



## Record of a Habitats Regulations Assessment of a project

March 2016

### OGN 200 Form 1

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#### Version History:

Document Version	Date Published	Summary of Changes
1.0	August 2019	Document created –for NRW internal review
2.0	September 2019	Update following NRW internal review
3.0	November 2019	Issued for consultation

Review Date:

## **Record of a Habitats Regulations Assessment of a project**

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## 1. Project Details

<b>1(b): Project details where NRW is the project proponent/instigator</b>	
<b>NRW Project reference</b>	Llyn Tegid Reservoir, Bala (CE0126)
<b>Activity proposed</b>	<p>Natural Resources Wales (NRW) is developing the detailed design for proposed reservoir safety improvements works to the impounding structures at Llyn Tegid. The works will consist primarily of embankment protection to allow safe overtopping during the design flood, including reinforcement of the crest and landward/downstream face with reinforced grass (Enkamat or similar), and upgrading of existing stone rip rap protection.</p> <p><i>Option Design</i></p> <p>Following an options appraisal process, a preferred option was identified and further detailed design has been undertaken. The option design is summarised below (Layout Plans showing the working area can be found on Drawing: 122918-BVL-Z0-00-DR-I-10002 to 122918-BVL-Z0-00-DR-I-10008).</p> <p>Protection of the River Dee embankment (left bank):</p> <ul style="list-style-type: none"> <li>• A berm up to 6m wide will be installed on the downstream / dry side toe along some sections of the embankment, increasing the ground levels typically by 300-400mm. The extents of this are shown on the design drawings.</li> <li>• Embankment protection will consist of a 3D geotextile membrane installed under the topsoil surface on the downstream / dry side of the embankment, re-covered with topsoil and grassed as existing. The protection will extend over the berm where present, or otherwise approximately 2m beyond the existing embankment toe line.</li> <li>• There are no expected significant changes in the visual scale of the embankment itself, despite minor changes in crest levels to reinstate the 'as-built' levels where necessary, and the formation of the berm noted above.</li> <li>• There will be tree and vegetation clearance required to enable works, mainly as a result of the construction of the berm.</li> </ul>

### 1(b): Project details where NRW is the project proponent/instigator

- Note – there were initially expected to be similar protection works on the right bank of the Afon Tryweryn, but this is no longer considered to be a requirement. Protection on the crest and ‘downstream’ (dry side) face of the River Dee embankment (left bank, up to weir Y). The protection is likely to consist of a geotextile membrane (Enkamat or similar) installed under the topsoil surface, re-covered with topsoil and grassed as existing.

Protection of the northern lake (Llyn Tegid) embankment:

- A berm up to 6m wide will be installed on the downstream / dry side toe along some sections of the embankment, increasing the ground levels typically by 300-400mm. The extents of this are shown on design drawings.
- Embankment protection will consist of a 3D geotextile membrane installed under the topsoil surface on the downstream / dry side of the embankment, re-covered with topsoil and grassed as existing. The protection will extend over the berm where present, or otherwise approximately 2m beyond the existing embankment toe line.
- ‘Rip rap’ works: the existing slate stone rip-rap protecting the upstream (wet side) of the embankment will be removed and replaced with imported granite (or similar) stone, while existing granite will be re-used. The removed slate will be reprocessed for use elsewhere on the site, such as for infilling the bandstand area or constructing the berm. Proportionally the imported stone will make up approximately 80%-90% of the overall stone rip-rap. Visually this face of the bank will become harder (existing vegetation to be removed) and the stone will be ‘rougher’ / more angular, as required to improve performance in reducing wave energy.
- There are no expected significant changes in the visual scale of the embankment, despite minor changes in crest levels to reinstate the ‘as-built’ levels where necessary, and the formation of the berm noted above.
- The embankment at the ‘bandstand’ will be realigned, currently the alignment causes a concentrating effect of wave energy increasing stress on the embankment during storm events. This will result in some incursion into the ecologically designated lake foreshore (SSSI, SAC and Ramsar).
- The majority of existing trees, scrub and hedges will need to be removed to enable the works, including all trees growing within the rip rap. Where possible key trees considered to have landscape and amenity value, or ecological value have been retained.

<b>1(b): Project details where NRW is the project proponent/instigator</b>	
<b>Statutory basis</b>	Overall project is being carried out as required by the Reservoirs Act 1975. Planning permission required under the Town and Country Planning Act 1990. Snowdonia National Park Authority are the planning authority. Proposed works require Flood Risk Activity Permit for temporary and permanent works.
<b>Location</b>	Llyn Tegid Embankment, Bala. Between SH 92175 35485 and SH 92807 35435 (see Location Plan, Drawing: 122918-BVL-ZO-00-DR-I-10001).
<b>NRW team responsible for carrying out the project, and name of lead officer</b>	Scott Squires– Project Executive, Project Delivery Matt Jenkins – Project Manager, Project Delivery
<b>NRW team responsible for drafting this HRA report, and name of lead officer</b>	Laura Cotton – Environmental Assessment Team
<b>Project documents</b>	Preliminary Ecological Appraisal, Enfys Ecology, April 2018; Aerial Phase 1 and NVC Survey, Exegesis, August 2018; Bat Roost Potential Survey Report (Black & Veatch, 2018) Bat Survey Report (Egniol, 2019) Phase 1 Habitat Survey Report for additional site areas (Black & Veatch, 2019) (includes validation of previous Phase 1 Habitat Surveys) Detailed Design Overview Plan, Black & Veatch, 2019 (122918-BVL-ZO-00-DR-C-10001) and detailed plans (122918-BVL-ZO-00-DR-C-10002 to 122918-BVL-ZO-00-DR-C-10007) EIA Screening Letter, Black & Veatch, 2018 Environmental Constraints and Opportunities Record (ECOR) Preliminary Water Framework Directive Assessment, Black & Veatch, 2018
<b>Environmental Statement</b>	N/A

