

APPROPRIATE ASSESSMENT – APPLICATION 19/1164 and 19/1165

REPAIR AND RESTORATION OF NEWPORT TRANSPORTER BRIDGE, DEMOLITION OF EXISTING VISITOR CENTRE, PROVISION OF NEW EXPANDED VISITOR FACILITIES, NEW LIGHTING SCHEME AND ASSOCIATED LANDSCAPING WORKS. CONSERVATION OF THE ENGINEERING STRUCTURE OF THE BRIDGE, PLUS THE RESTORATION OF ANCILLARY ELEMENTS INCLUDING THE GONDOLA, MOTOR HOUSE, ANCHOR HOUSES AND ANCHOR CABLES. DESIGN WORK INCLUDING THE ANALYSIS OF THE STRUCTURE AND THE SPECIFIC ACTION OF REPAIRS TO THE STRUCTURE AND ANCILLARY COMPONENTS. AFFECTING PUBLIC RIGHT OF WAY NEWPORT COASTAL PATH 403/2/1

Location: Transporter Bridge, Usk Way

Planning history

98/155	DEMOLITION OF EXISTING FLAT ROOF OFFICE & REPLACEMENT WITH SINGLE STOREY BUILDING TO BE USED AS OFFICE & VISITOR CENTRE ASSOCIATED LANDSCAPING & PARKING & ERECTION OF FENCE ALONG THE SOUTHERN BOUNDARY OF THE SITE	Granted with conditions
99/0071	PARTIAL DISCHARGE OF CONDITION 03 (DETAILS OF HARD PAVING) RELATING TO PLANNING PERMISSION 98/1155/DC	Approved
99/0072	DISCHARGE OF CONDITION 01 (MATERIALS) RELATING TO PLANNING PERMISSION 98/1155/D	Approved

Description of Development

This application seeks permission to demolish and replace a visiting centre for the Transporter Bridge along with repairs and maintenance to the bridge itself. The visiting centre will be located close to the river banks and works to the bridge would, at times, be over the river itself as the work will have to be carried out in situ. The works also include changes to the lighting on the bridge and associated with the visitor centre.

Given the former industrial uses of the site, the land is identified as being brownfield, contaminated and in need of remediation as part of any development.

Appropriate Assessment

The visitor centre is on the West side of the Transporter Bridge adjoining the River Usk SAC (also SSSI and SLA) and next to the Southern Distributor Road. The site is approximately 1.3km from the River Ebbw and approximately 2.5km from the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar;

In accordance with The Conservation of Habitats and Species Regulations 2017 the Local Planning Authority, prior to determining the application, need to carry out an Appropriate Assessment (AA), identifying any likely significant effects on the River Usk SAC, either alone or in combination with other projects or plans. The Authority subsequently need to

establish whether it can be demonstrated that a permission, subject to any conditions or planning controls, would avoid any adverse effect to the integrity of the River Usk SAC.

Information has been submitted regarding land contamination, the ecological impact of the project on protected sites and species as well as illumination impact profile document (lighting) as well as a Flood Consequence Assessment and Drainage Strategy. The submitted information has been considered by the Public Protection Department of the Council, the Council's Ecologist and Natural Resources Wales. The contamination information and drainage information was considered in conjunction with ecology matters, since the consequences of addressing contamination (particularly groundwater) and the method of developing and constructing the site, could have significant implications on key biodiversity and ecology interests.

The River Usk is designated as an SAC based primarily on the presence of a number of migratory and non migratory fish species and otter. Certain fish species known to use the River Usk contribute to the selection of the river as an SAC site. The fish species listed as a primary reason for the selection of the River Usk as a SAC are:

- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Twaite Shad
- Atlantic Salmon
- Bullhead
- Allis shad are also an annex 2 species present within the river as a qualifying feature.

The presence of watercourses of plain to montane levels with *Ranunculus fluitans* and *Callitriche-Batrachium* vegetation is also a qualifying feature for this sites designation. The SSSI is designated based on the aquatic habitats and condition of the river and its plant and animal communities that use the feature across its range. The conservation objectives of the River Usk SAC are attached in *Appendix A*.

The application was accompanied by a Preliminary Ecological Appraisal and an Ecological Impact Assessment. (ECIA) The latter report identifies several factors which could affect the integrity of the River Usk SAC and subsequently established the scope of the Appropriate Assessment. The ECIA is considered sufficient to inform an Appropriate Assessment. The potential impacts raised in 3.1-3.5 of the ECIA include:

- Disturbance to otter from noise and lighting, including from a larger visitor centre.
- Pollution /surface water run-off during construction and operation (potential for disturbance of contaminated land in construction of the Visitor centre should be addressed)
- Long term discharge from the new visitor centre into the river
- Piling vibrations affecting to fish. The rare fish species Allis and Twaite Shad, features of the river Usk SAC, are especially sensitive to vibration. It is essential that any construction works in the river or on, or adjacent to, the riverbank that result in vibration e.g. drilling, boring, piling or demolition works, or demolition works are timed to avoid the migration period between 1 March – 30 June.

