



**ENVIRONMENT
AGENCY**



EU HABITATS AND BIRDS DIRECTIVES

GUIDANCE FOR THE REVIEW OF ENVIRONMENT AGENCY PERMISSIONS: DETERMINING RELEVANT PERMISSIONS AND 'SIGNIFICANT EFFECT'

- Discharge Consents
- Abstraction Licences
- Waste Management Licences
- IPC Authorisations
- RSA93 Authorisations

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Forward

It is well-known that wildlife habitats and the plants and animals that depend upon them are under pressure from the increasing demands we make on the environment. The European Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora aims to establish a network of the most important areas for wildlife, to be known as Natura 2000 sites. It requires measures to be taken to maintain them at favourable conservation status, or where necessary, restore them by taking remedial action.

The Environment Agency, as the principal regulator of pollution and water management, has a key role to play in ensuring that operations it authorises do not have an adverse effect on Natura 2000 sites (Special Areas of Conservation and Special Protection Areas for Birds). It is the role of English Nature and the Countryside Council for Wales to advise on the conservation status of these sites and what is needed to maintain or restore it.

In order to streamline this process, we have agreed to use joint procedures and criteria. We welcome the collaborative work that has gone into producing guidance for the first two stages of the review of permissions. The principles and criteria can also be used for assessing new applications. We look forward to further guidance to help staff with the “appropriate assessment” stage and with judging applications for land drainage and fisheries consents.

The review will require a considerable investment of time and public funds. We must ensure that it produces measurable wildlife benefits and contributes to a sustainable future for these important European conservation areas.

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1.0 Introduction

The Review of Consents

- 1.1 The Agency's review of permissions is part of a pan-European effort to maintain at or restore to favourable condition natural habitats and wild flora and fauna. The review is aimed at eliminating adverse effects on Special Protection Areas for birds and Special Areas of Conservation for other wildlife, collectively known as the Natura 2000 network. Currently there are 273 such areas in England and Wales.
- 1.2 Most of the effects arising from activities regulated by the Agency will relate to water quality and quantity at freshwater and maritime areas. However, some of the regulated activities will also affect terrestrial habitats and individual species of European importance.
- 1.3 Designation of a SAC or a SPA does not mean that they are in 'favourable condition', but that they are the best of what we have left in Europe following man's exploitation of the natural environment. That is why the Habitats Regulations 1994 require the Agency to consider historic permissions as well as new ones.
- 1.4 In most cases, there will be factors other than those licensed by the Agency and its predecessors that help determine the condition of the conservation features, and the review may identify some of these. The current review should consider the extent to which authorised operations contribute to adverse effects, even though their reduction or elimination may not individually restore the conservation features to favourable condition. Action will be taken elsewhere to address the other factors.
- 1.5 This procedure sets out how Agency staff should undertake the initial stages of the Review of Consents at European sites as required by Regulation 50 of the Conservation (Natural Habitats etc) Regulations 1994. The Review will identify any extant Agency permissions which authorise activities that are having an adverse effect on a European site. Permissions which are considered to be having an adverse effect will need to be amended or revoked under the appropriate existing statutory procedures in order to mitigate that effect.

A flow chart shown in Figure 1 summarises the four stages in the Review process. They are:

Stage 1: Identifying permissions which are relevant to the Review for a European site.

Stage 2: Assessing which relevant permissions, if any, are likely to have a significant effect on the European site.

Stage 3: Where one or more permissions are likely to have a significant effect conducting an 'appropriate assessment' to establish whether they are having an adverse effect on the integrity of the European site.

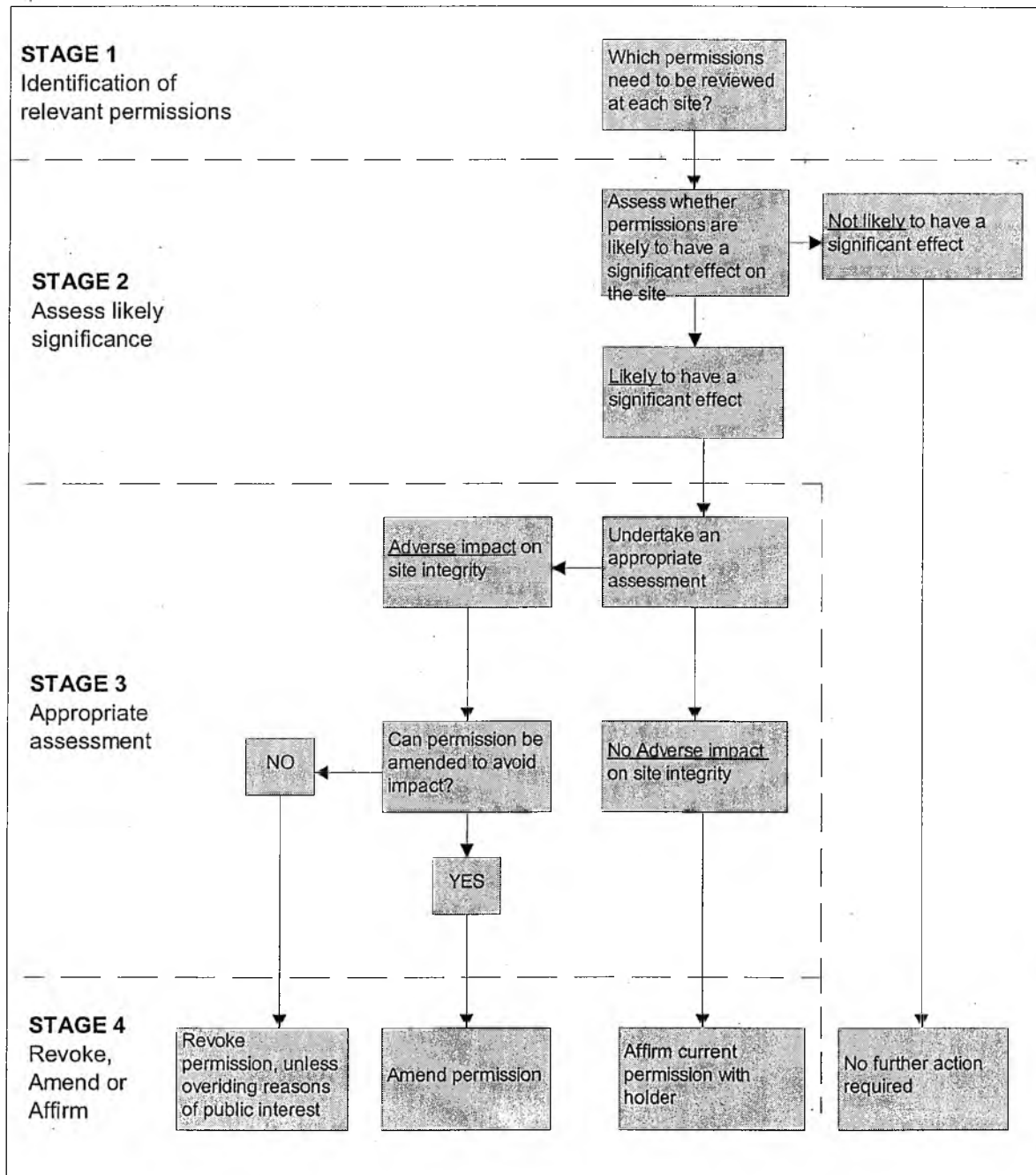
Stage 4: Affirming, amending or revoking permissions as appropriate.

Scope of this guidance

- 1.6 This guidance relates only to the first two stages of the Review process, and is restricted to existing consented discharges to water, abstraction licences, waste management licences, Integrated Pollution Control authorisations and authorisations for the accumulation and disposal of radioactive waste under the Radioactive Substances Act 1993. With regard to applications for new permissions which could effect European sites, a supplementary procedure will be issued during 1998. However, the guidance given in this document can be used to determine significant effect when appraising new applications for Agency authorisations.

EU Habitats & Birds Directives

Fig 1: Summary Flowchart of the Review of Consents Process



2.0 Initiating the Review process

Using this guidance

- 2.1 The procedure outlined in this document adopts a relatively rigorous approach to determining significance and the associated requirement for appropriate assessment. This is necessary in order to deal effectively with the large number of Agency permissions which will be considered under this Review. It also aims to ensure that where information is already available on the effects of a permission or several permissions, this is fully utilised in the assessment of significance thereby avoiding unnecessary progression to appropriate assessment.
- 2.2 Such an approach may not be applicable for other types of plan or project or new applications where the available information may be far less than for activities currently authorised by the Agency. As a result, **this guidance must not be used outside the scope outlined in 1.6.** More general guidance for assessing whether other types of plan or project are 'likely to have a significant effect' is available in:

'Assessing the effects of plans and projects under Regulation 20 and regulations 48-50' English Nature/Countryside Council for Wales

'Habitats Regulations Guidance Notes 1 & 2' English Nature

- 2.3 **Agency staff using procedure TE/CN/002 should ensure they understand sections 1.0 to 4.0, as well as the relevant section relating to Stage 2, before undertaking any work. Conservation staff will need to be familiar with the whole procedure. It is essential that the member of staff co-ordinating the Review at a particular site ensures that the proforma in Appendix 4 is completed as an audit trail for the Review.**

Key guiding principles

- 2.4 The following principles underpin the basis for determining 'significant effect':
- a. The determination of 'significant effect' is an initial filter to identify those Agency permissions which require an 'appropriate assessment'.
 - b. Stage 2 of the Review to determine whether a significant effect is likely, is distinct from Stage 3, the appropriate assessment to determine whether a consent is having an adverse effect on the integrity of a site. Guidance on Stage 3 will be produced separately.
 - c. Judgements made over likely 'significant effect' will have practical and legal consequences and must be justified using the best available information.
 - d. Judgements must be made on a case-by-case basis for each European site. Generic thresholds are offered for broad guidance and will need to be related to the specific European site in question and should not be used as an absolute measure of significance.

e. Judgements of likely 'significant effect' should be made against those features for which the European site was designated and the associated conservation objectives.

f. If a clear judgement of likely significant effect cannot be made based on the available information, the Agency should either gather further information for clarification or proceed to Stage 3.

g. Agency staff must consult with EN/CCW in assessing likely significance. Procedures and criteria should be shared to assist both parties in reaching agreement on 'significant effect'.

All these principles are consistent with those given in '*Assessing the effects of plans and projects under Regulation 20 and regulations 48-50*' produced by the conservation agencies.

Co-ordinating the Review

- 2.5 The Review requires the Agency to consider the effect of Agency permissions both on their own and in combination with others. This means ensuring that potential cumulative effects, whether from several permissions under a particular function or a number of permissions under several of the Agency's functions, are considered when assessing whether a significant effect is likely. In some cases factors not influenced by Agency permissions will be involved.
- 2.6 An integrated, site-based approach to the Review is required and a multi-functional group should be convened to progress the Review at a particular European site or several European sites. The group should include a competent representative from each of the functions reviewing permissions at that European site, a Conservation person and other relevant staff such as a Biologist or Fisheries scientist depending on the nature and designated features of a site.
- 2.7 The group will need a co-ordinating officer to ensure:
- a. Effective communication between functions,
 - b. Proper consideration of cumulative effects,
 - c. A single point of contact for consultation with EN/CCW,
 - d. Proper scoping of requirement for appropriate assessment.

The co-ordinating officer may be the Regional Conservation Officer, a nominated officer from Tactical Planning or any other officer the Region considers appropriate given their existing systems for handling multi-functional issues.

Large or complex European sites

- 2.8 Some European sites may be very large, comprising a number of individual SSSIs. Where this is the case, it may be impractical to simply consider the site as a single unit, as the designated features may be concentrated at the original SSSIs. In such cases,

determination of significant effect should be undertaken at the individual SSSI level, EN/CCW can advise in each case.

- 2.9 This approach will have the advantage of allowing the Review to fully utilise existing information gathered at the SSSI level. Where this approach is followed, the procedures contained in this guidance must be followed for each SSSI within the European site. The co-ordinating officer will also need to clearly establish from EN/CCW, the occurrence of European designated features at this SSSI level.

The role of EN and CCW in Stages 1 and 2

- 2.10 The conservation agencies have a vital role in helping the Agency identify permissions which are resulting in an adverse affect on a European site. Early consultation with EN/CCW will ensure that judgements take account of the current conservation status of the designated features at a site and the environmental requirements of those features. This approach should enable EN/CCW staff to support judgements of significance by signing them off.
- 2.11 The legal responsibility for undertaking the Review of Agency permissions lies with the Agency as the competent authority. In the event of any disagreement with EN/CCW the Agency will make the final decision on whether a significant effect is likely, subject to the procedure described in Appendix 5.

European Marine sites

- 2.12 In the case of marine SACs and SPAs it will be essential to ensure that the management group responsible for the management scheme at the site is able to inform and be informed by the Review. The co-ordinating officer for that site should ensure the relevant links are in place.
- 2.13 Further technical guidance is being drawn up with regard to water quality and the requirements of designated features on European marine sites. This information will be issued as a supplement to Appendix 3.

3.0 STAGE 1: Identifying relevant permissions

Introduction

- 3.1 This section sets out the procedure Agency staff should use to identify which permissions granted by the Agency (be they consents, licences or authorisations), need to be included in the Review process at an individual European site.
- 3.2 Stage 1 should identify any permissions which might be affecting the European site in question, and therefore need to be considered by the Review. Stage 2 is the point at which permissions should be filtered out based on whether they are 'likely to have a significant effect'. Where it is uncertain whether the permission could affect the site it should be considered relevant.
- 3.3 This exercise should be accomplished using simple screening criteria and maps.

Procedure

- 3.4 In many instances Agency staff may have already considered which permissions need to be included in the Review, as part of the joint exercise with EN/CCW during 1997 to prioritise European sites into one of three groups:
 - a. Current impact; priority for review.
 - b. Uncertain impact; further investigation required.
 - c. No perceived problems; lowest priority for review.
- 3.5 Where Stage 1 can be considered to have been carried out as part of that prioritisation exercise, the co-ordinating officer should nevertheless use this procedure as a 'quality assurance test'. This should be done by checking that the identification of relevant permissions was consistent with the criteria given below and completing section A of the proforma in Appendix 4. This is essential in order to ensure that this Stage of the Review has been carried out to a common standard throughout the Agency.
- 3.6 If the approach taken was not consistent with this procedure, then the officer undertaking work for the function in question should carefully re-consider which permissions are relevant to the Review.
- 3.7 Where relevant permissions have not yet been identified, site maps should be obtained from the Conservation function and screening criteria applied. Guidance on these criteria is given below. If GIS systems with maps of European sites and information on permissions exist, then they will be a significant aid to the identification of relevant permissions.

Criteria for identifying relevant permissions

- 3.8 There are three broad criteria which apply to all five Agency authorised activities covered by this guidance:
- a. Any permission for an activity **within the boundary** of the European site is relevant and should be included in the Review.
 - b. Any permission for an activity which is **known to be affecting** the European site, either directly on a designated feature or indirectly by affecting the environmental quality of the site, is relevant and should be included in the Review.
 - c. Any permission located outside the European site which has the potential to affect the features within the European site, should be considered relevant and included in the Review. Further guidance is given below.

Consented discharges to water

- 3.9 A consented discharge to an aquatic system that is designated SPA or SAC will, in many cases, be relevant to the Review. In many instances where the European site is part of a much larger hydrological system, receiving large numbers of consented discharges some of these will clearly not be relevant to the Review. In these circumstances the officer should set criteria to screen out irrelevant discharges which are downstream of the site, do not affect a relevant tributary/reach, or are of a negligible size.
- 3.10 The consenting officer will need to consider the nature of the site and its designated features before applying such criteria. For example, estuarine water quality will be important for rivers with migratory fish even though it is downstream of the European site. Such criteria should be informally agreed informally with EN/CCW. Stage 2 provides the opportunity for formal consultation on relevant consents and their effects on the European site.
- 3.11 Some European sites may have a large number of relevant consents. In order to facilitate their assessment under Stage 2, they can be aggregated into groups. Judgements of significance under Stage 2 may then be made for groups of discharges rather than individual discharges. The basis for the groupings should therefore, reflect the polluting nature of the discharges and their location in relation to the site. For example, minewater discharges, surface water discharges, complex trade effluents, sewage effluent-primary treatment, sewage effluent - secondary treatment might form the basis of groups; these could then be further sub-divided based on the loading/volume and location of the discharge. The charging scheme provides a pre-existing set of groups which may be used.

Abstraction licences

- 3.12 Where there is a licensed abstraction of surface or ground water from a hydrological system, part of which is designated as a European site, then that licence will probably be relevant to the Review unless it is downstream of the European site. Groundwater abstractions which are not in hydraulic continuity with the site can be disregarded. The licensing officer may be able to identify other criteria for establishing that licensed abstractions from both ground and surface waters could not affect the European site.

Waste management licences

- 3.13 The effects of licensed waste disposal activities are restricted to a relatively short range of one or two kilometres. In the case of landfill sites, effects of leachate or gulls could potentially extend over a wider area. Particular caution should be taken over operations which attract large numbers of gulls and their potential to effect SPAs. As a rule of thumb any licensed activities within two kilometres of the European site and any landfill sites within 5 kilometres of the site should be considered relevant to the review. Such licences would only be irrelevant where the officer can ascertain that they could not affect the European site.