## 2. Determining the need for a Habitats Regulations Assessment

<b>2.1 Is the whole of the project directly connected with or necessary to the management of one or more Natura 2000 sites, for the purposes of conserving the habitats or species for which the Natura 2000 site(s) is/are designated?</b>	No. The project is located within the River Dee and Bala Lake Special Area of Conservation (SAC) and Ramsar site and the purpose of the project is to provide safety improvement works to the reservoir.
<b>2.2 Is there a possibility that the project could affect a different Natura 2000 site to the one(s) the project is intended to conserve?</b>	<b>N/A</b>
<b>2.3 Is it necessary to carry out an HRA?</b>	Yes, potential impacts to the River Dee and Bala Lake SAC/Llyn Tegid (Ramsar) have the potential to occur during construction.

### 3. Considering the likelihood of a significant effect (LSE)

*The first stage of an HRA is a test of Likely Significant Effect (LSE), which is a 'screening' assessment to determine if an appropriate assessment is required.*

*Unless the LSE test enables significant effects on any Natura 2000 site to be ruled out, the project will need to be subject to an appropriate assessment.*

*The legislation requires consideration of plans and projects "either alone or in combination with other plans and projects". The test of likely significant effect is initially carried out by considering the proposal on its own (i.e. rather than in-combination with other plans or projects). If it is decided that the proposal alone is likely to have a significant effect, it is subject to appropriate assessment alone. An assessment in combination with other plans projects is only required if the proposal would be insignificant on its own, but has effects which may be significant if combined with the effects of other plans/projects which are also insignificant on their own. This is dealt with further in section 5.*

*When carrying out HRA of an application for consent of any kind, the LSE test is based on the application as submitted. If additional conditions or restrictions, not already incorporated into the specifications of the project, would be needed to remove the risk of significant effects, the project should undergo an appropriate assessment.*

#### 3.1 Renewal of a permission on the same or more restrictive terms as the extant permission

<b>Is this project a renewal of a current permission which complies with NRW approved criteria for ruling out significant effects of renewals (see section 6.2A of OGN 200) without conducting a project-specific LSE test?</b>	No
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### 3.2 Likelihood of significant effects (LSE) test

*Unless it has been established that the project does not need HRA (section 2) or that it is a renewal of a current permission for which LSE can be ruled out (section 3.1), the relevant protected sites advisor should always be consulted, and their advice taken into account, in completing sections 3.2.1 and 3.2.2 below. Their written advice (Form 2) should be appended to this form, and section 7 of this form completed.*

<b>3.2.1 Which Natura 2000 sites might be affected by the proposal?</b>	<p>Based on the project specification and information provided in the application, it is considered that the following Natura 2000 sites have features which could be affected by the project:</p> <ul style="list-style-type: none"><li>• River Dee and Bala Lake; Natura site code: UK0030252 (SAC); and</li><li>• Llyn Tegid (Ramsar).</li></ul>
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### 3.2.2 Screening assessment

*The screening assessment should indicate the possible pathways through which the project may impact upon relevant Natura 2000 site features. Each designated feature (taken from the official Natural 2000 designation documents) should be recorded in the left hand column below. If more than one Natura 2000 site is identified from section 3.2.1, deal with each Natura 2000 site separately.*

*The assessment should be made in view of the conservation objectives for the Natura 2000 site(s) concerned, as set out in either the current NRW Core Management Plan (for a terrestrial Natura 2000 site), or in NRW's extant advice issued under Regulation 35 of the Conservation of Habitats and Species Regulations 2010 (for a marine Natura 2000 site)*

*Colour coding should be used in the 'impact pathway' column II as follows:*

*There is no impact pathway from the proposal to the designated feature*

*There is an impact pathway in principle, but significant effects from the proposal when considered alone can be ruled out*

*There is an impact pathway and significant effects cannot be ruled out*

Examples of types of impact pathways that may be relevant:

- *Direct capture, damage or harm to a designated species feature*
- *Damage to a designated habitat feature (including through direct physical impact, pollution, changes in thermal regime, hydrodynamics, light, etc.)*
- *Damage to the habitat of designated species features (including through direct physical impact, pollution, changes in thermal regime, hydrodynamics, light, etc.)*
- *Damage to a designated habitat feature via removal of, or other detrimental impact on, typical species*
- *Removal of prey species of a designated species feature*
- *Damage to habitat of prey species*
- *Indirect effects on habitats and species*

