

NATURA APPRAISAL PROFORMA

Casework Recording System Ref. File Ref.

SITE DETAILS

1a. Name of Natura site affected & current status

1b. Name of component SSSI if relevant

1c. European qualifying interest(s) & whether priority/non-priority:

- Atlantic salmon
- Freshwater pearl mussel
- Otter (also an EPS)

1d. Conservation objectives for qualifying interests:

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- ⌚ Population of the species, including range of genetic types for salmon, as a viable component of the site
- ⌚ Distribution of the species within site
- ⌚ Distribution and extent of habitats supporting the species
- ⌚ Structure, function and supporting processes of habitats supporting the species
- ⌚ No significant disturbance of the species
- ⌚ Distribution and viability of freshwater pearl mussel host species
- ⌚ Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species

PROPOSAL DETAILS

2a. Proposal title:

Construction of Aberdeen Western Peripheral Route (AWPR), a 46km road bypass around Aberdeen, comprising 3 sections a northern leg, a southern leg and a fastlink. The River Dee will require to be bridged. Part of the southern leg comprises the River Dee crossing, although there may also be effects from the fastlink and the southern leg which will have an impact on the River Dee SAC.

2b. Date consultation sent:

2c. Date consultation received
 2d. Name of consultee
 2e. Name of competent authority
 2f. Type of Case:

Statements (March 2007 and December 2007), the final appropriate assessment report was received in April 2008
April 2008
Transport Scotland (Jacobs – consultants)
Scottish Ministers as AWPR going to a PLI during Autumn 2008, starting 9 th September 2008
Roads and Transport Works – Trunk Roads

2g. Details of proposed operation (inc. location, timing, methods):

A design and build contract to build a new bypass and fastlink between and around Aberdeen starting at Stonehaven in the south. Subject to a PLI starting in September 2008 and lasting for 10 weeks, if consented, it is identified that construction works will begin in 2010 and be completed in 2012. The river crossing construction works are anticipated to last for 16 months

The actual works required in crossing the River Dee are described on page 7 and various appendices of the Jacobs AA Appraisal report, April 2008 (hereafter referred to as the Jacobs April Report), and are summarised as follows:

Construction

- A viaduct bridge at OS NJ 859 004, 100m east of the existing Maryculter bridge. At the point of crossing, the main span will comprise 120m, with a further 2 side spans of 75m. There will be no bridge piers in the river channel or SAC. A minimum buffer between the works and the SAC of 4 m is proposed during construction and upon completion a 12.5m buffer on the north side and a 19.6m buffer on the south side will be maintained.
- A drainage outfall will be constructed within the SAC to the east of the bridge crossing. This outfall is to drain SUDS ponds being created near to the bridge on the northern side.
- Vegetation clearance and road embankment activity will be required.
- The AWPR will also cross or impact a further 22 water courses within the River Dee catchment, but outwith the SAC boundary. Of these 22 watercourses 2 directly flow into the Crynoch burn and Culter Burn which are tributaries within the SAC. All direct and indirect effects of the AWPR on watercourse within the River Dee catchment have been appraised in order to come to a conclusion in whether or not an adverse effect on integrity of the River Dee SAC will occur.
- Construction Method Statements have been prepared for:
 1. River Dee
 2. Kingcausie Burn
 3. Burnhead Burn
 4. Blaikiewell Burn
 5. Milltimber Burn
 6. Minor Watercourses

Operation

- Maintenance of, and operation of the road bridge crossing. All drainage is within a closed system and will be drained off the bridge onto relevant SUDS ponds north and south of the bridge.
- Operation and effective maintenance of the SUDS ponds. (Will be regulated by SEPA and Scottish Water).
- Road maintenance operations including culverts, drainage etc. during the operation of the route

APPRAISAL IN RELATION TO REGULATION 48

3a. Is the operation directly connected with or necessary to conservation management of the site? YES/NO If YES give details:

No

3b. Is the operation likely to have a significant effect on the qualifying interest? Consider each qualifying interest in relation to the conservation objectives.

Atlantic Salmon

Construction - Yes

Disturbance, structure and function of supporting habitats, extent of habitats
Road and bridge construction including earth moving (excavation, re-shaping, landscaping) are likely to cause sound, light, sediment(and dust), vibration and noise emissions.