These matters are addressed below: -

Disturbance/noise and light to Otters

The PEA found that Otter footprints were recorded under the deck, but as a key species for this section of the river this is not unexpected. No habitat suitable for a holt or laying up site was recorded. The Ecological Impact assessment judged that the potential effects of the proposal (construction and operations) would include the following matters:

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- Temporary noise and lighting from construction and bridge repair works restricting movement along river,
- Otter to become trapped in excavations or machinery used to create new visitor centre
- External lighting from the bridge illuminating the river and restricting movement along it
- External lighting from the visitor centre illuminating the river and restricting movement along it.

Lighting and noise (construction)

The Ecology Impact Assessment has indicated that a number of measures will be implemented in order to reduce the impact of the development during construction. These include

- Restriction to working hours to avoid night time working which may affect the use of the river by nocturnal animals such as otter- No night time working between the hours of 6pm and 6am.
- Any lighting of construction compounds erected as part of the development works will only be lit during night time for safety reasons.
- Any lighting will be directional and cowled to ensure no light spill onto the river.
- All site machinery and materials will be kept securely in a fenced site compound. The fencing will be designed and used to prevent otter gaining access into the machinery or stored materials.
- Any excavations across the working site that are left open over night will have a means of escape left for any mammals that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole. This will allow any mammal to escape and avoid increased stress from being trapped.

The matters raised in the ecological report and the measures set out can be controlled by conditions restricting certain matters during construction as well as a CEMP with specific regard to biodiversity. The matters indicated above within the ecological report would have to be addressed in the CEMP before commencement of development.

Draft conditions No. 1, 5 and 6 refer to the CEMP and specific conditions on works to the banks and fencing. The relevant consultees, including National Resource Wales, will be consulted on the CEMP and any other ecology related conditions as requested.

Lighting and noise (operational)

The current lighting used on the Transporter Bridge will be removed and replaced. The HIA, sections 5.5.2 to 5.5.9, provides details of suitable lighting that could be used within the project. The exact design of the new lighting is not currently known as it depends on stock availability during construction but it will more efficient and directional.

To inform the lighting strategy, readings were taken around the river bank have been used to extrapolate the light levels at the mud bank level of the river. This shows lux levels between 2 and 4 on the horizontal plane and 7 to 9 on the vertical plan; these are higher than lux levels usually recommended for wildlife corridors (less than 1 lux). However, it is understood that species using this part of the river are likely to be use to the existing light levels, and therefore as long as there is no increase in light there should be no negative impacts on the interest features of the river. Decrease in light levels would be welcomed as a positive impact; it would increase the quality of the river corridor for existing species and potentially make it more attractive to species not currently found in this location, thus increasing ecosystem resilience.

It is considered that light levels could be reduced by methods, such as,

- External lighting being placed along the river bank of the eastern elevation of the visitor centre being controlled with a movement sensor
- A light reducing film on the windows on the eastern elevation of the new visitor centre and
- The use of directional and recessed lighting.
- The Visitor centre would only be open in the evenings on occasions and the general opening hours would be 10 until 17:00

As there are difficulties in providing the finished lighting scheme at this stage of the scheme, the Council Ecologist has agreed that conditions to have a lighting scheme submitted for approval in line with the lighting strategy and to monitor light levels post-development and take remedial action should the levels have increased from the pre-development levels. NRW will be consulted on the proposed lighting schemes for the development.

Draft conditions 2, 3 and 4 refer.

Pollution/ Surface/Ground Water Contamination issues during construction to River Usk

Whilst the river is outside of the development boundary, works will be undertaken directly adjacent and above. The aquatic river habitat itself is sensitive to pollution which may lower water quality affecting a wide range of species and habitat that use it. The potential Impacts during construction include: -

- Pollution incident during construction of visitor centre
- Material falling into river during bridge works
- Paint spills into river during bridge works
- Contamination during construction due to previous industrial uses (land contamination)

In order to avoid any avoidable pollution of the river during the construction period it is proposed that all site contractors will be educated on the protection afforded to the river and the potential impact any works could have on the river and the protected species it holds. A Construction Environmental Management Plan will be completed and agreed with all site contractors. The management plan will set out a strict set of measures which include but not be limited to: -