*Note that several impact pathways may be relevant to the same designated feature*

	Assessment of likelihood of significant effect		
	I Relevant conservation objectives	II Potential impact pathway	III Avoidance measure

<b>River Dee and Bala Lake; Natura site code: UK0030252 (SAC)</b>			
<p>Designated feature 1 (primary reason for selection)</p>	<p>Water courses of plain to montane levels with the Ranunculon fluitantis and Callitricho-Batrachion vegetation</p>	<p><i>Works have the potential to take 2880 sqm (0.29 ha) of the SAC through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the SAC (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005). The land take would not directly impact the qualifying feature of the SAC, which is aquatic. The area of land take is tall ruderal vegetation and marginal vegetation including the invasive species Himalayan balsam (Preliminary Ecological Appraisal Enfys Ecology, 2018).</i></p> <p><i>Works will also be conducted within 10 metres either side of the existing Llyn Tegid embankment/River Dee embankments which are composed of terrestrial vegetation/existing stone defences. The Llyn Tegid side of this area falls within the SAC but would not impact the qualifying feature of the SAC, which is aquatic. Vegetation clearance along the toe of Llyn Tegid embankment is periodically conducted by Snowdonia National Park and NRW would continue to maintain this as an access route.</i></p> <p><i>Although there will be no direct impacts to the designated feature, there is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the feature of the SAC alone.</i></p>	<p><i>Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures' should not be taken into account when screening for LSE. (Relevant for all rows within this table)</i></p>
<p>Designated features 2 and 4 (primary</p>	<p>Atlantic Salmon (2) Fish (including sea/brook/river</p>	<p><i>Works have the potential to take 2880 sqm (0.29 ha) of the SAC through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the SAC (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005). The land take would not directly impact the</i></p>	<p><i>Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures'</i></p>

reason for selection)	lamprey and bullhead) (4)	<p>qualifying feature of the SAC, which is aquatic. The area of land take is tall ruderal vegetation including the invasive species Himalayan balsam (Preliminary Ecological Appraisal Entys Ecology, 2018).</p> <p>Works will also be conducted within 10 metres either side of the existing Llyn Tegid embankment/River Dee embankments which are composed of terrestrial vegetation/existing stone defences. The Llyn Tegid side of this area falls within the SAC but would not impact the qualifying feature of the SAC, which is aquatic. Vegetation clearance along the toe of Llyn Tegid embankment is periodically conducted by Snowdonia national Park and NRW would continue to maintain this as an access route.</p> <p>Although there will be no direct impacts to the designated feature, there is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the feature of the SAC alone.</p>	should not be taken into account when screening for LSE. (Relevant for all rows within this table)
Designated feature 3 (primary reason for selection)	Floating water-plantain	<p>Works have the potential to take 2880 sqm (0.29 ha) of the SAC through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the SAC (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005). The land take would not directly impact the qualifying feature of the SAC, which is aquatic. The area of land take is tall ruderal vegetation including the invasive species Himalayan balsam (Preliminary Ecological Appraisal Entys Ecology, 2018).</p> <p>Works will also be conducted within 10 metres either side of the existing Llyn Tegid embankment/River Dee</p>	Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures' should not be taken into account when screening for LSE. (Relevant for all rows within this table)

		<p>embankments which are composed of terrestrial vegetation/existing stone defences. The Llyn Tegid side of this area falls within the SAC but would not impact the qualifying feature of the SAC, which is aquatic. Vegetation clearance along the toe of Llyn Tegid embankment is periodically conducted by Snowdonia National Park and NRW would continue to maintain this as an access route.</p> <p>Although there will be no direct impacts to the designated feature, there is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the feature of the SAC alone.</p>	
Designated feature 4 (qualifying feature but not primary reason for selection)	Fish (including sea/brook/river lamprey and bullhead)	<p>Works have the potential to take 2880 sqm (0.29 ha) of the SAC through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the SAC (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005). The land take would not directly impact the qualifying feature of the SAC, which is aquatic. The area of land take is tall ruderal vegetation including the invasive species Himalayan balsam (Preliminary Ecological Appraisal Enfys Ecology, 2018).</p> <p>Works will also be conducted within 10 metres either side of the existing Llyn Tegid embankment/River Dee embankments which are composed of terrestrial vegetation/existing stone defences. The Llyn Tegid side of this area falls within the SAC but would not impact the qualifying feature of the SAC, which is aquatic. Vegetation clearance along the toe of Llyn Tegid embankment is periodically conducted by Snowdonia National Park and NRW would continue to maintain this as an access route.</p>	