Integrated Pollution Control authorisations

- 3.14 Emissions to air from IPC authorised processes may have effects over both long and short ranges depending on the size and nature of the emission. The largest emitters of SO_x and NO_x will be reviewed nationally to determine long range eutrophication/acidification impacts on European sites across England and Wales. PIR officers should identify any authorised processes which could have short range effects on the European site.
- 3.15 In practice this can be achieved using a simple distance criterion of 10km or for Power Stations 15km. In some cases the PIR officer may feel that an IPC authorised process other than power generation which is more than 10km distant should, by virtue of its magnitude, be considered relevant. Conversely, some authorisations which meet the 10km criteria can be discounted if they clearly do not have the capacity to have an effect on the designated features of the European site.
- 3.16 Due to the nature of emissions to air the PIR officer for the Review at a European site may well need to involve colleagues from neighbouring Areas or Regions of the Agency.
- 3.17 If an IPC authorisation includes a discharge direct to controlled waters this should be assessed in the same way as other consented discharges to water, (see 3.9-3.11 above).
- 3.18 Where an IPC authorisation includes a discharge to a sewer, the final effluent from the Sewage Treatment Works will be consented by Water Quality staff. The Review will consider only the consented discharge to controlled water and the PIR officer need not consider discharges to sewers at this point in the Review process. The same applies for Special Category Effluents discharged to sewers. However, should an appropriate assessment in Stage 3 establish that the Sewage Treatment Works effluent is having an

adverse effect on a European site and this is caused by a PIR authorised discharge to a sewer, then the relevant authorisation may need to be subsequently revoked or amended.

RSA93 authorisations

- 3.19 Due to the scale of discharges made to the environment the Sellafield reprocessing facility represents a special case which is not specifically covered by these procedures. The potential effects from this facility on any European sites will be considered via a special Technical Group. This group will be instigated by the Environment Agency and will include representatives from appropriate agencies throughout the UK. This group will be responsible for formulating and approving the approach to assessing any effects from Sellafield on European sites.
- 3.20 The remaining sites covered by RSA93 authorisations can be split into two major groups:
- a. **Nuclear sites:** sites which hold an operating licence under the Nuclear Installations Act 1965 (eg Nuclear Power Stations, Nycomed Amersham Cardiff, AWE.)
 - b. **Other sites authorised for the disposal of radioactive waste:** these are sites where handling or use of radioactive substances is not the main activity but minor amounts of radioactive material are discharged to the environment (eg Hospitals).

Nuclear sites

- 3.21 Emissions of radioactivity to air from nuclear sites should initially be screened using a simple criterion of 5km. Where a European site lies within this radius, then the possibility that the emission could result in a significant effect on the European site should be determined under Stage 2 of the process.
- 3.22 Discharges to water from nuclear sites should be screened using the WHO recommended levels for radioactivity in potable water. This should be based on the maximum concentration of radioactivity at any part of the European site, or if this is not known the maximum concentration found in available samples of the receiving water body adjacent to the European site. Any discharges which result in a breach of the WHO recommended levels should be assessed under Stage 2 of the process.

Other sites

- 3.23 In the case of other sites (category b), a significant effect is unlikely due to the scale of the discharges authorised. However, in the event that one of the following criteria apply the officer should consider the discharge(s) relevant for consideration during Stage 2:
- a. The discharge/emission is within 1Km of a European site.
 - b. Several discharges/emissions are adjacent to a European site and could act in combination to affect that site.

Relevant permissions

- 3.24 All permissions identified as relevant will need to be considered further under Stage 2 and should be recorded on section A of the proforma in Appendix 4. At that Stage many, or all, may be discounted on the basis that they are not 'likely to have a significant effect' on the European site. However, it is important that permissions are not subject to a significance test during Stage 1, as this will appear to a subsequent audit as if those permissions have simply been excluded from the Review.

4.0 STAGE 2: Assessing whether relevant permissions are 'likely to have a significant effect' - general approach

What does 'likely to have a significant effect' mean?

4.1 *The term 'likely to have a significant effect' means that an identifiable or measurable effect on a designated feature can reasonably be expected as a potential consequence of an authorised activity. A 'significant effect' may relate to an individual Agency permission or several Agency permissions acting in combination.*

4.2 Deciding whether a permission is 'likely to have a significant effect' is by definition precautionary. If it is considered that a 'significant effect' is likely, the Officer should progress the group of consents to an appropriate assessment. It is not necessary to prove a 'significant effect' is occurring before proceeding to an appropriate assessment.

4.3 Where Agency authorised activities have been in place for some time **without adversely affecting the condition of the designated features** of the site, they should be judged as 'not likely to have a significant effect', subject to two important provisos. Firstly, that the permitted activity can not be increased within the existing authorisation such that a 'significant effect' would become likely. Secondly, that the assessment of no likely significant effect from the permitted activity is based on supporting information relating directly to the site and its designated features. The absence of data is not a basis for assuming no significant effect.

Rationale for assessing significance

4.4 The procedure aims to allow the officers undertaking the review in each function to assess the significance of possible effects on European sites from Agency authorised activities. This must be consistent across the authorising functions, Regions and Areas of the Agency. In all cases the best available information from both internal and external sources should be used.

4.5 The presumption is that judgements should be based on existing information without the need for new monitoring or survey work. Decisions must be based on a sound case, as significant resources may be required for an appropriate assessment and permission holders may query such a requirement. In circumstances where current information is genuinely unable to provide this case, either for or against, some further initial assessment may be needed to confirm whether or not an appropriate assessment is required.

4.6 For each European site, judgements on significance and their supporting cases must be recorded on the proforma in Annex 4 and relevant documentation attached. Where judgements of likely significance are not clear cut, a more detailed evaluation of the available information and explanation of the supporting case may be provided in an accompanying technical report.

4.7 The initial steps in the procedures for each function aim to identify where permissions are obviously 'likely' or obviously 'not likely', to have a 'significant effect'. Subsequent

steps provide a framework for considering permissions where questions of significance are not as clear, by applying criteria for significant effect.

Criteria for assessing 'likely to have a significant effect'

- 4.8 Precisely defining when permissions are 'likely to have a significant effect' is difficult in the context of a very wide range of species, habitats and local conditions. Local circumstances will be of paramount importance in reaching judgements, so it is often not possible to set simple generic thresholds for significant effect. However, it is possible to identify two general criteria which need to be fulfilled before Agency permissions are judged 'likely to have a significant effect':

4.9 ***a. There is a mechanism by which the Agency authorised activity is likely to affect the designated features of the site.***

There are two elements to this criterion. Firstly, is there a potential mechanism? The term 'mechanism' refers to a linkage between an Agency authorised activity and a designated feature which could result in a measurable change to that feature. This may be direct, indirect, episodic, ongoing, reversible or irreversible. An example would be eutrophication as a mechanism that could link a sewage discharge to a SAC river with the designated habitat 'Floating vegetation of Ranunculus....'

Secondly, is the potential mechanism likely to result in an effect? This means the mechanism by which a potential effect is foreseen must have a reasonable chance of occurring. In other words the type of mechanism has been recorded before and based on current ecological knowledge can be expected to operate at the site in question. The example given above meets this part of the criterion too, as eutrophication is a well-documented mechanism of pollution and Ranunculus spp. is known to be sensitive to it.

4.10 ***b. The potential scale of any effect can be deemed significant.***

An effect should be considered significant when it is neither negligible nor inconsequential. Any effect which results in a measurable or identifiable change in a designated feature must be considered significant. This is not the same as a measurable change in an environmental parameter, which virtually all Agency permissions will bring about on some scale and which may, or may not, indicate a significant effect is likely. At the same time, a supporting case that a significant effect is likely can legitimately be based on the type and scale of an impact on an environmental parameter.

- 4.11 The officers undertaking the Review should, with the assistance of conservation and biology staff, consider the above criteria in the light of Agency data, information provided by the conservation agency and relevant environmental standards where available. In doing so, it should be possible to form a view as to whether a permission or

group of permissions is 'likely to have a significant effect'. This is inevitably a matter of professional judgement, but a supporting case for the judgement should clearly relate to the criteria above.

Consultation with EN/CCW

- 4.12 Any judgement of significance will need to have full regard for the advice of the relevant conservation agency. In order to facilitate an effective exchange of information, arrangements for a structured consultation are set out in Appendix 1.
- 4.13 The Agency co-ordinating officer for the Review at a European site should initiate consultation with the conservation agency on behalf of all Agency functions. This officer will need to clearly identify which area team of the conservation agency they are dealing with and the individual within that team responsible for providing advice. In the first instance the co-ordinating officer should contact the Area Manager of the relevant EN/CCW area team, who will then nominate a contact for the Review. The contact addresses of area teams are listed in Appendix 8.

5.0 STAGE 2: Procedure for consented discharges to water

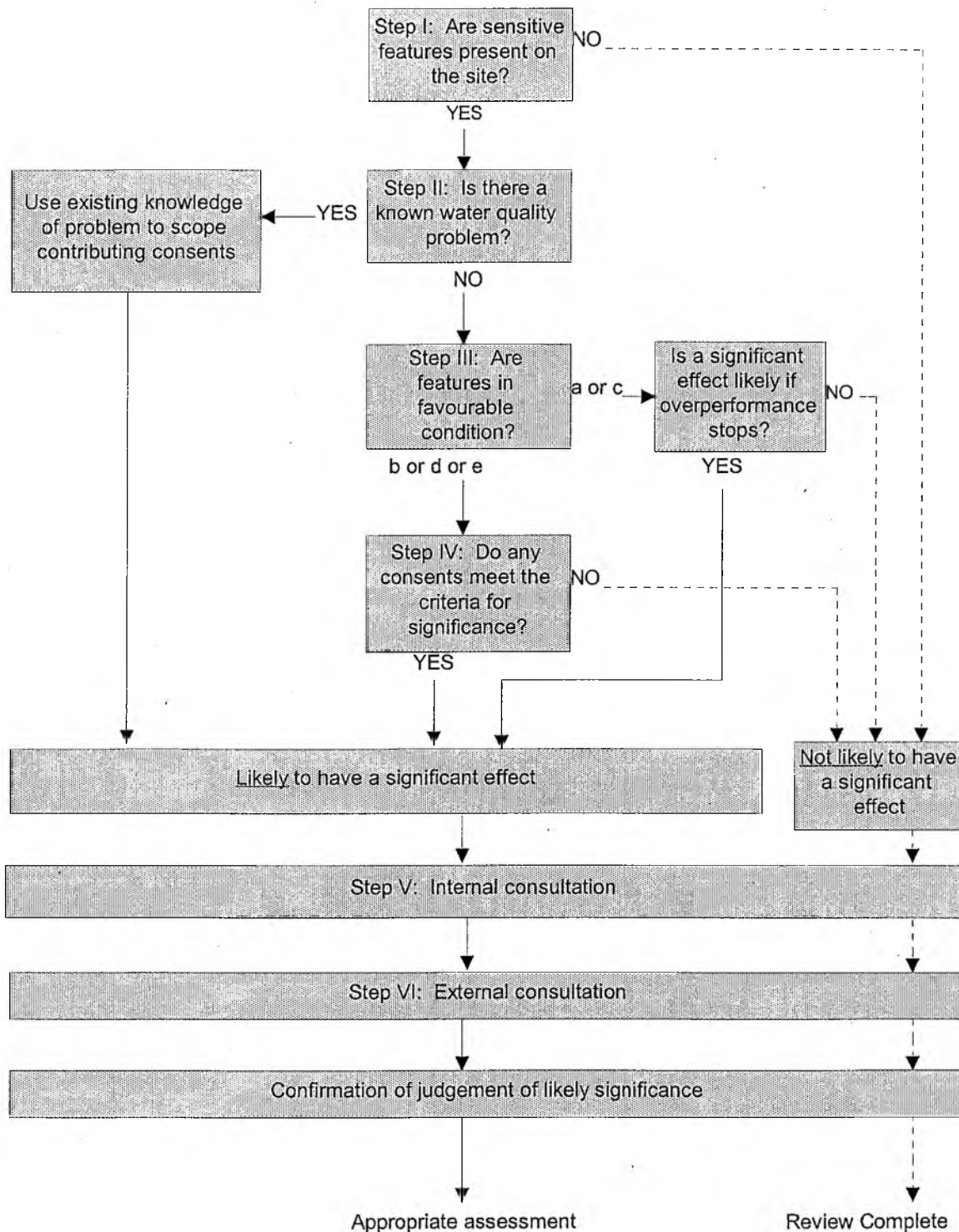
Procedure

- 5.1 This section sets out the procedure the Agency officer representing Water Quality should follow in determining whether groups of consented discharges to water are 'likely to have a significant effect' on a European site. Discharges direct to controlled waters under IPC authorisations should also be assessed using this procedure.
- 5.2 Before carrying out Stage 2, Stage 1 of the Review must be complete with relevant consents identified and organised into groups which reflect their composition, volume and location.
- 5.3 The procedure consists of a number of steps which are summarised in Figure 2.

Step I. Record generic sensitivity of the designated features of the European site to consented discharges

- 5.4 European sites may be designated for bird species identified by the Birds Directive (SPAs), or habitats and species listed in Annexes I and II of the Habitats Directive (SACs). A site may be designated under both Directives *ie* it is both a SAC and a SPA, although the boundaries may differ.
- 5.5 In order to facilitate assessment of likely significance, the individual species and habitats which constitute the designated features of European sites have been aggregated into groups. The officer should ascertain which groups are represented at the European site in question. Information on the designated features at a site is available from Agency Conservation staff. There may be several feature groups represented on any one site (the groups of features are listed in Appendix 2).
- 5.6 A judgement as to whether these groups are sensitive to impacts from consented discharges is given in section 1.1 of Appendix 3. These assessments are generic and reflect groups of features which are dependent on one or more aspects of water quality such that they are inherently sensitive to impacts of discharges. In some instances, features which are not considered sensitive in Appendix 3, may in practice be vulnerable at a particular site due to local circumstances. In these cases, the officer undertaking the review should consider the designated feature in the same way as indicated in 5.8.
- 5.7 If no sensitive features are present on the site the officer should initially assess all groups of relevant consents identified under Stage 1, as not likely to have a significant effect. Step III should be used as an opportunity to invite EN/CCW to comment on this judgement, (see Appendix 1).
- 5.8 If one or more sensitive features are present, then they should form the focus for subsequent judgements, and the officer should proceed to step II.

Fig 2. Stage 2: Assessing whether consented discharges to water are likely to have a significant effect on a European site.



Step II: Identify known water quality problems at the site

- 5.9 In some cases there will be known water quality problems at a site which are affecting one or more designated features. For instance, water quality problems identified under AMP3 for action should inform the Habitats Directive Review. It is intended that where the requirement for improvements has been considered under AMP3, the information gathered under this process should be used to fill in the proforma in Appendix 4. Where information is adequate, any subsequent appropriate assessment for these consents will also be based on the AMP3 review.
- 5.10 There may be other cases where EN/CCW and the Agency have agreed that a water quality problem exists in relation to a designated feature and collaborative work has been undertaken to assess the problem. In such circumstances, the available information should be used to scope which groups of relevant consents identified in Stage 1 are contributing to the problem.
- 5.11 These contributing consents should be regarded as 'likely to have a significant effect' and will require an appropriate assessment. In some instances, unconsented sources (eg diffuse sources, abandoned minewaters), may also contribute significantly or to an unknown degree to the problem. The consented discharges involved should still be carried forward to an appropriate assessment, unless their contribution is known to be negligible. Those groups of consents which are not relevant to the problem can be initially assessed as 'not likely to have a significant effect'.
- 5.12 For sites where there are no agreed water quality problems, the officer should prepare a short summary of the prevailing water quality status of the site. This summary should be brief and based on existing data (see Appendix 3). The purpose of the summary is to identify any water quality issues at the site which **may** affect the designated features. This is an opportunity for the officer to identify issues which they feel should be considered. Examples of water quality issues would include, breaches of EC directives and associated standards, breaches of operational EQS, failure to meet River Ecosystems Objectives, failure to meet Biological Quality Objectives or any other related target, such as LEAPs objectives. If the issue relates to a part of the site only eg a river reach, the relevant part should be clearly identified in the summary.
- 5.13 This summary will represent a useful reference point for other Agency staff and EN/CCW in assessing whether or not a water quality problem exists and if an appropriate assessment is required. **NB The existence of a water quality issue, as defined in 5.12, does not necessarily demonstrate that one or more groups of consented discharges are 'likely to have a significant effect'. This will depend heavily on whether the issue identified is a problem in terms of its potential impact on the designated features.**

Step III: Assess the status of the designated features of the site relative to water quality

- 5.14 At this point, the officer will need to take account of the views of EN/CCW as to the likely significance of the relevant discharges and the current condition of the designated features. This information should be obtained via the consultation organised by the co-ordinating officer - see Appendix 1.

Step IV. Initial judgement of likely significance

- 5.15 Where an initial judgement of likely significance has been made for a group of consents (under step I or II), the comments made by EN/CCW should be noted ready for the internal consultation. Where this is not the case, a judgement of likely significance should be made based on the approach described below.
- 5.16 **EN/CCW response: a or c (see Appendix 1; 1.4).** In these circumstances there is no basis for judging consents 'likely to have a significant effect', subject to 5.17.
- 5.17 If some discharges are overperforming such that performance at the consented level would cause a significant deterioration in the water quality of the site, then these discharges should be considered as likely to have a significant effect provided they meet the criteria described in 4.9 and 4.10. In this context a significant deterioration could include breaches of EC directives and associated standards, breaches of operational EQS, failure to meet River Ecosystems Objectives, failure to meet Biological Quality Objectives or any other related target, such as LEAPs objectives. The officer should seek the advice of internal Ecology staff in reaching a conclusion.
- 5.18 **EN/CCW response: b or d (see Appendix 1; 1.4).** In this instance the Officer will need to ascertain which, if any, of the groups of discharges meet the criteria for significance described in 4.9 and 4.10.
- 5.19 In applying the criteria the officer must seek the views of Conservation and Biology staff. This will probably necessitate a meeting with those staff to consider the criteria for significance against relevant sources of information. Relevant sources of information will include the summary of prevailing water quality at the site, EN/CCWs consultation response and the sources of information and standards described in Appendix 3. Inevitably this is a matter of professional judgement, however, the supporting case for that judgement should refer to the aspects listed in 5.20.
- 5.20 The following factors should be taken into account when assessing whether a change in water quality from a group of consented discharges can be considered significant:
- What area of the site is affected by the changed water quality? If impacts are restricted to a small localised area they are less likely to result in a significant effect on a feature.
 - Does the area with effected water quality coincide with that occupied by the designated feature? If it does a significant effect is more likely.
 - To what degree is the affect reversible? Impacts on water quality which are rapidly attenuated due to dilution, biodegradation, hydrolysis, photolysis etc are less likely to have a significant effect on a designated feature.
 - To what extent does the group of consents contribute to incremental effects? The contribution of a group of consents to cumulative levels of a pollutant is an important aspect of significance. Where possible, this should be considered against an appropriate environmental standard.
 - Is the designated feature particularly sensitive to the type of water quality change in question? If so, a significant effect on the feature is more likely.