Operation - No

There are currently a number of bridge structures crossing the River Dee and none have been linked to any adverse effect on the Atlantic Salmon population within the River Dee.

Freshwater Pearl Mussels

Construction – Yes

Structure and function of supporting habitats for FWPM and host species, disturbance to host species.

The effects identified above on Atlantic Salmon could potentially impact on FWPM due to the symbiotic relationship between the 2 species. There is also the potential for the release of sediments to have a direct impact on FWPM through smothering and alterations to river topography.

Operation – No

There are currently a number of bridge structures crossing the River Dee and none have been linked to any adverse effect on the FWPM population within the River Dee. Main issues relate to pollution and persecution not connected with this proposal.

Otter

Construction - Yes

Disturbance and distribution and extent of habitats supporting species.

Vegetation clearance and earth moving are the most significant adverse impact likely to occur. An otter couch, will require to be destroyed in close vicinity to the bridge crossing. Holts will be protected within 100m of the bridge. Construction activities may fragment and also sever foraging routes.

Operation – No

The operation of the bridge is unlikely to have a significant effect on otters as there is evidence to suggest that they habituate to traffic noise etc. No direct access onto the bridge will be available, a riparian vegetation strip will be re-established and therefore Road traffic Accidents (RTAs) are not likely to be a significant issue.

Advice in our consultation responses indicated the requirement for an appropriate assessment to be undertaken. The Jacobs April Report has included a consideration of in combination impacts with other projects within the River Dee catchment.

3c. Appraisal of the implications for the site in view of the site's conservation objectives.

- i) Describe for each European qualifying interest the potential impacts of the proposed operation detailing which aspects of the proposal could impact upon them and their conservation objectives*
- ii) Evaluate the significance of the potential impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. Record if additional survey information or specialist advice has been obtained.*

The Jacobs April Report identifies a number of potential impacts of the road on each of the 3 qualifying interests of the SAC and also considers in detail the impacts to the water environment, a key to the structure, function and supporting processes of habitats supporting the 3 qualifying interests.

The report considers:

- The population, distribution and status of each species in the vicinity of the scheme and

within the SAC

- The predicted impacts of the construction and operation of the AWPR
- The nature of the anticipated impact at each watercourse
- The proposed mitigation to ameliorate these impacts with evidence of its effectiveness and anticipated residual impacts
- The overall likely effects on the AWPR on the qualifying interests of the SAC, with mitigation and whether or not there is an adverse effect on integrity of the River Dee SAC interests.

The Jacobs April Report should also be read in connection with the EIS prepared and submitted in September 2007 and the SNH consultation response to the EIS (December 2007).

Atlantic Salmon

Potential Impacts include:

1. Water quality deterioration from construction
 - Sediment runoff leading to short term deterioration or long term loss of spawning habitat)
 - Pollution run off from construction leading to death or damage to salmon
 - Pollution arising from operational drainage resulting in damage / mortality or loss / deterioration of habitat
2. Underwater transmission of noise / vibration during construction and artificial lighting during construction / operation which may cause disturbance, barriers to normal migration routes, habitat changes and physical damage to fish.

Water Quality

The greatest risk that could result in adverse impacts on salmon is the potential for water quality to deteriorate either through sedimentation and / or pollution events, particularly during construction. Evidence from other sites, where measures are not taken to prevent either of these occurrences happening, has resulted in adverse impacts which can either be short term or long term.

A number of mitigation measures are proposed to prevent these impacts from the AWPR Dee Crossing and associated works, including:

Timing of works and avoidance of in channel works where salmon are present between 14th October and 31st May. No in-channel works are proposed where either FWPM or salmon are present within the SAC. Any in-channel works are restricted to tributaries within the River Dee catchment, but outwith the SAC. Full assessment of these indirect impacts has been provided and appropriate mitigation measures provided.

Sedimentation mitigation techniques which have been proposed for the benefit of salmon, have regard to the more sensitive nature of FWPM, and have been designed to achieve sediment loadings that do not exceed 30 mg/l for short term loading, and 10mg/l as a more stringent long term loading.