		<p>Although there will be no direct impacts to the designated feature, there is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the feature of the SAC alone.</p>	
<p>Designated feature 5 (qualifying feature but not primary reason for selection)</p>	<p>Otter</p>	<p>The PEA highlighted that the river and lake provide very good opportunities for otter for foraging and passing through. The potential for holt and lay up areas were limited to dense scrub by the river and inundation vegetation and scrub along the Tryweryn but no evidence of holts were recorded during the survey. Known otter holts are located outside of the working area but are located on the opposite side of the River Dee. Otter are certain to visit the area given the suitable habitat and the sheer number of records, including recent sightings.</p> <p>There is the potential impact to terrestrial lay up/resting sites that otter may use as a result of works along the River Dee and the banks of the lake and also disturbance to otters using the lake or river. Disturbance to existing known otter holts are unlikely given the nature of the works and that the nearest holt is on the opposite side of the River Dee.</p> <p>Any pollution incident could affect otter aquatic habitat/food source. However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on supporting habitat for otter.</p>	<p>Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures' should not be taken into account when screening for LSE. (Relevant for all rows within this table)</p>

		<b>Construction activity can cause a risk of harm to others e.g. entrapment.</b>	
<b>Llyn Tegid (Ramsar)</b>			
Ramsar criterion 1	Largest natural lake in Wales, lying deep in a formerly glaciated trough.	<p><b>Works have the potential to take 2880 sqm (0.29 ha) of the Ramsar through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the Ramsar (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005). The land take would not directly impact the qualifying feature of the lake. The area of land take is tall ruderal vegetation including the invasive species Himalayan balsam (Preliminary Ecological Appraisal Enfys Ecology, 2018).</b></p> <p><b>Works will also be conducted within 10 metres either side of the existing Llyn Tegid embankment which is composed of terrestrial vegetation/existing stone defences. The Llyn Tegid side of this area falls within the Ramsar but would not impact the qualifying feature of it, which is aquatic. Vegetation clearance along the toe of Llyn Tegid embankment is periodically conducted by Snowdonia National Park and NRW would continue to maintain this as an access route.</b></p> <p><b>Works will not be conducted within the water course and will therefore not directly impact the designated habitat.</b></p> <p><b>Although there will be no direct impacts to the designated feature, there is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the feature of the Ramsar alone.</b></p>	Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures' should not be taken into account when screening for LSE. (Relevant for all rows within this table)

<p>Ramsar criterion 2</p>	<p>Plant species growing in or beside the lake and protected fish/invertebrate species.</p> <p>Mudwort <i>Limosella aquatica</i>, six-stamened waterwort <i>Elatine hexandra</i>, water sedge <i>Carex aquatilis</i> and floating water plantain <i>Luronium natans</i>, all of which are scarce in Britain.</p> <p>This site is also one of only six sites in Britain for the whitefish or gwyniad <i>Coregonus lavaretus</i>; the Welsh population of this fish is genetically distinct.</p>	<p><i>Works have the potential to take 2880 sqm (0.29 ha) of the Ramsar through infilling of the embankment and upgrading of the rip rap along the shore of Llyn Tegid, within the Ramsar (shown on Drawing: 122918-BVL-Z0-00-DR-C-10005).</i></p> <p><i>The area of land take is tall ruderal and marginal vegetation including the Invasive species Himalayan balsam (Preliminary Ecological Appraisal Enfys Ecology, 2018).</i></p> <p><i>The land take would not directly impact some of the qualifying features of the Ramsar, which is aquatic, but scarce plants associated with the Ramsar could be present within the foreshore of Llyn Tegid and could be disturbed through construction activities on the foreshore.</i></p> <p><i>There is the potential for indirect impacts from construction related activities (e.g. pollution). However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the features of the Ramsar alone.</i></p> <p><i>Potential indirect impacts from changes in woody debris deposited after flooding which could cause nutrient enrichment along the foreshore causing changes in marginal vegetation.</i></p>	<p>Avoidance measures not accounted for given recent (12/4/18) 'People over Wind' ruling in the European court indicates that 'mitigation measures' should not be taken into account when screening for LSE. (Relevant for all rows within this table)</p>
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	<p>Llyn Tegid is also an unusual habitat for the normally riverine fish grayling <i>Thymallus</i>.</p> <p>The Nationally Rare glutinous snail <i>Myxas glutinosa</i> has been rediscovered in the shallow gravels of the lake shore.</p>		
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<b>3.2.3 Screening decision of the project 'alone'</b>	
<b>(a) If ALL rows in column II of Table 3.2.2 are GREEN</b>	<b>N/A</b>
<b>(b) If there are NO rows coloured RED in column II of Table 3.2.2, and there are ANY rows which are BLUE</b>	The project is not likely to have a significant effect on any Natura 2000 sites when considered alone, but the possibility of significant effects in combination with other plans and projects needs to be considered.
<b>(c) If ANY rows in Column II of Table 3.2.2 are RED</b>	The project is likely to have a significant effect on one or more Natura 2000 sites and therefore an appropriate assessment is required.



## 4. Appropriate assessment of the project when considered alone

Tables 4.1 and 4.2 should document the appropriate assessment for the project. The two left hand columns should list the designated features and the impact pathways identified in **RED** from section 3.2.2 above, where likely significant effects are anticipated or cannot be ruled out. Any features recorded in section 3.2.2 as green should not be considered further. Any features recorded in section 3.2.2 as blue should not be considered at this stage, but only in section 5.