- Are changes in water quality likely to have a cumulative effect, in association with abstraction licences for example?
- 5.21 Having applied the criteria for significance, there may be some groups of discharges which still cannot be clearly assessed as likely or not likely to have a 'significant effect'. Where this is the case, the Agency should either gather further information for clarification or proceed to an appropriate assessment.

Step V. Internal consultation on initial judgements of likely significance

- 5.22 Having completed the steps I to IV, section B of the proforma in Appendix 4 should be completed for the site under review. The officer should use the proforma to seek the views of relevant Conservation, Ecology, Fisheries or other Agency staff where they have not already been consulted under step IV. This consultation also affords an opportunity for other relevant functions involved in the Review to be consulted ie Waste licensing, Water Resources and PIR.
- 5.23 The purpose of the consultation is to allow relevant specialist staff to consider whether:
- a. The judgements of significance relating to groups of consents are reasonable, given the information available and the conservation objectives of the site.
 - b. A site classed as not sensitive using criteria in Appendix 3, is nevertheless vulnerable and requires further consideration due to important local factors.
 - c. A licence or authorisation issued under another function, which has yet to be reviewed, has implications for any judgement of significance.
- 5.24 If the specialist member of staff consulted considers that a judgement of likely significance, either affirmative or negative, is incorrect then the determination may be amended. The judgement should only be amended where there are clear, demonstrable reasons which make a strong case for revision. These reasons must be recorded.

Step VI. Consultation with English Nature/Countryside Council for Wales

- 5.25 Following internal consultation the proforma should be used as a basis for consultation with English Nature/Countryside Council for Wales. As with the earlier consultation this should be carried out by the co-ordinating officer in accordance with Appendix 1.
- 5.26 The consultation will address the same points as the internal consultation described in 5.23.
- 5.27 Where the contact in EN/CCW agrees with the judgement then the Local Team Manager/ Area Officer should sign-off the proforma. Should this not be possible, they should give clear, demonstrable, reasons.

- 5.28 In response to any revisions sought by the conservation agency, the officer undertaking the Review should consult with the appropriate staff within the Agency. The assessment may then be revised, if the stated reasons are considered adequate, given the criteria in 4.9 and 4.10.
- 5.29 If a disagreement over the judgement of significance arises, the procedure outlined in Appendix 5 should be employed to resolve this.

Step VII. Confirmation of likely significance

- 5.30 Following consultation, and completion of the proforma by all the Agency functions involved, an appropriate manager should sign off the Stage 2 assessment. The manager should be identified by the Region in accordance with the non-financial Scheme of Delegation.
- 5.31 There is no legal requirement to affirm licences with their holder if no appropriate assessment has been carried out. If the consent holder has been approached for information in relation to Stage 2 of the Review, then they should be informed of the outcome whether or not an appropriate assessment is required.

6.0 STAGE 2: Procedure for abstraction licences

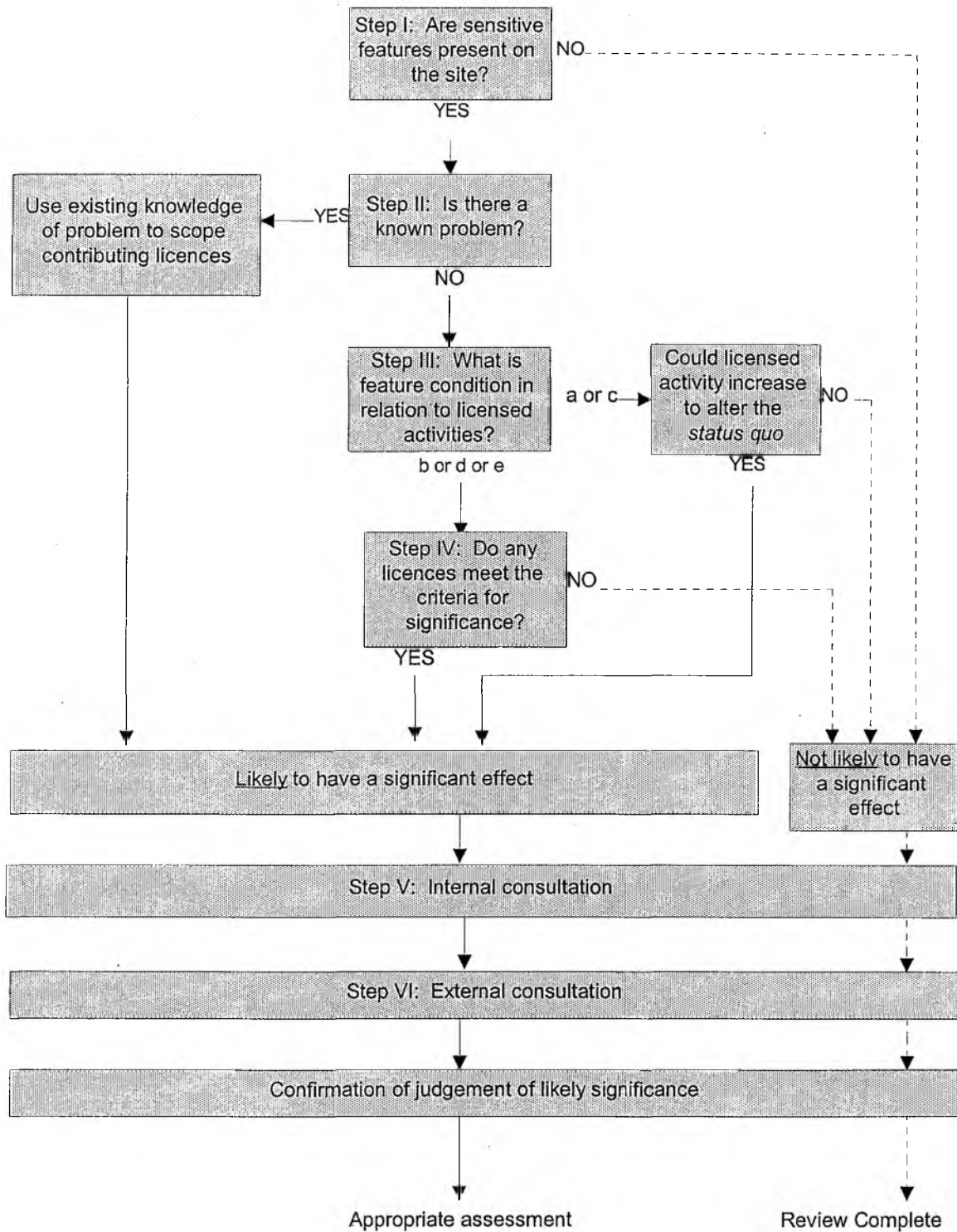
Procedure

- 6.1 This section sets out the procedure the Agency officer should follow in determining whether relevant abstraction licences are 'likely to have a significant effect' on a European site.
- 6.2 Before carrying out Stage 2, Stage 1 of the Review must be complete with relevant licences identified and listed on section A of the proforma in Appendix 4.
- 6.3 The procedure consists of a number of steps which are summarised in Figure 3.

Step I. Record generic sensitivity of the designated features of the European site to licensed abstraction

- 6.4 European sites may be designated for bird species identified by the Birds Directive (SPAs), or habitats and species listed in Annexes I and II of the Habitats Directive (SACs). A site may be designated under both Directives *ie* it is both a SAC and a SPA, although the boundaries may differ.
- 6.5 In order to facilitate assessment of likely significance, the individual species and habitats which constitute the designated features of European sites have been aggregated into groups. The Officer should ascertain which groups are represented at the European site in question. Information on the designated features at a site is available from Agency Conservation staff. There may be several feature groups represented on any one site (the groups of features are listed in Appendix 2).
- 6.6 A judgement as to whether these groups are sensitive to impacts from abstraction is given in section 2.1 of Appendix 3. These assessments are generic and reflect groups of features which are dependent on one or more aspects of water quantity such that they are inherently sensitive to impacts from abstraction. In some instances, features which are not considered sensitive in Appendix 3, may in practice be vulnerable at a particular site due to local circumstances. In these cases, the officer undertaking the review should consider the designated feature in the same way as indicated in 6.8.
- 6.7 If no sensitive features are present on the site the officer should initially assess all licences identified under Stage 1, as not likely to have a significant effect. Step III should be used as an opportunity to invite EN/CCW to comment on this judgement, (see Appendix 1).
- 6.8 If one or more sensitive features are present then they should form the focus for subsequent judgements and the officer should proceed to step II.

Fig 3. Stage 2: Assessing whether licensed abstractions are likely to have a significant effect on a European site.



Step II: Identify known abstraction problems at the site

- 6.9 In some cases there will be known abstraction problems at a site which are affecting one or more designated features. In particular, issues identified under AMP3 for action should inform the Habitats Directive Review.
- 6.10 It is intended that where the requirement for improvements has been considered under AMP3, the officer should utilise the information gathered under that exercise to fill in the proforma in Appendix 4. Where information is adequate, any subsequent appropriate assessment for these consents will also be based on the AMP3 review. It may still be necessary to consider whether non-water company abstractions are also 'likely to have a significant effect'. Those licences which are not contributing to the problem can be initially assessed as 'not likely to have a significant effect'.
- 6.11 A joint Agency/EN review of the effects of abstraction on 379 SSSIs which are thought to be drying out has recently been carried out. This report places sites in England into one of four categories as follows:

Category 1. Action required. It is agreed that a problem exists and action will be taken to address it.

Category 2. Investigate further. It is agreed that a problem exists, although this is not accurately defined and will require further study to ascertain the extent of the effect.

Category 3. Monitor alleged problem. A possible problem exists and a precautionary approach will be taken. This will determine the possible effect on wildlife and possible effect on water tables by monitoring the abstraction and wildlife.

Category 4. No action required. It is agreed there are no abstraction issues.

The use of the word 'problem' in the context of these definitions specifically refers to abstraction rather than other causes of drying out at SSSIs.

- 6.12 Many of the sites in category 1 of the joint review are also in category 1 for AMP3 and will therefore be addressed as described in 6.10. Where sites are in category 1 of the joint review but not AMP3 due to non-water company abstractions, those non-water company licences which contribute to the problem should be judged 'likely to have a significant effect' and therefore will require an appropriate assessment. Those licences which are not contributing to the problem can be initially assessed as 'not likely to have a significant effect'.
- 6.13 Where sites have been placed in category 4 of the joint review, licences should be initially assessed as 'not likely to have a significant effect'. Licences which relate to sites in categories 2 and 3 of the joint review will require further consideration under step IV.

Step III: Assess the status of the designated features of the site in relation to water resources

- 6.14 At this point the officer will need to take account of the views of EN/CCW as to the likely significance of the relevant licensed abstractions and the current condition of the designated features. This information should be obtained via the consultation organised by the co-ordinating officer - see Appendix 1.

Step IV. Initial judgement of likely significance

- 6.15 Where an initial judgement of significance has been made for a licence (under step I or II), the comments made by EN/CCW should be noted ready for the internal consultation. Where this is not the case, a judgement of significance should be made based on the approach described below.
- 6.16 **EN/CCW response: a or c (see Appendix 1; 1.4).** In these circumstances there is no basis for judging consents as 'likely to have a significant effect', subject to 6.17.
- 6.17 If one or more licensed abstractions are occurring at a level substantially less than that licensed such that abstraction at the maximum permitted level would alter the *status quo* at the European site, then the licence should be considered as likely to have a significant effect if it meets the criteria described in 4.9 and 4.10. The officer should seek the advice of internal Ecology staff in reaching a conclusion.
- 6.18 **EN/CCW response: b or d (see Appendix 1; 1.4).** In this instance the officer will need to ascertain which, if any, of the licensed abstractions meet the criteria for significance described in 4.9 and 4.10.
- 6.19 In applying the criteria the officer must seek the views of Conservation and Biology staff. This will probably necessitate a meeting with those staff to consider the criteria for significance against relevant sources of information. Relevant sources of information will include EN/CCWs consultation response, Agency water resources data, the Joint Review (see section 6.11), and guidance given in section 2.0 of Appendix 3. Inevitably this is a matter of professional judgement, however, the supporting case for that judgement should refer to the aspects listed above.
- 6.20 Having applied the criteria for significance there may be some licences which still cannot be clearly assessed as likely or not likely, to have a 'significant effect'. Where this is the case, the Agency should either gather further information for clarification or proceed to an appropriate assessment.

Step V. Internal consultation on initial judgements of likely significance

- 6.21 Having completed the steps I to IV, section C of the proforma in Appendix 4 should be completed for the European site and relevant licences under review. The officer should use the proforma in Appendix 4 to seek the views of relevant Conservation, Ecology, Fisheries or other Agency staff where they have not already been consulted under step

IV. This consultation also affords an opportunity for other relevant functions involved in the Review to be consulted ie Waste licensing, Water Quality and PIR.

- 6.22 The purpose of the consultation is to allow relevant specialist staff to consider whether:
- a. The judgements of significance relating to licences are reasonable given the information available and the conservation objectives of the site.
 - b. A site classed as not sensitive using Appendix 3, is vulnerable and requires fuller consideration due to one or more local factors.
 - c. A consent, licence or authorisation under another function which has yet to be reviewed has implications for any judgement of significance.
- 6.23 If the specialist member of staff consulted, considers that a judgement of likely significance, either affirmative or negative, is incorrect then the determination may be amended. The judgement should only be amended where there are clear, demonstrable reasons which make a strong case for revision. These reasons must be recorded.

Step VI. Consultation with English Nature/Countryside Council for Wales

- 6.24 Following internal consultation the proforma should be used as a basis for consultation with English Nature/Countryside Council for Wales. As with the earlier consultation this should be carried out by the co-ordinating officer in accordance with Appendix 1.
- 6.25 The consultation will address the same points as the internal consultation described in 6.22.
- 6.26 Where the contact in EN/CCW agrees with the judgement then the Local Team Manager/ Area Officer should sign-off the proforma. Should this not be possible, they should give clear, demonstrable, reasons.
- 6.27 In response to any revisions sought by the conservation agency, the officer undertaking the Review should consult with the appropriate staff within the Agency. The assessment may then be revised, if the stated reasons are considered adequate, given the criteria in 4.9 and 4.10.
- 6.28 If a disagreement over the judgement of significance arises, the procedure outlined in Appendix 5 should be employed to resolve this.

Step VII. Confirmation of likely significance

- 6.29 Following consultation, and completion of the proforma by all Agency functions involved, an appropriate manager should sign off the Stage 2 assessment. The Region should delegate the appropriate manager in accordance with the non-financial Scheme of Delegation.

- 6.30 There is no legal requirement to affirm licences with their holder if no appropriate assessment has been carried out. If the licence holder has been approached for information in relation to Stage 2 of the Review, then they should be informed of the outcome, whether or not an appropriate assessment will result.

7.0 STAGE 2: Procedure for Waste Management Licences

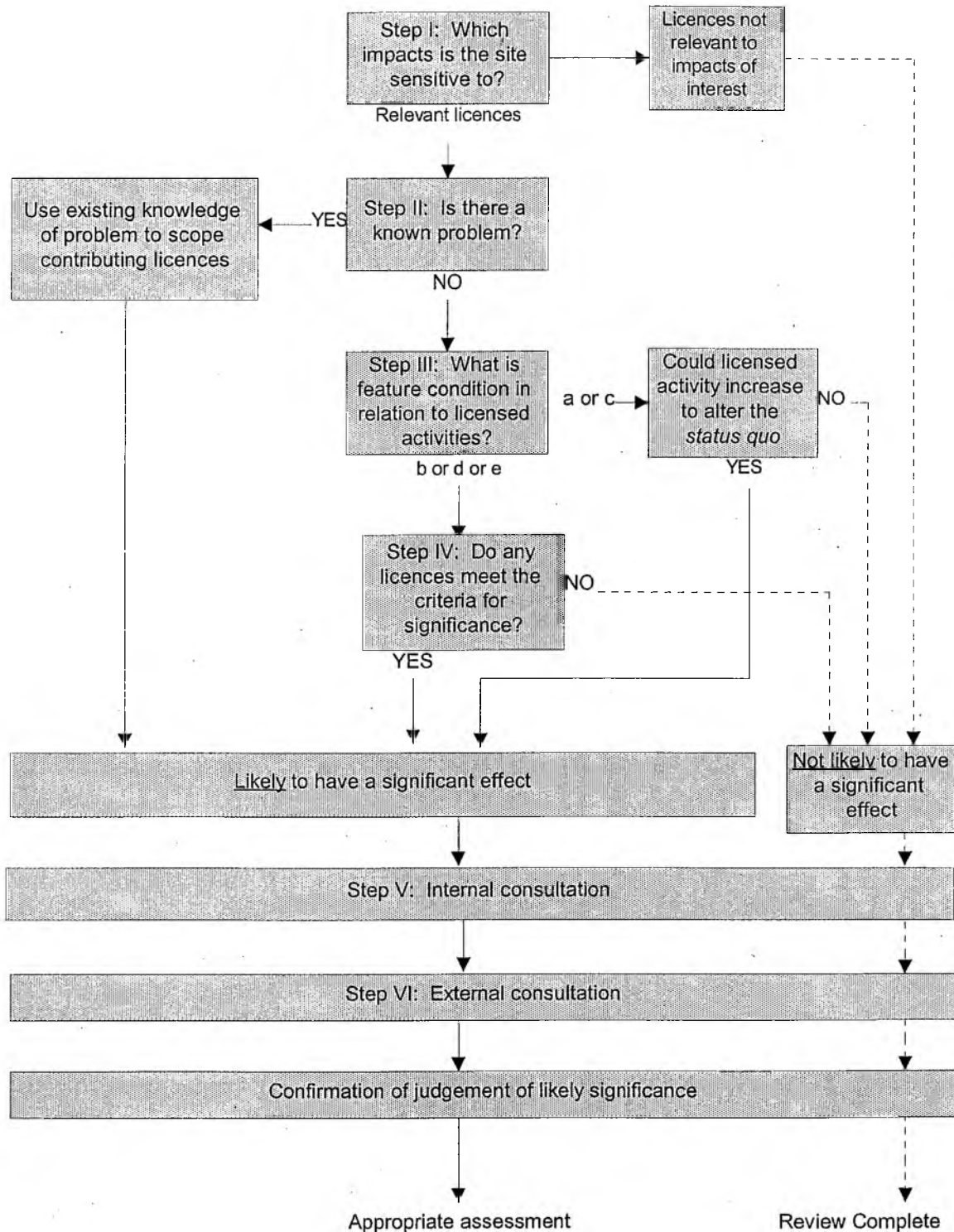
Procedure

- 7.1 This guidance sets out the procedure the Agency officer representing Waste Licensing should follow in determining whether licensed waste disposal activities are 'likely to have a significant effect' on a European site.
- 7.2 Before carrying out Stage 2, Stage 1 of the Review must be complete with relevant licences identified.
- 7.3 The procedure consists of a number of steps which are summarised in Figure 4.