- Safe storage of materials and machinery away from the river and ensuring soil particles from excavation don't blow into the river.
- Any works to the bridge which have the potential for parts to fall into the river such as metal removal and replacement, will have a deck created underneath the works area to catch any parts which may fall.
- The works to remove paint from the bridge and repaint the bridge which must be carried out in situ will be completed in a secure capsule or tent. This will reduce and remove the potential for any particles to enter the river and negatively affect the water quality.
- Engineers undertaking the repair works will design a full logistics plan for the project which will include: - Weight limits on the shot from any blasted material, All shot grit (paint particles) will be hoovered up into 1 tonne bags, A wind load limit for the secure capsule (Once the wind limit is reached work must cease and the curtains of the tent will be opened. It is anticipated the wind speed limit will be 15m/s)
- The provision of bins around the visitor centre will be included within the site design. The land owner will be required to ensure the bins are collected frequently to ensure litter does not escape into the surrounding landscape and river.

The application has also been accompanied by a Site Investigation Report. Intégral Géotechnique (Wales) Limited, Document Reference: 12496/JJ/19/SI, October 2019. The document enables the Local Planning Authority to determine the extent of any existing contamination associated with the site and the impact of the proposed development on could have on the River Usk SAC.

Even though the site is in an area of previous industrial use, the site investigation indicates that there are low level of soil contamination but no ground water was sampled. The low levels of contamination have been considered to have a low risk to the controlled waters, i.e the River Usk and the Groundwater.

National Resource Wales and the Council's Public Protection Environmental Health officer have considered the submitted document. Both NRW and the Councils Senior Scientific Officer are satisfied with the findings and have proposed precautionary conditions to unforeseen contamination that could be encountered during the demolition stage of the application and during the development. The Council's Senior Scientific Officer has also requested a completion/verification report to confirm the remediation of the land.

Relevant consultees, including NRW and the Councils Environmental Health officer will be consulted on any remediation scheme submitted following any unforeseen contamination being found.

Draft conditions no.1, 9 and 10 refer.

Long term discharge from Visitor Centre

Separate foul and surface water drainage networks are to be provided. The proposed foul and surface water drainage scheme is indicated in Section 12 of the Flood Consequences Assessment document by Cambria CC1991-CAM-ZZ-XX-RP-C-00-0001. The proposed drainage strategy proposes to connect the foul drainage to the existing combined foul sewer connection and discharge the surface water drainage to the River Usk, which is the nearest surface water body.

In October 2018, Welsh Government published the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining Surface Water Drainage Systems'. This standard is now mandatory for new developments with either a construction area greater than 100m² or more than 1 dwelling. Consequently, this scheme would be subject to SAB approval and the principles which underpin the design of surface water management schemes to meet the Standards are as follows; SuDS schemes should aim to;

- Manage water on or close to the surface and as close to the source of the runoff as possible;
- Treat rainfall as a valuable natural resource
- Ensure pollution is prevented at source, rather than relying on the drainage system to treat or intercept it;
- Manage rainfall to help protect people from increased flood risk, and the environment from morphological and associated ecological damage resulting from changes in flow rates, patterns and sediment movement caused by the development;
- Take account of likely future pressures on flood risk, the environment and water resources such as climate change and urban creep;
- Use the SuDS Management Train, using drainage components in series across a site to achieve a robust surface water management system (rather than using a single "end of pipe" feature, such as a pond, to serve the whole development);
- Maximise the delivery of benefits for amenity and biodiversity;
- Seek to make the best use of available land through multifunctional usage of public spaces and the public realm;
- Perform safely, reliably and effectively over the design life of the development taking into account the need for reasonable levels of maintenance;
- Avoid the need for pumping where possible; and
- Be affordable, taking into account both construction and long term maintenance costs and the additional environmental and social benefits afforded by the system.

The river is tidally influence and therefore an unrestricted discharge rate is proposed into the River. It indicates that roof and car park surface water will be treated prior to discharge in line with SuDs treatment train solution. The surface water drainage scheme and its maintenance would be controlled by both NRW and the SuD Approval Body (SAB) and therefore it is not necessary to 'double up' on matters that are controlled by other public bodies. Accordingly, a compliance condition to require the applicant to comply with the drainage scheme as submitted can be included with any consent.

Draft Conditions 11 and 12 refer.

Piling operations affecting fish

The proposal must consider the impact of the development, particularly noise and vibration, on migratory fish within the River Usk SAC. The rare fish species Allis and Twaite Shad, features of the river Usk SAC, are especially sensitive to vibration. It is essential that any construction works in the river or on, or adjacent to, the riverbank that result in vibration are mitigated to reduce the impact upon the protected fish.

