Proposed Tidal Lagoon Development, Cardiff, South Wales

Evidence Plan

TLC_Evidence Plan_Paper SG9c Evidence Plan

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0.3	16/06/2016	Evidence Plan incorporating final comments from PINS	JP	TC	TC
0.4	22/07/2016	Final version	JP	TC	TC

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1.0 Evidence Plan

1.1 Introduction

1.1.1 This document builds on the Evidence Plan Framework (*TLC_Evidence Plan_Paper SG1c Evidence Plan Framework* (TLC, August 2015)) produced as part of the Evidence Plan process for Tidal Lagoon Cardiff (TLC) (the Project). The Evidence Plan sets out the mechanisms and approach to agreeing the information and evidence requirements for the Project, to ensure that the Competent Authority has sufficient data of an appropriate quality to carry out an assessment under the Conservation of Habitats and Species Regulations 2010 (as amended) (a Habitats Regulations Assessment (HRA)) for the Project.

1.1.2 From September 2012, applicants of Nationally Significant Infrastructure Projects (NSIPs) located in England, or both England and Wales, have been able to agree Evidence Plans with relevant statutory nature conservation bodies (SNCBs) (Defra, 2012).

1.1.3 As the Project lies within Wales, there is no formal mechanism in place to undertake an Evidence Plan process. However, it has been agreed with Natural Resources Wales (NRW), Natural England (NE) and the Environment Agency (EA) that an Evidence Plan process is appropriate for this Project. The Planning Inspectorate (PINS) has confirmed that it will lead on similar functions undertaken by the Major Infrastructure and Environment Unit (MIEU) for projects in England, and act as a facilitator within the process.

1.1.4 It has also been agreed with the SNCBs that the Evidence Plan process will be used to guide the assessment of the Project in relation to the requirements of the Water Framework Directive (WFD) and potentially, a Marine Conservation Zone (MCZ) and Marine Strategy Framework Directive (MSFD) assessments if required. The drivers from these other assessments will not influence the requirements for the HRA evidence base. The evidence required for the HRA, WFD, MCZ and MSFD assessments will be presented separately, although it is acknowledged that there may be overlaps in requirements.

1.1.5 This Evidence Plan relates to the proposed Tidal Lagoon Cardiff only. A similar process will be adopted for Tidal Lagoon Newport when appropriate and any other projects proposed by Tidal Lagoon Power.

1.2 Purpose of the Evidence Plan process

1.2.1 A key objective of the Evidence Plan process is to provide a robust evidence base in order to encourage effective consultation. This therefore helps reduce the risk to the Project as a result of the precautionary approach that needs to be applied to the HRA (and other assessments). It aims to:

- Provide greater clarity to all parties on the scope and detail of evidence the Applicant should collect;
- Focus the evidence requirements so that they are proportionate to the Project's potential impacts in order to inform decision making;
- Help address and agree issues as early as possible in the pre-application process so that robust, streamlined decisions can be taken; and
- Provide a clear audit trail for any agreements made and decisions taken assisting in the development of Statements of Common Ground (SoCG) with relevant parties.

1.2.2 The Evidence Plan process, is a technical process and does not replace or duplicate existing statutory requirements such as pre-application consultation. It is intended to provide an audit trail for agreements and any areas of disagreement in the evidence base requirements for the HRA, WFD, MCZ and MSFD which can be fed into SoCG.

1.3 Purpose of the Evidence Plan document

1.3.1 The Evidence Plan sets out the mechanisms and approaches to assessment that will be followed throughout the pre-application process for the proposed Cardiff lagoon by:

- Defining the key roles, responsibilities and working arrangements of TLC and participating technical stakeholders throughout the Evidence Plan process;
- Describing some of the important aspects, considerations and methodologies for the HRA, WFD, MCZ and MSFD assessments, some of which have already been discussed with stakeholders, for example, determination of likely significant effect (LSE) and approach to in-combination assessment (as appropriate for HRA and WFD);
- Defining a programme for more detailed consideration of evidence requirements, outputs and impact assessments.

1.3.2 It is intended that this Evidence Plan be agreed by June 2016 and published on the PINS website. The Evidence Plan process, however, is an iterative one which continues throughout pre-application until the submission of the Development Consent Order (DCO) and Marine Licence applications (see Section 2.2). The documentation of the process will therefore continue as outlined in Section 4 of this document.

1.4 Evidence Plan Report

1.4.1 As stated above, the Evidence Plan sets out the mechanisms and approaches to assessment during pre-application. At the time of the DCO submission, an Evidence Plan Report will be produced, which will detail the background, meetings, mechanisms and conclusions of the Evidence Plan process which will support the HRA, WFD, MCZ and MSFD assessments.

1.4.2 A detailed scope for the Evidence Plan Report will be produced, discussed and agreed with the Evidence Plan Process Steering Group during the pre-application process. At this stage, it is anticipated to take the form of an overview of how the Evidence Plan process was implemented for the Project, outlining key milestones and agreements reached with the SNCBs and signpost supporting documents such as the Decision Log, the Action Trackers and the HRA reports.

1.4.3 It will also detail any significant disagreements and whether they have been resolved (this will also be reflected in the SoCG to be submitted as part of the DCO).

2.0 Description of the Project

2.1 The Project

2.1.1 The Project is an electricity generating station with a potential generating capacity of between 1800 and 2800 Mega Watts (MW). It is proposed to be located on the northern shore of the Severn Estuary, with landfall of the lagoon breakwater walls proposed at Cardiff Docks in the west and near to the mouth of the River Usk in the east (on the west bank of the River).

2.1.2 The Project spans the southern edges of the Wentlooge Levels, an area of agricultural land reclaimed from the sea, together with low-lying estuarine alluvial wetland and intertidal mudflats. The breakwater walls encompass an area of approximately 70km^2 of the seabed and foreshore.

2.1.3 The total length of the breakwater is anticipated to be approximately 25km. The western landfall will be positioned to the south of the Queen Alexandra Dock, within Cardiff Docks, and will extend in a curve southwards into the Severn Estuary. At its furthest point from land, the breakwater is likely to extend 8km offshore. The lagoon is anticipated to house between 60-90 turbines and 20-30 sluice gates which will be situated in two to three turbine and sluice gate housing structures. The final arrangement and positioning and number of these structures will be developed during the EIA process, thereby seeking to optimise energy generation whilst minimising potential environmental effects. An indicative Project layout, as submitted with the Scoping Report in March 2015, is provided in Figure 1. It is important to note that since March 2015 consultation with various stakeholders has led to design changes, which continue to evolve throughout the process.

2.1.4 As can be seen in Figure 1, the two turbine and sluice gate housing structures are proposed to be located on the western section of the breakwater, one approximately 2km from the western landfall, and the other a further 5km along the breakwater. These are positioned to take advantage of the natural, predicted tidal flows within the Severn Estuary during filling and emptying of the lagoon. From the second turbine sluice gate structure, the breakwater continues northeast up the estuary before heading north towards the shore. The eastern landfall attaches in the Wentlooge area of Newport, approximately 2km to the southwest of the River Usk. This area is comprised primarily of reclaimed agricultural land, as well as areas of saltmarsh.

2.1.5 The footprint of the proposed Project encompasses the mouth of the River Rhymney. The footprint also encompasses existing outfalls owned and operated by Dŵr Cymru Welsh Water (DCWW) and others.

2.1.6 The Project operates by holding back water within the tidal lagoon on the ebb tide, to create sufficient head, in relation to the ebbing tide outside of the lagoon. Electricity is generated as the water is released through the turbines and the store of energy is turned into electric power. The electricity is generated as water flows through bi-directional turbines, located in the turbine and sluice gate housing structures. This process is then repeated on the flood tide with water being prevented from entering the lagoon until sufficient head is created, before being released into the lagoon through the turbines.

2.1.7 The electricity generated will be fed into the National Electricity Transmission System (NETS) and options for grid connections will be developed in conjunction with National Grid as the Project development process progresses.

2.1.8 The Project requires the following elements to generate electricity, which include:

i. breakwater;

ii. concrete turbine and/or sluice gate housings;

iii. turbines and sluice gates located within the housings;

iv. operations and maintenance access upon the structures;

v. cable works within the breakwater and connection to an appropriate substation; and

vi. structures located upon the turbine/sluice gate housing.

2.1.9 The Project will comprise on and offshore elements that are identified below:

2.1.10 **Offshore works**: The offshore works during the construction and operation phases comprise the following: turbines and sluice gates, their housing structures, gantry cranes and other facilities, such as generators and switchgear; temporary cofferdams or caissons to facilitate the construction of the turbine and sluice gate housing structures; temporary rock storage areas; breakwater and associated dredging works; access road on the breakwater including lighting structures and shelters; operation and maintenance (O&M) facilities, emergency facilities; navigation facilities including locks and lighting.

2.1.11 **Onshore works**: Provision of construction support sites, including access routes for construction traffic, land creation works, lay-down areas, cable connection route and temporary rock stockpile areas.

2.1.12 The Project is intended to have an operational life of 120 years. An outline decommissioning scheme will be prepared as part of a DCO application in line with

the requirements of the Energy Act 2004, the Decommissioning of offshore renewable energy installations under the Energy Act 2004 (DECC, 2011) and the DECC (2015) Addendum to decommissioning of offshore renewable energy installations under the Energy Act 2004 Guidance notes for industry: Tidal Lagoons[1]. It is expected that decommissioning of the Project will involve the retention of the breakwater, and the removal of the turbines, metals and plastics relating to the energy generating installation. This is in order to preserve the established biodiversity at the time when operation ceases, and the potential continuation of a public amenity. The tide will flow freely around the remaining structures. The option of complete removal of the structure may also be considered as part of any future assessment.

2.1.13 Further details about the Project are presented within the Scoping Report submitted to the Planning Inspectorate in March 2015 available at http://www.tidallagooncardiff.com/document-library/document-library/87/). Design work is ongoing and thus the lagoon layout is subject to further change. All assessments will be undertaken following design freeze and use the Rochdale envelope principle, i.e. assessed against the maximum design parameters and therefore the worst case scenario.

2.2 The Consenting Process

2.2.1 As the Project is an offshore electricity generating station of more than 100MW, it is a NSIP under the Planning Act 2008. Construction of such a project requires that a Development Consent Order (DCO) is first granted by the Secretary of State for Energy and Climate Change via an application to the PINS under the 2008 Act.

2.2.2 The DCO for the Project will embrace a number of separate consents formerly required for a project of this type. Section 33 of the Planning Act 2008 dispenses with the need for separate planning permission or deemed planning permission under the Town and Country Planning Act 1990 (TCPA 1990) and consents under Section 36 of the Electricity Act 1989. Any permissions required under TCPA 1990 will be sought at the appropriate time in the DCO process.

2.2.3 The DCO will authorise construction and operation of the generating station itself, and its component parts. These include both offshore and onshore elements of the project, including the integral electrical grid connection works.

2.2.4 As the Project lies within Welsh waters, an application for a Marine Licence (ML) will be made to the Marine Licensing Team within Natural Resources Wales (NRW).

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/399561/addendum_to_guidance_on_decommissioning_of_orei_under_the_Energy.pdf

The process for granting a ML is set out by the Marine and Coastal Access Act 2009 which gives the appropriate licensing authority (NRW in this case) powers to grant or not grant a ML to an applicant who wishes to carry out licensable activities in territorial waters.

2.2.5 An application for a ML will be submitted concurrently with the application for the DCO. The requirement for a ML is broadly defined by works taking place in the offshore environment that affect the seabed or the movement of materials related to it. In this sense, elements of the offshore Project that are subject to the DCO application are also subject to a separate ML application.

3.0 Roles and Responsibilities

3.1 Introduction

3.1.1 This section describes the process that has been followed to date in order to agree the Evidence Plan for the Project. The organisations and groups involved and their roles and responsibilities are outlined in the Evidence Plan Framework (*TLC_Evidence Plan_Paper SG1c Evidence Plan Framework* (TLC, August 2015)). This has now been superceded by the Evidence Plan.

3.1.2 Representatives of the Steering Group or any Expert Topic Groups (ETG) should have the authority to ensure that any agreed position within the Evidence Plan process is an agreed position, and not the advice of the officer only, and be in a position to provide advice to the Applicant (TLC) on evidence requirements. It is acknowledged, however, that follow up written submissions may be required, for example, if further advice from colleagues within member organisations that are not present at the meeting is required.

3.1.3 It should be noted that PINS cannot be subject to the agreement of any matters, which might fetter the discretion of the examining authority.

3.1.4 Figure 2 illustrates the inter-relationships between the Steering Group, the ETGs and the Advisory Sub-groups. Further discussion will be required by the Steering Group in order to clarify the roles and responsibilities of organisations with respect to MCZ and MSFD assessments in particular.