Step I. Record generic sensitivity of the designated features of the European site to impacts from licensed activities

- 7.4 European sites may be designated for bird species identified by the Birds Directive (SPAs), or habitats and species listed in Annexes I and II of the Habitats Directive (SACs). A site may be designated under both Directives *ie* it is both a SAC and a SPA, although the boundaries may differ.
- 7.5 In order to facilitate assessment of likely significance, the individual species and habitats which constitute the designated features of European sites have been aggregated into groups. The officer should ascertain which groups are represented at the European site in question. Information on the designated features at a site is available from Agency Conservation staff. There may be several groups of habitats and species represented on any one site. The groups are listed in Appendix 2 of this procedure.
- 7.6 Appendix 3 lists the common mechanisms by which impacts from waste disposal activities occur. In each case the types of licensed activity likely to give rise to that mechanism of impact are also listed. Each impact is then cross-referenced with the groups identified in Appendix 2, with a tick to identify when a group is sensitive to a particular mechanism of impact.
- 7.7 The officer should use the tables to identify which mechanisms of impact the designated features of the site are sensitive to. Using the list of waste disposal activities given for each mechanism of impact, those licences which are likely to contribute to the mechanism(s) of interest can then be identified. The assessments in Appendix 3 are generic, features which are not considered sensitive may in practice be vulnerable at a particular site due to particular local circumstances.
- 7.8 If there are no licensed activities which are likely to contribute to the mechanisms to which features are sensitive then the licences should be initially assessed as 'not likely to have a significant effect'. Step III should be used as an opportunity to invite EN/CCW to comment on this judgement, see Appendix 1.

Fig 4. Stage 2: Assessing whether licensed waste management activities are likely to have a significant effect on a European site



- 7.9 Where some licences are likely to contribute to a mechanism identified under 7.7 then their potential for significant effect should be considered further and the officer should proceed to step II.

Step II: Identify known problems arising from licensed activities

- 7.10 In some cases there may be a known concern with regard to a licensed activity and its impact on a European site. This may relate to a previous four-yearly review of a licence or a modification to a licence, where an issue has arisen as part of the associated consultation. Alternatively there may be an issue in relation to a site that is being reviewed under Regulation 15 of the Waste Management Licensing Regulations. Where such issues have not yet been resolved it is likely that an appropriate assessment will be required and the relevant licence(s) should be initially assessed as likely to have a significant effect.

Step III: Assess the status of the designated features of the site in relation to licensed activities

- 7.11 At this point the officer will need to take account of the views of EN/CCW as to the likely significance of the relevant licences and the current condition of the designated features. This information should be obtained via the consultation organised by the co-ordinating officer - see Appendix 1.

Step IV. Initial judgement of likely significance

- 7.12 Where an initial judgement of significance has been made for a licence (under step I or II), the comments made by EN/CCW should be noted ready for the internal consultation. Where this is not the case a judgement of significance should be made based on the approach described below.
- 7.13 **EN/CCW response: a or c (see Appendix 1; 1.4).** In these circumstances there is no basis for judging consents as 'likely to have a significant effect', subject to 7.14.
- 7.14 If some activities are being carried out at a level substantially less than the maximum licensed, such that activity at the maximum licensed level would alter the *status quo* at the European site, then the licence should be considered as likely to have a significant effect provided it meets the criteria described in 4.9 or 4.10. The officer should seek the advice of internal Ecology staff in reaching a conclusion.
- 7.15 **EN/CCW response: b or d (see Appendix 1; 1.4).** In this instance the officer will need to ascertain which, if any, of the licensed activities meet the criteria for significance described in 4.9 and 4.10.

7.16 The following factors should be taken into account when assessing whether an effect can be considered significant:

- What area of the European site is affected? If impacts are restricted to a small localised area there is less likelihood of a significant effect on a feature.
- Does the area affected coincide with that occupied by the designated feature? If so a significant effect is more likely.
- To what degree is the affect reversible? Reversible effects such as minor amounts of dust generation are less likely to have a significant effect on a designated feature.
- To what degree does the licensed activity contribute to incremental effects? Where more than one licensed activity is affecting a parameter of the supporting environment they must be considered in combination and may be judged significant in terms of their combined affects.
- Is the designated feature particularly sensitive to the type of affect in question? If so a significant effect on the feature is more likely.
- Are affects likely to have a cumulative effect in association with other Agency authorised activities?

7.17 In applying the criteria the officer must take seek the views of Conservation and Biology staff. This will probably necessitate a meeting with those staff to consider the criteria for significance against relevant sources of information. Relevant sources of information will include Agency monitoring data, EN/CCWs consultation response and any original Environmental Assessment that pertains to the licensed activity.

7.18 Having applied the criteria for significance there may be some licences which still cannot be clearly assessed as likely or not likely, to have a 'significant effect'. Where this is the case, the Agency should either gather further information for clarification or proceed to an appropriate assessment.

Step V. Internal consultation on initial judgements of likely significance

7.19 Having completed the steps I to IV, section D of the proforma in Appendix 4 should be completed for the European site and the licences which have been considered against it. The Officer should use the proforma to seek the views of relevant Conservation, Ecology, Fisheries or other Agency staff where they have not already been consulted under step IV. This consultation also affords an opportunity for other relevant functions involved in the Review to be consulted ie Water Quality, Water Resources and PIR.

7.20 The purpose of the consultation is to allow relevant specialist staff to consider whether:

- a. The judgements of significance relating to licences are reasonable given the information available and the conservation objectives of the site.
- b. The assessments in Appendix 3 are inadequate due to local circumstances and licences screened out under step I need further consideration.

c. A licence or authorisation issued by another function which has yet to be reviewed, has implications for any judgement of significance.

- 7.21 If the specialist member of staff consulted, considers that a judgement of likely significance, either affirmative or negative, is incorrect then the determination may be amended. The judgement should only be amended where there are clear, demonstrable reasons which make a strong case for revision. These reasons must be recorded.

Step VI. Consultation with English Nature/Countryside Council for Wales

- 7.22 Following internal consultation the proforma should be used as a basis for consultation with English Nature/Countryside Council for Wales. As with the earlier consultation this should be carried out by the co-ordinating officer in accordance with Appendix 1.
- 7.23 The consultation will address the same points as the internal consultation described in 7.20.
- 7.24 Where the contact in EN/CCW agrees with the judgement then the Local Team Manager/ Area Officer should sign-off the proforma. Should this not be possible, they should give clear, demonstrable, reasons.
- 7.25 In response to any revisions sought by the conservation agency, the officer should consult with the appropriate staff within the Agency. The assessment may then be revised, if the stated reasons are considered adequate, given the criteria in 4.9 and 4.10.
- 7.26 If a disagreement over the judgement of significance arises, the procedure outlined in Appendix 5 should be employed to resolve this.

Step VII. Confirmation of likely significance

- 7.27 Following consultation, and completion of the proforma by all Agency functions involved, an appropriate manager should sign off the Stage 2 assessment. The appropriate manager should be delegated by the Region in accordance with the non-financial Scheme of Delegation.
- 7.28 There is no legal requirement to affirm licences with their holder if no appropriate assessment has been carried out. If the licence holder has been approached for information in relation to Stage 2 of the Review, then they should be informed of the outcome whether or not an appropriate assessment will result.

8.0 STAGE 2: Procedure for IPC authorisations

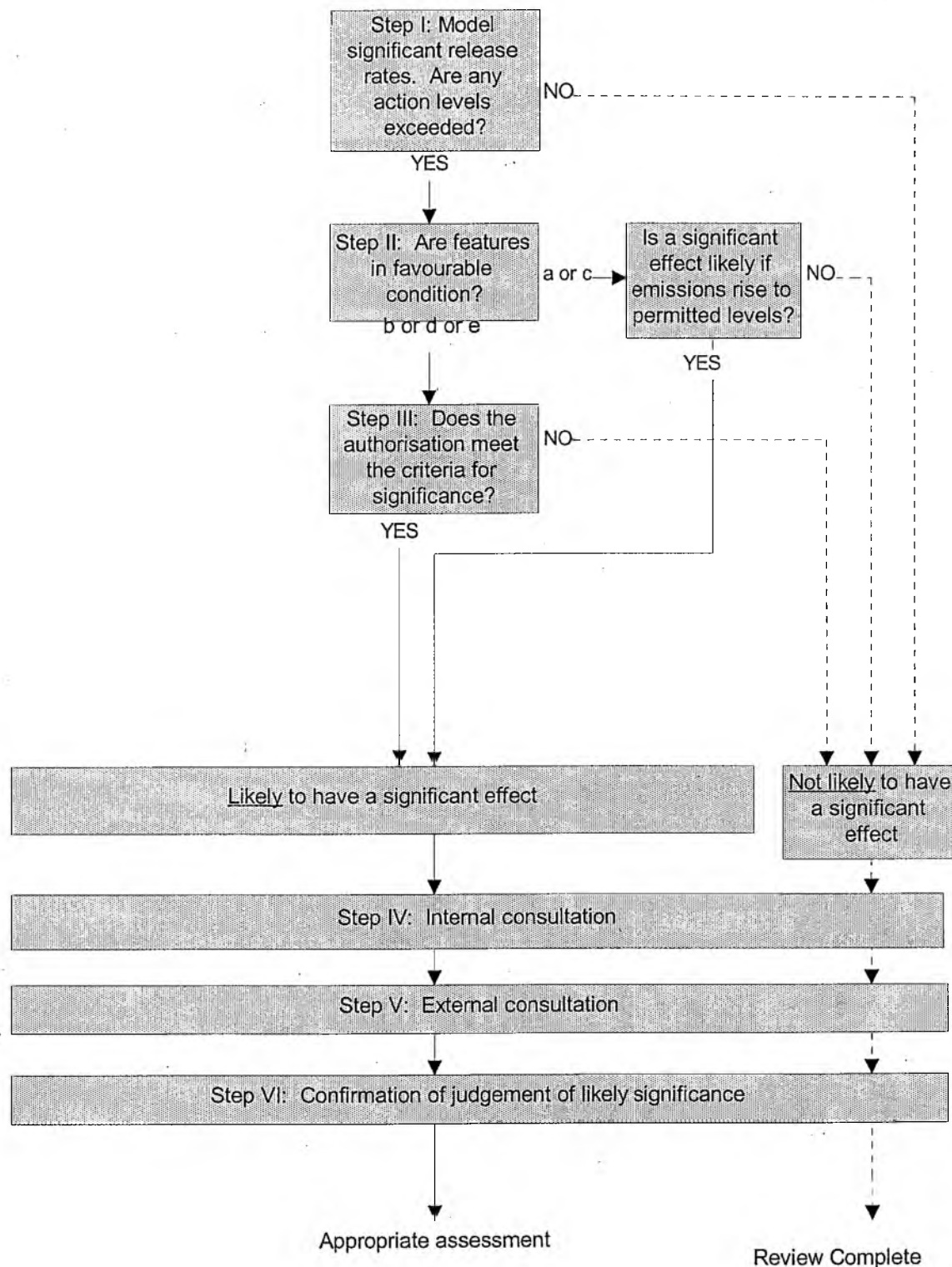
Procedure

- 8.1 This section sets out the procedure PIR officers should follow in determining whether authorised processes are 'likely to have a significant effect' on a European site. Discharges to water authorised by the PIR function should be assessed in line with guidance given in 3.17 and 3.18.
- 8.2 Before carrying out Stage 2, Stage 1 of the Review must be complete with relevant authorisations identified.
- 8.3 Some authorised processes will be assessed at a national level by the Agency. Emissions of SO_x and NO_x from oil refineries and coal/oil-fired power stations will be modelled across the whole of England and Wales. The resulting data will be used to assess the long-range impacts of these emissions on all European sites via acidification and eutrophication. Officers will still need to assess these authorisations in terms of other emissions and potential short-range impacts on European sites.
- 8.4 The procedure consists of a number of steps which are summarised in Figure 5.

Step I. Model and assess emissions in relation to the European site.

- 8.5 The first step of the procedure should allow officers to screen out authorised processes where a judgement of 'not likely to have a significant effect' is clear-cut. Any emission which is less than the significant release rates given in Table D1 of '*Technical Guidance Note E1*', Volume II Annex A (NB under revision), need not be considered further. This is because such emissions correspond to approximately <0.2% of the relevant EAL (Environmentally Acceptable Level), and indicate a very low plant contribution. Emissions which exceed these release rates will require modelling or assessment of existing modelling data.
- 8.6 ADMS is available in all Agency areas as a suitable tool for this purpose. However, if an alternative, comparable, system has already been used to model emissions then the relevant outputs may be used instead, noting the system used for audit purposes. Where there are several point sources on a site, the officer may model emissions as a single site source, if this will not result in an underestimate of impact due to incorrect assumptions regarding stack configurations. To minimise workload, modelling should be carried out for a unit emission and the resulting environmental concentration scaled for each emission type. The maximum authorised emission should be modelled.
- 8.7 The resulting footprints should be assessed using internationally accepted levels such as World Health Organisation Critical Levels (CLs), or if not available EALs. These criteria are listed in '*Technical Guidance Note E1*', Volume II Annex A. Both long and short term levels should be used. Additional guidance is given in Appendix 3 - section 4.0. Where the emission footprint results in exceedance of the action level (2% of the CL or EAL) at any part of the European site, then the officer will need to further consider that

Fig 5. Stage 2: Assessing whether authorised processes are likely to have a significant effect on a European site.



emission. Where several authorised processes are contributing to the level of a pollutant at a European site then they should all go forward to step III if the average contribution from each authorisation is >2%.

- 8.8 EALs represent the most comprehensive environmental criteria currently available to officers. EALs are based upon a wide range of information, but are essentially set to protect human health. Some designated features of European sites may be more sensitive to a particular pollutant than humans, for this reason whether an EAL or CL has been used must be recorded by the officer. The relative sensitivity of the designated feature(s) can then be considered under step III.
- 8.9 If no emissions exceed the action levels described in 8.7, then the authorisation can be initially judged as 'not likely to have a significant effect'. Where action levels are exceeded then the remaining procedure will focus on the likelihood of significant effects on the designated features of the site resulting from those emissions specifically.

Step II: Assess the status of the designated features of the site

- 8.10 At this point the officer will need to take account of the views of EN/CCW as to the likely significance of the relevant emissions and the current condition of the designated features. This information should be obtained via the consultation organised by the co-ordinating officer - see Appendix 1. This is an opportunity for EN/CCW to identify particular sensitivities of features in relation to any emissions of concern.

Step III. Initial judgement of likely significance

- 8.11 An initial judgement of likely significant effect should now be made, if this has not already been done under step I.
- 8.12 **EN/CCW response: a or c (see Appendix 1; 1.4).** In these circumstances there is no basis for judging consents as likely to have a significant effect, subject to 8.13.
- 8.13 If current emissions are substantially below permitted levels such that increased emissions to the levels permitted would cause a significant deterioration in air quality at the site, then the authorised process should be considered as likely to have a significant effect, assuming it also meets the criteria specified in 4.9 and 4.10. Any significant deterioration needs to be assessed and defined in terms of the relevant EAL/CL, taking ambient levels into account (see Appendix 3). This is inevitably, a matter of professional judgement, where site specific data on ambient pollutant levels are not available, standard estimates may be drawn from:

"Air pollution in the UK: 1996" DETR or "Air quality - A to Z 1995" DETR

- 8.14 **EN/CCW response: b or d (see Appendix 1; 1.4).** In this instance the officer will need to make a judgement of significance based on the criteria set out in 4.9 and 4.10.
- 8.15 The following factors should be taken into account when assessing whether a change in

air quality arising from an authorised process should be considered 'likely to have a significant effect' on a designated feature:

- What area of the site is affected by the changed air quality? If impacts are restricted to a small localised area they are less likely to result in a significant effect on a feature.
- Does the area with affected air quality coincide with that occupied by the designated feature? If so a significant effect is more likely.
- To what degree does the authorised process contribute to incremental effects? The contribution of an emission to cumulative levels of a pollutant is an important aspect of significance. This should be considered against the environmental standards provided.
- Is the designated feature particularly sensitive to the type of air quality change in question? If so a significant effect on the feature is more likely.
- Are changes in air quality likely to have a cumulative effect in association with other Agency licensed activities?