Vibrations from the works to the Newport Transporter Bridge itself are considered to be minimal. No works will take place within the river channel and the works will be completed well above water level along the boom section for the bridge. Any vibrations will naturally dissipate as they travel through the bridge. No vibrations should be felt within the river.

Vibrations from the construction of the new visitor centre are thought likely given the proximity to the river. Any repair works to the eastern deck and masonry walls around the bridge could also cause disturbance to migratory fish.

As such, any construction works adjacent to the river likely to resulting vibration will not be allowed between the 1st March and 30th June. This can be ensured via a specific condition on piling works not being carried out during the migration period.

Draft condition 7 refers

Combination Effects

Consideration must be given to the cumulative effects of the proposed development when considered alongside other developments in the area. There have been schemes within close proximity that remain extant, such as

- 19/0599- Variation of conditions 1 (approved plans) of planning permission 17/1185 for the variation of conditions for bulk drying and pelleting facility with onsite energy centre
- 18/0360- Erection of an asphalt plant and associated ancillary development
- 16/0789-Proposed residential development for 93no. Units, comprising of 17no. Houses and 76no. Apartments, with associated car parking, access, landscaping, flood and drainage infrastructure works
- 16/0798- Proposed extension to existing production/processing facility

Although the proposals could result in a cumulative impact, these have been subject to the same HRA assessments and similar conditions/controls. In this respect, it is concluded that there are no other developments which would result in a cumulative effect and most recent projects within the docks area of the River Usk has been subject to its own Appropriate Assessment in which similar conditions were imposed to protect the integrity of the river.

Conclusion

It is therefore considered that, subject to the imposition of several conditions (indicated below), the proposed development would not have a significant impact on the designated European site in accordance with the Council's duty under The Conservation of Habitats and Species Regulations 2017 and the Local Planning Authority Adopted LDP policies, Technical Advice Note 5 and Supplementary Planning Guidance: Wildlife and Development (SPG: WD).

Draft Conditions

Construction Environmental Management Plan (Biodiversity)

1) No development shall take place (including demolition, ground works, vegetation clearance) until a Contractor's Construction Environmental Management plan has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following as a minimum:

- a) Risk assessment of potentially damaging construction activities;
- b) Identification of "protection zones";
- c) Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction;
- d) The location and timing of sensitive works to avoid harm to biodiversity features;
- e) The times during construction when specialist ecologists need to be present on site to oversee works;
- f) Responsible persons and lines of communication;
- g) The role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person;
- h) Use of protective fences, exclusion barriers and warning signs;
- i) General site management: details of the construction programme including site clearance, method statements, surface water management and measures, site waste management and disposal, sustainable drainage (pre- and post-construction), maintenance and monitoring programmes;
- j) Pollution prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and an incident response plan;
- k) Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details;

The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority

Reason: To safeguard habitats and species protected under the Conservation of Habitats and Species Regulations 2017, the Wildlife and Countryside Act 1981 (as amended), and Environment (Wales) Act 2016.

Detailed Lighting Design

2) Prior to the commencement of the development, full details of external illumination and floodlighting shall be submitted to the Local Planning Authority. The detailed lighting design shall be in accordance with the requirements specified in Section 7 Summary of the submitted Illumination Impact Profile (produced by Hoare Lea, version 02) and safeguard against light into neighbouring residential properties. The scheme should include fixture type, location, position and specification of the lighting as well as an isolux diagram showing the predicted illuminance in the vertical plane (in lux) at critical locations on the boundary of the site and at adjacent properties.. The approved lighting shall then be installed fully in accordance with the details as approved.

Reason: To safeguard species and sites protected by the Wildlife and Countryside Act 1981 and The Conservation of Habitats and Species Regulations 2017 and the Integrity of the River Usk SAC and neighbouring residential amenity.

3) No external lighting, other than approved as part of condition 2, shall be installed without the prior consent in writing of the Local Planning Authority.

Reason: In the interests of residential amenity and in order to protect the River Usk SAC from disturbance to otters.

Reason: To safeguard species and sites protected by the Wildlife and Countryside Act 1981 and The Conservation of Habitats and Species Regulations 2017 and the Integrity of the River Usk SAC

Light Levels Monitoring

4) Light level monitoring surveys shall be carried out following installation but prior to the site becoming operational and two years after installation and submitted to the Local Planning Authority for approval. Surveys shall be carried out in strict accordance with criteria detailed in Section 7 Summary of the submitted Illumination Impact Profile (produced by Hoare Lea, version 02). If the light monitoring surveys indicate that the light levels exceed pre-development levels (identified on Figure 9 of the approved Illumination Impact Profile report) then external illumination of the site shall cease until such time as a scheme of remedial action has been submitted to and approved by the Local Planning Authority. The development shall be carried out in accordance with any remedial measures approved as part of this scheme and maintained in this way thereafter.