3.2 Steering Group

3.2.1 Inception and development of the Evidence Plan and monitoring of its progress is undertaken by a Steering Group. The Evidence Plan Steering Group for the Project consists of the following organisations:

a. **TLC** lead the drafting of the Evidence Plan and associated technical documents, and their maintenance thereafter;

b. **NRW (Advisory)**, **NE** and the **EA** work in a collaborative manner with TLC throughout the Evidence Plan process. NRW or NE may take a lead role for a particular issue/feature on a case by case basis;

c. **The Planning Inspectorate (PINS)**, in addition to the role normally provided in the Evidence Plan process, fulfil the role undertaken by MIEU in England. This is largely a facilitative role for the Steering Group;

d. **Marine Management Organisation (MMO)** participation is mainly a 'watching brief' and may have more of an input in the case of potential effects on MCZs; and

e. **NRW Marine Licensing Team (MLT)** participation is mainly a 'watching brief' role and may provide input into licensing of specific activities.

3.2.2 The role of the Steering Group is:

i. To oversee and discuss progress of the Evidence Plan process for the Project;

ii. To consider the list of organisations invited to participate in the process;

iii. To discuss any areas of disagreement that emerge from the ETG during the Evidence Plan process and HRA, WFD, MCZ and MSFD assessments and use reasonable endeavours to agree a way forward;

iv. To review criteria as recommended by the ETG to inform the identification of LSE and adverse effects on European site integrity; and inform the understanding of mitigation/compensatory requirements;

v. To monitor progress against the schedule for the collection of evidence;

vi. To be aware of the recommendations of Expert Topic Groups; and

vii. To capture any learning from the process and suggest areas where improvements to the Evidence Plan process could be made.

3.2.3 The Steering Group had its inception meeting at the start of the Evidence Plan process (20th March 2015) in order to agree the organisations and individuals involved, their proposed roles and responsibilities and the anticipated working arrangements. A second meeting was held on the 19th May 2015 to discuss in more detail the Evidence Plan Framework document and approaches to assessment. The Evidence Plan Framework document (TLC_Evidence Plan_Paper SG1c Evidence Plan Framework) was finalised and distributed to members of the Steering Group on the 10th August 2015.

3.3 Expert Topic Groups

3.3.1 The form, attendance and frequency of ETG meetings is issue-driven. These groups are comprised of technical experts from relevant organisations specific to individual

environmental topics and are chaired by TLC. Terms of Reference (ToR) have been prepared for each of the separate ETGs. The ToR for each topic group can be found at Appendix 1.

3.3.2 The ETGs have the following functions:

i. To consider detailed evidence requirements in the context of the Evidence Plan;

ii. To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

iii. To consider criteria for areas such as likely significant effect (LSE) screening and assessment of effects on integrity;

iv. To agree, wherever possible, the survey methods and data analysis;

v. To consider methods for assessment(s) and assumptions (including interpretation of impact and levels of significance); and

vi. To provide recommendations (including for LSE) and feedback to the Steering Group.

3.3.3 The process will be iterative and each topic group will work towards key 'gateways' for example, agreement on survey methodologies, agreement on interpretation of survey findings. These key decisions will be taken at the Expert Topic Group level. Each group will document areas of agreement and disagreement throughout the process and this will assist in the development of SoCG with relevant parties.

3.3.4 Expert Topic Groups have been determined as follows:

i. Coastal processes;

ii. Intertidal and subtidal benthic ecology (including plankton);

iii. Coastal birds;

iv. Fish;

v. Marine mammals;

vi. HRA/WFD/MCZ/MSFD;

3.3.5 The membership of each ETG is made up of the following organisations:

Table 3.1: Membership of Expert Topic Groups

Organisation	Expert Topic Group					
	Coastal processes	Intertidal and subtidal benthic ecology	Coastal birds	Fish	Marine mammals	HRA/ WFD/ MCZ
NRW						
NE						
EA						
Welsh Government						
Devon and Severn IFCA[1]						
Cefas[2]						
DCWW[3]						
SECG[4]						
Swansea University						
RSPB[5]						
WWT[6]						

1: Inshore Fisheries and Conservation Authority
2: Centre for Environment, Fisheries and Aquaculture Science acting as advisors to NRW (MLT)
3: Dŵr Cymru Welsh Water
4: Severn Estuary Coastal Group
5: Royal Society for the Protection of Birds
6: Wildfowl and Wetlands Trust

3.3.6 It is noted that the WWT, after attending the first meeting of the Coastal Birds ETG, decided to withdraw from the process for the foreseeable future.

3.4 Flooding, Water Quality and Plankton Advisory Sub-groups

3.4.1 These groups have been established to provide specialist technical advice on topics that are linked to the core ETGs, where the topics are cross-cutting between ETGs (in the case of Water Quality and Plankton) or where topics have direct dependencies on the core ETGs (in the case of Water Quality and Flooding and the direct dependency on the Coastal Processes ETG). They are not ETGs in their own right. Figure 2 illustrates the relationship between the Steering Group, the ETGs and the Advisory Sub-groups.

3.4.2 It is intended that these groups meet as and when required, for example a flooding sub-group meeting to inform the modelling to be carried out under the Coastal Processes ETG. The members of the group will be specialists in their respective

fields and not all necessarily sit on the ETGs, but representation from the sub-group will be part of the ETG.

3.4.3 These groups do not require their own Terms of Reference, as the water quality and flooding sub-groups are covered by the Coastal Processes ETG and plankton by the Intertidal and Subtidal Benthic Ecology ETG.

3.5 Peer Review Groups

3.5.1 TLC have set up Peer Review Groups (PRG) for Coastal Processes and Fish. The aim of the PRGs are to provide confidence to TLC that the work being undertaken with respect to coastal processes, geomorphology and fish is thorough, comprehensive and will stand up to external scrutiny. They will provide TLC with expert, independent validation (where relevant) of data requirements, survey results, modelling methods and parameters, model outputs, and interpretation, challenge (where necessary) the approach being adopted to ensure that it is as robust as possible, and to provide a 'seal of approval' in the context of the methods being applied.

3.5.2 The groups will be independent of the ETGs. However, if issues arise from the ETG that require further peer review, these will be referred to the PRG. Conversely, where advice is provided or reviews are undertaken by the PRG, they may be shared with the ETG to inform the group regarding the perceived suitability of the work being undertaken and outputs produced.

3.5.3 Members of the PRGs have been selected based on their expert knowledge of the field and where there are no conflicts of interest with either the Project or any participant in the process. Terms of Reference for the PRGs can be found at Appendix 1.

3.5.4 Matters to be discussed by the PRG are decided by TLC in the first instance. To date, feedback has been requested on papers produced by coastal processes consultants prior to them being presented at an ETG level. When the feedback is received, a decision will be taken by TLC regarding how to progress with the feedback. The feedback and the decision making process will then be discussed at an ETG level. Should there be any disagreement regarding the proposed way forward, it may be the decision of the ETG to refer the issue back to the PRG for further advice. The final decision rests ultimately with TLC, taking into account advice received from the ETG and the PRG members. Figure 3 illustrates the Peer Review Group process.

3.6 The Modelling Work Plan

3.6.1 A Modelling Work Plan (MWP) has been drafted (*TLC_Evidence Plan_Paper CP6b Modelling Work Plan* (ABPmer, Intertek and JBA Consulting, September 2015)) for the Project which, when finalised, will set out the objectives of model integration (coastal processes, water quality and flooding), data collected, how the models have been designed and built, model extents, model proving, model application, model sharing and how the data will be used in the assessment with degrees of confidence.

3.6.2 In addition, TLC have agreed to allow SNCBs access to review the models when they are complete, in order to understand the modelling process followed.

3.6.3 The MWP will be primarily considered under the Coastal Processes ETG, with input from water quality and flooding sub-groups when required. Input will also be sought from other ETG, for example coastal birds and fish at an appropriate point in the process. For example, Individual Behaviour Modelling (IBM) is proposed to be undertaken to help understand the potential impacts on some of the coastal bird species. In terms of the modelling inputs, this requires ongoing collaboration between coastal processes and coastal bird IBM experts.

3.7 Roles and Responsibilities of ETG members

3.7.1 The roles and responsibilities of the ETG (as outlined in the Evidence Plan Framework) have been slightly revised, with the addition of the other relevant stakeholders, as set out below.

3.8 TLC

i. Oversee the Evidence Plan process and maintain the associated documents (e.g. Decision Log) on an on-going basis throughout pre-application until the process is considered complete by the Steering Group, and record minutes of all meetings;

ii. To propose and work up the detail of gap analyses, evidence collection, surveys, analyses, modelling and other necessary matters to support robust HRA, WFD and, if necessary, MCZ and MSFD assessments, taking into account the comments of Evidence Plan consultees;

iii. Update the relevant SNCB(s), PINS and other consenting bodies of modifications to the Project;

iv. Meet with the SNCB(s) and other relevant parties, to discuss progress and, if necessary, agree any changes to evidence requirements;

v. Work with the SNCB(s) to resolve as many issues as possible at the pre-application stage and set out the decisions made and areas of disagreement in SoCG, using the Evidence Plan as a mechanism to do this;

vi. Work with SNCB(s) to manage uncertainty in the assessment process;

vii. Finalise the Evidence Plan and use it to inform the shadow HRA and the WFD assessment (and if applicable, the MCZ and MSFD assessment) for the DCO and ML applications;

viii. Finalise the Evidence Plan Report at the end of the pre-application process to form part of the DCO and ML applications.

3.9 Natural Resources Wales (NRW), Natural England and the Environment Agency

i. NRW and NE to advise on which European sites and features need to be considered in the Evidence Plan process (including the status of any potential changes to designated features);

ii. NRW and EA to advise on which WFD waterbodies need to be considered in the Evidence Plan process;

iii. NRW and NE to advise which MCZ sites need to be considered in the Evidence Plan process;

iv. All parties to consider how an MSFD assessment should proceed;

v. NRW and NE to advise on the conservation objectives and conservation status of relevant sites;

vi. All parties to discuss and agree the Evidence Plan with TLC;

vii. All parties to ensure that throughout the process, evidence requirements are proportionate to the potential impacts of the Project;

viii. All parties to assess and review evidence provided by TLC at agreed regular intervals, giving written feedback on progress to agreed timescales.

ix. NRW and NE to decide if it is appropriate for one SNCB to take a lead role in certain topics to use resources more effectively;

x. All parties to ensure consistency of advice between organisations, whilst each considering their statutory responsibilities;

xi. All parties to ensure consistency of approach to advice between this Project and other NSIPs;

xii. All parties to identify and provide to TLC any relevant public domain information (e.g. conservation objectives, monitoring reports, site condition assessment data; grey literature) they have access to in order to inform the Evidence Plan process/relevant assessment;

xiii. All parties to work with TLC to manage uncertainty in the assessment process;

xiv. Work with TLC to resolve as many issues as possible during the pre-application period, to agreed timescales, including through the SoCG. Consultation and timescales/deadlines should be agreed with ETGs or the Steering Group.

3.10 PINS

i. Act as Chair and facilitator for Steering Group meetings, in line with Terms of Reference provided at Steering Group meeting 2 on 19th May 2015 ;

3.11 Marine Management Organisation

i. Advise on which MCZ sites need to be considered, if any, and the process for their inclusion as part of the Evidence Plan.

3.12 Other relevant stakeholders (Devon and Severn IFCA, Cefas[2], Welsh Government, DCWW, SECG, Swansea University, RSPB, WWT)

i. Provide expert input into relevant ETG meetings;

ii. Identify and provide to TLC any relevant public domain information (e.g. monitoring reports, grey literature) they have access to in order to inform the Evidence Plan process/assessment;

iii. Assess and review evidence provided by TLC at agreed regular intervals, giving written feedback on progress to agreed timescales;

iv. Ensure that that throughout the process, evidence requirements are proportionate to the potential impacts of the Project;

v. Work with TLC to resolve as many issues as possible during the pre-application period, to agreed timescales, including through the SoCG. Consultation and timescales/deadlines should be agreed with Expert Topic Groups.

3.13 Sites considered under relevant legislation and policy

3.13.1 It is considered that the ETGs listed above cover the potential effects on the following features as designated under the relevant European legislation and UK policy:

[2] Cefas act as advisors to NRW (MLT) for the fish, intertidal and subtidal benthic ecology and coastal processes ETG

i. Special Areas of Conservation (SACs and candidate SACs (cSACs) if appropriate) (as listed on Annex I and Annex II of the Habitats Directive), and Sites of Community Importance (SCIs) if relevant;

ii. SAC designated species populations (as listed on Annex II of the Habitats Directive);

iii. Special Protection Areas (SPAs), potential SPAs (pSPAs) if appropriate and Ramsar sites, including rare and vulnerable birds (as listed on Annex I of the Birds Directive), regularly occurring migratory species and species forming designated assemblages;

iv. Other Ramsar sites not covered under SPA and SAC designations;

v. Supporting species and habitats in those cases where there are potential impacts upon designated features through indirect effects (e.g. prey species; and

vi. Water bodies designated under the WFD (Directive 2000/60/EC).

