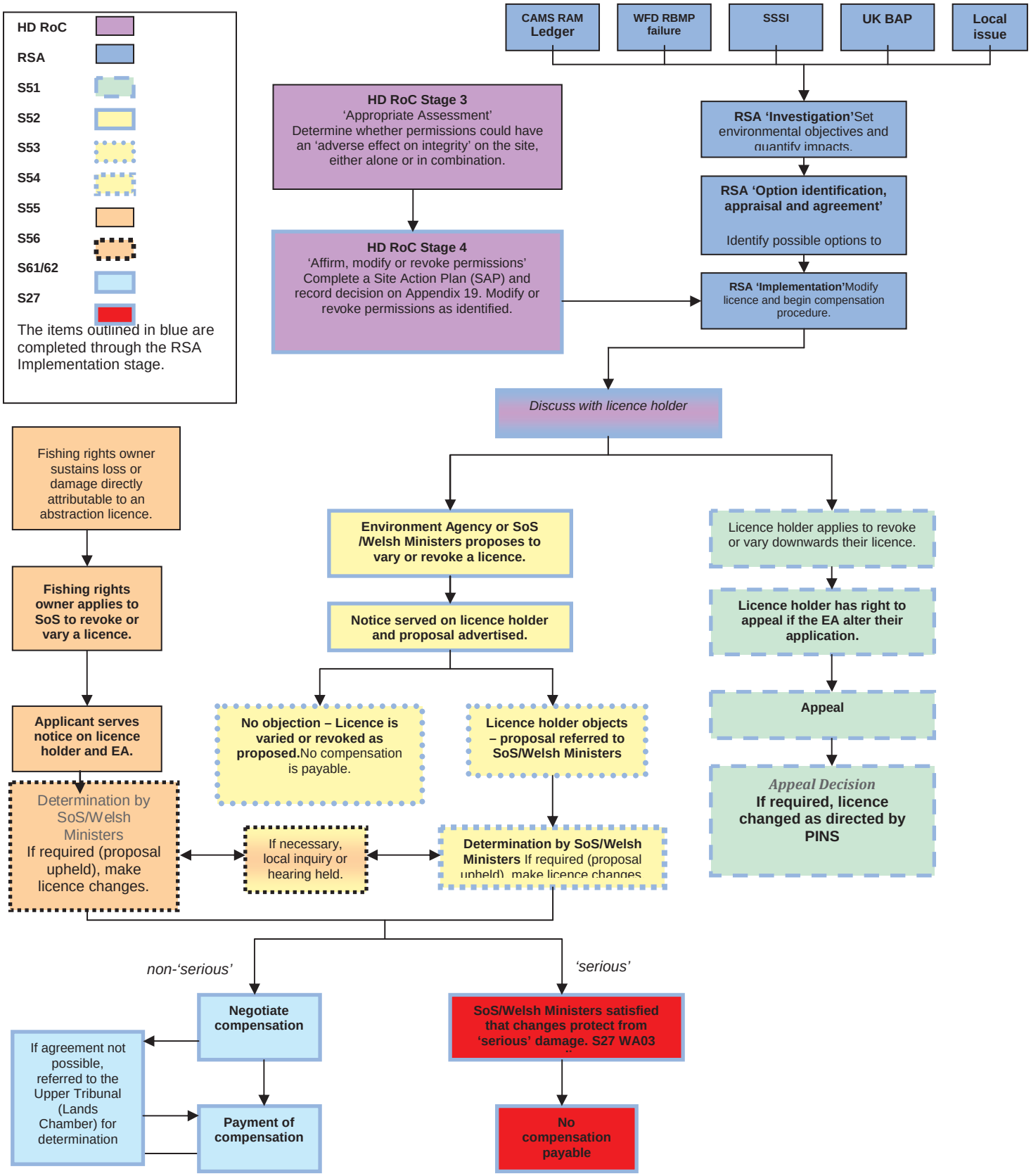
These three principles were developed with Natural England (then English Nature) and the Countryside Council for Wales.

No specific thresholds were developed that defined or differentiated serious or significant.

The principles and associated examples are used by the Environment Agency and are embedded within operational guidance on enforcement[39] and have informed the Environment Agency's incident classification system.

[39]OI 04-01 Incidents and their classification: the Common Incident Classification Scheme (CICS), Environment Agency, 2010.

Annex C - Licence change legal process[40]



[40] The flowchart makes the assumption that all licences involved in the process meet the criteria specified in the legislation. For example, licences affected by section 27 have to be licences of right that was granted before the coming into force of section 19 (MVC's) of the Water Act 2003. The flow chart also makes the assumption that all licences that we apply to change are included within RSA and HD.

Annex D - Additional work to inform development of principles to assess serious damage

Review of literature

A review of literature relating to serious damage presented no additional specific information to that identified from the legislative review.