8.16 In assessing whether the authorisation meets the criteria for significance the officer should utilise all the relevant information available. Key sources of information will be the views of the conservation agency, the conservation objectives for the site, the original Environmental Statement, ongoing monitoring data, data on prevailing air quality in the area and any other investigatory work undertaken by the operator or the Agency. Talking to relevant Agency Ecology staff will be essential when considering the criteria for significance. Whether the conservation agency have indicated air quality 'may be' or 'is likely to be' responsible for poor feature condition, and their reasons for this view, should also assist in this process. Appendix 3 lists some relevant mechanisms and gives guidance on assessing significance.

8.17 If ambient levels of a pollutant are high in relation to an EAL or CL and a substantial proportion of those levels comes from Part B processes, then the officer should liaise with the Local Government Authority responsible for reviewing those Part B permissions. In such circumstances any proposed appropriate assessment of emissions from Part A processes would need to be co-ordinated with that of emissions from Part B processes.

8.18 Judgements on the significance of short range effects from SO_x and NO_x will need to take account of contributions from nationally modelled processes as well as local ones in order to assess the total loading from Agency authorisations.

8.19 Having applied the criteria for significance there may be a small number of authorisations where significance cannot be assessed. Where this is the case, the Agency should either gather further information for clarification or proceed to an appropriate assessment.

Step IV. Internal consultation on initial judgements of likely significance

8.20 Having completed the steps I to IV, section E of the proforma in Appendix 4 should be completed for the European site and the licences which have been considered against it. The officer should use the proforma to seek the views of relevant Conservation, Ecology, Fisheries or other Agency staff where they have not already been consulted under step IV. This consultation also affords an opportunity for other functions involved in the Review to be consulted ie Water Quality, Water Resources and Waste Regulation.

- 8.21 The purpose of the consultation is to allow relevant specialist staff to consider whether:
- a. The judgements of significance relating to authorisations are reasonable given the information available and the conservation objectives of the site.
 - b. A licence or consent under another function which has yet to be reviewed has implications for any judgement of significance.
- 8.22 If the specialist staff consulted, consider that a judgement of likely significance, either affirmative or negative, is incorrect then the determination may be amended. The judgement should only be amended where there are clear, demonstrable reasons which make a strong case for revision. These reasons must be recorded.

Step V. Consultation with English Nature/Countryside Council for Wales

- 8.23 Following internal consultation the proforma should be used as a basis for consultation with English Nature/Countryside Council for Wales. As with the earlier consultation this should be carried out by the co-ordinating officer in accordance with Appendix 1.
- 8.24 The consultation will address the same points as the internal consultation described in 8.21.
- 8.25 Where the contact in EN/CCW agrees with the judgement then the Local Team Manager/ Area Officer should sign-off the proforma. Should this not be possible, they should give clear, demonstrable, reasons.
- 8.26 In response to any revisions sought by the conservation agency, the officer should consult with the appropriate staff within the Agency. The assessment may then be revised, if the stated reasons are considered adequate, given the criteria in 4.9 and 4.10.
- 8.27 If a disagreement over the judgement of significance arises, the procedure outlined in Appendix 5 should be employed to resolve this.

Step VII. Confirmation of likely significance

- 8.28 Following consultation, and completion of the proforma by all Agency functions involved, an appropriate manager should sign off the Stage 2 assessment. The appropriate manager should be delegated by the region in accordance with the non-financial Scheme of Delegation.
- 8.29 There is no legal requirement to affirm authorisations with their holder if no appropriate assessment has been carried out. If the authorisation holder has been approached for information in relation to Stage 2 of the Review, then they should be informed of the outcome whether or not an appropriate assessment will result.

9.0 STAGE 2: Procedure for RSA93 authorisations

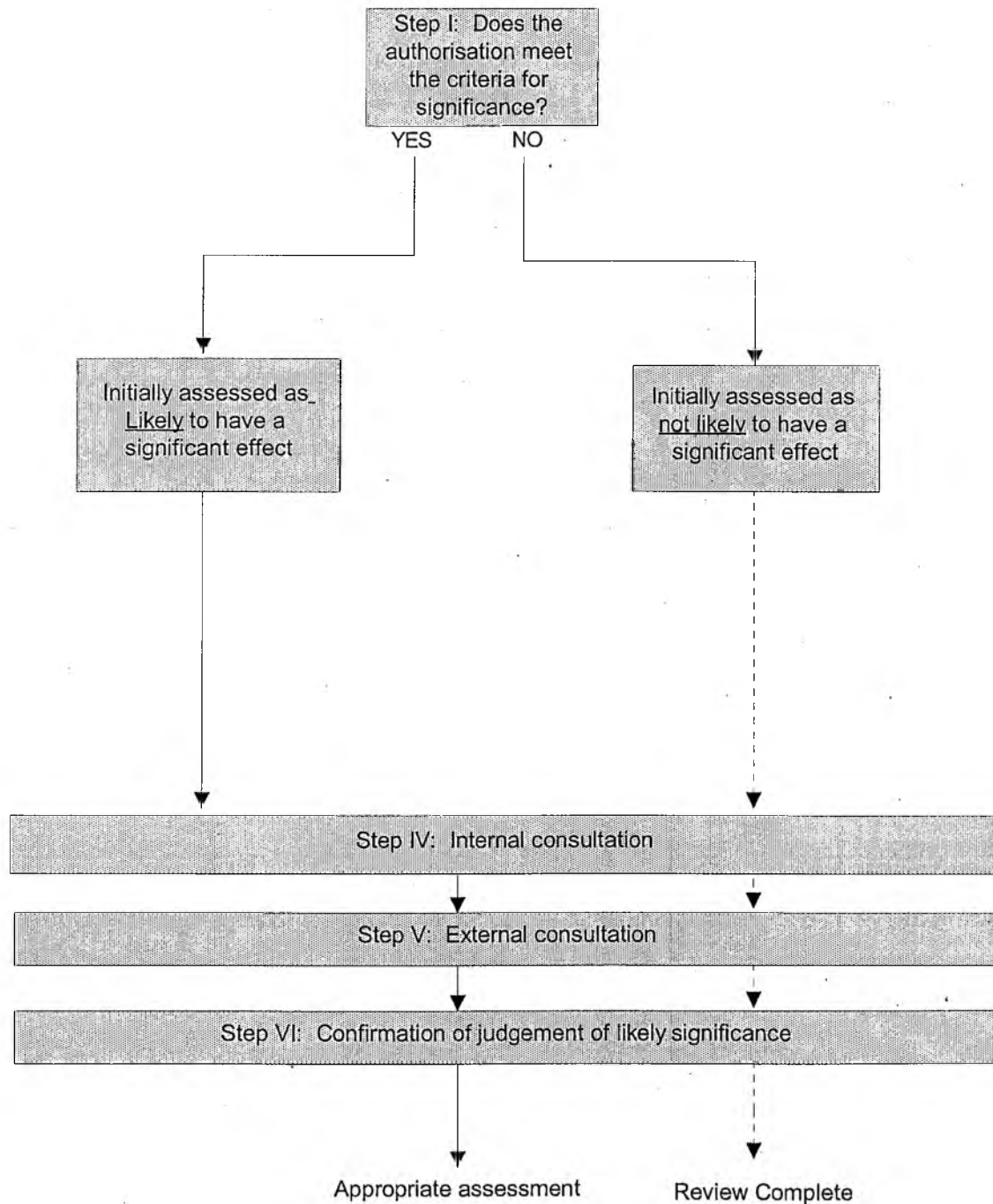
Procedure

- 9.1 This section sets out the procedure RSR officers should follow in determining whether discharges authorised under RSA93 are 'likely to have a significant effect' on a European site.
- 9.2 This procedure is specific to authorised disposals of radioactive waste to air, water or land. Some discharges to water may have potential effects which are unrelated to radioactivity eg temperature of cooling water: where this is the case these effects should be considered using the guidance note for consented discharges to water.
- 9.3 The procedure consists of a number of steps which are summarised in Figure 6.

Step I. Assess discharges against criteria for significance.

- 9.4 In order to carry out the procedure the officer will need a map of the European site and a description of the designated features and the conservation objectives. This information is available from the Conservation function.
- 9.5 The criteria set out in 4.9 and 4.10 are common criteria for assessing the significance of effects from a range of Agency authorised activities other than authorisations under RSA93. The concepts described in the general criteria apply equally to authorisations under RSA93 and if the officer considers that a particular authorised site meets these criteria, then it should be progressed for consideration under Stage 2.
- 9.6 As there is no national or international framework within which to assess the effects of radioactivity on wildlife, officers may find the general criteria difficult to apply. In recognition of this a technical criterion is outlined below to assist in making a judgement on whether or not a significant effect is likely.
- 9.7 The technical criterion relates to the expected dose that a human could receive at the European site in question (ie that the site would contain humans as one of the species living there). The officer should calculate the anticipated dose arising from a discharge via the routes of external irradiation, inhalation and ingestion. This should be based on the average intake data published by the NRPB.
- 9.8 Where the assessed dose is less than 1 mSv per year, the disposal can be judged as 'not likely to have a significant effect'. Where more than one authorised disposal may be contributing to the level of radiation exposure at a European site, the cumulative effect should be assessed and considered against this criterion. If more than 1 mSv would be received then proceed to Stage 3 assessment.

Fig 6. Stage 2: Assessing whether authorised disposals of radioactive waste under RSA93 are likely to have a significant effect on a European site



Step II. Internal consultation on initial judgements of likely significance

- 9.9 Having completed step I the officer should complete section F of the proforma in Appendix 4. The officer should use this to seek the views of relevant Conservation, Ecology, Fisheries or other Agency staff where they have not already been consulted under step I. This consultation also affords an opportunity for other functions involved in the Review to be consulted ie Water Quality, Waste licensing and Water Resources.
- 9.10 The purpose of the consultation is to allow relevant specialist staff to consider whether:
- a. The judgement of significance is reasonable given the information available.
 - b. A consent or licence which has yet to be reviewed under another function has implications for any judgement of significance.
- 9.11 If the specialist staff consulted, consider that a judgement of likely significance, either affirmative or negative, is incorrect then the determination may be amended. The judgement should only be amended where there are clear, demonstrable reasons which make a strong case for revision. These reasons must be recorded on the proforma.

Step III. Consultation with English Nature/Countryside Council for Wales

- 9.12 Following internal consultation the proforma should be used as a basis for consultation with English Nature/Countryside Council for Wales. 20 working days should be allowed for a response.
- 9.13 The consultation will address the following points:
- a. Whether the judgement of significance is reasonable given the information available.
 - b. If the conservation agency concludes a judgement is incorrect, they should clearly state their concerns. Where a change to a judgement of 'likely to have a significant effect' is sought, the reasons for this should address the criteria for significance described in 4.9 and 4.10.
- 9.14 In order to promote a consistent approach it is envisaged that consultations will involve a single specialist member of staff from either English Nature or the Countryside Council for Wales as appropriate. The precise arrangements are given in Appendix 1. If the contact agrees with the initial judgement of significance, they should sign off the proforma.
- 9.15 In response to any revisions sought by the conservation agency, the officer should consult with the appropriate staff within the Agency. The assessment may then be revised, if the stated reasons are considered adequate, given the criteria in 4.9 and 4.10.
- 9.16 If a disagreement over the judgement of significance arises, the procedure outlined in Appendix 5 should be employed to resolve this.

Step IV. Confirmation of likely significance

- 9.17 Following consultation, and completion of the proforma by all Agency functions involved, an appropriate manager should sign off the Stage 2 assessment. The appropriate manager should be delegated by the region in accordance with the non-financial Scheme of Delegation.
- 9.18 There is no legal requirement to affirm authorisations with their holder if no appropriate assessment has been carried out. If the authorisation holder has been approached for information in relation to Stage 2 of the Review, then they should be informed of the outcome whether or not an appropriate assessment will result.

10.0 STAGE 3 - appropriate assessment

- 10.1 Where one or more Agency permissions are judged 'likely to have a significant effect' on a European site an appropriate assessment will be required. The aim of the assessment will be to ascertain whether or not the permissions in question are having an adverse affect on the integrity of the site. The assessment will focus on the mechanisms of concern identified by application of the criteria for significance under Stage 2. At the same time any assessment will need to establish how the Agency should address any adverse affect.
- 10.2 Guidance for undertaking appropriate assessment will be available by July 1999, and will take the form of a supplement to this procedure. This guidance should be used to inform the scoping of work required under an appropriate assessment and will be jointly agreed with English Nature and the Countryside Council for Wales.

APPENDIX 1

CONSULTATION BETWEEN THE AGENCY AND EN/CCW ON FEATURE CONDITION AND LIKELY SIGNIFICANCE OF RELEVANT PERMISSIONS

1.0 Initial consultation

1.1 Introduction

This appendix contains guidance with regard to consultation on the condition of the designated features at a European site and the significance of relevant Agency permissions. The consultation should give the conservation agency an early opportunity to give advice and no assessments of significance should be made without access to all information on the current condition of the designated features.

1.2 Information the Agency should provide

In order for the conservation agency to respond effectively to the consultation the following information will be required:

- a. A list of all European sites where the Review is being initiated and consultation is sought.
- b. The legal status and designated features of the site from Agency records.
- c. The completed Stage 1 section of the proforma, which records the criteria used to identify relevant consents for the Review.
- d. An indication of sites where all relevant permissions for a function have been initially assessed as 'not likely to have a significant effect', due to the generic sensitivity of the designated features present.
- e. An indication of sites with an agreed water quality/abstraction/waste regulation problem in relation to a designated feature, the nature of that problem, the features affected or threatened and the contributing permissions.
- f. For the remaining sites where an initial judgement of significance has not yet been made, any other relevant information, for example the summary of prevailing water quality.

Where a large complex European site is being considered as a series of component SSSIs, the information will need to be organised to reflect this.

The co-ordinating officer may consult on a site-by-site basis or several sites simultaneously as convenient. An appropriate period will also be required to compile a response, this will be a minimum of 20 working days, though, where views are sought on several sites simultaneously a longer period may be appropriate.

The documents associated with the consultation should be sent to the Local Area Team Manager (EN) or the Area Officer (CCW) - see Appendix 8 for contact addresses. Where a European site(s) covers several administrative areas of the conservation agency the Agency Officer should first agree with the conservation agency who the contact point will be for the consultation.

1.3 Information EN/CCW should provide in their response

In response the conservation agency should provide the following information:

- a. Confirmation of the legal status and designated features of the sites being reviewed, or corrections if necessary.
- b. The conservation objectives for each designated feature present on a site at the fullest level of detail available at the time of consultation.
- c. Any comments on the criteria used to identify relevant consents under Stage 1.
- d. The current condition of the designated features of the sites included in the consultation (see 1.4 below)
- e. Where designated features of sites are not considered to be sensitive the conservation agency should state whether they agree with this assessment.
- f. Where the site has been assessed as having a known problem which has been used to identify permissions requiring appropriate assessment, the conservation agency should state whether they agree with this assessment.
- g. For sites where the criteria for significance need to be applied to relevant permissions, the conservation agency should give their view as to whether any of the permissions meet the criteria and why.

1.4 Judgements of feature condition

One of the following judgements should be given in relation to the current status of each designated feature of the site:

- a. The designated feature is in favourable condition and there is no evidence to suggest relevant permissions are currently having a 'significant effect'.
- b. The designated feature is in favourable condition, but there is concern that one or more of the relevant permissions may be adversely affecting that condition.
- c. The designated feature is in unfavourable condition, but this can be attributed to a factor unrelated to Agency permitted activities eg vegetation management, and there is no evidence to suggest relevant Agency permissions are currently having a 'significant effect'.

- d. The designated feature is in unfavourable condition and one or more Agency permitted activities may be or are likely to be, responsible.

The judgement of feature condition should be based on the conservation objectives for the feature, associated targets and monitoring against those targets. It is recognised that this information may not always be adequate. In such cases, the conservation agency should give their view based on the best available information, clearly explaining what those sources of information are. Where the condition of features differs over parts of the site, this should be clearly described, as it will assist in identifying specific permissions of interest.

Reasons for considering a permission meets the criteria for significance should have a sound scientific basis and may include specific local circumstances of designated features. These reasons should include:

- a. The mechanism by which an effect is envisaged
- b. The affected feature or features
- c. Clear reasons for anticipating that the scale or nature of an effect is significant ie the feature is particularly sensitive to the mechanism, the geographical extent of the problem is substantial etc

Before responding, the conservation agency may wish to seek a meeting with the Agency co-ordinating officer to clarify issues.

2.0 Second consultation

The purpose of the second consultation with EN/CCW is to give an opportunity for their comment on initial judgements of significance and seek the signing off of that judgement. As with the initial consultation the co-ordinating officer should undertake this contact on behalf of all Agency functions involved in the Review at a particular site.

3.0 Arrangements for authorisations granted under RSA 93

This consultation differs from others under the procedure in that it will use a single specialised point of consultation within each conservation agency. This individual will consult with the relevant EN/CCW staff at site level as appropriate. They will also be responsible for signing off judgements of significance.

3.1 Information the Agency should provide

For RSA93 authorisations the Agency should provide:

- a. A list of all European sites which the Review is considering and consultation is sought.

- b. The sites legal status and designated features as held on Agency records.
- c. A summary of the relevant RSA93 authorisations identified for each site under Stage 1, and the criteria used to identify them.
- d. The initial judgement of significance in each case.

An appropriate period will also be required to compile a response, this will be a minimum of 20 working days, though, where views are sought on several sites simultaneously a longer period may be appropriate.

The documents associated with the consultation should be sent to the following contacts who will ensure appropriate involvement of local staff from the relevant conservation agency:

Dr Alastair Burn
Environmental Impacts Team
English Nature
Northminster House
Peterborough
PE1 1UA.

Dr Simon Bareham
Senior Pollution Impacts Advisor
The Countryside Council for Wales
Fford Penhros, Plas Penhros
Bangor
LL57 2LQ.