Table 4.1 should first consider the potential impact of the project as currently defined and in the absence of any additional mitigating measures, conditions or restrictions that may be applied but are not currently included as part of the proposal. Table 4.2 should then consider additional measures to mitigate any adverse effects.

Table 4.1, and 4.2 if applicable, **MUST** be completed having sought and had regard to the advice of the relevant protected sites advisor, and section 7 of the form must be completed.

### 4.1 Assessment of project as currently defined

Natura 2000 site feature (from Table 3.2.2 – <b>RED</b> rows only)	Impact pathway(s) (from Table 3.2.2)	Description of impacts	Assessment in view of conservation objectives	Can adverse effect on site integrity be ruled out? 'YES' or 'NO'*
<i>River Dee and Bala Lake SAC</i>				
<i>Designated feature 1 (various aquatic flora)</i>	Indirect	Potential for pollution during construction work within embankment and lake foreshore.	No direct impact on conservation features, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>
<i>Designated feature 2 (Atlantic salmon)</i>	Indirect	Potential for pollution during construction work within embankment and lake foreshore.	No direct impact on conservation features, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>
<i>Designated feature 3 (aquatic flora)</i>	Indirect	Potential for pollution during construction work within embankment and lake foreshore.	No direct impact on conservation features, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>

Natura 2000 site feature (from Table 3.2.2 – <b>RED</b> rows only)	Impact pathway(s) (from Table 3.2.2)	Description of impacts	Assessment in view of conservation objectives	Can adverse effect on site integrity be ruled out? <b>'YES'</b> or <b>'NO'</b> *
<i>Designated feature 4 (fish)</i>	Indirect	Potential for pollution during construction work within embankment and lake foreshore.	No direct impact on conservation features, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>
<i>Designated feature 5 (otter)</i>	Indirect/Direct	Disruption of potential holts and resting areas and pollution of feeding sites (lake/river) and foods sources during construction work on lake foreshore and general working areas throughout the Project area.	Potential for indirect impact from pollution and direct impact to lay up/resting areas cannot be ruled out (prior to mitigation).	<b>NO</b>
<b>Llyn Tegid Ramsar</b>				
<i>Ramsar criterion 1 (natural lake)</i>	Indirect	Potential for pollution during construction work within embankment and lake foreshore.	No direct impact on conservation features, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>
<i>Ramsar criterion 2 (scarce plants in /beside lake, protected fish/invertebrate)</i>	Indirect/Direct	<p>Potential for pollution during construction work within embankment and lake foreshore.</p> <p>Access on the foreshore of Llyn Tegid for construction works may potentially disturb Mudwort <i>Limosella aquatica</i>, six-stamened waterwort <i>Elatine hexandra</i>, water sedge <i>Carex aquatilis</i> as these species could potentially be present in the marginal vegetation on the lake foreshore.</p> <p>Effects from woody debris deposition along lake foreshore following flooding, introducing enrichment to the area. Change in edge effects on Ramsar boundary</p>	Potential direct impact through disturbance from construction activities, but potential for indirect impact from pollution cannot be ruled out (prior to mitigation).	<b>NO</b>

\* If it is not known whether adverse effect can be ruled out, record **'NO'** in the right hand column

If any rows in the right hand column are **NO** go to section 4.2

If all adverse effects can be ruled out without the need for additional mitigation (i.e. the right hand column is **YES** in all rows) go to section 4.3

#### 4.2 Assessment of the project taking into account additional mitigating measures, conditions or restrictions

Natura 2000 Feature (from Table 4.1 – ‘NO’ rows only)	Description of adverse effect(s)	Can adverse effect(s) be mitigated? <i>Insert <b><u>YES</u></b> or <b><u>NO</u></b>.*</i>	Description of mitigation measures, and how they would be applied (e.g. contractual obligations, consent conditions) <i>If required, further details can be provided in separate clearly referenced documents.</i>	Can adverse effect on site integrity be ruled out? <i>Insert <b><u>YES</u></b> or <b><u>NO</u></b>.*</i>
<b><i>River Dee and Bala Lake SAC</i></b>				
<b><i>Designated feature 1 (various aquatic flora)</i></b>	Pollution	<b>YES</b>	Subject to the implementation of strict pollution prevention controls during construction work, it is anticipated that the work will not give rise to a significant adverse impact on the designated feature. Implementation of pollution prevention controls to be undertaken in accordance with Environmental Action Plan and any conditions detailed within consents/licences (planning permission and FRAP). These will include the use of bio oils within all hydraulic equipment and machinery, no refuelling to be undertaken within or near to water courses or lake shore areas, spoil to be stored on geotextile for segregation and ease of reinstatement. Silt	<b>YES</b>