3.13.2 Consideration of MCZ would be under the requirements of National policy.

3.13.3 Consideration of MSFD is through Preamble 12 of the Marine Strategy Framework Directive, which refers to 'coastal waters' (as defined in Directive 2000/60/EC, the EU Water Framework Directive (WFD)). It states that these coastal waters, including their seabed and subsoil, are an integral part of the marine environment, and as such should also be covered by the MSFD, only *in so far as particular aspects of the environmental status of the marine environment are not already addressed through the WFD*, so as to ensure complementarity while avoiding unnecessary overlaps.

4.0 Working Arrangements

4.1 General Principles

4.1.1 The following general principles will apply to the evidence plan working arrangements:

i. Any documents prepared for a meeting should be available within agreed deadlines and at least three weeks prior to the meeting;

ii. Documents, guidance and/or advice given should be clear and comprehensive;

iii. Agreed deadlines for comment and actions should be met, unless adequate notice is given;

iv. In order to optimise meeting efficiency, adequate preparation and full participation is expected of all involved;

v. In order to optimise meeting efficiency, agendas need to allow time to ensure adequate discussion of the subject matters tabled;

vi. Consideration needs to be given by all parties to ensuring only relevant attendees who are able to fully participate are involved in meetings;

vii. In order to understand the process requirements and effort, all participants should log the time spent on the Evidence Plan process;

viii. Where costs may be incurred, the Applicant is to be provided with cost estimates for approval before they are incurred (at intervals to be agreed); and

ix. Key points of contact should be established for all participants in order to provide a clear communication route for all parties.

4.2 Documenting Decisions

Meeting minutes

4.2.1 Draft minutes of each meeting are issued by TLC within a week of the meeting wherever possible to all attendees with a deadline for comment. Once written comments have been received by the deadline, comments are addressed and the minutes are issued as final.

4.2.2 At Steering Group meetings, the minutes of the previous meeting are an opening agenda item at the next meeting, thereby giving an opportunity for consultees to raise any outstanding issues they may have with respect to the accuracy of the

minutes issued as final. Amendments and clarifications are recorded and the minutes are either re-issued or, if the point is minor, it is recorded on the minutes of the next meeting. It is proposed that this process is also followed for ETG meetings, particularly given the time lapse in some cases between meetings.

4.2.3 Should there be any dispute in the accuracy of the minutes at an ETG level that cannot be resolved, the matter will be referred to the Steering Group for a final decision.

Action Tracker

4.2.4 An Action Tracker document is maintained by TLC for each ETG and the Steering Group. This details the actions produced as a result of each of the meetings, who has ownership of the actions and provides deadlines for completion. These actions are regularly reviewed by TLC to ensure that all parties are on track in closing out outstanding actions. The Action Tracker is a stand-alone document and does not form part of this Evidence Plan.

Decision Log

4.2.5 A Decision Log is kept for each ETG and the Steering Group. This details key decisions and areas of agreement. The Decision Log also records any areas of disagreement between TLC and the relevant parties. This will include decisions regarding the data used within the HRA, WFD, MCZ and MSFD assessment processes and the potential impacts identified and assessed, such that it is clear to all parties including the Examining Authority. A Decision Log will enable an iterative approach to be taken to generating SoCG. In this way, during the DCO examination period, it will be possible to trace the decision making process back through a clear and agreed audit trail. An example of a Decision Log is included at Appendix 2. The Decision Log is being compiled as a stand-alone document and does not form part of this Evidence Plan.

4.3 Written Comments

4.3.1 All participating stakeholders shall provide TLC with a detailed written response on relevant documents as requested following each meeting. The response should be in relation to the documents provided and within the deadlines as set out (unless further time is arranged).

4.3.2 TLC shall provide all participating stakeholders with relevant papers as requested in meetings within the deadlines agreed at the meetings.

4.3.3 A library of papers issued by TLC and responses received has been created and will be maintained by TLC.

4.3.4 TLC shall be responsible for logging and tracking stakeholder comments through a standard form to record comments received. The comments spreadsheet includes information on the following aspects: date of review, TLC request for comment (if appropriate), organisation, reviewer, comment, response to comment and amendment(s) made as a result.

4.3.5 The comments will then inform the Decision Log and thereafter will assist in the development of the SoCG.

4.4 Data Sharing and Availability

4.4.1 All project and environmental information, documents and data that are provided by TLC to technical stakeholders during the Evidence Plan process is commercially sensitive and issued on a strictly confidential basis and marked '*commercial in confidence'*. The published Evidence Plan will not be protectively marked.

4.4.2 A file sharing platform has been set up, which contains all the papers presented at each Steering Group and ETG meeting. Access to the site for members of the relevant groups will be provided on a commercially confidential basis.

4.4.3 The addition of any cited 'grey literature' to the file sharing platform will also be considered.

4.5 Definition of Change

4.5.1 The purposes of the Evidence Plan process are set out in Section 1.2. By providing a clear process for the identification and gathering of evidence required, the risk of additional information being requested at later stages is minimised.

4.5.2 However, it is acknowledged by the parties that evidence requirements may change under the following circumstances (Defra, 2012):

i. The assessment of evidence provided by the applicant identifying new areas of concern;

ii. Relevant evidence, information or research coming to light that would have an impact on what information is required;

iii. A material change to the NSIP proposal that is likely to change the potential impacts and therefore the evidence requirements to address these.

4.5.3 Should any assessment identify new areas of concern as outlined in point i), it is the responsibility of the party that identified the issue to inform the relevant ETG.

4.5.4 Relevant evidence as outlined in point ii) may take the form of evidence, information and research that has been collected by other organisations, but

applies to the Project. It is the responsibility of the SNCBs and other ETG members to identify any additional information that they become aware of (i.e. further information of habitats and/or species or assessment techniques) that could affect the outcomes of the assessment.

4.5.5 It is the responsibility of TLC to notify the Steering Group and ETG members of material changes to the Project, which may include the following changes:

i. To the red line boundary;

ii. To the Project programme;

iii. To Project design details;

iv. To the predicted Zone of Influence of the Project;

v. In construction methodologies.

4.5.6 At the time of the design freeze of TLC, the worst case most realistic option for any other potential lagoon will be used for assessment purposes. If during the assessment for TLC a change to a potential lagoon may present a change in circumstances either positive or negative the Steering Group and ETGs will be informed and the assessment revised on the basis of these discussions.

4.6 Change Management Process

4.6.1 Should a change to the Project or its impacts be identified under the circumstances set out in Section 4.5 it is proposed that the following process will apply:

i. The party identifying the change informs the relevant ETG/Steering Group in writing as soon as possible providing the background and including, if appropriate, the rationale and justification for the change;

ii. TLC and NRW/NE/EA to agree whether the change is applicable to the Evidence Plan (i.e. within the agreed circumstances set out above);

iii. If applicable, TLC and NRW/NE to consider the implications for the HRA (and MCZ) assessments and NRW and EA to consider implications for WFD assessment (including timescale) and to agree if change leads to additional evidence requirements;

iv. If applicable, all parties to consider the implications for any MSFD assessment;

v. TLC and NRW/NE/EA to agree need for the involvement of any additional parties;

vi. If additional evidence is required, TLC and NRW/NE to agree the scope of additional data to satisfy the needs of the HRA (and MCZ) and NRW and the EA to agree the scope of additional data for WFD;

vii. If additional evidence is required, all parties to consider the scope of additional data for any MSFD assessment; and

viii. TLC to make the final decision whether to collect the data, update the Evidence Plan process and revise the HRA/WFD/MCZ/MSFD assessment as appropriate.

4.7 Resolution of areas of disagreement

4.7.1 Should significant disagreements between TLC and any other organisations become apparent throughout the pre-application process, all efforts will be made to resolve them through the ETG. Tracking the point of disagreement will be captured through the comments spreadsheet and other supporting information e.g. papers for meetings and minutes. In the event that resolution cannot be reached, the matter will be raised at a Steering Group level to explore further options for resolution, e.g. seeking the advice from an independent expert with no vested interests in either side.

4.7.2 Should the advice of an independent expert be sought, agreement will be needed at a Steering Group level on several matters including: who to appoint, Terms of Reference and financial reimbursement. As the Evidence Plan process is ultimately led by the developer, the final decision regarding whichever option is pursued will be taken by TLC and recorded in the Decision Log. It will be acknowledged that any action is taken at the applicant's risk.

4.7.3 There is a possibility that conflicts between ETG members may also arise. In this event, the Steering Group will take the lead in any resolution efforts and will make the final decision on a way forward.

5.0 Programme for Evidence Plan process

5.1 Evidence Plan Stages

5.1.1 The four stages to the Evidence Plan process are set out in Defra guidance (Defra, 2012) and comprise:

5.1.2 **Stage 1:** Applicant request for an Evidence Plan – as the Project is situated within Wales there is no formal mechanism to request an Evidence Plan, however, as outlined in Section 1, all relevant parties are supportive of following an Evidence Plan process for the Project.

5.1.3 **Stage 2:** Agreeing an Evidence Plan – the initial Evidence Plan should be agreed within three months. An Evidence Plan Framework document was prepared and agreed by August 2015. The final Evidence Plan will be published on the PINS website by December 2015. It is not proposed to continue to amend the final Evidence Plan (see stages 3 and 4).

5.1.4 **Stage 3:** Gathering evidence, analysis and feedback - the iterative process of evidence gathering and documenting decisions will be ongoing throughout the pre-application process and will feed into the Decision Log and SoCG to be submitted as part of the DCO and ML applications. As outlined below, ETG meetings have already begun in order to work towards key 'gateways' for example, agreement on survey methodologies, agreement on interpretation of survey findings, methods for assessment.

5.1.5 **Stage 4:** Finalising the Evidence Plan process – the aim is that on completion of the Evidence Plan process, discussions should have started on mitigation/ compensation proposals and also SoCG are in preparation for submission with the DCO and ML application. At the end of the pre-application process, an Evidence Plan Report will be produced which will detail the background, meetings, mechanisms and conclusions of the Evidence Plan process that supports the HRA/WFD/ MCZ/MSFD assessments.

5.2 Key Dates to mid-2016

5.2.1 Indicative key dates for the Evidence Plan process until the middle of 2016 are as follows:

i. March 2015: Inception Meeting of the Steering Group to agree roles and responsibilities;

ii. May 2015: TLC to further refine the Evidence Plan Framework document for discussion and development of site selection criteria based on information available;

iii. May – August 2015: Initial meetings of Expert Topic Groups to begin to agree survey scopes and methodologies;

iv. August 2015: Agreement on Evidence Plan Framework;

v. September – November 2015: further meetings of ETGs if required;

vi. October 2015: WFD ETG initial meeting to discuss WFD Screening Report and TLC approaches to WFD assessment;

vii. October 2015: Preparation of draft Evidence Plan;

viii. November 2015: HRA ETG initial meeting to discuss HRA Pre-Screening Report and TLC approaches to HRA assessment.

ix. November 2015: Steering Group meeting to review outcomes of Expert Topic Group meetings, provide feedback on process to date and review the draft Evidence Plan;

x. March 2016 ongoing: meetings of ETGs;

xi. April 2016: Draft Evidence Plan version 2 issued;

xii. June 2016: Final Evidence Plan approved.

5.2.2 It is noted that the production of a final Evidence Plan is significantly longer than the three month period specified in Defra guidance (2012). However, this is considered acceptable by all parties as it is a new process in Wales involving cross-border participation which inevitably makes arrangements more complicated.

5.3 Overall Programme with Key Gateways

5.3.1 Figure 4 illustrates the key gateways towards which all ETG are working towards, based on current Project information and programme. It must be emphasised that this programme remains subject to change.

5.3.2 Key dates in the current programme include the following:

i. August 2016: agreement on survey methodologies;

ii. October 2016: First round of consultation;

iii. April 2017: Second round of consultation;

iv. February 2017: Agreement on assessment methodologies and evidence requirements;

v. June 2017: Submission of draft HRA Screening Report;

vi. October 2017: Submission of draft ES and draft Information to Support HRA;

vii. March 2018: Submission of DCO and ML application.

6.0 Principles of the Assessment Approach

6.1.1 This section builds upon the Evidence Plan Framework (*TLC_Evidence Plan_Paper SG1c Evidence Plan Framework* (TLC, August 2015)) and the following documents: *TLC_Evidence Plan_Paper SG5 Definitions of LSE mitigation and compensation* (TLC, May 2015) and *TLC_Evidence Plan_Paper SG6 Approach to in-combination assessment* (TLC, May 2015) presented to the second Steering Group meeting of 19th May 2015, in order to set out the general principles of the assessment approach across HRA, WFD, MCZ and MSFD topics. The definitions, principles and approach are set out below.