3.2 Guidance for the conservation agency response

In responding to the consultation on RSA93 authorisation(s), the conservation agency should provide the following information:

- a. Whether or not the conservation agency agrees with the initial judgement of significance for the relevant authorisations.
- b. If the conservation agency considers the initial judgement may be wrong, they should provide clear reasons and supporting information where available. Any information on the vulnerability of a designated feature to radioactivity will be valuable.

APPENDIX 2

HABITAT AND SPECIES GROUPS

1.0 SAC habitat groups

Note:

The Annex I habitats are listed below under 13 groups. Care should be taken to identify the exact habitat from this list that occurs at the SAC in question as some habitats have similar titles.

1.1 Fens & wet habitats (not sensitive to acidification)

Alkaline fens

Residual alluvial forests (*Alnion glutinoso-incanae*)

Northern Atlantic wet heaths with *Erica tetralix*

Southern Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*

Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

Molinia meadows on chalk and clay (*Eu-Molinion*)

Continental salt meadows (*Puccinellietalia distantis*)

1.2 Bogs & wet habitats (sensitive to acidification)

Blanket bog (active only)

Bog woodland

Calcareous fens with *Cladium mariscus* and *Carex davalliana*

Degraded raised bogs (still capable of natural regeneration)

Depressions on peat substrates (*Rhynchosporion*)

Transition mires and quaking bogs

1.3 Riverine habitats

Floating vegetation of *Ranunculus* of plain and submountainous rivers

1.4 Standing waters (sensitive to acidification)

Dystrophic lakes

Mediterranean temporary ponds

Oligotrophic waters containing very few minerals of Atlantic sandy plains with amphibious vegetation: *Lobelia*, *Littorella* and *Isoetes*

Oligotrophic waters in medio-European and perialpine area with amphibious vegetation: *Littorella* or *Isoetes* or annual vegetation on exposed banks (*Nanocyperetalia*)

1.5 Standing waters (not sensitive to acidification)

Petrifying springs with tufa formations (*Cratoneurion*)

Hard oligo-mesotrophic waters with benthic vegetation of *Chara* formations

Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation

Turloughs (no sites designated as yet)

1.6 Woodlands

Asperulo-Fagetum beech forests

Stellario-Carpinetum oak-hornbeam forests

Taxus baccata woods

Tilio-Acerion ravine forests

Beech forests with *Ilex* and *Taxus*, rich in epiphytes (*Ilici-Fagion*)

Old acidophilous oak woods with *Quercus robur* on sandy plains

Old oak woods with *Ilex* and *Blechnum* in the British Isles

Stable *Buxus sempervirens* formations on calcareous rock slopes (*Berberidion*)

1.7 Dry grassland

Calaminarian grasslands

Open grassland with *Corynephorus* and *Agrostis* of continental dunes

Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)

Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)
important orchid sites

1.8 Dry heathland habitats

Dry coastal heaths with *Erica vagans* and *Ulex maritimus*

Dry heaths (all subtypes)

Juniperus communis formations on heaths or calcareous grasslands

1.9 Upland

Alpine and subalpine heaths

Alpine pioneer formations of *Caricion bicoloris-atrofuscae*

Mountain hay meadows (British types with *Geranium sylvaticum*)

Siliceous alpine and boreal grasslands

Chasmophytic vegetation on rocky slopes - calcareous sub-types

Chasmophytic vegetation on rocky slopes - silicicolous sub-types

Eutric scree

Siliceous scree

Limestone pavements

Eutrophic tall herbs

1.10 Coastal Habitats

Embryonic shifting dunes

Eu-atlantic decalcified fixed dunes (*Calluno-Ulicetea*)

Fixed dunes with herbaceous vegetation (grey dunes)

Mediterranean and thermo-Atlantic halophilous scrubs (*Arthrocnemetalia fruticosae*)

Perennial vegetation of stony banks

Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

Annual vegetation of drift lines

1.11 Coastal habitats (sensitive to abstraction)

Dunes with *Salix arenaria*

Humid dune slacks

Mediterranean salt meadows (*Juncetalia maritimi*)

Lagoons

Vegetated sea cliffs of the Atlantic and Baltic coasts

1.12 Estuarine & intertidal habitats

Estuaries

Mudflats and sandflats not covered by seawater at low tide

Large shallow inlets and bays

Atlantic salt meadows (*Glauco-Puccinellietalia*)

Salicornia and other annuals colonising mud and sand

Spartina swards (*Spartinion*)

1.13 Submerged marine habitats

Reefs

Submerged or partly submerged sea caves

Sandbanks which are slightly covered by sea water all the time

2.0 SAC species groups

2.1 Vascular plants of aquatic habitats

Floating Water Plantain

2.2 Vascular plants, lower plants and invertebrates of wet habitats

Creeping Marshwort, Slender green feather moss, Fen orchid, Yellow marsh saxifrage, Desmoulin's whorl snail, other whorl snails, Southern damselfly, Marsh fritillary butterfly

2.3 Vascular plants of grassland

Early gentian

2.4 Liverworts

Western rustwort

2.5 Anadromous fish

Salmon, Allis shad, Twaite shad, Sea lamprey, River lamprey

2.6 Non-migratory fish & invertebrates of rivers

Bullhead, Brook lamprey, Spined loach, Atlantic stream crayfish, Freshwater pearl mussel

2.7 Invertebrates of wooded habitats

Stag beetle, Violet click beetle

2.8 Mammals of wooded habitats

Barbastelle bat, Bechstein's bat, Greater horseshoe bat, Lesser horseshoe bat

2.9 Mammals of riverine habitats

Otter

2.10 Amphibia

Great crested newt

2.11 Coastal plants

Shore dock

2.12 Marine mammals

Bottlenose dolphin

Common seal

Grey seal

3.0 SPA bird species

Note:

Species are listed in alphabetical order in Table 1 using their lay name, against each species one or more numbers are listed. These numbers relate to groups of birds which, by virtue of the type of habitat which supports them, have similar sensitivities to Agency consents. These groups are:

- 3.1 Birds of uplands
- 3.2 Birds of woodland and scrub
- 3.3 Birds of lowland heaths and brecks
- 3.4 Birds of lowland wet grasslands
- 3.5 Birds of lowland dry grassland
- 3.6 Birds of lowland freshwaters and their margins
- 3.7 Birds of farmland
- 3.8 Birds of coastal habitats
- 3.9 Birds of estuarine habitats
- 3.10 Birds of open sea and offshore rocks

Most species have more than one group number listed against them, this is due to their range, life cycle or migration resulting in that species being associated with more than one habitat group. Generally only one group should be identified unless there is more than one primary habitat type present eg freshwater marsh (3.6) and estuarine mudflats (3.9) at an estuarine SPA:

eg	SPA:	North Pennine Moors
	Species:	Golden Plover (groups 3.1, 3.4, 3.7, 3.8, 3.9)
		Peregrine Falcon (groups 3.1, 3.8, 3.9)
		Hen Harrier (groups 3.1, 3.3, 3.7, 3.8, 3.9)
	Group:	3.1 - Birds of Uplands

The relevant group for this site is 3.1 because the North Pennine Moors site is an upland site. It will usually be obvious which is the relevant group, however Agency Conservation staff can advise if necessary.

The species listed in Table 1 are those for which a site has been designated in England or Wales due to that species meeting one of the following qualifying criteria:

- a. 1% or more of the national population of annex I species
- b. or 1% or more of the biogeographic region population for migratory species
- c. or >20,000 waterfowl or seabirds

The conservation objectives for some sites may also refer to other 'dispersed' annex 1 species, which do not occur in dense populations and therefore do not meet the criteria given above eg Kingfisher. Any appropriate assessment will need to take account of both dispersed species and those with qualifying populations for which sites were originally designated.

Table 1: Species and groups

Lay name	Scientific name	Groups
Arctic tern	<i>Sterna paradisaea</i>	3.8, 3.9, 3.10
Avocet	<i>Recurvirostra avosetta</i>	3.6, 3.8, 3.9
Barnacle goose	<i>Branta leucopsis</i>	3.4, 3.7, 3.8, 3.9
Bar-tailed godwit	<i>Limosa lapponica</i>	3.4, 3.7, 3.8, 3.9
Bewicks swan	<i>Cygnus columbianus bewickii</i>	3.4, 3.6, 3.7, 3.8
Bittern	<i>Botaurus stellaris</i>	3.6
Black-tailed godwit	<i>Limosa limosa</i>	3.4, 3.8, 3.9
Brent goose	<i>Branta bernicla</i>	3.4, 3.7, 3.8, 3.9
Chough	<i>Pyrrhocorax pyrrhocorax</i>	3.8
Common scoter	<i>Melanitta nigra</i>	3.8, 3.9, 3.10
Common tern	<i>Sterna hirundo</i>	3.6, 3.8, 3.9, 3.10
Cormorant	<i>Phalacrocorax carbo</i>	3.6, 3.8, 3.9, 3.10
Curlew	<i>Numenius arquata</i>	3.1, 3.4, 3.7, 3.8, 3.9
Dartford warbler	<i>Sylvia undata</i>	3.3
Dunlin	<i>Calidris alpina</i>	3.4, 3.7, 3.8, 3.9
Gadwall	<i>Anas strepera</i>	3.6
Gannet	<i>Morus bassanus</i>	3.6, 3.8, 3.10
Golden plover	<i>Pluvialis apricaria</i>	3.1, 3.4, 3.7, 3.8, 3.9
Great crested grebe	<i>Podiceps cristatus</i>	3.6, 3.8, 3.9
Greylag goose	<i>Anser anser</i>	3.4, 3.6, 3.7
Grey plover	<i>Pluvialis squatarola</i>	3.4, 3.7, 3.8, 3.9
Hen harrier	<i>Circus cyaneus</i>	3.1, 3.3, 3.4, 3.6, 3.7, 3.8, 3.9
Honey buzzard	<i>Pernis apivorus</i>	3.2, 3.3
Kittiwake	<i>Rissa tridactyla</i>	3.10
Knot	<i>Calidris canutus</i>	3.4, 3.7, 3.8, 3.9
Lesser black-backed gull	<i>Larus fuscus</i>	3.1, 3.6, 3.8, 3.9, 3.10
Little egret	<i>Egretta garzetta</i>	3.6, 3.8, 3.9
Little tern	<i>Sterna albifrons</i>	3.8, 3.9, 3.10
Manx shearwater	<i>Puffinus puffinus</i>	3.10
Marsh harrier	<i>Circus aeruginosus</i>	3.6, 3.7, 3.8
Mediterranean gull	<i>Larus melanocephalus</i>	3.6, 3.8, 3.9
Merlin	<i>Falco columbarius</i>	3.1, 3.8, 3.9
Nightjar	<i>Caprimulgus europaeus</i>	3.2, 3.3
Oystercatcher	<i>Haematopus ostralegus</i>	3.4, 3.7, 3.8, 3.9

Lay name	Scientific name	Groups
Peregrine	<i>Falco peregrinus</i>	3.1, 3.8, 3.9
Pink-footed goose	<i>Anser brachyrhynchus</i>	3.4, 3.6, 3.7, 3.8, 3.9
Pintail	<i>Anas acuta</i>	3.6, 3.8, 3.9
Puffin	<i>Fratercula arctica</i>	3.8, 3.10
Purple sandpiper	<i>Calidris maritima</i>	3.8, 3.9
Razorbill	<i>Alca torda</i>	3.10
Red kite	<i>Milvus milvus</i>	3.1, 3.2, 3.7
Redshank	<i>Tringa totanus</i>	3.4, 3.7, 3.8, 3.9
Red-throated diver	<i>Gavia stellata</i>	3.6, 3.10
Ringed plover	<i>Charadrius hiaticula</i>	3.6, 3.8, 3.9
Roseate tern	<i>Sterna dougallii</i>	3.8, 3.10
Ruff	<i>Philomachus pugnax</i>	3.4, 3.6, 3.8, 3.9
Sanderling	<i>Calidris alba</i>	3.8, 3.9
Sandwich tern	<i>Sterna sandvicensis</i>	3.8, 3.9, 3.10
Scaup	<i>Aythya marila</i>	3.8, 3.9, 3.10
Shelduck	<i>Tadorna tadorna</i>	3.6, 3.8, 3.9
Short-eared owl	<i>Asio flammeus</i>	3.1, 3.8
Shoveler	<i>Anas clypeata</i>	3.6, 3.9
Slavonian grebe	<i>Podiceps auritus</i>	3.8, 3.9
Stone curlew	<i>Burhinus oedinenus</i>	3.3, 3.5, 3.7
Storm petrel	<i>Hydrobates pelagicus</i>	3.10
Teal	<i>Anas crecca</i>	3.4, 3.6, 3.8, 3.9
Tufted duck	<i>Aythya fuligula</i>	3.6
Turnstone	<i>Arenaria interpres</i>	3.8, 3.9
White-fronted goose	<i>Anser albifrons albifrons</i>	3.6, 3.7, 3.8, 3.9
Whooper swan	<i>Cygnus cygnus</i>	3.4, 3.6, 3.7, 3.8
Wigeon	<i>Anas penelope</i>	3.6, 3.7, 3.8, 3.9
Woodlark	<i>Lullula arborea</i>	3.2, 3.3
Waterfowl (>20,000)		3.6, 3.8, 3.9
Seabirds (>20,000)		3.8, 3.9, 3.10

APPENDIX 3

GENERIC SENSITIVITY OF HABITAT AND SPECIES GROUPS TO AGENCY PERMISSIONS

1.0 Potential effects of consented discharges to water

1.1 Generic sensitivity of habitats and species groups

Feature Group Section	Not usually sensitive to water quality impacts	Sensitive to water quality impacts
SECTION 1 Annex I habitats	1.6, 1.7, 1.8, 1.9, 1.10	1.1, 1.2, 1.3, 1.4, 1.5, 1.11, 1.12, 1.13
SECTION 2 Annex II species	2.3, 2.4, 2.7, 2.8	2.1, 2.2, 2.5, 2.6, 2.9, 2.10, 2.11, 2.12
SECTION 3 Annex I & migratory birds	3.1, 3.2, 3.3, 3.5, 3.7	3.4, 3.6, 3.8, 3.9, 3.10

1.2 Principal effects of consented discharges to water

This appendix aims to assist officers in considering whether groups of consented discharges meet the criteria for significance stated in the procedure. Only freshwater habitats are covered, marine and estuarine habitats will have supplementary guidance issued.

There are a number of basic mechanisms by which consents to discharge effluent might impact upon the designated conservation interests of SACs or SPAs. No attempt has been made to cover every possible kind of impact which might arise from a discharge. Instead, the four principal mechanisms whereby an impact could occur are described.

Brief guidance is provided on useful sources of information which can assist in assessing significance and associated environmental standards. Ecological information will be of primary importance in considering the criteria for significance and the officer should ensure this is integrated with the available chemical data, making full use of the appropriate Agency staff.

The methods and datasets referred to have been designed for purposes other than the assessment of impact on designated conservation features. This is an important point to remember when interpreting existing datasets for this purpose.

1.3 Eutrophication

For the purposes of this guidance the term eutrophication refers to *increases* in the nutrient status of water bodies or wet habitats such that the designated feature is:

- a. directly affected, resulting in some measurable change in condition,
- b. under pressure as a result of incipient changes in the flora or fauna of the supporting ecosystem,
- c. dependent on a site the nutrient status of which has deteriorated relative to a previous more favourable condition.

Relevant sources of information for judging significance	
Methodology/Data source	Comments
a. MTR(Mean Trophic Rank)	Relevant for consideration of impact on aquatic vascular plants and <i>Ranunculus</i> habitat. Strongly influenced by silt nutrient concentrations.
b. TDI(Trophic Diatom Index)/DQI (Diatom Quality Index)	Sensitive measure of nutrient concentrations in water column., rapid response to changes.
c. ECN macrophyte monitoring sites	Additional information on macrophyte assemblages.
d. English Nature monitoring data	Information on <i>Ranunculus</i> distribution
e. GQA - macro-invertebrate	Note: Indices often insensitive to eutrophication, community structures respond to vegetation changes
f. Fisheries data/salmon catches	Data relating to egg/fry survival rates likely to be more sensitive than adult data.
g. Chemical data (UWWTD studies/Routine monitoring)	Key parameters: DO, soluble P, total P, total N, Chlorophyll a. Nutrient modelling data.
h. Special investigations	UWWTD studies, algal growth studies, Survey data from BAP projects
Relevant environmental standards	
Methodology/Data source	Comments
a.Special Ecosystem Standards	Recognised by Agency as best available interim targets for use in eutrophication control, provided standards are selected with care at the site specific level.
b. Water quality improvements for wildlife (EN/EA commissioned guidance document)	Guidance on assessing phosphate levels in relation to wildlife and the benefits of phosphate stripping. Due out November 1998.
c. Vollenveider phosphorus standards	Sets out total P standards for different trophic states in standing waters, currently under consideration by Agency R&D project on lake classification.
d.Trial Lake WQ Classification	Allows comparison of current status with a standardised baseline, trial status only.
e.UWWTD guidelines	Provide guidelines for nutrient status of rivers based on MTR score.
f.TDI/DQI methodology	No specific benchmarks/standards, provides mechanism to screen out organic impacts

1.4 Organic pollution

Pollution caused by excessive organic matter present in the water body, which may impact on interest groups via de-oxygenation, ammonia toxicity, siltation of organic debris, growth of sewage fungus etc.

Relevant sources of information for judging significance	
Methodology/Data source	Comments
a. GQA - macro-invertebrates	Sensitive indicator of organic pollution impacts on rivers. Equivalent system for standing waters is still under development.
b. Chemical - Routine/GQA	Long term data for basic organic determinands
c. Fisheries data	Electrofishing surveys of juvenile/adult populations in rivers, redd monitoring, egg/fry survival monitoring.
d. ECN data	Additional macrophyte and macro-invertebrate data
e. Special investigations	Ecological and chemical assessments under AMP3, data from BAP projects, etc
Relevant environmental standards	
Methodology/Data source	Comments
a. Biological Quality Objectives	Trial status only in some Regions. Based on macro-invertebrates to be introduced by 2000
b. River Ecosystem Objectives	Compliance with objective may not reflect adequate protection of features, the basis for setting the objective should be considered.
c. Freshwater Fisheries Directive	Where designated.