Natura 2000 Feature (from Table 4.1 – ‘NO’ rows only)	Description of adverse effect(s)	Can adverse effect(s) be mitigated? <i>Insert ‘YES’ or ‘NO’*</i>	Description of mitigation measures, and how they would be applied (e.g. contractual obligations, consent conditions) <i>If required, further details can be provided in separate clearly referenced documents.</i>	Can adverse effect on site integrity be ruled out? <i>Insert ‘YES’ or ‘NO’*</i>
			<p>fencing to be used in key areas to prevent surface runoff into adjacent areas and drainage areas. Details to be included in the Construction Environmental Management Plan.</p> <p>Works will be subject to an Environmental Action Plan, Construction Environmental Management Plan; and will be supervised by an Environmental Clerk of Works.</p>	
<i>Designated feature 2 (Atlantic salmon)</i>	Pollution	<b>YES</b>	As above.	<b>YES</b>
<i>Designated feature 3 (aquatic flora)</i>	Pollution	<b>YES</b>	As above.	<b>YES</b>
<i>Designated feature 4 (fish)</i>	Pollution	<b>YES</b>	As above.	<b>YES</b>
<i>Designated feature 5 (otter)</i>	Disruption of holts and potential resting areas and pollution of feeding sites (lake/river) and foods sources	<b>YES</b>	<p>Subject to the implementation of mitigation during construction work, it is anticipated that the work will not give rise to a significant adverse impact on otter, on holts and their resting areas and feeding sites/food source. Implementation of mitigation is to be undertaken in accordance with Environmental Action Plan and any conditions detailed within consents/licences (planning permission and FRAP).</p> <p>Mitigation is as follows:</p> <p>An Ecologist will survey the working area and adjacent habitat immediately prior to commencement of works for evidence of otter holts or resting places. If evidence is found that the works have the potential to cause the destruction or disturbance of a holt or resting place then reasonable avoidance measures will be incorporated into the works plan to first aim to avoid an otter holt/lay up area. If this cannot be achieved then further</p>	<b>YES</b>

Natura 2000 Feature (from Table 4.1 – ‘NO’ rows only)	Description of adverse effect(s)	Can adverse effect(s) be mitigated? <i>Insert ‘YES’ or ‘NO’*</i>	Description of mitigation measures, and how they would be applied (e.g. contractual obligations, consent conditions) <i>If required, further details can be provided in separate clearly referenced documents.</i>	Can adverse effect on site integrity be ruled out? <i>Insert ‘YES’ or ‘NO’*</i>
			<p>discussion with NRW will be undertaken to prevent a significant impact to otter and a licence obtained if necessary.</p> <p>Through the implementation of a specific site tool box talk, contractors will follow good construction practice laid out in construction/environmental documents to prevent a negative impact, including within the Environmental Action Plan. This will include provision of egress routes to allow otters and other animals to escape from any open excavations.</p> <p>Where lighting is required (e.g. at dusk on short days), sensitive directional lighting is to be used to avoid light spill into adjacent sensitive habitats, where necessary.</p> <p>Implementation of strict pollution prevention controls as described above during construction work to prevent any deterioration in water quality which may affect otter food source.</p>	
<b><i>Llyn Tegid Ramsar</i></b>				
<b><i>Ramsar criterion 1 (natural lake)</i></b>	Pollution	<b>YES</b>	Subject to the implementation of strict pollution prevention controls as described above for SAC during construction work, it is anticipated that the work will not give rise to a significant adverse impact on the designated feature. Implementation of pollution prevention controls to be undertaken in accordance with Environmental Action Plan and any conditions detailed within consents/licences (planning permission and FRAP). These will include the use of bio oils within all hydraulic equipment and machinery, no refuelling to be undertaken within or near to water courses or lake shore areas, spoil to be stored on geotextile for segregation and ease of reinstatement and the use of silt fencing in key areas.	<b>YES</b>
<b><i>Ramsar criterion 2 (scarce plants)</i></b>	Pollution and disturbance from construction activities	<b>YES</b>	As above for pollution measures.	<b>YES</b>

Natura 2000 Feature (from Table 4.1 – ‘NO’ rows only)	Description of adverse effect(s)	Can adverse effect(s) be mitigated? <i>Insert ‘YES’ or ‘NO’*</i>	Description of mitigation measures, and how they would be applied (e.g. contractual obligations, consent conditions) <i>If required, further details can be provided in separate clearly referenced documents.</i>	Can adverse effect on site integrity be ruled out? <i>Insert ‘YES’ or ‘NO’*</i>
<i>in /beside lake, protected fish/invertebrate)</i>			<p>Before construction commences and in the next appropriate growing season, a full pre-construction check will be made of the construction areas on the Llyn Tegid foreshore within marginal vegetation areas for the plants mudwort <i>Limosella aquatica</i>, six-stamened waterwort <i>Elatine hexandra</i>, water sedge <i>Carex aquatilis</i>.</p> <p>If any plants found, then reasonable avoidance measures will be made to avoid disturbing the plants. If avoidance cannot take place and if suited to the species, translocation will be used to remove plants from affected areas and relocated outside construction areas in suitable habitat. Post construction monitoring to ensure plants have re-established.</p> <p>Area to re-generate naturally following construction within area of the Llyn Tegid foreshore. Post construction monitoring to ensure plant communities do not change significantly and INNS species do not increase in this area.</p> <p>Implementation of mitigation is to be undertaken in accordance with Environmental Action Plan and any conditions detailed within consents/licences (planning permission and FRAP).</p>	
<i>Ramsar criterion 2 (scarce plants in /beside lake, protected fish/invertebrate</i>	Effects from woody debris deposition along lake foreshore following flooding, introducing enrichment to the area	<b>YES</b>	Less debris should collect in the area of the bandstand once the area of Rip-Rap is straightened out. Woody debris deposition should disperse across the Rip-Rap area following a storm or disperse further down the river and not accumulate in abundance along the foreshore area. Physical removal of debris along the Rip-Rap areas and foreshore will take place following a storm, where required, which will prevent nutrient build up in the areas of marginal vegetation. The realignment of the embankment at the bandstand will mean there is less chance of rip-rap moving during a storm event and therefore less maintenance activities required within designated site.	<b>YES</b>