6.2 Site characterisation data

6.2.1 TLC is required to provide information as may reasonably be required for the purposes of the assessment. Data must ultimately be sufficient to enable an assessment of likely significant effects to be undertaken and effects on site integrity (HRA) or potential impacts to WFD status/objectives to be defined. However, it must also be proportionate in the context of both the likely significance of the effect under consideration and the point in the process.

6.2.2 Best available and objective information will be used both with respect to site specific data and other information required in order to characterise an area/species population for HRA purposes. The most up to date water body information will be used to inform the WFD assessment.

6.2.3 If more data for a particular topic is requested by the Steering Group/ETG, beyond that previously agreed, consideration must be given to any cost and/or time considerations and the overall benefit to the assessment (i.e. would extra data significantly change an assessment outcome?) in line with the change management process described in section 4.6. TLC would take the final decision whether any further data collection will go ahead.

6.2.4 It should be noted that additional data may be necessary to develop a baseline for compliance monitoring post-consent, but this is separate from the data requirements for HRA, i.e. to characterise the environment. With respect to WFD, consideration will be given to how any post-consent monitoring can inform WFD compliance monitoring undertaken by NRW and the EA.

6.3 Data analysis and impact assessment

6.3.1 As part of the Evidence Plan process, discussions will be required to agree inter alia the following:

i. The definition of terminology and approach;

ii. Study areas (spatial and temporal);

iii. Reference populations (HRA);

iv. Identification of WFD water bodies potentially affected and their status;

v. Methodologies, analysis techniques and statistical analysis tools to be used;

vi. Apportionment of impacts from source to receptors of designated sites (HRA);

vii. Classification of effects of the Project on status of waterbodies or actions required to raise the status of a water body (WFD);

viii. Consideration of the effects of the Project on MCZ conservation objectives (MCZ); and

ix. Consideration of the effects of the Project on MSFD objectives, including those covered under the WFD.

6.3.2 In addition, effort will be made throughout the Evidence Plan process to agree:

HRA

i. Taking into account the Conservation Objectives, defining criteria for screening (in/out) with respect to European sites and designated features;

ii. Where appropriate, criteria for likely significant effect, as well as 'adverse effect on site integrity' (taking into account the Conservation Objectives);

WFD

i. Criteria for screening (in/out) with respect to WFD water bodies;

ii. Where appropriate, criteria for identifying deterioration of WFD elements or the effects of the Project that could prevent WFD objectives being achieved;

MCZ

i. Criteria for screening (in/out) with respect to MCZ sites;

ii. If appropriate, criteria for identifying effects on MCZ conservation objectives.

MSFD

i. Criteria for screening (in/out) with respect to MSFD descriptors; and

ii. Where appropriate, criteria for identifying deterioration of status of descriptors, where not covered already under the WFD.

6.4 Definition of 'likely significant effect' for HRA

6.4.1 Information requirements for the 'likely significant effect' (LSE) test for the Evidence Plan process are set out below. Definitions of what constitutes a significant effect as determined through case law are also summarised.

The concept of 'likely'

6.4.2 The concept of 'likely effect' is well established in case law, primarily through the European Court Waddenzee ruling, which has been consistently relied upon by subsequent judgements of the European Courts without modification (Tyldesley and Chapman, 2013). The Waddenzee judgement states:

"*any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects*".

6.4.3 As a result of *Waddenzee*, in this statutory context, a 'likely significant effect' is a 'possible significant effect.' This is irrespective of the English meaning of the word, which infers the need to establish a degree of probability. Therefore, in this context, if there exists a possibility of significant effect that cannot be ruled out on the basis of objective information, an appropriate assessment will be required.

The concept of 'significant effect'

6.4.4 A 'significant effect' is any effect that would undermine the site's conservation objectives. There must be an identifiable impact pathway between the project (or plan) and the qualifying features of the site which could result in a significant effect. Again, turning to the Waddenzee ruling which states:

'where a plan or project not directly connected with or necessary to the management of the site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site. The assessment of that risk must be made in the light, inter alia, of the characteristics and specific environmental conditions of the site concerned by such a plan or project'.

6.4.5 An effect which would not be significant is an effect that would not undermine the site's conservation objectives. However, it must also be noted that during the course of the assessment, an impact pathway may come to light that is not covered by the conservation objectives. Any such new pathway and effects would be covered under the HRA.

Information requirements to determine 'likely significant effect'

6.4.6 There is a requirement to rule effects in or out based on 'objective information'. In other words, a credible evidence base is required to show that there is a real, rather than a hypothetical, risk of effects that could undermine the site's conservation objectives. It should also be noted that an evidence base is not solely reliant on the existing survey information.

6.4.7 The judgement as to whether a significant effect is likely needs to be based on the best information available at that time. The information required will vary from feature to feature, however; as the Project evolves greater certainty regarding potential effects will be obtained. The screening test is a preliminary examination of the effects and it is at the appropriate assessment stage that a more in depth assessment will generally take place in order to inform decisions regarding effects on site integrity.

6.4.8 Any technical information provided must be sufficient to enable an assessment of likely significant effects to be undertaken. However, it should also be proportionate in the context of both the likely significance of the effect under consideration and the point in the HRA process (i.e. pre-screening, screening, appropriate assessment).

6.5 Approach to Mitigation Measures in HRA

6.5.1 The Habitats Directive and the Habitats Regulations do not refer specifically to 'mitigation measures'. However, the following hierarchy of mitigation will be followed:

- avoidance measures: those that stop or prevent effects from occurring, leading to no effect on the site;
- cancellation measures: those that completely negate any potentially adverse effect from occurring. Once they are implemented there is no residual effect on the site from that particular impact;
- reduction measures: those that either reduce the severity of an effect, or the likelihood of its occurring, or both. Once these are implemented the severity or risk of effect may be reduced to the point that it is no longer a significant effect. However, there may be a residual effect and therefore a consideration of any in-combination effects may be required.

6.5.2 Mitigation measures that are an integral part of the project (design embedded mitigation) will be considered at all stages of the Habitats Regulations Assessment process, including screening. With respect to a project of this size and potential

impacts, this may be an iterative process, and measures may be added or amended until the potential effects are avoided or reduced through a series of re-screening.

6.5.3 Mitigation measures which are proposed should be effective and reliable, with a high degree of confidence in their success. The exact measures that provide adequate mitigation can only be made on a case-by-case basis and will be secured through the DCO, ML and planning permissions under the TCPA.

6.6 Approach to 'Assessment of Alternative Solutions'

6.6.1 Regulation 62(1) of the Habitats Regulations requires that where a competent authority cannot ascertain that there would not be an adverse effect on the integrity of a European site, it must establish that there are no alternative solutions to the plan or project before it considers whether there are imperative reasons of overriding public interest (IROPI) to allow the plan or project to proceed (Tyldesley and Chapman, 2013).

6.6.2 The Assessment of Alternative Solutions (AAS) is intended to examine alternative ways of achieving the objectives of the Project to establish whether there are solutions that would avoid or have a reduced effect on the site(s) under consideration.

6.6.3 At this stage, a brief is being prepared by TLC which will outline the approach to be taken to the AAS. Comments will be sought from the SNCBs in drafting the brief, and advice sought as to who can advise on the AAS.

6.6.4 In addition, due regard will be made to the independent advice provided by DTA Ecology (November 2015) with respect to the consideration of alternative solutions.

6.7 Approach to Compensation Measures

6.7.1 Compensatory measures are only relevant where a plan or project is agreed to, following a negative outcome of an appropriate assessment under Regulation 61 of the Habitats Regulations, and if it is in line with the provisions for derogation under Regulation 62:

'If the competent authority are satisfied that there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of social or economic nature), they may agree to the plan or project notwithstanding a negative assessment of the implications for the European site.'

6.7.2 Regulation 66 refers to the requirement for compensatory measures in the following terms:

'where in accordance with regulation 62 (considerations of overriding public interest)

a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site or a European offshore marine site, or

b) a decision, or a consent , permission or other authorisation, is affirmed on review, notwithstanding such an assessment, the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.'

6.7.3 The object of compensation measures is to ensure the overall **ecological** coherence of the Natura 2000 network is maintained.

6.7.4 At this early stage, due regard will be given to the independent advice provided by DTA Ecology (November 2015) in any future approach to proposed compensatory measures. This advice, which has yet to be fully reviewed by all parties, is relevant to the approach to be taken to the interpretation and application of the derogation provisions under the Conservation of Habitats and Species Regulation 2010 (as amended) (the Habitats Regulations).

***Briels* judgement – a note on the compensatory approach**

6.7.5 Case C-521/12 Briels judgement issued in May 2014 considered the definition of mitigation and compensation. The case was brought by Briels and others against the Ministerial orders to allow the widening of the A2 motorway, which would have an adverse impact on a Natura 2000 site designated in the Netherlands for its Molinia meadows. The appropriate assessment concluded that seven hectares of the site would be negatively affected by hydrogeological change and through increases in NOx concentrations. However, as a mitigation measure, the national authorities proposed that the area of the meadows be extended significantly, and that other measures be implemented to better manage the existing site. Development consent for the project was then granted. As a result of the legal challenge brought by Briels, the Dutch National Court referred the case to the European Courts.

6.7.6 The judgement of the European Court was that that the appropriate assessment process must focus upon the effects on the actual and existing habitat, and not extend to the consideration of some future habitat that may become created by the developer. Therefore, a development that undermines a European site's conservation objectives should be viewed as one that has a significant effect on that habitat's integrity. In other words, what was classified as 'mitigation measures' by the motorway proponents where, in fact, 'compensatory measures' and should have been regarded as such.

6.7.7 The implications of the judgement are still not entirely clear until there has been further clarification from the European Commission or through the Courts, however; Tyldesley and Chapman (2013) have provided the following principles on the judgement:

- In addressing whether the proposed measures in respect of the recreation of Molinia meadows in the site was mitigation or compensation, Briels applied the precautionary principle. The difficulty of forecasting any positive effects of future habitat creation and the fact that it would take several years for before the Molinia habitat become established were additional reasons for concluding that the measures were compensatory.

- The principles regarding site integrity and conservation status are not confined to cases involving loss of or damage to priority natural habitats.

- The approach taken until now in England and Wales, whereby the improvement of existing habitat, or the provision of new habitat within a European site, could, in principle, operate as mitigation to reduce or avoid damage to or loss of similar habitat within that site, is incorrect.

6.7.8 At this early stage any discussion regarding compensatory measures must be taken in the context of the HRA being in its early stages and so the extent of any compensatory requirement is not yet quantified. However, in line with the precautionary approach, it is considered appropriate to begin 'in principle' negotiations with the statutory nature conservation bodies.

6.7.9 Notwithstanding the above, should any compensation measures be required, they will need to take into consideration the following criteria (taken from Tyldesley and Chapman, 2013):

i. agreed with the statutory nature conservation body;

ii. targeted at the number and status of the habitats and species for which the site is designated or classified that would be adversely affected by the plan or project, and the role the site plays in ensuring a adequate geographical distribution in relation to the range of species and habitats of species concerned;

iii. objectively proposed and based on sound science;

iv. well planned with clear objectives;

v. sufficiently diverse in appropriate types of measure to address all relevant adverse effects;

vi. enduring, and implemented over the short, medium or long-term as may be required;

vii. well managed over the necessary timescales, which may need to be in perpetuity;

viii. adequate on extent and sufficient quantity;

ix. appropriately phased and implemented meeting ecological objectives in a timely manner;

x. affordable and deliverable;

xi. guaranteed to be implemented;

xii. capable of being effectively monitored;

xiii. legally compliant and enforceable; and

xiv. sustainable, or reasonably so given natural changes, to ensure the integrity of the network is maintained in the long term.

6.8 Approach to In-combination Assessment

6.8.1 Regulation 61(1) of the Habitats Regulations transposes the Directive as follows:

'A competent authority, before deciding to undertake, or give and consent, permission or other authorisation for, a plan or project which:

a) Is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
b) Is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

6.8.2 European Commission Guidance (2000)[3] states that:

'the underlying intention of this in-combination provision is to take account of cumulative impacts'.

6.8.3 In line with the Habitats Regulations the term 'in-combination' is used hereafter to describe the potential for the Project to interact with other plans and projects. This equates to the use of 'cumulative effects' in the EIA Directive (2011/92/EU) and Infrastructure Planning (EIA) Regulations 2009.

6.8.4 Consideration of in-combination impacts will be undertaken at every stage in the HRA process. If it is found that the Project has no adverse effect on the site alone or in-combination, e.g. no impact pathway has been identified, no further

[3] European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC

assessment will be required. The need to undertake further in-combination assessment should a Project change give rise to an effect will also be kept under review.