1.5 Toxicity

Any impact from toxic pollutants, be it direct, indirect, acute or sub-acute. This mechanism of impact is not restricted to Red List, List I and List II, but also considers other synthetic and metalliferous toxicants.

Relevant sources of information for judging significance	
Methodology/Data source	Comments
a. Bioaccumulation studies	Where available.
b. Post-mortem data	Any project work undertaken in relation to relevant species
c. Ecotoxicology assessments	Assessments of complex discharges etc using chronic and acute assays

d. Water Quality data	Total loads from consents, levels in receiving waters, data from dangerous substances directive and osparcom monitoring
Relevant environmental standards	
Methodology/Data source	Comments
a.Environmental Quality Standards	Dangerous Substances Lists I and II, Red list, other operational EQS
b.National Centre for Eutrophication & Hazardous Substances	Can provide data on ecotoxicological assays using comparable species where available and advice on safety factors.
c. WRc Equals database	Held Regionally, provides database of standards.

1.6 Physical impacts

The principal physical impacts which could significantly effect designated features are:

- a. siltation of inert solids such as clay particles,
- b. turbidity,
- c. thermal changes associated with effluents.

Relevant sources of information for judging significance	
Methodology/Data source	Comments
a.GQA - macro-invertebrate data	Comparison of community diversity and structure with that expected/predicted may highlight responses.
b. Macrophyte surveys	MTR index not directly relevant. Direct interpretation of community diversity/structure preferable.
c.Diatom data	TDI/DQI not directly relevant. Direct interpretation of community diversity/structure preferable.
d.Trial Lake WQ Classification	Classification for acidification included.
e.Routine monitoring	Relevant elements of routine monitoring ie SS, pH
Relevant environmental standards	
Methodology/Data source	Comments
a.Freshwater Fisheries Directive	Suspended solids standards for fisheries.

2.0 Potential effects of licensed abstraction

2.1 Generic sensitivity of habitats and species groups

Note:

This is not a definitive assessment, groups which are not listed as sensitive to abstraction could still be impacted by abstraction if particular local circumstances allow this. These groups are however far less likely to be significantly effected by abstraction than those identified as sensitive.

Group Section	Not usually sensitive to abstraction	Sensitive to abstraction
SECTION 1 Annex I habitats	1.6, 1.7, 1.8, 1.9, 1.10, 1.13	1.1, 1.2, 1.3, 1.4, 1.5, 1.11, 1.12
SECTION 2 Annex II species	2.3, 2.4, 2.7, 2.8, 2.12	2.1, 2.2, 2.5, 2.6, 2.9, 2.10, 2.11
SECTION 3 Annex I & migratory birds	3.1, 3.2, 3.3, 3.5, 3.7, 3.9, 3.10	3.4, 3.6, 3.8

*Only where the site contains a vulnerable coastal habitat type (see 1.11 in Appendix 2).

2.2 Principal mechanisms of impact

The principal mechanisms whereby an effect is likely to occur are:

- Lowering of water level in a watercourse or pond.
- Reduced velocity or total flow in a watercourse.
- Reduced seasonal variability of flow in a watercourse.
- Reduced springflow resulting in a lowered water level in a wetland or reduced baseflow in a watercourse.
- Lowering of the water table.

2.3 Applying criterion 4.10

The general approach to assessing significance should be based around the use of 'hands-off flow' and 'prescribed level' criteria already in use for licensing. This may require a re-evaluation of the hands-off/prescribed level policy against the requirements of the designated features. A requirement to revise current policy should be progressed via an appropriate assessment, focussing on the licences of concern. The basic steps should therefore be:

1. Are the current hands-off/prescribed level conditions adequate to protect the designated feature? Conservation agency staff and Agency ecology staff should be consulted if there are any doubts. If necessary the hands-off/prescribed level conditions should then be revised.
2. Does the licence have a hands-off/prescribed level condition?

NO - Could the abstraction occur when the hands-off/prescribed level condition would otherwise be in operation? Unconstrained abstractions which undermine hands-off/prescribed level conditions will usually require appropriate assessment.

YES - Is the hands-off/prescribed level condition consistent with the current policy or revised conditions? If not an appropriate assessment will probably be necessary.

The following factors will also be important when assessing whether a licensed abstraction should be judged 'likely to have a significant effect' on the feature:

- To what extent is the site dependent on surface water inputs versus groundwater inputs? Some sites may only be vulnerable to groundwater abstraction, others will require consideration of both groundwater and surface water abstraction.
- Effects from relevant licences need to be considered in combination as well as individually before arriving at a judgement of significance.
- Does the area affected by the licensed abstraction overlap with the site? Where a cone of depression from a groundwater abstraction affects a site then a significant effect should be considered likely.
- Is the designated feature particularly sensitive to the affect in question? If so a significant effect on the feature is more likely..
- Are changes from licensed abstraction likely to have a cumulative affect in association with consented discharges for example?

3.0 Potential effects of licensed waste management activities

3.1 Key mechanisms of impact from licensed activities

There are a number of basic mechanisms by which waste licences might impact upon the designated conservation interests of SACs or SPAs, and these are listed below. In each case the mechanism is briefly described and the types of licensed activities which are likely to contribute to that impact are listed.

No attempt has been made to cover every possible kind of impact which might arise from a licence, instead the list describes the common mechanisms whereby an impact could occur.

3.2 Dust

Dust is associated with waste disposal operations such as landfill and has the potential to effect conservation interests immediately adjacent to the site. A distinction needs to be made between inert dust, which is likely to have limited potential impact and dust which could have a toxic, chemically reactive or nutrient component.

Inert dust is only likely to have a significant effect when it is deposited on vegetation in sufficient quantities to impair functions such as photosynthesis and transpiration. Such an impact is only likely to arise if a licensed activity is creating large amounts of dust and even then only within a very limited distance.

Dust which has a toxic component may affect vegetation at much lower levels and may well directly or indirectly impact on other organisms. Where there is a risk of dust releases of this kind then impacts are likely to be more widespread than those indicated in 3.2.

Licensed operations likely to contribute to this impact:

Inert and biodegradable landfill sites

Large scale transfer stations

Facilities where waste materials such as soil or demolition wastes are screened or graded

3.3 Vermin

Vermin comprise two groups for the purposes of potential impact on conservation interests, they are birds such as gulls and crows, and rodents, usually rats.

Vermin can pose a significant threat to bird species. Gulls, particularly larger species, will eat eggs and young of nesting birds. Dense colonies of breeding birds, which frequently form the designatory interest for SPAs, are likely to be particularly attractive and therefore vulnerable. Such birds may also displace designated species from habitat that they would otherwise occupy. These impacts could potentially occur at a considerable distance, (several km), from the operation.

Rodents may also eat the eggs of ground nesting birds, though impacts of this type are only likely to occur over a short distance.

Licensed operations likely to contribute to this impact:

Landfills taking domestic/biodegradable or putrescible wastes

Transfer stations taking a similar range of wastes

To a lesser extent, Civic Amenity sites

3.4 Landfill gas

Migration of landfill gas outside the perimeter of the site can occur where biodegradable wastes have been landfilled and where sites have been inadequately lined or where suitable migration pathways exist. If this migration occurs it is unlikely, under normal circumstances to do so beyond a radius of 0.5km. Migration of landfill gas up through soils will have a serious impact on vegetation of all kinds with consequent knock on effects on associated fauna.

Licensed operations likely to contribute to this impact:

Landfills taking domestic/biodegradable or putrescible waste

Older or poorly categorised landfill sites

3.5 Leachate discharges to surface waters

In general leachate produced by biodegradation of wastes will be collected and removed from the majority of modern sites. Where a discharge of treated leachate occurs to a watercourse there should be a consent under the Water resources Act 1991, and the relevant guidance note should be used.

Licensed operations likely to contribute to this impact:

Landfills taking domestic/biodegradable or putrescible waste

Older or poorly categorised landfill sites

3.6 Discharges of leachate to groundwater

On some older sites, operated on the 'dilute and disperse' principle leachate may be entering the groundwater. Where this is the case, contaminated groundwater could affect adjacent interests, particularly where the interests are wet habitats or dependent on wet habitats. Such effects could occur over a considerable distance. Landfill sites which are currently in their completion stage are likely to be the most problematic in this context.

Licensed operations likely to contribute to this impact:

Landfills taking domestic/biodegradable or putrescible waste

Older or poorly categorised landfill sites

Sacrificial land for the spreading of liquid wastes

Lagoons

3.7 Surface water drainage

Where a discharge of surface water to a watercourse is consented under the Water resources Act 1991 this should be considered under the relevant guidance note. Discharges of surface water which are not consented should not contain any significant levels of pollutants, and are unlikely to have any significant impact on conservation interests.

Licensed operations likely to contribute to this impact:

Landfills taking domestic/biodegradable waste.

Transfer stations

Treatment plants and MRS

3.8 Other

Other impacts such as litter, noise, odour and bioaerosols may also be associated with waste disposal operations. These factors are less likely to have a significant effect on nature conservation interests.

3.9 Sensitivity of species/habitat groups to impacts from Waste Management activities

The following tables give a ✓(sensitive) or X(not usually sensitive/impact not likely to occur) assessment of the sensitivity of designated features to the impacts listed in section 1.0. This is not an absolute assessment, groups which are not listed as sensitive to a particular impact might be if particular local circumstances occur. These groups are however far less likely to be significantly affected by these impacts than those identified as sensitive.

SAC habitats (Habitats Directive Annex I)

Interest Group	Dust	Vermin	Landfill gas	Leachate - to surface water	Leachate - to groundwater	Surface water - to surf. water
1.1 Fens & wet hab.	X	X	✓	✓	✓	✓
1.2 Bogs & etc	X	X	✓	✓	✓	✓
1.3 Riverine habitats	X	X	X	✓	✓	✓
1.4 Standing waters	X	X	X	✓	✓	✓
1.5 Standing waters(vuln. to acidif.)	X	X	X	✓	✓	✓
1.6 Woodlands	✓	X	✓	X	X	X
1.7 Dry grassland	✓	X	✓	X	X	X
1.8 Dry heathland	✓	X	✓	X	X	X
1.9 Upland	X	X	✓	X	X	X
1.10 Coastal habitats	X	X	✓	X	X	X
1.11 Coastal habitats(vuln. To abstrac)	X	X	✓	✓	✓	✓

Interest Group	Dust	Vermin	Landfill gas	Leachate - to surface water	Leachate - to groundwater	Surface water - to surf. water
1.12 Estuarine & intertidal	X	X	X	✓	X	✓
1.13 Submerged marine habitats	X	X	X	✓	X	✓

SAC species (Annex II Habitats Directive)

Interest Group	Dust	Vermin	Landfill gas	Leachate - to surface water	Leachate - to groundwater	Surface water - to surface water
2.1 Aquatic vascular plants	X	X	✓	✓	✓	✓
2.2 Plants & inverts. of wet habitats	X	X	✓	✓	✓	X
2.3 Grassland vascular plants	✓	X	✓	X	X	X
2.4 Liverworts	✓	X	✓	X	X	X
2.5 Catadramous fish	X	X	X	✓	✓	✓
2.6 Other fish & inverts. of rivers	X	X	X	✓	✓	✓
2.7 Inverts. of wooded habitats	X	X	X	X	X	X
2.8 Mammals of wooded habitats	X	X	X	X	X	X
2.9 Mammals of riverine habitats	X	X	X	✓	✓	✓
2.10 Amphibia	X	X	X	✓	✓	✓
2.11 Coastal plants	✓	X	✓	X	X	X
2.12 Marine mammals	X	X	X	X	X	X

SPA bird species (Birds Directive Annex I & migratory)

Interest Group	Dust	Vermin	Landfill gas	Leachate - to surface water	Leachate - to groundwater	Surface water - to surface water
3.1 Birds of uplands	X	✓	X	X	X	X
3.2 Birds of woodland & scrub	X	✓	X	X	X	X
3.3 Birds of lowland heaths & brecks	X	✓	X	X	X	X
3.4 Birds of lowland wet grassland	X	✓	X	✓	✓	X
3.5 Birds of lowland dry grassland	X	✓	X	X	X	X
3.6 Birds of lowland freshwaters	X	✓	X	✓	✓	✓
3.7 Birds of farmland	X	✓	X	X	X	X
3.8 Birds of coastal habitats	X	✓	X	✓	X	✓
3.9 Birds of estuarine habitats	X	✓	X	✓	X	✓
3.10 Birds of open sea and offshore	X	✓	X	X	X	X

NB Litter and noise also have the potential to impact on bird populations.

4.0 Potential effects of IPC authorised emissions to air

4.1 Purpose of this section

This section aims to assist PIR officers to consider whether an authorisation meets the criteria for significance stated in 4.9 and 4.10 of the procedure.

There are a number of basic mechanisms by which authorised emissions might impact upon the designated features of SACs or SPAs. No attempt has been made to cover every possible kind of impact which might arise from a consent, instead the list describes the principal mechanisms whereby an impact could occur. In each case the mechanism of impact is described and where possible vulnerable features are identified. Sensitive features are those which are most likely to be affected by the mechanism in question, this is not an absolute determination and other features may also be affected in certain circumstances. Features are listed by group, and the membership of these groups is given in Appendix 2.

Ecological information will be of primary importance in considering the criteria for significance and the officer should ensure this is integrated with the available chemical data, making full use of the appropriate Agency staff.

4.2 Acidification

Acidification can affect freshwater habitats, soils and directly impact upon vegetation. Associated aluminium mobilisation in freshwater and soils can exacerbate impacts. The vulnerability of habitats is often a function of their ability to buffer impacts. Some species eg salmon may also be directly affected, whilst other species may be indirectly affected if they utilise a vulnerable habitat or species eg otter.

Acid rain and associated acidification cannot simply be considered at a local scale as sources of the acid gases which cause acid rain may well be distant from the site. For this reason some major sources of acid gases, coal-fired power stations and oil refineries, will be modelled nationally to evaluate their long range impacts on all vulnerable European sites.

Therefore officers should only be concerned with short range acidification impacts from sites with emissions of acid gases. Significant short range impacts are only likely from authorised processes which emit large amounts of SO_x and NO_x, as a rule of thumb these sites will generally be ones which are also authorised under the Large Combustion Plant Directive, although large gas fired plant should also be considered.

For such sites short range impacts are only likely within a range of 10km, except for power stations where significant effects attributable to an individual site may occur up to 15km away. Where European sites lie within these ranges and have vulnerable features present, the officer should check the outputs from the national modelling to establish whether the critical load at that European site is being exceeded. If this is the case and local plant contributes 1% or more to the critical load then an appropriate assessment will be required.

Feature Group Section	Sensitive features
HD Annex I habitats	1.1, 1.2, 1.3, 1.4, 1.6
HD Annex II species	2.2, 2.4, 2.5, 2.6, 2.7, 2.9, 2.10
BD Annex I & migratory birds	3.1, 3.6

NB EN/CCW can give more detailed advice on the sensitivity of features at specific European sites.

4.3 Eutrophication

Emissions of ammonia and nitrogen oxides can lead to deposition of nitrogen on sensitive ecosystems via rain. Where habitats have a low nitrogen status this additional nitrogen can have a fertilising effect, resulting in changes in the plant communities present. This could directly damage a designated habitat eg Blanket Bog, or indirectly affect a species which is dependent on a damaged habitat.

The comments made under 4.2 for acidification apply here also in relation to NO_x and long and short range eutrophication impacts. Ammonia releases may result in short range eutrophication impacts, for most releases this is likely to be limited to a range of a few km. Few authorised processes are likely to emit large amounts of ammonia and therefore require consideration of impacts in a wider radius, though some will eg plant associated with the manufacture of nitrogen fertiliser.

The critical loads for nitrogen deposition in different ecosystem types are given below. Advice on relating the ecosystems described to specific European sites and their designated features should be sought from conservation staff.

Ecosystem	Critical Load (kg N/ha/yr)	Reliability of load ***Reliable, **Quite reliable, *Best guess.
Acid(managed) coniferous forests	15-20	**
Acid(managed) coniferous forests	<15-20	**
Lowland dry heaths	15-20	***
Lowland wet heaths	17-22	***
Species rich lowland heaths/acid grasslands	7-20	**
Arctic and alpine heaths	5-15	*
Calcareous species rich grassland	14-25	***
Neutral/acid species rich grassland	20-30	**
Montane-subalpine grassland	10-15	*
Shallow soft-water boudes	5-10	***
Mesotrophic fens	20-35	**
Ombotrophic bogs	5-10	**

4.5 Direct toxicity

Acid gases

Acid gases can impact upon vegetation directly, damaging tissue and/or reducing growth rates. However, the Critical Levels referred to in 8.7 of the procedure are designed to achieve protection against such effects. Therefore consideration of whether the scale of an effect from an emission is significant should be addressed by considering the incremental contribution made towards the Critical Level taking ambient levels into account. If the Critical Level is exceeded or threatened then a significant effect is likely.

Ammonia

At sufficiently high concentrations ammonia may also have direct toxic effects on plants. Again, the Critical Levels are designed to achieve protection and consideration of whether the scale of an effect is significant should be addressed by considering the incremental contribution made towards the Critical Level, taking ambient levels into account. If the Critical Level is exceeded or threatened then a significant effect is likely.