This issue of water quality is one which has been discussed with SEPA. Stringent enforcement of CAR licences will be required along with conditions and detailed best practice and ongoing dialogue between developer, ECOWs, SEPA, SNH and Transport Scotland. This is similar to the process undertaken for the Upper Kincardine Crossing

Detailed consideration of mitigation measures is provided for each watercourse crossing and consideration is given to the staggering of works affecting the 3 watercourses within the SAC, where the most major works are proposed. Best practice measures in accordance with SEPA guidance are to be adopted and detailed consideration of the design of drainage will be provided prior to works commencing to ensure that the maximum loadings are not exceeded.

SNH will be requesting that these detailed drainage design considerations are included specifically in both the Construction Method Statement, and the contract details and also the Environmental Management Plan.

During operation of the bridge, mitigation will comprise no direct release of road runoff into the River Dee, but will be collected into SUDS ponds. These SUDS have been designed to cope with a 1 in 100 year storm event.

The SUDS drainage outfall has been located at the confluence of the Milltimber Burn and the River

Dee. It is likely when the outfall is required the river is likely to be in spate thus diluting any discharge quickly. The drainage outfall will not cause an adverse effect on integrity to salmon either through construction or operation.

Other watercourses – where works are proposed consideration has been given to the timing of works and also as to whether salmon are present or if suitable habitat for salmon is present. Details of staggered timing are identified for the 3 watercourses where major works are planned i.e. River Dee, and the Culter and Crynoch burns. This staggered approach will mean that phasing of work will occur to allow a more reactive management of the mitigation.

Underwater Noise / Vibration Transmission

The risk to salmon from noise and vibration being transmitted underwater from piling has been recognised.

A number of mitigation measures have been identified, including:

Monitoring of any piling within 100m of the River Dee, through the use of in channel hydrophones. Soft start procedures will be adopted and noise thresholds will be agreed with SNH. Piling methods will use bored piling techniques with the use of pre drilled holes where necessary.

Consideration has also been given to the timing of any drilling or piling operations and no drilling or piling works will be permitted overnight and any lighting associated with the construction work will be directed away from the water course. These measures should avoid the potential to form a barrier effect to migration and movement.

It is concluded that, with the relevant mitigation as identified in the Jacobs April report and tied into the tender specification and subsequent contract, that there will be no adverse effect on the integrity of salmon as a qualifying interest of the River Dee SAC.

Freshwater Pearl Mussels

(Please note no locational information on the location of FWPM has been released to 3rd parties due to fears of persecution)

Potential Impacts include:

1. Water Quality Deterioration
2. Habitat deterioration
3. Impacts on larval hosts (salmon)

See comments above regarding salmon and mitigation measures to avoid impacts on water quality as these have been set to ensure no adverse effect on FWPM.

Habitat deterioration

Deterioration of habitats will be avoided through mitigation measures which include:

Control of sediment run off and loading. Also, avoidance of in-channel works within the River Dee and ensuring that where in-channel works are necessary, they avoid the most sensitive time with a ban on in channel works during 31st October to 15th June. This extends the ban on in-channel working with regard to salmon for a further approximate fortnight i.e. between 31st May and 15th June, as a precautionary approach for when mussel larvae drop from hosts gills to the river bed.

Note, no in-channel works are proposed on watercourses within the SAC, this is an additional mitigation measure.

This extends the avoidance period identified for salmon and will therefore safeguard both FWPM and salmon populations.

The drainage outfall will not have an adverse effect on integrity due to the location of the outfall and the associated construction works and will only be in operation during periods of high rain falls and spate. The Dee is known to be a flashy river with significant flooding occurring since records have been begun.

It is concluded that the relevant mitigation identified in the Jacobs April report should be incorporated specifically into the tender specification and subsequent contract, and is adequate to be able to ensure that there will be no adverse effect on the integrity of FWPM as a qualifying interest of the River Dee SAC.

Otter

Note otter is also a European Protected Species; consideration of this aspect with regard to otter on the River Dee SAC only is detailed below. For the whole route impact on otters as EPS, refer to consultation responses.

Potential Impacts include:

1. Direct mortality during construction / operation
2. Disturbance – noise and light
3. Construction of bridges and culverts (fragmentation of habitats and barriers to movements)
4. Destruction / changes to riparian habitats
5. Reduction in distribution and abundance of freshwater prey.

All impacts are considered to be short term and relate to construction period only.