6.8.5 If the Project alone has no likely significant effect on the site/feature that would cause it to undermine the conservation objectives, but effects cannot be completely excluded, the assessment will go on to consider the possibility of likely significant effects in-combination with other plans or projects. This will also take into account whether a series of insignificant effects from different projects can add up to a significant effect. The consideration of a number of insignificant effects leading to a significant effect would also be applied to 'within-project' in-combination effects.

6.8.6 If the Project is found to have a likely significant effect on the site alone, an appropriate assessment will automatically be triggered. However, in-combination assessment with other plans and projects will still be required. Only where another project has no effect at all on the site/feature can it be excluded from the in-combination assessment.

Identification of other Plans and Projects for assessment

6.8.7 In line with PINS advice note 10 (June 2015), the following plans and projects will be identified for in-combination assessment throughout the process:

i. projects that are under construction;

ii. permitted application(s) not yet implemented;

iii. submitted application(s) not yet determined;

iv. all refusals subject to appeal procedures not yet determined;

v. projects on the National Infrastructure's programme of projects; and

vi. projects identified in the relevant development plan (and emerging development plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.

6.8.8 It is noted that the above list is not exhaustive and therefore further discussion is required with SNCBs regarding other potential categories that they have identified, including permissions (which covers permitted activities by the regulators), annual licences and known projects that do not require external authorisation. Further discussion will also be required on how an 'appropriate weight' as indicated in the PINS guidance will be defined.

6.8.9 With respect to 'past' projects, the environmental impacts of schemes that have been completed should be included within the environmental baseline; as such,

these impacts will be taken into account in the HRA process for each relevant project element. Consequently, completed projects can generally be excluded from the scope of the in-combination assessment. However, the environmental impacts of recently completed projects may not yet be fully realised and, therefore, the potential impacts of such projects should be taken into account in the assessment, as far as is possible.

6.8.10 Consideration will also be given to any impacts that do not directly overlap spatially or temporally, but may indirectly result in an in-combination impact. These are likely to include, for example, foreseeable intertidal habitat creation schemes (including those put forward as part of any compensatory package within the Bristol Channel), or the implementation of shoreline management strategies. The definition of foreseeable will require further consideration by the Steering Group.

6.8.11 Where data is available, a quantitative assessment of potential effects and their environmental significance will be provided. For those projects that are at a more advanced stage in planning, more confidence can be attached to any predictions and therefore there will be less uncertainty in the assessment of potential combined effects.

6.8.12 The effects that the Project may have, in-combination with other plans and projects, on the existing and reasonably foreseeable environment will also be considered, including potential lagoon options within the Severn Estuary and Bristol Channel. It must be emphasised that the in-combination assessment can only proceed on the best available information at that time with respect to other projects and plans. Detailed assessments, such as coastal modelling for potential lagoon options within the Severn Estuary and Bristol Channel (apart from Cardiff) may therefore not be available and more generic data may have to be relied upon for assessment. In addition, very little publicly available information may be available for future lagoons proposed by other developers.

6.8.13 An initial list of plans and projects currently identified for the in-combination assessment is included in *TLC_Evidence Plan_Paper SG6 Approach to in-combination assessment* (TLC, May 2015). Additional projects have subsequently been identified by NRW and NE and an updated list is provided at Appendix 3. This list will continue to be reviewed throughout the pre-application process until the point of submission.

6.9 Approach to WFD Assessment

6.9.1 The WFD (Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy) was implemented in the UK by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.

6.9.2 The fundamental principle of the Directive is to protect water resources and to promote sustainable water use. The WFD was put in place to:

i. Enhance the status, and prevent further deterioration of aquatic ecosystems and associated wetlands which depend on the aquatic ecosystems;

ii. Promote the sustainable use of water;

iii. Reduce pollution of water, especially by 'priority' and 'priority hazardous' substances; and

iv. Ensure progressive reduction of groundwater pollution[4].

6.9.3 The WFD sets the objectives for all waterbodies in Europe classified under the WFD and it creates a mechanism through which each signatory has to aim to bring its water resources to an accepted biological and chemical standard (good ecological/chemical status for natural waterbodies; and good ecological potential/good chemical status for artificial/heavily modified waterbodies) by 2015; this is based on a series of parameters (quality elements) dependent on the type of waterbody considered (i.e. rivers; lakes; transitional waters and coastal waters) and its hydromorphological designation (i.e. natural; artificial or heavily modified). In cases where good status/potential cannot be achieved by 2015 a provision is given under Article 4.4 of the WFD extending the deadline to 2021 or 2027. The date has been extended to 2027 in respect of a large number of waterbodies.

6.9.4 The WFD has important implications for planning works that may affect relevant waterbodies. It has the effect of controlling such development such that it does not cause deterioration in waterbody status (ideally, such development should improve the status of the affected waterbodies).

6.9.5 In order to assess whether the Project is compliant with the objectives set out in the WFD, the following steps will be undertaken and the findings presented within a WFD compliance assessment report that will be submitted with the DCO application and the ML:

Stage 1: Defining the study area, based on the location of key components of the Project, the distance of waterbodies from the Project, and the hydrological connectivity of waterbodies to the Project (discounting those waterbodies not considered to be relevant using the theoretical likelihood of the Project interacting with WFD status or potential);

Stage 2: Collating baseline data on the screened-in waterbodies with the River Basin Management Plan (RBMP) areas, their current WFD status and potential,

[4] http://ec.europa.eu/environment/water/water-framework/

their specific objectives and any mitigation measures or failures undertaken to date;

Stage 3: Defining the relationship of the Project's components with the included waterbodies (i.e. screening out components not considered to be relevant so that the possibility of effect and the consequences can be identified). It should be noted that screening of waterbodies is an iterative process and that waterbodies can be screened in or out as the assessment progresses;

Stage 4: A preliminary assessment of the remaining screened in components of the Project against the WFD elements (biological, chemical and hydromorphological element that make up the overall WFD status) of the screened in waterbodies. This is to identify whether any components could have an impact on the status or potential of the waterbodies and whether a detailed assessment is required. This assessment will also consider any conflict between the Project and relevant RBMP mitigation measures. Other developments that could potentially have a cumulative impact with the Project will be considered at this stage;

Stage 5: Undertake a detailed assessment based on the findings of the preliminary assessment in respect of any components of the Project, identified as likely to have an impact upon the WFD elements. This assessment will also consider any conflicts between the Project and relevant RBMP mitigation measures, and any cumulative impacts of the development.

6.9.6 Where the WFD compliance assessment identifies that a potential deterioration in the status of waterbody may occur as a result of the Project, provision of information to allow NRW and the EA to carry out the WFD Article 4.7 assessment will be provided separately to the WFD Compliance Assessment. The process for collating information in support of the four tests under Article 4.7 as set out below will therefore be discussed with the WFD ETG.

6.9.7 The WFD (via Articles 4.7 and 4.8) provides that, in the event of a project resulting in an adverse impact on a waterbody which could cause a deterioration in its WFD status[5], or could prevent measures which are required to achieve the objectives of the water body, then the project must be assessed and justified in the context of the actions proposed to mitigate the adverse impact on the status of the waterbody.

[5] The European Court of Justice ruling: 'The obligations laid down by the Water Framework Directive concerning enhancement and prevention of deterioration apply to individual projects such as the deepening of a navigable river' (July 2015) defined 'deterioration of the status' of a body of surface water '*as soon as the status of at least one of the quality elements, within the meaning of Annex V to the directive, falls by one class, even if that fall does not result in fall in classification of the body of surface water as whole'.*

6.9.8 The WFD does allow derogations from its requirements to prevent deterioration in status or to restore waterbodies to Good Ecological (or Good Potential) status if the Development meets certain socio-economic and environmental criteria. For a derogation to be applicable, it must satisfy the criteria in Article 4.7:

Article 4.7 'Member States will not be in breach of this Directive when:

- *failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface waterbody or alterations to the level of bodies of groundwater, or*
- *failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities and all the following conditions are met:*

  (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;

  (b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;

  (c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and

  (d) the beneficial objectives served by those modifications or alterations of the waterbody cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.'

6.9.9 Where a derogation is proposed under Article 4.7, Article 4.8 of the WFD requires that other waterbodies are not adversely affected. This means that a similar consideration must be applied to these waterbodies. Article 4.8 states:

6.9.10 'When applying paragraphs 3, 4, 5, 6 and 7, a Member State shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.'

6.9.11 In addition, Article 4.9 states *'Steps must be taken to ensure that the application of the new provisions, including the application of paragraphs 3, 4, 5, 6 and 7, guarantees at least the same level of protection as the existing Community legislation'.* This will also be taken into account in any WFD assessment.

7.0 Next Steps in the Evidence Plan Process

7.1 Introduction

7.1.1 Stage 1 of the Evidence Plan process is complete and Stages 2 and 3 have commenced. As outlined in Figure 3, ETG meetings have taken place and agreement is being reached in some topics regarding survey methodologies (the first overarching key gateway). This section provides a brief summary of the current progress of the HRA, WFD, MCZ and MSFD assessments and an indication of the next stages. Further information regarding agreements reached to date and issues subject to ongoing discussion can be found in TLC_Evidence Plan_ Paper SG10 Evidence Plan Progress Report November 2015 (TLC, November 2015)

7.2 HRA Pre-Screening Report

7.2.1 An HRA Pre-Screening Report (*TLC_Evidence Plan_Paper SG2c HRA Pre-Screening* (TLC, October 2015)) was submitted to SNCBs on 16th October 2015. The HRA Pre-Screening Report presents the findings of an initial site selection process for European sites that are to be considered in the HRA process. The 'potential impact pathway' tables are intended to initially examine the potential cause-effect relationships between the Project and the sites and do not represent an assessment of LSE. The potential impact pathway tables classify features within sites under one of the following:

- where no impact pathway between the feature/site and the Project is identified;
- where the link is only theoretical and therefore there is no further evidence gathering required in order to proceed onto the screening stage;
- where further evidence gathering is required to demonstrate whether or not there is a LSE;

7.2.2 The aim is to reach agreement on this document as it will inform the extent of evidence gathering required for each feature/site.

Selection of European sites potentially affected

7.2.3 Site selection is the first stage of screening for likely significant effects. In effect, this aspect establishes a list of European sites that will enable an appropriate 'short-list' of sites potentially affected to be drawn up, from which the final list of sites to be included in the assessment can be selected after considering the relevant

information (Tyldesley and Chapman, 2013). In order to reach agreement on this Pre-Screening Report, the most up-to-date information was used in order to inform the report based on a 'worst-case' scenario.

7.2.4 With respect to the potential for effects on coastal bird receptors associated with European sites outside the Bristol Channel, a paper was prepared by Combined Ecology (a division of British Trust for Ornithology (BTO) Services Ltd) (Burton et.al 2015) and submitted as Appendix 2.2 of the *Tidal Lagoon Cardiff Environmental Impact Assessment (EIA) Scoping Report* (TLC, March 2015). This presented a high level site selection process for those SPAs that may be affected by displacement of birds from the Severn Estuary Special Protection Area (SPA) and Ramsar site.

7.2.5 The results of the Combined Ecology paper will be considered separately by the Coastal Birds ETG. As proposals and options become more refined, the evidence base will increase and further work will be undertaken in order to define whether an impact can be defined as a LSE at these further sites.

7.2.6 Agreement on evidence requirements to inform the HRA will continue throughout Stage 3 in 2016/early 2017 and the draft HRA Screening will be undertaken following detailed coastal process modelling results. A draft Information to Support an HRA (the HRA Report) will be submitted with the draft ES.

7.3 WFD Assessment

7.3.1 A WFD Screening Report for the Project was submitted to the appropriate authorities on 2nd September 2015. This formed the basis of discussions for the first WFD Expert Topic Group held on 22nd September 2015. It is important to note that the WFD Screening Report is not a statutory requirement. Discussions are ongoing with the Appropriate Agencies in order to agree the WFD Screening Report and approach to WFD assessment.

7.3.2 During Stage 3 of the Evidence Plan process, agreement on the evidence requirements should be reached and the WFD compliance assessment report will be produced. The WFD compliance assessment will draw on information from other assessments reported elsewhere, in particular the ES relating to the Project. For some WFD elements, further assessment beyond that which is undertaken for the EIA may be required.

7.3.3 As previously stated, provision of information to allow NRW (and other Appropriate Agencies) to carry out the WFD Article 4.7 assessment will be provided separately to the WFD Compliance Assessment.