Reason: To safeguard species and sites protected by the Wildlife and Countryside Act 1981 and The Conservation of Habitats and Species Regulations 2017 and the Integrity of the River Usk SAC

Otters (work to banks)

5) Notwithstanding the restricted hours of construction (Approved under the CEMP condition), no work of excavation, land raising or construction shall take place within 20 metres of the top of the riverbank between one hour prior to sunset and one hour after sunrise respectively unless otherwise agreed in writing by the Local Planning Authority.

Reason: To ensure no disturbance is caused to otters migrating up or down the river.

Otters (fencing)

6) No development, to include demolition, shall commence until specification of otter fencing has been submitted to and approved in writing by the Local Planning Authority. The fencing shall be erected prior to the development commencing and retained throughout the duration of development works.

Reason: To safeguard otters using the river bank.

Fish (Piling Vibrations)

7) No works within the River or associated with piling shall be undertaken during the period from 1 March to 30 June.

Reason: To avoid disturbance during the main Shad and Lamprey spawning and migration period in the interests of protecting the integrity of the River Usk SAC.

Ecological Enhancements

8) Prior to the site becoming operational, a scheme of Ecological Enhancement will be submitted to the LPA. The scheme shall include measures to promote increased biodiversity on the site and providing for the future management of any such measures as necessary. Following the Council's written agreement the measures shall be implemented as agreed.

Reason: to ensure the development provides ecological net benefit on the site as required in Planning Policy Wales Edition 10.

Land Contamination Conditions

9) Prior to the occupation of the Visiting Centre, a contaminated land completion/verification report, confirming the remediation has being carried out in accordance with the approved details, shall be submitted to, and approved in writing by, the Local Planning Authority.

Reason: To ensure that any potential risks to human health or the wider environment which may arise as a result of potential land contamination are satisfactorily addressed.

10) Any additional or unforeseen contamination encountered during the development shall be notified to the Local Planning Authority as soon as is practicable. Suitable revision of the remediation strategy shall be submitted to and approved in writing by the Local Planning Authority and the revised strategy shall be fully implemented prior to further works continuing.

Reason: To ensure that any potential risks to human health or the wider environment which may arise as a result of potential land contamination are satisfactorily addressed.

Drainage

11) Foul water and surface water must be discharged separately from the site. No surface water or land drainage run off shall be allowed to connect to the public sewerage system.

12) Prior to the occupation of the visiting centre, the foul and surface drainage scheme shall be carried out in accordance with the approved drainage scheme set out within Section 12 of the FCA document Flood Consequences Assessment document by Cambria

CC1991-CAM-ZZ-XX-RP-C-00-0001 and the drainage plan CC1991 CAM ZZ 00 DR C 52
1101

Reason: To ensure adequate drainage is provided.

CONSERVATION OBJECTIVES OF THE RIVER USK SAC**Background to Conservation Objectives:****(a) Outline of the legal context and purpose of conservation objectives.**

Conservation objectives are required by the 1992 'Habitats' Directive (92/43/EEC). The aim of the Habitats Directives is the maintenance, or where appropriate the restoration of the 'favourable conservation status' of habitats and species features for which SACs and SPAs are designated (see Box 1).

In the broadest terms, 'favourable conservation status' means a feature is in satisfactory condition and all the things needed to keep it that way are in place for the foreseeable future. CCW considers that the concept of favourable conservation status provides a practical and legally robust basis for conservation objectives for Natura 2000 and Ramsar sites.

Achieving these objectives requires appropriate management and the control of factors that may cause deterioration of habitats or significant disturbance to species.

As well as the overall function of communication, Conservation objectives have a number of specific roles:

Conservation planning and management.

The conservation objectives guide management of sites, to maintain or restore the habitats and species in favourable condition.

Assessing plans and projects.

Article 6(3) of the 'Habitats' Directive requires appropriate assessment of proposed plans and projects against a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

Monitoring and reporting.

The conservation objectives provide the basis for assessing the condition of a feature and the status of factors that affect it. CCW uses 'performance indicators' within the conservation objectives, as the basis for monitoring and reporting. Performance indicators are selected to provide useful information about the condition of a feature and the factors that affect it.

The conservation objectives in this document reflect CCW's current information and understanding of the site and its features and their importance in an international context. The conservation objectives are subject to review by CCW in light of new knowledge.

(b) Format of the conservation objectives

There is one conservation objective for each feature listed in part 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature. These statements apply to a whole feature as it occurs within the whole plan area, although Section 3.2 sets out their relevance to individual management units.