Direct mortality

Mitigation measures are proposed which should avoid mortality of otters during both the construction and operation of the AWPR. Specific measure include: avoidance of night time working, and siting construction activities away from favoured habitats, with one exception which requires the destruction of a an otter couch. The destruction of this couch is considered to be a short term loss, with other suitable habitat available that can be utilised. Otters seek alternative lying up and resting places depending on factors as diverse as prey availability, breeding season, alternative locations, disturbance etc. There is no lack of suitable habitat within the River Dee for alternative couches even in close proximity to the AWPR corridor.

Road traffic accidents will be avoided in the long term through the creation of a buffer zone to maintain a riparian strip for otter movements and the use of fencing along the road itself to prevent otters from being able to get onto the carriageway.

Disturbance

Some of the above mitigation measures will also reduce disturbance impacts, however there is a requirement to destroy a couch which will be directly impacted by the bridge crossing. This operation will require to be undertaken by licence under Reg 44 (3)(b) of the Conservation (Natural Habitats &c.) Regulations 1994 as amended.

This will result in a short term impact. Otter surveys will be carried out prior to the destruction of the couch.

Alternative suitable habitat is available in close proximity.

Construction of bridges and culverts (fragmentation and barriers to movement of otters)

The duration of construction and the use of bridges and culverts will vary depending on the width of the river / watercourse. The largest crossing over the River Dee main stem is estimated to take 18 months for completion. Other large scale infrastructure works close to otter territories have been undertaken in other parts of Scotland, and whilst there is a short term impact this can be moderated by use of best practice guidelines, see SNH website for publication on Otters and Development. The sequence of works will be conditioned to ensure that impacts are minimised.

Destruction / changes to riparian habitat

There will be restricted destruction of riparian habitat particularly along the River Dee. An 8m minimum buffer will be maintained between the edge of construction activities and the river itself. This will lead to some disturbance and but should limit any effects as a barrier to movement. This again will be of short term duration and mitigation measures to prevent any barrier impact are to be implemented i.e. no night time working, all lighting to be directional, these will seek to ensure that otters will be able to travel along traditional routes. The destruction of a couch will require to be licenced.

Reduction in freshwater prey availability

As impacts to salmon and freshwater pearl mussel have been assessed above and concluded that there would not be an adverse effect on integrity, any impact to otter is likely to be localised and of a short term nature. Otter territories are large, with the construction and operation corridor representing a very small proportion of the available range. As the opportunity to forage in the much larger area outwith the works corridor will be unimpeded, it is concluded that this will not lead to a

significant impact to the otter population.

It is therefore concluded that with a requirement to implement the mitigation measures proposed both in Jacobs April report, the Environmental Management Plan and the Species Management Plan for otter, there will be no adverse effect on integrity to otter within the River Dee SAC.

Otter as an EPS, in relation to the River Dee SAC

Otters in the River Dee SAC are at favourable conservation status. The extent and density of otters within the River Dee is high. Otters use different habitats within their home range. Home ranges can extend to 10-20km, however in the Dee where the density is high; there has been no robust method in calculating the number of home ranges and therefore number of individuals using the wooded, banks, marshy areas and islands. The area surveyed for the AWPR River Dee crossing is calculated as supporting 1-3 individuals, with significant otter activity recorded including foraging, commuting, lying up and breeding.

Reg 44 (3)(b) of the Conservation (Natural Habitats &c.) Regulations 1994 as amended, states that a licence cannot be issued unless the licencing authority is satisfied that the action proposed "will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range".

In this particular case, the proposed destruction of a couch within the working limits for the crossing of the Dee has been assessed in the light of the FCS of otters based on the following:

Otters are present and recovering in the north east of Scotland. Within the River Dee they are at a high density. Whilst there may be short term impacts on this particular stretch of the River Dee system it is identified that within the much larger territories available to otters, the availability of alternative viable areas of habitat is not limiting, and these can be utilised during the construction period of the AWPR. The impact associated with the crossing is insignificant.

It is therefore SNH advice that the effect of the proposed action would not be detrimental to the maintenance of this species at a FCS within its natural range.

Water Environment

In addition to the assessment of impacts on the individual qualifying interests, further consideration has been given to the potential impacts to the water environment and mitigation. This recognises the fundamental importance of the water environment to each of the qualifying interests. Draft CAR licences have been sent to SEPA for comment and SNH are in liaison with SEPA - these CAR licences will deal with the detail in ensuring that the mitigation set out in these reports will be enforced. Furthermore conditions will be imposed to ensure strict water quality mitigation measures are agreed and in place prior to works commencing.