7.4 MCZ Screening

7.4.1 Section 126 of the Marine and Coastal Access Act (MCAA) (2009) places specific duties on the Marine Management Organisation (MMO) relating to marine conservation zones (MCZs). In determining how to apply s.126 in undertaking its marine licensing function, the MMO introduced the MCZ assessment process to be integrated into existing marine licence decision making procedures. MCZs within the Bristol Channel are all in English waters as follows: Lundy MCZ, north of Lundy candidate MCZ and Bideford to Hartland Point recommended MCZ.

7.4.2 In England, an MCZ assessment is carried out in a sequential manner as indicated in the document 'Marine conservation zones and marine licensing' (MMO, 2013). At each stage of the process the feature(s) for which the MCZ has been designated, the current status of those features, and the conservation objectives against each feature are considered.

7.4.3 However, as the Project is within Welsh waters the ML application will be made to NRW. Section 116 of the MCAA (2009) gave Welsh Ministers the powers to designate MCZs. The first MCZ to be designated in Wales was Skomer Island in December 2014.

7.4.4 Further consultation with SNCBs is therefore required regarding the assessment procedure to be followed for MCZs in England for a proposed development in Wales.

7.5 MSFD

7.5.1 Further consultation with Appropriate Agencies is required regarding the assessment procedure to be followed for MSFD descriptors potentially affected by the Project.

7.6 Ecosystem Enhancement Programme (EEP)

7.6.1 TLC are developing an Ecosystem Enhancement Programme (EEP), which is intended to provide the framework for delivery of any statutorily required compensatory measures. The EEP aims to address legislative requirements relating to compensation but also to produce proposals at a wider scale that can enhance the natural environment and bring economic and social benefits to the Severn Estuary and beyond.

7.6.2 The package of compensatory measures proposed will be developed in parallel with the outcome of the Environmental Impact Assessment and HRA process. The assumptions made regarding approach to compensation will be discussed throughout the pre-application process.

7.7 Adaptive Environmental Management Plan

7.7.1 To further define the mitigation and monitoring proposals an Adaptive Environmental Management Plan (AEMP) will be prepared for the Project as the Evidence Plan progresses (see Chapter 26 of the Scoping Report (TLC, March 2015)).

7.7.2 The AEMP will be updated as the Project progresses through consultation and in light of the data emerging from any surveys and monitoring undertaken. This is seen as an essential part of the process to validate the findings of the extensive studies that have been and are currently being undertaken to determine the potential effects of this type of renewable energy development. This accords with Policy set out on page 18 of the EC Guidance Note 'The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging' (2011) that states:

"Where uncertainties or lack of knowledge on physical, morphological or biological processes still exist, these should be minimised as far as possible by additional research; where uncertainty remains, adaptive monitoring programmes should be foreseen. New evidence and scientific information should be fed back into the management plan and where necessary lead to an appropriate adaptation of the management measures and monitoring schemes."

7.7.3 These principles also accord with the HRA process as the objective is to reduce uncertainty over impacts to an acceptable level.

8.0 References

Burton, N.H.K and Clark, N.A. (January 2015) An ornithological review of UK sites within the Natura 2000 network and broad regions of Europe that could potentially be affected by the proposed Cardiff Tidal Power Lagoon and other potential lagoon proposals on the Severn Estuary, Combined Ecology.

Department for Energy and Climate Change (DECC) (2015) Addendum to decommissioning of offshore renewable energy installations under the Energy Act 2004 Guidance notes for industry: Tidal Lagoons.

Department for Environment, Food and Rural Affairs (Defra) (September 2012) Habitats Regulations Evidence Plans for Nationally Significant Infrastructure Projects.

DTA Ecology, November 2013. Advice regarding the approach to the derogation provisions under the Habitats Regulations relevant to tidal lagoon proposals. Draft for comment.

EC Guidance Note (2011) 'The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging'.

Marine Management Organisation (MMO). 2013. Marine conservation zones and marine licensing .

The Planning Inspectorate (February 2011) Advice note nine: Rochdale Envelope.

The Planning Inspectorate (Version 6 June 2015): Advice note ten: Habitats Regulations Assessment relevant to Nationally Significant Infrastructure Projects.

Tidal Lagoon Cardiff Ltd (March 2015) Proposed Tidal Lagoon Development, Cardiff, South Wales, Environmental Impact Assessment Scoping Report.

Tidal Lagoon Cardiff Ltd (May 2015). TLC_Evidence Plan_Paper SG6 Approach to in-combination assessment.

Tidal Lagoon Cardiff Ltd (May 2015) TLC_Evidence Plan_Paper SG5 Definitions of LSE mitigation and compensation.

Tidal Lagoon Cardiff Ltd (August 2015) TLC_Evidence Plan_Paper SG1c Evidence Plan Framework.

Tidal Lagoon Cardiff Ltd (October 2015) TLC_Evidence Plan_Paper SG2c HRA Pre-Screening.

Tidal Lagoon Cardiff Ltd (November 2015) TLC_Evidence Plan_ Paper SG10 Evidence Plan Progress Report November 2015.

Tyldesley, D., and Chapman, C., (2013) The Habitats Regulations Assessment Handbook (November 2014 edition) UK: DTA Publications Ltd.

Figure 1: Tidal Lagoon Cardiff layout

DO NOT SCALE

KEY

- REDLINE BOUNDARY
- LAGOON WALL
- TURBINE HOUSING

CAERPHILLY / CAERFFILI

CARDIFF / CAERDYDD

NEWPORT / CASNEWYDD

PENARTH

BARRY / Y BARRI

PORTISHEAD

CLEVEDON

NAILSEA

WESTON-SUPER-MARE

MOUTH OF THE SEVERN / ABER HAFREN

WELSH GROUNDS

0 2 4 Kilometers

Rev.	Description	By	Date	Chk'd	Auth

Status	Purpose of Issue	Rev	Date	Authorised

Tidal Lagoon Power
Pillar & Lucy House
Merchants Road
The Docks
Gloucester
GL2 5RG

TIDAL LAGOON CARDIFF

Project
TIDAL LAGOON CARDIFF

Title
LOCATION OF PROJECT

Drawn	Checked	Authorised	Status
SC	MB	MB	
Date 13.02.15	Date 13.02.15	Date 13.02.15	

Drawing Number
FIGURE 1.1

Rev
D

Figure 2: Flow chart illustrating the relationship between the Evidence Plan groups

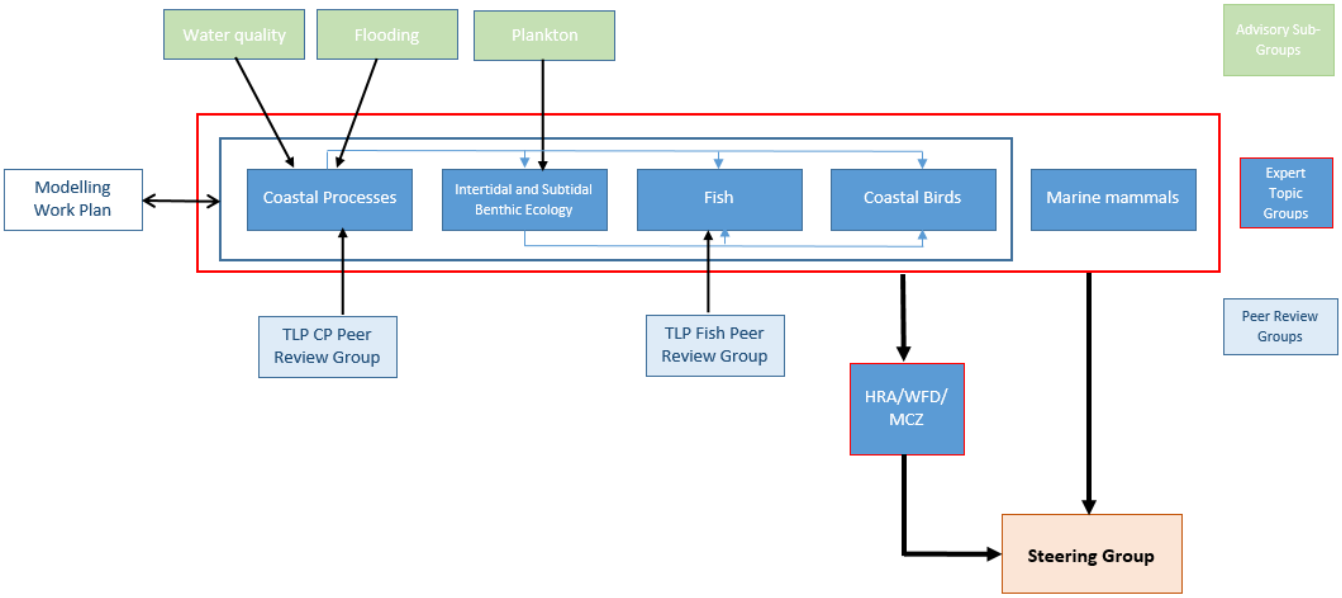
Water quality
Flooding
Plankton
Advisory Sub-Groups
Modelling Work Plan
Coastal Processes
Intertidal and Subtidal Benthic Ecology
Fish
Coastal Birds
Marine mammals
Expert Topic Groups
TLP CP Peer Review Group
TLP Fish Peer Review Group
Peer Review Groups
HRA/WFD/ MCZ
Steering Group

Figure 3: Peer Review Group Process

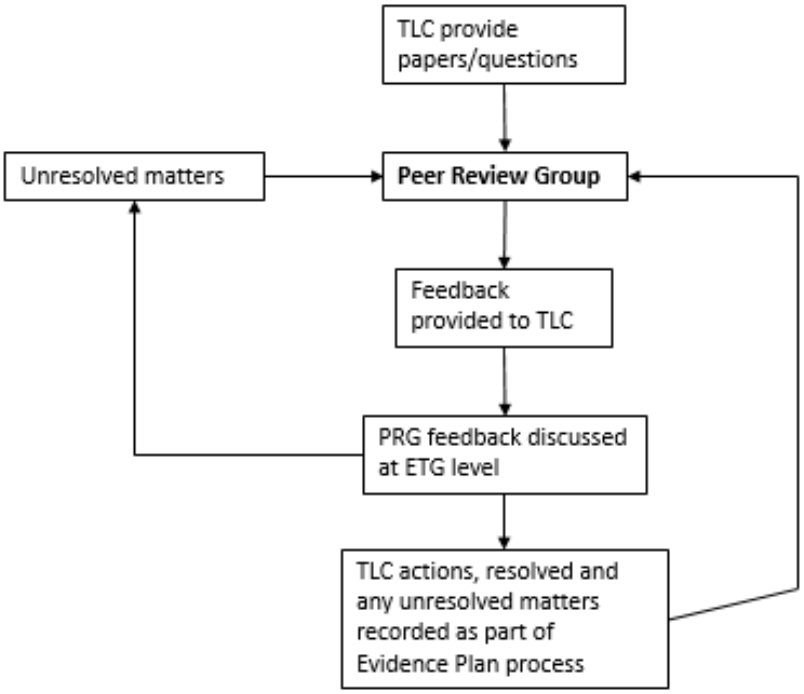
TLC provide papers/questions
Unresolved matters
Peer Review Group
Feedback provided to TLC
PRG feedback discussed at ETG level
TLC actions, resolved and any unresolved matters recorded as part of Evidence Plan process

Figure 4: Tidal Lagoon Cardiff – current programme

STAGE	2015												2016												2017												2018											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Steering Group meetings																																																
Evidence Plan Steering Group meetings																												to be confirmed																				
Evidence Plan agreed																																															
Evidence Plan Report submitted																																															
ETG meetings																																															
Coastal Processes																																															
Intertidal and subtidal ecology																																															
Coastal birds																												to be confirmed																				
Fish																																															
Marine mammals																																															
HRA/WFD/MCZ																																															
Overarching key gateways																																															
Scoping Report submitted																																															
Survey methodologies developed																																															
Assessment methodologies developed																																															
First round of consultation (non-statutory)																																															
Second round of consultation (PIER)																																															
EIA undertaken																																															
Draft ES submitted (third round of consutation)																																															
Adaptive Environmental Management Plan developed																																															
SoCG agreed																																															
DCO/Marine Licence submitted																																															
HRA key gateways																																															
HRA Pre-Screening undertaken																																															
Evidence requirements to inform HRA developed																																															
HRA Screening undertaken																																															
Draft HRA Screening submitted																																															
Information to Support HRA undertaken																																															
Draft HRA report submitted																																															
Final HRA Screening and HRA Report submitted																																															
AAS process																																															
IROPI case made																																															
Ecosystem Enhancement Programme																																															

Compensatory measures proposed and agreed	
WFD key gateways	
Draft WFD Screening Report submitted	
Evidence requirements to inform WFD developed	
WFD Compliance Assessment undertaken	
Draft WFD compliance assessment report submitted	
Final WFD compliance assessment report submitted	
Information collated by TLC to support competant authority assessment under Article 4.7 of the WFD, if required for the potential deterioration in status of any waterbody or waterbodies (in conjunction with NRW and the EA)	
MCZ key gateways	
Draft MCZ Screening Report submitted	
Final MCZ Report submitted	
Stage 1 assessment (if required)	to be confirmed / to be confirmed
MSFD key gateways	to be confirmed

Appendix 1: Terms of Reference for Expert Topic Groups and Peer Review Groups

Draft, commercial in confidence

TERMS OF REFERENCE FOR COASTAL PROCESSES EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The Coastal Processes Expert Topic Group has the following Terms of Reference:

i) To consider and agree survey methods, modelling proposals and data analysis for coastal processes;

ii) To also consider and agree specific aspects of the water quality and flooding assessments where required, through use of focused sub-group meetings;

iii) To input into the Modelling Work Plan and other Expert Topic Groups when required;

iv) To also discuss the flooding and water quality aspects of the Modelling Work Plan in detail when required;

v) To consider the detailed evidence requirements in the context of HRA and WFD;

vi) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

vii) To consider methods for assessment(s) and assumptions (including interpretation of impact and criteria for likely significant effect, deterioration of WFD status etc.);

viii) To discuss and agree receptors for assessment;

ix) To consider the interpretation of the findings of any surveys and assessment process;

x) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

xi) To document areas of agreement and disagreement;

xii) To follow the working arrangements as set out in the Evidence Plan Framework Document.