Each conservation objective consists of the following two elements:

1 Vision for the feature

2 Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring¹.

There is a critical need for clarity over the role of performance indicators within the conservation objectives. **A conservation objective, because it includes the vision for the feature, has meaning and substance independently of the performance indicators, and is more than the sum of the performance indicators.** The performance indicators are simply what make the conservation objectives measurable, and are thus part of, not a substitute for, the conservation objectives. Any feature attribute identified in the performance indicators should be represented in the vision for the feature, but not all elements of the vision for the feature will necessarily have corresponding performance indicators.

As well as describing the aspirations for the condition of the feature, the Vision section of each conservation objective contains a statement that the factors necessary to maintain those desired conditions are under control. Subject to technical, practical and resource constraints, factors which have an important influence on the condition of the feature are identified in the performance indicators.

The ecological status of the water course is a major determinant of FCS for all features. The required conservation objective for the water course is defined below.

4.1 Conservation Objective for the water course

The capacity of the habitats in the SAC to support each feature at near-natural population levels, as determined by predominantly unmodified ecological and hydromorphological processes and characteristics, should be maintained as far as possible, or restored where necessary.

The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and community composition and structure. It is anticipated that these limits will concur with the relevant standards used by the Review of Consents process given in Annexes 1-3.

Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state, in order to support the coherence of ecosystem structure and function across the whole area of the SAC.

All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change.

Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the extent that these sites are damaged or destroyed.

The river planform and profile should be predominantly unmodified. Physical modifications having an adverse effect on the integrity of the SAC, including, but not limited to, revetments on active alluvial river banks using stone, concrete or waste materials, unsustainable extraction of gravel, addition or release of excessive quantities of fine sediment, will be avoided.

River habitat SSSI features should be in favourable condition. In the case of the Usk Tributaries SSSI, the SAC habitat is not underpinned by a river habitat SSSI feature. In this case, the target is to maintain the characteristic physical features of the river channel, banks and riparian zone.

Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage, eg weirs, bridge sills, acoustic barriers.

¹ Web link: <http://www.jncc.gov.uk/page-2199>

Natural factors such as waterfalls, which may limit the natural range of a species feature or dispersal between naturally isolated populations, should not be modified.

Flows during the normal migration periods of each migratory fish species feature will not be depleted by abstraction to the extent that passage upstream to spawning sites is hindered.

Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed between EA and CCW as necessary. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 1 of this document.

Levels of nutrients, in particular phosphate, will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC, and measures taken to maintain nutrients below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 2 of this document.

Levels of water quality parameters that are known to affect the distribution and abundance of SAC features will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC, and measures taken to maintain pollution below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 3 of this document.

Potential sources of pollution not addressed in the Review of Consents, such as contaminated land, will be considered in assessing plans and projects.

Levels of suspended solids will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC. Measures including, but not limited to, the control of suspended sediment generated by agriculture, forestry and engineering works, will be taken to maintain suspended solids below these levels.

4.2 Conservation Objective for Features 1-5:

- Sea lamprey *Petromyzon marinus* (EU Species Code: 1095);
- Brook lamprey *Lampetra planeri* (EU Species Code: 1096);
- River lamprey *Lampetra fluviatilis* (EU Species Code: 1099);
- Twaite shad *Alosa fallax* (EU Species Code: 1103);
- Allis shad *Alosa alosa* (EU Species Code: 1102);
- Atlantic salmon *Salmo salar* (EU Species Code: 1106);
- Bullhead *Cottus gobio* (EU Species Code: 1163)

Vision for features 1-5

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

FCS component	Supporting information/current knowledge
The conservation objective for the water course as defined in 4.1 above must be met The population of the feature in the SAC is stable or increasing over the long term.	Refer to Sections 5.1 to 5.5 for current assessments of feature populations Entrainment in water abstractions directly impacts on population dynamics through reduced recruitment and survival rates. Fish stocking can adversely affect population dynamics through competition, predation, and alteration of population genetics and introduction of disease.