*\* If it is not known whether adverse effects can be mitigated, or whether adverse effect on site integrity can be ruled out, insert **NO***

*In all cases, go to section 4.3*

### 4.3 Concluding the appropriate assessment of the project alone

<p><b>(a) If the right hand column of Table 4.1 and Table 4.2 (if applicable) is 'YES' for all features</b></p>	<p>It has been ascertained that the proposal, when considered alone, will not adversely affect the integrity of any Natura 2000 sites.</p> <p><i><b><u>Strike out row (b) below and go to row (c)</u></b></i></p>
<p><del><b>(b) If there are any 'NO's in the right hand column of Table 4.1 that have not been resolved to 'YES' through mitigation measures identified in Table 4.2</b></del></p>	<p><del>It has not been ascertained that the proposal, when considered alone, will not adversely affect the integrity of one or more Natura 2000 sites.</del></p> <p><del><i><b><u>Strike out row (a) above and row (c) below, delete section 5 of the form and complete sections 6 and 7, and section 8 if applicable</u></b></i></del></p>
<p><b>(c) Are there any residual effects of the project (net of any mitigation measures identified) which, though insignificant on their own, could be significant if considered in combination with the effects of other plans or projects?</b></p>	<p><b><u>YES (pollution)</u></b></p> <p><i><b><u>If 'YES' go to section 5 of the form</u></b></i></p> <p><i><b><u>If 'NO' delete section 5 of the form and complete sections 6 and 7, and section 8 if applicable</u></b></i></p>

## 5 In combination assessment

### 5.1 Identifying possible in combination effects

*This section covers the in combination assessments for both the LSE test and the appropriate assessment.*

*The other plans or projects which should be considered for potential in-combination effects with the proposal under consideration are any of the following whose effects could interact with the residual (i.e. insignificant when considered alone) effects of the project described in section 1 of this form, for example by adding to or magnifying its effects, or by making a habitat or species feature more sensitive its effects.*

- § *projects started but not yet completed*
- § *projects consented but not started*
- § *ongoing projects subject to repeated authorisations (e.g. annual licences)*
- § *applications lodged but not yet determined*
- § *refusals subject to appeals procedures not yet determined*
- § *projects not requiring consent but which have been approved by the competent authority concerned*
- § *proposals in adopted plans*
- § *proposals in draft plans published for consultation*
- § *allocations or other forms of proposals in adopted development plans*
- § *allocations or other forms of proposals in draft development plans published for consultation*

*Do not include projects which have not yet been applied for, unless the project is well defined and there are solid reasons for believing that it will be taken forward. Do not include completed projects. Consult with protected sites advisors and others as required.*

*In the left hand column of the table below you should list, as applicable:*

- *Any impact pathways recorded as **BLUE** in section 3.2 of this form (no LSE alone but potential for LSE in combination); and*
- *Any residual effects from section 4.3 (no adverse effect alone, but residual effect may be significant).*

<b>BLUE</b> impact pathway from Table 3.2  and/or  Residual effect (from appropriate assessment in section 4)	Natura 2000 site feature(s) concerned	Other plans/projects with effects that might interact with the effects of the project to render its effects significant (if any)	Nature of the in-combination effect (if any)	Is there likely to be any significant in-combination effect, in view of the site's conservation objectives?



<p><b><i>Indirect impacts from pollution have the potential to impact the features of the SAC and Ramsar. However, given the nature of the works and standard construction practice it is unlikely that pollution impacts would have a significant impact on the designated features alone.</i></b></p>	<p>River Dee and Bala Lake; Natura site code: UK0030252 (SAC)/Llyn Tegid (Ramsar). Designated features 1 through 5:</p> <p>Primary reason for selection of SAC: Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation; Atlantic Salmon; Floating water-plantain; Fish Designated feature 5 (qualifying feature but not primary reason for selection of SAC): Otter</p> <p>Ramsar criterion 1: Largest natural lake in Wales, lying deep in a formerly glaciated trough.</p> <p>Ramsar criterion 2: Plant species growing in or beside the lake and protected fish/invertebrate</p>	<p>There have been 2 Flood Risk Activity Permits (FRAPs) in the area at Llyn Tegid:</p> <ul style="list-style-type: none"> <li>• An improvement to a footpath on the flood embankment at Llyn Tegid; and</li> <li>• to undertake maintenance work on the Bala sluices.</li> </ul> <p>Bala Railway Development</p>	<p>The footpath works and works at Bala sluices have been completed and it is therefore there would be no in-combination effect with the Ramsar or SAC features either directly or indirectly.</p> <p>Bala Railway Development has not yet been formally proposed but is known by NRW as a potential development. An in-combination assessment cannot be undertaken at this stage as the environmental assessment and HRA for the railway development has not been completed, and the full extent / design of the works is not known. However, as the construction phase of the railway development will not coincide with the proposed construction of the reservoir safety project, there is no pathway for in-combination effects of pollution or disturbance to otter.</p>	<p><b>NO</b></p>
<p><b>(a) If the right hand column is 'NO' for all rows</b></p>				