The common aspiration from the literature reviewed is to define damage as a quantifiable detrimental change in status.

The main inhibitors to producing a definition of serious damage include:

(i) difficulties arising in collecting quantifiable evidence;

(ii) lack of consensus and information on adverse effects;

(iii) difficulty in dealing with what is recoverable and the time it takes for recovery.

This indicates that a set of principles specific to the context of section 27 is required to define serious damage.

Review of the Environment Agency's Restoring Sustainable Abstraction programme

Evidence from the Agency's Restoring Sustainable Abstraction (RSA) programme was examined to inform development of the principles. The views of specialists were sought as to what examples they considered to be 'serious' or not serious. Information from these examples has been brought together to form summary criteria listed in Table 1.

Table 1 - Generic Criteria for Assessment of Serious Damage from RSA

Criteria	Description	Criteria based on evidence from RSA programme
Evidence of damage	Site designated or not?	Examples of serious damage from both designated sites (eg SAC, SPA and SSSI) and non-designated sites. In both instances, actual effects are identified to habitats and species.
	magnitude	For rivers, serious damage would equate to complete loss of flow, or where reduced flows are not sufficient for salmon migration. Low flows can also be serious where direct losses of designated species have been identified. In wetlands, the magnitude of damage is seen through large changes in wetland water levels and /or cessation of springs and seepages.
	spatial scale	Length of river affected varies between 0.5km and 25km. The proportion of site affected also varies. This indicates that the scale of damage considered to be serious is highly variable, may be site-specific and needs to be considered in context of

		the serious damage caused to that particular habitat/species.
	Timing and duration of impact	Timing of impact - Critical periods have been identified where abstraction pressure can result in serious damage, for example low flows during salmon migration periods. Duration of impact - Evidence identified both short and long-term impacts are considered to be serious.
Evidence linking damage to abstraction		Examples of serious damage point to strong evidence of link between the abstraction and the damage caused. In rivers, many examples relate directly to an intake or in-river obstruction.

Review of enforcement activities, incidents and the Common incident classification system

A review of abstraction enforcement activities and incidents where serious damage may have been caused was undertaken as part of the development of this work.

The Environment Agency's internal guidance on classification of incidents helps to guide the level of response required to an incident. Criteria have been developed that both look at the impact on water quantity (flows or levels) but also applies criteria based on the consequences to ecological receptors. Table 2 contains examples of how the worst incidents are assessed.

Table 2 – Incident classification criteria

Criteria	Definition and guidance on water quantity impact criteria (one or more definition or criteria are met)
Serious impact on surface water flow or level	Substantial or complete loss of river, stream or canal flow or level. ● 'Substantial' means an abnormal effect, which occurs over several km of a watercourse or a large area of a still water. As a guide use 1-2 kilometres, but some subjectivity may be applied, for example a major deterioration in flow or level over half a kilometre on a large important river such as the lower Severn or Thames would certainly be a Category 1 incident. ● Effects would generally be evident or likely to be evident at least 7 days from the date of the incident.
Major damage to aquatic or groundwater dependent nature conservation	● Major impact on protected site or on a species ● Major adverse effect on a statutory protected site or on a species. Including: ○ destruction or major damage to part of a statutory protected site; ○ death or destruction of a European protected species (on any

	stage of the life cycle) or habitat; ○ extensive damage to national protected species or Biodiversity Action Plan (BAP) species (on any stage of the life cycle) or habitat. ● Damage would leads to a deterioration in status of a Water Framework Directive water body (this has implications under the Environmental Damage Regulations). ● Destruction or major damage to a fish population or habitat: ○ Mortality of 10 or more adult salmon/sea trout, ○ or 100-400 juvenile migratory salmonids, ○ or 50% of the fish population in trout/coarse fish fisheries. ○ the loss of a large number of minor species ● Destruction or major damage to a large or important area of fish habitat. This includes the destruction of areas known to be used for spawning by migratory salmonids.

Risks to subterranean fauna

A specific review examined the relationship between abstraction and the risks to endemic subterranean fauna to explore if there was a specific principle that would apply. There are currently 10 stygobitic crustacean species currently recorded within mainland Britain, although it is entirely possible others will be discovered as no comprehensive survey of the country has been conducted. One, the endemic Niphargus glenniei is included on the Biodiversity Action Plan (BAP) list of priority species. Potential impacts on stygofauna and their habitats from abstraction have been noted, specifically:

- Lowering or artificially changing the water table so that habitat zones where stygobites can occur are lost.
- Damaging fracture networks and caves, removing habitat opportunities and potential connection pathways.

There is little specific information available to inform determination of serious damage from abstraction on fauna (and flora) dependant on underground strata. Similar principles to those applying to terrestrial flora and fauna are thought to be appropriate, although the lack of comprehensive information relating to existing population locations and numbers will restrict the feasibility of assessing damage.