FCS component	Supporting information/current knowledge
The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms eg. suitable flows to allow upstream migration, depth of water and substrate type at spawning sites, and ecosystem structure and functions eg. food supply (as described in Sections 2.2 and 5). Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range that cause an adverse effect on site integrity, such as physical barriers to migration, will be assessed in view of 4.2.4 There is, and will probably continue to be, a sufficiently large habitat to maintain the feature's population in the SAC on a long-term basis.	Some reaches of the Usk SAC are more suitable for some features than others eg the Senni has important populations of brook/river lamprey and salmon but is not used by shad due to its small size and distance from the estuary. These differences influence the management priorities for individual reaches and are used to define the site units described in Section 3.2. Further details of feature habitat suitability are given in Section 5. In general, management for one feature is likely to be sympathetic for the other features present in the river, provided that the components of favourable conservation status for the water course given in Section 4.1 are secured. The characteristic channel morphology provides the diversity of water depths, current velocities and substrate types necessary to fulfil the habitat requirements of the features. The close proximity of different habitats facilitates movement of fish to new preferred habitats with age. The presence of hard bank revetments in a number of active alluvial reaches eg through Brecon and upstream of Abergavenny, adversely affects the processes that maintain suitable habitat for the SAC features. Hydrological processes in the Usk are currently affected by large abstractions, especially at Prioress Mill and Brecon Weir. However, there are many smaller abstractions not considered to cause a problem at present. Shad and salmon migration can be affected by acoustic barriers and by high sediment loads, which can originate from a number of sources including construction works. Allis and Twaite shad are affected by range contraction due to artificial barriers to migration in the Usk. It is likely that this loss of habitat affects their maintenance in the SAC on a long-term basis.

Performance indicators for features 1-5

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

Attribute	Specified Limits	Comments	Relevant Unit[s]
Sea lamprey <i>Petromyzon marinus</i> :			
Performance indicators for feature condition			
(a) Distribution within catchment	Suitable habitat adjacent to or downstream of known spawning sites should	This attribute provides evidence of successful spawning and distribution trends. Spawning sites known to have been used within the previous 10 years and historical sites considered still to have	1 - 5

Attribute	Specified Limits	Comments	Relevant Unit[s]
	contain <i>Petromyzon</i> ammocoetes.	suitable habitat, are shown in Annex 4. Spawning locations may move within and between sites due to natural processes or new sites may be discovered over time. Silt beds downstream of all sites identified in Annex 4 will be sampled for presence or absence of ammocoetes. Where apparently suitable habitat at any site is unoccupied feature condition will be considered unfavourable.	
(b) Ammocoete density	Ammocoetes should be present in at least four sampling sites each not less than 5km apart. Overall catchment mean $>0.1\text{m}^{-2}$ (Harvey & Cowx 2003) ¹	This standard CSM attribute establishes a minimum occupied spawning range, within any sampling period, of 15km. In the Usk, spawning sites within units 2 to 5 will be assessed against this attribute. Although this attribute is not used in CSM for sea lamprey, baseline monitoring in the Usk gave an overall catchment mean of $2.27\text{ ammocoetes m}^{-2}$ in suitable habitat ² , therefore 0.1 m^{-2} is a conservative threshold value for unfavourable condition.	2 - 5
Brook lamprey <i>Lampetra planeri</i> and River lamprey <i>Lampetra fluviatilis</i> :			
Performance indicators for feature condition			
(a) Age/size structure of ammocoete population	Samples < 50 ammocoetes ~ 2 size classes Samples > 50 ammocoetes ~ at least 3 size classes	This gives an indication of recruitment to the population over the several years preceding the survey. Failure of one or more years recruitment may be due to either short or long term impacts or natural factors such as natural flow variability therefore would trigger further investigation of the cause rather than leading automatically to an unfavourable condition assessment.	2 - 10
(b) Distribution of ammocoetes within catchment	Present at not less than 2/3 of sites surveyed within natural range	The combined natural range of these two species in terms of ammocoete distribution includes all units above the tidal limit ie all except unit 1. Presence at less than 2/3 of sample sites will lead to an unfavourable condition assessment. Reduction in distribution will be defined as absence of ammocoetes from all samples within a single unit or sub-unit/tributary, and will lead to an unfavourable condition assessment.	2 - 10
(c) Ammocoete density	Optimal habitat: $>10\text{m}^{-2}$ Overall catchment mean: $>5\text{m}^{-2}$	Optimal habitat comprises beds of stable fine sediment or sand $\geq 15\text{cm}$ deep, low water velocity and the presence of organic detritus, as well as, in the Usk, shallower sediment, often patchy and interspersed among coarser substrate.	2 - 10
Twaite shad <i>Alosa fallax</i> and Allis shad <i>Alosa alosa</i> :			
Performance indicators for feature condition			
(a) Spawning distribution	No decline in spawning distribution	Spawning distribution is assessed by kick sampling for eggs and/or observations of spawning adults. A representative sample	1 - 5