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TERMS OF REFERENCE FOR FISH EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The Fish Expert Topic Group has the following Terms of Reference:

i) To consider and agree survey methods, modelling proposals and data analysis;

ii) To input into the Modelling Work Plan and other Expert Topic Groups when required;

iii) To consider the detailed evidence requirements in the context of HRA and WFD;

iv) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

v) To consider methods for assessment(s) and assumptions (including interpretation of impact and thresholds for likely significant effect, deterioration of WFD status etc.);

vi) To consider the interpretation of the findings of any surveys and assessment process;

vii) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

viii) To document areas of agreement and disagreement throughout the process;

ix) To follow the working arrangements as set out in the Evidence Plan Framework Document.

TERMS OF REFERENCE FOR COASTAL BIRDS EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The Coastal Birds Expert Topic Group has the following Terms of Reference:

i) To consider and agree survey methods, modelling proposals and data analysis for over-wintering and breeding coastal bird species;

ii) To input into the Modelling Work Plan and other Expert Topic Groups when required;

iii) To consider the detailed evidence requirements in the context of HRA and WFD;

iv) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

v) To consider methods for assessment(s) and assumptions (including interpretation of impact and thresholds for likely significant effect, deterioration of WFD status etc.);

vi) To consider the interpretation of the findings of any surveys and assessment process;

vii) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

viii) To document areas of agreement and disagreement;

ix) To follow the working arrangements as set out in the Evidence Plan Framework Document.

TERMS OF REFERENCE FOR MARINE MAMMALS EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The Marine Mammal Expert Topic Group has the following Terms of Reference:

i) To consider and agree survey methods, modelling proposals and data analysis for marine mammal species;

ii) To input into other Expert Topic Groups when required;

iii) To consider the detailed evidence requirements in the context of HRA;

iv) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

v) To consider methods for assessment(s) and assumptions (including interpretation of impact and thresholds for likely significant effect etc.);

vi) To consider the interpretation of the findings of any surveys and assessment process;

vii) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

viii) To document areas of agreement and disagreement;

ix) To follow the working arrangements as set out in the Evidence Plan Framework Document.

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TERMS OF REFERENCE FOR INTERTIDAL AND SUBTIDAL BENTHIC ECOLOGY EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The Intertidal and Subtidal Benthic Ecology Expert Topic Group has the following Terms of Reference:

i) To consider and agree survey methods, modelling proposals and data analysis for intertidal and subtidal benthic ecology, including phytoplankton and saltmarsh;

ii) To input into the Modelling Work Plan and other Expert Topic Groups when required;

iii) To consider the detailed evidence requirements in the context of HRA and WFD;

iv) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

v) To consider methods for assessment(s) and assumptions (including interpretation of impact and thresholds for likely significant effect, deterioration of WFD status etc.);

vi) To consider the interpretation of the findings of any surveys and assessment process;

vii) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

viii) To document areas of agreement and disagreement;

ix) To ensure that every member has access to and makes use of any file sharing arrangements in order to ensure co-ordination between ETG where applicable;

x) To follow the working arrangements as set out in the Evidence Plan Framework Document, including the provision of at least two weeks in advance of meetings to submit papers.

TERMS OF REFERENCE FOR HRA/WFD/MCZ EXPERT TOPIC GROUP

Expert Topic Groups for the Cardiff Tidal Lagoon Evidence Plan process will be made up of a small number of technical experts from relevant organisations specific to individual environmental topics.

The HRA/WFD/MCZ Expert Topic Group has the following Terms of Reference:

i) To input into the Modelling Work Plan and other Expert Topic Groups when required;

ii) To consider the detailed evidence requirements in the context of HRA, WFD assessment and MCZ assessment;

iii) To consider the relevance, appropriateness and sufficiency of evidence for the specific assessment requirement under consideration (including both site specific and contextual data);

iv) Discuss the various stages of the HRA in a stepwise process, as required, through pre-screening, assessment of likely significant effects, appropriate assessment, alternatives and reasons of overriding public interest, noting that it is not predetermined that all stages would be required;

v) Discuss the WFD screening assessment and detailed assessment requirements to determine whether the project will cause deterioration to water body status, or prevent achievement of good status. If necessary, discuss evidence requirements for Article 4.7 derogation of the Project;

vi) Discuss the requirements for screening for potential effects on MCZ;

vii) To consider methods for assessment(s) and assumptions (including interpretation of impact and thresholds for likely significant effect, deterioration of WFD status etc.);

viii) To consider the interpretation of the findings of any surveys and assessment processes;

ix) To work towards the 'key gateways' in the programme, for example agreement on survey methodologies, methods for assessment;

x) To document areas of agreement and disagreement; and

xi) To follow the working arrangements as set out in the Evidence Plan Framework Document.

Draft, commercial in confidence

Tidal Lagoon Power

Coastal Process Peer Review Group

Proposed Terms of Reference

Context

Tidal lagoons offer the potential for the generation of low carbon energy from the UK's significant tidal range. To this end TLP is developing a tidal lagoon in Swansea Bay, South Wales and has proposals under assessment for large scale lagoons along the UK's west coast, notably including proposals for lagoons in the Severn Estuary at Cardiff and Newport.

Tidal Lagoon Power (TLP) recognises the complexity of the environmental challenges associated with development in areas like the Severn Estuary, with its dynamic coastal and marine environment and network of overlaid designations from European Marine Sites to local nature reserves. TLP is also aware of the social and economic services rooted in this estuarine environment and that these are being challenged by climate change and global economic change.

Given this, in parallel with the lagoon developments, TLP is progressing an Ecosystems Enhancement Programme (EEP) which aims to have a net positive effect on biodiversity conservation and address the compensation and ecosystem-scale mitigation requirements TLP anticipate will arise from future tidal lagoons. It also aims to foster innovative and collaborative partnerships to deliver conservation action in the UK, EU and globally. TLP's vision through the EEP is to enhance biodiversity alongside the generation of clean energy by 2030.

Building on existing knowledge and expertise, TLP has undertaken and continues to progress engineering-based feasibility studies to investigate which options could maximise the tidal energy that can be harnessed from the Severn Estuary through a series of lagoons, at the lowest possible power cost and with minimal environmental effects. This process is ongoing, however the initial outcomes of this work suggest an optimum set of three tidal lagoons should be considered; two connected to the Welsh coast between Cardiff and the M4 crossing and the third in Bridgwater Bay. Consultation to feed into the proposals is being undertaken with key regulatory bodies, local, national and environmental organisations. The impacts associated with each lagoon development will be comprehensively assessed as part of each project's pre-application process, as well as considered cumulatively in terms of the transformation of the estuary.

The purpose of the Coastal Process Peer Review Group

Peer review is an essential part of achieving high quality, independent and authoritative outputs, which are accepted by regulators and other key stakeholders.

The aim of the Coastal Process Peer Review Group is to provide confidence to TLP that the work being undertaken with respect to coastal processes and geomorphology is thorough, comprehensive and will stand up to external scrutiny. That is, to provide TLP with expert, independent validation (where relevant) of data requirements, survey results, modelling methods and parameters, model outputs, and interpretation; to challenge (where necessary) the approach being adopted to ensure that it is as

robust as possible; and to provide a 'seal of approval' in the context of the methods being applied. Hence the purpose of the group is to:

- Advise TLP and the Coastal Process Research Contractor on the methodology being and to be adopted for the prediction of effects/impacts (and the associated definition of mitigation and compensatory requirements) in order to ensure that it is/the outputs are:
    - relevant
    - technically accurate
    - robust, with consensus and confidence
    - authoritative
    - presented in a format suitable for the target audience.
- Agree the research output as 'fit for purpose' and 'fit for publication'.
- Provide technical and other relevant support to the project where relevant.

This group will be independent of the Cardiff Tidal Lagoon Evidence Plan Coastal Process Topic Group (established with a regulatory focus in line with good practice guidance on the implementation of the Habitats Regulations 2010 for Nationally Significant Infrastructure Projects (NSIPs)). However, if issues arise from the Evidence Plan Topic Group that require further peer review, these may be referred to the Coastal Process Peer Review Group at the discretion of TLP. Conversely, where advice is provided or reviews are undertaken by the Peer Review Group, they may be shared with the Topic Group to inform the group regarding the perceived suitability of the work being undertaken and outputs produced.

Composition of the Coastal Process Peer Review Group

It is proposed that the group will comprise of up to four members, including a chairperson, and that the meetings of the group will be attended by TLP representatives and their coastal process consultants.

Tasks and responsibilities of the Coastal Process Peer Review Group

- Confirmation that the objectives for the work are appropriate.
- Confirmation that the scope and methods proposed are appropriate; and the promotion of alternative approaches (for discussion) where relevant.
- Provision of advice on other organisations/individuals that could be approached to contribute to the technical content, if relevant.
- Review of drafts of the research outputs and the provision of constructive commentary, particularly with regard to possible technical errors, omissions or ambiguities. Note that this would be limited as far as possible to the review of key documentation, so that the time commitment is not excessive.
- Where appropriate, seek views and co-ordinate responses from colleagues.
- Participation in project workshops.

It is proposed that the first paper that will be provided to the Peer Review Group will be ABPmer's geomorphological conceptual model of the Severn Estuary. This will be be provided to TLP for distribution to the group in March 2016, ahead of a proposed meeting to discuss it April 2016.

Secretariat support
Administrative support will be provided to the Coastal Process Peer Review Group by TLP, who will facilitate and co-ordinate communications with the group members and establish a directory of data and reports (as appropriate).

Payment for services
It is proposed that members of the Coastal Process Peer Review Group are paid [redacted] for their input, unless separately negotiated. This level of fee is proposed because TLP wants to maintain clarity between consultancy services (which this input is considered to be distinct from) and independent expert advice. Hence it is aimed at covering costs/expenses only.

The time required to review relevant outputs will be agreed in advance with the group in each case, but for the conceptual model it is envisaged that one day will be required for review and one day for discussion (the meeting). It is anticipated that a further three meetings in 2016 (equating to a further six days of input) will be required. Please note that these are time estimates only and are not guaranteed; remuneration will be based upon actual days worked and agreed by both parties in advance.

Confidentiality and conflict
The content of the papers to be provided and any reviews undertaken will remain confidential to the Peer Review Group and TLP until the work officially enters the public domain (which it will do in due course).

The members of the Group are asked to inform TLP of any conflicts of interest (or potential conflicts of interest) that may arise at any stage during the process and their engagement. The members of the Group will also be asked to sign TLP's standard confidentiality agreement.

Draft, commercial in confidence

Tidal Lagoon Power (TLP)

Fisheries Peer Review Group

Proposed Terms of Reference

Context

Tidal lagoons offer the potential for the generation of low carbon energy from the UK's significant tidal range. To this end TLP is developing a tidal lagoon in Swansea Bay, South Wales and has proposals under assessment for large scale lagoons along the UK's west coast, notably including proposals for lagoons in the Severn Estuary at Cardiff and Newport.

TLP recognises the complexity of the environmental challenges associated with development in areas like the Severn Estuary, with its dynamic coastal and marine environment and network of overlaid designations from European Marine Sites to local nature reserves. TLP is also aware of the social and economic services rooted in this estuarine environment and that these are being challenged by climate change and global economic change.