Critical Levels for Acid gases and ammonia

Substance	Vegetation type	Averaging period	Value (ug/m ³)
Sulphur dioxide	Lichens	Annual mean	10
	Forest ecosystems	Annual and winter mean (October-March)	20
	Natural vegetation	Annual and winter mean (October-March)	20
	Agricultural crops	Annual and winter mean (October-March)	30
Nitrogen oxides	All vegetation	Annual mean	30
Ammonia	All vegetation	Annual mean	8
		One hour mean	3300

Fluoride

Hydrogen fluoride may also cause tissue damage and death in plants exposed to sufficiently high concentrations. Whilst no Critical Level is available English Nature recommend the following guidance level for the protection of sensitive plants:

24 hour average (full year) 0.3 (ug/m³)

(Taken from: 'Fluoride content in grass as related to atmospheric fluoride concentrations: a simplified predictive model.' *Agriculture, Ecosystems and Environment*, 37, 257-273.)

Other toxins

There is a wide range of other potentially toxic substances which are emitted by authorised processes. These include Volatile Organic Compounds, heavy metals and other synthetic substances such as dioxins. Due to the lack of data on the effects of organic substances on

habitats and species of conservation interest, EALs provide the best available criteria for considering the significance of such emissions. This is, however, a rule of thumb and the conservation agency may advise the officer that a particular designated feature is more sensitive to pollutant than humans. Again ambient levels should also be included in evaluating the significance of an emission against the standard.

Any releases of ethylene need careful consideration due to its action as a plant hormone. As a result effects can occur on vegetation at very low concentrations. However, symptoms are generally obvious to visual inspection and EN/CCW can advise.

4.6 Smothering

Dust can impact upon vegetation when deposition rates are sufficiently high to impair photosynthesis and/or interfere with gas exchange. No specific standards are available but air concentrations above $1,200 \text{ ug/m}^3$ and deposition rates above $0.2 \text{ g/m}^2/\text{d}$ have been associated with effects on vegetation (from: 'Air pollution and environmental statements' English Nature 1996). Significant effects from deposited dust on vegetation are only probable within a few km.

Where dust is alkaline in nature bogs, mires and other acidic habitats are likely to be most sensitive.

APPENDIX 4

PROFORMA FOR STAGES 1 AND 2 OF THE REVIEW OF CONSENTS UNDER THE HABITATS DIRECTIVE

SECTION A: STAGE 1

A1. Name of the European site/composite
SSSI:

A2. Legal status of the site/composite SSSI:

A3. Designated features present:

A4. List the criteria which have been used to identify relevant permissions:
(criteria a and b should always be used)

- a. Any permission for an activity within the boundary of the European site.
- b. Any permission for an activity which is known to affect the European site.
- c. Additional discharge consent criteria (see 3.9-3.10):
- d. Additional abstraction licence criteria (see 3.12):
- e. Additional waste management licence criteria (see 3.13):
- f. Additional IPC criteria (see 3.14-3.16):

A5. List all the relevant permissions identified:
NB In the case of consented discharges to water, permissions should be organised into groups (see 3.11)

NB In the case of consented discharges to water, permissions should be organised into groups (see 3.11)

[illegible]

SECTION B: **STAGE 2 - DISCHARGE CONSENTS**

B1. Are any of the features present identified as vulnerable to impacts from discharges in Appendix 3? If so, list them: (See section 5, step I)

B2. Are there any known water quality problems on the site? If so briefly describe them: (See section 5, step II)

B3. What is the initial judgement of significance for the groups of consented discharges identified under SECTION A? (See step I, II or IV)

Agency reference	NGR	Likely to have a significant effect? - yes or no	Initial judgement made under step I or II or IV? - specify

B4. Describe the supporting case for the judgements given in B3:

(This should be set out in terms of the criteria for significance given in the procedure eg what is the mechanism of impact, which features are sensitive, what is their condition etc. Reference should be made to the conservation agencies view and any problems identified under B2. Expand beyond a page if necessary)

B5. Does internal consultation support this initial assessment? (*yes or no*)

☐

B6. If not what is the new assessment? (*See section 5, step V*)

SECTION C: STAGE 2 - ABSTRACTION LICENCES

C1. Are any of the features present identified as vulnerable to impacts from abstraction in Appendix 3? If so, list them: (See section 6, step 1)

C2. Are there any known abstraction problems on the site? If so briefly describe them: (See section 6, step II)

C3. What is the initial judgement of significance for the abstraction licences identified under SECTION A? (See section 6, step I, II and IV)

[illegible]

C4. Describe the supporting case for the judgements given in C3:

(This should be set out in terms of the criteria for significance given in the procedure eg what is the mechanism of impact, which features are sensitive, what is their condition etc. Reference should be made to the conservation agencies view, the joint review and any problems identified under C2. Expand beyond a page if necessary)

C5. Does internal consultation support this initial assessment? (*yes or no*)

C6. If not what is the new assessment? (*See section 6, step V*)

SECTION D: STAGE 2 - WASTE MANAGEMENT LICENCES

SECTION D: STAGE 2 - WASTE MANAGEMENT LICENCES

D1. Are there any known waste management problems on the European site? If so briefly describe them: (See section 7, step II)

D2. What is the initial judgement of significance for the waste management licences identified under SECTION A? (See section 7, step I, II and IV)

[illegible]

D3. Describe the supporting case for the judgements given in D2:

(This should be set out in terms of the criteria for significance given in the procedure eg what is the mechanism of impact, which features are sensitive, what is their condition etc. Reference should be made to the conservation agencies view and any problems identified under D1. Expand beyond a page if necessary)

D4. Does internal consultation support this initial assessment? (yes or no)

☐

D5. If not what is the new assessment? (See section 7, step V)

SECTION E: **STAGE 2 - IPC AUTHORISATIONS**

E1. Do any emissions from the relevant authorised processes exceed an action level at part or all of the European site?(See section 8, step I)			
Authorisation	Emission	NGR	2% of EAL or 2% of CL exceeded

E2. What is the initial judgement of significance for the emissions identified in E1? (See section 8, step IV)		
Authorisation	Emission	Likely to have a significant effect? - yes or no

E3. Describe the supporting case for the judgements given in E2:

(This should be set out in terms of the criteria for significance given in the procedure eg what is the mechanism of impact, which features are sensitive, what is their condition etc. Reference should be made to the conservation agencies view. Expand beyond a page if necessary)

E4. Does internal consultation support this initial assessment? (*yes or no*)

E5. If not what is the new assessment? (*See section 8, step V*)

SECTION F:

STAGE 2 - DISPOSAL AUTHORISATIONS UNDER RSA93

[illegible]

F2. Describe the supporting case for the judgements given in F1:

(This should be set out in terms of the criteria for significance given in the procedure eg what is the mechanism of impact, which features are sensitive, what is their condition etc. Reference should be made to the conservation agencies view. Expand beyond a page if necessary)

F3. Does internal consultation support this initial assessment? (yes or no)

--

F4. If not what is the new assessment? (See section 9, step II)

--

F5. *English Nature/Countryside Council for Wales have been consulted and support the judgements of significance set out for the RAS authorisations in SECTION F by the Environment Agency:

*(Signed on behalf of *English Nature/Countryside Council for Wales)*

Signature:		Date:
Printed name:	Position: <i>Nominated contact point</i>	

If English Nature/Countryside Council for Wales disagree with the assessment of likely significance they should do so in writing citing clear reasons for their objection. Replies should reach the Agency within 20 working days of the date of receipt unless agreed otherwise.

SECTION G: **CONFIRMING JUDGEMENTS**

G1. *English Nature/Countryside Council for Wales have been consulted as part of the process summarised by this proforma and support the judgements of significance set out by the Environment Agency for the European site named in SECTION A1:

*(Signed on behalf of *English Nature/Countryside Council for Wales)*

Signature:		Date:
Printed name:	Position: <i>*Team Manager/Area Officer</i>	

If English Nature/Countryside Council for Wales disagree with the assessment of likely significance they should do so in writing citing clear reasons for their objection. Replies should reach the Agency within 20 working days of the date of receipt unless agreed otherwise.

G2. The judgements of significance contained in this proforma are confirmed and any appropriate assessment required may be progressed in line with Agency guidance:

Signature:		Date:
Printed name:	Position: <i>#see below</i>	

(* delete as appropriate, # Regions should delegate an appropriate manager in accordance with the Non-Financial SoD)

G3. For audit purposes all relevant supporting documents should be kept with this proforma, for example:

1. A copy of the consultation documents provided to EN/CCW by the Agency.
2. EN/CCW's response.
3. Any supporting reports/information for specific judgements.

APPENDIX 5

PROCEDURE FOR RESOLVING DISAGREEMENTS

Differences of view may occur between the conservation agencies and the Environment Agency over the judgement of significance described in this guidance.

Every effort should be made to resolve differences as soon as possible by meeting between the relevant Agency officer, the contact officer in the conservation agency and the Regional Conservation Officer.

If there is still failure to reach agreement then the issue should be resolved via the usual regional or national routes.

APPENDIX 6

GLOSSARY OF ABBREVIATIONS

ADMS	Air Dispersion Modelling System
AMP	Asset Management Plan
BAP	Biodiversity Action Plan
CL	Critical Level
EA	Environment Agency
EAL	Environmentally Acceptable Level
ECN	Environmental Change Network
EN	English Nature
CCW	Countryside Council for Wales
GQA	General Quality Assessment
IPC	Integrated Pollution Control
MTR	Mean Trophic Rank
NRA	National Rivers Authority (a predecessor of Environment Agency)
PIR	Process Industry Regulation
R&D	Research and Development
RSR	Radioactive Substances Regulation
RSA93	Radioactive Substances Act 1993
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TDI	Trophic Diatom Index
UWWTD	Urban Waste Water Treatment Directive

APPENDIX 7

GLOSSARY OF TERMS

Action Level	A precautionary threshold which, if exceeded, requires the significance of an emission to be considered against the criteria given.
Appropriate assessment	An assessment of the existing or potential effects from one or more Agency permissions on a European site.
Authorisation	A statutory document issued by the Agency to indicate limits and conditions on sites subject to Integrated Pollution Control
Consent to Discharge	The statutory document issued by the Agency to indicate any limits and conditions on a discharge.
Conservation regulations	Regulations made in 1994 which implement the Habitats Directive in UK law (also known as the Habitats Regulations).
Critical Level	Threshold level for a specific air pollutant which is set to protect sensitive fauna and flora.
Ecological integrity	The coherence of ecological structure and function across a European site that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified.
Environmentally Acceptable Level	Level of a pollutant at or below which no damage to the environment would be expected, based on the best available information.
European site	A Special Area of Conservation or Special Protection Area.
Favourable condition	Optimal status of a designated feature required for long-term viability.
Feature	A species population or habitat for which a European site has been designated.
Integrated Pollution Control	A system of environmental regulation which takes account of discharges to air, land and water; from a particular site.
Leachate	Liquid which seeps through a landfill, and by so doing, extracts substances from the deposited wastes.
Licence	A statutory document issued by the Agency which sets limits and conditions on abstraction or waste management activities.

Mechanism	A linkage between a Agency authorised activity and a designated feature on a European site which could result in a measurable change to that feature.
Officer	The officer referred to in procedures 5.0 to 9.0, will be the member of Agency staff delegated to represent that authorising function for the Review at a given site eg a PIR Inspector in the case of procedure 9.0.
Process Industry Regulation	The part of the Agency responsible for regulating Part A processes (those industrial processes defined as having the greatest potential to cause harm to the environment).
Radioactive Substances Regulation	That part of the Agency responsible under RSA93 for registering the keeping and use of radioactive material and authorising the accumulation and disposal of radioactive waste.
Relevant permission	A consent, licence or authorisation which could affect a European site and which needs to be evaluated under Stage 2 of this guidance document.
Review/Review of Consents	Process required under Regulation 50 of the Habitats Regulations.
Significant effect	An identifiable or measurable change in the status of a designated feature on a European site.
Site of Special Scientific Interest	A site designated under the Wildlife and Countryside Act 1981 by EN or CCW as a result of its nature conservation or geological value.
Stage 1	The first stage of the Review of Consents process which identifies relevant permissions at a European site.
Stage 2	The second stage of the Review of Consents process which ascertains which, if any, relevant permissions are 'likely to have a significant effect' on a European site.
Special Area of Conservation	Sites designated under the EU Directive on the Conservation of Conservation Natural Habitats and Wild Fauna and Flora (92/43/EEC). These sites are designated to protect important wildlife habitats or threatened species.
Special Protection Area	Sites designated under the EU Directive on the Conservation of Wild Birds (79/409/EEC). These sites are designated to protect specified rare or migratory bird species.

APPENDIX 8

LOCATION OF EN/CCW AREA TEAMS

1.0 English Nature Teams

1.1 Northumbrian Team

(Darlington, Durham,
Hartlepool, Middlesbrough,
Northumberland, Redcar and
Cleveland, Stockton-on-Tees,
Tyne & Wear)

Archbold House

Archbold Terrace

Newcastle-upon-Tyne

NE2 1EG

0191 281 6316

Fax: 0191 281 6305

1.2 Cumbria Team

Juniper House

Murley Moss

Oxenholme Road

Kendal

Cumbria LA9 7RL

01539 792800

Fax: 01539 792830

1.3 North West Team

(North Cheshire, Lancashire,
Merseyside

& Greater Manchester)

Pier House

Wallgate

Wigan

Lancashire WN3 4AL

01942 820342

Fax: 01942 820364

1.4 North & East Yorkshire Team

(East Riding of Yorkshire

(Excluding area west of

Goole), Kingston-Upon-Hull

& North Yorkshire)

Genesis Building 1

1.4 cont'd

Science Park

University Road

Heslington

York YO10 5ZQQ

01904 435500

Fax: 01904 435520

1.5 Humber to Pennines Team

(East Riding of Yorkshire

area west of Goole), North

East Lincolnshire, North

Lincolnshire, South

Yorkshire & West Yorkshire)

Bull Ring House

Northgate

Wakefield, West Yorkshire

WF1 1HD

01924 387010

Fax: 01924 201507

1.6 East Midlands Team

(Leicester City,

Leicestershire, Lincolnshire,

Nottinghamshire & Rutland

The Maltings

Wharf Road

Grantham

Lincolnshire NG31 6BH

01476 568431

Fax: 01476 570927

1.7 Peak District & Derbyshire Team

(Peak District national Park,

Derbyshire & Derby City)

Manor Barn

Over Haddon

Bakewell

Derbyshire DE45 1JE

01629 815095

Fax: 01629 815091

1.8 West Midlands Team

(Cheshire, Shropshire,

Staffordshire, Stoke-on-Trent,

Warwickshire & West

Midlands)

Attingham Park

Shrewsbury

Shropshire SY4 4TW

01743 709611

Fax: 01743 709303

1.9 Three Counties Team

(Gloucestershire,

Herefordshire & Worcester)

Bronsil House

Eastnor

near Ledbury

Herefordshire HR8 1EP

01531 638500

Fax: 01531 638501

1.10 Bedfordshire, Cambridgeshire & Northamptonshire Team

(Bedfordshire,

Cambridgeshire,

Northamptonshire and

Luton)

Ham Lane House

Ham Lane, Nene Park

Orton Waterville

Peterborough

Cambridgeshire PE2 5UR

1.11 Norfolk Team

60 Bracondale

Norwich

Norfolk

NR1 2BE

01603 620558

Fax: 01603 762552

1.12 Suffolk Team

Norman Tower House
1-2 Crown Street
Bury St Edmonds
Suffolk IP33 1QX
01284 762218
Fax: 01284 764318

1.13 Essex, Hertfordshire & London Team

Colchester Office
Harbour House
Hythe Quay
Colchester
Essex CO2 8JF
01206 796666
Fax: 01206 794466

1.14 Kent Team

The Countryside
Management Centre
Coldharbour Farm
Wye
Ashford
Kent TN25 5DB
01233 812525
Fax: 01233 812420

1.15 Sussex & Surrey Team

(Brighton & Hove, East
Sussex, West Sussex &
Surrey)
Howard House
31 High Street
Lewes
East Sussex BN7 2LU
01273 476595
Fax: 01273 483063

1.16 Thames & Chilterns Team

(Berkshire, Buckingham,
Milton Keynes &
Oxfordshire)
Foxhold House
Thornford Road
Crookham Common
Thatcham
Berkshire RG19 8EL
01635 268881

01635 268940

1.17 Hampshire & Isle of Wight Team

(Hampshire, Isle of Wight,
Portsmouth & Southampton)
1 Southampton Road
Lyndhurst
Hampshire SO43 7BU
01703 283944
Fax: 01703 283834

1.18 Wiltshire Team

(Swindon and Wiltshire)
Prince Maurice court
Hambleton Avenue
Devizez
Wiltshire SN10 2RT
01380726344
Fax: 01380 721411

1.19 Dorset Team

(Bournemouth, Dorset &
Poole)
Slepe Farm
Arne, Wareham
Dorset BH20 5BN
01929 556688
Fax: 01929554752

1.20 Somerset Team

(South Gloucestershire, Bristol,
Bath, North Somerset)
Roughmoor
Bishop's Hull
Taunton
Somerset TA1 5AA
01823 283211
Fax: 01823 272978

1.21 Devon, Cornwall & Isles of Scilly Team

The Old Mill House
37 North Street
Okehampton
Devon EX20 1AR
01837 55045
Fax: 01837 55046

2.0 Countryside Council for Wales Teams**2.1 Aberystwyth (West Area)**

Plas Goggerdan
Aberystwyth
Dyfed
SY23 3EE
01970 828551
Fax: 01970 828 314

2.2 Bangor - (North West Area)

Bryn Menai
Holyhead Road
Bangor
Gwynedd
LL57 2EF
01248 373100
Fax: 01248 370734

2.3 Llandrindod Wells (East Area)

3rd Floor
The Gwalia
Ithon Road
Llandrindod Wells
Powys
LD1 6AA
01597 824661
Fax: 01597 825734

2.4 Mold (North East Area)

Victoria House
Grosvenor Street
Mold
Clwyd
CH7 1EJ
01352 754000
Fax: 01352 752346

2.5 Cardiff (South Area)

4 Castleton court
Fortran Road
St Mellons
Cardiff
CF3 0LT
01222 772400
Fax: 01222 772412