	The project, when considered in combination with other plans and projects, is either not likely to have a significant effect on, or will not adversely affect the integrity of any Natura 2000/Ramsar site.
<b>(b) If any rows in the right hand column are 'YES' or 'DON'T KNOW'</b>	The project is likely to have a significant effect in combination with other plans or projects. <b><i>Strikeout option (a) above and go to section 5.2</i></b>

## 6. Conclusion

*Where the conclusion is in accordance with the protected sites advice, this section should be completed by the team or individual responsible for carrying out and recording the HRA. This will normally be the same as the team/individual responsible for determining the permission or otherwise approving the project, unless responsibility for preparing the HRA has been delegated to another team (e.g. EAT or one of the NRM teams).*

*Where the HRA has been subject to an escalation process, due to significant unresolved differences of view between the protected sites advisors and the team preparing the HRA, this section of the form should be completed by the relevant Leadership Manager (see sections 6.3/7.3 of OGN 200). Any additional documents or correspondence forming part of the escalation process should be appended to this form, or reported in section 7.*

*Select which of the following conclusions applies by placing an X the right hand column. Only ONE option can apply. Sign and date the bottom of the table.*

<p><del>HRA is not required because the whole of the project is directly connected with or necessary to the management of one or more Natura 2000/Ramsar sites, for the purposes of conserving the habitats or species for which the site(s) is/are designated, and the project is not likely to have a significant effect on any other Natura 2000/Ramsar sites. (As documented in section 2.1 and 2.2 of this form)</del></p>	
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~~HRA is not required because there is no conceivable impact pathway to any Natura 2000/Ramsar site  
(As documented in section 2.3 of this form)~~

~~This project is a renewal of a current permission which complies with NRW agreed criteria for ruling out significant effects of a renewal without conducting a project-specific LSE test. Therefore it is considered not likely to have a significant effect on any Natura 2000/Ramsar sites, either alone or in-combination with other plans and projects.  
(As documented in section 3.1 of this form)~~

~~The project has been screened for likelihood of significant effects and, taking account of the advice received from protected sites advisors, is considered not likely to have a significant effect on any Natura 2000/Ramsar site  
(As documented in section 3.2 of this form, or section 5 if applicable)~~

In light of the conclusions of an appropriate assessment, and taking account of the advice received from protected sites advisors, it has been established that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans and projects.  
(As documented in section 4 of this form, and section 5 if applicable)

**X**

~~In light of the conclusions of the appropriate assessment, it has not been ascertained that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, as documented in section 4 of this form, and section 5 is applicable.~~

~~Approval for the project cannot be given unless either:~~

- ~~• the project specification, and/or the terms under which it might be approved, are modified so as to remove the risk of adverse effects, and a revised HRA report is prepared, or~~
- ~~• the project satisfies the requirements of Article 6(4) of the Habitats Directive, an Article 6(4) Statement of Case is prepared (OGN 200 Form 3) and submitted for consideration by the appropriate authority, normally Welsh Ministers~~



Signed:

**Name: Laura Cotton**

**Position: Specialist Advisor; Environmental Assessment**

**Date: 24.09.2019**

**7. Consultation with protected sites advisor(s) and how sections 2, 3, 4 and 5 of this HRA report (as applicable) take into account that advice.**

Relevant section of the HRA report	Date(s) of correspondence* and any meeting(s) with protected sites advisor(s)	Description of how the comments from protected sites advisors have been taken into account
Screening	<p>Site meeting – January 2018</p> <p>Skype sessions April 2018 June 2018 April 2019</p> <p>Emails August 2018 regarding LSE</p> <p>Consultation on draft Screening</p>	<p>Screening was been completed not taking into account mitigation, and subsequently an Appropriate Assessment has been undertaken.</p> <p>Adam Cole-King and Nia Watkin advised that if land-take within the designated site did not affect a designated <b>feature</b>, then this does not need to be taken into account in assessment. i.e. designated area contains area of pavement, grassland etc. This relates to the land-take at the bandstand which surveys confirmed was grassland habitat and not of conservation interest.</p>
Appropriate Assessment	September 2019 – Skype meetings	If herbicide is needed on the scheme, this would require Herbicide Consent and a standalone HRA.
Appropriate Assessment	Consultation with Protected Sites Officer	N/A HRA was signed-off and form 2 provided.

*\*Attach copies of all written representations (Form 2) received from protected sites advisor(s)*