In combination assessment

SNH has assisted in the early identification of other projects and plans within the River Dee catchment that required to be assessed against the conservation objectives. The conclusions reached in Chapter 9 of the April Jacobs report identify that in combination with other projects and plan, no adverse effect on integrity to the Rvier Dee SAC is identified.

Conclusion

Each water course within the Rive Dee catchment that would be, crossed by the AWPR, including the River Dee and tributaries flowing into the Culter and Crynoch Burns occurring within the SAC itself, is the subject of a draft Construction Method Statement. These statements and also the April report have been the subject of internal consultation within SNH, including specialist advisers in freshwater, statutory framework, species groups and the area. The advice provided is that adverse effect on the integrity of the River Dee SAC qualifying interests can be avoided through the implementation and enforcement of the Construction Method Statements, Environment Management Plan, Species and Habitat Management Plans and the Contractors requirements. A similar bridge crossing has been constructed in the Firth of Forth SPA using the same sort of procedures proposed for the Dee crossing. These have proved to be effective in preventing adverse effects and provide confidence that the same will be achieved for the Dee.

With respect to the Regulations for otters as a European Protected Species, there will be no impact on the favourable conservation status of otters within its natural range within the River Dee.

iii) In the light of the appraisal, ascertain whether the proposal will not adversely affect the integrity of the site for the qualifying interests

SNH's advice is that this proposal is likely to have a significant effect on the qualifying interest(s) of the site. However SNH would further advise Transport Scotland and subsequently the Scottish Ministers that on the basis of the information provided and appraisal carried out to date, that if the proposals are undertaken strictly in accordance with conditions, then the proposal will not adversely affect the integrity of the site.

4. Conditions or modifications required.

Indicate conditions/modifications required to ensure adverse effects are avoided, & reasons for these.

<i>Condition:</i>	<i>Reason:</i>
<i>1. Construction Method Statements to be agreed with SEPA and SNH before works commence on site, and implemented in strict accordance with their content for all water courses within Dee catchment</i>	<i>1. To ensure that all relevant mitigation will be implemented and enforced as part of contract.</i>
<i>2. Appointment of Ecological Clerk of Works.(ECOWs)</i>	<i>2. To ensure independent scrutiny of works during construction and to satisfy monitoring requirements to avoid any issues before they arise.</i>
<i>3. Species Management Plans to be finalised and set out in the Constructions Contract documentation, including the New Works Regulations and Contract Specification, and implemented.</i>	<i>3. To ensure all relevant mitigation is put in place and complies with any licence requirements.</i>
<i>4. All relevant monitoring equipment is maintained in a satisfactory working order and is available when required.</i>	<i>4. To ensure all relevant safeguards are in place to prevent sedimentation impacting on the qualifying interests.</i>
<i>5. The warning trigger value and turbidity maximum limit to be agreed in advance with SEPA and SNH</i>	<i>5. To prevent critical levels of sediment loading in the water environment.</i>

5. Advice sought.

Include here details of or clear reference to, advice sought from AS, colleagues etc. If no advice sought give brief reasons/justification.

Angus Tree – Freshwater Group (Salmon, FWPM, Water Environment)
 Robert Raynor – Species Group (Otter)
 Rachel Haines – Stat. Framework (general Natura advice)
 Finlay Bennet / Fiona Mutch – Area (local knowledge / area specific advice)

All correspondence is saved on ERDMS in the parent file qA126981

6. RESPONSE (as entered in SNH Casework Recording System)

a) Natura Comments (for additional guidance see Natura Model Replies)

Natura response type 5b. LSE but adverse effect on integrity can be avoided through use of conditions etc.

b) SNH Comments (for additional guidance see LA Handbook App. V)

For SNH advice to other authorities:

[For responses to Local Authorities quote the SNH position from Table 1 in LA Handbook App. V](#)

For SNH response to request for opinion on effects of permitted development:

For SNH response to application for consent/licence:

EPS Licence required. SNH advice will be no impact on FCS of otter.

Appraised by	Erica Knott
Date	7 August 2008
Checked by	
Date	