Attribute	Specified Limits	Comments	Relevant Unit[s]
		of sites within units 2 to 5 will be monitored at 3 yearly intervals. Absence from any site in 2 consecutive surveys will result in an unfavourable condition assessment.	
Performance indicators for factors affecting the feature			
(a) Flow	Targets are set in relation to river/reach type(s)	Targets equate to those levels agreed and used in the Review of Consents (see Annex 1). Shad are particularly sensitive to flow. The ideal regime is one of relatively high flows in March-May, to stimulate migration and allow maximum penetration of adults upstream, followed by rather low flows in June-September, which ensures that the juveniles are not washed prematurely into saline waters and grow rapidly under warmer conditions. The release of freshets to encourage salmonid migration should therefore be discouraged on shad rivers during this period.	1 - 5
Atlantic salmon <i>Salmo salar</i> :			
Performance indicators for feature condition			
(a) Adult run size	Conservation Limit complied with at least four years in five (see 5.4)	CSM guidance states: Total run size at least matching an agreed reference level, including a seasonal pattern of migration characteristic of the river and maintenance of the multi-sea-winter component.	All
(b) Juvenile densities	Expected densities for each sample site using HABSCORE	As there is no fish counter in the Usk, adult run size is calculated using rod catch data. Further details can be found in the EA Usk Salmon Action Plan. CSM guidance states: These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality.	6 – 10
Assessed using electro fishing data.			
Performance indicators for factors affecting the feature			
Water quality			
(a) Biological quality	Biological GQA class A	This is the class required in the CSM guidance for Atlantic salmon, the most sensitive feature.	6 - 10
(b) Chemical quality	RE1	It has been agreed through the Review of Consents process that RE1 will be used throughout the SAC [see Annex 3].	All
Hydromorphology			
(a) Flow	Targets are set in relation to river/reach type(s)	Targets equate to those levels agreed and used in the Review of Consents [see Annex 1].	All
Bullhead <i>Cottus gobio</i> :			
Performance indicators for feature condition			
(a) Adult densities	No less than 0.2 m ⁻² in sampled reaches	CSM guidance states that densities should be no less than 0.2 m ⁻² in upland rivers (source altitude >100m) and 0.5 m ⁻² in lowland rivers (source altitude <100m). A	2 – 10

Attribute	Specified Limits	Comments	Relevant Unit[s]
(b) Distribution	Bullheads should be present in all suitable reaches. As a minimum, no decline in distribution from current	significant reduction in densities may also lead to an unfavourable condition assessment. Suitable reaches will be mapped using fluvial audit information validated using the results of population monitoring. Absence of bullheads from any of these reaches, or from any previously occupied reach, revealed by on-going monitoring will result in an unfavourable condition assessment.	2 - 10
(c) Reproduction/age structure	Young-of-year fish should occur at densities at least equal to adults	This gives an indication of successful recruitment and a healthy population structure. Failure of this attribute on its own would not lead to an unfavourable condition assessment.	2 - 10

4.3 Conservation Objective for Feature 6:

- European otter *Lutra lutra* (EU Species Code: 1355)

Vision for feature 6

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

FCS component	Supporting information/current knowledge
The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance and associated territorial behaviour. The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The whole area of the Usk SAC is considered to form potentially suitable breeding habitat for otters. The size of breeding territories may vary depending on prey abundance. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient they should be created through habitat enhancement and where necessary the provision of artificial holts. No otter breeding site should be subject to a level of disturbance that could have an adverse effect on breeding success. Where necessary, potentially harmful levels of disturbance must be managed. The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges,	Refer to Section 5.9 for current assessment of feature population Survey information shows that otters are widely distributed in the Usk catchment. While the breeding population in the Usk is not currently considered to be limited by the availability of suitable breeding sites, there is some uncertainty over the number of breeding territories which the SAC is capable of supporting given near-natural levels of prey abundance. The decline in eel populations may be having an adverse effect on the population of otters in the Usk. Restrictions on the movement of otters around the SAC, and between adjoining sites are currently a particular concern in the reach through

FCS component	Supporting information/current knowledge
fencing etc at road bridges and other artificial barriers.	Newport as a result of a continued decrease in undisturbed suitable riparian habitat.

Performance indicators for feature 6

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

Attribute	Specified Limits	Comments	Relevant Unit[s]
Performance indicators for feature condition			
(a) Distribution	Otter signs present at 90% of Otter Survey of Wales sites	Ref: CCW Environmental Monitoring Report No 19 (2005) ³	All
(b) Breeding activity	2 reports of cub/family sightings at least 1 year in 6	Ref: CCW Environmental Monitoring Report No 19 (2005) ³	All
(c) Actual and potential breeding sites	No decline in number and quality of mapped breeding sites in sub-catchments (see Ref)	Ref: CCW Environmental Monitoring Report No 19 (2005) ³ In the Usk catchment, 77 actual or potential breeding sites have been identified, distributed throughout the catchment on the main river and tributaries.	All