Given this, in parallel with the lagoon developments, TLP is progressing an Ecosystem Enhancement Programme (EEP) which aims to have a net positive effect on biodiversity conservation and address the compensation and ecosystem-scale mitigation requirements TLP anticipate will arise from future lagoons. It also aims to foster innovative and collaborative partnerships to deliver conservation action in the UK, EU and globally. TLP's vision through the EEP is to enhance biodiversity alongside the generation of clean energy by 2030.

Building on existing knowledge and expertise, TLP has undertaken and continues to progress engineering-based feasibility studies to investigate which options could maximise the tidal energy that can be harnessed from the Severn Estuary through a series of lagoons, at the lowest possible power cost and with minimal environmental effects. This process is ongoing, however the initial outcomes of this work suggest three tidal lagoons should be considered; two connected to the Welsh coast between Cardiff and the M4 crossing and the third in Bridgwater Bay. Consultation to feed into the proposals is being undertaken with key regulatory bodies, local, national and environmental organisations. The impacts associated with each lagoon development will be comprehensively assessed as part of each project's pre-application process, as well as considered cumulatively in terms of the transformation of the estuary.

Fisheries Peer Review Group

The Fisheries Peer Review Group has been created to provide TLP with expert, professional, independent validation of data requirements, survey objectives, survey methods, survey findings, modelling methods and parameters, model outputs, model interpretation and impact assessment.

This group would sit independently from the Tidal Lagoon Cardiff Fisheries Expert Topic Group created as part of the Evidence Plan Process (in line with good practice guidance on the implementation of the Habitats Regulations 2010 for Nationally Significant Infrastructure Projects (NSIPs)), however where issues arise from the Expert Topic Group that require further independent review, these will be referred to the Fisheries Peer Review Group. Also, where advice or reviews are undertaken by the

peer review group, these will be provided to the Expert Topic Group to provide information on the suitability of the work being undertaken and outputs produced.

TLP proposes to invest effort in mitigation as well as compensation to improve the survival and breeding rates of local populations; such as the removal of barriers to migration or fish passes. In this context the Fisheries Peer Review Group will consider specific projects associated with the EEP and consider their acceptability and viability.

Composition of the Fisheries Peer Review Group
The group will comprise up to five members including a Chairman.

The purpose of the Fisheries Peer Review Group
Peer review is an essential part of achieving high quality, independent and authoritative outputs, which are accepted by regulators and other key stakeholders.

The aim of the Fisheries Peer Review Group is to provide confidence to TLP that the work being undertaken with respect to fisheries is thorough, comprehensive and will stand up to external scrutiny. That is, to challenge (where necessary) the approach being adopted to ensure that it is as robust as possible and to provide a "seal of approval" in the context of the methods being applied. Hence the purpose of the group is to:

- Advise TLP and the fisheries research contractors on the methodology being and to be adopted for the prediction of effects/impacts (and the associated definition of mitigation and compensatory requirements) in order to ensure that it is/the outputs are:
    - relevant
    - technically accurate
    - independent
    - authoritative
    - presented in a format suitable for the target audience.
- Agree the research output as 'fit for purpose' and 'fit for publication'.
- Provide technical and other relevant support to the project where relevant.

Tasks and responsibilities of the Fisheries Peer Review Group
- Confirmation that the objectives for the work are appropriate.
- Confirmation that the scope and methods proposed are appropriate; and the promotion of alternative approaches (for discussion) where relevant.
- Provision of advice on other organisations/individuals that could be approached to contribute to the technical content, if relevant.
- Review of drafts of the research outputs and the provision of constructive commentary, particularly with regard to possible technical errors, omissions or ambiguities. Note that this would be limited as far as possible to the review of key documentation, so that the time commitment is not excessive.
- Where appropriate, seek views and co-ordinate responses from colleagues.
- Participation in project workshops. Note that this commitment is likely to equate to one meeting in 2015, and three meetings in 2016 in the first instance.

Secretariat support
Administrative support will be provided to the Fisheries Peer Review Group by TLP who will facilitate and coordinate communications with the group members, including the dissemination of information, and establish a directory of data and reports.

Payment for services
It is proposed that members of the Fisheries Peer Review Group are paid [redacted] for their input, unless separately negotiated. This fee level is proposed because TLP wants to maintain clarity between consultancy services (which this input is considered to be distinct from) and independent expert advice, for which TLP acknowledges that members are providing their time and advice and seeks to offer some recompense accordingly.

The time required will be agreed in advance with the group in each case, but it is anticipated that approximately 3-4 meetings per annum will be required. Please note that these are time estimates only and are not guaranteed; remuneration will be based upon actual days worked and agreed by both parties in advance.

Confidentiality and conflict
The content of the papers to be provided and any reviews undertaken will remain confidential to the Fisheries Peer Review Group and TLP until the work officially enters the public domain (which it will do in due course).

The members of the group are asked to inform TLP of any conflicts of interest (or potential conflicts of interest) that may arise at any stage during the process and their engagement. Each member of the group will also be asked to sign TLP's standard Confidentiality Agreement.

Prepared on behalf of TLP by: Approved by:

Name: Signature: Date:		Name: Signature: Date:	

Appendix 2: Extract of a Decision Log

Decision	Date decision made	Decision agreed by	Decision not agreed by	Document Reference	Notes
Membership of Steering Group	20.03.15	TLC, NRW (Advisory), NRW (MLT), NE, MMO, PINS	EA (not present)	TLC_Evidence Plan_Paper SG1a Evidence Plan Framework	Para 1.2.0.2 Draft Evidence Plan Framework Feb 15
				TLC_Evidence Plan_SG Meeting 1 Minutes	Action 4 Final Minutes of Inception Meeting held on 20.03.15
Role of NRW, NE and EA in Evidence Plan process				TLC_Evidence Plan_Paper SG1a Evidence Plan Framework	Para 1.2.0.3 and 1.7.0.2 Draft Evidence Plan Framework Feb 15
				TLC_Evidence Plan_SG Meeting 1 Minutes	Action 4 Final Minutes of Inception Meeting held on 20.03.15
				TLC_Evidence Plan_Paper SG9 Evidence Plan	Section 3 of the Draft Evidence Plan
Role of NRW (MLT) is 'Watching Brief'	20.03.15	TLC, NRW (Advisory), PINS, NE, MMO	EA (not present)	TLC_Evidence Plan_SG Meeting 1 Minutes	Action 4 Minutes of Inception Meeting held on 20.03.15
Role of PINS as facilitator as MIEU has no remit in Wales	20.03.15	TLC, NRW (Advisory), NRW (MLT), NE, MMO	EA (not present)	TLC_Evidence Plan_SG Meeting 1 Minutes	Action 4 Final Minutes of Inception Meeting held on 20.03.15
Role of MMO is 'Watching Brief', with advisory role for MCZ issues	20.03.15	TLC, NRW (Advisory), NRW	EA (not present	TLC_Evidence Plan_Paper SG1a Evidence Plan Framework	Para 1.7.0.2 Draft Evidence Plan Framework Feb 15

		(MLT), NE, PINS			
				TLC_Evidence Plan_SG Meeting 1 Minutes	Action 4 Minutes of Inception Meeting held on 20.03.15
Expert Topic Group selection	19.05.15	TLC, NRW (Advisory), NRW (MLT), NE, MMO	EA (not present)	TLC_Evidence Plan_Paper SG1a Evidence Plan Framework	Para 1.2.0.9 Draft Evidence Plan Framework Feb 15
				TLC_Evidence Plan_SG Meeting 1 Minutes	Action 5 Minutes of Inception Meeting held on 20.03.15
				TLC EP Steering Group Meeting 2 Minutes_Final 10 07 201	Action 4 Minutes of Second Steering Group Meeting held on 19.05.15
A Marine Mammal Topic Group is required	20.03.15	TLC, NRW (Advisory), NRW (MLT), NE, MMO	EA (not present)	TLC_Evidence Plan_SG Meeting 1 Minutes	Action 5 Minutes of Inception Meeting held on 20.03.15

Appendix 3: In-combination Plans and Projects table

Project	Stage	Description
Proposed in Scoping Report		
Tidal Lagoon Swansea Bay	Development Consent decision stage	A proposed tidal lagoon in the vicinity of the Bristol Channel, which may share receptors linked to far field effects.
The West Somerset Tidal Lagoon	Pre-application stage for Development Consent	A proposed tidal lagoon in relatively close proximity in the Severn Estuary. Environmental receptors may be shared in the dynamic environment of the estuary.
Hinkley Point C New Nuclear Power Station	Development Consent granted	A nuclear energy generating station. The proposal has interactions with the Severn estuary and may share receptors linked to far field effects.
Oldbury New Nuclear Power Station	Pre-application stage for Development Consent	A nuclear energy generating station. The proposal has interactions with the Severn estuary and may share receptors linked to far field effects.
Hinkley Point C Connection	Development Consent examination stage	A grid connection Project for the proposed Hinkley Point C New Nuclear Power Station.
M4 corridor around Newport	Pre-application consultation	A proposed new motorway to the south of Newport.
Seabank 3 CCGT	Pre-application stage for Development Consent	A gas fired energy generation proposed near the mouth of the River Avon.
Avon Power Station	Pre-application stage for Development Consent	A gas fired energy generation proposed near the mouth of the River Avon.

Project	Stage	Description
BBC Headquarters Cardiff	Planning applications have been submitted to the Local Authority and commencement of construction is due for 2018.	Relocation of BBC Wales Headquarters to be a major project in Cardiff City Centre.
Tidal Energy Ltd Deltastream Installation, Ramsey Sound, Pembrokeshire.	Consent secured. Installation was due to be carried out in 2014.	An array of tidal stream devices.
Tidal Energy Ltd, Deltastream Demonstration Array, St David's Head, Pembrokeshire.	An EIA has not yet been completed; however construction is planned to commence in 2017 following the decommissioning of the Ramsey Sound installation.	An array of tidal stream devices.
Bristol Port Deep Sea Container Terminal (DSCT) at Avonmouth Dock	Consent secured	The Bristol Port Company is planning to build a £600m Deep Sea Container Terminal (DSCT) at Avonmouth Dock. The DSCT will handle large container vessels and next-generation ultra large container ships with a draught of up to 16 m and a capacity in excess of 150,000 deadweight tonnage (DWT)
Tabb's Gout and Portland Grounds Sea Defence Improvements	Construction anticipated Summer 2015	Raising of sea defences on the Severn Estuary coastline between ST248787 and ST254790 and ST438848 and ST453857 respectively, in line with the 'Hold the Line' policies for the second Severn Estuary Shoreline Management Plan (SMP2) and the draft Severn Estuary Flood Risk Management Strategy
Identified in Scoping Opinion		
Tidal Lagoon Newport	Pre-application stage for Development Consent	Proposed tidal lagoon energy generating station to the east of Newport.

Project	Stage	Description
Bedwyn Sands, North Middle Grounds – Areas 455/459, North Bristol Deep – Area 470, and Culver Sands & Nobel Bank minerals extraction, dredging and deposition activities	Operating	Minerals extraction, dredging and deposition facilities in the Severn Estuary,
Severn Estuary Second Shoreline Management Plan	Draft awaiting sign-off	Shoreline Management Plan setting high level policy approaches for the future management of flood and erosion risk along coastline of the Severn Estuary. The SMP allows the development of strategy plans to be prioritised.
Severn Estuary Flood Risk Management Strategy	Draft awaiting sign-off	Environment Agency's plan to manage tidal flood risks in the Severn Estuary. It covers the coast from Gloucester to Lavernock Point near Cardiff and from Gloucester to Hinkley Point in Somerset.
Steart Peninsula Habitat Creation Project	Seawall breached, habitat establishing	Habitat creation project near Bridgwater, Somerset, at the mouth of the River Parrett to create saltmarsh and mudflat habitat to compensate for losses of habitat due to predicted sea-level rise and coastal squeeze within the Severn Estuary.
Reasonable foreseeable other intertidal habitat creation projects	Pre-application	No firm proposals identified.
Commercial tidal stream turbine array project off the shore of Weston super Mare, proposed by the international company, Tocardo Tidal Turbines	Pre-application	No information obtained to date
Great Western Electrification Project	Under Construction	Electrification of the railway line between London and Swansea.

Project	Stage	Description
Hinkley Point A	Decommissioning	Nuclear Power Station occupying a 19.4ha site near Bridgwater in Somerset.
Hinkley Point B	Operational	955MW Nuclear Power Station near Bridgwater in Somerset.
Black Ditch Wind Farm	Refused	4 turbine wind farm near West Huntspill, Somerset.
Withy End Wind Farm	Refused	5 turbine wind farm on agricultural land to the north of the village of Puriton, Somerset.
Severn Barrage	Status unknown	No firm proposals identified.
Glan Llyn Housing Development, Llanwern Steelworks site	Under Construction	Residential, business and sustainable community development delivering 4,000 new homes and 6,000 new jobs on the Llanwern Steelworks site.